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October 4, 2004

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22389 U.S. PTO
10/957919

Enclosed herewith for filing is a patent application, as follows:

Inventor(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Title: Complex Configuration Processing Using Configuration Sub-Models
Docket No.: T00121
Customer No.: 33438

Return Receipt Postcard
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 Transmittal Letter
22 page(s) Specification (not including Claims)
10 page(s) Claims
1 page(s) Abstract
8 sheet(s) of Drawings
2 page(s) Declaration For Patent Application and Power of Attorney
1 page(s) Recordation Form Cover Sheet
1 page(s) Assignment
1 page(s) Nonpublication Request

CLAIMS AS FILED (fees computed under §1.9(f))

For	Number Filed		Number Extra		Rate		Basic Fee
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Independent Claims	7	-3 =	4	x	\$88	=	\$ 352.00

- Application contains one or more multiple dependent claims (\$300 total fee) \$ 0.00
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EXPRESS MAIL LABEL NO:
EV469744168US

Respectfully submitted,




Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

NONPUBLICATION REQUEST UNDER 35 U.S.C. 122(b)(2)(B)(i)	First Named Inventor	Nathan E. Little
	Title	Complex Configuration Processing Using Configuration Sub-Models
	Attorney Docket Number	T00121

I hereby certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing. I hereby request that the attached application not be published under 35 U.S.C. 122(b).

October 4, 2004
Date


Signature

Kent B. Chambers, Reg. No. 38,839
Typed or printed name

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application upon filing.

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant must notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).

Burden Hour Statement: This collection of information is required by 37 CFR 1.213(a). The information is used by the public to request that an application not be published under 35 U.S.C. 122(b) (and the PTO to process that request). Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14.

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COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS

Nathan E. Little, Brandon M. Beck, and Brian K. Showers

BACKGROUND OF THE INVENTION

Field of the Invention

(1) The present invention relates in general to the field of information processing, and more specifically to a system and method for processing complex configuration problems using configuration sub-models.

DESCRIPTION OF THE RELATED ART

(2) Computer assisted product configuration continues to offer substantial benefits to a wide range of users and industries. Figure 1 depicts a conventional product configuration process 100 performed by a configuration engine 101. The configuration process 100 represents one embodiment of an inference procedure. In one embodiment of a conventional inference procedure, configuration query 102 is formulated based on user configuration input, a configuration engine performs the configuration query 102 using a configuration model 104, and the configuration engine provides an answer 106 to the configuration query 102 based on the configuration query 102 and the contents of the configuration model 104. The answer 106 represents a particular response to the configuration query 102.

(3) A configuration model 104 uses, for example, data, rules, and/or constraints (collectively referred to as "data") to define compatibility relationships between parts (also commonly referred to as "features") contained in a specific type of product. A part represents a single component or attribute from a larger, more complex system. Parts may be combined in different ways in accordance with rules and/or constraints to define different instances of the more complex system. For example, "V6 engine" or the exterior color "red" can be parts on a vehicle, and a specific hard disk drive can

be a part on a computer. A part group, also called a group, represents a collection of related parts. For example, an “Engines” group might contain the parts “V6 engine” and “4 cylinder engine”. A product configuration is a set of parts that define a product. For example, a vehicle configuration containing the parts “V6 engine” and “red” represents a physical vehicle that has a red exterior and a V6 engine. A product can be a physical product such as a vehicle, computer, or any other product that consists of a number of configurable features such as an insurance product. Additionally, a product can also represent a service. A configuration query (also referred to as a “query”) is essentially a question that is asked about the parts and relationships in a configuration model. The answer returned from a configuration query will depend on the data in the configuration model, the approach used for answering the question, and the specifics of the question itself. For example, one possible configuration query, translated to an English sentence, is the following: For the given configuration model, are the parts “red” and “V6 engine” compatible with each other.

(4) The configuration model 104 can be used to determine, for example, which parts are compatible with other parts, and provide additional details around specific relationships. For example, a vehicle configuration model can indicate that “red” (a part) is the standard color feature for a specific vehicle, but that the color red is not compatible with “V6 engine” (a part). Configuration model 104 may also contain additional information needed to support specific product related queries. Configuration models can be developed in any number of ways. U.S. Patent no. 5,825,651 entitled “Method and Apparatus for Maintaining and Configuring Systems”, inventors Gupta et al., and assigned to Trilogy Development Group, Inc., describes an example configuration engine and rules based configuration model. U.S. Patent no. 5,825,651 is incorporated herein by reference in its entirety. U.S. Patent no. 5,515,524 entitled “Method and Apparatus for Configuring Systems”, inventors John Lynch and David Franke, and assigned to Trilogy Development Group, Inc., describes another example configuration engine and constraint based configuration model. U.S. Patent no. 5,515, 524 is also incorporated by reference in it entirety.

(5) Figure 2 depicts an example configuration model 200 of a product represented in a graphical, tree based form. The product can be configured to include part

combinations A1, B1 or B2, C1, X1 or X2, and Y1 or configured to include part combinations A2, B2, C2, X2, and Y1 or Y2. The configuration model 200 includes rules to define these part relationships. Table 1 represents an example rule set, wherein “S” represents “standard” and “O” represents optional. Configuration model 200 represents a relatively non-complex configuration model. Actual configuration models for a single product can include hundreds of thousands or more parts and rules.

Example Configuration Rules for a Product
A1 S ALL
A2 O ALL
B1 S A1
B2 S A2
B2 O A1
C1 S A1
C2 S A2
X1 S C1
X2 S C2
X2 O C1
Y1 O C1
Y1 S C2
Y2 S C1

Table 1

(6) Solving configuration problems using computer assisted technology often requires a significant amount of data processing capabilities. Consequently, configuration technologies have attempted to exploit increased data processing capabilities, memory capacities, and network data transfer throughput rates by increasing the capabilities of the configuration engines and/or enhancing the complexity of configuration models and configuration queries. The complexity of a configuration model can be defined in any number of ways, such as by the diversity of parts, part groups, rules, and constraints supported by the configuration model, by the number of parts, rules, and constraints, and by the complexity of part and part group relationships defined by configuration rules and constraints. In any event, the practical complexity achievable for configuration models has been limited by the ability of computer systems to process data within a given period of time, T, and/or limited by other processing constraints, such as a lack of memory. The time period, T, represents an amount of time considered reasonable to perform a configuration task. Time T can vary depending upon the application and expectation of configuration system users.

(7) Figure 3 depicts a graph 300 representing the practical limitations of configuration model and configuration query complexity in terms of data processing capabilities. Graph 300 compares data processing capabilities of a particular computer system being used to configure a product versus configuration model and query complexity. Conventional inference procedures, such as configuration processes, have an exponential complexity associated with them as depicted by exponential performance curve 302. Sufficient data processing capability exists to process a configuration model and configuration query having the complexity represented by point A. The dashed line 304 represents the maximum data processing capability of the particular computer system being used. Thus, the computer system could not reasonably process configuration models and configuration queries having a complexity represented by point B.

SUMMARY OF THE INVENTION

(8) In one embodiment, a sub-model inference procedure provides a way to scale queries to larger and more complicated configuration models. In one embodiment of

the present invention, a method for using computer assisted configuration technology to solve product configuration problems using configuration sub-models includes processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product and generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models.

(9) In another embodiment of the present invention, a computer system to implement an inference procedure for solving product configuration problems using configuration sub-models includes a processor and a storage medium having data encoded therein. The data includes processor executable code for processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product and generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models.

(10) In another embodiment of the present invention, a computer storage medium comprising data embedded therein to cause a computer system to solve product configuration problems using configuration. The data includes code for processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product and generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models.

(11) In another embodiment of the present invention, a computer system to implement an inference procedure for solving product configuration problems using configuration sub-models. The system includes means for processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product and means for generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models.

BRIEF DESCRIPTION OF THE DRAWINGS

- (12) The present invention may be better understood, and its numerous objects, features and advantages made apparent to those skilled in the art by referencing the accompanying drawings. The use of the same reference number throughout the several figures designates a like or similar element.
- (13) Figure 1 (prior art) depicts a conventional product configuration process.
- (14) Figure 2 (prior art) depicts a configuration model in graphical, tree based form.
- (15) Figure 3 (prior art) depicts a graph representing data processing capabilities of a computer system versus configuration model and query complexity.
- (16) Figure 4 depicts a configuration model dividing and configuration sub-model inference processing system that performs a configuration model dividing and configuration sub-model inference procedure.
- (17) Figure 5 depicts the data processing capability of a computer system being used to configure a product versus configuration sub-model and sub-query complexity.
- (18) Figure 6 depicts the division of a consolidated configuration model into configuration sub-models.
- (19) Figure 7 depicts a block diagram illustrating a network environment in which the system and process of Figure 4 may be practiced.
- (20) Figure 8 depicts an example data processing system used in the network of Figure 7.

DETAILED DESCRIPTION

- (21) A configuration model dividing and configuration sub-model inference processing system and procedure addresses the issue of configuration model and

query complexity by breaking a configuration problem down into a set of smaller problems, solving them individually and recombining the results into a single result that is equivalent to a conventional inference procedure. In one embodiment, a configuration model is divided into configuration sub-models that can respectively be processed using existing data processing resources. The sub-model inference procedure does not change the exponential nature of configuration model and query complexity but instead generates configuration sub-models on the side of the achievable performance curve. Accordingly, a sub-model inference procedure provides a way to scale queries to larger and more complicated configuration models. Embodiments of the configuration model dividing and configuration sub-model processing system and inference procedure allows processing by a data processing system of configuration models and queries whose collective complexity exceeds the complexity of otherwise unprocessable conventional, consolidated configuration models and queries.

(22) Figure 4 depicts the configuration model dividing and configuration sub-model inference processing system 400 (referred to herein as “sub-model processing system 400”) that performs configuration model dividing and configuration sub-model inference procedure 402 (referred to herein as “sub-model inference procedure 402”). The sub-model inference procedure 402 includes operations 404, 406, 408, and 410. The sub-model processing system 400 can include software code that is executable by a processor of a computer system, such as a server computer system. In a network environment, the sub-model processing system 400 can be accessed by and communicates with any number client systems 401(1) through 401(n).

(23) Operation 404 receives, as an input, a conventional, consolidated configuration model 412 and divides the consolidated configuration model 412 into a set of configuration sub-models CM1 through CMn, where n is an integer representing the number of configuration sub-models. The configuration sub-models are an input to this process. In one embodiment, the configuration sub-models meet the following criteria:

- a. Each configuration sub-model should represent a portion of the source configuration model 412;

- b. The data collectively contained in the configuration sub-models should be sufficient to provide an answer for each of the sub-queries Q1 through Qn or query being processed; and
- c. The configuration sub-models should be divided in such a way that the results of the sub-queries or query can be recombined to provide an answer to the input configuration query 414.

(24) In another embodiment, a consolidated configuration model 412 is never actually created, and model developers develop only configuration sub-models to collectively model a configurable product.

(25) Figure 5 depicts the data processing capability of a computer system being used to configure a product versus configuration sub-model and sub-query complexity. In general, the consolidated configuration model 412 is divided sufficiently so that the complexity of each configuration sub-model CM1, CM2, through CMn is low enough to allow processing using available data processing capabilities while still representing the relationships included in the consolidated configuration model 412, which, in this embodiment, would otherwise not be cable of being processed by the computer system. Thus, the sub-model inference procedure 402 does not change the exponential nature of configuration model and query complexity but instead generates configuration sub-models on the side of the achievable performance curve. Accordingly, the sub-model inference procedure 402 provides a way to scale queries to larger and more complicated configuration models.

(26) In one embodiment, operation 406 divides the conventional, consolidated configuration query 414 into a set of sub-queries Q1 through Qn, which together contain enough information to represent the original query 414. Each sub-query generated will be used to query against at least one configuration sub-model. A query is divided into enough sub-queries to perform a query on at least enough of the sub-models to produce an answer.

(27) Whether to perform operation 406 and divide query 414 into sub-queries can depend upon the nature of the problem being solved. "Configuration completion" and "configuration validation" problems represent examples of two problems having

different natures that result in different sub-query approaches. Configuration completion relates to determining whether a configuration is valid according to the Configuration Model. A configuration is considered complete if there is a part present from every required part group in the configuration model. For example, when performing configuration completion, dividing the query 414 into sub-queries allows the sub-queries to each be processed using at least one configuration sub-model. Configuration validation relates to determining whether a configuration is “valid” or “not valid” according to the configuration model. “Valid” indicates that the parts are all compatible with each other according to the part relationships in the configuration model, and “not valid” indicates that the parts are not compatible with each other. In performing configuration validation, dividing the query 414 into sub-queries is unnecessary to determine validation, because the query 414 can be applied in whole against configuration sub-models. If any answer generated by processing query 414 in accordance with a configuration sub-model results in an invalid (i.e. a non-configurable) answer, then the configuration is invalid. Otherwise, the configuration is valid.

- (28) In one embodiment, the following criteria are used by operation 406:
- a. A single sub-query can be used to query against multiple sub-models. In other words, each sub-model does not have to have to process one and only one unique sub-query;
 - b. The query 414 can be processed as a sub-query;
 - c. When dividing a query into sub-queries, it is possible that there will be overlapping pieces of information contained in the sub-queries. It is not necessarily desired or a requirement that the sub-queries contain entirely independent questions;
 - d. The way the query is divided into sub-queries depends on the structure of the configuration sub-models. Specifically, it depends on the way the sub-models are related, and the relationships between the parts in the overall model. For example, assume the sub-models were originally generated by dividing up the model along family lines with some overlap. The sub-queries will generally (though are not required

to) be divided up along similar family lines, with at least as many families present; and

- e. It will be understood by those of ordinary skill in the art that the way the query is divided into sub-queries also depends on the type of configuration query being performed. A configuration validation query might need a different Query Division approach than a Configuration Completion query.

(29) Operation 408 processes the individual sub-queries Q1 through Qn against the configuration sub-models, producing a set of sub-answers. Enough sub-queries should be processed such that the sub-answers contain enough information to recombine them into a single answer to the input configuration query.

(30) Operation 410 combines the sub-answers A1 through An together to create a single answer A. The answer A represents a correct answer for the input configuration query. However, for some queries, there are multiple correct answers. Thus, the answer determined by operation 410 is correct but may or may not be identical to an answer provided had the configuration query been performed using the conventional process depicted in Figure 1. For example, in the case where the conventional process would return an "optimal" answer, the sub-model inference procedure 402 may return a sub-optimal, albeit correct, answer. Also, in the case that there is more than one "optimal" answer, the sub-model inference procedure 402 may return a different optimal answer than the conventional process.

(31) In one embodiment, operations 404, 406, 408, and 410 are performed in order. However, operations 404, 406, 408, and 410 can be overlapping. For example, it is not required that any given operation finish completely before the next operation begins. For example, as each sub-query is processed in operation 408, the resulting sub-answer can be determined to generate a growing, cumulative answer A before the next sub-query is processed.

- (32) The following pseudo code represents the sub-model inference procedure 402:

```

result inference-procedure(model, query)
{
    sub-models = divide-model(model) (Operation 404, implementation
    dependent on the specific problem) OR initially develop configuration sub-
    models
    sub-queries = divide-query(query) (Operation 406, implementation
    dependent on the specific problem)

    // This loop encompasses Operation 408 //
    answers = {}
    for(model in sub-models) {
        sub-query = find-sub-query(sub-queries, model)
        // Get the right sub-query to be asking this sub-model //

        answers[model] = model.inference-procedure(sub-query)
        // Run the inference procedure for this sub-query on the sub-
model //
    }

    // Recombine the answers to each of the sub-queries into a single
unified answer (Operation 410) //
    result = combine(answers)

    return result
}

```

- (33) The following examples illustrate embodiments of sub-model processing system 400 and sub-model inference procedure 402.

(34) Example: Configuration Validation

(35) The following example details sub-model inference procedure 402 in a context wherein an incoming configuration is complete (a part is present from every required part group). A query is generated using conventional processes to query against the configuration sub-models to determine if the configuration is valid.

- (36) The following pseudo code represents the embodiment of sub-model inference procedure 402 used for configuration validation:

```

//for the complete feature string validation problem
divide-model = procedure which breaks a consolidated model up into sub-
models along family lines OR initially develop configuration sub-models.

divide-query = returns the original query unchanged

```

combine = loop which takes each boolean answer and uses the logical
AND operator to combine them
into a single boolean answer //

```
boolean isBuildable(sub-models, query)
{
    sub-queries = divide(query) (Operation 406);
    // Break the query into sub-queries. For a configuration validation
    query type, it is unnecessary to divide the query 414 into multiple sub-queries.
    Thus, in this embodiment of operation 406 query 414 = sub-query Q1 and
    n=1. In other words, operation 406 can just return the entire original query
    414 //

    answers = [] (operation 408)
    for(model in sub-models) {
        sub-query = find(sub-queries, model);
        // Get the right sub-query to be asking this sub-model //

        answers[model] = model.isBuildable(sub-query);
        // Query against each sub-model //
    }

    result = True
    for(answer in answers) // Operation 410 //{
        result = result && answer; // “&&” is a logical AND operator //
    // Recombine answers to sub-queries (this particular query type can
    just use a boolean and operator) //
    }
    return result;
}
```

(37) Table 2 represents a conventional configuration model and query for a configuration validation problem:

<p>Conventional Model:</p> <p>A1 S ALL</p> <p>A2 O ALL</p> <p>B1 S A1</p> <p>B2 S A2</p> <p>B2 O A1</p> <p>X1 S ALL</p> <p>X2 O ALL</p>
<p>Conventional Query:</p> <p>Are A1, B1 and X1 buildable together? Yes</p> <p>Are A2, B1 and X1 buildable together? No</p>

Table 2

(38) The sub-model inference procedure 402 uses the conventional model as an input. In one embodiment, operation 404 divides the conventional model into the following configuration sub-models represented in Table 3, Table 4, and Table 5:

<p>Family A model:</p> <p>A1 S ALL</p> <p>A2 O ALL</p>
--

Table 3

<p>Family B model:</p> <p>B1 S A1</p> <p>B2 O A1</p> <p>B2 S A2</p>

Table 4

<p>Family X model:</p> <p>X1 S ALL</p> <p>X2 O ALL</p>
--

Table 5

(39) Table 6 and Table 7 represent one embodiment of sub-queries generated by operation 406 and sub-answers generated by operation 408:

<p>Sub-Queries Generated by Operation 406:</p> <ol style="list-style-type: none"> 1. Is A1 buildable? Yes 2. Are A1 and B1 buildable together? Yes 3. Is X1 buildable? Yes

Table 6

<p>Sub-Queries Generated by Operation 406:</p> <ol style="list-style-type: none"> 1. Is A1 buildable? Yes 2. Are A2 and B1, buildable together? No 3. Is X1 buildable? Yes

Table 7

(40) In operation 410, for this problem type, i.e. configuration validation problem, the sub-answers of the sub-queries can be AND-ed together and recombined into a

single answer that is equivalent to the answer provided by querying the conventional configuration model.

(41) Example: Configuration Completion

(42) The configuration completion example below details an exemplary usage of the sub-model inference procedure 402 for a configuration completion query, in the specific case that the incoming configuration is incomplete (a part is not present from every required part group). The goal of a configuration completion query is to complete the partial configuration with parts from the missing part groups in such a way that the resulting configuration is valid according to the traditional configuration model and contains a single part from each part group.

(43) To solve the incomplete feature string completion problem using configuration sub-models, the following process can be used:

divide-model = procedure which breaks a consolidated model up into sub-models in such a way that they are smaller than the original consolidated model and is sufficient to provide an answer for each sub-query being processed against it as previously described OR initially develop configuration sub-models;

divide-query = procedure which breaks the query up into n pieces where n is the number of sub-models (CM1, CM2, ... CMn);

Sub-query Qi has all of the parts from the original query that are from the part groups present in CMi; and

combine = set intersection operator which takes the set of buildables returned from executing each sub-query Qi on the sub-model CMi and intersects them together to find common components. The returned set of buildables is complete and contains all parts that were on the original consolidated input query.

(44) Figure 6 depicts the division of consolidated configuration model 602 into configuration sub-models CM1, CM2, and CM3 in accordance with operation 404.

(45) In one embodiment, the consolidated model 602 includes the rules contained in Table 8:

Consolidated Model 602 Rules:
A1 S ALL
A2 O ALL
B1 S A1
B2 S A2
B2 O A1
C1 S A1
C2 S A2
X1 S C1
X2 S C2
X2 O C1
Y1 O C1
Y1 S C2
Y2 S C2

Table 8

(46) A conventional configuration completion process follows:

1. Complete the partial configuration X1, A1.
 - This results in an inference procedure being run on the conventional configuration model 602 which searches for at least one buildable product

configuration found that contains both X1 and A1. There are two configurations present in the model that satisfy these constraints:

A1, B1, C1, X1, Y1

A1, B2, C1, X1, Y1

2. Either one of these product configurations may be returned because both satisfy the original query.

(47) The sub-model inference procedure 402 solves the same configuration completion problem by performing operation 404 to divide configuration model 602 into sub-models CM1, CM2, and CM3.

(48) Operation 406 generates the following sub-queries, and operation 408 processes the sub-queries in accordance with the designated configuration sub-model to generate sub-answers:

Sub-Queries:

1. What buildables are present involving A1 in the A, B, C model? (Note: X1 is ignored in this sub-query because the X part group is not present in the A, B, C sub-configuration model.) (Also, a “buildable” refers to a set of part or part group configurations that adhere to relationships contained in a configuration sub-model).

A1, B1, C1

A1, B2, C1

2. What buildables are present involving X1 in the C, X model?

C1, X1

3. What buildables are present in the C, Y model? (Note: The original input query doesn’t involve any of the part groups contained in the C, Y model, so the query results in asking for all buildables present in this sub-configuration model.)

Y1, C1

Y1, C2

Y2, C2

(49) Operation 410 combines the sub-answers to form a collective answer A. For this particular type of query, i.e. a configuration completion query, the combination operation 410 involves intersecting the resulting buildable spaces together into one space. Performing operation 410 results in the following buildables.

A1, B1, C1, X1, Y1

A1, B2, C1, X1, Y1,

which are the same buildables generated by the traditional completion query.

(50) The following sets forth an example, non-exhaustive list configuration problems that can be solved using sub-model processing system 400 and sub-model inference procedure 402:

- **Configuration Validation** – This query indicates whether a configuration is “valid” or “not valid” according to the configuration model. “Valid” indicates that the parts are all compatible with each other according to the part relationships in the configuration model, and “not valid” indicates that the parts are not compatible with each other.
- **Configuration Completion** – This query adds parts to a configuration until it becomes a complete, fully specified configuration, according to some heuristic. Configuration Completion attempts to guarantee that the resulting configuration is valid according to the Configuration Model. A configuration is considered complete if there is a part present from every required part group in the configuration model.
- **Configuration Correction** – This query corrects an invalid configuration in an automated fashion. If the set of parts in the configuration are incompatible, Configuration Correction will remove

and add enough parts to make the configuration valid according to some heuristic. Configuration Correction guarantees that the resulting configuration is valid according to the configuration model.

- **Configuration Explanation** – This query returns human-readable explanations as to why an invalid configuration is invalid. Configuration Explanation gives enough information to provide the user assistance in manually correcting a feature string when multiple valid corrections apply.
- **Attribute Tracing** – This query returns context-specific information about each part in a configuration. For example, if part descriptions depend on the market in which the vehicle is ordered, attribute tracing can return the descriptions of all of the parts in the configuration given the presence of a market part on the configuration.

(51) There are a number of different ways that configuration models can be represented. As a result, the specific technology that performs a configuration query can vary depending on the model used. The sub-model processing system 400 and sub-model inference procedure 402 are not specific to a single configuration model representation or configuration processing approach. More specifically, the particular data structure(s) used to represent queries, sub-queries, configuration models, configuration sub-models, sub-answers, and answers is a matter of design choice and depends upon, for example, configuration engine specifications, familiarity, etc. The particular data manipulation techniques used to perform operations 404, 406, 408, and 410 are also a matter of design choice and generally relate to the type of data structure used. In one embodiment, tries are used to represent the data and trie operations are used to manipulate the data. Example tries and trie operations are set forth in U.S. Patent Application Serial No. 10/404,891, entitled “Configuration Model Consistency Checking Using Flexible Rule Space Subsets”, inventor Shawn A. P. Smith, filing date March 31, 2003, and assigned to Trilogy Development Group, Inc.. U.S. Patent Application Serial No. 10/404,891 is hereby incorporated by reference in its entirety.

(52) Figure 7 is a block diagram illustrating a network environment in which a sub-model processing system 400 and sub-model inference procedure 402 may be practiced. Network 702 (e.g. a private wide area network (WAN) or the Internet) includes a number of networked server computer systems 704(1)-(N) that are accessible by client computer systems 706(1)-(N), where N is the number of server computer systems connected to the network. Communication between client computer systems 706(1)-(N) and server computer systems 704(1)-(N) typically occurs over a network, such as a public switched telephone network over asynchronous digital subscriber line (ADSL) telephone lines or high-bandwidth trunks, for example communications channels providing T1 or OC3 service. Client computer systems 706(1)-(N) typically access server computer systems 704(1)-(N) through a service provider, such as an internet service provider (“ISP”) by executing application specific software, commonly referred to as a browser, on one of client computer systems 706(1)-(N).

(53) Client computer systems 706(1)-(N) and/or server computer systems 704(1)-(N) may be, for example, computer systems of any appropriate design, including a mainframe, a mini-computer, a personal computer system including notebook computers, a wireless, mobile computing device (including personal digital assistants). These computer systems are typically information handling systems, which are designed to provide computing power to one or more users, either locally or remotely. Such a computer system may also include one or a plurality of input/output (“I/O”) devices coupled to the system processor to perform specialized functions. Mass storage devices such as hard disks, compact disk (“CD”) drives, digital versatile disk (“DVD”) drives, and magneto-optical drives may also be provided, either as an integrated or peripheral device. One such example computer system is shown in detail in Figure 8.

(54) Embodiments of the sub-model processing system 400 and sub-model inference procedure 402 can be implemented on a computer system such as a general-purpose computer 800 illustrated in Figure 8. Input user device(s) 810, such as a keyboard and/or mouse, are coupled to a bi-directional system bus 818. The input user device(s) 810 are for introducing user input to the computer system and communicating that user input to processor 813. The computer system of Figure 8

generally also includes a video memory 814, main memory 815 and mass storage 809, all coupled to bi-directional system bus 818 along with input user device(s) 810 and processor 813. The mass storage 809 may include both fixed and removable media, such as other available mass storage technology. Bus 818 may contain, for example, 32 address lines for addressing video memory 814 or main memory 815. The system bus 818 also includes, for example, an n-bit data bus for transferring DATA between and among the components, such as CPU 809, main memory 815, video memory 814 and mass storage 809, where "n" is, for example, 32 or 64. Alternatively, multiplex data/address lines may be used instead of separate data and address lines.

(55) I/O device(s) 819 may provide connections to peripheral devices, such as a printer, and may also provide a direct connection to remote server computer systems via a telephone link or to the Internet via an ISP. I/O device(s) 819 may also include a network interface device to provide a direct connection to remote server computer systems via a direct network link to the Internet via a POP (point of presence). Such connection may be made using, for example, wireless techniques, including digital cellular telephone connection, Cellular Digital Packet Data (CDPD) connection, digital satellite data connection or the like. Examples of I/O devices include modems, sound and video devices, and specialized communication devices such as the aforementioned network interface.

(56) Computer programs and data are generally stored as instructions and data in mass storage 809 until loaded into main memory 815 for execution. Computer programs may also be in the form of electronic signals modulated in accordance with the computer program and data communication technology when transferred via a network.

(57) The processor 813, in one embodiment, is a microprocessor manufactured by Motorola Inc. of Illinois, Intel Corporation of California, or Advanced Micro Devices of California. However, any other suitable single or multiple microprocessors or microcomputers may be utilized. Main memory 815 is comprised of dynamic random access memory (DRAM). Video memory 814 is a dual-ported video random access memory. One port of the video memory 814 is coupled to video amplifier 816. The video amplifier 816 is used to drive the display 817. Video amplifier 816 is well

known in the art and may be implemented by any suitable means. This circuitry converts pixel DATA stored in video memory 814 to a raster signal suitable for use by display 817. Display 817 is a type of monitor suitable for displaying graphic images.

(58) The computer system described above is for purposes of example only. The sub-model processing system 400 and sub-model inference procedure 402 may be implemented in any type of computer system or programming or processing environment. It is contemplated that the sub-model processing system 400 and sub-model inference procedure 402 might be run on a stand-alone computer system, such as the one described above. The sub-model processing system 400 and sub-model inference procedure 402 might also be run from a server computer systems system that can be accessed by a plurality of client computer systems interconnected over an intranet network. Finally, the sub-model processing system 400 and sub-model inference procedure 402 may be run from a server computer system that is accessible to clients over the Internet.

(59) Many embodiments of the present invention have application to a wide range of industries and products including the following: computer hardware and software manufacturing and sales, professional services, financial services, automotive sales and manufacturing, telecommunications sales and manufacturing, medical and pharmaceutical sales and manufacturing, and construction industries.

(60) Although the present invention has been described in detail, it should be understood that various changes, substitutions and alterations can be made hereto without departing from the spirit and scope of the invention as defined by the appended claims.

WHAT IS CLAIMED IS:

- 1 1. A method for using computer assisted configuration technology to
2 solve product configuration problems using configuration sub-models, the method
3 comprising:
4 processing one or more configuration queries using configuration sub-models,
5 wherein the configuration sub-models collectively model a
6 configurable product; and
7 generating an answer to the configuration problem based upon the processed
8 one or more configuration queries and the configuration sub-models.
- 1 2. The method of claim 1 further comprising:
2 dividing a configuration query into multiple configuration sub-queries,
3 wherein the one or more configuration queries include the multiple
4 configuration sub-queries.
- 1 3. The method of claim 2 wherein the product configuration problems
2 include a configuration completion problem and when solving the configuration
3 completion problem, and processing one or more configuration queries further
4 comprises:
5 processing each sub-query using at least one configuration sub-model per sub-
6 query.
- 1 4. The method of claim 2 further comprising:
2 processing each sub-query using multiple configuration sub-models per sub-
3 query.
- 1 5. The method of claim 2 wherein the product configuration problems
2 include a configuration validation problem and when solving the configuration
3 validation problem, and processing one or more configuration queries further
4 comprises:
5 processing an undivided query using different configuration sub-models until
6 a configuration validation answer can be determined.

1 6. The method of claim 2 wherein the data collectively included in the
2 configuration sub-models is sufficient to provide an answer for each of the sub-
3 queries being processed.

1 7. The method of claim 2 wherein at least two sub-queries include
2 overlapping information.

1 8. The method of claim 2 wherein:
2 dividing a consolidated configuration model into multiple configuration sub-
3 models comprises dividing the configuration sub-models in accordance
4 with a predetermined data structure; and
5 dividing a configuration query into multiple configuration sub-queries further
6 comprises dividing the sub-queries in accordance with the sub-model
7 structure.

1 9. The method of claim 8 wherein the predetermined data structure
2 comprises a data structure divided along configuration model family lines.

1 10. The method of claim 1 wherein generating an answer to the
2 configuration problem based upon the processed one or more configuration queries
3 and the configuration sub-models further comprises:
4 generating a sub-answer for each processed configuration sub-model; and
5 combining each sub-answer to generate the answer.

1 11. The method of claim 1 further comprising:
2 dividing a consolidated configuration model into the configuration sub-
3 models.

1 12. The method of claim 11 wherein dividing the consolidated
2 configuration model into multiple configuration sub-models further comprises:
3 dividing the configuration model sufficiently so that complexity of each
4 configuration sub-model is low enough to allow processing using

5 available data processing capabilities while still representing the
6 relationships included in the consolidated configuration model.

1 13. The method of claim 11 wherein each configuration sub-model
2 represents a portion of the consolidated configuration model.

1 14. A method for using computer assisted configuration technology to
2 solve product configuration problems using configuration sub-models, the method
3 comprising:
4 dividing a consolidated configuration model into multiple configuration sub-
5 models;
6 processing one or more configuration queries using the configuration sub-
7 models; and
8 generating an answer to the configuration problem based upon the processed
9 one or more configuration queries and the configuration sub-models.

1 15. A computer system to implement an inference procedure for solving
2 product configuration problems using configuration sub-models, the system
3 comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 processing one or more configuration queries using configuration sub-
8 models, wherein the configuration sub-models collectively
9 model a configurable product; and
10 generating an answer to the configuration problem based upon the
11 processed one or more configuration queries and the
12 configuration sub-models.

1 16. The computer system of claim 15 wherein the data further comprises
2 processor executable code for:

3 dividing a configuration query into multiple configuration sub-queries,
4 wherein the one or more configuration queries include the multiple
5 configuration sub-queries.

1 17. The computer system of claim 16 wherein the product configuration
2 problems include a configuration completion problem and when solving the
3 configuration completion problem, and the code for processing one or more
4 configuration queries further comprises:

5 processing each sub-query using at least one configuration sub-model per sub-
6 query.

1 18. The computer system of claim 16 wherein the data further comprises
2 processor executable code for:

3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 19. The computer system of claim 16 wherein the product configuration
2 problems include a configuration validation problem and when solving the
3 configuration validation problem, and the code for processing one or more
4 configuration queries further comprises:

5 processing an undivided query using different configuration sub-models until
6 a configuration validation answer can be determined.

1 20. The computer system of claim 16 wherein the data collectively
2 included in the configuration sub-models is sufficient to provide an answer for each of
3 the sub-queries being processed.

1 21. The computer system of claim 16 wherein at least two sub-queries
2 include overlapping information.

1 22. The computer system of claim 16 wherein:
2 the code for dividing a consolidated configuration model into multiple
3 configuration sub-models comprises code for dividing the
4 configuration sub-models in accordance with a predetermined data
5 structure; and
6 the code for dividing a configuration query into multiple configuration sub-
7 queries further comprises code for dividing the sub-queries in
8 accordance with the sub-model structure.

1 23. The computer system of claim 22 wherein the predetermined data
2 structure comprises a data structure divided along configuration model family lines.

1 24. The computer system of claim 15 wherein the code for generating an
2 answer to the configuration problem based upon the processed one or more
3 configuration queries and the configuration sub-models further comprises code for:
4 generating a sub-answer for each processed configuration sub-model; and
5 combining each sub-answer to generate the answer.

1 25. The computer system of claim 15 wherein the code for dividing the
2 consolidated configuration model into multiple configuration sub-models further
3 comprises code for:
4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model is low enough to allow processing using
6 available data processing capabilities while still representing the
7 relationships included in the consolidated configuration model.

1 26. The computer system of claim 15 wherein the data further comprises
2 processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-
4 models.

1 27. The computer system of claim 26 wherein the code for dividing the
2 consolidated configuration model into multiple configuration sub-models further
3 comprises code for:

4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model is low enough to allow processing using
6 available data processing capabilities while still representing the
7 relationships included in the consolidated configuration model.

1 28. The computer system of claim 26 wherein each configuration sub-
2 model represents a portion of the consolidated configuration model.

1 29. A computer system to implement an inference procedure for solving
2 product configuration problems using configuration sub-models, the system
3 comprising:

4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 dividing a consolidated configuration model into multiple
8 configuration sub-models;
9 processing one or more configuration queries using the configuration
10 sub-models; and
11 generating an answer to the configuration problem based upon the
12 processed one or more configuration queries and the
13 configuration sub-models.

1 30. A computer storage medium comprising data embedded therein to
2 cause a computer system to solve product configuration problems using configuration,
3 wherein the data comprises processor executable code for:

4 processing one or more configuration queries using configuration sub-models,
5 wherein the configuration sub-models collectively model a
6 configurable product; and

7 generating an answer to the configuration problem based upon the processed
8 one or more configuration queries and the configuration sub-models.

1 31. The computer storage medium of claim 30 wherein the data further
2 comprises processor executable code for:
3 dividing a configuration query into multiple configuration sub-queries,
4 wherein the one or more configuration queries include the multiple
5 configuration sub-queries.

1 32. The computer storage medium of claim 31 wherein the product
2 configuration problems include a configuration completion problem and when solving
3 the configuration completion problem, and the code for processing one or more
4 configuration queries further comprises:
5 processing each sub-query using at least one configuration sub-model per sub-
6 query.

1 33. The computer storage medium of claim 31 wherein the data further
2 comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 34. The computer storage medium of claim 31 wherein the product
2 configuration problems include a configuration validation problem and when solving
3 the configuration validation problem, and the code for processing one or more
4 configuration queries further comprises:
5 processing an undivided query using different configuration sub-models until
6 a configuration validation answer can be determined.

1 35. The computer storage medium of claim 31 wherein the data
2 collectively included in the configuration sub-models is sufficient to provide an
3 answer for each of the sub-queries being processed.

1 36. The computer storage medium of claim 31 wherein at least two sub-
2 queries include overlapping information.

1 37. The computer storage medium of claim 31 wherein:
2 the code for dividing a consolidated configuration model into multiple
3 configuration sub-models comprises code for dividing the
4 configuration sub-models in accordance with a predetermined data
5 structure; and
6 the code for dividing a configuration query into multiple configuration sub-
7 queries further comprises code for dividing the sub-queries in
8 accordance with the sub-model structure.

1 38. The computer storage medium of claim 37 wherein the predetermined
2 data structure comprises a data structure divided along configuration model family
3 lines.

1 39. The computer storage medium of claim 30 wherein the code for
2 generating an answer to the configuration problem based upon the processed one or
3 more configuration queries and the configuration sub-models further comprises code
4 for:
5 generating a sub-answer for each processed configuration sub-model; and
6 combining each sub-answer to generate the answer.

1 40. The computer storage medium of claim 30 wherein the code for
2 dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:
4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model is low enough to allow processing using
6 available data processing capabilities while still representing the
7 relationships included in the consolidated configuration model.

1 41. The computer storage medium of claim 30 wherein the data further
2 comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-
4 models.

1 42. The computer storage medium of claim 41 wherein the code for
2 dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:
4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model is low enough to allow processing using
6 available data processing capabilities while still representing the
7 relationships included in the consolidated configuration model.

1 43. The computer storage medium of claim 41 wherein each configuration
2 sub-model represents a portion of the consolidated configuration model.

1 44. A computer storage medium comprising data embedded therein to
2 cause a computer system to solve product configuration problems using configuration,
3 wherein the data comprises code for:
4 dividing a consolidated configuration model into multiple
5 configuration sub-models;
6 processing one or more configuration queries using the configuration
7 sub-models; and
8 generating an answer to the configuration problem based upon the
9 processed one or more configuration queries and the
10 configuration sub-models.

1 45. A computer system to implement an inference procedure for solving
2 product configuration problems using configuration sub-models, the system
3 comprising:
4 means for processing one or more configuration queries using configuration
5 sub-models, wherein the configuration sub-models collectively model
6 a configurable product; and
7 means for generating an answer to the configuration problem based upon the
8 processed one or more configuration queries and the configuration sub-
9 models.

1 46. The computer system of claim 45 further comprising:
2 means for dividing a consolidated configuration model into the configuration
3 sub-models.

COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS

Nathan E. Little, Brandon M. Beck, and Brian K. Showers

ABSTRACT OF THE DISCLOSURE

A configuration model dividing and configuration sub-model inference processing system and procedure addresses the issue of configuration model and query complexity by breaking a configuration problem down into a set of smaller problems, solving them individually and recombining the results into a single result that is equivalent to a conventional inference procedure. In one embodiment, a configuration model is divided into configuration sub-models that can respectively be processed using existing data processing resources. A sub-model inference procedure provides a way to scale queries to larger and more complicated configuration models. Thus, the configuration model dividing and configuration sub-model processing system and inference procedure allows processing by a data processing system of configuration models and queries whose collective complexity exceeds the complexity of otherwise unprocessable conventional, consolidated configuration models and queries.

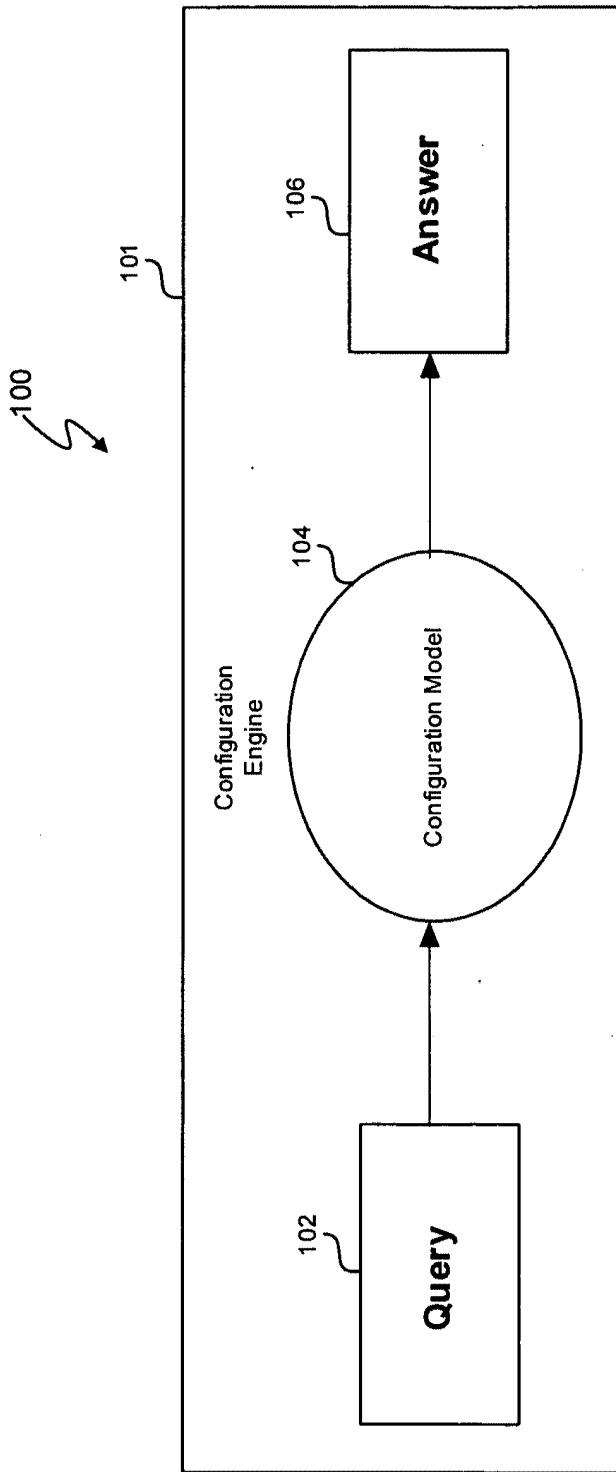


Figure 1 (prior art)

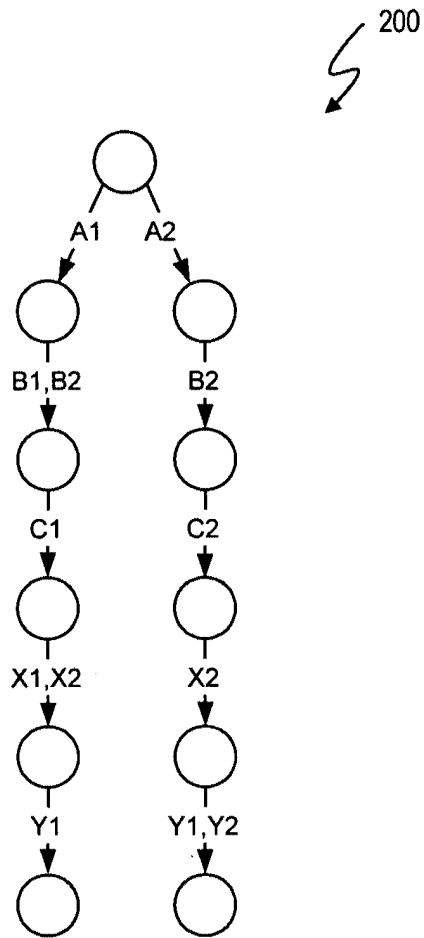


Figure 2 (prior art)

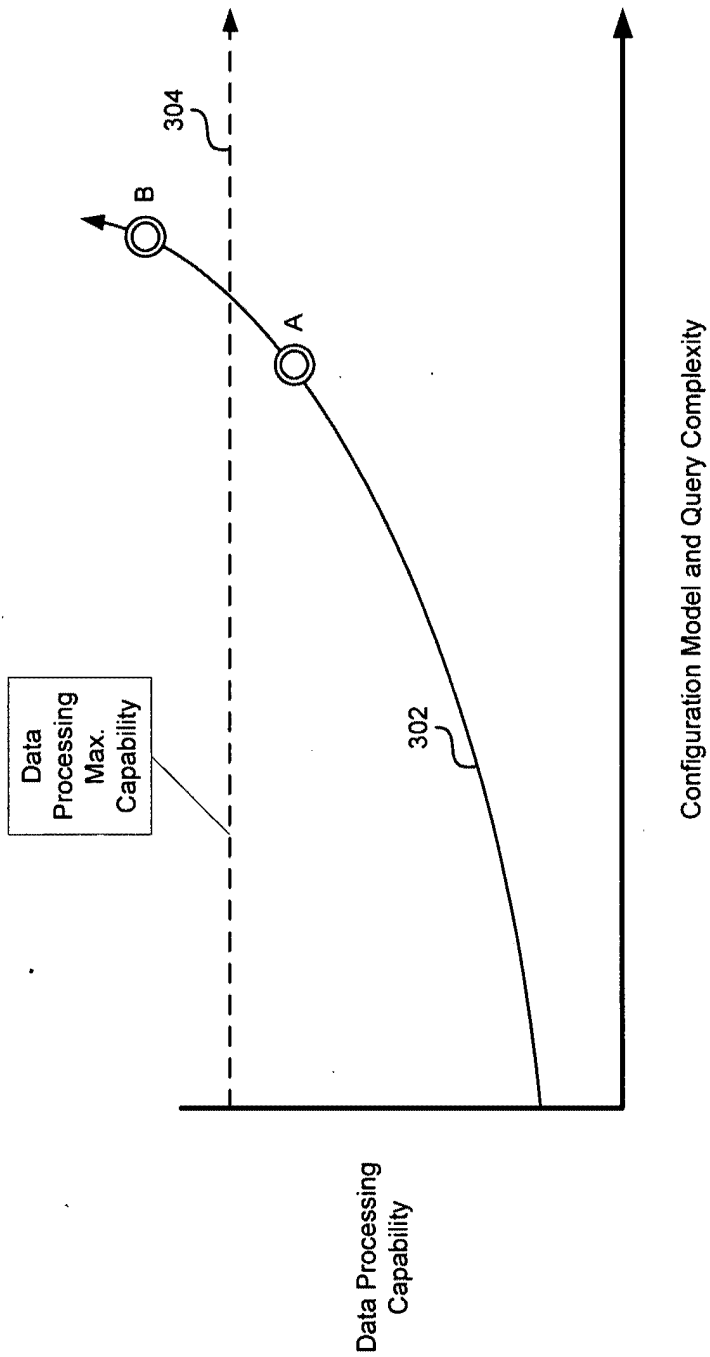


Figure 3 (prior art)

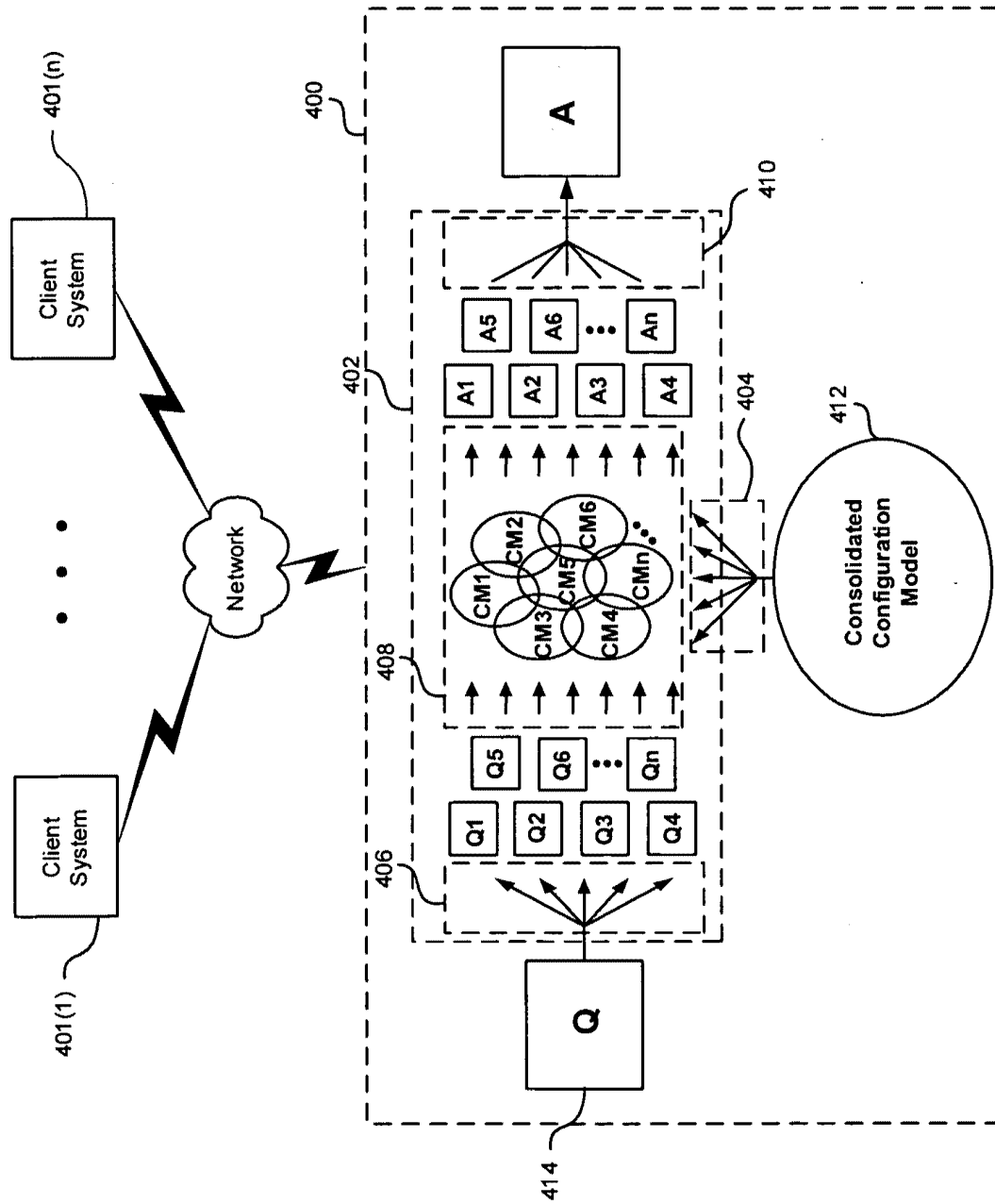


Figure 4

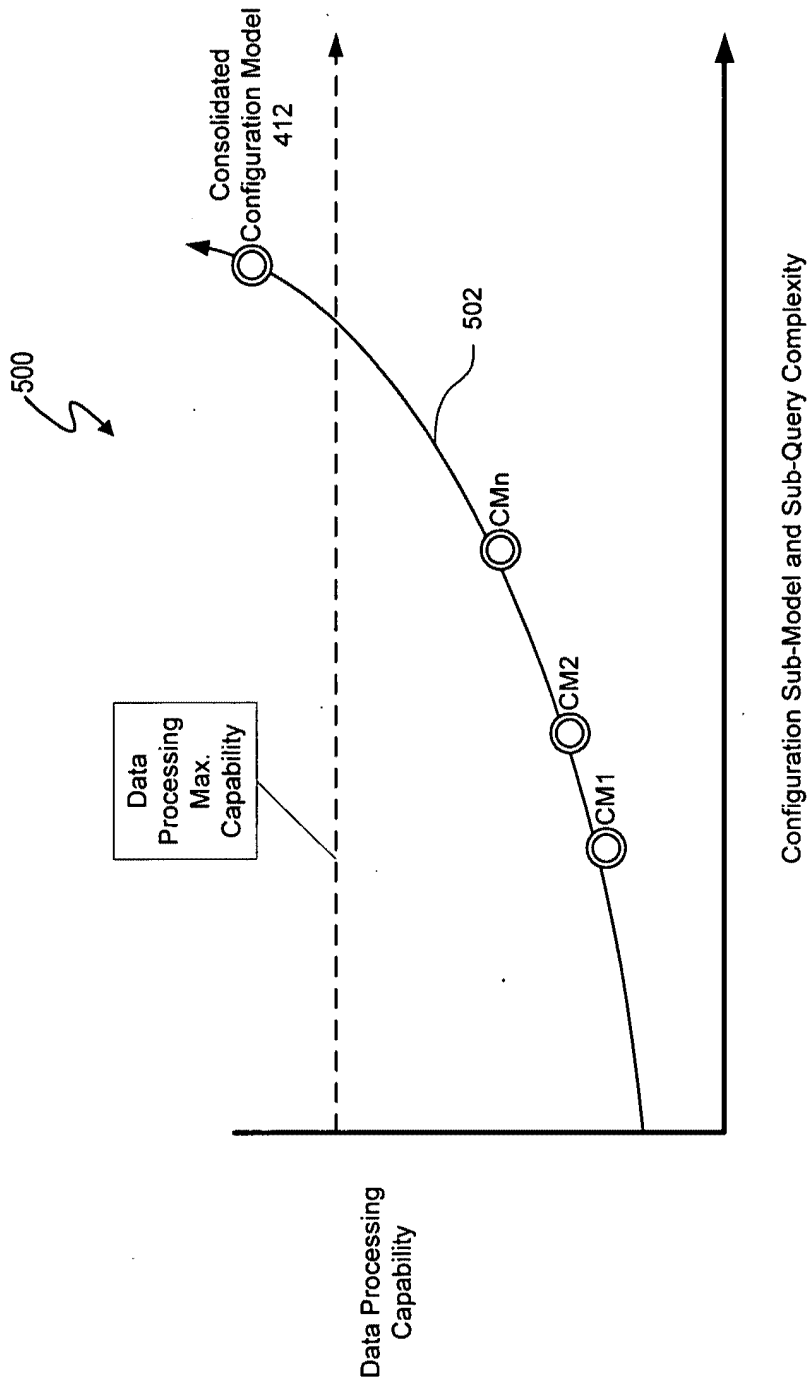


Figure 5

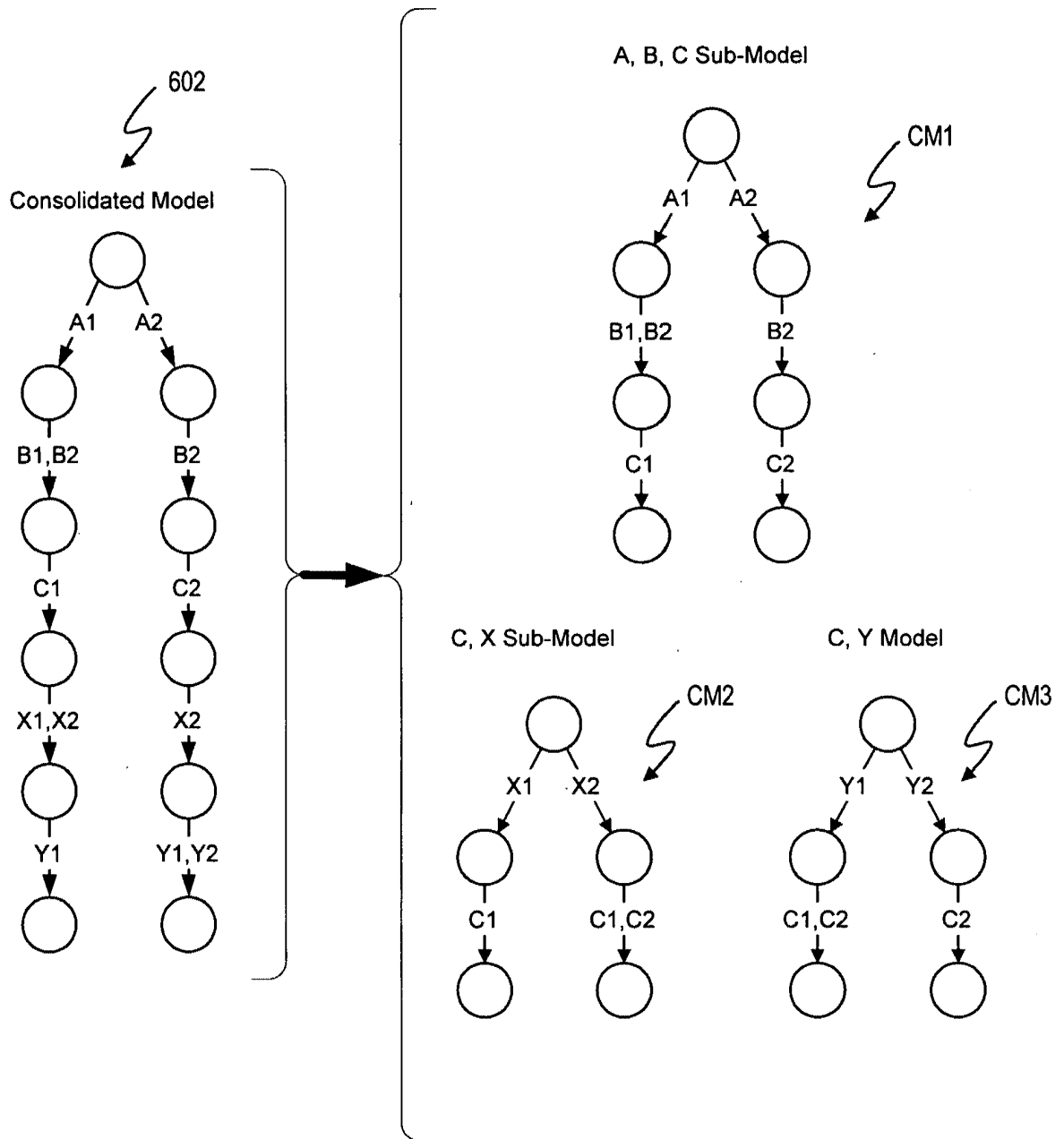


Figure 6

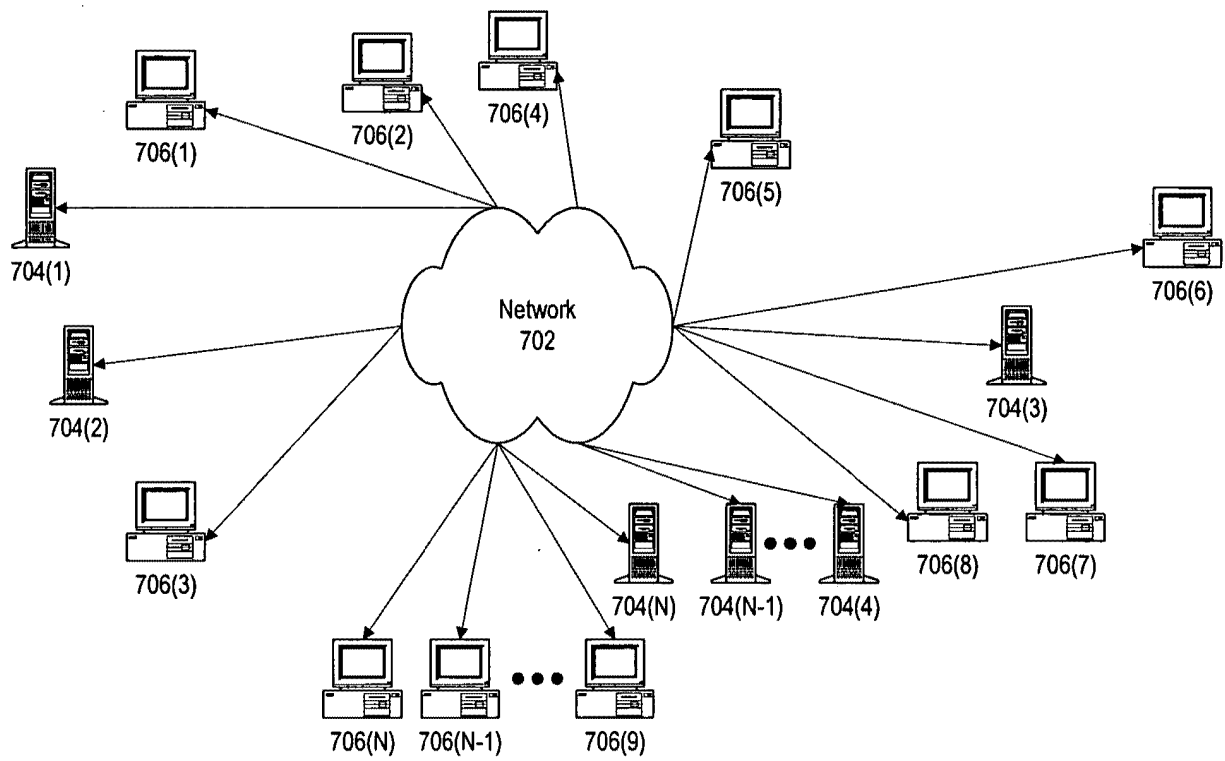


Figure 7

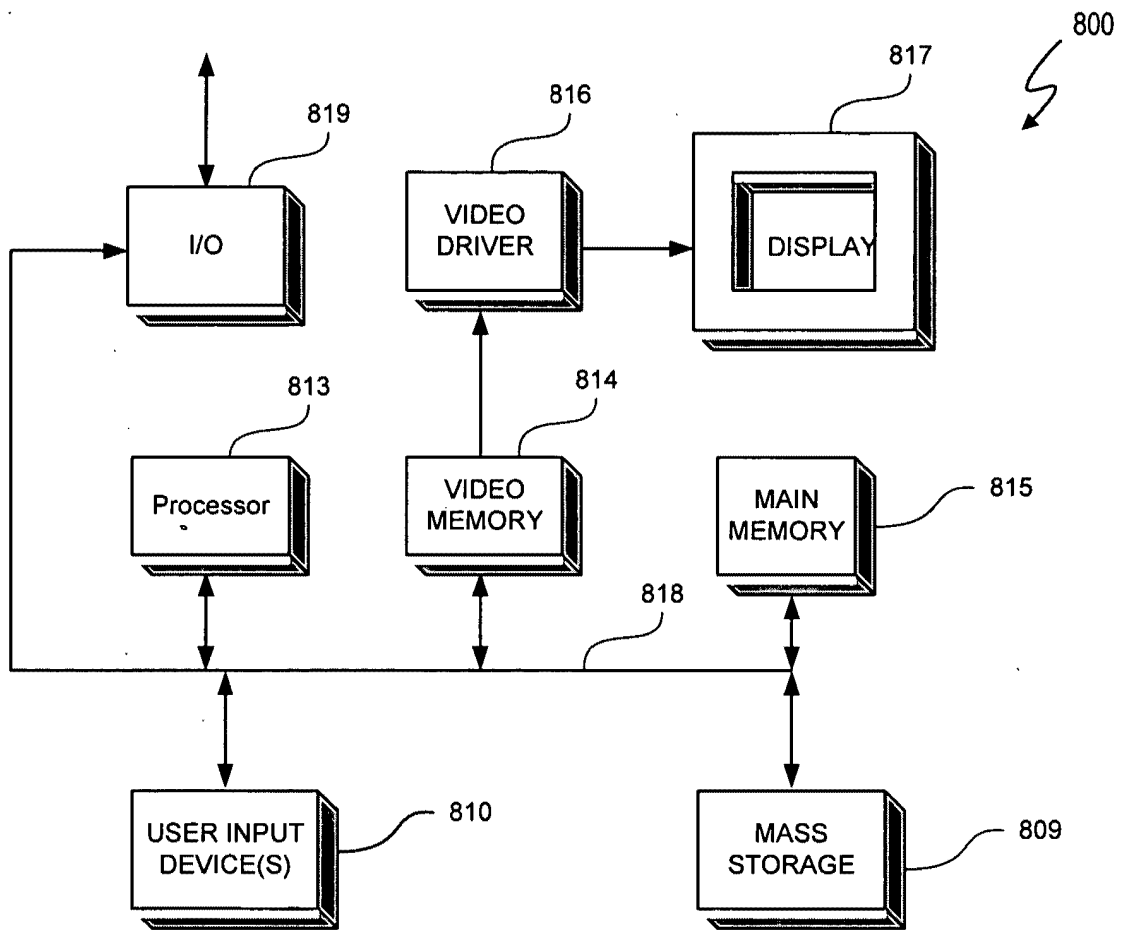


Figure 8

Attorney Docket No.: T00121

**DECLARATION FOR PATENT APPLICATION
AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of subject matter (process, machine, manufacture, or composition of matter, or an improvement thereof) which is claimed and for which a patent is sought by way of the application entitled:

COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS

which (check) is attached hereto.
 and is amended by the Preliminary Amendment attached hereto.
 was filed on _____ as Application Serial No. _____
 and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Day/Month/Year Filed	Yes	No
N/A			<input type="checkbox"/>	<input type="checkbox"/>

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

Provisional Application Number	Filing Date
N/A	

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or PCT international application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

Attorney Docket No.: T00121

Application Serial No.	Filing Date	Status (patented, pending, abandoned)
N/A		

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith: Stephen A. Terrile (32,946), Gary W. Hamilton (31,834), Rocky W. Holland (40,020), Michael Rocco Cannatti (34,791), and Kent B. Chambers (38,839).

Please address all correspondence and telephone calls to:

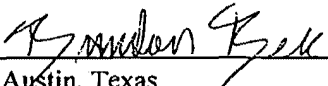
CUSTOMER NO. 33438

I declare that all statements made herein of my own knowledge are true, all statements made herein on information and belief are believed to be true, and all statements made herein are made with the knowledge that whoever, in any matter within the jurisdiction of the Patent and Trademark Office, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be subject to the penalties including fine or imprisonment or both as set forth under 18 U.S.C. 1001, and that violations of this paragraph may jeopardize the validity of the application or this document, or the validity or enforceability of any patent, trademark registration, or certificate resulting therefrom.

Full name of first joint inventor: Nathan E. Little

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Full name of second joint inventor: Brandon M. Beck

Inventor's Signature:  Date: 10/04/2004
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Full name of third joint inventor: Brian K. Showers

Inventor's Signature: _____ Date: _____
 Residence: Cedar Park, Texas
 Post Office Address: 1104 West Park Street Cedar Park, Texas 78613
 Citizenship: US

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

10/07/2004 KBETEMA1 00000024 10957919

01 FC:1001	790.00 OP
02 FC:1202	468.00 OP
03 FC:1201	352.00 OP

PTO-1556
(5/87)

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2004

Application or Docket Number

10987919

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	46	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	46 minus 20 =	* 26
INDEPENDENT CLAIMS	7 minus 3 =	* 4
MULTIPLE DEPENDENT CLAIM PRESENT <input type="checkbox"/>		

SMALL ENTITY TYPE

OR OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	395.00
X\$ 9=	
X44=	
+150=	
TOTAL	

RATE	FEE
BASIC FEE	790.00
X\$18=	468
X88=	352
+300=	
TOTAL	1610

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total *	Minus **	=
	Independent *	Minus ***	=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>		

SMALL ENTITY

OR OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X\$ 9=	
X44=	
+150=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X88=	
+300=	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
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	Independent *	Minus ***	=
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RATE	ADDITIONAL FEE
X\$ 9=	
X44=	
+150=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X88=	
+300=	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
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	Independent *	Minus ***	=
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>		

RATE	ADDITIONAL FEE
X\$ 9=	
X44=	
+150=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X88=	
+300=	
TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/957,919	10/04/2004	Nathan E. Little	T00121

33438
 HAMILTON & TERRILE, LLP
 P.O. BOX 203518
 AUSTIN, TX 78720

CONFIRMATION NO. 9162

FORMALITIES LETTER



OC000000014685317

Date Mailed: 12/07/2004

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

*Filing Date Granted***Items Required To Avoid Abandonment:**

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The signature of the following inventor(s) is missing from the oath or declaration:
Nathan E. Little and Brian K. Showers
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$130** for a Large Entity

- **\$130** Late oath or declaration Surcharge.

Replies should be mailed to: Mail Stop Missing Parts
 Commissioner for Patents
 P.O. Box 1450
 Alexandria VA 22313-1450

*A copy of this notice **MUST** be returned with the reply.*

Phung Sui
Customer Service Center
Initial Patent Examination Division (703) 308-1202

PART 3 - OFFICE COPY



THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
 Assignee: Trilogy Development Group, Inc.
 Title: Complex Configuration Processing Using Configuration Sub-Models
 Serial No.: 10/957,919 Filing Date: October 4, 2004
 Examiner: Unknown Group Art Unit: 2121
 Docket No.: T00121 Customer No.: 33438

Austin, Texas
December 14, 2004

MAIL STOP MISSING PARTS
COMMISSIONER FOR PATENTS
P.O. Box 1450
ALEXANDRIA, VA 22313-1450

**RESPONSE TO NOTICE TO FILE MISSING PARTS OF
NON PROVISIONAL APPLICATION - FILING DATE GRANTED**

Dear Sir:


In response to the Notice to File Missing Parts of Non Provisional Application - Filing Date Granted, dated December 7, 2004, the following documents are enclosed to complete the filing of the above-identified patent application:

1. Declarations (executed in counterpart) by inventors Nathan E. Little and Brian K. Showers;
2. A copy of the Notice to File Missing Parts of Nonprovisional Application; and
3. A check for \$130 to cover the surcharge.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 502264.

It is hereby respectfully submitted that the enclosed documents complete the filing of the above patent application. Please telephone the undersigned at (512) 338-9100, if there are any questions.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Missing Parts, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on December 14, 2004.


Attorney for Applicant(s)

12-14-2004
Date of Signature

Respectfully submitted,



Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/957,919	10/04/2004	Nathan E. Little	T00121

CONFIRMATION NO. 9162

FORMALITIES LETTER



OC00000014685317

33438
 HAMILTON & TERRILE, LLP
 P.O. BOX 203518
 AUSTIN, TX 78720

Date Mailed: 12/07/2004

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

*Filing Date Granted*Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The signature of the following inventor(s) is missing from the oath or declaration:
Nathan E. Little and Brian K. Showers
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$130** for a Large Entity

- **\$130** Late oath or declaration Surcharge.

! 12/23/2004 SDENBDB1 00000017 10957919

01 FC:1051

130.00 0P

Replies should be mailed to: Mail Stop Missing Parts
 Commissioner for Patents
 P.O. Box 1450
 Alexandria VA 22313-1450

*A copy of this notice **MUST** be returned with the reply.*

Phuong Bui

Customer Service Center

Initial Patent Examination Division (703) 308-1202

PART 2 - COPY TO BE RETURNED WITH RESPONSE



**DECLARATION FOR PATENT APPLICATION
AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of subject matter (process, machine, manufacture, or composition of matter, or an improvement thereof) which is claimed and for which a patent is sought by way of the application entitled:

COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS

- which (check) is attached hereto.
 and is amended by the Preliminary Amendment attached hereto.
 was filed on _____ as Application Serial No. _____
 and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Day/Month/Year Filed	Yes	No
N/A			<input type="checkbox"/>	<input type="checkbox"/>

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

Provisional Application Number	Filing Date
N/A	

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or PCT international application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

Application Serial No.	Filing Date	Status (patented, pending, abandoned)
N/A		


I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith: Stephen A. Terrile (32,946), Gary W. Hamilton (31,834), Rocky W. Holland (40,020), Michael Rocco Cannatti (34,791), and Kent B. Chambers (38,839).

Please address all correspondence and telephone calls to:

CUSTOMER NO. 33438

I declare that all statements made herein of my own knowledge are true, all statements made herein on information and belief are believed to be true, and all statements made herein are made with the knowledge that whoever, in any matter within the jurisdiction of the Patent and Trademark Office, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be subject to the penalties including fine or imprisonment or both as set forth under 18 U.S.C. 1001, and that violations of this paragraph may jeopardize the validity of the application or this document, or the validity or enforceability of any patent, trademark registration, or certificate resulting therefrom.

Full name of first joint inventor: Nathan E. Little

Inventor's Signature:  Date: 10/13/04

Residence: Austin, Texas

Post Office Address: 8200 Neely Dr. #250 Citizenship: US
Austin, Texas 78759

Full name of second joint inventor: Brandon M. Beck

Inventor's Signature: _____ Date: _____

Residence: Austin, Texas

Post Office Address: 3625 Duval Road, Apt. #1226 Citizenship: US
Austin, Texas 78759

Full name of third joint inventor: Brian K. Showers

Inventor's Signature: _____ Date: _____

Residence: Cedar Park, Texas

Post Office Address: 1104 West Park Street Citizenship: US
Cedar Park, Texas 78613



DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY

I, _____ named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of subject matter (process, machine, manufacture, or composition of matter, or an improvement thereof) which is claimed and for which a patent is sought by way of the application entitled:

COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS

- which (check) is attached hereto.
- and is amended by the Preliminary Amendment attached hereto.
- was filed on _____ as Application Serial No. _____
- and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Day/Month/Year Filed	Yes	No
N/A			<input type="checkbox"/>	<input type="checkbox"/>

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

Provisional Application Number	Filing Date
N/A	

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or PCT international application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

Application Serial No.	Filing Date	Status (patented, pending, abandoned)
N/A		

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith: Stephen A. Terrile (32,946), Gary W. Hamilton (31,834), Rocky W. Holland (40,020), Michael Rocco Cannatti (34,791), and Kent B. Chambers (38,839).

Please address all correspondence and telephone calls to:

CUSTOMER NO. 33438

I declare that all statements made herein of my own knowledge are true, all statements made herein on information and belief are believed to be true, and all statements made herein are made with the knowledge that whoever, in any matter within the jurisdiction of the Patent and Trademark Office, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be subject to the penalties including fine or imprisonment or both as set forth under 18 U.S.C. 1001, and that violations of this paragraph may jeopardize the validity of the application or this document, or the validity or enforceability of any patent, trademark registration, or certificate resulting therefrom.

Full name of first joint inventor: Nathan E. Little

Inventor's Signature: _____ Date: _____
 Residence: Austin, Texas
 Post Office Address: 8200 Neely Dr. #250 Austin, Texas 78759
 Citizenship: US

Full name of second joint inventor: Brandon M. Beck

Inventor's Signature: _____ Date: _____
 Residence: Austin, Texas
 Post Office Address: 3625 Duval Road, Apt. #1226 Austin, Texas 78759
 Citizenship: US

Full name of third joint inventor: Brian K. Showers

Inventor's Signature: Brian K Showers Date: 10-11-2004
 Residence: Cedar Park, Texas
 Post Office Address: 1104 West Park Street Cedar Park, Texas 78613
 Citizenship: US

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
		"20030187950" and sub\$	US-PGPUB; USPAT	OR	OFF	2006/08/28 16:38
L1	0	@pd<"20041004" and (multimedia with (database or knowledgebase or "knowledge base")) and (707/3.ccls. or 707/103.ccls.)	US-PGPUB; USPAT	OR	OFF	2006/08/29 15:03
L2	0	@pd<"20041004" and 700/1.ccls.	IBM_TDB	OR	OFF	2006/08/30 08:14
L3	0	@pd<"20041004" and 700/90.ccls.	IBM_TDB	OR	OFF	2006/08/30 08:13
L4	0	@pd<"20041004" and 706/1.ccls.	IBM_TDB	OR	OFF	2006/08/30 08:14
L5	339	706/1.ccls.	IBM_TDB	OR	OFF	2006/08/30 08:14
L6	848	@pd<"20041004" and 700/1.ccls.	US-PGPUB; USPAT	OR	OFF	2006/08/30 08:14
L7	1110	@pd<"20041004" and (700/1.ccls. or 700/90.ccls.)	US-PGPUB; USPAT	OR	OFF	2006/08/30 08:35
L8	4	@pd<"20041004" and (706/1.ccls. or 706/15.ccls. or 706/45.ccls.) and ("sub query" or sub-query or subquery or "sub queries" or sub-queries or subqueries)	US-PGPUB; USPAT	OR	OFF	2006/08/30 08:35
L9	259	@pd<"20041004" and (707/3.ccls. or 707/10.ccls. or "709218".ccls.) and ("sub query" or sub-query or subquery or "sub queries" or sub-queries or subqueries)	US-PGPUB; USPAT	OR	OFF	2006/08/30 08:39
L10	6	@pd<"20041004" and ("709/218".ccls.) and ("sub query" or sub-query or subquery or "sub queries" or sub-queries or subqueries)	US-PGPUB; USPAT	OR	OFF	2006/08/30 08:51
L11	263	@pd<"20041004" and (707/3.ccls. or 707/10.ccls. or "709/218".ccls.) and ("sub query" or sub-query or subquery or "sub queries" or sub-queries or subqueries)	US-PGPUB; USPAT	OR	OFF	2006/08/30 08:51
S1	429	@pd<"20041004" and (model or models) and (submodel or "sub model" or "sub-model" or submodels or "sub models" or "sub-models")	US-PGPUB; USPAT	OR	OFF	2006/08/25 10:34
S2	411	@pd<"20041004" and ((model or models) same (submodel or "sub model" or "sub-model" or submodels or "sub models" or "sub-models"))	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:49

EAST Search History

S3	380	@pd<"20041004" and ((model or models) with (submodel or "sub model" or "sub-model" or submodels or "sub models" or "sub-models"))	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:49
S4	543	@pd<"20041004" and (query or queries) and (subquery or "sub query" or "sub-query" or subqueries or "sub queries" or "sub-queries"))	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:51
S5	497	@pd<"20041004" and ((query or queries) same (subquery or "sub query" or "sub-query" or subqueries or "sub queries" or "sub-queries"))	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:51
S6	467	@pd<"20041004" and ((query or queries) with (subquery or "sub query" or "sub-query" or subqueries or "sub queries" or "sub-queries"))	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:51
S7	1	S3 and S6	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:52
S8	1	S2 and S5	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:52
S9	1	S1 and S4	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:56
S10	0	"6640231".pn. and processor	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:57
S11	0	"6640231".pn. and CPU	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:57
S12	0	"6640231".pn. and central	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:57
S13	0	"6640231".pn. and hardware	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:57
S14	1	"6640231".pn. and computer	US-PGPUB; USPAT	OR	OFF	2006/08/24 09:57
S15	4327	@pd<"20041004" and "knowledge base"	US-PGPUB; USPAT	OR	OFF	2006/08/24 13:17
S16	30	@pd<"20041004" and "knowledge base" and ((query or queries) same (subquery or "sub query" or "sub-query" or subqueries or "sub queries" or "sub-queries"))	US-PGPUB; USPAT	OR	OFF	2006/08/24 13:32
S17	0	"6175829".pn. and rul\$	US-PGPUB; USPAT	OR	OFF	2006/08/24 13:26

EAST Search History

S18	1	"6175829".pn. and query	US-PGPUB; USPAT	OR	OFF	2006/08/24 13:28
S19	1	"6175829".pn. and "query specification"	US-PGPUB; USPAT	OR	OFF	2006/08/24 13:28
S20	1	"6175829".pn. and "knowledge base" and ((query or queries) same (subquery or "sub query" or "sub-query" or subqueries or "sub queries" or "sub-queries"))	US-PGPUB; USPAT	OR	OFF	2006/08/24 13:49
S21	1	"6175829".pn. and (subquery or "sub query" or "sub-query" or subqueries or "sub queries" or "sub-queries")	US-PGPUB; USPAT	OR	OFF	2006/08/24 13:52
S22	1	"6175829".pn. and "query elements"	US-PGPUB; USPAT	OR	OFF	2006/08/24 13:53
S23	1	"6175829".pn. and "query element"	US-PGPUB; USPAT	OR	OFF	2006/08/24 14:43
S24	1	"6175829".pn. and "database"	US-PGPUB; USPAT	OR	OFF	2006/08/25 08:44
S25	1	"6175829".pn. and overlap	US-PGPUB; USPAT	OR	OFF	2006/08/24 16:59
S26	1	"6175829".pn. and structure	US-PGPUB; USPAT	OR	OFF	2006/08/24 17:38
S27	0	"6175829".pn. and combining	US-PGPUB; USPAT	OR	OFF	2006/08/24 17:38
S28	1	"6175829".pn. and combi\$	US-PGPUB; USPAT	OR	OFF	2006/08/24 17:38
S29	1	"6175829".pn. and "matching"	US-PGPUB; USPAT	OR	OFF	2006/08/25 07:23
S30	1	"6175829".pn. and "image\$"	US-PGPUB; USPAT	OR	OFF	2006/08/25 08:44
S31	1	"6175829".pn. and ("image\$" same sub-query)	US-PGPUB; USPAT	OR	OFF	2006/08/25 09:02
S32	1	"6175829".pn. and threshold	US-PGPUB; USPAT	OR	OFF	2006/08/25 09:06

EAST Search History

S33	0	"6175829".pn. and requireme\$	US-PGPUB; USPAT	OR	OFF	2006/08/25 09:03
S34	1	"6175829".pn. and select\$	US-PGPUB; USPAT	OR	OFF	2006/08/25 09:07
S35	2049	@pd<"20041004" and (multimedia with (database or knowledgebase or "knowledge base"))	US-PGPUB; USPAT	OR	OFF	2006/08/25 10:46
S36	5	@pd<"20041004" and (multimedia with (database or knowledgebase or "knowledge base")) and heir\$	US-PGPUB; USPAT	OR	OFF	2006/08/25 10:48
S37	157	@pd<"20041004" and (multimedia with (database or knowledgebase or "knowledge base")) and (707/3.ccls. or 707/103.ccls.)	US-PGPUB; USPAT	OR	OFF	2006/08/25 10:50
S38	5	@pd<"20041004" and (multimedia with (database or knowledgebase or "knowledge base")) and (707/3.ccls. or 707/103.ccls.) and ("sub query" or sub-query or subquery or "sub queries" or sub-queries or subqueries)	US-PGPUB; USPAT	OR	OFF	2006/08/25 10:51
S39	1	"20040098376"	US-PGPUB; USPAT	OR	OFF	2006/08/28 16:33
S40	8	"20040098376" or "20040167879" or "20040103433" or "20040088291" or "20040030682" or "20030187950" or "20010049824"	US-PGPUB; USPAT	OR	OFF	2006/08/28 16:38
S41	1	"20030187950" and ("sub query" or sub-query or subquery or "sub queries" or sub-queries or subqueries)	US-PGPUB; USPAT	OR	OFF	2006/08/28 17:00
S42	1	S40 and ("sub query" or sub-query or subquery or "sub queries" or sub-queries or subqueries)	US-PGPUB; USPAT	OR	OFF	2006/08/28 16:48
S43	1	"20030187950" and (memory or database or knowledgebase)	US-PGPUB; USPAT	OR	OFF	2006/08/28 17:02
S44	1	"20030187950" and (result\$ or answer)	US-PGPUB; USPAT	OR	OFF	2006/08/28 17:46
S45	0	"20030187950" and (validation)	US-PGPUB; USPAT	OR	OFF	2006/08/28 17:46
S46	0	"20030187950" and (threshold)	US-PGPUB; USPAT	OR	OFF	2006/08/28 17:46
S47	1	"20030187950" and (limit or boundry)	US-PGPUB; USPAT	OR	OFF	2006/08/28 17:47

EAST Search History

S48	1	"20030187950" and (hit)	US-PGPUB; USPAT	OR	OFF	2006/08/28 17:47
S49	0	"20030187950" and carchase	US-PGPUB; USPAT	OR	OFF	2006/08/29 08:04
S50	1	"20030187950" and "256"	US-PGPUB; USPAT	OR	OFF	2006/08/29 08:29
S51	1	"20030187950" and "term A"	US-PGPUB; USPAT	OR	OFF	2006/08/29 08:46
S52	1	"20030187950" and "query capture"	US-PGPUB; USPAT	OR	OFF	2006/08/29 08:57
S53	0	"20030187950" and (family or lines)	US-PGPUB; USPAT	OR	OFF	2006/08/29 08:58
S54	1	"20030187950" and parser	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:05
S55	1	"20030187950" and field\$	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:12
S56	0	"20030187950" and overlap\$	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:12
S57	1	"20030187950" and over\$	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:13
S58	0	"20030187950" and threshold	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:13
S59	1	"20030187950" and (limit or boundry)	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:39
S60	38136	@pd<"20041004" and multimedia	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:18
S61	154	@pd<"20041004" and (multimedia with classification)	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:18
S62	57	@pd<"20041004" and (multimedia with classification) and multimedia.ab.	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:26
S63	32	@pd<"20041004" and (multimedia with classification) and multimedia.ab. and (multimedia with (search\$ or query\$))	US-PGPUB; USPAT	OR	OFF	2006/08/29 09:20

EAST Search History

S64	19	S63 and threshold		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:21
S65	0	S63 and threshold and (query with divid\$)		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:20
S66	0	S63 and (query with divid\$)		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:20
S67	10	S63 and threshold and overlap\$		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:21
S68	0	@pd<"20041004" and (multimedia with classification) and multimedia.ab. and (queries with (overlap or overlapping))		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:27
S69	0	@pd<"20041004" and (multimedia with classification) and multimedia.ab. and (query with (overlap or overlapping))		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:27
S70	6	@pd<"20041004" and (multimedia with classification) and (query with (overlap or overlapping))		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:29
S71	2	@pd<"20041004" and (multimedia with classification) and (query with (overlap or overlapping)) and ((allow or permit) with processing)		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:29
S72	2	"20030187950" or "6721748".pn.		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:39
S73	0	S72 and threshold		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:40
S74	1	S72 and limit		US-PGPUB; USPAT	OR	OFF	2006/08/29 09:40
S75	3	"20030149681" or "20030036939" or "20030129575"		US-PGPUB; USPAT	OR	OFF	2006/08/29 11:23
S76	1	S75 and feedback		US-PGPUB; USPAT	OR	OFF	2006/08/29 12:47
S77	7	"20030083914" or "20030036939" or "20030010016" or "20020108113" or "20020032630" or "20030078900"		US-PGPUB; USPAT	OR	OFF	2006/08/29 11:26
S78	2	S77 and feedback		US-PGPUB; USPAT	OR	OFF	2006/08/29 11:33
S79	1	"20050086189" and diagnosis		US-PGPUB; USPAT	OR	OFF	2006/08/29 11:34

EAST Search History

S80	1	"20030149681"	US-PGPUB; USPAT	OR	OFF	2006/08/29 12:47
S81	0	"20030149681" and harmony with level	US-PGPUB; USPAT	OR	OFF	2006/08/29 12:47
S82	0	"20030149681" and (harmony with level)	US-PGPUB; USPAT	OR	OFF	2006/08/29 13:16
S83	1	"20030149681" and (harmony)	US-PGPUB; USPAT	OR	OFF	2006/08/29 12:47
S84	0	"20030149681" and (harmony same level)	US-PGPUB; USPAT	OR	OFF	2006/08/29 13:16
S85	0	"20030149681" and (harmony same (value or score or rating or threshold))	US-PGPUB; USPAT	OR	OFF	2006/08/29 13:17
S86	0	"20030149681" and (harmony same (output or value or score or rating or threshold))	US-PGPUB; USPAT	OR	OFF	2006/08/29 13:19
S87	0	"20030149681" and (harmony same (evaluation or summary))	US-PGPUB; USPAT	OR	OFF	2006/08/29 13:19
S88	0	"20030149681" and (harmony same (numeric))	US-PGPUB; USPAT	OR	OFF	2006/08/29 13:19
S89	0	"20030149681" and (harmony same (num\$))	US-PGPUB; USPAT	OR	OFF	2006/08/29 13:19



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/957,919	10/04/2004	Nathan E. Little	T00121	9162

33438 7590 09/01/2006
HAMILTON & TERRILE, LLP
P.O. BOX 203518
AUSTIN, TX 78720

EXAMINER
COUGHLAN, PETER D

ART UNIT 2129
PAPER NUMBER

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/957,919	Applicant(s) LITTLE ET AL.	
	Examiner Peter Coughlan	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 October 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-46 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-46 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 04 October 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. Claims 1-46 are pending in this application.

Specification Rejections

2. The specification is rejected due to the following. Claims 12, 25, 27, 40, 42 use the term "low enough". This is not defined, addressed or explained in the specification.

The specification is rejected due to the following. Claims 9, 23, 30 use the term "family lines". This leads to assumptions based on lineage but it is not addressed, defined or explained in the specification.

Per the MPEP, section 608.01(I) the claim(s) is/are treated on its merits and a requirement made to amend the drawing and description to show the subject matter.

35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-46 are rejected under 35 U.S.C. 101 for nonstatutory subject matter.

The computer system must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. Defining problem solving with models and sub-models without a practical application is nothing more than an exercise. There needs to be a purpose or a real world function for the invention. 'Solving product configuration' is an abstract concept. What is needed is a 'solving product configuration for the purpose of *alpha*'. The result has to be a practical application. Please see the interim guidelines for examination of patent applications for patent subject matter eligibility published November 22, 2005 in the official gazette.

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." If the claim is directed to a practical application of the § 101 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101. Is the purpose for processing queries for a car search on the Internet? Is 'dividing a consolidated configuration model' really the grid of intersections of a city with stop lights and the invention solves the best timing for all the lights for maximum traffic

flow? Is 'generating an answer' based upon queries and sub-models for the engineering parameters for a bridge? If so no such results have been claimed.

The invention must be for a practical application and either:

- 1) specify transforming (physical thing) or
- 2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/ non-unpredictable), AND tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended, and if the specification discloses a practical application but the claim is broader than the disclosure such that it does not require the practical application, then the claim must be amended.

Claims that provide an abstract concept of 'Solving product configuration' and not a result that is a real world application are not statutory.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-20, 22-35, 37-46 are rejected under 35 U.S.C. 102(b) (hereinafter referred to as **Rising**) being anticipated by Rising, U.S. Patent Publication 20030187950.

Claims 1, 14, 15, 29, 30, 44, 45

Rising anticipates a processor (**Rising**, abstract; 'Processor' of applicant is equivalent to 'search engine' of Rising.); and a storage medium having data encoded therein, the data comprising processor executable code for (**Rising**, ¶0007; 'Storage medium' of applicant is equivalent to 'database' of Rising.); dividing a consolidated configuration model into multiple configuration sub-models (**Rising**, Fig. 10 and ¶0065; Figure 10 illustrates a query builder and the contents of terms A, B and C can be seen as 'subquery'. 'Configuration model' of applicant is equivalent to 'query builder' of Rising. 'Sub-models' of applicant is equivalent to 'Terms A, B, C' of Rising.); processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product (**Rising**, Fig. 10; 'Configuration sub-models' of applicant is equivalent to item 208 of Rising. Rising illustrates using Boolean operators with sub-models for a search parameter. 'Configuration query' of applicant is equivalent to the 'set of all subqueries' of Rising.); and generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models. (**Rising**, ¶0012; 'Generating an answer' of applicant is equivalent to 'search results' of Rising.)

Claims 2, 16, 31

Rising anticipates dividing a configuration query into multiple configuration sub-queries, wherein the one or more configuration queries include the multiple

configuration sub-queries. (**Rising**, Figure 10 illustrates that the query builder(configuration query) is composed of multiple sub-models (Terms A, B, C). Each sub-model is composed of a sub-query, so a 'configuration query' is composed of sub-queries.)

Claims 3, 17, 32

Rising anticipates processing each sub-query using at least one configuration sub-model per sub-query. (**Rising**, Fig. 10; To process a sub-query you have to use the sub-model indicator in item 208 in Rising.)

Claims 4, 18, 33

Rising anticipates processing each sub-query using multiple configuration sub-models per sub-query. (**Rising**, 'Multiple configurations sub-models' of applicant is equivalent to '(A and B) or (A and C) where 'A' is used multiple times' of Rising.)

Claims 5, 19, 34

Rising anticipates processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Rising**, ¶0056; 'Configuration validation' of applicant is equivalent to 'hit processing routine' of Rising.)

Claims 6, 20, 35

Rising anticipates the data collectively included in the configuration sub-models is sufficient to provide an answer for each of the sub-queries being processed. (**Rising**, ¶0050 and Fig 12. 'Provide an answer for each of the sub-queries' of applicant is equivalent to 'query capture mechanism' of Rising.)

Claims 8, 22, 37

Rising anticipates dividing a consolidated configuration model into multiple configuration sub-models comprises dividing the configuration sub-models in accordance with a predetermined data structure (**Rising**, Fig. 10; 'Predetermined data structure' of applicant is equivalent to indicator fields used in the sub-models. For example of indicator fields would be 'action', 'prefer', 'background' and 'location,city' of Rising.); and dividing a configuration query into multiple configuration sub-queries further comprises dividing the sub-queries in accordance with the sub-model structure. (**Rising**, ¶0057; 'Dividing a sub-query' of applicant is accomplished by the 'parser' of Rising. The 'sub-model structure' of applicant is equivalent to 'a form that is optimized for use by a string search routine' of Rising.)

Claims 9, 23, 38

Rising anticipates the predetermined data structure comprises a data structure divided along configuration model family lines. (**Rising**, Fig. 10 and ¶0065; 'Predetermined data structure' of applicant is equivalent to indicator fields used in

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the sub-models. Examples of these data structures that are 'divided along family lines' of applicant is equivalent to 'query statement field' or 'term entry field' of Rising.)

Claims 10, 24, 39

Rising anticipates generating a sub-answer for each processed configuration sub-model (**Rising**, ¶0050 and Fig 12. 'Generating a sub-answer' of applicant is equivalent to 'query capture mechanism' of Rising.); and combining each sub-answer to generate the answer. (**Rising**, Fig. 10;'Combining each sub-answer' of applicant is demonstrated by item '208' in figure 10 of Rising. Rising is looking for a combination of sub-answers of 'A and B' or 'A and C'.)

Claims 11, 26, 41, 46

Rising anticipates dividing a consolidated configuration model into the configuration sub-models. (**Rising**, Fig. 10;'Configuration sub-models' of applicant is equivalent to 'Term A', 'Term B' and 'Term C' of Rising. 'Configuration model' of applicant is equivalent to 'query builder' of Rising. In Figure 10 of Rising illustrated that the 'query builder' is composed of 'Term A', 'Term B' and 'Term C'.)

Claims 12, 25, 27, 40, 42

Rising anticipates dividing the configuration model sufficiently so that complexity of each configuration sub-model is low enough to allow processing using available data processing capabilities while still representing the relationships included in the

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consolidated configuration model. (**Rising**, ¶0057; 'Dividing a sub-query' of applicant is accomplished by the 'parser' of Rising. The 'sub-model is low enough' of applicant is equivalent to 'a form that is optimized for use by a string search routine' of Rising.)

Claims 13, 28, 43

Rising anticipates each configuration sub-model represents a portion of the consolidated configuration model. (Rising, Fig. 10;'Sub-models' of applicant is equivalent to 'Term A', 'Term B' or 'Term C'. Each of these is a portion of the 'Query builder'. 'Configuration model' of applicant is equivalent to 'query builder' of Rising.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 21, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rising as set forth above, in view of Knight. (U. S. Patent 6721748, referred to as **Knight**)

Claims 7, 21, 36

Rising fails to particularly call for at least two sub-queries include overlapping information.

Knight teaches at least two sub-queries include overlapping information. (**Knight**, C16:39-54) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Rising by allowing resulting information to be shared by different queries as taught by Knight to have at least two sub-queries include overlapping information.

For the purpose of allowing the resulting information to be flexible and thus have increased accuracy based on different queries and relationships between different queries.

Conclusion

6. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

- U. S. Patent Publication 20040167879: Cotner
- U. S. Patent Publication 20040103433: Regeard
- U. S. Patent Publication 20040098376: Li
- U. S. Patent Publication 20040088291: Matsuzaki
- U. S. Patent Publication 20040030682: Porter
- U. S. Patent 6175829: Li

- U. S. Patent Publication 20010049824: Baker
- U. S. Patent 6470333: Baclawski
- U. S. Patent 6081801: Cochrane
- U. S. Patent 5873080: Coden
- U. S. Patent 5778378: Rubin
- U. S. Patent 6351762: Ludwig

7. Claims 1-46 are rejected.

Correspondence Information

8. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3687. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,
Washington, D. C. 20231;

Hand delivered to:

Receptionist,
Customer Service Window,
Randolph Building,
401 Dulany Street,
Alexandria, Virginia 22313,
(located on the first floor of the south side of the Randolph Building);

or faxed to:


(571) 273-8300 (for formal communications intended for entry.)

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).



Peter Coughlan

8/21/2006



Notice of References Cited	Application/Control No. 10/957,919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.	
	Examiner Peter Coughlan	Art Unit 2129	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification	
*	A	US-6,721,748	04-2004	Knight et al.	707/3
*	B	US-2003/0187950	10-2003	Rising, Hawley K. III	709/218
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
V	
W	
X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims



Application/Control No.

10/957,919

Examiner

Peter Coughlan

Applicant(s)/Patent under Reexamination

LITTLE ET AL.

Art Unit

2129

✓	Rejected
=	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date	
Final	Original		
	8/25/06		
1	✓		
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Search Notes



Application/Control No.

10/957,919

Examiner

Peter Coughlan

Applicant(s)/Patent under Reexamination

LITTLE ET AL.

Art Unit

2129

SEARCHED

Class	Subclass	Date	Examiner
706	1	8/25/2006	PDC
706	15	8/25/2006	PDC
706	45	8/25/2006	PDC
700	1	8/25/2006	PDC
700	90	8/25/2006	PDC
707	3	8/25/2006	PDC
707	10	8/25/2006	PDC
709	218	8/25/2006	PDC

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
East--multimedia, knowledgebase, structure, query, sub-query, model, sub0model, answer, sub-answer, processor, cpu	8/25/2006	PDC
East--II--central procesing unit, rules, spcification, elements, sub-elements, database, overlap, common range	8/25/2006	PDC
East--III--combining answers, matching, retrieving, images, requirements	8/25/2006	PDC
IEEE--Nathan E. Little, Brandon M. Beck, Brian K. Showers, combining answers, matching, retrieving, images, requirements	8/25/2006	PDC
IEEE--multimedia, knowledgebase, structure, query, sub-query, model, sub0model, answer, sub-answer, processor, cpu	8/25/2006	PDC
IEEE--central procesing unit, rules, spcification, elements, sub-elements, database, overlap, common range	8/25/2006	PDC
Inventors Nathan E. Little, Brandon M. Beck, Brian K. Showers	8/25/2006	PDC
709/218 with images, queries, sub-queries, elements, structure	8/25/2006	PDC

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Trilogy Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

Austin, Texas
February 28, 2007

ELECTRONICALLY FILED

RESPONSE TO NON-FINAL OFFICE ACTION

Dear Sir:

This paper is responsive to the Office Action dated September 1, 2006, having a shortened statutory period expiring December 1, 2006. Accompanying this response is a petition under 37 C.F.R. § 1.136 for extension of time by three (3) months setting a new time for response of March 1, 2007. Further examination and reconsideration are respectfully requested in view of the amendments and remarks set forth below.

AMENDMENTS TO THE CLAIMS

1 1. (Original) A method for using computer assisted configuration technology
2 to solve product configuration problems using configuration sub-models, the method
3 comprising:

4 processing one or more configuration queries using configuration sub-models,
5 wherein the configuration sub-models collectively model a configurable
6 product; and
7 generating an answer to the configuration problem based upon the processed one
8 or more configuration queries and the configuration sub-models.

1 2. (Original) The method of claim 1 further comprising:
2 dividing a configuration query into multiple configuration sub-queries, wherein
3 the one or more configuration queries include the multiple configuration
4 sub-queries.

1 3. (Original) The method of claim 2 wherein the product configuration
2 problems include a configuration completion problem and when solving the configuration
3 completion problem, and processing one or more configuration queries further comprises:
4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 4. (Original) The method of claim 2 further comprising:
2 processing each sub-query using multiple configuration sub-models per sub-
3 query.

1 5. (Original) The method of claim 2 wherein the product configuration
2 problems include a configuration validation problem and when solving the configuration
3 validation problem, and processing one or more configuration queries further comprises:
4 processing an undivided query using different configuration sub-models until a
5 configuration validation answer can be determined.

1 6. (Original) The method of claim 2 wherein the data collectively included in
2 the configuration sub-models is sufficient to provide an answer for each of the sub-
3 queries being processed.

1 7. (Original) The method of claim 2 wherein at least two sub-queries include
2 overlapping information.

1 8. (Original) The method of claim 2 wherein:
2 dividing a consolidated configuration model into multiple configuration sub-
3 models comprises dividing the configuration sub-models in accordance
4 with a predetermined data structure; and
5 dividing a configuration query into multiple configuration sub-queries further
6 comprises dividing the sub-queries in accordance with the sub-model
7 structure.

1 9. (Currently Amended) The method of claim 8 wherein the predetermined
2 data structure comprises a data structure divided along configuration model ~~family lines~~
3 part groups, wherein the part groups are a collection of related parts.

1 10. (Original) The method of claim 1 wherein generating an answer to the
2 configuration problem based upon the processed one or more configuration queries and
3 the configuration sub-models further comprises:
4 generating a sub-answer for each processed configuration sub-model; and
5 combining each sub-answer to generate the answer.

1 11. (Original) The method of claim 1 further comprising:
2 dividing a consolidated configuration model into the configuration sub-models.

1 12. (Currently Amended) The method of claim 11 wherein dividing the
2 consolidated configuration model into multiple configuration sub-models further
3 comprises:

4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model is low enough to allow processing using
6 available data processing capabilities of the computer assisted
7 configuration technology while still representing the relationships
8 included in the consolidated configuration model.

1 13. (Original) The method of claim 11 wherein each configuration sub-model
2 represents a portion of the consolidated configuration model.

1 14. (Original) A method for using computer assisted configuration technology
2 to solve product configuration problems using configuration sub-models, the method
3 comprising:

4 dividing a consolidated configuration model into multiple configuration sub-
5 models;
6 processing one or more configuration queries using the configuration sub-models;
7 and
8 generating an answer to the configuration problem based upon the processed one
9 or more configuration queries and the configuration sub-models.

1 15. (Original) A computer system to implement an inference procedure for
2 solving product configuration problems using configuration sub-models, the system
3 comprising:

4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 processing one or more configuration queries using configuration sub-
8 models, wherein the configuration sub-models collectively model a
9 configurable product; and

10 generating an answer to the configuration problem based upon the
11 processed one or more configuration queries and the configuration
12 sub-models.

1 16. (Original) The computer system of claim 15 wherein the data further
2 comprises processor executable code for:
3 dividing a configuration query into multiple configuration sub-queries, wherein
4 the one or more configuration queries include the multiple configuration
5 sub-queries.

1 17. (Original) The computer system of claim 16 wherein the product
2 configuration problems include a configuration completion problem and when solving the
3 configuration completion problem, and the code for processing one or more configuration
4 queries further comprises:
5 processing each sub-query using at least one configuration sub-model per sub-
6 query.

1 18. (Original) The computer system of claim 16 wherein the data further
2 comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 19. (Original) The computer system of claim 16 wherein the product
2 configuration problems include a configuration validation problem and when solving the
3 configuration validation problem, and the code for processing one or more configuration
4 queries further comprises:
5 processing an undivided query using different configuration sub-models until a
6 configuration validation answer can be determined.

1 20. (Original) The computer system of claim 16 wherein the data collectively
2 included in the configuration sub-models is sufficient to provide an answer for each of
3 the sub-queries being processed.

1 21. (Original) The computer system of claim 16 wherein at least two sub-
2 queries include overlapping information.

1 22. (Original) The computer system of claim 16 wherein:
2 the code for dividing a consolidated configuration model into multiple
3 configuration sub-models comprises code for dividing the configuration
4 sub-models in accordance with a predetermined data structure; and
5 the code for dividing a configuration query into multiple configuration sub-
6 queries further comprises code for dividing the sub-queries in accordance
7 with the sub-model structure.

1 23. (Currently Amended) The computer system of claim 22 wherein the
2 predetermined data structure comprises a data structure divided along configuration
3 model ~~family lines~~ part groups, wherein the part groups are a collection of related parts.

1 24. (Original) The computer system of claim 15 wherein the code for
2 generating an answer to the configuration problem based upon the processed one or more
3 configuration queries and the configuration sub-models further comprises code for:
4 generating a sub-answer for each processed configuration sub-model; and
5 combining each sub-answer to generate the answer.

1 25. (Currently Amended) The computer system of claim 15 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:
4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model is low enough to allow processing using
6 available data processing capabilities of the computer system while still
7 representing the relationships included in the consolidated configuration
8 model.

1 26. (Original) The computer system of claim 15 wherein the data further
2 comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 27. (Currently Amended) The computer system of claim 26 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:
4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model is low enough to allow processing using
6 available data processing capabilities of the computer system while still
7 representing the relationships included in the consolidated configuration
8 model.

1 28. (Original) The computer system of claim 26 wherein each configuration
2 sub-model represents a portion of the consolidated configuration model.

1 29. (Original) A computer system to implement an inference procedure for
2 solving product configuration problems using configuration sub-models, the system
3 comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 dividing a consolidated configuration model into multiple configuration
8 sub-models;
9 processing one or more configuration queries using the configuration sub-
10 models; and
11 generating an answer to the configuration problem based upon the
12 processed one or more configuration queries and the configuration
13 sub-models.

1 30. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to solve product configuration problems
3 using configuration sub-models, wherein the data comprises processor executable code
4 for:

5 processing one or more configuration queries using configuration sub-models,
6 wherein the configuration sub-models collectively model a configurable
7 product; and
8 generating an answer to the configuration problem based upon the processed one
9 or more configuration queries and the configuration sub-models.

1 31. (Original) The computer storage medium of claim 30 wherein the data
2 further comprises processor executable code for:

3 dividing a configuration query into multiple configuration sub-queries, wherein
4 the one or more configuration queries include the multiple configuration
5 sub-queries.

1 32. (Original) The computer storage medium of claim 31 wherein the product
2 configuration problems include a configuration completion problem and when solving the
3 configuration completion problem, and the code for processing one or more configuration
4 queries further comprises:

5 processing each sub-query using at least one configuration sub-model per sub-
6 query.

1 33. (Original) The computer storage medium of claim 31 wherein the data
2 further comprises processor executable code for:

3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 34. (Original) The computer storage medium of claim 31 wherein the product
2 configuration problems include a configuration validation problem and when solving the
3 configuration validation problem, and the code for processing one or more configuration
4 queries further comprises:
5 processing an undivided query using different configuration sub-models until a
6 configuration validation answer can be determined.

1 35. (Original) The computer storage medium of claim 31 wherein the data
2 collectively included in the configuration sub-models is sufficient to provide an answer
3 for each of the sub-queries being processed.

1 36. (Original) The computer storage medium of claim 31 wherein at least two
2 sub-queries include overlapping information.

1 37. (Original) The computer storage medium of claim 31 wherein:
2 the code for dividing a consolidated configuration model into multiple
3 configuration sub-models comprises code for dividing the configuration
4 sub-models in accordance with a predetermined data structure; and
5 the code for dividing a configuration query into multiple configuration sub-
6 queries further comprises code for dividing the sub-queries in accordance
7 with the sub-model structure.

1 38. (Currently Amended) The computer storage medium of claim 37 wherein
2 the predetermined data structure comprises a data structure divided along configuration
3 model ~~family lines~~ part groups, wherein the part groups are a collection of related parts.

1 39. (Original) The computer storage medium of claim 30 wherein the code for
2 generating an answer to the configuration problem based upon the processed one or more
3 configuration queries and the configuration sub-models further comprises code for:
4 generating a sub-answer for each processed configuration sub-model; and
5 combining each sub-answer to generate the answer.

1 40. (Currently Amended) The computer storage medium of claim 30 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:

4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model is low enough to allow processing using
6 available data processing capabilities of the computer system while still
7 representing the relationships included in the consolidated configuration
8 model.

1 41. (Original) The computer storage medium of claim 30 wherein the data
2 further comprises processor executable code for:

3 dividing a consolidated configuration model into the configuration sub-models.

1 42. (Currently Amended) The computer storage medium of claim 41 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:

4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model is low enough to allow processing using
6 available data processing capabilities of the computer system while still
7 representing the relationships included in the consolidated configuration
8 model.

1 43. (Original) The computer storage medium of claim 41 wherein each
2 configuration sub-model represents a portion of the consolidated configuration model.

1 44. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to solve product configuration problems
3 using configuration sub-models, wherein the data comprises code for:

4 dividing a consolidated configuration model into multiple configuration
5 sub-models;

6 processing one or more configuration queries using the configuration sub-
7 models; and
8 generating an answer to the configuration problem based upon the
9 processed one or more configuration queries and the configuration
10 sub-models.

1 45. (Original) A computer system to implement an inference procedure for
2 solving product configuration problems using configuration sub-models, the system
3 comprising:

4 means for processing one or more configuration queries using configuration sub-
5 models, wherein the configuration sub-models collectively model a
6 configurable product; and

7 means for generating an answer to the configuration problem based upon the
8 processed one or more configuration queries and the configuration sub-
9 models.

1 46. (Original) The computer system of claim 45 further comprising:
2 means for dividing a consolidated configuration model into the configuration sub-
3 models.

1 47. (New) The method of claim 1 further comprising:
2 generating data to display the answer on an electronic display medium.

1 48. (New) The method of claim 1 further comprising:
2 displaying the answer on an electronic display medium.

1 49. (New) The method of claim 1 wherein the configuration sub-models each
2 comprise data and rules to define compatibility relationships between parts included in a
3 product.

1 50. (New) The method of claim 1 wherein the configuration problem
2 comprises a configuration problem involving parts of a product.

REMARKS

Claims 1-46 are pending.

Claims 1-46 stand rejected.

Claims 9, 12, 23, 25, 27, 30, 38, 40, 42, and 44 have been amended for clarity and not for reasons of patentability.

Claims 47-50 have been added.

Specification Rejections

The Examiner has rejected the Specification because claims 12, 25, 27, 40, and 42 use the term “low enough”. Office Action, p. 2. “This is not defined, addressed, or explained in the specification.” *Id.*

Referring to Figure 5 and para. 25 of the Specification of the present application, the Specification recites:

Figure 5 depicts the data processing capability of a computer system being used to configure a product versus configuration sub-model and sub-query complexity. In general, the consolidated configuration model 412 is divided sufficiently so that the complexity of each configuration sub-model CM1, CM2, through CMn is low enough to allow processing using available data processing capabilities while still representing the relationships included in the consolidated configuration model 412, which, in this embodiment, would otherwise not be cable of being processed by the computer system. Present Application, para. 25. (emphasis added).

For clarity, Applicants have amended claims 12, 25, 27, 40, and 42 to clarify that “low enough to allow processing using available data processing capabilities” refers to “dividing the configuration model sufficiently so that complexity of each configuration sub-model is low enough to allow processing using available data processing capabilities of the computer system [“computer assisted configuration technology” - claim 12] while

still representing the relationships included in the consolidated configuration model.”
Claims 12, 25, 27, 40, and 42.

The Specification has also been rejected because “Claims 9, 23, [and] 30 use the term “family lines”. Applicants respectfully submit that “family lines” is addressed in paragraph 28, 36, and Tables 3, 4, and 5. However, for clarity, Applicants have amended claims 9, 23, and 30 to replace “family lines” with “part groups, wherein the part groups are a collection of related parts.” Support for the amendment can be found, for example, in para. 3. Applicants respectfully submit that the invention is defined by the claims and not by specific descriptive embodiments recited in the Specification.

Accordingly, Applicants respectfully submit that the specification including the claims meet the requirements of 35 U.S.C. § 112 and, particularly, paras. 1 and 2 of § 112.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 101

Claims 1-46 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

The Examiner stated that “solving product configuration” is an abstract idea and that what is needed is ‘solving product configuration for the purpose of _____.’
Office Action, p. 3.

The Supreme Court in *Gottschalk v. Benson* reviewed a method claim directed towards “converting signals from binary coded decimal form into binary.” *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ 673 (1972). The Court held that, “The mathematical formula involved here has no substantial practical application except in connection with a digital computer.” Applicants respectfully submit that the claims of the present application are not directed towards an abstract idea. To the contrary, the claims are directed towards a very practical purpose, namely “to solve product configuration problems using configuration sub-models.” Claim 1, 14, 15, 29, 30, 44, and 45.

Furthermore, Applicants respectfully submit that “an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models” represents a useful, concrete, and tangible result of “processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product.”

In *State Street Bank*, the Federal Circuit stated that, “Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not “useful”.” *State Street Bank & Trust Company v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998). “From a practical standpoint, this means that to be patentable an algorithm must be applied in a “useful” way.” *Id.*

In *State Street Bank*, the invention transformed data, representing discrete dollar amounts, into a final share price represented statutory subject matter. More specifically, the Federal Circuit held that:

the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces “a useful, concrete and tangible result”—a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. (emphasis added).

Similarly, claim 1 recites “using a computer assisted configuration technology to solve product configuration problems using configuration sub-models”, “processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product,”, and “generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models.”

Thus, Applicants respectfully submit that the invention of claim 1 is applied in a useful way, i.e. “processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product”

to produce a useful, concrete, and tangible result, i.e. the “answer to the configuration problem”. Applicants respectfully submit that the same remarks apply to the other independent claims and, by extension, to all dependent claims.

The Examiner asks, “Is the purpose for processing queries for a car search on the Internet?”, “[d]ividing a consolidated configuration model really the grid of intersections of a city with stop lights and the invention solves the best timing for all the lights for maximum traffic flow?”, “[g]enerating an answer based upon queried and sub-models for the engineering parameters for a bridge?” Office Actino, pp. 3-4. Certainly the scope of configuration problems can be wide ranging. However, Applicants respectfully submit that whether the claims are directed towards an abstract idea is not an issue of scope but rather whether the claims recite “disembodied concepts or truths that are not “useful”.” *State Street Bank*, 149 F.3d 1368 (Fed. Cir. 1998). As stated above, Applicants respectfully submit that the claims are directed towards a very practical purpose, namely “to solve product configuration problems using configuration sub-models.” Claims 1, 14, 15, 29, 30, 44, and 45. Furthermore, Applicants respectfully submit that “an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models” represents a useful, concrete, and tangible result of “processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product.”

Accordingly, Applicants respectfully submit that claims 1, 14, 15, 29, 30, 44, and 45 are directed towards statutory subject matter and not simply towards an abstract idea or mathematical algorithm. See *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 47 U.S.P.Q.2d 1596 (Fed. Cir. 1998) (holding that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces “a useful, concrete and tangible result”—a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.) See also, *In re Alappat*, 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994) (en banc) (holding that data, transformed by a machine through a series of

mathematical calculations to produce a smooth waveform display on a rasterizer monitor, constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced "a useful, concrete and tangible result"—the smooth waveform.)

Applicants respectfully request withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 102

Claims 1-6, 8-20, 22-35, and 37-46 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Publication No. 20030187950 to Rising (hereinafter “*Rising*”). Applicants respectfully traverse the rejection.

Rising teaches an apparatus that include “an MPEG-7 content description query generation tool coupled to a search engine configured for searching and comparing embedded MPEG-7 META tag information within file headers, or database information thereof, to the MPEG-7 content description query.” *Rising*, Abstract.

Claim 1 of the present application recites:

A method for using computer assisted configuration technology to solve product configuration problems using configuration sub-models, the method comprising:

processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product; and

generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models.

In the rejection of Claims 1, 14, 15, 29, 30, 44, and 45, the Examiner has characterized several alleged equivalents between *Rising* and Claims 1, 14, 15, 29, 30, 44, and 45. For convenience, Applicants have presented a subset of the alleged equivalents in Table 1 below:

Alleged Equivalencies between Claim terms and <i>Rising</i>		
Claim Term		Examiner’s Interpretation of <i>Rising</i>
Sub-models	=	Terms A, B, C
Configuration Sub-models	=	Item 208

Table 1

Applicants respectfully disagree with the Examiner’s characterization of the teachings and suggestions of *Rising*. Although Applicants disagree with a number of the Examiner’s characterizations of the teachings and suggestions of *Rising*, Applicants respectfully submit that if any of the Examiner’s characterizations of the teachings and suggestions or *Rising* are not supported by *Rising* then a *prima facie* case of anticipation under 35 U.S.C. § 102 cannot be supported.

Rising teaches that “Terms A, B, C” are “query terms”. *Rising*, para. 65. For example, *Rising* teaches that, “Query term "A" 178 can be described by a descriptive name field 180 and it can receive a series of query elements within a query element entry field 182.” “Similar information is provided for a term “B”” and term C. *Id.* *Rising* further teaches that item 208 is “a query statement field” that connects terms in a multi-term query. *Id.*

Applicants respectfully submit that the “configuration sub-models” recited in Claims 1, 14, 15, 29, 30, 44, and 45 are clearly not query terms or multi-term queries. Claims 1, 14, 15, 29, 30, 44, and 45 recite “processing one or more configuration queries using configuration sub-models.” Accordingly, configuration “queries” and

configuration “sub-models” are distinct terms as used in claims 1, 14, 15, 29, 30, 44, and 45. Since “queries” and “sub-models” are demonstratively distinct within claims 1, 14, 15, 29, 30, 44, and 45 and *Rising* teaches that Terms A, B, and C and item 208 (or the contents therein) are queries, Applicants respectfully submit that Terms A, B, and C and item 208 cannot be the equivalent of the configuration sub-models of claims 1, 14, 15, 29, 30, 44, and 45. Thus, Applicants respectfully submit that *Rising* neither teaches nor suggests the present invention of claims 1, 14, 15, 29, 30, 44, and 45.

Accordingly, for at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45. For at least the same reasons, Applicants respectfully request withdrawal of the rejection of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

Claim Rejections – 35 U.S.C. § 103

Claims 7, 21, and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rising* in view of U.S. Patent No. 6,721,748 issued to Knight (hereinafter “*Knight*”).

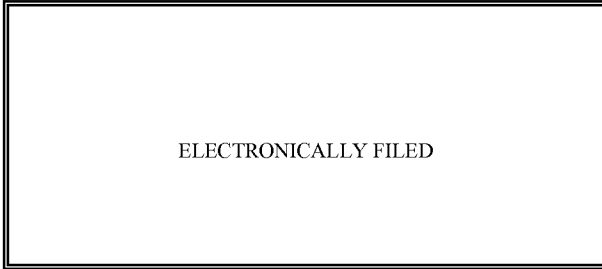
Knight relates to, “An intelligent data content provider system and method for subscriber postings and queries are monitored and evaluated to determine what types of content to retrieve, how to organize such content, and how to present the same.” *Knight*, Abstract.

Claim 7 indirectly depends from independent claim 1, independent claim 21 indirectly depends from claim 15, and claim 36 indirectly depends from independent claim 30. For at least the same reasons presented above with respect to claims 1, 15, and 30, Applicants respectfully request withdrawal of the rejection of claims 7, 21, and 36.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited.

Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned.



Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Trilogy Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

Austin, Texas
March 1, 2007

ELECTRONICALLY FILED

PETITION FOR EXTENSION OF TIME

Dear Sir:

Applicants respectfully petition for a three (3) month extension of time within which to respond to the Office Action mailed September 1, 2006, such extension allowing the undersigned until March 1, 2007, to respond.

The extension fee is being paid via the USPTO EFS. The Commissioner is authorized to deduct any additional fees which may be required or credit any overpayment to Deposit Account No. 502264.

FILED ELECTRONICALLY
March 1, 2007

Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

Electronic Patent Application Fee Transmittal

Application Number:	10957919
Filing Date:	04-Oct-2004
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Filer:	Kent Bryan Chambers
Attorney Docket Number:	T00121

Filed as Large Entity

Utility Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Claims in excess of 20	1202	4	50	200

Miscellaneous-Filing:

Petition:

Patent-Appeals-and-Interference:

Post-Allowance-and-Post-Issuance:

Extension of Time:
Page 104 of 507

FORD 1004

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	1253	1	1020	1020
Miscellaneous:				
Total in USD (\$)				1220

Electronic Acknowledgement Receipt

EFS ID:	1558344
Application Number:	10957919
International Application Number:	
Confirmation Number:	9162
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Customer Number:	33438
Filer:	Kent Bryan Chambers
Filer Authorized By:	
Attorney Docket Number:	T00121
Receipt Date:	01-MAR-2007
Filing Date:	04-OCT-2004
Time Stamp:	18:36:07
Application Type:	Utility

Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$ 1220
RAM confirmation Number	922
Deposit Account	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
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1	Amendment - After Non-Final Rejection	T000121_ROA_9_1_06.pdf	146706	no	19
Warnings:					
Information:					
2	Extension of Time	T00121_Extension.pdf	20815	no	1
Warnings:					
Information:					
3	Fee Worksheet (PTO-06)	fee-info.pdf	8297	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			175818		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2004

Application or Docket Number

10987919

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	46	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	46 minus 20 =	* 26
INDEPENDENT CLAIMS	7 minus 3 =	* 4
MULTIPLE DEPENDENT CLAIM PRESENT <input type="checkbox"/>		

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE OR

OTHER THAN SMALL ENTITY

RATE	FEE	OR	RATE	FEE
BASIC FEE	395.00	OR	BASIC FEE	790.00
X\$ 9=		OR	X\$18=	468
X44=		OR	X88=	352
+150=		OR	+300=	
TOTAL		OR	TOTAL	1610

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	3-1-07		
Total	* 50	Minus ** 46	= 4
Independent	* 7	Minus *** 7	= 0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	50
X44=		OR	X88=	200
+150=		OR	+300=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X44=		OR	X88=	
+150=		OR	+300=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X44=		OR	X88=	
+150=		OR	+300=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	4	@pd<"20041004" and multimedia and ("knowledge base" or knowledgebase) and structure and query and (subquery or sub-query or "sub query")	US-PGPUB; USPAT	OR	ON	2007/04/21 10:56
L2	0	@pd<"20041004" and multimedia and ("knowledge base" or knowledgebase) and structure and query and (subquery or sub-query or "sub query")	US-PGPUB; USPAT	OR	ON	2007/04/21 10:56
L3	74	@pd<"20041004" and model and (submodel or sub-model or "sub model") and answer and (subanswer or sub-answer or "sub answer")	US-PGPUB; USPAT	OR	ON	2007/04/21 10:57
L4	0	@pd<"20041004" and model and (submodel or sub-model or "sub model") and answer	US-PGPUB; USPAT	OR	ON	2007/04/21 10:57
L5	6	@pd<"20041004" and (processor or cup) and rule and specification and element and (database or "data base") and overlap and (common with range)	US-PGPUB; USPAT	OR	ON	2007/04/21 10:59
L6	14	@pd<"20041004" and (processor or cup) and rule and specification and element and (database or "data base") and overlap	US-PGPUB; USPAT	OR	ON	2007/04/21 11:00
L7	12673	@pd<"20041004" and (common with range) and (combining with average\$) and matching	US-PGPUB; USPAT	OR	ON	2007/04/21 11:01
L8	1834	@pd<"20041004" and retrieving and images and requirement	US-PGPUB; USPAT	OR	ON	2007/04/21 11:01
L9	620	@pd<"20041004" and (database with retrieving) and images and requirement	US-PGPUB; USPAT	OR	ON	2007/04/21 11:01
L10	197	@pd<"20041004" and (database with retrieving) and (database with image) and requirement	US-PGPUB; USPAT	OR	ON	2007/04/21 11:02
L11	2	@pd<"20041004" and ((model with configuration) with problem) and (submodel or sub-model or "sub model")	US-PGPUB; USPAT	OR	ON	2007/04/21 11:02
L12	3	@pd<"20041004" and (((model with configuration) with problem) same rule)	US-PGPUB; USPAT	OR	ON	2007/04/21 11:04
L13	0	710/8.ccls and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2007/04/21 11:04

EAST Search History

L14	1023	710/8.ccls. and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
L15	289	710/8.ccls. and @pd<"20041004" and model	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
L16	242	710/8.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
L17	39	710/8.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
L18	9	703/25.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
L19	61	703/25.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
L20	85	700/30.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
L21	28	700/30.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
L22	95	706/46.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
L23	112	706/47.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
L24	7	706/6.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
L25	372	l24 or l23 or l22 or l21 or l20 or l19 or l17	US-PGPUB; USPAT	OR	ON	2007/04/21 11:07



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EXAMINER

COUGHLAN, PETER D

ART UNIT	PAPER NUMBER
2129	

2129

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No. 10/957,919	Applicant(s) LITTLE ET AL	
Examiner Peter Coughlan	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 March 2007.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-50 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-50 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 04 October 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

Detailed Action

1. This office action is in response to an AMENDMENT entered March 1, 2007 for the patent application 10/957919 filed on October 4, 2004.
2. The First Office Action of September 1, 2006 is fully incorporated into this Final Office Action by reference.

Status of Claims

3. Claims 1-50 are pending.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 12, 25, 27, 40, 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims use the term 'low

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enough' which is used as a value of complexity of a configuration of a sub-model such that a given computer system has the processing capabilities to handle. There is no algorithm, guidelines or system to aid in the determination the level of complexity in regards to a given computer system.

These claims must be amended or withdrawn from consideration.

35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-50 are rejected under 35 U.S.C. 101 for nonstatutory subject matter.

The computer system must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. Defining problem solving with models and sub-models without a practical application is nothing more than an exercise. There needs to be a purpose or a real world function for the invention. 'Solving product configuration' is an abstract concept. What is needed is a 'solving product configuration for the purpose of alpha'. The result has to be a practical application. Please see the interim guidelines for examination of patent applications for patent subject matter eligibility published November 22, 2005 in the official gazette.

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." If the claim is directed to a practical application of the § 101 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101. Is the purpose for processing queries for a car search on the Internet? Is 'dividing a consolidated configuration model' really the grid of intersections of a city with stop lights and the invention solves the best timing for all the lights for maximum traffic flow? Is 'generating an answer' based upon queries and sub-models for the engineering parameters for a bridge? If so no such results have been claimed.

The invention must be for a practical application and either:

- 1) specify transforming (physical thing) or
- 2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/ non-unpredictable), AND tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended.

Claims that provide an abstract concept of 'Solving product configuration' and not a result that is a real world application are not statutory. Upon reviewing the specification, the Examiner could not find a single specific real world function or

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practical application which the invention would be employed. As stated within the claims and the specification, the invention has no practical application. The results must be a practical application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-20, 22-35, 37-50 are rejected under 35 U.S.C. 102(b) (hereinafter referred to as **Rising**) being anticipated by Rising, U.S. Patent Publication 20030187950.

Claims 1, 14, 15, 29, 30, 44, 45

Rising anticipates a processor (**Rising**, abstract; 'Processor' of applicant is equivalent to 'search engine' of Rising.); and a storage medium having data encoded therein, the data comprising processor executable code for (**Rising**, ¶0007; 'Storage medium' of applicant is equivalent to 'database' of Rising.); dividing a consolidated configuration model into multiple configuration sub-models (**Rising**, Fig. 10 and ¶0065; Figure 10 illustrates a query builder and the contents of terms A, B and C can be seen as 'subquery'. 'Configuration model' of applicant is equivalent to 'query builder' of

Rising. 'Sub-models' of applicant is equivalent to 'Terms A, B, C' of Rising.); processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product (**Rising**, Fig. 10; 'Configuration sub-models' of applicant is equivalent to item 208 of Rising. Rising illustrates using Boolean operators with sub-models for a search parameter. 'Configuration query' of applicant is equivalent to the 'set of all subqueries' of Rising.); and generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models. (**Rising**, ¶0012; 'Generating an answer' of applicant is equivalent to 'search results' of Rising.)

Claims 2, 16, 31

Rising anticipates dividing a configuration query into multiple configuration sub-queries, wherein the one or more configuration queries include the multiple configuration sub-queries. (**Rising**, Figure 10 illustrates that the query builder(configuration query) is composed of multiple sub-models (Terms A, B, C). Each sub-model is composed of a sub-query, so a 'configuration query' is composed of sub-queries.)

Claims 3, 17, 32

Rising anticipates processing each sub-query using at least one configuration sub-model per sub-query. (**Rising**, Fig. 10; To process a sub-query you have to use the sub-model indicator in item 208 in Rising.)

Claims 4, 18, 33

Rising anticipates processing each sub-query using multiple configuration sub-models per sub-query. (**Rising**, 'Multiple configurations sub-models' of applicant is equivalent to '(A and B) or (A and C) where 'A' is used multiple times' of Rising.)

Claims 5, 19, 34

Rising anticipates processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Rising**, ¶0056; 'Configuration validation' of applicant is equivalent to 'hit processing routine' of Rising.)

Claims 6, 20, 35

Rising anticipates the data collectively included in the configuration sub-models is sufficient to provide an answer for each of the sub-queries being processed. (**Rising**, ¶0050 and Fig 12. 'Provide an answer for each of the sub-queries' of applicant is equivalent to 'query capture mechanism' of Rising.)

Claims 8, 22, 37

Rising anticipates dividing a consolidated configuration model into multiple configuration sub-models comprises dividing the configuration sub-models in accordance with a predetermined data structure (**Rising**, Fig. 10; 'Predetermined data structure' of applicant is equivalent to indicator fields used in the sub-models. For

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example of indicator fields would be 'action', 'prefer', 'background' and 'location,city' of Rising.); and dividing a configuration query into multiple configuration sub-queries further comprises dividing the sub-queries in accordance with the sub-model structure. (**Rising**, ¶0057; 'Dividing a sub-query' of applicant is accomplished by the 'parser' of Rising. The 'sub-model structure' of applicant is equivalent to 'a form that is optimized for use by a string search routine' of Rising.)

Claims 9, 23, 38

Rising anticipates the predetermined data structure comprises a data structure divided along configuration model family lines. (**Rising**, Fig. 10 and ¶0065; 'Predetermined data structure' of applicant is equivalent to indicator fields used in the sub-models. Examples of these data structures that are 'divided along family lines' of applicant is equivalent to 'query statement field' or 'term entry field' of Rising.)

Claims 10, 24, 39

Rising anticipates generating a sub-answer for each processed configuration sub-model (**Rising**, ¶0050 and Fig 12. 'Generating a sub-answer' of applicant is equivalent to 'query capture mechanism' of Rising.); and combining each sub-answer to generate the answer. (**Rising**, Fig. 10; 'Combining each sub-answer' of applicant is demonstrated by item '208' in figure 10 of Rising. Rising is looking for a combination of sub-answers of 'A and B' or 'A and C'.)

Claims 11, 26, 41, 46

Rising anticipates dividing a consolidated configuration model into the configuration sub-models. (**Rising**, Fig. 10; 'Configuration sub-models' of applicant is equivalent to 'Term A', 'Term B' and 'Term C' of Rising. 'Configuration model' of applicant is equivalent to 'query builder' of Rising. In Figure 10 of Rising illustrated that the 'query builder' is composed of 'Term A', 'Term B' and 'Term C'.)

Claims 12, 25, 27, 40, 42

Rising anticipates dividing the configuration model sufficiently so that complexity of each configuration sub-model is low enough to allow processing using available data processing capabilities while still representing the relationships included in the consolidated configuration model. (**Rising**, ¶0057; 'Dividing a sub-query' of applicant is accomplished by the 'parser' of Rising. The 'sub-model is low enough' of applicant is equivalent to 'a form that is optimized for use by a string search routine' of Rising.)

Claims 13, 28, 43

Rising anticipates each configuration sub-model represents a portion of the consolidated configuration model. (**Rising**, Fig. 10; 'Sub-models' of applicant is equivalent to 'Term A', 'Term B' or 'Term C'. Each of these is a portion of the 'Query builder'. 'Configuration model' of applicant is equivalent to 'query builder' of Rising.)

Claim 47

Rising anticipates generating data to display the answer on an electronic display medium. (**Rising**, ¶0015; 'Generate data to display' of applicant is equivalent to 'result display routine' of Rising.)

Claim 48

Rising anticipates displaying the answer on an electronic display medium. (**Rising**, ¶0059; 'Displaying the answer' of applicant is accomplished by the 'browser interface' of Rising.)

Claim 49

Rising anticipates wherein the configuration sub-models each comprise data and rules to define compatibility relationships between parts included in a product. (**Rising**, ¶0056; 'Rules to define' of applicant is equivalent to 'rules checking routine' of Rising. 'Sub-model' ('term A' of Rising) is generated by the rules in relation to the query tool.)

Claim 50

Rising anticipates wherein the configuration problem comprises a configuration problem involving parts of a product. (**Rising**, Fig. 2; A 'configuration problem involving parts of a problem' of applicant is equivalent to a query(inputted into item 180 being parsed by item 40 of Rising. The divided query is composed of parts of the query, which is equivalent to parts of a problem of applicant.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 21, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rising as set forth above, in view of Knight. (U. S. Patent 6721748, referred to as **Knight**)

Claims 7, 21, 36

Rising fails to particularly call for at least two sub-queries include overlapping information.

Knight teaches at least two sub-queries include overlapping information. (**Knight**, C16:39-54) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Rising by allowing resulting

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information to be shared by different queries as taught by Knight to have at least two sub-queries include overlapping information.

For the purpose of allowing the resulting information to be flexible and thus have increased accuracy based on different queries and relationships between different queries.

Response to Arguments

5. Applicant's arguments filed on March 1, 2007 for claims 1-50 have been fully considered but are not persuasive.

6. In reference to the Applicant's argument:

Specification Rejections

The Examiner has rejected the Specification because claims 12, 25, 27, 40, and 42 use the term "low enough". Office Action, p. 2. "This is not defined, addressed, or explained in the specification." *Id.*

Referring to Figure 5 and para. 25 of the Specification of the present application, the Specification recites:

Figure 5 depicts the data processing capability of a computer system being used to configure a product versus configuration sub-model and sub-query complexity. In general, the consolidated configuration model 412 is divided sufficiently so that the complexity of each configuration sub-model CM1, CM2, through CMn is low enough to

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allow processing using available data processing capabilities while still representing the relationships included in the consolidated configuration model 412, which, in this embodiment, would otherwise not be cable of being processed by the computer system. Present Application, para. 25.

For clarity, Applicants have amended claims 12, 25, 27, 40, and 42 to clarify that "low enough to allow processing using available data processing capabilities" refers to "dividing the configuration model sufficiently so that complexity of each configuration sub-model is low enough to allow processing using available data processing capabilities of the computer system ["computer assisted configuration technology" - claim 12] while still representing the relationships included in the consolidated configuration model." Claims 12, 25, 27, 40, and 42.

Examiner's response:

Although the general meaning of 'low enough' is described, there is not enough information about how to determine how low is 'low enough' and what computing variables are needed to arrive at such a conclusion. Office Action stands.

7. In reference to the Applicant's argument:

The Specification has also been rejected because "Claims 9, 23, [and] 30 use the term "family lines". Applicants respectfully submit that "family lines" is addressed in paragraph 28, 36, and Tables 3, 4, and 5. However, for clarity, Applicants have amended claims 9, 23, and 30 to replace "family lines" with "part groups, wherein the part groups are a collection of related parts." Support for the amendment can be found, for example, in para. 3. Applicants respectfully submit that the invention is defined by the claims and not by specific descriptive embodiments recited in the Specification.

Accordingly, Applicants respectfully submit that the specification including the claims meet the requirements of 35 U.S.C. § 112 and, particularly, paras. 1 and 2 of § 112.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Examiner's response:

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The Examiner withdraws the specification rejection concerning the term 'family lines'.

8. In reference to the Applicant's argument:

Claim Rejections – 35 U.S.C. § 101

Claims 1-46 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

The Examiner stated that "solving product configuration" is an abstract idea and that what is needed is "solving product configuration for the purpose of" Office Action, p. 3.

The Supreme Court in *Gottschalk v. Benson* reviewed a method claim directed towards "converting signals from binary coded decimal form into binary." *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ 673 (1972). The Court held that, "The mathematical formula involved here has no substantial practical application except in connection with a digital computer." Applicants respectfully submit that the claims of the present application are not directed towards an abstract idea. To the contrary, the claims are directed towards a very practical purpose, namely "to solve product configuration problems using configuration sub-models." Claim 1, 14, 15, 29, 30, 44, and 45. Furthermore, Applicants respectfully submit that "an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models" represents a useful, concrete, and tangible result of "processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product."

In *State Street Bank*, the Federal Circuit stated that, "Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not "useful"." *State Street Bank & Trust Company v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998). "From a practical standpoint, this means that to be patentable an algorithm must be applied in a "useful" way." *Id.*

In *State Street Bank*, the invention transformed data, representing discrete dollar amounts, into a final share price represented statutory subject matter. More specifically, the Federal Circuit held that:

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the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"—a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. (emphasis added).

Similarly, claim 1 recites "using a computer assisted configuration technology to solve product configuration problems using configuration sub-models", "processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product," and "generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models."

Thus, Applicants respectfully submit that the invention of claim 1 is applied in a useful way, i.e. "processing one or more configuration queries 'using configuration sub-models, wherein the configuration sub-models collectively model a configurable product' to produce a useful, concrete, and tangible result, i.e. the "answer to the configuration problem". Applicants respectfully submit that the same remarks apply to the other independent claims and, by extension, to all dependent claims.

The Examiner asks, "Is the purpose for processing queries for a car search on the Internet?", "[d]ividing a consolidated configuration model really the grid of intersections of a city with stop lights and the invention solves the best timing for all the lights for maximum traffic flow?", "[g]enerating an answer based upon queried and sub-models for the engineering parameters for a bridge?" Office Action, pp. 3-4. Certainly the scope of configuration problems can be wide ranging. However, Applicants respectfully submit that whether the claims are directed towards an abstract idea is not an issue of scope but rather whether the claims recite "disembodied concepts or truths that are not "useful"." *State Street Bank*, 149 F.3d 1368 (Fed. Cir. 1998). As stated above, Applicants respectfully submit that the claims are directed towards a very practical purpose, namely "to solve product configuration problems using configuration sub-models." Claims 1, 14, 15, 29, 30, 44, and 45. Furthermore, Applicants respectfully submit that "an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models" represents a useful, concrete, and tangible result of "processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product."

Accordingly, Applicants respectfully submit that claims 1, 14, 15, 29, 30, 44, and 45 are directed towards statutory subject matter and not simply towards an abstract idea or mathematical algorithm. See *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 47 U.S.P.Q.2d 1596 (Fed. Cir. 1998) (holding that the transformation of data, representing discrete dollar amounts, by a machine through a

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series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"—a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.) See also, *In re Alappat*, 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994) (en banc) (holding that data, transformed by a machine through a series of mathematical calculations to produce a smooth waveform display on a rasterizer monitor, constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced "a useful, concrete and tangible result"—the smooth waveform.)

Applicants respectfully request withdrawal of the rejection.

Examiner's response:

Applicant cites 'State Street' in which the final result is used in a practical application, namely the final price of a share. 'State Street' is not a disembodied concept as argued by the applicant. The result of 'State Street' is a final price of a share and only the final price of a share. The Examiner could not find a single practical application within the claims or specification. Office Action stands.

9. In reference to the Applicant's argument:

Claim Rejections – 35 U.S.C. § 102

Claims 1-6, 8-20, 22-35, and 37-46 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Publication No. 20030187950 to Rising (hereinafter "Rising"). Applicants respectfully traverse the rejection.

Rising teaches an apparatus that include "an MPEG-7 content description query generation tool coupled to a search engine configured for searching and comparing embedded MPEG-7 META tag information within file headers, or database information thereof, to the MPEG-7 content description query." Rising, Abstract.

Claim 1 of the present application recites:

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A method for using computer assisted configuration technology to solve product configuration problems using configuration sub-models, the method comprising:

processing one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model a configurable product; and

generating an answer to the configuration problem based upon the processed one or more configuration queries and the configuration sub-models.

In the rejection of Claims 1, 14, 15, 29, 30, 44, and 45, the Examiner has characterized several alleged equivalents between Rising and Claims 1, 14, 15, 29, 30, 44, and 45. For convenience, Applicants have presented a subset of the alleged equivalents in Table 1 below:

Claim term	Examiner's Interpretation
Sub-models	terms A, B, C
Configuration sub-models	item 208

Applicants respectfully disagree with the Examiner's characterization of the teachings and suggestions of Rising. Although Applicants disagree with a number of the Examiner's characterizations of the teachings and suggestions of Rising, Applicants respectfully submit that if any of the Examiner's characterizations of the teachings and suggestions or Rising are not supported by Rising then a prima facie case of anticipation under 35 U.S.C. § 102 cannot be supported.

Rising teaches that "Terms A, B, C" are "query terms". Rising, para. 65. For example, Rising teaches that, "Query term "A" 178 can be described by a descriptive name field 180 and it can receive a series of query elements within a query element entry field 182." "Similar information is provided for a term. "B" and term C. Id. Rising further teaches that item 208 is "a query statement field" that connects terms in a multi-term query. Id.

Applicants respectfully submit that the "configuration sub-models" recited in Claims 1, 14, 15, 29, 30, 44, 45 are clearly not query terms or multi-terms queries. Claims 1, 14, 15, 29, 30, 44, 45 recite 'processing one or more configuration queries using configuration sub-models." Accordingly, configuration "queries" and configuration "sub-models" are distinct terms as used in claims 1, 14, 15, 29, 30, 44, and 45. Since "queries" and "sub-models" are demonstratively distinct within claims 1, 14, 15, 29, 30, 44, and 45 and Rising teaches that Terms A, B, and C and item 208 (or the contents therein) are queries, Applicants respectfully submit that Terms A, B, and C and item 208 cannot be the equivalent of the configuration sub-models of claims 1, 14, 15, 29, 30, 44,

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and 45. Thus, Applicants respectfully submit that Rising neither teaches nor suggests the present invention of claims 1, 14, 15, 29, 30, 44, and 45.

Accordingly, for at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45. For at least the same reasons, Applicants respectfully request withdrawal of the rejection of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

Examiner's response:

Since applicant has intentionally not described a practical application, the Examiner has chosen the concept of a submitting a query as a product configuration problem. Queries often have multiple elements within them (terms A, B, C). These 'sub-queries' can have a defined structure (or a sub-model). Therefore sub-models are directly related to query terms. Office Action stands.

10. In reference to the Applicant's argument:

Claim Rejections – 35 U.S.C. § 103

Claims 7, 21, and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rising in view of U.S. Patent No. 6,721,748 issued to Knight (hereinafter "Knight").

Knight relates to, "An intelligent data content provider system and method for subscriber postings and queries are monitored and evaluated to determine what types of content to retrieve, how to organize such content, and how to present the same." Knight, Abstract.

Claim 7 indirectly depends from independent claim 1, independent claim 21 indirectly depends from claim 15, and claim 36 indirectly depends from independent claim 30. For at least the same reasons presented above with respect to claims 1, 15, and 30.

Applicants respectfully request withdrawal of the rejection of claims 7, 21, and 36.

Examiner's response:

Applicant makes no arguments. Office Action stands.

Examination Considerations

11. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has the full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

12. Examiner's Notes are provided to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and sprit of compact prosecution. However, and

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unless otherwise stated, the Examiner's Notes are not prior art but link to prior art that one of ordinary skill in the art would find inherently appropriate.

13. Examiner's Opinion: Paragraphs 11 and 12 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Claims 1-50 are rejected.

Correspondence Information

16. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3080. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,
Washington, D. C. 20231;

Hand delivered to:

Receptionist,
Customer Service Window,
Randolph Building,

401 Dulany Street,

Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:


(571) 272-3150 (for formal communications intended for entry.)

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).



Peter Coughlan

4/20/2007



JOSEPH P HIRL
PRIMARY EXAMINER
TECHNOLOGY CENTER 2100

Search Notes



Application/Control No.

10/957,919

Examiner

Peter Coughlan

Applicant(s)/Patent under Reexamination

LITTLE ET AL.

Art Unit

2129

SEARCHED			
Class	Subclass	Date	Examiner
710	8	4/20/2007	PDC
703	25	4/20/2007	PDC
700	30	4/20/2007	PDC
706	46	4/20/2007	PDC
706	47	4/20/2007	PDC
706	6	4/20/2007	PDC

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
East--multimedia, knowledgebase, structure, query, sub-query, model, sub-model, answer, sub-answer, processor, cpu	4/20/2007	PDC
East--II--central procesing unit, rules, spcification, elements, sub-elements, database, overlap, common range	4/20/2007	PDC
East--III--combining answers, matching, retrieving, images, requirements	4/20/2007	PDC
IEEE--Nathan E. Little, Brandon M. Beck, Brian K. Showers, combining answers, matching, retrieving, images, requirements	4/20/2007	PDC
IEEE--multimedia, knowledgebase, structure, query, sub-query, model, sub0model, answer, sub-answer, processor, cpu	4/20/2007	PDC
IEEE--central procesing unit, rules, spcification, elements, sub-elements, database, overlap, common range	4/20/2007	PDC
Inventors Nathan E. Little, Brandon M. Beck, Brian K. Showers	4/20/2007	PDC

Index of Claims



Application/Control No.

10/957,919

Examiner

Peter Coughlan

Applicant(s)/Patent under Reexamination

LITTLE ET AL.

Art Unit

2129

✓	Rejected
=	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date	
Final	Original		
	1	✓	
	2	✓	
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Claim		Date	
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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 Alexandria, Virginia 22313-1450
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Bib Data Sheet

CONFIRMATION NO. 9162

SERIAL NUMBER 10/957,919	FILING OR 371(c) DATE 10/04/2004 RULE	CLASS 706	GROUP ART UNIT 2129	ATTORNEY DOCKET NO. T00121
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APPLICANTS
 Nathan E. Little, Austin, TX;
 Brandon M. Beck, Austin, TX;
 Brian K. Showers, Cedar Park, TX;

** CONTINUING DATA *****
-none-

** FOREIGN APPLICATIONS *****
none

IF REQUIRED, FOREIGN FILING LICENSE GRANTED **
 12/07/2004

Foreign Priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	STATE OR COUNTRY TX	SHEETS DRAWING 8	TOTAL CLAIMS 46	INDEPENDENT CLAIMS 7
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance				
Verified and Acknowledged Examiner's Signature _____ Initials <i>JS</i>				

ADDRESS
 33438

TITLE
 Complex configuration processing using configuration sub-models

FILING FEE RECEIVED 1740	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees (Filing)
		<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)
		<input type="checkbox"/> 1.18 Fees (Issue)
		<input type="checkbox"/> Other _____
		<input type="checkbox"/> Credit

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL (Submitted Only via EFS-Web)

Application Number	10/957,919	Filing Date	2004-10-04	Docket Number (if applicable)	T00121	Art Unit	2129
First Named Inventor	Nathan E. Little			Examiner Name	Peter D. Coughlan		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

Other _____

Enclosed

Amendment/Reply

Information Disclosure Statement (IDS)

Affidavit(s)/ Declaration(s)

Other _____

MISCELLANEOUS

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

Other _____
Petition for an Extension of Time

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
Deposit Account No 502264

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Patent Practitioner Signature

Applicant Signature

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Kent B. Chambers/	Date (YYYY-MM-DD)	2007-10-26
Name	Kent B. Chambers	Registration Number	38839

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Versata Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

Austin, Texas
October 26, 2007

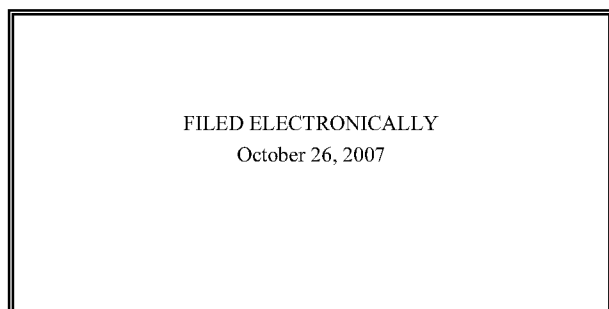
FILED ELECTRONICALLY

PETITION FOR EXTENSION OF TIME

Dear Sir:

Applicants respectfully petition for a three (3) month extension of time within which to respond to the Office Action mailed April 26, 2007, such extension allowing the undersigned until October 26, 2007, to respond.

The extension fee is being paid via the USPTO EFS. The Commissioner is authorized to deduct any additional fees which may be required or credit any overpayment to Deposit Account No. 502264.



Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Trilogy Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

Austin, Texas
October 26, 2007

ELECTRONICALLY FILED

37 C.F.R. § 1.114 RCE SUBMISSION

Dear Sir:

This paper is a submission in accordance with 37 C.F.R. § 1.114, which accompanies a request for continued examination in the above referenced patent application. This paper is responsive to the Office Action dated April 26, 2007, having a shortened statutory period expiring July 26, 2007. Accompanying this response is a petition under 37 C.F.R. § 1.136 for extension of time by three (3) months setting a new time for response of October 26, 2007. Further examination and reconsideration are respectfully requested in view of the amendments and remarks set forth below.

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A method for using computer assisted configuration
2 technology to ~~solve product configuration problems~~ respond to one or more configuration
3 queries using configuration sub-models, the method comprising:
4 receiving one or more configuration queries related to configuration of a
5 configurable product;
6 processing the one or more configuration queries using configuration sub-models,
7 wherein the configuration sub-models collectively model [[a]] the
8 configurable product and the configuration sub-models include data to
9 define compatibility relationships between parts included in the
10 configurable product; [[and]]
11 generating ~~an answer a response~~ to the ~~configuration problem~~ one or more
12 configuration queries based upon the processed one or more configuration
13 queries and the configuration sub-models; and
14 presenting the response to the one or more configuration queries for display by a
15 display device.

1 2. (Currently Amended) The method of claim 1 further comprising:
2 dividing [[a]] at least one of the configuration [[query]] queries into multiple
3 configuration sub-queries, wherein the one or more configuration queries
4 include the multiple configuration sub-queries.

1 3. (Currently Amended) The method of claim 2 wherein the ~~product~~
2 ~~configuration problems include~~ one or more configuration queries relate to a
3 configuration completion problem ~~and when solving the configuration completion~~
4 ~~problem~~, and processing one or more configuration queries further comprises:
5 processing each sub-query using at least one configuration sub-model per sub-
6 query.

1 4. (Original) The method of claim 2 further comprising:
2 processing each sub-query using multiple configuration sub-models per sub-
3 query.

1 5. (Currently Amended) The method of claim 2 wherein the ~~product~~
2 ~~configuration problems include~~ one or more configuration queries relate to a
3 configuration validation problem ~~and when solving the configuration validation problem,~~
4 and processing one or more configuration queries further comprises:
5 processing an undivided query using different configuration sub-models until a
6 configuration validation answer can be determined.

1 6. (Currently Amended) The method of claim 2 wherein the data collectively
2 included in the configuration sub-models is sufficient to provide ~~an answer~~ a response for
3 each of the sub-queries being processed.

1 7. (Original) The method of claim 2 wherein at least two sub-queries include
2 overlapping information.

1 8. (Currently Amended) The method of claim 2 ~~wherein~~ further comprising:
2 dividing a consolidated configuration model into the multiple configuration sub-
3 models ~~comprises dividing the configuration sub-models~~ in accordance
4 with a predetermined data structure; ~~[[and]]~~
5 wherein ~~[[a]]~~ at least one of the configuration ~~[[query]]~~ queries into multiple
6 configuration sub-queries further comprises dividing the sub-queries in
7 accordance with the sub-model structure.

1 9. (Previously Presented) The method of claim 8 wherein the predetermined
2 data structure comprises a data structure divided along configuration model part groups,
3 wherein the part groups are a collection of related parts.

1 10. (Currently Amended) The method of claim 1 wherein generating ~~an~~
2 ~~answer~~ a response to the ~~configuration problem~~ one or more configuration queries based
3 upon the processed one or more configuration queries and the configuration sub-models
4 further comprises:

5 generating a ~~sub-answer~~ response for each processed configuration sub-model;
6 and
7 combining each response for each processed configuration sub-model to generate
8 the answer.

1 11. (Original) The method of claim 1 further comprising:
2 dividing a consolidated configuration model into the configuration sub-models.

1 12. (Currently Amended) The method of claim 11 wherein dividing the
2 consolidated configuration model into multiple configuration sub-models further
3 comprises:

4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model ~~is low enough to allow~~ allows processing using
6 available data processing capabilities of the computer assisted
7 configuration technology while still representing the relationships
8 included in the consolidated configuration model.

1 13. (Original) The method of claim 11 wherein each configuration sub-model
2 represents a portion of the consolidated configuration model.

1 14. (Currently Amended) A method for using computer assisted configuration
2 technology to ~~solve product configuration problems~~ respond to one or more configuration
3 queries using configuration sub-models, the method comprising:

4 dividing a consolidated configuration model into multiple configuration sub-
5 models;
6 responding to the one or more configuration queries, wherein responding to the
7 one or more configuration queries comprises:

8 processing the one or more configuration queries using the configuration sub-
9 models and the configuration sub-models include data to define
10 compatibility relationships between parts included in the configurable
11 product; [[and]]
12 generating ~~an answer~~ a response to the ~~configuration problem~~ one or more
13 configuration queries based upon the processed one or more configuration
14 queries and the configuration sub-models; and
15 presenting the response to the one or more configuration queries for display by a
16 display device.

1 15. (Currently Amended) A computer system to implement an inference
2 procedure for ~~solving product configuration problems~~ responding to one or more
3 configuration queries using configuration sub-models, the system comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 receiving one or more configuration queries related to configuration of a
8 configurable product;
9 processing the one or more configuration queries using configuration sub-
10 models, wherein the configuration sub-models collectively model
11 [[a]] the configurable product and the configuration sub-models
12 include data to define compatibility relationships between parts
13 included in the configurable product; [[and]]
14 generating ~~an answer~~ a response to the ~~configuration problem~~ one or more
15 configuration queries based upon the processed one or more
16 configuration queries and the configuration sub-models; and
17 presenting the response to the one or more configuration queries for
18 display by a display device.

1 16. (Currently Amended) The computer system of claim 15 wherein the data
2 further comprises processor executable code for:
3 dividing ~~[[a]]~~ at least one of the configuration ~~[[query]]~~ queries into multiple
4 configuration sub-queries, wherein the one or more configuration queries
5 include the multiple configuration sub-queries.

1 17. (Currently Amended) The computer system of claim 16 wherein the
2 ~~product configuration problems include one or more configuration queries relate to a~~
3 configuration completion problem ~~and when solving the configuration completion~~
4 ~~problem~~, and the code for processing one or more configuration queries further
5 comprises:
6 processing each sub-query using at least one configuration sub-model per sub-
7 query.

1 18. (Original) The computer system of claim 16 wherein the data further
2 comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 19. (Currently Amended) The computer system of claim 16 wherein the
2 ~~product configuration problems include one or more configuration queries relate to a~~
3 configuration validation problem ~~and when solving the configuration validation problem~~,
4 and when solving the configuration validation problem, and the code for processing one
5 or more configuration queries further comprises:
6 processing an undivided query using different configuration sub-models until a
7 configuration validation answer can be determined.

1 20. (Currently Amended) The computer system of claim 16 wherein the data
2 collectively included in the configuration sub-models is sufficient to provide ~~an answer a~~
3 response for each of the sub-queries being processed.

1 21. (Original) The computer system of claim 16 wherein at least two sub-
2 queries include overlapping information.

1 22. (Currently Amended) The computer system of claim 16 wherein the code
2 further comprises code for:

3 ~~the code for dividing a consolidated configuration model into multiple~~
4 ~~configuration sub-models comprises code for dividing the configuration~~
5 sub-models in accordance with a predetermined data structure; and
6 ~~the code for dividing a configuration query into multiple configuration sub-~~
7 ~~queries further comprises code for dividing the sub-queries in accordance~~
8 with the sub-model structure.

1 23. (Previously Presented) The computer system of claim 22 wherein the
2 predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 24. (Currently Amended) The computer system of claim 15 wherein the code
2 for generating ~~an answer~~ a response to the ~~configuration problem~~ one or more
3 configuration queries based upon the processed one or more configuration queries and the
4 configuration sub-models further comprises code for:

5 generating a ~~sub-answer~~ response for each processed configuration sub-model;
6 and
7 combining each response for each processed configuration sub-model to generate
8 the answer.

1 25. (Currently Amended) The computer system of claim 15 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:

4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model ~~is low enough to allow~~ allows processing using
6 available data processing capabilities of the computer system while still

7 representing the relationships included in the consolidated configuration
8 model.

1 26. (Original) The computer system of claim 15 wherein the data further
2 comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 27. (Currently Amended) The computer system of claim 26 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:
4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model ~~is low enough to allow~~ allows processing using
6 available data processing capabilities of the computer system while still
7 representing the relationships included in the consolidated configuration
8 model.

1 28. (Original) The computer system of claim 26 wherein each configuration
2 sub-model represents a portion of the consolidated configuration model.

1 29. (Currently Amended) A computer system to implement an inference
2 procedure for ~~solving product configuration problems~~ for responding to one or more
3 configuration queries using configuration sub-models, the system comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 dividing a consolidated configuration model into multiple configuration
8 sub-models;
9 responding to the one or more configuration queries, wherein responding
10 to the one or more configuration queries comprises:
11 processing the one or more configuration queries using the configuration
12 sub-models and the configuration sub-models include data to

13 define compatibility relationships between parts included in the
14 configurable product; [[and]]
15 generating ~~an answer~~ a response to the ~~configuration problem~~ one or more
16 configuration queries based upon the processed one or more
17 configuration queries and the configuration sub-models; and
18 presenting the response to the one or more configuration queries for
19 display by a display device.

1 30. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to solve product configuration problems to
3 respond to one or more configuration queries using configuration sub-models, wherein
4 the data comprises processor executable code for:
5 receiving one or more configuration queries related to configuration of a
6 configurable product;
7 processing the one or more configuration queries using configuration sub-models,
8 wherein the configuration sub-models collectively model [[a]] the
9 configurable product and the configuration sub-models include data to
10 define compatibility relationships between parts included in the
11 configurable product; [[and]]
12 generating ~~an answer~~ a response to the ~~configuration problem~~ one or more
13 configuration queries based upon the processed one or more configuration
14 queries and the configuration sub-models; and
15 presenting the response to the one or more configuration queries for display by a
16 display device.

1 31. (Currently Amended) The computer storage medium of claim 30 wherein
2 the data further comprises processor executable code for:
3 dividing [[a]] at least one of the configuration [[query]] queries into multiple
4 configuration sub-queries, wherein the one or more configuration queries
5 include the multiple configuration sub-queries.

1 32. (Currently Amended) The computer storage medium of claim 31 wherein
2 the ~~product configuration problems include~~ one or more configuration queries relate to a
3 configuration completion problem ~~and when solving the configuration completion~~
4 ~~problem~~, and the code for processing one or more configuration queries further
5 comprises:

6 processing each sub-query using at least one configuration sub-model per sub-
7 query.

1 33. (Original) The computer storage medium of claim 31 wherein the data
2 further comprises processor executable code for:

3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 34. (Currently Amended) The computer storage medium of claim 31 wherein
2 the ~~product configuration problems include~~ one or more configuration queries relate to a
3 configuration validation problem ~~and when solving the configuration validation problem~~,
4 and the code for processing one or more configuration queries further comprises:

5 processing an undivided query using different configuration sub-models until a
6 configuration validation answer can be determined.

1 35. (Currently Amended) The computer storage medium of claim 31 wherein
2 the data collectively included in the configuration sub-models is sufficient to provide ~~an~~
3 ~~answer~~ a response for each of the sub-queries being processed.

1 36. (Original) The computer storage medium of claim 31 wherein at least two
2 sub-queries include overlapping information.

1 37. (Currently Amended) The computer storage medium of claim 31 the code
2 further comprises code for:

3 ~~the code for dividing a consolidated configuration model into multiple~~
4 ~~configuration sub-models comprises code for dividing the configuration~~
5 sub-models in accordance with a predetermined data structure; and
6 ~~the code for dividing a configuration query into multiple configuration sub-~~
7 ~~queries further comprises code for dividing the sub-queries in accordance~~
8 with the sub-model structure.

1 38. (Previously Presented) The computer storage medium of claim 37 wherein
2 the predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 39. (Currently Amended) The computer storage medium of claim 30 wherein
2 the code for generating ~~an answer~~ a response to the ~~configuration problem~~ one or more
3 configuration queries based upon the processed one or more configuration queries and the
4 configuration sub-models further comprises code for:

5 generating a ~~sub-answer~~ response for each processed configuration sub-model;
6 and
7 combining each response for each processed configuration sub-model to generate
8 the answer.

1 40. (Currently Amended) The computer storage medium of claim 30 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:

4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model ~~is low enough to allow~~ allows processing using
6 available data processing capabilities of the computer system while still
7 representing the relationships included in the consolidated configuration
8 model.

1 41. (Original) The computer storage medium of claim 30 wherein the data
2 further comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 42. (Currently Amended) The computer storage medium of claim 41 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:
4 dividing the configuration model sufficiently so that complexity of each
5 configuration sub-model ~~is low enough to allow~~ allows processing using
6 available data processing capabilities of the computer system while still
7 representing the relationships included in the consolidated configuration
8 model.

1 43. (Original) The computer storage medium of claim 41 wherein each
2 configuration sub-model represents a portion of the consolidated configuration model.

1 44. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to ~~solve product configuration problems~~
3 respond to one or more configuration queries using configuration sub-models, wherein
4 the data comprises code for:
5 dividing a consolidated configuration model into multiple configuration
6 sub-models;
7 responding to the one or more configuration queries, wherein responding
8 to the one or more configuration queries comprises:
9 processing the one or more configuration queries using the configuration
10 sub-models and the configuration sub-models include data to
11 define compatibility relationships between parts included in the
12 configurable product; [[and]]
13 generating ~~an answer~~ a response to the ~~configuration problem~~ one or more
14 configuration queries based upon the processed one or more
15 configuration queries and the configuration sub-models; and

16 presenting the response to the one or more configuration queries for
17 display by a display device.

1 45. (Currently Amended) A computer system to implement an inference
2 procedure for ~~solving product configuration problems~~ responding to one or more
3 configuration queries using configuration sub-models, the system comprising:
4 means for receiving one or more configuration queries related to configuration of
5 a configurable product;
6 means for processing the one or more configuration queries using configuration
7 sub-models, wherein the configuration sub-models collectively model ~~[[a]]~~
8 the configurable product and the configuration sub-models include data to
9 define compatibility relationships between parts included in the
10 configurable product; [[and]]
11 means for generating ~~an answer~~ a response to the ~~configuration problem~~ one or
12 more configuration queries based upon the processed one or more
13 configuration queries and the configuration sub-models; and
14 means for presenting the response to the one or more configuration queries for
15 display by a display device.

1 46. (Original) The computer system of claim 45 further comprising:
2 means for dividing a consolidated configuration model into the configuration sub-
3 models.

1 47. (Currently Amended) The method of claim 1 wherein the configurable
2 product is a vehicle, further comprising:
3 ~~generating data to display the answer on an electronic display medium.~~

1 48. (Currently Amended) The method of claim 1 further comprising:
2 displaying the ~~answer~~ response on an ~~electronic display medium~~ device.

1 49. (Previously Presented) The method of claim 1 wherein the configuration
2 sub-models each comprise data and rules to define compatibility relationships between
3 parts included in a product.

1 50. (Previously Presented) The method of claim 1 wherein the configuration
2 problem comprises a configuration problem involving parts of a product.

REMARKS

Claims 1-50 are pending.

Claims 1-50 stand rejected.

Claims 1-3, 5, 6, 8, 10, 12, 14-17, 19, 20, 22, 24, 25, 27, 29, 30-32, 34, 35, 37, 39, 40, 42, 44, 45, 47, and 48 have been amended.

Claim Rejections – 35 U.S.C. § 112

Claims 12, 25, 27, 40, and 42 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse the rejection.

Claims 12, 25, 27, 40, and 42 stand rejected because of the term “low enough” because “there is no algorithm, guidelines or system to aid in the determination [of] the level of complexity in regards to a given computer system.” Office Action, p. 3. Applicants have amended claims 12, 25, 27, 40, and 42. Applicants respectfully submit that the claims themselves provide sufficient guidelines to aid in such determination. More specifically, the claims 12, 25, 27, 40, and 42 recite “dividing the configuration model” and the guidelines are “dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer assisted configuration technology while still representing the relationships included in the consolidated configuration model.” (emphasis added).

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 101

Claims 1-50 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

Applicants respectfully submit that the Present Application discloses a practical application as a matter of fact, and the claims are directed to statutory matter pursuant to 35 U.S.C. § 101. The Present Application sets forth the practical utility of computer assisted product configuration. Specifically, the Present Application states that, “Computer assisted product configuration continues to offer substantial benefits to a wide range of users and industries.” Present Application, paras. 2. Product configuration processes utilize configuration queries and configuration models. *Id.*, paras. 2-4. The Present Application also states that, “A configuration model dividing and configuration sub-model inference processing system and procedure addresses the issue of configuration model and query complexity.” *Id.*, para. 21. The claims, as relevantly represented by claim 1, are directed towards the practical application of “computer assisted configuration technology to respond to one or more configuration queries using configuration sub-models.” Furthermore, the claims provide a useful, concrete, and tangible result by “receiving one or more configuration queries related to configuration of a configurable product” and “presenting [a] [generated] response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models] for display by a display device.” Claim 1.

Independent claims 14, 15, 29, 30, 44, and 45 include similar recitations. Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 102

Claims 1-6, 8-20, 22-35, and 37-50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Publication No. 20030187950 to Rising (hereinafter “*Rising*”). Applicants respectfully traverse the rejection.

Rising teaches an apparatus that include “an MPEG-7 content description query generation tool coupled to a search engine configured for searching and comparing embedded MPEG-7 META tag information within file headers, or database information thereof, to the MPEG-7 content description query.” *Rising*, Abstract.

Claim 1 of the present application recites:

A method for using computer assisted configuration technology to respond to one or more configuration queries using configuration sub-models, the method comprising:

receiving one or more configuration queries related to configuration of a configurable product;

processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product;

generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models; and

presenting the response to the one or more configuration queries for display by a display device.

Rising teaches that “Terms A, B, C” are “query terms”. *Rising*, para. 65. For example, *Rising* teaches that, “Query term "A" 178 can be described by a descriptive name field 180 and it can receive a series of query elements within a query element entry field 182.” “Similar information is provided for a term “B”” and term C. *Id.* *Rising* further teaches that item 208 is “a query statement field” that connects terms in a multi-term query. *Id.*

Applicants respectfully submit that the “configuration sub-models” recited in Claims 1, 14, 15, 29, 30, 44, and 45 are clearly not query terms or multi-term queries. Claims 1, 14, 15, 29, 30, 44, and 45 recite “processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product.” Thus, configuration “queries” and configuration “sub-models” represent distinct terms as used in claims 1, 14, 15, 29, 30, 44, and 45.

Furthermore, not only are “queries” and “sub-models” demonstratively distinct within claims 1, 14, 15, 29, 30, 44, and 45, the “configuration sub-models of claims 1, 14, 15, 29, 30, 44, and 45 are specifically distinct from the queries taught and suggested by *Rising*. More specifically, *Rising* teaches that Terms A, B, and C and item 208 (or the contents therein) are queries. Applicants respectfully submit that Terms A, B, and C and item 208 cannot be the equivalent of the configuration sub-models of claims 1, 14, 15, 29, 30, 44, and 45 because the queries of *Rising* clearly do **not** define an underlying object. The queries are formulated to detect data within an underlying object. In contrast, “the configuration sub-models include data **to define** compatibility relationships between parts included in the configurable product.” Thus, Applicants respectfully submit that *Rising* neither teaches nor suggests the present invention of claims 1, 14, 15, 29, 30, 44, and 45.

Accordingly, for at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45. For at least the same reasons, Applicants respectfully request withdrawal of the rejection of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

Claim Rejections – 35 U.S.C. § 103

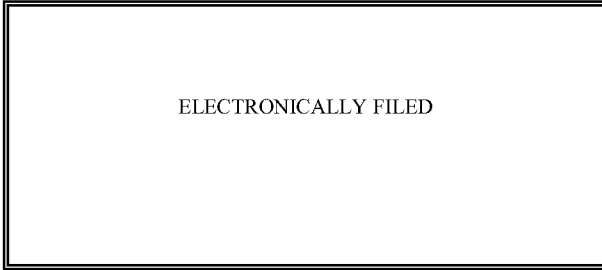
Claims 7, 21, and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rising* in view of U.S. Patent No. 6,721,748 issued to Knight (hereinafter “*Knight*”).

Knight relates to, “An intelligent data content provider system and method for subscriber postings and queries are monitored and evaluated to determine what types of content to retrieve, how to organize such content, and how to present the same.” *Knight*, Abstract.

Claim 7 indirectly depends from independent claim 1, independent claim 21 indirectly depends from claim 15, and claim 36 indirectly depends from independent claim 30. For at least the same reasons presented above with respect to claims 1, 15, and 30, Applicants respectfully request withdrawal of the rejection of claims 7, 21, and 36.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned.



Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

Electronic Patent Application Fee Transmittal

Application Number:	10957919
Filing Date:	04-Oct-2004
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Filer:	Kent Bryan Chambers
Attorney Docket Number:	T00121

Filed as Large Entity

Utility Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Page 160 of 507 Extension - 3 months with \$0 paid	1253	1	1050	FORD 1004

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	1801	1	810	810
Total in USD (\$)				1860

Electronic Acknowledgement Receipt

EFS ID:	2379658
Application Number:	10957919
International Application Number:	
Confirmation Number:	9162
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Customer Number:	33438
Filer:	Kent Bryan Chambers
Filer Authorized By:	
Attorney Docket Number:	T00121
Receipt Date:	26-OCT-2007
Filing Date:	04-OCT-2004
Time Stamp:	19:14:58
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$ 1860
RAM confirmation Number	3612
Deposit Account	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Request for Continued Examination (RCE)	T00121_RCE_transmittal.pdf	38157 7af404fac4e928c56669edbae54f28f7e dfb1d34	no	3
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2	Extension of Time	T00121_Extension.pdf	20879 c185f06960f4cd12660a448a1a7d24cec 0bf39c2	no	1
Warnings:					
Information:					
3	Amendment Submitted/Entered with Filing of CPA/RCE	T000121_RCE_Submission_4_26_07.pdf	79783 794b7de4bb97e8b82d28c4555e803d4 0a343c432	no	19
Warnings:					
Information:					
4	Fee Worksheet (PTO-06)	fee-info.pdf	8296 81554b071d96f38b34a80de07c4041ae 018b5021	no	2
Warnings:					
Information:					
Total Files Size (in bytes):				147115	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 10/957,919	Filing Date 10/04/2004	<input type="checkbox"/> To be Mailed
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APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY				
	(Column 1)	(Column 2)	SMALL ENTITY <input type="checkbox"/>	OR			
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A		OR	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A		OR	N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A		OR	N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =		OR	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =		OR	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				OR		
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>					OR		
			TOTAL		OR	TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
	(Column 1)	(Column 2)	(Column 3)						
AMENDMENT	10/26/2007	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 46	Minus	** 50	=	0	OR	X \$50=	0
	Independent (37 CFR 1.16(h))	* 7	Minus	***7	=	0	OR	X \$210=	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						OR		
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
	(Column 1)	(Column 2)	(Column 3)						
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=		OR	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		OR	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						OR		
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
 Elmira Hall

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
		@pd<"20041004" and multimedia and ("knowledge base" or knowledgebase) and structure and query and (subquery or sub-query or "sub query)	US-PGPUB; USPAT	OR	ON	2007/04/21 10:56
L1	286	@pd<"20041004" and dell.as. and (computer with configuration)	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07
L2	15	@pd<"20041004" and dell.as. and (computer with configuration) and ordering	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07
L3	1	@pd<"20041004" and dell.as. and "706".clas.	US-PGPUB; USPAT	OR	ON	2007/12/24 09:50
L4	511	706/20.ccls. and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
L5	319	706/20.ccls. and @pd<"20041004" and (model\$ or silulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
L6	340	706/20.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
L7	2503	707/102.ccls. and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
L8	1208	707/102.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
L9	1368	707/1.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
L10	1690	707/10.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
L11	789	707/4.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
L12	1325	705/26.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
L13	31	705/56.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:53

EAST Search History

L14	371	I13 or I6					2007/12/24 09:53
S1	4	@pd<"20041004" and multimedia and ("knowledge base" or knowledgebase) and structure and query and (subquery or sub-query or "sub query")		US-PGPUB; USPAT	OR		2007/04/21 10:56
S2	0	@pd<"20041004" and model and (submodel or sub-model or "sub model") and answer and (subanswer or sub-answer or "sub answer")		US-PGPUB; USPAT	OR		2007/04/21 10:57
S3	74	@pd<"20041004" and model and (submodel or sub-model or "sub model") and answer		US-PGPUB; USPAT	OR		2007/04/21 10:57
S4	0	@pd<"20041004" and (processor or cup) and rule and specification and element and (database or "data base") and overlap and (common with range)		US-PGPUB; USPAT	OR		2007/04/21 10:59
S5	6	@pd<"20041004" and (processor or cup) and rule and specification and element and (database or "data base") and overlap		US-PGPUB; USPAT	OR		2007/04/21 10:59
S6	14	@pd<"20041004" and (common with range) and (combining with average\$) and matching		US-PGPUB; USPAT	OR		2007/04/21 11:00
S7	12673	@pd<"20041004" and retrieving and images and requirement		US-PGPUB; USPAT	OR		2007/04/21 11:01
S8	1834	@pd<"20041004" and (database with retrieving) and images and requirement		US-PGPUB; USPAT	OR		2007/04/21 11:01
S9	620	@pd<"20041004" and (database with retrieving) and (database with image) and requirement		US-PGPUB; USPAT	OR		2007/04/21 11:02
S10	197	@pd<"20041004" and ((model with configuration) with problem)		US-PGPUB; USPAT	OR		2007/12/21 07:55
S11	2	@pd<"20041004" and ((model with configuration) with problem) and (submodel or sub-model or "sub model")		US-PGPUB; USPAT	OR		2007/04/21 11:04
S12	3	@pd<"20041004" and (((model with configuration) with problem) same rule)		US-PGPUB; USPAT	OR		2007/04/21 11:04
S13	0	710/8.ccls and @pd<"20041004"		US-PGPUB; USPAT	OR		2007/04/21 11:04
S14	1023	710/8.ccls. and @pd<"20041004"		US-PGPUB; USPAT	OR		2007/04/21 11:05

EAST Search History

S15	289	710/8.ccls. and @pd<"20041004" and model	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S16	242	710/8.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S17	39	710/8.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S18	9	703/25.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S19	61	703/25.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S20	85	700/30.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S21	28	700/30.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S22	95	706/46.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
S23	112	706/47.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
S24	7	706/6.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
S25	372	S24 or S23 or S22 or S21 or S20 or S19 or S17	US-PGPUB; USPAT	OR	ON	2007/04/21 11:07
S26	1309	@pd<"20041004" and dell.as.	US-PGPUB; USPAT	OR	ON	2007/12/24 09:50
S27	2	@pd<"20041004" and dell.as. and (internet with sale)	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07
S28	0	"09344391".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 07:59
S29	0	"9344391".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:21
S30	0	"09009401".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:21

EAST Search History

S31	0	"9009401".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:22
S32	8	wyngarden.in.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:22
S33	13	@pd<"20041004" and dell.as. and (internet with configuration)	US-PGPUB; USPAT	OR	ON	2007/12/21 08:46
S34	1	"6167383".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18
S35	0	"6167383".pn. and compatab\$	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18
S36	1	"6167383".pn. and compat\$	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
10/957,919 10/04/2004 Nathan E. Little T00121 9162

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HAMILTON & TERRILE, LLP
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AUSTIN, TX 78720

EXAMINER

COUGHLAN, PETER D

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2129

NOTIFICATION DATE DELIVERY MODE

01/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

- docketing@hamiltonterile.com
seaton@hamiltonterile.com
tmunoz@hamiltonterile.com

Office Action Summary

Application No. 10/957,919	Applicant(s) LITTLE ET AL.	
Examiner Peter Coughlan	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 October 2007.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-50 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-50 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10/4/2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

Detailed Action

1. This office action is in response to an AMENDMENT entered October 26, 2007 for the patent application 10/957919 filed on October 4, 2004
2. All previous Office Actions are fully incorporated into this Non-Final Office Action by reference.

Status of Claims

3. Claims 1-50 are pending.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The term "sufficient" in claims 6, 12, 20, 25, 27, 35, 40, 42 is a relative term which renders the claim indefinite. The term "sufficient" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. These claims need to be amended or withdrawn from consideration.

35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-46, 48-50 are rejected under 35 U.S.C. 101 for nonstatutory subject matter. The computer system must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application. Claims that describe a model being broken down into sub-models with corresponding sub-queries is an invention in an abstract form. These claims can be used in numerous applications. As in claim 47 wherein the model is a vehicle or as in the specification ¶0052 the model is a network environment. These claims are broad enough to map onto different applications. The conclusive result has to be a practical application. Without the lack of a single practical application, the invention can be applied to physical objects as well as mathematical models.

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." If the claim is directed to a practical application of the § 101

judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101.

Results may pertain to a design of an automobile or a computer system, but no such results have not been claimed.

The invention must be for a practical application and either:

- 1) specify transforming (physical thing) or
- 2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/ non-unpredictable), AND tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended.

Claims that recite a model with associated sub-models and queries pertaining to both lack a practical application. There must be a result that is a practical application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-46, 48-50 are rejected under 35 U.S.C. 102(b) (hereinafter referred to as **Henson**) being anticipated by Henson, U. S. Patent 6167383.

Claim 1

Henson teaches receiving one or more configuration queries related to configuration of a configurable product (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson.); processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Henson**, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store.

'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 2

Henson teaches dividing at least one of the configuration queries into multiple configuration sub-queries, wherein the one or more configuration queries include the multiple configuration sub-queries. (**Henson** Fig 3A; 'Dividing at least one of the configuration queries into multiple configuration sub-queries' of applicant is illustrated by the different types of 'storage products' of Henson. In this example, one of the 'configuration queries' of applicant is the type of 'storage products' of the computer are desired. In this example 'sub-queries' of applicant is equivalent to the different types of storage products available from Henson.)

Claim 3

Henson teaches processing each sub-query using at least one configuration sub-model per sub-query. (**Henson** Fig 3A; An example of 'sub-model' of applicant is equivalent to 'storage products' of Henson. There are three choices available is the user wants one. By checking off one of the boxes indicating the desire of a given 'storage product' this is equivalent to a 'sub-query' of applicant.)

Claim 4

Henson teaches processing each sub-query using multiple configuration sub-models per sub-query. (**Henson**, C6:17-67; 'Processing each sub-query' of applicant is equivalent to 'build a customer configured machine by selecting options listed on the computer screen' of Henson.)

Claim 5

Henson teaches wherein the one or more configuration queries relate to a configuration validation problem and processing one or more configuration queries comprises: processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Henson**, 'Configuration validation' of applicant is equivalent to 'validation' of Henson. Henson will notify a user if a conflict of options are chosen and a 'warning message' which allows for a modification of the options.)

Claim 6

Henson teaches wherein the data collectively included in the configuration sub-models is sufficient to provide a response for each of the sub-queries being processed. (**Henson** Figs 3A, 3B; 'Provide a response' of applicant is disclosed by the construction of a personal computer system of Henson.)

Claim 7

Henson teaches wherein at least two sub-queries include overlapping information. (**Henson** Fig 3A; For example in the 'storage products' sub model, there are three options which represent three sub-queries. All three pertain to 'storage products' thus they have 'overlapping information.')

Claim 8

Henson teaches dividing a consolidated model into the multiple configuration sub-model in accordance with a predetermined data structure. (**Henson** Fig 3A through Fig 3B; 'Multiple configuration sub-models' of applicant is equivalent to the different items that compose a personal computer system, such as printers, storage products' or 'hard drive' of Henson.)

Claim 9

Henson teaches wherein the predetermined data structure comprises a data structure divided along configuration model part groups, wherein the part groups are a collection of related parts. (**Henson** Fig 3A; A data structure divided along configuration model parts' of applicant is illustrated by only 'storage products' sub-model contains items which are only considered 'storage products' and not another sub-model category.)

Claim 10

Henson teaches generating response for each processed configuration sub-model (**Henson**, Fig 3A; 'Generating a response for each processed configuration sub-model' of applicant occurs when an incompatibility issue arises of Henson. If no response occurs, then the processed configuration sub-model passes a validation test without incident.) ; and combining each response for each processed configuration sub-model to generate the answer. (**Henson**, Fig 3A; 'Combining each response ... to generate an answer' of applicant is equivalent to combining all the responses of options desired to make a personal computer system which the user designed of Henson.)

Claim 11

Henson teaches dividing a consolidated configuration model into the configuration sub-models. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Henson divides all the external storage devices under one category of 'storage products.')

Claim 12

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer assisted configuration technology while still representing the relationships including in the consolidation configuration model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In

addition, there are no 'storage products' within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 13

Henson teaches wherein each configuration sub-model represents a portion of the consolidated model. (**Henson**, Fig 3A; An example of a 'model' of applicant is equivalent to 'Dell dimension XPS R' of Henson.) An example of a 'sub-model' of applicant is equivalent to 'storage products' of Henson.)

Claim 14

Henson teaches dividing a consolidated configuration model into multiple configuration sub-models (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.); responding to the one or more configuration queries, wherein responding to the one or more configuration queries comprises: processing the one or more configuration queries using the configuration sub-models and the configuration sub-models include data to define compatibility relationships between parts including in the configurable product (**Henson**, Fig 3A; An example of 'sub-model' of applicant is equivalent to 'video card' of Henson. In this figure there is a check mark next to the 'video card' sub-model.' This indicates there is a conflict between the chosen 'video card' and the chosen 'operating system' of Henson. This lack of validation between these two items indicates a 'compatibility relationship' of applicant.); generating a

response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Henson**, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 15

Henson teaches a processor (**Henson**, Fig 11; 'Processor' of applicant is equivalent to 'CPU' of Henson.) a storage medium having data encoded therein, the data comprising processor executable code for (**Henson**, Fig 11; 'Storage medium' of applicant is equivalent to 'hard drive/disk' of Henson.): receiving one or more configuration queries related to configuration of a configurable product (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson.); processing the one or more configuration queries using configuration sub-models, wherein the configurable sub-models collectively model the configurable product and the configuration sub-models includes data to define compatibility relationships between parts including in the configurable product (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are

available for that given computer.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub models (Henson, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (Henson, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 16

Henson teaches dividing at least one of the configuration queries into multiple configuration sub-queries, wherein the one or more configuration queries include the multiple configuration sub-queries. (Henson Fig 3A; 'Dividing at least one of the configuration queries into multiple configuration sub-queries' of applicant is illustrated by the different types of 'storage products' of Henson. In this example, one of the 'configuration queries' of applicant is the type of 'storage products' of the computer are desired. In this example 'sub-queries' of applicant is equivalent to the different types of storage products available from Henson.)

Claim 17

Henson teaches wherein the one or more configuration queries relate to a configuration completion problem and the code for processing one or more

configuration queries further comprises: processing each sub-query using at least one configuration sub-model per sub-query. (**Henson** Fig 3A; An example of 'sub-model' of applicant is equivalent to 'storage products' of Henson. There are three choices available is the user wants one. By checking off one of the boxes indicating the desire of a given 'storage product' this is equivalent to a 'sub-query' of applicant.)

Claim 18

Henson teaches processing each sub-query using multiple configuration sub-models per sub-query. (**Henson**, C6:17-67; 'Processing each sub-query' of applicant is equivalent to 'build a customer configured machine by selecting options listed on the computer screen' of Henson.)

Claim 19

Henson teaches processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Henson**, 'Configuration validation' of applicant is equivalent to 'validation' of Henson. Henson will notify a user if a conflict of options are chosen and a 'warning message' which allows for a modification of the options.)

Claim 20

Henson teaches wherein the data collectively included in the configuration sub-models is sufficient to provide a response for each of the sub-queries being processed.

(**Henson** Figs 3A, 3B; 'Provide a response' of applicant is disclosed by the construction of a personal computer system of Henson.)

Claim 21

Henson teaches wherein at least two sub-queries include overlapping information. (**Henson** Fig 3A; For example in the 'storage products' sub model, there are three options which represent three sub-queries. All three pertain to 'storage products' thus they have 'overlapping information.')

Claim 22.

Henson teaches dividing the configuration sub-models in accordance with a predetermined data structure (**Henson** Fig 3A; A data structure divided along configuration model parts' of applicant is illustrated by only 'storage products' sub-model contains items which are only considered 'storage products' and not another sub-model category.); and dividing the sub-queries in accordance with sub-model structure. (**Henson** Fig 3A; 'Sub-queries' of applicant are only within a given sub-model. 'Storage products' of Henson is equivalent to a 'sub-model of applicant. A response to one of the choices within 'storage products' is equivalent to 'sub-queries' of applicant.)

Claim 23

Henson teaches wherein the predetermined data structure comprises a data structure divided along configuration model part groups, wherein the part groups are a

collection of related parts. (**Henson**, Fig 3A; An example of a 'model part groups' of applicant is equivalent to 'storage products.' Henson divides all the external storage devices under one category or 'related parts' of 'storage products.')

Claim 24

Henson teaches wherein the code for generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models further comprises code for (**Henson**, Fig 3A; 'Code for generating a response to the one or more configurations' of applicant is equivalent to the code needed to generate the web page which is illustrated in Fig. 3A. This web page is used to generate queries for the development of a design of a personal computer.): generating a response for each processed configuration sub-model (**Henson**, Fig 3A; 'Generating a response for each processed configuration sub-model' of applicant occurs when an incompatibility issue arises of Henson. If no response occurs, then the processed configuration sub-model passes a validation test without incident.); and combining each response for each processed configuration sub-model to generate the answer. (**Henson**, Fig 3A; 'Combining each response ... to generate an answer' of applicant is equivalent to combining all the responses of options desired to make a personal computer system which the user designed of Henson.)

Claim 25

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer system while still representing the relationships including in the consolidated configuration model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In addition, there are no 'storage products' within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 26

Henson teaches dividing a consolidated configuration model into the configuration sub-models. (**Henson**, Fig 3A; 'Model of applicant is equivalent to 'Dell dimension XPS R' of Henson. 'Sub-model' of applicant is equivalent to 'storage products' of Henson.)

Claim 27

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer system while still representing the relationships included in the consolidated configuration model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In addition, there are no 'storage products'

within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 28

Henson teaches wherein each configuration sub-model represents a portion of the consolidated configuration model. (**Henson**, Fig 3A; 'Model of applicant is equivalent to 'Dell dimension XPS R' of Henson. 'Sub-model' of applicant is equivalent to 'storage products' of Henson. 'Storage products', 'speakers' or 'video card' of all portions of a model.)

Claim 29

Henson teaches a processor (**Henson**, Fig 11; 'Processor' of applicant is equivalent to 'CPU' of Henson.) a storage medium having data encoded therein, the data comprising processor executable code for (**Henson**, Fig 11; 'Storage medium' of applicant is equivalent to 'hard drive/disk' of Henson.); dividing a consolidated configuration model into multiple configuration sub-models (**Henson**, Fig 3A; 'Model of applicant is equivalent to 'Dell dimension XPS R' of Henson. 'Sub-model' of applicant is equivalent to 'storage products' of Henson.); responding to the one or more configuration queries, wherein responding to the one or more configuration queries comprises (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson.); processing the one or more configuration queries using

the configuration sub-models, and the configuration sub-models include data to define compatibility relationships between parts including in the configurable product (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Henson**, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 30

Henson teaches receiving one or more configuration queries related to configuration of a configurable product (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson.); processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.);

generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Henson**, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 31.

Henson teaches dividing at least one configuration queries into multiple configuration sub-queries, wherein the one or more configuration queries including the multiple configuration sub-queries. (**Henson** Fig 3A; 'Dividing at least one of the configuration queries into multiple configuration sub-queries' of applicant is illustrated by the different types of 'storage products' of Henson. In this example, one of the 'configuration queries' of applicant is the type of 'storage products' of the computer are desired. In this example 'sub-queries' of applicant is equivalent to the different types of storage products available from Henson.)

Claim 32

Henson teaches wherein the one or more configuration queries relate to a configuration completion problem and the code for processing one or more

configuration queries further comprises: processing each sub-query using at least one configuration sub-model per sub-query. (**Henson** Fig 3A; An example of 'sub-model' of applicant is equivalent to 'storage products' of Henson. There are three choices available is the user wants one. By checking off one of the boxes indicating the desire of a given 'storage product' this is equivalent to a 'sub-query' of applicant.)

Claim 33

Henson teaches processing each sub-query using multiple configuration sub-models per sub-query. (**Henson**, C6:17-67; 'Processing each sub-query' of applicant is equivalent to 'build a customer configured machine by selecting options listed on the computer screen' of Henson.)

Claim 34

Henson teaches processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Henson**, 'Configuration validation' of applicant is equivalent to 'validation' of Henson. Henson will notify a user if a conflict of options are chosen and a 'warning message' which allows for a modification of the options.)

Claim 35

Henson teaches wherein the data collectively included in the configuration sub-models is sufficient to provide a response for each of the sub-queries being processed.

(**Henson** Figs 3A, 3B; 'Provide a response' of applicant is disclosed by the construction of a personal computer system of Henson.)

Claim 36

Henson teaches wherein at least two sub-queries include overlapping information. (**Henson** Fig 3A; For example in the 'storage products' sub model, there are three options which represent three sub-queries. All three pertain to 'storage products' thus they have 'overlapping information.')

Claim 37

Henson teaches dividing the configuration sub-models in accordance with a predetermined data structure (**Henson** Fig 3A; A data structure divided along configuration model parts' of applicant is illustrated by only 'storage products' sub-model contains items which are only considered 'storage products' and not another sub-model category.); and dividing the sub-queries in accordance with the sub-model structure. (**Henson** Fig 3A; 'Sub-queries' of applicant are only within a given sub-model. 'Storage products' of Henson is equivalent to a 'sub-model of applicant. A response to one of the choices within 'storage products' is equivalent to 'sub-queries' of applicant.)

Claim 38

Henson teaches wherein the predetermined data structure comprises a data structure divided along configuration model part groups, wherein the part groups are a

collection of related parts. (**Henson**, Fig 3A; An example of a 'model part group' of applicant is equivalent to 'storage products.' Henson divides all the external storage devices under one category of 'storage products.')

Claim 39

Henson teaches generating a response for each processed configuration sub-model (**Henson**, Fig 3A; 'Generating a response for each processed configuration sub-model' of applicant occurs when an incompatibility issue arises of Henson. If no response occurs, then the processed configuration sub-model passes a validation test without incident.); and combining each response for each processed configuration sub-model to generate the answer. (**Henson**, Fig 3A; 'Combining each response ... to generate an answer' of applicant is equivalent to combining all the responses of options desired to make a personal computer system which the user designed of Henson.)

Claim 40

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer system while still representing the relationship included in the consolidated model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In addition, there are no 'storage products' within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 41

Henson teaches dividing a consolidated configuration model into the configuration sub-models. (**Henson**, Fig 3A; An example of a 'model' of applicant is equivalent to 'Dell dimension XPS R' of Henson.) An example of a 'sub-model' of applicant is equivalent to 'storage products' of Henson.)

Claim 42

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing available data processing capabilities of the computer system while still representing the relationships including in the consolidated configuration model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In addition, there are no 'storage products' within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 43

Henson teaches wherein each configuration sub-model represents a portion of the consolidated configuration model. (**Henson**, Fig 3A; 'Model of applicant is equivalent to 'Dell dimension XPS R' of Henson. 'Sub-model' of applicant is equivalent to 'storage products' of Henson. 'Storage products', 'speakers' or 'video card' of all portions of a model.)

Claim 44

Henson teaches dividing a consolidated configuration model into multiple configuration sub-models (**Henson** Fig 3A through Fig 3B; 'Multiple sub-models' of applicant is equivalent to the different items that compose a personal computer system, such as printers, storage products' or 'hard drive' of Henson.); responding to the one or more configuration queries, wherein responding to the one or more configuration queries comprises (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson.): processing the one or more configuration queries using the configuration sub-models and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product(**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models; and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 45

Henson teaches means for receiving one or more configuration queries related to configuration of a configurable product (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson.); means for processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.); means for generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models; and means for presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson. 'Generating a response' of applicant is the executing of the code which generates the 'thank you page.')

Claim 46

Henson teaches means for dividing a consolidated configuration model into the configuration sub-models. (**Henson** Fig 3A through Fig 3B; 'Multiple sub-models' of

applicant is equivalent to the different items that compose a personal computer system, such as printers, storage products' or 'hard drive' of Henson.)

Claim 48

Henson teaches displaying the response on the display device. (Henson, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 49

Henson teaches wherein the configuration sub-models each comprise data and rules to define compatibility relationships between parts included in a product. (Henson, Fig 3A; An example of 'sub-model' of applicant is equivalent to 'video card' of Henson. In this figure there is a check mark next to the 'video card' sub-model.' This indicates there is a conflict between the chosen 'video card' and the chosen 'operating system' of Henson. This lack of validation between these two items indicates a 'compatibility relationship' of applicant.)

Claim 50

Henson teaches wherein the configuration problem comprises a configuration problem involving parts of a product. (Henson Figs 3A and 3B; 'Parts of a product' of applicant is equivalent to the parts of a computer of Henson.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henson as set forth above, in view of Henson.

(<http://web.archive.org/web/20030324212039/http://fordvehicles.com/>), referred to as **FoMoCo**)

Claim 47

Henson does not teach wherein the configurable product is a vehicle.

FoMoCo teaches wherein the configurable product is a vehicle. (**FoMoCo**, 1; The web site for the Ford Motor Company is related to motor vehicles.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's

invention to modify the teachings of Henson by building cars with specific options as taught by FoMoCo to have wherein the configurable product is a vehicle.

For the purpose of enabling the user to see what options are available in a vehicle to aid in the purchase decision making process.

Response to Arguments

5. Applicant's arguments filed on October 26, 2007 for claims 1-50 have been fully considered but are not persuasive.

6. In reference to the Applicant's argument:

Claim Rejections - 35 U.S.C. § 112

Claims 12, 25, 27, 40, and 42 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse the rejection.

Claims 12, 25, 27, 40, and 42 stand rejected because of the term "low enough" because "there is no algorithm, guidelines or system to aid in the determination [of] the level of complexity in regards to a given computer system." Office Action, p. 3. Applicants have amended claims 12, 25, 27, 40, and 42. Applicants respectfully submit that the claims themselves provide sufficient guidelines to aid in such determination. More specifically, the claims 12, 25, 27, 40, and 42 recite "dividing the configuration model" and the guidelines are "dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities

of the computer assisted configuration technology while still representing the relationships included in the consolidated configuration model." (emphasis added).

Accordingly, Applicants respectfully request withdrawal of the rejection.

Examiner's response:

The Examiner note the change in claim language and withdraws the 35 U.S.C. §112 1st paragraph rejection.

7. In reference to the Applicant's argument:

Claim Rejections - 35 U.S.C. § 101

Claims 1-50 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

Applicants respectfully submit that the Present Application discloses a practical application as a matter of fact, and the claims are directed to statutory matter pursuant to 35 U.S.C. § 101. The Present Application sets forth the practical utility of computer assisted product configuration. Specifically, the Present Application states that, "Computer assisted product configuration continues to offer substantial benefits to a wide range of users and industries." Present Application, paras. 2. Product configuration processes utilize configuration queries and configuration models. Id., paras. 2-4. The Present Application also states that, "A configuration model dividing and configuration sub-model inference processing system and procedure addresses the issue of configuration model and query complexity." Id., para. 21. The claims, as relevantly represented by claim 1, are directed towards the practical application of "computer assisted configuration technology to respond to one or more configuration queries using configuration sub-models." Furthermore, the claims provide a useful, concrete, and tangible result by "receiving one or more configuration queries related to configuration of a configurable product" and "presenting [a] [generated] response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models] for display by a display device." Claim 1.

Independent claims 14, 15, 29, 30, 44, and 45 include similar recitations. Accordingly, Applicants respectfully request withdrawal of the rejection.

Examiner's response:

Claims 1-46, 48-50 are rejected for lack of a practical application and preemption. All but one of the claims is explained as a abstract concept. They can be employed in numerous applications. This is why the 35 U.S.C. §101 rejection for lacking a practical application and preemption. Office Action stands.

8. In reference to the Applicant's argument:

Claim Rejections - 35 U.S.C. § 102

Claims 1-6, 8-20, 22-35, and 37-50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Publication No. 20030187950 to Rising (hereinafter "Rising"). Applicants respectfully traverse the rejection.

Rising teaches an apparatus that include "an MPEG-7 content description query generation tool coupled to a search engine configured for searching and comparing embedded MPEG-7 META tag information within file headers, or database information thereof, to the MPEG-7 content description query." Rising, Abstract.

Claim 1 of the present application recites:

A method for using computer assisted configuration technology to respond to one or more configuration queries using configuration sub- models, the method comprising:

receiving one or more configuration queries related to configuration of a configurable product;

processing the one or more configuration queries using configuration sub-models, wherein the configuration sub- models collectively model the configurable product and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product;

generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models; and

presenting the response to the one or more configuration queries for display by a display device.

Rising teaches that "Terms A, B, C" are "query terms". Rising, para. 65. For example, Rising teaches that, "Query term "A" 178 can be described by a descriptive name field 180 and it can receive a series of query elements within a query element entry field 182." "Similar information is provided for a term "B" and term C. Id. Rising further teaches that item 208 is "a query statement field" that connects terms in a multi-term query. Id.

Applicants respectfully submit that the "configuration sub-models" recited in Claims 1, 14, 15, 29, 30, 44, and 45 are clearly not query terms or multi-term queries. Claims 1, 14, 15, 29, 30, 44, and 45 recite "processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product." Thus, configuration "queries" and configuration "sub-models" represent distinct terms as used in claims 1, 14, 15, 29, 30, 44, and 45.

Furthermore, not only are "queries" and "sub-models" demonstratively distinct within claims 1, 14, 15, 29, 30, 44, and 45, the "configuration sub-models" of claims 1, 14, 15, 29, 30, 44, and 45 are specifically distinct from the queries taught and suggested by Rising. More specifically, Rising teaches that Terms A, B, and C and item 208 (or the contents therein) are queries. Applicants respectfully submit that Terms A, B, and C and item 208 cannot be the equivalent of the configuration sub-models of claims 1, 14, 15, 29, 30, 44, and 45 because the queries of Rising clearly do not define an underlying object. The queries are formulated to detect data within an underlying object. In contrast, "the configuration sub-models include data to define compatibility relationships between parts included in the configurable product." Thus, Applicants respectfully submit that Rising neither teaches nor suggests the present invention of claims 1, 14, 15, 29, 30, 44, and 45.

Accordingly, for at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45. For at least the same reasons, Applicants respectfully request withdrawal of the rejection of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

Examiner's response:

Rising is no longer used as a reference. Henson is used as a reference which describes a user being able to order a personal computer system via the Internet. The user can construct a computer with various components which indicate sub-models. The ordering of the specific sub-models is equivalent to sub-queries. Office Action stands.

9. In reference to the Applicant's argument:

Claim Rejections - 35 U.S.C. § 103

Claims 7, 21, and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rising in view of U.S. Patent No. 6,721,748 issued to Knight (hereinafter "Knight").

Knight relates to, "An intelligent data content provider system and method for subscriber postings and queries are monitored and evaluated to determine what types of content to retrieve, how to organize such content, and how to present the same." Knight, Abstract.

Claim 7 indirectly depends from independent claim 1, independent claim 21 indirectly depends from claim 15, and claim 36 indirectly depends from independent claim 30. For at least the same reasons presented above with respect to claims 1, 15, and 30, Applicants respectfully request withdrawal of the rejection of claims 7, 21, and 36.

Examiner's response:

Knight is no longer used as a reference. An old web site from the Ford Motor Company (copyright 2003) is used to disclose the product is a vehicle. This is illustrated under the pull down menu for cars or trucks links which enables the user to

construct a vehicle with specific components and compatibility issues regarding certain models of Ford cars and trucks. Office Action stands.

Examination Considerations

10. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has the full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

11. Examiner's Notes are provided to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and sprit of compact prosecution. However, and

unless otherwise stated, the Examiner's Notes are not prior art but link to prior art that one of ordinary skill in the art would find inherently appropriate.

12. Examiner's Opinion: Paragraphs 10 and 11 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

13. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

-Archived Ford Motor Company web sites.

-U. S. Patent 6714937: Eynon

-U. S. Patent 6543047: Vrhel

-U. S. Patent 6378119: Raves

-U. S. Patent 6182275: Beelitz

14. Claims 1-50 are rejected.

Correspondence Information

15. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3080. Any response to this office action should be mailed to:

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Washington, D. C. 20231;

Hand delivered to:

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Customer Service Window,
Randolph Building,
401 Dulany Street,
Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 272-3150 (for formal communications intended for entry.)

Application/Control Number:
10/957,919
Art Unit: 2129

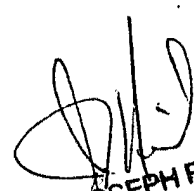
Page 36

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Peter Coughlan

12/24/2007



JOSEPH P HIRL
PRIMARY EXAMINER
TECHNOLOGY CENTER 2100

Notice of References Cited	Application/Control No. 10/957,919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.	
	Examiner Peter Coughlan	Art Unit 2129	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-6,167,383	12-2000	Henson, Ken	705/26
B	US-			
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			

FOREIGN PATENT DOCUMENTS

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N					
O					
P					
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R					
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T					

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	http://web.archive.org/web/20030324212039/http://fordvehicles.com/
V	
W	
X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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Bib Data Sheet

CONFIRMATION NO. 9162

SERIAL NUMBER 10/957,919	FILING OR 371(c) DATE 10/04/2004 RULE	CLASS 706	GROUP ART UNIT 2129	ATTORNEY DOCKET NO. T00121
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APPLICANTS
 Nathan E. Little, Austin, TX;
 Brandon M. Beck, Austin, TX;
 Brian K. Showers, Cedar Park, TX;

** CONTINUING DATA ***** *no*

** FOREIGN APPLICATIONS ***** *no*

IF REQUIRED, FOREIGN FILING LICENSE GRANTED **
 12/07/2004

Foreign Priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance	STATE OR COUNTRY TX	SHEETS DRAWING 8	TOTAL CLAIMS 46	INDEPENDENT CLAIMS 7
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Verified and Acknowledged
 Examiner's Signature _____ Initials *PL*

ADDRESS
 33438

TITLE
 Complex configuration processing using configuration sub-models

FILING FEE RECEIVED 1740	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees (Filing)
		<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)
		<input type="checkbox"/> 1.18 Fees (Issue)
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Index of Claims



Application/Control No.

10/957,919

Examiner

Peter Coughlan

Applicant(s)/Patent under Reexamination

LITTLE ET AL.

Art Unit

2129

√	Rejected
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-	(Through numeral) Cancelled
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A	Appeal
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Claim		Date	
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Trilogy Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

Austin, Texas
July 12, 2008

ELECTRONICALLY FILED

RESPONSE TO NON-FINAL OFFICE ACTION

Dear Sir:

This paper is responsive to the Office Action dated January 17, 2008, having a shortened statutory period expiring April 17, 2008. Accompanying this response is a petition under 37 C.F.R. § 1.136 for extension of time by three (3) months setting a new time for response of July 17, 2008. Further examination and reconsideration are respectfully requested in view of the amendments and remarks set forth below.

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A method for using computer assisted configuration
2 technology to respond to one or more configuration queries using configuration sub-
3 models, the method comprising:

4 receiving one or more configuration queries ~~related to~~ representing a questions
5 involving parts and part relationships in a configuration of a configurable
6 product;

7 processing the one or more configuration queries using configuration sub-models,
8 wherein the configuration sub-models collectively model the configurable
9 product and ~~[[the]]~~ each configuration ~~sub-models include~~ sub-model
10 includes data to define compatibility relationships between parts included
11 in the configuration sub-model ~~configurable product~~;

12 generating a response to the one or more configuration queries based upon the
13 processed one or more configuration queries and the configuration sub-
14 models; and

15 presenting the response to the one or more configuration queries for display by a
16 display device.

1 2. (Previously Presented) The method of claim 1 further comprising:
2 dividing at least one of the configuration queries into multiple configuration sub-
3 queries, wherein the one or more configuration queries include the
4 multiple configuration sub-queries.

1 3. (Previously Presented) The method of claim 2 wherein the one or more
2 configuration queries relate to a configuration completion problem and processing one or
3 more configuration queries further comprises:

4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 4. (Original) The method of claim 2 further comprising:
2 processing each sub-query using multiple configuration sub-models per sub-
3 query.

1 5. (Previously Presented) The method of claim 2 wherein the one or more
2 configuration queries relate to a configuration validation problem and processing one or
3 more configuration queries further comprises:
4 processing an undivided query using different configuration sub-models until a
5 configuration validation answer can be determined.

1 6. (Currently Amended) The method of claim 2 wherein the data collectively
2 included in the configuration sub-models ~~is sufficient to provide~~ provides a response for
3 each of the sub-queries being processed.

1 7. (Original) The method of claim 2 wherein at least two sub-queries include
2 overlapping information.

1 8. (Previously Presented) The method of claim 2 further comprising:
2 dividing a consolidated configuration model into the multiple configuration sub-
3 models in accordance with a predetermined data structure;
4 wherein at least one of the configuration queries into multiple configuration sub-
5 queries further comprises dividing the sub-queries in accordance with the
6 sub-model structure.

1 9. (Previously Presented) The method of claim 8 wherein the predetermined
2 data structure comprises a data structure divided along configuration model part groups,
3 wherein the part groups are a collection of related parts.

1 10. (Previously Presented) The method of claim 1 wherein generating a
2 response to the one or more configuration queries based upon the processed one or more
3 configuration queries and the configuration sub-models further comprises:
4 generating a response for each processed configuration sub-model; and
5 combining each response for each processed configuration sub-model to generate
6 the answer.

1 11. (Original) The method of claim 1 further comprising:
2 dividing a consolidated configuration model into the configuration sub-models.

1 12. (Currently Amended) The method of claim 11 wherein dividing the
2 consolidated configuration model into multiple configuration sub-models further
3 comprises:
4 dividing the configuration model ~~sufficiently~~ so that complexity of each
5 configuration sub-model allows processing using available data processing
6 capabilities of the computer assisted configuration technology while still
7 representing the relationships included in the consolidated configuration
8 model.

1 13. (Original) The method of claim 11 wherein each configuration sub-model
2 represents a portion of the consolidated configuration model.

1 14. (Currently Amended) A method for using computer assisted configuration
2 technology to respond to one or more configuration queries using configuration sub-
3 models, the method comprising:
4 dividing a consolidated configuration model into multiple configuration sub-
5 models;
6 responding to the one or more configuration queries, wherein responding to the
7 one or more configuration queries comprises:
8 processing the one or more configuration queries using configuration sub-models,
9 wherein the configuration sub-models collectively model the configurable

10 product and ~~[[the]] each~~ configuration ~~sub-models include~~ sub-model
11 includes data to define compatibility relationships between parts included
12 in the configuration sub-model ~~configurable product~~;
13 generating a response to the one or more configuration queries based upon the
14 processed one or more configuration queries and the configuration sub-
15 models; and
16 presenting the response to the one or more configuration queries for display by a
17 display device.

1 15. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 receiving one or more configuration queries ~~related to~~ representing a
8 questions involving parts and part relationships in a configuration
9 of a configurable product;
10 processing the one or more configuration queries using configuration sub-
11 models, wherein the configuration sub-models collectively model
12 the configurable product and ~~[[the]] each~~ configuration ~~sub-models~~
13 ~~include~~ sub-model includes data to define compatibility
14 relationships between parts included in the configuration sub-
15 model ~~configurable product~~;
16 generating a response to the one or more configuration queries based upon
17 the processed one or more configuration queries and the
18 configuration sub-models; and
19 presenting the response to the one or more configuration queries for
20 display by a display device.

1 16. (Previously Presented) The computer system of claim 15 wherein the data
2 further comprises processor executable code for:
3 dividing at least one of the configuration queries into multiple configuration sub-
4 queries, wherein the one or more configuration queries include the
5 multiple configuration sub-queries.

1 17. (Previously Presented) The computer system of claim 16 wherein the one
2 or more configuration queries relate to a configuration completion problem and the code
3 for processing one or more configuration queries further comprises:
4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 18. (Original) The computer system of claim 16 wherein the data further
2 comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 19. (Previously Presented) The computer system of claim 16 wherein the one
2 or more configuration queries relate to a configuration validation problem and when
3 solving the configuration validation problem, and the code for processing one or more
4 configuration queries further comprises:
5 processing an undivided query using different configuration sub-models until a
6 configuration validation answer can be determined.

1 20. (Currently Amended) The computer system of claim 16 wherein the data
2 collectively included in the configuration sub-models ~~is sufficient to provide~~ provides a
3 response for each of the sub-queries being processed.

1 21. (Original) The computer system of claim 16 wherein at least two sub-
2 queries include overlapping information.

1 22. (Previously Presented) The computer system of claim 16 wherein the code
2 further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 23. (Previously Presented) The computer system of claim 22 wherein the
2 predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 24. (Previously Presented) The computer system of claim 15 wherein the code
2 for generating a response to the one or more configuration queries based upon the
3 processed one or more configuration queries and the configuration sub-models further
4 comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 25. (Currently Amended) The computer system of claim 15 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:
4 dividing the configuration model ~~sufficiently~~ so that complexity of each
5 configuration sub-model allows processing using available data processing
6 capabilities of the computer system while still representing the
7 relationships included in the consolidated configuration model.

1 26. (Original) The computer system of claim 15 wherein the data further
2 comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 27. (Currently Amended) The computer system of claim 26 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:

4 dividing the configuration model ~~sufficiently~~ so that complexity of each
5 configuration sub-model allows processing using available data processing
6 capabilities of the computer system while still representing the
7 relationships included in the consolidated configuration model.

1 28. (Original) The computer system of claim 26 wherein each configuration
2 sub-model represents a portion of the consolidated configuration model.

1 29. (Currently Amended) A computer system to implement an inference
2 procedure for ~~[[for]]~~ responding to one or more configuration queries using configuration
3 sub-models, the system comprising:

4 a processor; and

5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:

7 dividing a consolidated configuration model into multiple configuration
8 sub-models;

9 responding to the one or more configuration queries, wherein responding
10 to the one or more configuration queries comprises:

11 processing the one or more configuration queries using configuration sub-
12 models, wherein the configuration sub-models collectively model
13 the configurable product and ~~[[the]]~~ each configuration ~~sub-models~~
14 ~~include~~ sub-model includes data to define compatibility
15 relationships between parts included in the configuration sub-
16 model configurable product;

17 generating a response to the one or more configuration queries based upon
18 the processed one or more configuration queries and the
19 configuration sub-models; and

20 presenting the response to the one or more configuration queries for
21 display by a display device.

1 30. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to [[to]] respond to one or more
3 configuration queries using configuration sub-models, wherein the data comprises
4 processor executable code for:
5 receiving one or more configuration queries ~~related to~~ representing a questions
6 involving parts and part relationships in a configuration of a configurable
7 product;
8 processing the one or more configuration queries using configuration sub-models,
9 wherein the configuration sub-models collectively model the configurable
10 product and [[the]] each configuration ~~sub-models include~~ sub-model
11 includes data to define compatibility relationships between parts included
12 in the configuration sub-model ~~configurable product~~;
13 generating a response to the one or more configuration queries based upon the
14 processed one or more configuration queries and the configuration sub-
15 models; and
16 presenting the response to the one or more configuration queries for display by a
17 display device.

1 31. (Previously Presented) The computer storage medium of claim 30 wherein
2 the data further comprises processor executable code for:
3 dividing at least one of the configuration queries into multiple configuration sub-
4 queries, wherein the one or more configuration queries include the
5 multiple configuration sub-queries.

1 32. (Previously Presented) The computer storage medium of claim 31 wherein
2 the one or more configuration queries relate to a configuration completion problem and
3 the code for processing one or more configuration queries further comprises:
4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 33. (Original) The computer storage medium of claim 31 wherein the data
2 further comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 34. (Previously Presented) The computer storage medium of claim 31 wherein
2 the one or more configuration queries relate to a configuration validation problem and the
3 code for processing one or more configuration queries further comprises:
4 processing an undivided query using different configuration sub-models until a
5 configuration validation answer can be determined.

1 35. (Currently Amended) The computer storage medium of claim 31 wherein
2 the data collectively included in the configuration sub-models ~~is sufficient to provide~~
3 provides a response for each of the sub-queries being processed.

1 36. (Original) The computer storage medium of claim 31 wherein at least two
2 sub-queries include overlapping information.

1 37. (Previously Presented) The computer storage medium of claim 31 the code
2 further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 38. (Previously Presented) The computer storage medium of claim 37 wherein
2 the predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 39. (Previously Presented) The computer storage medium of claim 30 wherein
2 the code for generating a response to the one or more configuration queries based upon
3 the processed one or more configuration queries and the configuration sub-models further
4 comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 40. (Currently Amended) The computer storage medium of claim 30 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:
4 dividing the configuration model ~~sufficiently~~ so that complexity of each
5 configuration sub-model allows processing using available data processing
6 capabilities of the computer system while still representing the
7 relationships included in the consolidated configuration model.

1 41. (Original) The computer storage medium of claim 30 wherein the data
2 further comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 42. (Currently Amended) The computer storage medium of claim 41 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:
4 dividing the configuration model ~~sufficiently~~ so that complexity of each
5 configuration sub-model allows processing using available data processing
6 capabilities of the computer system while still representing the
7 relationships included in the consolidated configuration model.

1 43. (Original) The computer storage medium of claim 41 wherein each
2 configuration sub-model represents a portion of the consolidated configuration model.

1 44. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to respond to one or more configuration
3 queries using configuration sub-models, wherein the data comprises code for:
4 dividing a consolidated configuration model into multiple configuration
5 sub-models;
6 responding to the one or more configuration queries, wherein responding
7 to the one or more configuration queries comprises:
8 processing the one or more configuration queries using configuration sub-
9 models, wherein the configuration sub-models collectively model
10 the configurable product and ~~[[the]]~~ each configuration ~~sub-models~~
11 ~~include~~ sub-model includes data to define compatibility
12 relationships between parts included in the configuration sub-
13 model ~~configurable product~~;
14 generating a response to the one or more configuration queries based upon
15 the processed one or more configuration queries and the
16 configuration sub-models; and
17 presenting the response to the one or more configuration queries for
18 display by a display device.

1 45. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 means for receiving one or more configuration queries ~~related to~~ representing a
5 questions involving parts and part relationships in a configuration of a
6 configurable product;
7 means for processing the one or more configuration queries using configuration
8 sub-models, wherein the configuration sub-models collectively model the
9 configurable product and ~~[[the]]~~ each configuration ~~sub-models include~~
10 sub-model includes data to define compatibility relationships between
11 parts included in the configuration sub-model ~~configurable product~~;

12 means for generating a response to the one or more configuration queries based
13 upon the processed one or more configuration queries and the
14 configuration sub-models; and
15 means for presenting the response to the one or more configuration queries for
16 display by a display device.

1 46. (Original) The computer system of claim 45 further comprising:
2 means for dividing a consolidated configuration model into the configuration sub-
3 models.

1 47. (Previously Presented) The method of claim 1 wherein the configurable
2 product is a vehicle.

1 48. (Previously Presented) The method of claim 1 further comprising:
2 displaying the response on display device.

1 49. (Previously Presented) The method of claim 1 wherein the configuration
2 sub-models each comprise data and rules to define compatibility relationships between
3 parts included in a product.

1 50. (Previously Presented) The method of claim 1 wherein the configuration
2 problem comprises a configuration problem involving parts of a product.

REMARKS

Claims 1-50 are pending.

Claims 1-50 stand rejected.

Claims 6, 12, 20, 25, 27, 35, 40, and 42 have been amended with non-narrowing amendments.

Claims 1, 14, 15, 29, 30, 44, and 45 have been amended to better define queries and to better define the parts included in each configuration sub-model and have not been amended for reasons of patentability.

Claims 29 and 30 have been amended to correct minor grammatical errors.

Claim Rejections – 35 U.S.C. § 112

Claims 6, 12, 20, 25, 27, 35, 40, and 42 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for including the term “sufficient” or “sufficiently”.

Claims 6, 12, 20, 25, 27, 35, 40, and 42 have been amended to delete references to “sufficient” or “sufficiently”.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 101

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

In the January 17, 2008 Office Action, page 4, the Examiner states that:

The invention must be for a practical application and either: 1) specify transforming (physical thing) or 2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result. A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be

amended. Claims that recite a model with associated sub-models and queries pertaining to both lack a practical application. There must be a result that is a practical application.

Applicants respectfully submit that the Present Application discloses a practical application, and the claims are directed to statutory matter pursuant to 35 U.S.C. § 101.

In *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 958 F.2d 1053 (Fed. Cir. 1992), the Federal Circuit reviewed the following claim for compliance with 35 U.S.C. § 101:

1. A method for analyzing electrocardiograph signals to determine the presence or absence of a predetermined level of high frequency energy in the late QRS signal, comprising the steps of:

converting a series of QRS signals to time segments, each segment having a digital value equivalent to the analog value of said signals at said time;

applying a portion of said time segments in reverse time order to high pass filter means;

determining an arithmetic value of the amplitude of the output of said filter; and

comparing said value with said predetermined level.

The court held that the resultant output is not an abstract number, but is a signal related to the patient's heart activity.

In *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994), the Federal Circuit reviewed the following claim:

A rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising:

(a) means for determining the vertical distance between the endpoints of each of the vectors in the data list;

(b) means for determining the elevation of a row of pixels that is spanned by the vector;

(c) means for normalizing the vertical distance and elevation; and

(d) means for outputting illumination intensity data as a predetermined function of the normalized vertical distance and elevation.

In Alappat, the court held that data, transformed by a machine through a series of mathematical calculations to produce a smooth waveform display on a rasterizer monitor, constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced "a useful, concrete and tangible result"—the smooth waveform.

The Examiner appears to focus on the recitation of “a model with associated sub-models and queries.” Office Action, p. 4. However, Applicants respectfully submit that examination should be refocused. Claims 1, 14, 15, 29, 30, and 45 recite:

receiving one or more configuration queries representing a questions involving parts and part relationships in a configuration of a configurable product; processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model;

generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models; and

presenting **the response to the one or more configuration queries** for display by a display device.

Claim 44 recites the above limitations using 35 U.S.C. § 112, para. 6 means plus function language.

Thus, the final result is not a model with associated sub-models and queries to both. The final result is a generated “response to the one or more configuration queries

based upon the processed one or more configuration queries and the configuration sub-models” and presenting the “response” for display.

The Examiner states that the “Results may pertain to a design of an automobile or a computer system, but no such results have [] been claimed” in claims 1-46 and 48-50. Office Action, p. 4.

However, Applicants respectfully submit that a result has clearly been claimed, i.e. “a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models” which is presented for display. In *In re Alappat*, the Federal Circuit held that “illumination intensity data as a predetermined function of the normalized vertical distance and elevation” was a useful, concrete, and tangible result.” Applicants respectfully submit that “a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models” which is presented for display is a useful, concrete, and tangible result in at least the same manner as “illumination intensity data as a predetermined function of the normalized vertical distance and elevation.”

Furthermore, the Present Application itself sets forth the practical application of computer assisted product configuration and, thus, the practical application of “a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models” which is presented for display. Specifically, the Present Application states that, “Computer assisted product configuration continues to offer substantial benefits to a wide range of users and industries.” Present Application, paras. 2. The claims are directed towards the practical application of “computer assisted configuration technology to respond to one or more configuration queries using configuration sub-models.” Furthermore, the claims provide a useful, concrete, and tangible result by “generating a **response** to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models” and “presenting the **response** to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models] for display by a display device.” Claims 1, 14, 15, 29, 30, 44, and 45.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 102

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,167,383 to Henson (hereinafter “*Henson*”). Applicants respectfully traverse the rejection.

Henson relates to a “web-based online store [that] includes a configurator, a cart, a checkout, and a database, further in which a user interface of the online store enables a custom configuration of a computer system according to an identification of a user belonging to a prescribed customer set.” *Henson*, Abstract. “The configurator is provided for configuring a computer system with options selected according to a prescribed user input.” *Id.*

Referring to Figures 3A and 3B of *Henson*, the configuration screen 70 includes a variety of configuration options for the customer. For example, the customer can select a particular memory, a particular display, a particular storage product, available printers, and so on.

The Examiner has identified the “different type of ‘printers’ which are available for a given computer” as an example of a configuration sub-model. Applicants respectfully submit that the different types of printers and other components are only available selections and are not a “configuration sub-model [that] includes data to define compatibility relationships between parts included in the configuration sub-model” as required by claims 1, 14, 15, 29, 30, 44, and 45.

Applicants also respectfully submit that *Henson* teaches that after selection of different components, such as a printer, the selections themselves are used to form a configuration-type query. However, Applicants respectfully submit that *Henson* fails to teach or suggest processing such configuration-type query “using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility

relationships between parts included in the configuration sub-model” as required by claims 1, 14, 15, 29, 30, 44, and 45.

More specifically, once the customer using the configuration screen makes a series of selections, such as selection of a printer and of other components, it is desirable to determine if the selections represent a valid configurable build. Determining whether a set of selections represents a valid configurable build can be an example of a configuration query. In fact, *Henson* contemplates this very scenario. *Henson* teaches that “The on-line store further includes validation of a configuration built by a customer.” *Henson*, col. 7, lines 57-58. The validation logic of *Henson* responds to a configuration-type query. More specifically, *Henson* teaches that:

Validation (or compatibility) provides the customer with a validation message indicating an occurrence of when the options selected for a particular system are not correct. If the options selected for a particular system will adversely affect the shipment of the configured system, then a warning message is issued to enable the user to modify options accordingly. In other words, the validation enhancement lets the customer know when one or more options are not compatible for one reason or another. The validation enhancement includes built-in logic which checks the particular configuration built by the customer and indicates whether or not the selected options can be built together for the particular configuration. If two or more options are incompatible, then in one embodiment, the validation enhancement returns a message indicating that the options are incompatible, as further discussed herein. *Id.*, col. 7, line 58 through col. 8, line 6.

Thus, Applicants respectfully submit that the option selections by the customer in *Henson* are submitted to validation logic as a type of configuration query, which is then processed. Applicants respectfully submit that the mere selection of a part from a choice of parts, such as selection of a printer from a choice of multiple printers, is not a configuration query “representing [a question] involving parts and part relationships in a configuration of a configurable product” as required by claims 1, 14, 15, 29, 30, 44, and 45

Once the printer, memory, and so on are selected by the customer in *Henson* and a configuration-type query is formed, Applicants respectfully submit that *Henson* fails to

teach or suggest “processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model” as required by claims 1, 14, 15, 29, 30, 44, and 45. *Henson* teaches some “built-in logic” to process a configuration-type query; however, *Henson* fails to teach or suggest any type of configuration sub-model or “processing the one or more configuration queries using configuration sub-models.”

Accordingly, for at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45 and of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

Claim Rejections – 35 U.S.C. § 103

Claim 47 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Henson* in view of Ford Motor Company
<http://web.archive.org/web/20030324212039/http://fordvehicles.com/>.

Claim 47 depends on claim 1. For at least the foregoing reasons given with regard to claim 1, Applicants respectfully request withdrawal of the rejection of claim 47.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned 512-338-9100.

CERTIFICATE OF TRANSMISSION

I hereby certify that on July 12, 2008 this correspondence is being transmitted via the U.S. Patent & Trademark Office's electronic filing system.

/Kent B. Chambers/

Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Trilogy Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

Austin, Texas
July 12, 2008

ELECTRONICALLY FILED

PETITION FOR EXTENSION OF TIME

Dear Sir:

Applicants respectfully petition for a three (3) month extension of time within which to respond to the Office Action mailed January 17, 2008, such extension allowing the undersigned until July 17, 2008, to respond.

The extension fee is being paid via the USPTO EFS. The Commissioner is authorized to deduct any additional fees which may be required or credit any overpayment to Deposit Account No. 502264.

CERTIFICATE OF TRANSMISSION

I hereby certify that on July 12, 2008 this correspondence is being transmitted via the U.S. Patent & Trademark Office's electronic filing system.

/Kent B. Chambers/

Respectfully submitted,

/Kent B. Chambers/

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Attorney for Applicant(s)
Reg. No. 38,839

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/Kent B. Chambers/

Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

Electronic Patent Application Fee Transmittal

Application Number:	10957919
Filing Date:	04-Oct-2004
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Filer:	Kent Bryan Chambers
Attorney Docket Number:	T00121

Filed as Large Entity

Utility Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Page 233 of 507 <small>Extension - 3 months with \$0 paid</small>	1253	1	1050	FORD 1004

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				1050

Electronic Acknowledgement Receipt

EFS ID:	3607035
Application Number:	10957919
International Application Number:	
Confirmation Number:	9162
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Customer Number:	33438
Filer:	Kent Bryan Chambers
Filer Authorized By:	
Attorney Docket Number:	T00121
Receipt Date:	12-JUL-2008
Filing Date:	04-OCT-2004
Time Stamp:	11:43:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$1050
RAM confirmation Number	4313
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part	Pages of app.
Page 235 of 507					FORD 1004

1	Amendment - After Non-Final Rejection	T00121_ROA_1_17_08.pdf	139873 06d25b51a7a8cd51aa5ca3c9bfe690dbedeaa9d	no	21
Warnings:					
Information:					
2	Extension of Time	T00121_Extension_7_12_08.pdf	70304 3dcdd08e9d21640fd86621abf8e61e7e49a0145	no	1
Warnings:					
Information:					
3	Fee Worksheet (PTO-06)	fee-info.pdf	8136 e6a971aff281291ca51dbc45b4b4c6809503e43d	no	2
Warnings:					
Information:					
Total Files Size (in bytes):				218313	

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 10/957,919	Filing Date 10/04/2004	<input type="checkbox"/> To be Mailed
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APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY			
	(Column 1)	(Column 2)	SMALL ENTITY <input type="checkbox"/>	OR		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A		N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A		N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A		N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =		X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =		X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).					
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>						
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL		TOTAL	

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY			
	(Column 1)	(Column 2)	(Column 3)		SMALL ENTITY	OR		
AMENDMENT	07/12/2008	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 50	Minus ** 50	= 0	X \$ =		OR X \$50=	0
	Independent (37 CFR 1.16(h))	* 7	Minus *** 7	= 0	X \$ =		OR X \$210=	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))							
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
					TOTAL ADD'L FEE		OR TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)		SMALL ENTITY	OR		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	X \$ =		OR X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus ***	=	X \$ =		OR X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))							
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
					TOTAL ADD'L FEE		OR TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
 /CAROLYN E. THOMAS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO., EXAMINER, ART UNIT, PAPER NUMBER, NOTIFICATION DATE, DELIVERY MODE. Includes application details for Nathan E. Little and examiner Peter D. Coughlan.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

- docketing@hamiltonerrile.com
seaton@hamiltonerrile.com
tmunoz@hamiltonerrile.com

Detailed Action

1. This office action is in response to an AMENDMENT entered July 12, 2008 for the patent application 10/957919 filed on October 4, 2004.
2. All previous Office Actions are fully incorporated into this Final Office Action by reference.

Status of Claims

3. Claims 1-50 are pending.

35 USC § 101

4. 35 U.S.C. 101 reads as follows:
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-46, 48-50 are rejected under 35 U.S.C. 101 for nonstatutory subject matter. The computer system must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application. Claims that describe a model being broken down into sub-models with

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corresponding sub-queries are an invention in an abstract form. These claims can be used in numerous applications. As in claim 47 wherein the model is a vehicle or as in the specification ¶0052 the model is a network environment. These claims are broad enough to map onto different applications. The conclusive result has to be a practical application. Without the lack of a single practical application, the invention can be applied to physical objects as well as mathematical models.

In determining whether the claim is for a “practical application,” the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is “useful, tangible and concrete.” If the claim is directed to a practical application of the § 101 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101. Results may pertain to a design of an automobile or a computer system, but no such results have not been claimed.

The invention must be for a practical application and either:

- 1) specify transforming (physical thing) or
- 2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/ non-unpredictable), AND tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended.

Claims that recite a model with associated sub-models and queries pertaining to both lack a practical application. There must be a result that is a practical application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-46, 48-50 are rejected under 35 U.S.C. 102(b) (hereinafter referred to as **Henson**) being anticipated by Henson, U. S. Patent 6167383.

Claim 1

Henson teaches receiving one or more configuration queries representing a questions involving parts and part relationships in a configuration of a configurable product (**Henson**, Fig 3A through Fig 5; An example of a ‘configuration sub-model’ of applicant is the different type of ‘printers’ which are available for that given computer. It is inherent that each sub-model has it’s own related data Being able to process queries

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of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson. An example of 'sub-model' of applicant is equivalent to 'video card' of Henson. In this figure there is a check mark next to the 'video card' sub-model.' This indicates there is a conflict between the chosen 'video card' and the chosen 'operating system' of Henson. This lack of validation between these two items indicates a 'compatibility relationship' of applicant. The fact that 'compatibility relationship' can be determined is due to each video card having inherent data.); processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-models includes data to define compatibility relationships between parts included in the configuration sub-model (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.); (**Henson**, Fig 3A through Fig 5; Being able to process queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson. An example of 'sub-model' of applicant is equivalent to 'video card' of Henson. In this figure there is a check mark next to the 'video card' sub-model.' This indicates there is a conflict between the chosen 'video card' and the chosen 'operating system' of Henson. This lack of validation between these two items indicates a 'compatibility relationship' of applicant. The fact that 'compatibility relationship' can be determined is due to each video card having inherent data.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models

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(**Henson**, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 2

Henson teaches dividing at least one of the configuration queries into multiple configuration sub-queries, wherein the one or more configuration queries include the multiple configuration sub-queries. (**Henson** Fig 3A; 'Dividing at least one of the configuration queries into multiple configuration sub-queries' of applicant is illustrated by the different types of 'storage products' of Henson. In this example, one of the 'configuration queries' of applicant is the type of 'storage products' of the computer are desired. In this example 'sub-queries' of applicant is equivalent to the different types of storage products available from Henson.)

Claim 3

Henson teaches processing each sub-query using at least one configuration sub-model per sub-query. (**Henson** Fig 3A; An example of 'sub-model' of applicant is equivalent to 'storage products' of Henson. There are three choices available is the user

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wants one. By checking off one of the boxes indicating the desire of a given 'storage product' this is equivalent to a 'sub-query' of applicant.)

Claim 4

Henson teaches processing each sub-query using multiple configuration sub-models per sub-query. (**Henson**, C6:17-67; 'Processing each sub-query' of applicant is equivalent to 'build a customer configured machine by selecting options listed on the computer screen' of Henson.)

Claim 5

Henson teaches wherein the one or more configuration queries relate to a configuration validation problem and processing one or more configuration queries comprises: processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Henson**, 'Configuration validation' of applicant is equivalent to 'validation' of Henson. Henson will notify a user if a conflict of options is chosen and a 'warning message' which allows for a modification of the options.)

Claim 6

Henson teaches wherein the data collectively included in the configuration sub-models provides a response for each of the sub-queries being processed. (**Henson**

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Figs 3A, 3B; 'Provide a response' of applicant is disclosed by the construction of a personal computer system of Henson.)

Claim 7

Henson teaches wherein at least two sub-queries include overlapping information. (**Henson** Fig 3A; For example in the 'storage products' sub model, there are three options which represent three sub-queries. All three pertain to 'storage products' thus they have 'overlapping information.')

Claim 8

Henson teaches dividing a consolidated model into the multiple configuration sub-model in accordance with a predetermined data structure. (**Henson** Fig 3A through Fig 3B; 'Multiple configuration sub-models' of applicant is equivalent to the different items that compose a personal computer system, such as printers, storage products' or 'hard drive' of Henson.)

Claim 9

Henson teaches wherein the predetermined data structure comprises a data structure divided along configuration model part groups, wherein the part groups are a collection of related parts. (**Henson** Fig 3A; A data structure divided along configuration model parts' of applicant is illustrated by only 'storage products' sub-model contains

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items which are only considered 'storage products' and not another sub-model category.)

Claim 10

Henson teaches generating response for each processed configuration sub-model (**Henson**, Fig 3A; 'Generating a response for each processed configuration sub-model' of applicant occurs when an incompatibility issue arises of Henson. If no response occurs, then the processed configuration sub-model passes a validation test without incident.) ; and combining each response for each processed configuration sub-model to generate the answer. (**Henson**, Fig 3A; 'Combining each response ... to generate an answer' of applicant is equivalent to combining all the responses of options desired to make a personal computer system which the user designed of Henson.)

Claim 11

Henson teaches dividing a consolidated configuration model into the configuration sub-models. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Henson divides all the external storage devices under one category of 'storage products.')

Claim 12

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing

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capabilities of the computer assisted configuration technology while still representing the relationships including in the consolidation configuration model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In addition, there are no 'storage products' within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 13

Henson teaches wherein each configuration sub-model represents a portion of the consolidated model. (**Henson**, Fig 3A; An example of a 'model' of applicant is equivalent to 'Dell dimension XPS R' of Henson.) An example of a 'sub-model' of applicant is equivalent to 'storage products' of Henson.)

Claim 14

Henson teaches dividing a consolidated configuration model into multiple configuration sub-models (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.); responding to the one or more configuration queries, wherein responding to the one or more configuration queries comprises: processing the one or more configuration queries using sub-models, where the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model;

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(**Henson**, Fig 3A through Fig 5; Being able to process queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson. An example of 'sub-model' of applicant is equivalent to 'video card' of Henson. In this figure there is a check mark next to the 'video card' sub-model.' This indicates there is a conflict between the chosen 'video card' and the chosen 'operating system' of Henson. This lack of validation between these two items indicates a 'compatibility relationship' of applicant. The fact that 'compatibility relationship' can be determined is due to each video card having inherent data.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Henson**, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 15

Henson teaches a processor (**Henson**, Fig 11; 'Processor' of applicant is equivalent to 'CPU' of Henson.) a storage medium having data encoded therein, the data comprising processor executable code for (**Henson**, Fig 11; 'Storage medium' of applicant is equivalent to 'hard drive/disk' of Henson.); receiving one or more configuration queries representing a questions involving parts and part relationships in a configuration of a

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configurable product (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson. It is inherent that queries represent questions. 'Parts and part relationships' of applicant is disclosed by the computer and its necessary components.); processing the one or more configuration queries using configuration sub-models, wherein the configurable sub-models collectively model the configurable product and each configuration sub-models includes data to define compatibility relationships between parts including in the configuration sub-model (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer. It is inherent that each sub-model has it's own related data); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub models (**Henson**, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 16

Henson teaches dividing at least one of the configuration queries into multiple configuration sub-queries, wherein the one or more configuration queries include the

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multiple configuration sub-queries. (**Henson** Fig 3A; 'Dividing at least one of the configuration queries into multiple configuration sub-queries' of applicant is illustrated by the different types of 'storage products' of Henson. In this example, one of the 'configuration queries' of applicant is the type of 'storage products' of the computer are desired. In this example 'sub-queries' of applicant is equivalent to the different types of storage products available from Henson.)

Claim 17

Henson teaches wherein the one or more configuration queries relate to a configuration completion problem and the code for processing one or more configuration queries further comprises: processing each sub-query using at least one configuration sub-model per sub-query. (**Henson** Fig 3A; An example of 'sub-model' of applicant is equivalent to 'storage products' of Henson. There are three choices available is the user wants one. By checking off one of the boxes indicating the desire of a given 'storage product' this is equivalent to a 'sub-query' of applicant.)

Claim 18

Henson teaches processing each sub-query using multiple configuration sub-models per sub-query. (**Henson**, C6:17-67; 'Processing each sub-query' of applicant is equivalent to 'build a customer configured machine by selecting options listed on the computer screen' of Henson.)

Claim 19

Henson teaches processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Henson**, 'Configuration validation' of applicant is equivalent to 'validation' of Henson. Henson will notify a user if a conflict of options is chosen and a 'warning message' which allows for a modification of the options.)

Claim 20

Henson teaches wherein the data collectively included in the configuration sub-models is sufficient to provide a response for each of the sub-queries being processed. (**Henson** Figs 3A, 3B; 'Provide a response' of applicant is disclosed by the construction of a personal computer system of Henson.)

Claim 21

Henson teaches wherein at least two sub-queries include overlapping information. (**Henson** Fig 3A; For example in the 'storage products' sub model, there are three options which represent three sub-queries. All three pertain to 'storage products' thus they have 'overlapping information.')

Claim 22.

Henson teaches dividing the configuration sub-models in accordance with a predetermined data structure (**Henson** Fig 3A; A data structure divided along

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configuration model parts' of applicant is illustrated by only 'storage products' sub-model contains items which are only considered 'storage products' and not another sub-model category.); and dividing the sub-queries in accordance with sub-model structure.

(**Henson** Fig 3A; 'Sub-queries' of applicant are only within a given sub-model. 'Storage products' of Henson is equivalent to a 'sub-model of applicant. A response to one of the choices within 'storage products' is equivalent to 'sub-queries' of applicant.)

Claim 23

Henson teaches wherein the predetermined data structure comprises a data structure divided along configuration model part groups, wherein the part groups are a collection of related parts. (**Henson**, Fig 3A; An example of a 'model part groups' of applicant is equivalent to 'storage products.' Henson divides all the external storage devices under one category or 'related parts' of 'storage products'.)

Claim 24

Henson teaches wherein the code for generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models further comprises code for (**Henson**, Fig 3A; 'Code for generating a response to the one or more configurations' of applicant is equivalent to the code needed to generate the web page which is illustrated in Fig. 3A. This web page is used to generate queries for the development of a design of a personal computer.): generating a response for each processed configuration sub-model

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(**Henson**, Fig 3A; 'Generating a response for each processed configuration sub-model' of applicant occurs when an incompatibility issue arises of Henson. If no response occurs, then the processed configuration sub-model passes a validation test without incident.); and combining each response for each processed configuration sub-model to generate the answer. (**Henson**, Fig 3A; 'Combining each response ... to generate an answer' of applicant is equivalent to combining all the responses of options desired to make a personal computer system which the user designed of Henson.)

Claim 25

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer system while still representing the relationships including in the consolidated configuration model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In addition, there are no 'storage products' within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 26

Henson teaches dividing a consolidated configuration model into the configuration sub-models. (**Henson**, Fig 3A; 'Model of applicant is equivalent to 'Dell

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dimension XPS R' of Henson. 'Sub-model' of applicant is equivalent to 'storage products' of Henson.)

Claim 27

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer system while still representing the relationships included in the consolidated configuration model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In addition, there are no 'storage products' within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 28

Henson teaches wherein each configuration sub-model represents a portion of the consolidated configuration model. (**Henson**, Fig 3A; 'Model of applicant is equivalent to 'Dell dimension XPS R' of Henson. 'Sub-model' of applicant is equivalent to 'storage products' of Henson. 'Storage products', 'speakers' or 'video card' of all portions of a model.)

Claim 29

Henson teaches a processor (**Henson**, Fig 11; 'Processor' of applicant is equivalent to 'CPU' of Henson.) a storage medium having data encoded therein, the data comprising processor executable code for (**Henson**, Fig 11; 'Storage medium' of applicant is equivalent to 'hard drive/disk' of Henson.); dividing a consolidated configuration model into multiple configuration sub-models (**Henson**, Fig 3A; 'Model of applicant is equivalent to 'Dell dimension XPS R' of Henson. 'Sub-model' of applicant is equivalent to 'storage products' of Henson.); responding to the one or more configuration queries, wherein responding to the one or more configuration queries comprises (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson.); processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-model collectively model the configurable product and each configuration sub-models includes data to define compatibility relationships between parts included in the configuration sub-model (**Henson**, Fig 3A through Fig 5; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer. It is inherent that each sub-model has it's own related data Being able to process queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson. An example of 'sub-model' of applicant is equivalent to 'video card' of Henson. In this figure there is a check mark next to the 'video card' sub-model.' This indicates there is a conflict between the chosen 'video card' and the chosen 'operating system' of Henson. This lack of validation between these two items indicates a

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'compatibility relationship' of applicant. The fact that 'compatibility relationship' can be determined is due to each video card having inherent data.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Henson**, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 30

Henson teaches receiving one or more configuration queries representing a questions involving parts and part relationships in a configuration of a configurable product (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson. It is inherent that queries are equivalent to questions.); processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model (**Henson**, Fig 3A through Fig 5; An example of a 'configuration sub-model' of applicant is the different type of 'printers'

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which are available for that given computer. It is inherent that each sub-model has its own related data. Being able to process queries of applicant is illustrated by the web site page which enables a user to configure a personal computer of Henson. An example of 'sub-model' of applicant is equivalent to 'video card' of Henson. In this figure there is a check mark next to the 'video card' sub-model.' This indicates there is a conflict between the chosen 'video card' and the chosen 'operating system' of Henson. This lack of validation between these two items indicates a 'compatibility relationship' of applicant. The fact that 'compatibility relationship' can be determined is due to each video card having inherent data.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Henson**, C5:19-27; 'Generating a response' of applicant is equivalent to the 'thank you page' of Henson.); and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 31.

Henson teaches dividing at least one configuration queries into multiple configuration sub-queries, wherein the one or more configuration queries including the multiple configuration sub-queries. (**Henson** Fig 3A; 'Dividing at least one of the configuration queries into multiple configuration sub-queries' of applicant is illustrated by

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the different types of 'storage products' of Henson. In this example, one of the 'configuration queries' of applicant is the type of 'storage products' of the computer are desired. In this example 'sub-queries' of applicant is equivalent to the different types of storage products available from Henson.)

Claim 32

Henson teaches wherein the one or more configuration queries relate to a configuration completion problem and the code for processing one or more configuration queries further comprises: processing each sub-query using at least one configuration sub-model per sub-query. (**Henson** Fig 3A; An example of 'sub-model' of applicant is equivalent to 'storage products' of Henson. There are three choices available is the user wants one. By checking off one of the boxes indicating the desire of a given 'storage product' this is equivalent to a 'sub-query' of applicant.)

Claim 33

Henson teaches processing each sub-query using multiple configuration sub-models per sub-query. (**Henson**, C6:17-67; 'Processing each sub-query' of applicant is equivalent to 'build a customer configured machine by selecting options listed on the computer screen' of Henson.)

Claim 34

Henson teaches processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Henson**, 'Configuration validation' of applicant is equivalent to 'validation' of Henson. Henson will notify a user if a conflict of options is chosen and a 'warning message' which allows for a modification of the options.)

Claim 35

Henson teaches wherein the data collectively included in the configuration sub-models provides a response for each of the sub-queries being processed. (**Henson** Figs 3A, 3B; 'Provide a response' of applicant is disclosed by the construction of a personal computer system of Henson.)

Claim 36

Henson teaches wherein at least two sub-queries include overlapping information. (**Henson** Fig 3A; For example in the 'storage products' sub model, there are three options which represent three sub-queries. All three pertain to 'storage products' thus they have 'overlapping information.')

Claim 37

Henson teaches dividing the configuration sub-models in accordance with a predetermined data structure (**Henson** Fig 3A; A data structure divided along

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configuration model parts' of applicant is illustrated by only 'storage products' sub-model contains items which are only considered 'storage products' and not another sub-model category.); and dividing the sub-queries in accordance with the sub-model structure.

(**Henson** Fig 3A; 'Sub-queries' of applicant are only within a given sub-model. 'Storage products' of Henson is equivalent to a 'sub-model of applicant. A response to one of the choices within 'storage products' is equivalent to 'sub-queries' of applicant.)

Claim 38

Henson teaches wherein the predetermined data structure comprises a data structure divided along configuration model part groups, wherein the part groups are a collection of related parts. (**Henson**, Fig 3A; An example of a 'model part group' of applicant is equivalent to 'storage products.' Henson divides all the external storage devices under one category of 'storage products.')

Claim 39

Henson teaches generating a response for each processed configuration sub-model (**Henson**, Fig 3A; 'Generating a response for each processed configuration sub-model' of applicant occurs when an incompatibility issue arises of Henson. If no response occurs, then the processed configuration sub-model passes a validation test without incident.); and combining each response for each processed configuration sub-model to generate the answer. (**Henson**, Fig 3A; 'Combining each response ... to

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generate an answer' of applicant is equivalent to combining all the responses of options desired to make a personal computer system which the user designed of Henson.)

Claim 40

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer system while still representing the relationship included in the consolidated model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In addition, there are no 'storage products' within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 41

Henson teaches dividing a consolidated configuration model into the configuration sub-models. (**Henson**, Fig 3A; An example of a 'model' of applicant is equivalent to 'Dell dimension XPS R' of Henson.) An example of a 'sub-model' of applicant is equivalent to 'storage products' of Henson.)

Claim 42

Henson teaches dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing available data processing capabilities of the computer system while still representing the relationships including in the

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consolidated configuration model. (**Henson**, Fig 3A; An example of a 'configuration sub-model' of applicant is equivalent to 'storage products.' Only 'storage products' are within the 'storage products' sub-model. In addition, there are no 'storage products' within another 'sub-model.' This indicates that the configuration model is sufficiently divided.)

Claim 43

Henson teaches wherein each configuration sub-model represents a portion of the consolidated configuration model. (**Henson**, Fig 3A; 'Model of applicant is equivalent to 'Dell dimension XPS R' of Henson. 'Sub-model' of applicant is equivalent to 'storage products' of Henson. 'Storage products', 'speakers' or 'video card' of all portions of a model.)

Claim 44

Henson teaches dividing a consolidated configuration model into multiple configuration sub-models (**Henson** Fig 3A through Fig 3B; 'Multiple sub-models' of applicant is equivalent to the different items that compose a personal computer system, such as printers, storage products' or 'hard drive' of Henson.); responding to the one or more configuration queries, wherein responding to the one or more configuration queries comprises (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson.): processing the one or more configuration queries using the configuration sub-models and the configuration sub-models include data to

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define compatibility relationships between parts included in the configurable product (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models; and presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 45

Henson teaches means for receiving one or more configuration queries related to configuration of a configurable product (**Henson**, Fig 3A through Fig 5; Being able to receive configuration queries of applicant is illustrated by the web site page which enables a use to configure a personal computer of Henson.); means for processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product (**Henson**, Fig 3B; An example of a 'configuration sub-model' of applicant is the different type of 'printers' which are available for that given computer.); means for generating a response to the one or more configuration queries based upon the processed one or more configuration queries and

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the configuration sub-models; and means for presenting the response to the one or more configuration queries for display by a display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson. 'Generating a response' of applicant is the executing of the code which generates the 'thank you page'.')

Claim 46

Henson teaches means for dividing a consolidated configuration model into the configuration sub-models. (**Henson** Fig 3A through Fig 3B; 'Multiple sub-models' of applicant is equivalent to the different items that compose a personal computer system, such as printers, storage products' or 'hard drive' of Henson.)

Claim 48

Henson teaches displaying the response on the display device. (**Henson**, C5:66 through C6:4; Henson is an invention to configuring and purchasing a personal computer from an online store. 'Presenting the response' of applicant is equivalent to the output of the 'thank you page' is outputted on a 'display' of Henson.)

Claim 49

Henson teaches wherein the configuration sub-models each comprise data and rules to define compatibility relationships between parts included in a product. (**Henson**,

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Fig 3A; An example of 'sub-model' of applicant is equivalent to 'video card' of Henson. In this figure there is a check mark next to the 'video card' sub-model.' This indicates there is a conflict between the chosen 'video card' and the chosen 'operating system' of Henson. This lack of validation between these two items indicates a 'compatibility relationship' of applicant.)

Claim 50

Henson teaches wherein the configuration problem comprises a configuration problem involving parts of a product. (**Henson** Figs 3A and 3B; 'Parts of a product' of applicant is equivalent to the parts of a computer of Henson.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henson as set forth above, in view of Henson.

('http://web.archive.org/web/20030324212039/http://fordvehicles.com/', referred to as **FoMoCo**)

Claim 47

Henson does not teach wherein the configurable product is a vehicle.

FoMoCo teaches wherein the configurable product is a vehicle. (**FoMoCo** , 1; The web site for the Ford Motor Company is related to motor vehicles.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Henson by building cars with specific options as taught by FoMoCo to have wherein the configurable product is a vehicle.

For the purpose of enabling the user to see what options are available in a vehicle to aid in the purchase decision making process.

Response to Arguments

5. Applicant's arguments filed on July 12, 2008 for claims 1-50 have been fully considered but are not persuasive.

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6. In reference to the Applicant's argument:

REMARKS

Claims 1-50 are pending.

Claims 1-50 stand rejected.

Claims 6, 12, 20, 25, 27, 35, 40, and 42 have been amended with non-narrowing amendments.

Claims 1, 14, 15, 29, 30, 44, and 45 have been amended to better define queries and to better define the parts included in each configuration sub-model and have not been amended for reasons of patentability.

Claims 29 and 30 have been amended to correct minor grammatical errors.

Claim Rejections - 35 U.S.C. § 112

Claims 6, 12, 20, 25, 27, 35, 40, and 42 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for including the term "sufficient" or "sufficiently".

Claims 6, 12, 20, 25, 27, 35, 40, and 42 have been amended to delete references to "sufficient" or "sufficiently".

Accordingly, Applicants respectfully request withdrawal of the rejection.

Examiner's response:

The Examiner notes the amended claims and withdraws the rejection.

7. In reference to the Applicant's argument:

Claim Rejections - 35 U.S.C. § 101

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

In the January 17, 2008 Office Action, page 4, the Examiner states that: The invention must be for a practical application and either: 1) specify transforming (physical thing) or

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2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result. A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended. Claims that recite a model with associated sub-models and queries pertaining to both lack a practical application. There must be a result that is a practical application.

Applicants respectfully submit that the Present Application discloses a practical application, and the claims are directed to statutory matter pursuant to 35 U.S.C. § 101.

In *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 958 F.2d 1053 (Fed. Cir. 1992), the Federal Circuit reviewed the following claim for compliance with 35 U.S.C. § 101:

1. A method for analyzing electrocardiograph signals to determine the presence or absence of a predetermined level of high frequency energy in the late QRS signal, comprising the steps of: converting a series of QRS signals to time segments, each segment having a digital value equivalent to the analog value of said signals at said time;

applying a portion of said time segments in reverse time order to high pass filter means;

determining an arithmetic value of the amplitude of the output of said filter; and

comparing said value with said predetermined level.

The court held that the resultant output is not an abstract number, but is a signal related to the patient's heart activity.

In *re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994), the Federal Circuit reviewed the following claim: A rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising:

(a) means for determining the vertical distance between the endpoints of each of the vectors in the data list;

(b) means for determining the elevation of a row of pixels that is spanned by the vector;

(c) means for normalizing the vertical distance and elevation; and

(d) means for outputting illumination intensity data as a predetermined function of the normalized vertical distance and elevation.

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In Alappat, the court held that data, transformed by a machine through a series of mathematical calculations to produce a smooth waveform display on a rasterizer monitor, constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced "a useful, concrete and tangible result"--the smooth waveform.

The Examiner appears to focus on the recitation of "a model with associated sub-models and queries." Office Action, p. 4. However, Applicants respectfully submit that examination should be refocused. Claims 1, 14, 15, 29, 30, and 45 recite:

receiving one or more configuration queries representing a questions involving parts and part relationships in a configuration of a configurable product;

processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model;

generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models; and

presenting the response to the one or more configuration queries for display by a display device.

Claim 44 recites the above limitations using 35 U.S.C. § 112, para. 6 means plus function language.

Thus, the final result is not a model with associated sub-models and queries to both. The final result is a generated "response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models" and presenting the "response" for display.

The Examiner states that the "Results may pertain to a design of an automobile or a computer system, but no such results have [] been claimed" in claims 1-46 and 48-50. Office Action, p. 4.

However, Applicants respectfully submit that a result has clearly been claimed, i.e. "a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models" which is presented for display. In re Alappat, the Federal Circuit held that "illumination intensity data as a predetermined function of the normalized vertical distance and elevation" was a useful, concrete, and tangible result." Applicants respectfully submit that "a response to the one or more configuration queries based upon the processed one or more configuration

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queries and the configuration sub-models" which is presented for display is a useful, concrete, and tangible result in at least the same manner as illumination intensity data as a predetermined function of the normalized vertical distance and elevation."

Furthermore, the Present Application itself sets forth the practical application of computer assisted product configuration and, thus, the practical application of "a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models" which is presented for display. Specifically, the Present Application states that, "Computer assisted product configuration continues to offer substantial benefits to a wide range of users and industries." Present Application, paras. 2. The claims are directed towards the practical application of "computer assisted configuration technology to respond to one or more configuration queries using configuration sub-models." Furthermore, the claims provide a useful, concrete, and tangible result by "generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models" and "presenting the response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models] for display by a display device." Claims 1, 14, 15, 29, 30, 44, and 45.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Examiner's response:

The applicant supports the Examiner position by reciting these two court cases. In *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 958 F.2d 1053 (Fed. Cir. 1992) the case is concerned with the analyzing electrocardiograph signals. This is a specific domain and is considered by the Examiner a having a practical result. Likewise in *re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994), the Examiner considers inputting waveform into anti-aliased pixel illumination intensity data to be displayed on a display means. Unlike the claimed invention, which has no specific domain which can be considered a practical application.

8. In reference to the Applicant's argument:

Claim Rejections - 35 U.S.C. § 102

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,167,383 to Henson (hereinafter "Henson"). Applicants respectfully traverse the rejection.

Henson relates to a "web-based online store [that] includes a configurator, a cart, a checkout, and a database, further in which a user interface of the online store enables a custom configuration of a computer system according to an identification of a user belonging to a prescribed customer set." Henson, Abstract. "The configurator is provided for configuring a computer system with options selected according to a prescribed user input." *Id.*

Referring to Figures 3A and 3B of Henson, the configuration screen 70 includes a variety of configuration options for the customer. For example, the customer can select a particular memory, a particular display, a particular storage product, available printers, and so on.

The Examiner has identified the "different type of 'printers' which are available for a given computer" as an example of a configuration sub-model. Applicants respectfully submit that the different types of printers and other components are only available selections and are not a "configuration sub-model [that] includes data to define compatibility relationships between parts included in the configuration sub-model" as required by claims 1, 14, 15, 29, 30, 44, and 45.

Examiner's response:

The Examiner disagrees and sees the printer as a component of a computer. Each printer has inherent data which relates to the printer. Each printer is seen as a sub-model of the computer because a computer printer has no function without a computer. It is also inherent with Henson computer to sell a computer printer which is only compatible with a given computer which discloses the 'compatibility relationships' of applicant. Henson will disclose information if sub-models are not compatible.

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9. In reference to the Applicant's argument:

Applicants also respectfully submit that Henson teaches that after selection of different components, such as a printer, the selections themselves are used to form a configuration-type query. However, Applicants respectfully submit that Henson fails to teach or suggest processing such configuration-type query "using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model" as required by claims 1, 14, 15, 29, 30, 44, and 45.

More specifically, once the customer using the configuration screen makes a series of selections, such as selection of a printer and of other components, it is desirable to determine if the selections represent a valid configurable build. Determining whether a set of selections represents a valid configurable build can be an example of a configuration query. In fact, Henson contemplates this very scenario. Henson teaches that "The on-line store further includes validation of a configuration built by a customer." Henson, col. 7, lines 57-58. The validation logic of Henson responds to a configuration-type query. More specifically, Henson teaches that:

Validation (or compatibility) provides the customer with a validation message indicating an occurrence of when the options selected for a particular system are not correct. If the options selected for a particular system will adversely affect the shipment of the configured system, then a warning message is issued to enable the user to modify options accordingly. In other words, the validation enhancement lets the customer know when one or more options are not compatible for one reason or another. The validation enhancement includes built-in logic which checks the particular configuration built by the customer and indicates whether or not the selected options can be built together for the particular configuration. If two or more options are incompatible, then in one embodiment, the validation enhancement returns a message indicating that the options are incompatible, as further discussed herein. Id., col. 7, line 58 through col. 8, line 6.

Thus, Applicants respectfully submit that the option selections by the customer in Henson are submitted to validation logic as a type of configuration query, which is then processed. Applicants respectfully submit that the mere selection of a part from a choice of parts, such as selection of a printer from a choice of multiple printers, is not a configuration query "representing [a question] involving parts and part relationships in a configuration of a configurable product" as required by claims 1, 14, 15, 29, 30, 44, and 45

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Once the printer, memory, and so on are selected by the customer in Henson and a configuration-type query is formed, Applicants respectfully submit that Henson fails to teach or suggest "processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model" as required by claims 1, 14, 15, 29, 30, 44, and 45. Henson teaches some "built-in logic" to process a configuration-type query; however, Henson fails to teach or suggest any type of configuration sub-model or "processing the one or more configuration queries using configuration sub-models."

Accordingly, for at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45 and of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

Examiner's response:

Applicant states 'Henson fails to teach or suggest processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model.' In contrast, it seems the applicant is supporting the Examiner's argument by citing Henson, 'In other words, the validation enhancement lets the customer know when one or more options are not compatible for one reason or another. The validation enhancement includes built-in logic which checks the particular configuration built by the customer and indicates whether or not the selected options can be built together for the particular configuration.' The Examiner views the reference Henson to map onto the claims of the invention.

Examination Considerations

10. The claims and only the claims form the metes and bounds of the invention.

“Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)” (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has the full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

11. Examiner’s Notes are provided to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and sprit of compact prosecution. However, and unless otherwise stated, the Examiner’s Notes are not prior art but link to prior art that one of ordinary skill in the art would find inherently appropriate.

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12. Examiner's Opinion: Paragraphs 10 and 11 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Claims 1-50 are rejected.

Correspondence Information

15. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3080. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,
Washington, D. C. 20231;

Hand delivered to:

Receptionist,
Customer Service Window,
Randolph Building,
401 Dulany Street,
Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 272-3150 (for formal communications intended for entry.)

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Peter Coughlan/


Examiner, Art Unit 2129

Peter Coughlan

9/12/2008

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129

Index of Claims 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
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✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
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CLAIM		DATE							
Final	Original	09/12/2008							
	1	✓							
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	36	✓							

Index of Claims 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
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✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	09/12/2008							
	37	✓							
	38	✓							
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	40	✓							
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	47	✓							
	48	✓							
	49	✓							
	50	✓							

Search Notes 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
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SEARCHED			
Class	Subclass	Date	Examiner
705	@pd<20041004 and 56	12/24/2007	PDC
706	@pd<20041004 and 20	12/24/2007	PDC
706	@pd<20041004 and 8, 6, 28, 45	9/12/2008	PDC
705	@pd<20041004 with query, configuration, model, compatibility and 26	9/12/2008	PDC

SEARCH NOTES		
Search Notes	Date	Examiner
East -- @pd<20041004 and multimedia, knowledge base, structure, query, sub query, model, sub model, answer, sub answer, processor, CPU, Dell, central processing unit, rules, specification, elements, sub-elements, database, overlap, common range, combining answers, matching, retrieving, images, requirements, computer configuration, order, sales, internet	12/24/2007	PDC
IEEE <2005 Nathan E Little, Brandon M Beck, Brian K Showers, combining answers, matching, retrieving, images, requirements, multimedia, knowledge base, structure, query, sub query, model, sub model, answer, sub answer, processor, CPU, Central processing unit, rules, specification, elements, sub elements, database, overlap, common range	12/24/2007	PDC
Inventors -- Nathan E Little, Brandon M Beck, Brian K Showers,	12/24/2007	PDC
East -- @pd<20081004 and validation, enhancement, queries, part, configuration, relation, model, compatibility, sub model, computer, assist,	9/12/2008	PDC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
		@pd<"20041004" and multimedia and ("knowledge base" or knowledgebase) and structure and query and (subquery or sub-query or "sub query)	US-PGPUB; USPAT	OR	ON	2007/04/21 10:56
L1	1	"6167383".pn.	US-PGPUB; USPAT	OR	ON	2008/09/12 08:09
L2	1	"6167383".pn. and "validation enhancement"	US-PGPUB; USPAT	OR	ON	2008/09/12 10:44
L3	72	@pd<"20041004" and ((queries with part) with configura\$)	US-PGPUB; USPAT	OR	ON	2008/09/12 12:16
L4	2318	@pd<"20041004" and ((relation\$ with part) with configura\$)	US-PGPUB; USPAT	OR	ON	2008/09/12 12:16
L5	292	@pd<"20041004" and ((relation\$ with part) with configura\$) and model	US-PGPUB; USPAT	OR	ON	2008/09/12 12:16
L6	35	@pd<"20041004" and (((relation\$ with part) with configura\$) same model)	US-PGPUB; USPAT	OR	ON	2008/09/12 12:17
L7	11	@pd<"20041004" and ((queries with part) with compatib\$)	US-PGPUB; USPAT	OR	ON	2008/09/12 12:21
L8	3	@pd<"20041004" and ((submodel or sub-model or "sub model") with quer \$)	US-PGPUB; USPAT	OR	ON	2008/09/12 12:23
L9	9	@pd<"20041004" and ((submodel or sub-model or "sub model") with compatib\$)	US-PGPUB; USPAT	OR	ON	2008/09/12 12:23
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L11	194	@pd<"20041004" and ((computer with assist\$) with configuration) and query	US-PGPUB; USPAT	OR	ON	2008/09/12 12:24
L12	62	@pd<"20041004" and ((computer with assist\$) with configuration) and query and (configurat\$ with quer\$)	US-PGPUB; USPAT	OR	ON	2008/09/12 12:24
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L28	696	706/45.ccls. and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2008/09/12 12:37
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S16	242	710/8.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S17	39	710/8.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S18	9	703/25.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
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S36	1	"6167383".pn. and compat \$	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18
S37	286	@pd<"20041004" and dell.as. and (computer with configuration)	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07
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S41	319	706/20.ccls. and @pd<"20041004" and (model\$ or silulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
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S47	789	707/4.ccls. and @pd<"20041004" and (model\$ or simulation)	US- PGPUB; USPAT	OR	ON	2007/12/24 09:52
S48	1325	705/26.ccls. and @pd<"20041004" and (model\$ or simulation)	US- PGPUB; USPAT	OR	ON	2007/12/24 09:52
S49	31	705/56.ccls. and @pd<"20041004" and (model\$ or simulation)	US- PGPUB; USPAT	OR	ON	2007/12/24 09:53
S50	371	S49 or S42	US- PGPUB; USPAT	OR	ON	2007/12/24 09:53

9/12/2008 12:48:19 PM

C:\Documents and Settings\pcoughlan\My Documents\EAST\Workspaces\10957919.wsp

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL (Submitted Only via EFS-Web)

Application Number	10/957,919	Filing Date	2004-10-04	Docket Number (if applicable)	T00121	Art Unit	2129
First Named Inventor	Nathan E. Little			Examiner Name	Peter D. Coughlan		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

Other _____

Enclosed

Amendment/Reply

Information Disclosure Statement (IDS)

Affidavit(s)/ Declaration(s)

Other _____

MISCELLANEOUS

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

Other _____
Petition for an Extension of Time

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
Deposit Account No 502264

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Patent Practitioner Signature

Applicant Signature

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Kent B. Chambers/	Date (YYYY-MM-DD)	2009-03-18
Name	Kent B. Chambers	Registration Number	38839

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Versata Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

Austin, Texas
March 18, 2009

ELECTRONICALLY FILED

37 C.F.R. § 1.114 RCE SUBMISSION

Dear Sir:

This paper is a submission in accordance with 37 C.F.R. § 1.114, which accompanies a request for continued examination in the above referenced patent application. This paper responds to the Office Action dated September 18, 2008, having a shortened statutory period expiring December 18, 2008. Accompanying this response is a petition under 37 C.F.R. § 1.136 for extension of time by three (3) months setting a new time for response of March 18, 2009. Further examination and reconsideration are respectfully requested.

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A method for using a computer system, wherein the
2 computer system includes computer assisted configuration technology to respond to one
3 or more configuration queries using configuration sub-models, the method comprising:
4 receiving one or more configuration queries representing ~~[[a]]~~ one or more
5 questions involving parts and part relationships in a configuration of a
6 configurable product;
7 processing the one or more configuration queries using configuration sub-models,
8 wherein the configuration sub-models collectively model the configurable
9 product and each configuration sub-model includes data to define
10 compatibility relationships between parts included in the configuration
11 sub-model and each configuration sub-model (i) represents a portion of a
12 configuration model of the configurable product and (ii) allows answers
13 from each configuration sub-model to be combined to provide a
14 consolidated answer to the one or more configuration queries;
15 generating a response to the one or more configuration queries based upon the
16 processed one or more configuration queries and the configuration sub-
17 models; and
18 ~~presenting~~ providing the response to the one or more configuration queries as data
19 for display by a display device.

1 2. (Previously Presented) The method of claim 1 further comprising:
2 dividing at least one of the configuration queries into multiple configuration sub-
3 queries, wherein the one or more configuration queries include the
4 multiple configuration sub-queries.

1 3. (Previously Presented) The method of claim 2 wherein the one or more
2 configuration queries relate to a configuration completion problem and processing one or
3 more configuration queries further comprises:

4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 4. (Original) The method of claim 2 further comprising:
2 processing each sub-query using multiple configuration sub-models per sub-
3 query.

1 5. (Previously Presented) The method of claim 2 wherein the one or more
2 configuration queries relate to a configuration validation problem and processing one or
3 more configuration queries further comprises:

4 processing an undivided query using different configuration sub-models until a
5 configuration validation answer can be determined.

1 6. (Previously Presented) The method of claim 2 wherein the data
2 collectively included in the configuration sub-models provides a response for each of the
3 sub-queries being processed.

1 7. (Original) The method of claim 2 wherein at least two sub-queries include
2 overlapping information.

1 8. (Previously Presented) The method of claim 2 further comprising:
2 dividing a consolidated configuration model into the multiple configuration sub-
3 models in accordance with a predetermined data structure;
4 wherein at least one of the configuration queries into multiple configuration sub-
5 queries further comprises dividing the sub-queries in accordance with the
6 sub-model structure.

1 9. (Previously Presented) The method of claim 8 wherein the predetermined
2 data structure comprises a data structure divided along configuration model part groups,
3 wherein the part groups are a collection of related parts.

1 10. (Previously Presented) The method of claim 1 wherein generating a
2 response to the one or more configuration queries based upon the processed one or more
3 configuration queries and the configuration sub-models further comprises:
4 generating a response for each processed configuration sub-model; and
5 combining each response for each processed configuration sub-model to generate
6 the answer.

1 11. (Original) The method of claim 1 further comprising:
2 dividing a consolidated configuration model into the configuration sub-models.

1 12. (Previously Presented) The method of claim 11 wherein dividing the
2 consolidated configuration model into multiple configuration sub-models further
3 comprises:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer assisted configuration technology while still representing the
7 relationships included in the consolidated configuration model.

1 13. (Original) The method of claim 11 wherein each configuration sub-model
2 represents a portion of the consolidated configuration model.

1 14. (Currently Amended) A method for using a computer system, wherein the
2 computer system includes computer assisted configuration technology to respond to one
3 or more configuration queries using configuration sub-models, the method comprising:
4 dividing a consolidated configuration model into multiple configuration sub-
5 models; and

6 responding to the one or more configuration queries representing questions
7 involving configuration of a configurable product, wherein responding to
8 the one or more configuration queries comprises:
9 processing the one or more configuration queries using configuration sub-
10 models, wherein the configuration sub-models collectively model
11 the configurable product and each configuration sub-model
12 includes data to define compatibility relationships between parts
13 included in the configuration sub-model and each configuration
14 sub-model (i) represents a portion of a configuration model of the
15 configurable product and (ii) allows answers from each
16 configuration sub-model to be combined to provide a consolidated
17 answer to the one or more configuration queries;
18 generating a response to the one or more configuration queries based upon
19 the processed one or more configuration queries and the
20 configuration sub-models; and
21 ~~presenting~~ providing the response to the one or more configuration queries
22 as data for display by a display device.

1 15. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 receiving one or more configuration queries representing a questions
8 involving parts and part relationships in a configuration of a
9 configurable product;
10 processing the one or more configuration queries using configuration sub-
11 models, wherein the configuration sub-models collectively model
12 the configurable product and each configuration sub-model
13 includes data to define compatibility relationships between parts

14 included in the configuration sub-model and each configuration
15 sub-model (i) represents a portion of a configuration model of the
16 configurable product and (ii) allows answers from each
17 configuration sub-model to be combined to provide a consolidated
18 answer to the one or more configuration queries;
19 generating a response to the one or more configuration queries based upon
20 the processed one or more configuration queries and the
21 configuration sub-models; and
22 ~~presenting~~ providing the response to the one or more configuration queries
23 as data for display by a display device.

1 16. (Previously Presented) The computer system of claim 15 wherein the data
2 further comprises processor executable code for:
3 dividing at least one of the configuration queries into multiple configuration sub-
4 queries, wherein the one or more configuration queries include the
5 multiple configuration sub-queries.

1 17. (Previously Presented) The computer system of claim 16 wherein the one
2 or more configuration queries relate to a configuration completion problem and the code
3 for processing one or more configuration queries further comprises:
4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 18. (Original) The computer system of claim 16 wherein the data further
2 comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 19. (Previously Presented) The computer system of claim 16 wherein the one
2 or more configuration queries relate to a configuration validation problem and when
3 solving the configuration validation problem, and the code for processing one or more
4 configuration queries further comprises:
5 processing an undivided query using different configuration sub-models until a
6 configuration validation answer can be determined.

1 20. (Previously Presented) The computer system of claim 16 wherein the data
2 collectively included in the configuration sub-models provides a response for each of the
3 sub-queries being processed.

1 21. (Original) The computer system of claim 16 wherein at least two sub-
2 queries include overlapping information.

1 22. (Previously Presented) The computer system of claim 16 wherein the code
2 further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 23. (Previously Presented) The computer system of claim 22 wherein the
2 predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 24. (Previously Presented) The computer system of claim 15 wherein the code
2 for generating a response to the one or more configuration queries based upon the
3 processed one or more configuration queries and the configuration sub-models further
4 comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 25. (Previously Presented) The computer system of claim 15 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:

4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 26. (Original) The computer system of claim 15 wherein the data further
2 comprises processor executable code for:

3 dividing a consolidated configuration model into the configuration sub-models.

1 27. (Previously Presented) The computer system of claim 26 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:

4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 28. (Original) The computer system of claim 26 wherein each configuration
2 sub-model represents a portion of the consolidated configuration model.

1 29. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:

4 a processor; and

5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:

7 dividing a consolidated configuration model into multiple configuration
8 sub-models;

9 responding to the one or more configuration queries representing
10 questions involving configuration of a configurable product,
11 wherein responding to the one or more configuration queries
12 comprises:
13 processing the one or more configuration queries using configuration sub-
14 models, wherein the configuration sub-models collectively model
15 the configurable product and each configuration sub-model
16 includes data to define compatibility relationships between parts
17 included in the configuration sub-model and each configuration
18 sub-model (i) represents a portion of a configuration model of the
19 configurable product and (ii) allows answers from each
20 configuration sub-model to be combined to provide a consolidated
21 answer to the one or more configuration queries;
22 generating a response to the one or more configuration queries based upon
23 the processed one or more configuration queries and the
24 configuration sub-models; and
25 ~~presenting~~ providing the response to the one or more configuration queries
26 as data for display by a display device.

1 30. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to respond to one or more configuration
3 queries using configuration sub-models, wherein the data comprises processor executable
4 code for:
5 receiving one or more configuration queries representing a questions involving
6 parts and part relationships in a configuration of a configurable product;
7 processing the one or more configuration queries using configuration sub-models,
8 wherein the configuration sub-models collectively model the configurable
9 product and each configuration sub-model includes data to define
10 compatibility relationships between parts included in the configuration
11 sub-model and each configuration sub-model (i) represents a portion of a
12 configuration model of the configurable product and (ii) allows answers

13 from each configuration sub-model to be combined to provide a
14 consolidated answer to the one or more configuration queries;
15 generating a response to the one or more configuration queries based upon the
16 processed one or more configuration queries and the configuration sub-
17 models; and
18 ~~presenting~~ providing the response to the one or more configuration queries as data
19 for display by a display device.

1 31. (Previously Presented) The computer storage medium of claim 30 wherein
2 the data further comprises processor executable code for:
3 dividing at least one of the configuration queries into multiple configuration sub-
4 queries, wherein the one or more configuration queries include the
5 multiple configuration sub-queries.

1 32. (Previously Presented) The computer storage medium of claim 31 wherein
2 the one or more configuration queries relate to a configuration completion problem and
3 the code for processing one or more configuration queries further comprises:
4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 33. (Original) The computer storage medium of claim 31 wherein the data
2 further comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 34. (Previously Presented) The computer storage medium of claim 31 wherein
2 the one or more configuration queries relate to a configuration validation problem and the
3 code for processing one or more configuration queries further comprises:
4 processing an undivided query using different configuration sub-models until a
5 configuration validation answer can be determined.

1 35. (Previously Presented) The computer storage medium of claim 31 wherein
2 the data collectively included in the configuration sub-models provides a response for
3 each of the sub-queries being processed.

1 36. (Original) The computer storage medium of claim 31 wherein at least two
2 sub-queries include overlapping information.

1 37. (Previously Presented) The computer storage medium of claim 31 the code
2 further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 38. (Previously Presented) The computer storage medium of claim 37 wherein
2 the predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 39. (Previously Presented) The computer storage medium of claim 30 wherein
2 the code for generating a response to the one or more configuration queries based upon
3 the processed one or more configuration queries and the configuration sub-models further
4 comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 40. (Currently Amended) The computer storage medium of claim 30 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the

6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 41. (Original) The computer storage medium of claim 30 wherein the data
2 further comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 42. (Previously Presented) The computer storage medium of claim 41 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 43. (Original) The computer storage medium of claim 41 wherein each
2 configuration sub-model represents a portion of the consolidated configuration model.

1 44. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to respond to one or more configuration
3 queries using configuration sub-models, wherein the data comprises code for:
4 dividing a consolidated configuration model into multiple configuration
5 sub-models;
6 responding to the one or more configuration queries representing
7 questions involving configuration of a configurable product,
8 wherein responding to the one or more configuration queries
9 comprises:
10 processing the one or more configuration queries using configuration sub-
11 models, wherein the configuration sub-models collectively model
12 the configurable product and each configuration sub-model
13 includes data to define compatibility relationships between parts
14 included in the configuration sub-model;

15 generating a response to the one or more configuration queries based upon
16 the processed one or more configuration queries and the
17 configuration sub-models and each configuration sub-model (i)
18 represents a portion of a configuration model of the configurable
19 product and (ii) allows answers from each configuration sub-model
20 to be combined to provide a consolidated answer to the one or
21 more configuration queries; and
22 ~~presenting~~ providing the response to the one or more configuration queries
23 as data for display by a display device.

1 45. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 means for receiving one or more configuration queries representing a questions
5 involving parts and part relationships in a configuration of a configurable
6 product;
7 means for processing the one or more configuration queries using configuration
8 sub-models, wherein the configuration sub-models collectively model the
9 configurable product and each configuration sub-model includes data to
10 define compatibility relationships between parts included in the
11 configuration sub-model and each configuration sub-model (i) represents a
12 portion of a configuration model of the configurable product and (ii)
13 allows answers from each configuration sub-model to be combined to
14 provide a consolidated answer to the one or more configuration queries;
15 means for generating a response to the one or more configuration queries based
16 upon the processed one or more configuration queries and the
17 configuration sub-models; and
18 means for ~~presenting~~ providing the response to the one or more configuration
19 queries as data for display by a display device.

1 46. (Original) The computer system of claim 45 further comprising:
2 means for dividing a consolidated configuration model into the configuration sub-
3 models.

1 47. (Previously Presented) The method of claim 1 wherein the configurable
2 product is a vehicle.

1 48. (Previously Presented) The method of claim 1 further comprising:
2 displaying the response on display device.

1 49. (Previously Presented) The method of claim 1 wherein the configuration
2 sub-models each comprise data and rules to define compatibility relationships between
3 parts included in a product.

1 50. (Previously Presented) The method of claim 1 wherein the configuration
2 problem comprises a configuration problem involving parts of a product.

REMARKS

Claims 1-50 are pending.

Claims 1-50 stand rejected.

Claims 14, 15, 29, 30, 44, and 45 have been amended.

Claim Rejections – 35 U.S.C. § 101

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

In the January 17, 2008 Office Action, page 4, the Examiner states that:

The invention must be for a practical application and either: 1) specify transforming (physical thing) or 2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result. A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended. Claims that recite a model with associated sub-models and queries pertaining to both lack a practical application. There must be a result that is a practical application.

The Federal Circuit recently addressed the subject of subject matter patentability in *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (*en banc*). In *In re Bilski*, the court “conclude[ed] that the “useful, concrete and tangible result” inquiry is inadequate and reaffirm[ed] that the machine-or-transformation test outlined by the Supreme Court is the proper test to apply.” *Id.* “The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies §101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.” *Id.*

Although the two-branched inquiry is stated in the alternative, Applicants respectfully submit that the methods of claims 1 and 14 and claims directly or indirectly dependent thereon meet both of the two-branched inquiries set forth in *In re Bilski*.

The methods of claims 1 and 14 are specifically tied to a particular machine, namely “a computer system”. Claims 1 and 14. More specifically, claims 1 and 14 are respectively a “method for using a computer system, wherein the computer system includes computer assisted configuration technology to respond to one or more configuration queries using configuration sub-models.” *Id.*

Additionally, the method of claim 1 transforms an article(s) into a different thing. Claim 1 recites “receiving one or more configuration queries” and “generating a response to the one or more configuration queries.” Claim 1. The “response” represents an article because the “one or more configuration queries” relate to a physical object, namely “questions involving parts and part relationships in a configuration of a configurable product.” *Id.* The “response” is transformed into “data for display by a display device”. *Id.*

The method of claim 14 also transforms an article(s) into a different thing. Claim 14 recites “responding to the one or more configuration queries” and “generating a response to the one or more configuration queries.” Claim 14. The “response” represents an article because the “one or more configuration queries” relate to a physical object, namely “questions involving configuration of a configurable product.” *Id.* The “response” is transformed into “data for display by a display device”. *Id.*

Although *In re Bilski* specifically relates to 35 U.S.C. § 101 and method claims, applying the criteria of *In re Bilski* claims 15, 29, and 45 are respectively “tied to a particular machine.” *In re Bilski*. More specifically, claims 15, 29, and 45 are each “a computer system”. Claims 15, 29, and 45.

Claims 30 and 45 recite a “computer storage medium” comprising data embedded therein to cause a computer system to respond to one or more configuration queries using configuration sub-models, wherein the data comprises processor executable code for: ...
.”

The invention embodiment of claim 30 is also related to a physical device and includes processor executable code, namely a “computer storage medium comprising

data ... wherein the data comprises processor executable code.” After the decision in *In re Bilski*, the USPTO Board of Patent Appeals and Interferences (BPAI) addressed subject matter patentability of a computer usable medium in *ex parte Bo Li*. *Ex parte Bo Li*, Appeal 2008-1213 (USPTO BPAI 2008, November 6, 2008). The BPAI, citing *In re Bilski* and *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994), held that a computer program product comprising a computer usable medium having a computer readable program code embodied therein and adapted to be executed to implement a method for generating a report recites patentable subject matter under 35 U.S.C. § 101. Likewise, Applicants respectfully submit that the computer storage medium of claims 30 and 44 claims directly or indirectly dependent thereon also recite patentable subject matter.

Applicants respectfully submit that claims 1-50 accordingly meet the requirements of 35 U.S.C. § 101 as construed by, for example, the Federal Circuit in *In re Bilski* and *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994).

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 102

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,167,383 to Henson (hereinafter “*Henson*”). Applicants respectfully traverse the rejection.

Applicants hereby rescind all previous remarks in previously filed Office Action responses. Applicants present the following remarks for the allowability of claims 1-46 and 48-50 over *Henson*.

Henson relates to a “web-based online store [that] includes a configurator, a cart, a checkout, and a database, further in which a user interface of the online store enables a custom configuration of a computer system according to an identification of a user belonging to a prescribed customer set.” *Henson*, Abstract. “The configurator is provided for configuring a computer system with options selected according to a prescribed user input.” *Id.*

Referring to Figures 3A and 3B of *Henson*, the configuration screen 70 includes a variety of configuration options for the customer. For example, the customer can select a particular memory, a particular display, a particular storage product, available printers, and so on.

The Examiner has identified the “different type of ‘printers’ which are available for a given computer” as an example of a configuration sub-model. Applicants respectfully submit that the different types of printers and other components are only available selections and are not a “configuration sub-model [that] includes data to define compatibility relationships between parts included in the configuration sub-model” as required by claims 1, 14, 15, 29, 30, 44, and 45.

Applicants also respectfully submit that *Henson* teaches that after selection of different components, such as a printer, the selections themselves are used to form a configuration-type query. However, Applicants respectfully submit that *Henson* fails to teach or suggest processing such configuration-type query “using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model” as required by claims 1, 14, 15, 29, 30, 44, and 45.

More specifically, once the customer using the configuration screen makes a series of selections, such as selection of a printer and of other components, it is desirable to determine if the selections represent a valid configurable build. Determining whether a set of selections represents a valid configurable build can be an example of a configuration query. In fact, *Henson* contemplates this very scenario. *Henson* teaches that “The on-line store further includes validation of a configuration built by a customer.” *Henson*, col. 7, lines 57-58. The validation logic of *Henson* responds to a configuration-type query. More specifically, *Henson* teaches that:

Validation (or compatibility) provides the customer with a validation message indicating an occurrence of when the options selected for a particular system are not correct. If the options selected for a particular system will adversely affect the shipment of the configured

system, then a warning message is issued to enable the user to modify options accordingly. In other words, the validation enhancement lets the customer know when one or more options are not compatible for one reason or another. The validation enhancement includes built-in logic which checks the particular configuration built by the customer and indicates whether or not the selected options can be built together for the particular configuration. If two or more options are incompatible, then in one embodiment, the validation enhancement returns a message indicating that the options are incompatible, as further discussed herein. *Id.*, col. 7, line 58 through col. 8, line 6.

Thus, Applicants respectfully submit that the option selections by the customer in *Henson* are submitted to validation logic as a type of configuration query. Once the printer, memory, and so on are selected by the customer in *Henson* and a configuration-type query is formed, Applicants respectfully submit that *Henson* fails to teach or suggest “processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model and each configuration sub-model (i) represents a portion of a configuration model of the configurable product and (ii) allows answers from each configuration sub-model to be combined to provide a consolidated answer to the one or more configuration queries” as required by claims 1, 14, 15, 29, 30, 44, and 45. *Henson* teaches some “built-in logic” to process a configuration-type query; however, *Henson* fails to teach or suggest any type of configuration sub-model or “processing the one or more configuration queries using configuration sub-models ... wherein ... each configuration sub-model (i) represents a portion of a configuration model of the configurable product and (ii) allows answers from each configuration sub-model to be combined to provide a consolidated answer to the one or more configuration queries” as required by claims 1, 14, 15, 29, 30, 44, and 45.

Accordingly, for at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45 and of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

Claim Rejections – 35 U.S.C. § 103

Claim 47 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Henson in view of Ford Motor Company

<http://web.archive.org/web/20030324212039/http://fordvehicles.com/>.

Claim 47 depends on claim 1. For at least the foregoing reasons given with regard to claim 1, Applicants respectfully request withdrawal of the rejection of claim 47.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned 512-338-9100.

CERTIFICATE OF TRANSMISSION

I hereby certify that on March 18, 2009 this correspondence is being transmitted via the U.S. Patent & Trademark Office's electronic filing system.

/Kent B. Chambers/

Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Versata Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

Austin, Texas
March 18, 2009

FILED ELECTRONICALLY

PETITION FOR EXTENSION OF TIME

Dear Sir:

Applicants respectfully petition for a three (3) month extension of time within which to respond to the Office Action mailed September 18, 2009, such extension allowing the undersigned until March 18, 2009, to respond.

The extension fee is being paid via the USPTO EFS. The Commissioner is authorized to deduct any additional fees which may be required or credit any overpayment to Deposit Account No. 502264.

CERTIFICATE OF TRANSMISSION

I hereby certify that on March 18, 2009 this correspondence is being transmitted via the U.S. Patent & Trademark Office's electronic filing system.

/Kent B. Chambers/

Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

Electronic Patent Application Fee Transmittal

Application Number:	10957919
Filing Date:	04-Oct-2004
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Filer:	Kent Bryan Chambers
Attorney Docket Number:	T00121

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Page 314 of 507 <small>Extension - 3 months with \$0 paid</small>	1253	1	1110	FORD 1004 <small>1110</small>

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	1801	1	810	810
Total in USD (\$)				1920

Electronic Acknowledgement Receipt

EFS ID:	4987071
Application Number:	10957919
International Application Number:	
Confirmation Number:	9162
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Customer Number:	33438
Filer:	Kent Bryan Chambers
Filer Authorized By:	
Attorney Docket Number:	T00121
Receipt Date:	18-MAR-2009
Filing Date:	04-OCT-2004
Time Stamp:	10:37:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$1920
RAM confirmation Number	15518
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part	Pages of app.
Page 316 of 507					FORD1004

1	Request for Continued Examination (RCE)	T00121_RCE_transmittal.pdf	38647 a187bfdda1f917e0b2b6cfc80e421780900b5ef	no	3
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2	Amendment Submitted/Entered with Filing of CPA/RCE	T000121_RCE_Submission_9_18_08.pdf	148133 7065d8ec0568804c3d8e71bb4e344609aa6fe93c	no	21
Warnings:					
Information:					
3	Extension of Time	T00121_Extension_3_18_2009.pdf	81355 41dcb6381c93bd6ace3f4bfafbea539b8b98117d0	no	1
Warnings:					
Information:					
4	Fee Worksheet (PTO-06)	fee-info.pdf	31775 3bda68620843b39e7b5afcf66d3dcab2f5ac52d8	no	2
Warnings:					
Information:					
Total Files Size (in bytes):				299910	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 10/957,919	Filing Date 10/04/2004	<input type="checkbox"/> To be Mailed
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APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	SMALL ENTITY <input type="checkbox"/>		OR	SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A		OR	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A			N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =			X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =			X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY					
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY		OR	SMALL ENTITY		
AMENDMENT	03/18/2009	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	
	Total <small>(37 CFR 1.16(i))</small>	* 50	Minus	** 50	= 0	X \$ =		OR	X \$52=	0
	Independent <small>(37 CFR 1.16(h))</small>	* 7	Minus	***7	= 0	X \$ =		OR	X \$220=	0
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>								OR		
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>								OR		
					TOTAL ADD'L FEE			OR	TOTAL ADD'L FEE	0

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY					
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY		OR	SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =		OR	X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =		OR	X \$ =	
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>								OR		
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>								OR		
					TOTAL ADD'L FEE			OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
 /SHEILA D. CHAPMAN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO., EXAMINER, ART UNIT, PAPER NUMBER, NOTIFICATION DATE, DELIVERY MODE. Includes application details for Nathan E. Little and examiner Peter D. Coughlan.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tmunoz@hamiltontertile.com

Interview Summary	Application No. 10/957,919	Applicant(s) LITTLE ET AL.	
	Examiner PETER COUGHLAN	Art Unit 2129	

All participants (applicant, applicant's representative, PTO personnel):

(1) Mr. Kent Chambers. (3)_____.

(2) Mr. Peter Coughlan. (4)_____.

Date of Interview: 5/5/09 & 5/8/09.

Type: a) Telephonic b) Video Conference
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.
If Yes, brief description: _____.

Claim(s) discussed: 1.

Identification of prior art discussed: _____.

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The Examiner contacted Mr. Chambers requesting an interview with himself and the inventors prior to writing the non-final office action in order to move prosecution forward. The reasoning is the claims are just too broad and a number of examples were cited by the Examiner. No formal interview was arranged by Mr. Chambers.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Peter Coughlan/ 2129



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/957,919	10/04/2004	Nathan E. Little	T00121	9162

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HAMILTON & TERRILE, LLP
P.O. BOX 203518
AUSTIN, TX 78720

EXAMINER

ART UNIT PAPER NUMBER

DATE MAILED: 05/26/2009

Please find below and/or attached an Office communication concerning this application or proceeding.

**Notice of Non-Compliant
Amendment (37 CFR 1.121)**

Application No.

10/957,919

Examiner

PETER COUGHLAN

Applicant(s)

LITTLE ET AL.

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on 18 March 2009 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- 1. Amendments to the specification:
 - A. Amended paragraph(s) do not include markings.
 - B. New paragraph(s) should not be underlined.
 - C. Other _____.
- 2. Abstract:
 - A. Not presented on a separate sheet. 37 CFR 1.72.
 - B. Other _____.
- 3. Amendments to the drawings:
 - A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
 - B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
 - C. Other _____.
- 4. Amendments to the claims:
 - A. A complete listing of all of the claims is not present.
 - B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
 - C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
 - D. The claims of this amendment paper have not been presented in ascending numerical order.
 - E. Other: Claim 40 is indicated as being 'Currently Amended' but there are no amendments indicated on the claim.
- 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4):

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.
2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a *Quayle* action. If any of above boxes 1. to 4. are checked, the correction required is only the **corrected section** of the non-compliant amendment in compliance with 37 CFR 1.121.

Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

Failure to timely respond to this notice will result in:

Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or

Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Versata Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

June 26, 2009

ELECTRONICALLY FILED

RESPONSE TO NOTICE OF NON-COMPLIANT AMENDMENT

Dear Sir:

This paper is responsive to the Notice of Non-Compliant Amendment May 26, 2009, having a shortened statutory period expiring June 26, 2009.

The Notice of Compliant Amendment indicates that each claims had not been provided with the proper status identifier. The correct status indicator of "Previously Presented" has been made to Claim 40 herein.

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A method for using a computer system, wherein the
2 computer system includes computer assisted configuration technology to respond to one
3 or more configuration queries using configuration sub-models, the method comprising:
4 receiving one or more configuration queries representing ~~[[a]]~~ one or more
5 questions involving parts and part relationships in a configuration of a
6 configurable product;
7 processing the one or more configuration queries using configuration sub-models,
8 wherein the configuration sub-models collectively model the configurable
9 product and each configuration sub-model includes data to define
10 compatibility relationships between parts included in the configuration
11 sub-model and each configuration sub-model (i) represents a portion of a
12 configuration model of the configurable product and (ii) allows answers
13 from each configuration sub-model to be combined to provide a
14 consolidated answer to the one or more configuration queries;
15 generating a response to the one or more configuration queries based upon the
16 processed one or more configuration queries and the configuration sub-
17 models; and
18 ~~presenting~~ providing the response to the one or more configuration queries as data
19 for display by a display device.

1 2. (Previously Presented) The method of claim 1 further comprising:
2 dividing at least one of the configuration queries into multiple configuration sub-
3 queries, wherein the one or more configuration queries include the
4 multiple configuration sub-queries.

1 3. (Previously Presented) The method of claim 2 wherein the one or more
2 configuration queries relate to a configuration completion problem and processing one or
3 more configuration queries further comprises:

4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 4. (Original) The method of claim 2 further comprising:
2 processing each sub-query using multiple configuration sub-models per sub-
3 query.

1 5. (Previously Presented) The method of claim 2 wherein the one or more
2 configuration queries relate to a configuration validation problem and processing one or
3 more configuration queries further comprises:

4 processing an undivided query using different configuration sub-models until a
5 configuration validation answer can be determined.

1 6. (Previously Presented) The method of claim 2 wherein the data
2 collectively included in the configuration sub-models provides a response for each of the
3 sub-queries being processed.

1 7. (Original) The method of claim 2 wherein at least two sub-queries include
2 overlapping information.

1 8. (Previously Presented) The method of claim 2 further comprising:
2 dividing a consolidated configuration model into the multiple configuration sub-
3 models in accordance with a predetermined data structure;
4 wherein at least one of the configuration queries into multiple configuration sub-
5 queries further comprises dividing the sub-queries in accordance with the
6 sub-model structure.

1 9. (Previously Presented) The method of claim 8 wherein the predetermined
2 data structure comprises a data structure divided along configuration model part groups,
3 wherein the part groups are a collection of related parts.

1 10. (Previously Presented) The method of claim 1 wherein generating a
2 response to the one or more configuration queries based upon the processed one or more
3 configuration queries and the configuration sub-models further comprises:
4 generating a response for each processed configuration sub-model; and
5 combining each response for each processed configuration sub-model to generate
6 the answer.

1 11. (Original) The method of claim 1 further comprising:
2 dividing a consolidated configuration model into the configuration sub-models.

1 12. (Previously Presented) The method of claim 11 wherein dividing the
2 consolidated configuration model into multiple configuration sub-models further
3 comprises:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer assisted configuration technology while still representing the
7 relationships included in the consolidated configuration model.

1 13. (Original) The method of claim 11 wherein each configuration sub-model
2 represents a portion of the consolidated configuration model.

1 14. (Currently Amended) A method for using a computer system, wherein the
2 computer system includes computer assisted configuration technology to respond to one
3 or more configuration queries using configuration sub-models, the method comprising:
4 dividing a consolidated configuration model into multiple configuration sub-
5 models; and

6 responding to the one or more configuration queries representing questions
7 involving configuration of a configurable product, wherein responding to
8 the one or more configuration queries comprises:
9 processing the one or more configuration queries using configuration sub-
10 models, wherein the configuration sub-models collectively model
11 the configurable product and each configuration sub-model
12 includes data to define compatibility relationships between parts
13 included in the configuration sub-model and each configuration
14 sub-model (i) represents a portion of a configuration model of the
15 configurable product and (ii) allows answers from each
16 configuration sub-model to be combined to provide a consolidated
17 answer to the one or more configuration queries;
18 generating a response to the one or more configuration queries based upon
19 the processed one or more configuration queries and the
20 configuration sub-models; and
21 ~~presenting~~ providing the response to the one or more configuration queries
22 as data for display by a display device.

1 15. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 receiving one or more configuration queries representing a questions
8 involving parts and part relationships in a configuration of a
9 configurable product;
10 processing the one or more configuration queries using configuration sub-
11 models, wherein the configuration sub-models collectively model
12 the configurable product and each configuration sub-model
13 includes data to define compatibility relationships between parts

14 included in the configuration sub-model and each configuration
15 sub-model (i) represents a portion of a configuration model of the
16 configurable product and (ii) allows answers from each
17 configuration sub-model to be combined to provide a consolidated
18 answer to the one or more configuration queries;
19 generating a response to the one or more configuration queries based upon
20 the processed one or more configuration queries and the
21 configuration sub-models; and
22 ~~presenting~~ providing the response to the one or more configuration queries
23 as data for display by a display device.

1 16. (Previously Presented) The computer system of claim 15 wherein the data
2 further comprises processor executable code for:
3 dividing at least one of the configuration queries into multiple configuration sub-
4 queries, wherein the one or more configuration queries include the
5 multiple configuration sub-queries.

1 17. (Previously Presented) The computer system of claim 16 wherein the one
2 or more configuration queries relate to a configuration completion problem and the code
3 for processing one or more configuration queries further comprises:
4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 18. (Original) The computer system of claim 16 wherein the data further
2 comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 19. (Previously Presented) The computer system of claim 16 wherein the one
2 or more configuration queries relate to a configuration validation problem and when
3 solving the configuration validation problem, and the code for processing one or more
4 configuration queries further comprises:
5 processing an undivided query using different configuration sub-models until a
6 configuration validation answer can be determined.

1 20. (Previously Presented) The computer system of claim 16 wherein the data
2 collectively included in the configuration sub-models provides a response for each of the
3 sub-queries being processed.

1 21. (Original) The computer system of claim 16 wherein at least two sub-
2 queries include overlapping information.

1 22. (Previously Presented) The computer system of claim 16 wherein the code
2 further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 23. (Previously Presented) The computer system of claim 22 wherein the
2 predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 24. (Previously Presented) The computer system of claim 15 wherein the code
2 for generating a response to the one or more configuration queries based upon the
3 processed one or more configuration queries and the configuration sub-models further
4 comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 25. (Previously Presented) The computer system of claim 15 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:

4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 26. (Original) The computer system of claim 15 wherein the data further
2 comprises processor executable code for:

3 dividing a consolidated configuration model into the configuration sub-models.

1 27. (Previously Presented) The computer system of claim 26 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:

4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 28. (Original) The computer system of claim 26 wherein each configuration
2 sub-model represents a portion of the consolidated configuration model.

1 29. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:

4 a processor; and

5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:

7 dividing a consolidated configuration model into multiple configuration
8 sub-models;

9 responding to the one or more configuration queries representing
10 questions involving configuration of a configurable product,
11 wherein responding to the one or more configuration queries
12 comprises:
13 processing the one or more configuration queries using configuration sub-
14 models, wherein the configuration sub-models collectively model
15 the configurable product and each configuration sub-model
16 includes data to define compatibility relationships between parts
17 included in the configuration sub-model and each configuration
18 sub-model (i) represents a portion of a configuration model of the
19 configurable product and (ii) allows answers from each
20 configuration sub-model to be combined to provide a consolidated
21 answer to the one or more configuration queries;
22 generating a response to the one or more configuration queries based upon
23 the processed one or more configuration queries and the
24 configuration sub-models; and
25 ~~presenting~~ providing the response to the one or more configuration queries
26 as data for display by a display device.

1 30. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to respond to one or more configuration
3 queries using configuration sub-models, wherein the data comprises processor executable
4 code for:
5 receiving one or more configuration queries representing a questions involving
6 parts and part relationships in a configuration of a configurable product;
7 processing the one or more configuration queries using configuration sub-models,
8 wherein the configuration sub-models collectively model the configurable
9 product and each configuration sub-model includes data to define
10 compatibility relationships between parts included in the configuration
11 sub-model and each configuration sub-model (i) represents a portion of a
12 configuration model of the configurable product and (ii) allows answers

13 from each configuration sub-model to be combined to provide a
14 consolidated answer to the one or more configuration queries;
15 generating a response to the one or more configuration queries based upon the
16 processed one or more configuration queries and the configuration sub-
17 models; and
18 ~~presenting~~ providing the response to the one or more configuration queries as data
19 for display by a display device.

1 31. (Previously Presented) The computer storage medium of claim 30 wherein
2 the data further comprises processor executable code for:
3 dividing at least one of the configuration queries into multiple configuration sub-
4 queries, wherein the one or more configuration queries include the
5 multiple configuration sub-queries.

1 32. (Previously Presented) The computer storage medium of claim 31 wherein
2 the one or more configuration queries relate to a configuration completion problem and
3 the code for processing one or more configuration queries further comprises:
4 processing each sub-query using at least one configuration sub-model per sub-
5 query.

1 33. (Original) The computer storage medium of claim 31 wherein the data
2 further comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 34. (Previously Presented) The computer storage medium of claim 31 wherein
2 the one or more configuration queries relate to a configuration validation problem and the
3 code for processing one or more configuration queries further comprises:
4 processing an undivided query using different configuration sub-models until a
5 configuration validation answer can be determined.

1 35. (Previously Presented) The computer storage medium of claim 31 wherein
2 the data collectively included in the configuration sub-models provides a response for
3 each of the sub-queries being processed.

1 36. (Original) The computer storage medium of claim 31 wherein at least two
2 sub-queries include overlapping information.

1 37. (Previously Presented) The computer storage medium of claim 31 the code
2 further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 38. (Previously Presented) The computer storage medium of claim 37 wherein
2 the predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 39. (Previously Presented) The computer storage medium of claim 30 wherein
2 the code for generating a response to the one or more configuration queries based upon
3 the processed one or more configuration queries and the configuration sub-models further
4 comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 40. (Previously Presented) The computer storage medium of claim 30
2 wherein the code for dividing the consolidated configuration model into multiple
3 configuration sub-models further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the

6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 41. (Original) The computer storage medium of claim 30 wherein the data
2 further comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 42. (Previously Presented) The computer storage medium of claim 41 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 43. (Original) The computer storage medium of claim 41 wherein each
2 configuration sub-model represents a portion of the consolidated configuration model.

1 44. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to respond to one or more configuration
3 queries using configuration sub-models, wherein the data comprises code for:
4 dividing a consolidated configuration model into multiple configuration
5 sub-models;
6 responding to the one or more configuration queries representing
7 questions involving configuration of a configurable product,
8 wherein responding to the one or more configuration queries
9 comprises:
10 processing the one or more configuration queries using configuration sub-
11 models, wherein the configuration sub-models collectively model
12 the configurable product and each configuration sub-model
13 includes data to define compatibility relationships between parts
14 included in the configuration sub-model;

15 generating a response to the one or more configuration queries based upon
16 the processed one or more configuration queries and the
17 configuration sub-models and each configuration sub-model (i)
18 represents a portion of a configuration model of the configurable
19 product and (ii) allows answers from each configuration sub-model
20 to be combined to provide a consolidated answer to the one or
21 more configuration queries; and
22 ~~presenting~~ providing the response to the one or more configuration queries
23 as data for display by a display device.

1 45. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 means for receiving one or more configuration queries representing a questions
5 involving parts and part relationships in a configuration of a configurable
6 product;
7 means for processing the one or more configuration queries using configuration
8 sub-models, wherein the configuration sub-models collectively model the
9 configurable product and each configuration sub-model includes data to
10 define compatibility relationships between parts included in the
11 configuration sub-model and each configuration sub-model (i) represents a
12 portion of a configuration model of the configurable product and (ii)
13 allows answers from each configuration sub-model to be combined to
14 provide a consolidated answer to the one or more configuration queries;
15 means for generating a response to the one or more configuration queries based
16 upon the processed one or more configuration queries and the
17 configuration sub-models; and
18 means for ~~presenting~~ providing the response to the one or more configuration
19 queries as data for display by a display device.

1 46. (Original) The computer system of claim 45 further comprising:
2 means for dividing a consolidated configuration model into the configuration sub-
3 models.

1 47. (Previously Presented) The method of claim 1 wherein the configurable
2 product is a vehicle.

1 48. (Previously Presented) The method of claim 1 further comprising:
2 displaying the response on display device.

1 49. (Previously Presented) The method of claim 1 wherein the configuration
2 sub-models each comprise data and rules to define compatibility relationships between
3 parts included in a product.

1 50. (Previously Presented) The method of claim 1 wherein the configuration
2 problem comprises a configuration problem involving parts of a product.

REMARKS

Claims 1-50 are pending.

Claims 1-50 stand rejected.

Claims 14, 15, 29, 30, 44, and 45 have been amended.

Claim Rejections – 35 U.S.C. § 101

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

In the January 17, 2008 Office Action, page 4, the Examiner states that:

The invention must be for a practical application and either: 1) specify transforming (physical thing) or 2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result. A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended. Claims that recite a model with associated sub-models and queries pertaining to both lack a practical application. There must be a result that is a practical application.

The Federal Circuit recently addressed the subject of subject matter patentability in *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (*en banc*). In *In re Bilski*, the court “conclude[ed] that the “useful, concrete and tangible result” inquiry is inadequate and reaffirm[ed] that the machine-or-transformation test outlined by the Supreme Court is the proper test to apply.” *Id.* “The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies §101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.” *Id.*

Although the two-branched inquiry is stated in the alternative, Applicants respectfully submit that the methods of claims 1 and 14 and claims directly or indirectly dependent thereon meet both of the two-branched inquiries set forth in *In re Bilski*.

The methods of claims 1 and 14 are specifically tied to a particular machine, namely “a computer system”. Claims 1 and 14. More specifically, claims 1 and 14 are respectively a “method for using a computer system, wherein the computer system includes computer assisted configuration technology to respond to one or more configuration queries using configuration sub-models.” *Id.*

Additionally, the method of claim 1 transforms an article(s) into a different thing. Claim 1 recites “receiving one or more configuration queries” and “generating a response to the one or more configuration queries.” Claim 1. The “response” represents an article because the “one or more configuration queries” relate to a physical object, namely “questions involving parts and part relationships in a configuration of a configurable product.” *Id.* The “response” is transformed into “data for display by a display device”. *Id.*

The method of claim 14 also transforms an article(s) into a different thing. Claim 14 recites “responding to the one or more configuration queries” and “generating a response to the one or more configuration queries.” Claim 14. The “response” represents an article because the “one or more configuration queries” relate to a physical object, namely “questions involving configuration of a configurable product.” *Id.* The “response” is transformed into “data for display by a display device”. *Id.*

Although *In re Bilski* specifically relates to 35 U.S.C. § 101 and method claims, applying the criteria of *In re Bilski* claims 15, 29, and 45 are respectively “tied to a particular machine.” *In re Bilski*. More specifically, claims 15, 29, and 45 are each “a computer system”. Claims 15, 29, and 45.

Claims 30 and 45 recite a “computer storage medium” comprising data embedded therein to cause a computer system to respond to one or more configuration queries using configuration sub-models, wherein the data comprises processor executable code for: ...
.”

The invention embodiment of claim 30 is also related to a physical device and includes processor executable code, namely a “computer storage medium comprising

data ... wherein the data comprises processor executable code.” After the decision in *In re Bilski*, the USPTO Board of Patent Appeals and Interferences (BPAI) addressed subject matter patentability of a computer usable medium in *ex parte Bo Li*. *Ex parte Bo Li*, Appeal 2008-1213 (USPTO BPAI 2008, November 6, 2008). The BPAI, citing *In re Bilski* and *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994), held that a computer program product comprising a computer usable medium having a computer readable program code embodied therein and adapted to be executed to implement a method for generating a report recites patentable subject matter under 35 U.S.C. § 101. Likewise, Applicants respectfully submit that the computer storage medium of claims 30 and 44 claims directly or indirectly dependent thereon also recite patentable subject matter.

Applicants respectfully submit that claims 1-50 accordingly meet the requirements of 35 U.S.C. § 101 as construed by, for example, the Federal Circuit in *In re Bilski* and *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994).

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 102

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,167,383 to Henson (hereinafter “*Henson*”). Applicants respectfully traverse the rejection.

Applicants hereby rescind all previous remarks in previously filed Office Action responses. Applicants present the following remarks for the allowability of claims 1-46 and 48-50 over *Henson*.

Henson relates to a “web-based online store [that] includes a configurator, a cart, a checkout, and a database, further in which a user interface of the online store enables a custom configuration of a computer system according to an identification of a user belonging to a prescribed customer set.” *Henson*, Abstract. “The configurator is provided for configuring a computer system with options selected according to a prescribed user input.” *Id.*

Referring to Figures 3A and 3B of *Henson*, the configuration screen 70 includes a variety of configuration options for the customer. For example, the customer can select a particular memory, a particular display, a particular storage product, available printers, and so on.

The Examiner has identified the “different type of ‘printers’ which are available for a given computer” as an example of a configuration sub-model. Applicants respectfully submit that the different types of printers and other components are only available selections and are not a “configuration sub-model [that] includes data to define compatibility relationships between parts included in the configuration sub-model” as required by claims 1, 14, 15, 29, 30, 44, and 45.

Applicants also respectfully submit that *Henson* teaches that after selection of different components, such as a printer, the selections themselves are used to form a configuration-type query. However, Applicants respectfully submit that *Henson* fails to teach or suggest processing such configuration-type query “using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model” as required by claims 1, 14, 15, 29, 30, 44, and 45.

More specifically, once the customer using the configuration screen makes a series of selections, such as selection of a printer and of other components, it is desirable to determine if the selections represent a valid configurable build. Determining whether a set of selections represents a valid configurable build can be an example of a configuration query. In fact, *Henson* contemplates this very scenario. *Henson* teaches that “The on-line store further includes validation of a configuration built by a customer.” *Henson*, col. 7, lines 57-58. The validation logic of *Henson* responds to a configuration-type query. More specifically, *Henson* teaches that:

Validation (or compatibility) provides the customer with a validation message indicating an occurrence of when the options selected for a particular system are not correct. If the options selected for a particular system will adversely affect the shipment of the configured

system, then a warning message is issued to enable the user to modify options accordingly. In other words, the validation enhancement lets the customer know when one or more options are not compatible for one reason or another. The validation enhancement includes built-in logic which checks the particular configuration built by the customer and indicates whether or not the selected options can be built together for the particular configuration. If two or more options are incompatible, then in one embodiment, the validation enhancement returns a message indicating that the options are incompatible, as further discussed herein. *Id.*, col. 7, line 58 through col. 8, line 6.

Thus, Applicants respectfully submit that the option selections by the customer in *Henson* are submitted to validation logic as a type of configuration query. Once the printer, memory, and so on are selected by the customer in *Henson* and a configuration-type query is formed, Applicants respectfully submit that *Henson* fails to teach or suggest “processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model and each configuration sub-model (i) represents a portion of a configuration model of the configurable product and (ii) allows answers from each configuration sub-model to be combined to provide a consolidated answer to the one or more configuration queries” as required by claims 1, 14, 15, 29, 30, 44, and 45. *Henson* teaches some “built-in logic” to process a configuration-type query; however, *Henson* fails to teach or suggest any type of configuration sub-model or “processing the one or more configuration queries using configuration sub-models ... wherein ... each configuration sub-model (i) represents a portion of a configuration model of the configurable product and (ii) allows answers from each configuration sub-model to be combined to provide a consolidated answer to the one or more configuration queries” as required by claims 1, 14, 15, 29, 30, 44, and 45.

Accordingly, for at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45 and of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

Claim Rejections – 35 U.S.C. § 103

Claim 47 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Henson in view of Ford Motor Company

<http://web.archive.org/web/20030324212039/http://fordvehicles.com/>.

Claim 47 depends on claim 1. For at least the foregoing reasons given with regard to claim 1, Applicants respectfully request withdrawal of the rejection of claim 47.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned 512-338-9100.

CERTIFICATE OF TRANSMISSION

I hereby certify that on June 26, 2009 this correspondence is being transmitted via the U.S. Patent & Trademark Office's electronic filing system.

/Kent B. Chambers/

Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

Electronic Acknowledgement Receipt

EFS ID:	5596396
Application Number:	10957919
International Application Number:	
Confirmation Number:	9162
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Customer Number:	33438
Filer:	Kent Bryan Chambers/Marniki Hornsby
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Attorney Docket Number:	T00121
Receipt Date:	26-JUN-2009
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Application Type:	Utility under 35 USC 111(a)

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Supplemental Response or Supplemental Amendment	T000121_RespondetoNoticeofN onCompliant_06_26_09.pdf	136229 <small>ef51a9ea901a0785fffeac1043f6adaa82cefc b0</small>	no	21

Warnings:

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 10/957,919	Filing Date 10/04/2004	<input type="checkbox"/> To be Mailed
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APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY				
	(Column 1)	(Column 2)	SMALL ENTITY <input type="checkbox"/>	OR			
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A			N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =		OR	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =			X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY					
	(Column 1)	(Column 2)	(Column 3)		SMALL ENTITY	OR				
AMENDMENT	DATE	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	06/26/2009									
	<small>Total (37 CFR 1.16(i))</small>	* 50	Minus	** 50	= 0	X \$ =		OR	X \$52=	0
	<small>Independent (37 CFR 1.16(h))</small>	* 7	Minus	***7	= 0	X \$ =		OR	X \$220=	0
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)							
AMENDMENT	DATE	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	<small>Total (37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =		OR	X \$ =	
	<small>Independent (37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =		OR	X \$ =	
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
 /PAMELA YOUNG/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes application details for Nathan E. Little and examiner information for Peter D. Coughlan.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tmunoz@hamiltontertile.com

Detailed Action

1. This office action is in response to an AMENDMENT entered June 26, 2009 for the patent application 10/957919 filed on October 4, 2004.
2. All previous Office Actions are fully incorporated into this Non-Final Office Action by reference.
3. Examiner's Comment: The term 'memory' as recited within the specification is viewed only as hardware as disclosed in the specification in ¶54

Status of Claims

4. Claims 1-50 are pending.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 5, 19 and 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims use the term 'undivided query.' This term is not mentioned within the specification and is not a term of art.

These claims need to be amended or withdrawn from consideration. Please explain how the applicant defines this phrase.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-50 are rejected under 35 U.S.C. 102(b) (hereinafter referred to as **Gupta**) being anticipated by Gupta et al., U.S. 5825651)

Claim 1

Gupta anticipates receiving one or more configuration queries representing one or more questions involving parts and part relationships in a configuration of a

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configurable product (**Gupta**, C2:50-60; 'Configuration queries' of applicant maps to a user being able to select and unselect parts of Gupta. 'Involving parts and parts relations' of applicant maps to the ability of the system to validate user input with the current state of the configuration of Gupta. C1:12-25; An example of a 'configurable product' of applicant is an 'automobile' of Gupta.) processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model and each configuration sub model (i) represents a portion of a configuration model of the configuration product and (ii) allows answers from each configuration sub model to be combined to provide a consolidated answer to one or more configurations queries (**Gupta**, C4:31-38; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C1:12-25; An example of a 'configurable product' of applicant is an 'automobile' of Gupta. An 'automobile' can be viewed as a 'product.' C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The 'configuration queries' which are used to configure 'sub models' of applicant maps to the arrows from item 602 to items 604, 606, 608, 610 and 614 of Gupta.) generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Gupta**, C5:22-43; 'Generating a response' of applicant maps to the result of a configuration session' of Gupta. 'Configuration queries' of applicant maps to 'A user interface uses various operations such as drag and drop

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and item selection to define a product, for example. Elements that comprise a definition (e.g., of a product) can be added or removed in any order' of Gupta.); and providing the response to the one or more configuration queries as data for display by a display device. (**Gupta**, fig 1, item 117, C4:58 through C5:6; 'Display device' of applicant maps to 'CRT' of Gupta. 'Providing the response to the one or more configuration queries' of applicant maps to the function of a CPU of Gupta.)

Claim 2

Gupta anticipates dividing at least one of the configuration queries into multiple configuration sub-queries, wherein the one or more configuration queries include the multiple configuration sub-queries. (**Gupta**, fig 6; 'Multiple configuration sub-queries' of applicant maps to items '622, 624 and 626' of Gupta.)

Claim 3

Gupta anticipates processing each sub-query using at least one configuration sub-model per sub-query. (**Gupta**, fig 6, C8:12-27; Processing a sub-query using a sub-model of applicant maps to 'A user can drag elements from pane 602 to panes 604-608 to define a product' of Gupta.)

Claim 4

Gupta anticipates processing each sub-query using multiple configuration sub-models per sub-query. (**Gupta**, fig 6, C8:12-27; 'Processing each sub-query using

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multiple configuration sub-models' of applicant maps to 'Part B is dragged from pane 602 to pane 604' of Gupta.)

Claim 5

Gupta anticipates wherein the one or more configuration queries relate to a configuration validation problem and processing one or more configuration queries comprises: processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Gupta**, abstract; 'Until a configuration validation answer can be determined' of applicant maps to the result of 'only valid selections can be made at any time' of Gupta.)

Claim 6

Gupta anticipates wherein the data collectively included in the configuration sub-models provides a response for each of the sub-queries being processed. (**Gupta**, C2:50-60; 'The data collectively included in the configuration sub-models provides a response for each of the sub-queries being processed' of applicant maps to 'When user input is received, the configuration system validates the input based on the current state of the configuration' of Gupta.)

Claim 7

Gupta anticipates wherein at least two sub-queries include overlapping information. (**Gupta**, figure 6, C6:7-20; Sub-queries of applicant maps to 622,624, and

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626 of Gupta. Sub-queries relate to different parts. Thus 'overlapping information' of applicant maps to For example, when a group of parts is assigned a behavior, all members inherit that behavior automatically' of Gupta.)

Claim 8

Gupta anticipates dividing a consolidated model into the multiple configuration sub-model in accordance with a predetermined data structure. (**Gupta**, C4:31-38; 'Consolidation model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta.)

Claim 9

Gupta anticipates wherein the predetermined data structure comprises a data structure divided along configuration model part groups, wherein the part groups are a collection of related parts. (**Gupta**, C4:31-38, figure 6; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Part groups' of applicant maps to the examples of 'Group A', 'Group F', 'Group I' and 'group L' of Gupta.)

Claim 10

Gupta anticipates generating response for each processed configuration sub-model (**Gupta**, C6:21-30; A response for each processed configuration sub-model of applicant maps to the 'Parts to part relationship can be created between parts within a

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product' of Gupta.); and combining each response for each processed configuration sub-model to generate the answer. (**Gupta**, C6:21-30; 'To generate an answer' of applicant maps to 'there are four kinds of relationships between parts: requires choice includes, can't work with (or exclude), and removes' of Gupta.)

Claim 11

Gupta anticipates dividing a consolidated configuration model into the configuration sub-models. (**Gupta**, C4:31-38, C8:5 through C9:9, figure 6; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. Sub-models of applicant maps to the examples of 'included, requires choice and optional' of Gupta.)

Claim 12

Gupta anticipates dividing the configuration model so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer assisted configuration technology while still representing the relationships including in the consolidation configuration model. (**Gupta**, C4:31-38, C8:12-27; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Dividing the configuration model' of applicant maps to the example of the panes 604, 606 and 608 of Gupta.)

Claim 13

Gupta anticipates wherein each configuration sub-model represents a portion of the consolidated model. (**Gupta**, C8:5 through C9:9, figure 6; 'Sub-model' of applicant maps to the panes of 'included, requires choice and optional' of Gupta. The consolidation of these sub-models into a model of applicant maps to 'A user can drag elements from pane 602 to panes 604-608 to define a product' of Gupta.)

Claim 14

Gupta anticipates dividing a consolidated configuration into multiple configuration sub-models (**Gupta**, C4:31-38; 'Consolidation model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta.); and responding to the one or more configuration queries representing questions involving configuration of a configurable product, wherein responding to the one or more configuration queries comprises (**Gupta**, C2:50-60; 'Configuration queries' of applicant maps to a user being able to select and unselect parts of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta.); processing the one or more configuration queries using sub-models, where the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model and each configuration sub model (i) represents a portion of a configuration model of the configuration product and (ii) allows answers from each configuration sub model to be combined to provide a consolidated answer to one or more configurations queries

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(**Gupta**, C4:31-38; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. An 'automobile' can be viewed as a 'product.' C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The 'configuration queries' which are used to configure 'sub models' of applicant maps to the arrows from item 602 to items 604, 606, 608, 610 and 614 of Gupta.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Gupta**, C5:22-43; 'Generating a response' of applicant maps to the result of a configuration session' of Gupta. 'Configuration queries' of applicant maps to 'A user interface uses various operations such as drag and drop and item selection to define a product, for example. Elements that comprise a definition (e.g., of a product) can be added or removed in any order' of Gupta.); and providing the response to the one or more configuration queries as data for display by a display device. (**Gupta**, fig 1, item 117, C4:58 through C5:6; 'Display device' of applicant maps to 'CRT' of Gupta. 'Providing the response to the one or more configuration queries' of applicant maps to the function of a CPU of Gupta.)

Claim 15

Gupta anticipates a processor (**Gupta**, fig 1, item 113; 'Processor' of applicant maps to 'CPU' of Gupta.) a storage medium having data encoded therein, the data comprising processor executable code for (**Gupta**, fig 1, item 112; 'Storage medium' of

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applicant maps to 'mass storage' of Gupta.); receiving one or more configuration queries representing a questions involving parts and part relationships in a configuration of a configurable product (**Gupta**, C2:50-60; 'Configuration queries' of applicant maps to a user being able to select and unselect parts of Gupta. 'Involving parts and parts relations' of applicant maps to the ability of the system to validate user input with the current state of the configuration of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. An 'automobile' can be viewed as a 'product. '); processing the one or more configuration queries using configuration sub-models, wherein the configurable sub-models collectively model the configurable product and each configuration sub-models includes data to define compatibility relationships between parts including in the configuration sub-model and each configuration sub model (i) represents a portion of a configuration model of the configuration product and (ii) allows answers from each configuration sub model to be combined to provide a consolidated answer to one or more configurations queries (**Gupta**, C4:31-38; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The 'configuration queries' which are used to configure 'sub models' of applicant maps to the arrows from item 602 to items 604, 606, 608, 610 and 614 of Gupta.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub models (**Gupta**, C5:22-43;

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'Generating a response' of applicant maps to the result of a configuration session' of Gupta. 'Configuration queries' of applicant maps to 'A user interface uses various operations such as drag and drop and item selection to define a product, for example. Elements that comprise a definition (e.g., of a product) can be added or removed in any order' of Gupta.); and providing the response to the one or more configuration queries as data for display by a display device. (**Gupta**, fig 1, item 117, C4:58 through C5:6; 'Display device' of applicant maps to 'CRT' of Gupta. 'Providing the response to the one or more configuration queries' of applicant maps to the function of a CPU of Gupta.)

Claim 16

Gupta anticipates dividing at least one of the configuration queries into multiple configuration sub-queries, wherein the one or more configuration queries include the multiple configuration sub-queries. (**Gupta**, fig 6; 'Multiple configuration sub-queries' of applicant maps to items '622, 624 and 626' of Gupta.)

Claim 17

Gupta anticipates wherein the one or more configuration queries relate to a configuration completion problem and the code for processing one or more configuration queries further comprises: processing each sub-query using at least one configuration sub-model per sub-query. (**Gupta**, fig 6, C8:5-27; Processing a sub-query using a sub-model of applicant maps to 'A user can drag elements from pane 602 to panes 604-608 to define a product' of Gupta. 'Sub-queries' of applicant maps to one of

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the items '622, 624 and 626' of Gupta. 'Code for processing one or more configuration queries' of applicant maps to the GUI screen of Gupta.)

Claim 18

Gupta anticipates processing each sub-query using multiple configuration sub-models per sub-query. (**Gupta**, fig 6, C8:12-27; 'Processing each sub-query using multiple configuration sub-models' of applicant maps to 'Part B is dragged from pane 602 to pane 604' of Gupta.)

Claim 19

Gupta anticipates processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Gupta**, abstract; 'Until a configuration validation answer can be determined' of applicant maps to the result of 'only valid selections can be made at any time' of Gupta.)

Claim 20

Gupta anticipates wherein the data collectively included in the configuration sub-models provides a response for each of the sub-queries being processed. (**Gupta**, C2:50-60; 'The data collectively included in the configuration sub-models provides a response for each of the sub-queries being processed' of applicant maps to 'When user input is received, the configuration system validates the input based on the current state of the configuration' of Gupta.)

Claim 21

Gupta anticipates wherein at least two sub-queries include overlapping information. (**Gupta**, figure 6, C6:7-20; Sub-queries of applicant maps to 622,624, and 626 of Gupta. Sub-queries relate to different parts. Thus 'overlapping information' of applicant maps to For example, when a group of parts is assigned a behavior, all members inherit that behavior automatically' of Gupta.)

Claim 22.

Gupta anticipates dividing the configuration sub-models in accordance with a predetermined data structure; and dividing the sub-queries in accordance with sub-model structure. (**Gupta**, C4:31-38; 'Consolidation model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The division of the configuration sub-models of applicant maps to the existence of 'requires choice' and 'optional' of Gupta. Dividing the sub-queries relates to queries referring to either 'optional' or 'requires choice' of Gupta.)

Claim 23

Gupta anticipates wherein the predetermined data structure comprises a data structure divided along configuration model part groups, wherein the part groups are a collection of related parts. (**Gupta**, C4:31-38, figure 6; 'Configuration model' of applicant

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maps to 'maintaining and configuring systems' of Gupta. 'Part groups' of applicant maps to the examples of 'Group A', 'Group F', 'Group I' and 'group L' of Gupta.)

Claim 24

Gupta anticipates wherein the code for generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models further comprises code for: generating a response for each processed configuration sub-model (**Gupta**, C6:21-30; A response for each processed configuration sub-model of applicant maps to the 'Parts to part relationship can be created between parts within a product' of Gupta.); and combining each response for each processed configuration sub-model to generate the answer (**Gupta**, C6:21-30; 'To generate an answer' of applicant maps to 'there are four kinds of relationships between parts: requires choice includes, can't work with (or exclude), and removes' of Gupta.)

Claim 25

Gupta anticipates dividing the configuration model so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer system while still representing the relationships including in the consolidated configuration model. (**Gupta**, C4:31-38, C8:12-27; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Dividing the

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configuration model' of applicant maps to the example of the panes 604, 606 and 608 of Gupta.)

Claim 26

Gupta anticipates dividing a consolidated configuration model into the configuration sub-models. (**Gupta**, C4:31-38, C8:5 through C9:9, figure 6; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. Sub-models of applicant maps to the examples of 'included, requires choice and optional' of Gupta.)

Claim 27

Gupta anticipates dividing the configuration model so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer system while still representing the relationships included in the consolidated configuration model. (**Gupta**, C4:31-38, C8:12-27; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Dividing the configuration model' of applicant maps to the example of the panes 604, 606 and 608 of Gupta.)

Claim 28

Gupta anticipates wherein each configuration sub-model represents a portion of the consolidated configuration model. (**Gupta**, C8:5 through C9:9, figure 6; 'Sub-model'

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of applicant maps to the panes of 'included, requires choice and optional' of Gupta. The consolidation of these sub-models into a model of applicant maps to 'A user can drag elements from pane 602 to panes 604-608 to define a product' of Gupta.)

Claim 29

Gupta anticipates a processor (**Gupta**, fig 1, item 113; 'Processor' of applicant maps to 'CPU' of Gupta.) a storage medium having data encoded therein, the data comprising processor executable code for (**Gupta**, fig 1, item 112; 'Storage medium' of applicant maps to 'mass storage' of Gupta.): dividing a consolidated configuration model into multiple configuration sub-models (**Gupta**, C4:31-38; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta.) ; responding to the one or more configuration queries representing questions involving configuration of a configurable product, wherein responding to the one or more configuration queries comprises (**Gupta**, C2:50-60; 'Configuration queries' of applicant maps to a user being able to select and unselect parts of Gupta.): processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-model collectively model the configurable product and each configuration sub-models includes data to define compatibility relationships between parts included in the configuration sub-model and each configuration sub model (i) represents a portion of a configuration model of the configuration product and (ii) allows answers from each configuration sub model to be

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combined to provide a consolidated answer to one or more configurations queries (Gupta, C4:31-38; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. An 'automobile' can be viewed as a 'product.' C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The 'configuration queries' which are used to configure 'sub models' of applicant maps to the arrows from item 602 to items 604, 606, 608, 610 and 614 of Gupta.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (Gupta, C5:22-43; 'Generating a response' of applicant maps to the result of a configuration session' of Gupta. 'Configuration queries' of applicant maps to 'A user interface uses various operations such as drag and drop and item selection to define a product, for example. Elements that comprise a definition (e.g., of a product) can be added or removed in any order' of Gupta.); and providing the response to the one or more configuration queries as data for display by a display device. (Gupta, fig 1, item 117, C4:58 through C5:6; 'Display device' of applicant maps to 'CRT' of Gupta. 'Providing the response to the one or more configuration queries' of applicant maps to the function of a CPU of Gupta.)

Claim 30

Gupta anticipates receiving one or more configuration queries representing a questions involving parts and part relationships in a configuration of a configurable

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product (**Gupta**, C2:50-60; 'Configuration queries' of applicant maps to a user being able to select and unselect parts of Gupta. 'Involving parts and parts relations' of applicant maps to the ability of the system to validate user input with the current state of the configuration of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. An 'automobile' can be viewed as a 'product.');

processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-models includes data to define compatibility relationships between parts included in the configuration sub-model and each configuration sub-model (i) represents a portion of a configuration model of the configurable product and (ii) allows answers from each configuration sub-model to be combined to provide a consolidated answer to the one or more configuration queries (**Gupta**, C4:31-38; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The 'configuration queries' which are used to configure 'sub models' of applicant maps to the arrows from item 602 to items 604, 606, 608, 610 and 614 of Gupta.) ; generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models (**Gupta**, C5:22-43; 'Generating a response' of applicant maps to the result of a configuration session' of Gupta. 'Configuration queries' of applicant maps to 'A user interface uses various operations such as drag and drop and

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item selection to define a product, for example. Elements that comprise a definition (e.g., of a product) can be added or removed in any order' of Gupta.); and providing the response to the one or more configuration queries as data for display by a display device. (**Gupta**, fig 1, item 117, C4:58 through C5:6; 'Display device' of applicant maps to 'CRT' of Gupta. 'Providing the response to the one or more configuration queries' of applicant maps to the function of a CPU of Gupta.)

Claim 31.

Gupta anticipates dividing at least one configuration queries into multiple configuration sub-queries, wherein the one or more configuration queries including the multiple configuration sub-queries. (**Gupta**, fig 6; 'Multiple configuration sub-queries' of applicant maps to items '622, 624 and 626' of Gupta.)

Claim 32

Gupta anticipates wherein the one or more configuration queries relate to a configuration completion problem and the code for processing one or more configuration queries further comprises: processing each sub-query using at least one configuration sub-model per sub-query. (**Gupta**, fig 6, C8:5-27; Processing a sub-query using a sub-model of applicant maps to 'A user can drag elements from pane 602 to panes 604-608 to define a product' of Gupta. 'Code for processing one or more configuration queries' of applicant maps to the GUI screen of Gupta.)

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Claim 33

Gupta anticipates processing each sub-query using multiple configuration sub-models per sub-query. (**Gupta**, fig 6, C8:12-27; 'Processing each sub-query using multiple configuration sub-models' of applicant maps to 'Part B is dragged from pane 602 to pane 604' of Gupta.)

Claim 34

Gupta anticipates processing an undivided query using different configuration sub-models until a configuration validation answer can be determined. (**Gupta**, abstract; 'Until a configuration validation answer can be determined' of applicant maps to the result of 'only valid selections can be made at any time' of Gupta.)

Claim 35

Gupta anticipates wherein the data collectively included in the configuration sub-models provides a response for each of the sub-queries being processed. (**Gupta**, C2:50-60; 'The data collectively included in the configuration sub-models provides a response for each of the sub-queries being processed' of applicant maps to 'When user input is received, the configuration system validates the input based on the current state of the configuration' of Gupta.)

Claim 36

Gupta anticipates wherein at least two sub-queries include overlapping information. (**Gupta**, figure 6, C6:7-20; Sub-queries of applicant maps to 622,624, and 626 of Gupta. Sub-queries relate to different parts. Thus 'overlapping information' of applicant maps to For example, when a group of parts is assigned a behavior, all members inherit that behavior automatically' of Gupta.)

Claim 37

Gupta anticipates dividing the configuration sub-models in accordance with a predetermined data structure; and dividing the sub-queries in accordance with the sub-model structure. (**Gupta**, C4:31-38; 'Consolidation model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The division of the configuration sub-models of applicant maps to the existence of 'requires choice' and 'optional' of Gupta. Dividing the sub-queries relates to queries referring to either 'optional' or 'requires choice' of Gupta.)

Claim 38

Gupta anticipates wherein the predetermined data structure comprises a data structure divided along configuration model part groups, wherein the part groups are a collection of related parts. (**Gupta**, C4:31-38, figure 6; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Part groups' of applicant maps to the examples of 'Group A', 'Group F', 'Group I' and 'group L' of Gupta.)

Claim 39

Gupta anticipates generating a response for each processed configuration sub-model (**Gupta**, C6:21-30; A response for each processed configuration sub-model of applicant maps to the 'Parts to part relationship can be created between parts within a product' of Gupta.); and combining each response for each processed configuration sub-model to generate the answer. (**Gupta**, C6:21-30; 'To generate an answer' of applicant maps to 'there are four kinds of relationships between parts: requires choice includes, can't work with (or exclude), and removes' of Gupta.)

Claim 40

Gupta anticipates dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing using available data processing capabilities of the computer system while still representing the relationship included in the consolidated model. (**Gupta**, C4:31-38, C8:12-27; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Dividing the configuration model' of applicant maps to the example of the panes 604, 606 and 608 of Gupta.)

Claim 41

Gupta anticipates dividing a consolidated configuration model into the configuration sub-models. (**Gupta**, C4:31-38, C8:5 through C9:9, figure 6; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. Sub-

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models of applicant maps to the examples of 'included, requires choice and optional' of Gupta.)

Claim 42

Gupta anticipates dividing the configuration model sufficiently so that complexity of each configuration sub-model allows processing available data processing capabilities of the computer system while still representing the relationships including in the consolidated configuration model. (**Gupta**, C4:31-38, C8:12-27; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. 'Dividing the configuration model' of applicant maps to the example of the panes 604, 606 and 608 of Gupta.)

Claim 43

Gupta anticipates wherein each configuration sub-model represents a portion of the consolidated configuration model. (**Gupta**, C8:5 through C9:9, figure 6; 'Sub-model' of applicant maps to the panes of 'included, requires choice and optional' of Gupta. The consolidation of these sub-models into a model of applicant maps to 'A user can drag elements from pane 602 to panes 604-608 to define a product' of Gupta.)

Claim 44

Gupta anticipates dividing a consolidated configuration model into multiple configuration sub-models (**Gupta**, C4:31-38; 'Configuration model' of applicant maps to

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'maintaining and configuring systems' of Gupta. C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta.) ; responding to the one or more configuration queries representing questions involving configuration of a configurable product, wherein responding to the one or more configuration queries comprises (**Gupta**, C2:50-60; 'Configuration queries' of applicant maps to a user being able to select and unselect parts of Gupta.): processing the one or more configuration queries using the configuration sub-models and the configuration sub-models include data to define compatibility relationships between parts included in the configurable product (**Gupta**, abstract; 'Define compatibility relationships' of applicant maps to 'availability and compatibility of features and options' of Gupta.); generating a response to the one or more configuration queries based upon the processed one or more configuration queries and the configuration sub-models and each configuration sub model (i) represents a portion of a configuration model of the configuration product and (ii) allows answers from each configuration sub model to be combined to provide a consolidated answer to one or more configurations queries (**Gupta**, C4:31-38; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The 'configuration queries' which are used to configure 'sub models' of applicant maps to the arrows from item 602 to items 604, 606, 608, 610 and 614 of Gupta.) ; and providing the response to the one or more configuration queries as data for display by a display device. (**Gupta**, fig 1, item 117, C4:58 through C5:6; 'Display device' of applicant maps

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to 'CRT' of Gupta. 'Providing the response to the one or more configuration queries' of applicant maps to the function of a CPU of Gupta.)

Claim 45

Gupta anticipates means for receiving one or more configuration queries related to configuration of a configurable product (**Gupta**, C2:50-60; 'Configuration queries' of applicant maps to a user being able to select and unselect parts of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. An 'automobile' can be viewed as a 'product. '); means for processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and the configuration sub-models includes data to define compatibility relationships between parts included in the configuration sub-model and each configuration sub model (i) represents a portion of a configuration model of the configuration product and (ii) allows answers from each configuration sub model to be combined to provide a consolidated answer to one or more configurations queries (**Gupta**, C4:31-38; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The 'configuration queries' which are used to configure 'sub models' of applicant maps to the arrows from item 602 to items 604, 606, 608, 610 and 614 of Gupta.); means for generating a response to the one or more configuration queries

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based upon the processed one or more configuration queries and the configuration sub-models (**Gupta**, C5:22-43; 'Generating a response' of applicant maps to the result of a configuration session' of Gupta. 'Configuration queries' of applicant maps to 'A user interface uses various operations such as drag and drop and item selection to define a product, for example. Elements that comprise a definition (e.g., of a product) can be added or removed in any order' of Gupta.); and means for providing the response to the one or more configuration queries as data for display by a display device. (**Gupta**, fig 1, item 117, C4:58 through C5:6; 'Display device' of applicant maps to 'CRT' of Gupta. 'Providing the response to the one or more configuration queries' of applicant maps to the function of a CPU of Gupta.)

Claim 46

Gupta anticipates means for dividing a consolidated configuration model into the configuration sub-models. (**Gupta**, C4:31-38; 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta.)

Claim 47

Gupta anticipates wherein the configurable product is a vehicle. (**Gupta**, C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta.)

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Claim 48

Gupta anticipates displaying the response on the display device. (**Gupta**, fig 1, item 117; 'Display device' of applicant maps to 'CRT' of Gupta.)

Claim 49

Gupta anticipates wherein the configuration sub-models each comprise data and rules to define compatibility relationships between parts included in a product. (**Gupta**, abstract, 1:63 through C2:3; 'Define compatibility relationships' of applicant maps to 'availability and compatibility of features and options' of Gupta. 'Rules' which define of applicant maps to 'only valid selections' of Gupta.)

Claim 50

Gupta anticipates wherein the configuration problem comprises a configuration problem involving parts of a product. (**Gupta**, C2:4-11; 'Parts of a product' of applicant maps to 'Parts used to define a product are selected from a parts catalog' of Gupta.)

Response to Arguments

6. Applicant's arguments filed on June 26, 2009 for claims 1-50 have been fully considered but are not persuasive.

7. In reference to the Applicant's argument:

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REMARKS

Claims 1-50 are pending.

Claims 1-50 stand rejected.

Claims 14, 15, 29, 30, 44, and 45 have been amended.

Claim Rejections - 35 U.S.C. § 101

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

In the January 17, 2008 Office Action, page 4, the Examiner states that:

The invention must be for a practical application and either: 1) specify transforming (physical thing) or 2) have the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result. A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended. Claims that recite a model with associated sub-models and queries pertaining to both lack a practical application. There must be a result that is a practical application.

The Federal Circuit recently addressed the subject of subject matter patentability in *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (en banc). In *In re Bilski*, the court "conclude[ed] that the "useful, concrete and tangible result" inquiry is inadequate and reaffirm[ed] that the machine-or-transformation test outlined by the Supreme Court is the proper test to apply." *Id.* "The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article." *Id.*

Although the two-branched inquiry is stated in the alternative, Applicants respectfully submit that the methods of claims 1 and 14 and claims directly or indirectly dependent thereon meet both of the two-branched inquiries set forth in *In re Bilski*.

The methods of claims 1 and 14 are specifically tied to a particular machine, namely "a computer system". Claims 1 and 14. More specifically, claims 1 and 14 are respectively a "method for using a computer system, wherein the computer system includes computer assisted configuration technology to respond to one or more configuration queries using configuration sub-models." *Id.*

Additionally, the method of claim 1 transforms an article(s) into a different thing. Claim 1 recites "receiving one or more configuration queries" and "generating a response to the one or more configuration queries." Claim 1. The "response" represents an article

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because the "one or more configuration queries" relate to a physical object, namely "questions involving parts and part relationships in a configuration of a configurable product." *Id.* The "response" is transformed into "data for display by a display device". *Id.*

The method of claim 14 also transforms an article(s) into a different thing. Claim 1 recites "responding to the one or more configuration queries" and "generating a response to the one or more configuration queries." Claim 14. The "response" represents an article because the "one or more configuration queries" relate to a physical object, namely "questions involving configuration of a configurable product." *Id.* The "response" is transformed into "data for display by a display device". *Id.*

Although *In re Bilski* specifically relates to 35 U.S.C. § 101 and method claims, applying the criteria of *In re Bilski* claims 15, 29, and 45 are respectively "tied to a particular machine." *In re Bilski*. More specifically, claims 15, 29, and 45 are each "a computer system". Claims 15, 29, and 45.

Claims 30 and 45 recite a "computer storage medium" comprising data embedded therein to cause a computer system to respond to one or more configuration queries using configuration sub-models, wherein the data comprises processor executable code for: ...

The invention embodiment of claim 30 is also related to a physical device and includes processor executable code, namely a "computer storage medium comprising data ... wherein the data comprises processor executable code." After the decision in *In re Bilski*, the USPTO Board of Patent Appeals and Interferences (BPAI) addressed subject matter patentability of a computer usable medium in *ex parte Bo Li*. *Ex parte Bo Li*, Appeal 2008-1213 (USPTO BPAI 2008, November 6, 2008). The BPAI, citing *In re Bilski* and *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994), held that a computer program product comprising a computer usable medium having a computer readable program code embodied therein and adapted to be executed to implement a method for generating a report recites patentable subject matter under 35 U.S.C. § 101. Likewise, Applicants respectfully submit that the computer storage medium of claims 30 and 44 claims directly or indirectly dependent thereon also recite patentable subject matter.

Applicants respectfully submit that claims 1-50 accordingly meet the requirements of 35 U.S.C. § 101 as construed by, for example, the Federal Circuit in *In re Bilski* and *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994).

Accordingly, Applicants respectfully request withdrawal of the rejection.

Examiner's response:

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In light of a change of policies concerning 35 U.S.C. and the applicant's arguments, the Examiner withdraws the rejection.

8. In reference to the Applicant's argument:

Claim Rejections - 35 U.S.C. § 102

Claims 1-46 and 48-50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,167,383 to Henson (hereinafter "Henson"). Applicants respectfully traverse the rejection.

Applicants hereby rescind all previous remarks in previously filed Office Action responses. Applicants present the following remarks for the allowability of claims 1-46 and 48-50 over Henson.

Henson relates to a "web-based online store [that] includes a configurator, a cart, a checkout, and a database, further in which a user interface of the online store enables a custom configuration of a computer system according to an identification of a user belonging to a prescribed customer set." Henson, Abstract. "The configurator is provided for configuring a computer system with options selected according to a prescribed user input." *Id.*

Referring to Figures 3A and 3B of Henson, the configuration screen 70 includes a variety of configuration options for the customer. For example, the customer can select a particular memory, a particular display, a particular storage product, available printers, and so on.

The Examiner has identified the "different type of 'printers' which are available for a given computer" as an example of a configuration sub-model. Applicants respectfully submit that the different types of printers and other components are only available selections and are not a "configuration sub-model [that] includes data to define compatibility relationships between parts included in the configuration sub-model" as required by claims 1, 14, 15, 29, 30, 44, and 45.

Applicants also respectfully submit that Henson teaches that after selection of different components, such as a printer, the selections themselves are used to form a configuration-type query. However, Applicants respectfully submit that Henson fails to teach or suggest processing such configuration-type query "using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility

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relationships between parts included in the configuration sub-model" as required by claims 1, 14, 15, 29, 30, 44, and 45.

More specifically, once the customer using the configuration screen makes a series of selections, such as selection of a printer and of other components, it is desirable to determine if the selections represent a valid configurable build. Determining whether a set of selections represents a valid configurable build can be an example of a configuration query. In fact, Henson contemplates this very scenario. Henson teaches that "The on-line store further includes validation of a configuration built by a customer." Henson, col. 7, lines 57-58. The validation logic of Henson responds to a configuration-type query. More specifically, Henson teaches that:

Validation (or compatibility) provides the customer with a validation message indicating an occurrence of when the options selected for a particular system are not correct. If the options selected for a particular system will adversely affect the shipment of the configured system, then a warning message is issued to enable the user to modify options accordingly. In other words, the validation enhancement lets the customer know when one or more options are not compatible for one reason or another. The validation enhancement includes built-in logic which checks the particular configuration built by the customer and indicates whether or not the selected options can be built together for the particular configuration. If two or more options are incompatible, then in one embodiment, the validation enhancement returns a message indicating that the options are incompatible, as further discussed herein. Id., col. 7, line 58 through col. 8, line 6.

Thus, Applicants respectfully submit that the option selections by the customer in Henson are submitted to validation logic as a type of configuration query. Once the printer, memory, and so on are selected by the customer in Henson and a configuration-type query is formed, Applicants respectfully submit that Henson fails to teach or suggest "processing the one or more configuration queries using configuration sub-models, wherein the configuration sub-models collectively model the configurable product and each configuration sub-model includes data to define compatibility relationships between parts included in the configuration sub-model and each configuration sub-model (i) represents a portion of a configuration model of the configurable product and (ii) allows answers from each configuration sub-model to be combined to provide a consolidated answer to the one or more configuration queries" as required by claims 1, 14, 15, 29, 30, 44, and 45. Henson teaches some "built-in logic" to process a configuration-type query; however, Henson fails to teach or suggest any type of configuration sub-model or "processing the one or more configuration queries using configuration sub-models ... wherein ... each configuration sub-model (i) represents a portion of a configuration model of the configurable product and (ii) allows answers from each configuration sub-model to be combined to provide a consolidated answer to the one or more configuration queries" as required by claims 1, 14, 15, 29, 30, 44, and 45.

Accordingly, for at least the foregoing reasons, Applicants respectfully request

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withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45 and of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

Claim Rejections - 35 U.S.C. § 103

Claim 47 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Henson in view of Ford Motor Company <http://web.archive.org/web/20030324212039/http://fordvehicles.com/>.

Claim 47 depends on claim 1. For at least the foregoing reasons given with regard to claim 1, Applicants respectfully request withdrawal of the rejection of claim 47.

Examiner's response:

Neither the Henson or ford Motor o reference is used in the current rejection. The Examiner feels that Gupta addresses the claim elements. 'Configuration queries' of applicant maps to a user being able to select and unselect parts of Gupta. 'Involving parts and parts relations' of applicant maps to the ability of the system to validate user input with the current state of the configuration of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. (**Gupta**, C2:50-60) 'Configuration model' of applicant maps to 'maintaining and configuring systems' of Gupta. C1:12-25; An example of an 'configurable product' of applicant is an 'automobile' of Gupta. An 'automobile' can be viewed as a 'product.' C8:5 through C9:9, figure 6; 'Sub-models' of applicant map to the examples of 'included, requires choice and optional' of Gupta. The 'configuration queries' which are used to configure 'sub models' of applicant maps to the arrows from item 602 to items 604, 606, 608, 610 and 614 of Gupta. (**Gupta**, C4:31-38) 'Generating a response' of applicant maps to the result of a configuration session' of Gupta. 'Configuration queries' of applicant maps to 'A user interface uses various operations such as drag and drop and item selection to

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define a product, for example. Elements that comprise a definition (e.g., of a product) can be added or removed in any order' of Gupta. (**Gupta**, C5:22-43) 'Display device' of applicant maps to 'CRT' of Gupta. 'Providing the response to the one or more configuration queries' of applicant maps to the function of a CPU of Gupta. (**Gupta**, fig 1, item 117, C4:58 through C5:6)

Examination Considerations

9. The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has the full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

10. Examiner's Notes are provided to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are

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entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but link to prior art that one of ordinary skill in the art would find inherently appropriate.

11. Examiner's Opinion: Paragraphs 9 and 10 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

12. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

-U. S. Patent Publication 20040068342: Bedont

-U. S. Patent 6725257: Cansler

-U. S. Patent Publication: Reyna

13. Claims 1-50 are rejected.

Correspondence Information

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14. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3080. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,
Washington, D. C. 20231;

Hand delivered to:

Receptionist,
Customer Service Window,
Randolph Building,
401 Dulany Street,
Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 272-3150 (for formal communications intended for entry.)

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on access to Private PAIR system, contact the Electronic Business Center (EBC) at
866-217-9197 (toll free).

/P. C./

Examiner, Art Unit 2129

Peter Coughlan

10/8/2009

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129

Notice of References Cited	Application/Control No. 10/957,919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.	
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U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-5,825,651	10-1998	Gupta et al.	700/103
	B US-			
	C US-			
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			


FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
	U				
	V				
	W				
	X				

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.


Search Notes 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
	Examiner PETER COUGHLAN	Art Unit 2129

SEARCHED			
Class	Subclass	Date	Examiner
705	@pd<20041004 and 56	12/24/2007	PDC
706	@pd<20041004 and 20	12/24/2007	PDC
706	@pd<20041004 and 8, 6, 28, 45	9/12/2008	PDC
705	@pd<20041004 with query, configuration, model, compatibility and 26	9/12/2008	PDC
705	@pd<20041004 and 103	10/8/2009	PDC

SEARCH NOTES		
Search Notes	Date	Examiner
East -- @pd<20041004 and multimedia, knowledge base, structure, query, sub query, model, sub model, answer, sub answer, processor, CPU, Dell, central processing unit, rules, specification, elements, sub-elements, database, overlap, common range, combining answers, matching, retrieving, images, requirements, computer configuration, order, sales, internet	12/24/2007	PDC
IEEE <2005 Nathan E Little, Brandon M Beck, Brian K Showers, combining answers, matching, retrieving, images, requirements, multimedia, knowledge base, structure, query, sub query, model, sub model, answer, sub answer, processor, CPU, Central processing unit, rules, specification, elements, sub elements, database, overlap, common range	12/24/2007	PDC
Inventors -- Nathan E Little, Brandon M Beck, Brian K Showers,	12/24/2007	PDC
East -- @pd<20081004 and validation, enhancement, queries, part, configuration, relation, model, compatibility, sub model, computer, assist,	9/12/2008	PDC
East -- @pd<20041004 and valid, overlap, duplication, information, subset, submodel, part, configuration, product, page, web, model	10/8/2009	PDC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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Index of Claims 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
	Examiner PETER COUGHLAN	Art Unit 2129

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	09/12/2008	10/08/2009						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	✓	✓						
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	35	✓	✓						
	36	✓	✓						

Index of Claims 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
	Examiner PETER COUGHLAN	Art Unit 2129

✓	Rejected
=	Allowed

-	Cancelled
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N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
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	49	✓	✓						
	50	✓	✓						



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BIB DATA SHEET

CONFIRMATION NO. 9162

SERIAL NUMBER 10/957,919	FILING or 371(c) DATE 10/04/2004 RULE	CLASS 706	GROUP ART UNIT 2129	ATTORNEY DOCKET NO. T00121	
APPLICANTS Nathan E. Little, Austin, TX; Brandon M. Beck, Austin, TX; Brian K. Showers, Cedar Park, TX; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 12/07/2004					
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and /PETER D COUGHLAN/ Acknowledged Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY TX	SHEETS DRAWINGS 8	TOTAL CLAIMS 50 46	INDEPENDENT CLAIMS 7
ADDRESS HAMILTON & TERRILE, LLP P.O. BOX 203518 AUSTIN, TX 78720 UNITED STATES					
TITLE Complex configuration processing using configuration sub-models					
FILING FEE RECEIVED 1940	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
		"5825651".pn. and part\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:53
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		"5825651".pn. and sub\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:50
		"5825651".pn. and over\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
		"5825651".pn. and sub\$	US-PGPUB; USPAT	OR	ON	2009/09/10 09:17
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L3	0	"5825651".pn. and overlap \$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
L4	0	"5825651".pn. and duplic\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
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L12	456	@pd<"20041004" and (web.ab. with page) and model and configuration	US-PGPUB; USPAT	OR	ON	2009/10/08 13:20
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S12	3	@pd<"20041004" and (((model with configuration) with problem) same rule)	US-PGPUB; USPAT	OR	ON	2007/04/21 11:04
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S59	937	@pd<"20041004" and (web adj (design or page)) and (product with configuration)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:29
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S67	1	"5825651".pn. and interface	US-PGPUB; USPAT	OR	ON	2009/09/09 15:15
S68	1	"5825651".pn. and product	US-PGPUB; USPAT	OR	ON	2009/09/10 09:04
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10/ 8/ 2009 2:11:12 PM

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Versata Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

April 14, 2010

Electronically Filed

RESPONSE TO NON-FINAL OFFICE ACTION

Dear Sir:

This paper is responsive to the Office Action dated October 15, 2009, having a shortened statutory period expiring January 15, 2010. Accompanying this response is a petition under 37 C.F.R. § 1.136 for extension of time by three (3) months, setting a new time for response of April 15, 2010. Further examination and reconsideration are respectfully requested.

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A method for using a computer system, wherein the
2 computer system includes computer assisted configuration technology to respond to one
3 or more configuration queries using configuration sub-models, the method comprising:

4 receiving one or more configuration queries representing one or more questions
5 involving parts and part relationships in a configuration of a configurable
6 product; and

7 performing with the computer system:

8 dividing one or more configuration queries into multiple configuration

9 sub-queries, wherein the multiple configuration sub-queries

10 represent the one or more configuration queries;

11 processing each sub-query using at least one configuration sub-model per

12 sub-query, ~~processing the one or more configuration queries using~~

13 ~~configuration sub-models~~, wherein ~~[[the]]~~ each configuration sub-

14 ~~models~~ sub-model collectively ~~[[model]]~~ models the configurable

15 product and each configuration sub-model includes data to define

16 compatibility relationships between parts included in the

17 configuration sub-model and each configuration sub-model (i)

18 represents a portion of a configuration model of the configurable

19 product and (ii) allows answers from each configuration sub-model

20 to be combined to provide a consolidated answer to the one or

21 more configuration queries;

22 generating a response to the one or more configuration queries based upon

23 the ~~processed one or more configuration queries and the~~

24 ~~configuration sub-models~~ the processing of each sub-query using

25 at least one configuration sub-model per sub-query; and

26 providing the response to the one or more configuration queries as data for

27 display by a display device.

1 2. Canceled.

1 3. (Currently Amended) The method of claim [[2]] 1 wherein the one or
2 more configuration queries relate to a configuration completion problem, ~~and processing~~
3 ~~one or more configuration queries further comprises:~~
4 ~~processing each sub-query using at least one configuration sub-model per sub-~~
5 ~~query.~~

1 4. (Currently Amended) The method of claim [[2]] 1 further comprising:
2 processing each sub-query using multiple configuration sub-models per sub-
3 query.

1 5. (Currently Amended) The method of claim [[2]] 1 wherein the one or
2 more configuration queries relate to a configuration validation problem and processing
3 one or more configuration queries further comprises:
4 ~~processing an undivided query~~ at least one of the sub-queries using different
5 configuration sub-models until a configuration validation answer can be
6 determined.

1 6. (Currently Amended) The method of claim [[2]] 1 wherein the data
2 collectively included in the configuration sub-models provides a response for each of the
3 sub-queries being processed.

1 7. (Currently Amended) The method of claim [[2]] 1 wherein at least two
2 sub-queries include overlapping information.

1 8. (Currently Amended) The method of claim [[2]] 1 further comprising:
2 dividing a consolidated configuration model into the multiple configuration sub-
3 models in accordance with a predetermined data structure;
4 wherein at least one of the configuration queries into multiple configuration sub-
5 queries further comprises dividing the sub-queries in accordance with the
6 sub-model structure.

1 9. (Previously Presented) The method of claim 8 wherein the predetermined
2 data structure comprises a data structure divided along configuration model part groups,
3 wherein the part groups are a collection of related parts.

1 10. (Previously Presented) The method of claim 1 wherein generating a
2 response to the one or more configuration queries based upon the processed one or more
3 configuration queries and the configuration sub-models further comprises:
4 generating a response for each processed configuration sub-model; and
5 combining each response for each processed configuration sub-model to generate
6 the answer.

1 11. (Original) The method of claim 1 further comprising:
2 dividing a consolidated configuration model into the configuration sub-models.

1 12. (Previously Presented) The method of claim 11 wherein dividing the
2 consolidated configuration model into multiple configuration sub-models further
3 comprises:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer assisted configuration technology while still representing the
7 relationships included in the consolidated configuration model.

1 13. (Original) The method of claim 11 wherein each configuration sub-model
2 represents a portion of the consolidated configuration model.

1 14. (Currently Amended) A method for using a computer system, wherein the
2 computer system includes computer assisted configuration technology to respond to one
3 or more configuration queries using configuration sub-models, the method comprising:
4 dividing a consolidated configuration model into multiple configuration sub-
5 models; and
6 performing with the computer system:

7 responding to the one or more configuration queries representing
8 questions involving configuration of a configurable product,
9 wherein responding to the one or more configuration queries
10 comprises:
11 dividing one or more configuration queries into multiple
12 configuration sub-queries, wherein the multiple
13 configuration sub-queries represent the one or more
14 configuration queries;
15 processing each sub-query using at least one configuration sub-
16 model per sub-query, ~~processing the one or more~~
17 ~~configuration queries using configuration sub-models,~~
18 wherein ~~[[the]]~~ each configuration ~~sub-models~~ sub-model
19 collectively ~~[[model]]~~ models the configurable product and
20 each configuration sub-model includes data to define
21 compatibility relationships between parts included in the
22 configuration sub-model and each configuration sub-model
23 (i) represents a portion of a configuration model of the
24 configurable product and (ii) allows answers from each
25 configuration sub-model to be combined to provide a
26 consolidated answer to the one or more configuration
27 queries;
28 generating a response to the one or more configuration queries
29 based upon the ~~processed one or more configuration~~
30 ~~queries and the configuration sub-models~~ the processing of
31 each sub-query using at least one configuration sub-model
32 per sub-query; and
33 providing the response to the one or more configuration queries as
34 data for display by a display device.

1 15. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 receiving one or more configuration queries representing a questions
8 involving parts and part relationships in a configuration of a
9 configurable product;
10 dividing one or more configuration queries into multiple configuration
11 sub-queries, wherein the multiple configuration sub-queries
12 represent the one or more configuration queries;
13 processing each sub-query using at least one configuration sub-model per
14 sub-query, ~~processing the one or more configuration queries using~~
15 ~~configuration sub-models~~, wherein [[the]] each configuration sub-
16 ~~models~~ sub-model collectively [[model]] models the configurable
17 product and each configuration sub-model includes data to define
18 compatibility relationships between parts included in the
19 configuration sub-model and each configuration sub-model (i)
20 represents a portion of a configuration model of the configurable
21 product and (ii) allows answers from each configuration sub-model
22 to be combined to provide a consolidated answer to the one or
23 more configuration queries;
24 generating a response to the one or more configuration queries based upon
25 the ~~processed one or more configuration queries and the~~
26 ~~configuration sub-models~~ the processing of each sub-query using
27 at least one configuration sub-model per sub-query; and
28 providing the response to the one or more configuration queries as data for
29 display by a display device.

1 16. (Canceled)

1 17. (Previously Presented) The computer system of claim 16 wherein the one
2 or more configuration queries relate to a configuration completion problem, ~~and the code~~
3 ~~for processing one or more configuration queries further comprises:~~
4 ~~processing each sub-query using at least one configuration sub-model per sub-~~
5 ~~query.~~

1 18. (Canceled)

1 19. (Currently Amended) The computer system of claim [[16]] 15 wherein the
2 one or more configuration queries relate to a configuration validation problem and when
3 solving the configuration validation problem, and the code for processing one or more
4 configuration queries further comprises:
5 ~~processing an undivided query~~ at least one of the sub-queries using different
6 configuration sub-models until a configuration validation answer can be
7 determined.

1 20. (Currently Amended) The computer system of claim [[16]] 15 wherein the
2 data collectively included in the configuration sub-models provides a response for each of
3 the sub-queries being processed.

1 21. (Currently Amended) The computer system of claim [[16]] 15 wherein at
2 least two sub-queries include overlapping information.

1 22. (Currently Amended) The computer system of claim [[16]] 15 wherein the
2 code further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 23. (Previously Presented) The computer system of claim 22 wherein the
2 predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 24. (Previously Presented) The computer system of claim 15 wherein the code
2 for generating a response to the one or more configuration queries based upon the
3 processed one or more configuration queries and the configuration sub-models further
4 comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 25. (Previously Presented) The computer system of claim 15 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 26. (Original) The computer system of claim 15 wherein the data further
2 comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 27. (Previously Presented) The computer system of claim 26 wherein the code
2 for dividing the consolidated configuration model into multiple configuration sub-models
3 further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 28. (Original) The computer system of claim 26 wherein each configuration
2 sub-model represents a portion of the consolidated configuration model.

1 29. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:

4 a processor; and

5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:

7 dividing a consolidated configuration model into multiple configuration
8 sub-models;

9 responding to the one or more configuration queries representing

10 questions involving configuration of a configurable product,

11 wherein responding to the one or more configuration queries

12 comprises:

13 dividing one or more configuration queries into multiple

14 configuration sub-queries, wherein the multiple

15 configuration sub-queries represent the one or more

16 configuration queries;

17 processing each sub-query using at least one configuration sub-

18 model per sub-query, ~~processing the one or more~~

19 ~~configuration queries using configuration sub-models,~~

20 wherein ~~[[the]]~~ each configuration ~~sub-models~~ sub-model

21 collectively ~~[[model]]~~ models the configurable product and

22 each configuration sub-model includes data to define

23 compatibility relationships between parts included in the

24 configuration sub-model and each configuration sub-model

25 (i) represents a portion of a configuration model of the

26 configurable product and (ii) allows answers from each

27 configuration sub-model to be combined to provide a

28 consolidated answer to the one or more configuration
29 queries;
30 generating a response to the one or more configuration queries
31 based upon the ~~processed one or more configuration~~
32 ~~queries and the configuration sub-models~~ the processing of
33 each sub-query using at least one configuration sub-model
34 per sub-query; and
35 providing the response to the one or more configuration queries as
36 data for display by a display device.

1 30. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to respond to one or more configuration
3 queries using configuration sub-models, wherein the data comprises processor executable
4 code for:

5 receiving one or more configuration queries representing a questions involving
6 parts and part relationships in a configuration of a configurable product;
7 dividing one or more configuration queries into multiple configuration
8 sub-queries, wherein the multiple configuration sub-queries
9 represent the one or more configuration queries;
10 processing each sub-query using at least one configuration sub-model per sub-
11 query, ~~processing the one or more configuration queries using~~
12 ~~configuration sub-models~~, wherein [[the]] each configuration ~~sub-models~~
13 ~~sub-model~~ collectively [[model]] ~~models~~ the configurable product and
14 each configuration sub-model includes data to define compatibility
15 relationships between parts included in the configuration sub-model and
16 each configuration sub-model (i) represents a portion of a configuration
17 model of the configurable product and (ii) allows answers from each
18 configuration sub-model to be combined to provide a consolidated answer
19 to the one or more configuration queries;
20 generating a response to the one or more configuration queries based upon the
21 ~~processed one or more configuration queries and the configuration sub-~~

22 ~~models the processing of each sub-query using at least one configuration~~
23 ~~sub-model per sub-query; and~~
24 providing the response to the one or more configuration queries as data for
25 display by a display device.

1 31. (Canceled)

1 32. (Currently Amended) The computer storage medium of claim [[31]] 30
2 wherein the one or more configuration queries relate to a configuration completion
3 problem, ~~and the code for processing one or more configuration queries further~~
4 ~~comprises:~~
5 ~~processing each sub-query using at least one configuration sub-model per sub-~~
6 ~~query.~~

1 33. (Currently Amended) The computer storage medium of claim [[31]] 30
2 wherein the data further comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 34. (Currently Amended) The computer storage medium of claim [[31]] 30
2 wherein the one or more configuration queries relate to a configuration validation
3 problem and the code for processing one or more configuration queries further comprises:
4 ~~processing an undivided query~~ at least one of the sub-queries using different
5 configuration sub-models until a configuration validation answer can be
6 determined.

1 35. (Currently Amended) The computer storage medium of claim [[31]] 30
2 wherein the data collectively included in the configuration sub-models provides a
3 response for each of the sub-queries being processed.

1 36. (Currently Amended) The computer storage medium of claim [[31]] 30
2 wherein at least two sub-queries include overlapping information.

1 37. (Currently Amended) The computer storage medium of claim ~~[[31]]~~ 30 the
2 code further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 38. (Previously Presented) The computer storage medium of claim 37 wherein
2 the predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 39. (Previously Presented) The computer storage medium of claim 30 wherein
2 the code for generating a response to the one or more configuration queries based upon
3 the processed one or more configuration queries and the configuration sub-models further
4 comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 40. (Previously Presented) The computer storage medium of claim 30
2 wherein the code for dividing the consolidated configuration model into multiple
3 configuration sub-models further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 41. (Original) The computer storage medium of claim 30 wherein the data
2 further comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 42. (Previously Presented) The computer storage medium of claim 41 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:

4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 43. (Original) The computer storage medium of claim 41 wherein each
2 configuration sub-model represents a portion of the consolidated configuration model.

1 44. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to respond to one or more configuration
3 queries using configuration sub-models, wherein the data comprises code for:

4 dividing a consolidated configuration model into multiple configuration sub-
5 models;

6 responding to the one or more configuration queries representing questions
7 involving configuration of a configurable product, wherein responding to
8 the one or more configuration queries comprises:

9 dividing one or more configuration queries into multiple configuration
10 sub-queries, wherein the multiple configuration sub-queries
11 represent the one or more configuration queries;

12 processing each sub-query using at least one configuration sub-model per
13 sub-query, processing the one or more configuration queries using
14 ~~configuration sub-models~~, wherein ~~[[the]]~~ each configuration ~~sub-~~
15 ~~models~~ sub-model collectively ~~[[model]]~~ models the configurable
16 product and each configuration sub-model includes data to define
17 compatibility relationships between parts included in the
18 configuration sub-model;

19 generating a response to the one or more configuration queries based upon
20 the ~~processed one or more configuration queries and the~~

21 ~~configuration sub-models~~ the processing of each sub-query using
22 at least one configuration sub-model per sub-query and each
23 configuration sub-model (i) represents a portion of a configuration
24 model of the configurable product and (ii) allows answers from
25 each configuration sub-model to be combined to provide a
26 consolidated answer to the one or more configuration queries; and
27 providing the response to the one or more configuration queries as data for
28 display by a display device.

1 45. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 means for receiving one or more configuration queries representing a questions
5 involving parts and part relationships in a configuration of a configurable
6 product;
7 means for dividing one or more configuration queries into multiple configuration
8 sub-queries, wherein the multiple configuration sub-queries represent the
9 one or more configuration queries;
10 means for processing each sub-query using at least one configuration sub-model
11 per sub-query, ~~processing the one or more configuration queries using~~
12 configuration sub-models, wherein [[the]] each configuration sub-models
13 sub-model collectively [[model]] models the configurable product and
14 each configuration sub-model includes data to define compatibility
15 relationships between parts included in the configuration sub-model and
16 each configuration sub-model (i) represents a portion of a configuration
17 model of the configurable product and (ii) allows answers from each
18 configuration sub-model to be combined to provide a consolidated answer
19 to the one or more configuration queries;
20 means for generating a response to the one or more configuration queries based
21 upon the ~~processed one or more configuration queries and the~~

22 ~~configuration sub-models~~ the processing of each sub-query using at least
23 one configuration sub-model per sub-query; and
24 means for providing the response to the one or more configuration queries as data
25 for display by a display device.

1 46. (Original) The computer system of claim 45 further comprising:
2 means for dividing a consolidated configuration model into the configuration sub-
3 models.

1 47. (Previously Presented) The method of claim 1 wherein the configurable
2 product is a vehicle.

1 48. (Previously Presented) The method of claim 1 further comprising:
2 displaying the response on display device.

1 49. (Previously Presented) The method of claim 1 wherein the configuration
2 sub-models each comprise data and rules to define compatibility relationships between
3 parts included in a product.

1 50. (Previously Presented) The method of claim 1 wherein the configuration
2 problem comprises a configuration problem involving parts of a product.

REMARKS

Claims 1-50 are pending.

Claims 1-50 stand rejected.

Claims 1, 3-8, 14, 15, 17, 19-22, 29, 30, 32-37, 44, and 45 have been amended.

Claims 2, 16, 18, and 31 have been canceled without prejudice or disclaimer of the subject matter recited therein.

Claim Rejections – 35 U.S.C. § 112

Claims 5, 19, and 34 stand rejected under 35 U.S.C. § 112, first paragraph.

Applicants have amended claims 5, 19, and 34 to delete “an undivided query” and replace “at least one of the sub-queries”.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 102

Claims 1-50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,825,651 to Gupta (hereinafter “*Gupta*”). Applicants respectfully traverse the rejection.

Gupta relates to providing “the ability to interactively select and configure a product among a set of related products based on availability and capability of features and options.” *Gupta*, Abstract.

Applicants respectfully submit that *Gupta* neither teaches nor suggests:

dividing one or more configuration queries into multiple configuration sub-queries, wherein the multiple configuration sub-queries represent the one or more configuration queries;

processing each sub-query using at least one configuration sub-model per sub-query ...;

generating a response to the one or more configuration queries based upon the the processing of each sub-query using at least one configuration sub-model per sub-query. Claims 1, 14, 15, 29, 30, 44, and 45 (the “Independent Claims”).

Figure 6 of *Gupta* depicts a GUI screen that is divided between a product definition section 650 and a part relationship definition section 652. *Gupta*, col. 8, lines 5-7. *Gupta* further teaches:

Pane 602 displays elements from parts catalog 204. Panes 604, 606, 608 are used to define a product. Panes 604, 606, and 608 represent classifications or product relationships. Panes 610 and 614 and relationship 612 are used to define part relationships.

A user can drag elements from pane 602 to panes 604-608 to define a product. For example, to include Part B in the product definition, Part B is dragged from pane 602 to pane 604. Alternatively, to drag parts B, C, D, and E, group A can be dragged from pane 602 to pane 604. Group A and its component parts (parts B, C, D, and E) are thereby included in the product definition. Similarly, a user can specify that a configuration user must choose a part from a group, e.g., Group I, by dragging one or more parts or a group into pane 606. An optional part or group can be identified by dragging an element, e.g., Group L, into pane 608. If an element from pane 602 is not moved to one of panes 604-608 it is assumed that the maintainer wants to exclude that element from the product that is being defined. The product-level relationships or classifications (or types) illustrated in FIG. 5 can be defined using panes 604-608. *Id.*, lines 7-28.

The Examiner has identified “items 622, 624, and 626” as multiple configuration sub-queries. Office Action, p. 5. Applicants respectfully disagree. Arrows 622, 624, and 626 simply illustrate user action of dragging elements from pane 602 to panes 604-608. The elements in pane 602 are elements from parts catalog 204. Thus, there is no representation of a sub-query associated with Figure 6 of *Gupta*.

Accordingly, *Gupta* neither teaches nor suggests:

dividing one or more configuration queries into multiple configuration sub-queries, wherein the multiple configuration sub-queries represent the one or more configuration queries;

processing each sub-query using at least one configuration sub-model per sub-query ...;

generating a response to the one or more configuration queries based upon the the processing of each sub-query using at least one configuration sub-model per sub-query. Independent Claims.

Accordingly, for at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 14, 15, 29, 30, 44, and 45 and of claims directly or indirectly dependent upon claims 1, 14, 15, 29, 30, 44, and 45.

CONCLUSION

The application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned 512-338-9100.

CERTIFICATE OF TRANSMISSION

I hereby certify that on April 14, 2010, this correspondence is being transmitted via the U.S. Patent & Trademark Office's electronic filing system.

/Kent B. Chambers/

Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) FY 2009 <i>(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)</i>		Docket Number (Optional) T00121	
Application Number 10/957,919		Filed October 4, 2004	
For Complex Configuration Processing Using Configuration Sub-Models			
Art Unit 2129		Examiner Peter D. Coughlan	
This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.			
The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):			
		<u>Fee</u>	<u>Small Entity Fee</u>
<input type="checkbox"/>	One month (37 CFR 1.17(a)(1))	\$130	\$65 \$ _____
<input type="checkbox"/>	Two months (37 CFR 1.17(a)(2))	\$490	\$245 \$ _____
<input checked="" type="checkbox"/>	Three months (37 CFR 1.17(a)(3))	\$1110	\$555 \$ <u>1110</u>
<input type="checkbox"/>	Four months (37 CFR 1.17(a)(4))	\$1730	\$865 \$ _____
<input type="checkbox"/>	Five months (37 CFR 1.17(a)(5))	\$2350	\$1175 \$ _____
<input type="checkbox"/>	Applicant claims small entity status. See 37 CFR 1.27.		
<input type="checkbox"/>	A check in the amount of the fee is enclosed.		
<input type="checkbox"/>	Payment by credit card. Form PTO-2038 is attached.		
<input type="checkbox"/>	The Director has already been authorized to charge fees in this application to a Deposit Account.		
<input checked="" type="checkbox"/>	The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>502264</u> .		
WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.			
I am the	<input type="checkbox"/>	applicant/inventor.	
	<input type="checkbox"/>	assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).	
	<input checked="" type="checkbox"/>	attorney or agent of record. Registration Number <u>38,839</u>	
	<input type="checkbox"/>	attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____	
<u>/Kent B. Chambers/</u>		<u>April 14, 2010</u>	
Signature		Date	
<u>Kent B. Chambers</u>		<u>512-338-9100</u>	
Typed or printed name		Telephone Number	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.			
<input type="checkbox"/>	Total of _____ forms are submitted.		

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	10957919
Filing Date:	04-Oct-2004
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Filer:	Kent Bryan Chambers
Attorney Docket Number:	T00121

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Page 419 of 507 <small>Extension - 3 months with \$0 paid</small>	1253	1	1110	FORD 1004

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				1110

Electronic Acknowledgement Receipt

EFS ID:	7417707
Application Number:	10957919
International Application Number:	
Confirmation Number:	9162
Title of Invention:	Complex configuration processing using configuration sub-models
First Named Inventor/Applicant Name:	Nathan E. Little
Customer Number:	33438
Filer:	Kent Bryan Chambers
Filer Authorized By:	
Attorney Docket Number:	T00121
Receipt Date:	15-APR-2010
Filing Date:	04-OCT-2004
Time Stamp:	00:40:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$1110
RAM confirmation Number	18191
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part	Pages of app.
Page 421 of 507					FORD 1004

1	Amendment/Req. Reconsideration-After Non-Final Reject	T000121_ROA_10_15_09.pdf	142007	no	18
			d9d14bebc004374ddb51d25d071d719c5d6772		
Warnings:					
Information:					
2	Extension of Time	T00121_Extension_4_14_10.pdf	413555	no	2
			055631514eb4b5b342e327c30b9bf36f6d62f1a		
Warnings:					
Information:					
3	Fee Worksheet (PTO-875)	fee-info.pdf	29651	no	2
			e4112ecc43a0ac9fddcb92e3f3c9c4b8679c45de6		
Warnings:					
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Total Files Size (in bytes):			585213		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 10/957,919	Filing Date 10/04/2004	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	SMALL ENTITY <input type="checkbox"/>		OR	SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A		OR	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A			N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =			X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =			X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY		OR	SMALL ENTITY	
AMENDMENT	04/15/2010	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	* 46	Minus	** 50 = 0	X \$ =		OR	X \$52=	0
	Independent <small>(37 CFR 1.16(h))</small>	* 7	Minus	***7 = 0	X \$ =		OR	X \$220=	0
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>							OR		
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY		OR	SMALL ENTITY	
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)	
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	** =	X \$ =		OR	X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	*** =	X \$ =		OR	X \$ =	
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>							OR		
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
 /SANDRA L. TUCKER SMITH/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
 If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



NOTICE OF ALLOWANCE AND FEE(S) DUE

33438 7590 05/28/2010

HAMILTON & TERRILE, LLP
P.O. BOX 203518
AUSTIN, TX 78720

EXAMINER
COUGHLAN, PETER D
ART UNIT PAPER NUMBER
2129
DATE MAILED: 05/28/2010

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

10/957,919 10/04/2004 Nathan E. Little T00121 9162

TITLE OF INVENTION: COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS

Table with 7 columns: APPLN. TYPE, SMALL ENTITY, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE

nonprovisional NO \$1510 \$0 \$0 \$1510 08/30/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

33438 7590 05/28/2010

HAMILTON & TERRILE, LLP
 P.O. BOX 203518
 AUSTIN, TX 78720

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/957,919	10/04/2004	Nathan E. Little	T00121	9162

TITLE OF INVENTION: COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	08/30/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
COUGHLAN, PETER D	2129	706-047000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____</p> <p>(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____</p> <p>3 _____</p>
---	---

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY AND STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent) : Individual Corporation or other private group entity Government

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).</p>
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5. Change in Entity Status (from status indicated above)

a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P. O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
Rows: 10/957,919, 10/04/2004, Nathan E. Little, T00121, 9162; 33438, 7590, 05/28/2010; HAMILTON & TERRILE, LLP; EXAMINER COUGHLAN, PETER D; ART UNIT, PAPER NUMBER; 2129; DATE MAILED: 05/28/2010

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No. 10/957,919	Applicant(s) LITTLE ET AL.	
Examiner PETER COUGHLAN	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. This communication is responsive to 4/15/2010.
- 2. The allowed claim(s) is/are 1,3-15,17,19-30 and 32-50 renumbered claims 1-46.
- 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 - 5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
- 6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1. Notice of References Cited (PTO-892)
- 2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
- 4. Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 5. Notice of Informal Patent Application
- 6. Interview Summary (PTO-413), Paper No./Mail Date _____.
- 7. Examiner's Amendment/Comment
- 8. Examiner's Statement of Reasons for Allowance
- 9. Other _____.

Examiner's Amendment

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Claim 17 of the application has been amended as follows:

17.(Currently Amended) The computer system of claim [16]15 wherein the one or more configurations queries relate to a configuration completion problem.

Allowable Subject Matter

2. The following is an Examiner's statement of reason for allowance: Claims 21-52, 55 and 56 are considered allowable since when reading the claims in light of the specification, as per the MPEP §2111.01 or *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999), none of the references of record alone or in combination disclose or suggest the combination of limitations specified in the independent claims including, at least:

Claims 1, 14, 15, 29, 30, 44 and 45;

...dividing one or more configuration queries into multiple configuration sub-queries, wherein the multiple configuration sub-queries represent the one or more configuration queries; processing each sub-query using at least one configuration sub-model per sub-

Art Unit: 2129

query, wherein each configuration sub-model collectively models the configurable product and each configuration sub-models includes...the processing of each sub-query using at least one configuration sub-model per sub-query...

3. A practical application for the invention is disclosed in paragraph 0003 which relates to a configuration model which relates to an automobile.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Coughlan whose telephone number is (571) 272-5990, Monday through Friday from 7:15 a.m. to 3:45 p.m. or contact the Supervisor Mr. Donald Sparks at (571) 272-4201.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Peter Coughlan whose telephone number is (571)272-5990. The examiner can normally be reached on Mon-Fri 7am-3:30pm.

Art Unit: 2129


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Donald Sparks can be reached on 571-272-4201 The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PETER COUGHLAN/
Examiner, Art Unit 2129
5/11/2010

/Donald Sparks/
Supervisory Patent Examiner, Art
Unit 2129

Index of Claims 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
	Examiner PETER COUGHLAN	Art Unit 2129

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	09/12/2008	10/08/2009	05/11/2010					
1	1	✓	✓	=					
	2	✓	✓	-					
2	3	✓	✓	=					
3	4	✓	✓	=					
4	5	✓	✓	=					
5	6	✓	✓	=					
6	7	✓	✓	=					
7	8	✓	✓	=					
8	9	✓	✓	=					
9	10	✓	✓	=					
10	11	✓	✓	=					
11	12	✓	✓	=					
12	13	✓	✓	=					
17	14	✓	✓	=					
18	15	✓	✓	=					
	16	✓	✓	-					
17	17	✓	✓	=					
	18	✓	✓	-					
20	19	✓	✓	=					
21	20	✓	✓	=					
22	21	✓	✓	=					
23	22	✓	✓	=					
24	23	✓	✓	=					
25	24	✓	✓	=					
26	25	✓	✓	=					
27	26	✓	✓	=					
28	27	✓	✓	=					
29	28	✓	✓	=					
30	29	✓	✓	=					
31	30	✓	✓	=					
	31	✓	✓	-					
32	32	✓	✓	=					
33	33	✓	✓	=					
34	34	✓	✓	=					
35	35	✓	✓	=					
36	36	✓	✓	=					

Index of Claims 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
	Examiner PETER COUGHLAN	Art Unit 2129

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	09/12/2008	10/08/2009	05/11/2010					
37	37	✓	✓	=					
38	38	✓	✓	=					
39	39	✓	✓	=					
40	40	✓	✓	=					
41	41	✓	✓	=					
42	42	✓	✓	=					
43	43	✓	✓	=					
44	44	✓	✓	=					
45	45	✓	✓	=					
46	46	✓	✓	=					
13	47	✓	✓	=					
14	48	✓	✓	=					
15	49	✓	✓	=					
16	50	✓	✓	=					



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 United States Patent and Trademark Office
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 P.O. Box 1450
 Alexandria, Virginia 22313-1450
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BIB DATA SHEET

CONFIRMATION NO. 9162

SERIAL NUMBER 10/957,919	FILING or 371(c) DATE 10/04/2004 RULE	CLASS 706	GROUP ART UNIT 2129	ATTORNEY DOCKET NO. T00121	
APPLICANTS Nathan E. Little, Austin, TX; Brandon M. Beck, Austin, TX; Brian K. Showers, Cedar Park, TX; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 12/07/2004					
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and /PETER D COUGHLAN/ Acknowledged Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY TX	SHEETS DRAWINGS 8	TOTAL CLAIMS 46	INDEPENDENT CLAIMS 7
ADDRESS HAMILTON & TERRILE, LLP P.O. BOX 203518 AUSTIN, TX 78720 UNITED STATES					
TITLE Complex configuration processing using configuration sub-models					
FILING FEE RECEIVED 1940	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
		"5825651".pn. and part\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:53
		"5825651".pn. and sub-\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:51
		"5825651".pn. and sub\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:50
		"5825651".pn. and over\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
		"5825651".pn. and sub\$	US-PGPUB; USPAT	OR	ON	2009/09/10 09:17
		@pd<"20041004" and multimedia and ("knowledge base" or knowledgebase) and structure and query and (subquery or sub-query or "sub query)	US-PGPUB; USPAT	OR	ON	2007/04/21 10:56
L1	278	706/60.ccls.	US-PGPUB; USPAT	OR	ON	2010/05/11 13:32
L2	3	@pd<"20041004" and (((sub-queries or subqueries or "sub queries") with dividing. clm.) with queries)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:41
L3	5	@pd<"20041004" and (((sub-queries or subqueries or "sub queries") with dividing) with queries)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:42
L4	2	I3 not I2	US-PGPUB; USPAT	OR	ON	2010/05/11 13:42

L5	0	@pd<"20041004" and (((sub-queries or subqueries or "sub queries") with using.clm.) with (sub-model or submodel or "sub model"))	US-PGPUB; USPAT	OR	ON	2010/05/11 13:43
L6	0	@pd<"20041004" and (((sub-queries or subqueries or "sub queries") with using) with (sub-model or submodel or "sub model"))	US-PGPUB; USPAT	OR	ON	2010/05/11 13:43
L7	2	@pd<"20041004" and ((compatibility.clm. with relationship) with part)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:44
L8	10	@pd<"20041004" and ((compatibility with relationship) with part)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:44
L9	8	l8 not l7	US-PGPUB; USPAT	OR	ON	2010/05/11 13:44
L10	0	@pd<"20041004" and (((sub-model or submodel or "sub model") with answer.clm.) with consolidated)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:46
L11	0	@pd<"20041004" and (((sub-model or submodel or "sub model") with answer) with consolidated)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:46
L12	0	@pd<"20041004" and (((sub-queries or subqueries or "sub queries") with each.clm.) with (sub-model or submodel or "sub model"))	US-PGPUB; USPAT	OR	ON	2010/05/11 13:46
L13	0	@pd<"20041004" and (((sub-queries or subqueries or "sub queries") with each) with (sub-model or submodel or "sub model"))	US-PGPUB; USPAT	OR	ON	2010/05/11 13:47

S1	4	@pd<"20041004" and multimedia and ("knowledge base" or knowledgebase) and structure and query and (subquery or sub-query or "sub query")	US-PGPUB; USPAT	OR	ON	2007/04/21 10:56
S2	0	@pd<"20041004" and model and (submodel or sub-model or "sub model") and answer and (subanswer or sub-answer or "sub answer")	US-PGPUB; USPAT	OR	ON	2007/04/21 10:57
S3	74	@pd<"20041004" and model and (submodel or sub-model or "sub model") and answer	US-PGPUB; USPAT	OR	ON	2007/04/21 10:57
S4	0	@pd<"20041004" and (processor or cup) and rule and specification and element and (database or "data base") and overlap and (common with range)	US-PGPUB; USPAT	OR	ON	2007/04/21 10:59
S5	6	@pd<"20041004" and (processor or cup) and rule and specification and element and (database or "data base") and overlap	US-PGPUB; USPAT	OR	ON	2007/04/21 10:59
S6	14	@pd<"20041004" and (common with range) and (combining with average \$) and matching	US-PGPUB; USPAT	OR	ON	2007/04/21 11:00
S7	12673	@pd<"20041004" and retrieving and images and requirement	US-PGPUB; USPAT	OR	ON	2007/04/21 11:01
S8	1834	@pd<"20041004" and (database with retrieving) and images and requirement	US-PGPUB; USPAT	OR	ON	2007/04/21 11:01
S9	620	@pd<"20041004" and (database with retrieving) and (database with image) and requirement	US-PGPUB; USPAT	OR	ON	2007/04/21 11:02
S10	197	@pd<"20041004" and ((model with configuration) with problem)	US-PGPUB; USPAT	OR	ON	2007/12/21 07:55

S11	2	@pd<"20041004" and ((model with configuration) with problem) and (submodel or sub-model or "sub model")	US-PGPUB; USPAT	OR	ON	2007/04/21 11:04
S12	3	@pd<"20041004" and (((model with configuration) with problem) same rule)	US-PGPUB; USPAT	OR	ON	2007/04/21 11:04
S13	0	710/8.ccls and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2007/04/21 11:04
S14	1023	710/8.ccls. and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S15	289	710/8.ccls. and @pd<"20041004" and model	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S16	242	710/8.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S17	39	710/8.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S18	9	703/25.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S19	61	703/25.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S20	85	700/30.ccls. and @pd<"20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S21	28	700/30.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S22	95	706/46.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
S23	112	706/47.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06

S24	7	706/6.ccls. and @pd<"20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
S25	372	S24 or S23 or S22 or S21 or S20 or S19 or S17	US-PGPUB; USPAT	OR	ON	2007/04/21 11:07
S26	1309	@pd<"20041004" and dell.as.	US-PGPUB; USPAT	OR	ON	2007/12/24 09:50
S27	2	@pd<"20041004" and dell.as. and (internet with sale)	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07
S28	0	"09344391".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 07:59
S29	0	"9344391".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:21
S30	0	"09009401".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:21
S31	0	"9009401".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:22
S32	8	wyngarden.in.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:22
S33	13	@pd<"20041004" and dell.as. and (internet with configuration)	US-PGPUB; USPAT	OR	ON	2007/12/21 08:46
S34	1	"6167383".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18
S35	0	"6167383".pn. and compatab\$	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18
S36	1	"6167383".pn. and compat\$	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18
S37	286	@pd<"20041004" and dell.as. and (computer with configuration)	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07
S38	15	@pd<"20041004" and dell.as. and (computer with configuration) and ordering	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07

S39	1	@pd<"20041004" and dell.as. and "706".clas.	US-PGPUB; USPAT	OR	ON	2007/12/24 09:50
S40	511	706/20.ccls. and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
S41	319	706/20.ccls. and @pd<"20041004" and (model\$ or silulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
S42	340	706/20.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
S43	2503	707/102.ccls. and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S44	1208	707/102.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S45	1368	707/1.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S46	1690	707/10.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S47	789	707/4.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S48	1325	705/26.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S49	31	705/56.ccls. and @pd<"20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:53
S50	371	S49 or S42	US-PGPUB; USPAT	OR	ON	2007/12/24 09:53
S51	1144	@pd<"20041004" and ((web adj (design or page)) same classes)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:09
S52	432	@pd<"20041004" and ((web adj (design or page)) with classes)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:09
S53	11	@pd<"20041004" and ((web.ab. adj (design or page)) with classes)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:09
S54	151	@pd<"20041004" and ((web adj (design or page)) with "back end")	US-PGPUB; USPAT	OR	ON	2009/09/09 14:11


S55	0	@pd<"20041004" and ("web site" adj (design or page)) with "back end")	US-PGPUB; USPAT	OR	ON	2009/09/09 14:25
S56	0	@pd<"20041004" and ("web page" adj (design or page)) with "back end")	US-PGPUB; USPAT	OR	ON	2009/09/09 14:25
S57	432	@pd<"20041004" and ((web adj (design or page)) with class)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:25
S58	1	@pd<"20041004" and ((web adj (design or page)) with (submodel or sub-model or "sub model"))	US-PGPUB; USPAT	OR	ON	2009/09/09 14:26
S59	937	@pd<"20041004" and (web adj (design or page)) and (product with configuration)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:29
S60	63	@pd<"20041004" and (web adj (design or page)) and (page with (product with configuration))	US-PGPUB; USPAT	OR	ON	2009/09/09 14:29
S61	2	"5825651".pn. or "5515524".pn.	US-PGPUB; USPAT	OR	ON	2009/09/09 14:33
S62	49	@pd<"20041004" and trilogy.as.	US-PGPUB; USPAT	OR	ON	2009/09/09 14:50
S64	1	"5825651".pn. and input	US-PGPUB; USPAT	OR	ON	2009/09/09 15:14
S65	0	"5825651".pn. and web	US-PGPUB; USPAT	OR	ON	2009/09/09 15:15
S66	0	"5825651".pn. and internet	US-PGPUB; USPAT	OR	ON	2009/09/09 15:15
S67	1	"5825651".pn. and interface	US-PGPUB; USPAT	OR	ON	2009/09/09 15:15
S68	1	"5825651".pn. and product	US-PGPUB; USPAT	OR	ON	2009/09/10 09:04
S69	0	"5825651".pn. and submodel	US-PGPUB; USPAT	OR	ON	2009/09/10 09:17

S70	0	"5825651".pn. and sub-model	US-PGPUB; USPAT	OR	ON	2009/09/10 09:17
S71	0	"5825651".pn. and "sub model"	US-PGPUB; USPAT	OR	ON	2009/09/10 09:17
S72	1	"5825651".pn. and group	US-PGPUB; USPAT	OR	ON	2009/09/10 09:57
S73	1	"5825651".pn. and display	US-PGPUB; USPAT	OR	ON	2009/09/10 11:04
S74	0	"6167383".pn. and compatable	US-PGPUB; USPAT	OR	ON	2009/09/24 12:45
S75	1	"6167383".pn. and compatible	US-PGPUB; USPAT	OR	ON	2009/09/24 12:47
S76	1	"20010032100"	US-PGPUB; USPAT	OR	ON	2009/09/24 14:34
S77	1	"5825651".pn.	US-PGPUB; USPAT	OR	ON	2009/10/08 10:15
S78	1	"5825651".pn. and valid\$	US-PGPUB; USPAT	OR	ON	2009/10/08 10:58
S79	0	"5825651".pn. and overlap \$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
S80	0	"5825651".pn. and duplic\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
S81	1	"5825651".pn. and informa \$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
S82	0	"5825651".pn. and sub-q\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:51
S83	1	"5825651".pn. and part	US-PGPUB; USPAT	OR	ON	2009/10/08 11:53
S84	1	"5825651".pn. and configuration	US-PGPUB; USPAT	OR	ON	2009/10/08 12:11
S85	1	"5825651".pn. and (configuration same product)	US-PGPUB; USPAT	OR	ON	2009/10/08 12:12

S86	2982	@pd<"20041004" and (web.ab. with page)	US-PGPUB; USPAT	OR	ON	2009/10/08 13:19
S87	865	@pd<"20041004" and (web.ab. with page) and model	US-PGPUB; USPAT	OR	ON	2009/10/08 13:20
S88	456	@pd<"20041004" and (web.ab. with page) and model and configuration	US-PGPUB; USPAT	OR	ON	2009/10/08 13:20
S89	72	@pd<"20041004" and (web.ab. with page) and (model same configuration)	US-PGPUB; USPAT	OR	ON	2009/10/08 13:21
S90	30	@pd<"20041004" and (web.ab. with page) and (model with configuration)	US-PGPUB; USPAT	OR	ON	2009/10/08 13:21
S91	42	S89 not S90	US-PGPUB; USPAT	OR	ON	2009/10/08 13:27
S92	149	700/103.ccls. and @pd<"20041004"	US-PGPUB; USPAT	OR	ON	2009/10/08 14:05

5/ 11/ 2010 1:52:07 PM

C:\ Documents and Settings\ pcoughlan\ My Documents\ EAST\ Workspaces\ 10957919.wsp

Search Notes 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
	Examiner PETER COUGHLAN	Art Unit 2129

SEARCHED			
Class	Subclass	Date	Examiner
705	@pd<20041004 and 56	12/24/2007	PDC
706	@pd<20041004 and 20	12/24/2007	PDC
706	@pd<20041004 and 8, 6, 28, 45	9/12/2008	PDC
705	@pd<20041004 with query, configuration, model, compatibility and 26	9/12/2008	PDC
705	@pd<20041004 and 103	10/8/2009	PDC
706	60	5/11/2010	PDC

SEARCH NOTES		
Search Notes	Date	Examiner
East -- @pd<20041004 and multimedia, knowledge base, structure, query, sub query, model, sub model, answer, sub answer, processor, CPU, Dell, central processing unit, rules, specification, elements, sub-elements, database, overlap, common range, combining answers, matching, retrieving, images, requirements, computer configuration, order, sales, internet	12/24/2007	PDC
IEEE <2005 Nathan E Little, Brandon M Beck, Brian K Showers, combining answers, matching, retrieving, images, requirements, multimedia, knowledge base, structure, query, sub query, model, sub model, answer, sub answer, processor, CPU, Central processing unit, rules, specification, elements, sub elements, database, overlap, common range	12/24/2007	PDC
Inventors -- Nathan E Little, Brandon M Beck, Brian K Showers,	12/24/2007	PDC
East -- @pd<20081004 and validation, enhancement, queries, part, configuration, relation, model, compatibility, sub model, computer, assist,	9/12/2008	PDC
East -- @pd<20041004 and valid, overlap, duplication, information, subset, submodel, part, configuration, product, page, web, model	10/8/2009	PDC
East -- @pd<20041004 and dividing, queries, sub-queries, subqueries, sub queries, sub-model, submodel, sub model, using, compatibility, relationship, parts, answer, consolidated, each	5/11/2010	PDC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
USPGPub	Independent claim keyword .CLM.	5/11/2010	PDC

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**REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)**

Application Number	10957919	Filing Date	2004-10-04	Docket Number (if applicable)	T00121	Art Unit	2129
First Named Inventor	Nathan E. Little			Examiner Name	Peter D. Coughlan		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

Other _____

Enclosed

Amendment/Reply

Information Disclosure Statement (IDS)

Affidavit(s)/ Declaration(s)

Other _____

MISCELLANEOUS

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 502264

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Patent Practitioner Signature

Applicant Signature

Signature of Registered U.S. Patent Practitioner			
Signature	/Kent B. Chambers/	Date (YYYY-MM-DD)	2010-08-30
Name	Kent B. Chambers	Registration Number	38839

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		10957919
	Filing Date		2004-10-04
	First Named Inventor	Nathan E. Little	
	Art Unit		2129
	Examiner Name	Peter D. Coughlan	
	Attorney Docket Number		T00121

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
	1	7200582	B1	2007-04-03	Smith		
	2	7464064	B1	2008-12-09	Smith		
	3	5515524		1996-05-07	Lynch		
	4	5708798		1998-01-13	Lynch et al.		
	5	6002854		1999-12-14	Lynch et al.		
	6	7043407	B2	2006-05-09	Lynch et al.		
	7	6115547		2000-09-05	Ghatate et al.		
	8	6430730	B1	2002-08-06	Ghatate et al.		

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10957919
Filing Date	2004-10-04
First Named Inventor	Nathan E. Little
Art Unit	2129
Examiner Name	Peter D. Coughlan
Attorney Docket Number	T00121

9	6405308	B1	2002-06-11	Gupta et al.	
10	6675294	B1	2004-01-06	Gupta et al.	

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U.S.PATENT APPLICATION PUBLICATIONS

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	1							<input type="checkbox"/>

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	10957919
	Filing Date	2004-10-04
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	Art Unit	2129
	Examiner Name	Peter D. Coughlan
	Attorney Docket Number	T00121

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	10957919
	Filing Date	2004-10-04
	First Named Inventor	Nathan E. Little
	Art Unit	2129
	Examiner Name	Peter D. Coughlan
	Attorney Docket Number	T00121

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Kent B. Chambers/	Date (YYYY-MM-DD)	2010-08-30
Name/Print	Kent B. Chambers	Registration Number	38839

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	10957919
Filing Date:	04-Oct-2004
Title of Invention:	COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS
First Named Inventor/Applicant Name:	Nathan E. Little
Filer:	Kent Bryan Chambers/Terri Munoz
Attorney Docket Number:	T00121

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	1801	1	810	810
Total in USD (\$)				810

Electronic Acknowledgement Receipt

EFS ID:	8317589
Application Number:	10957919
International Application Number:	
Confirmation Number:	9162
Title of Invention:	COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS
First Named Inventor/Applicant Name:	Nathan E. Little
Customer Number:	33438
Filer:	Kent Bryan Chambers/Terri Munoz
Filer Authorized By:	Kent Bryan Chambers
Attorney Docket Number:	T00121
Receipt Date:	30-AUG-2010
Filing Date:	04-OCT-2004
Time Stamp:	14:50:25
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$810
RAM confirmation Number	1034
Deposit Account	502264
Authorized User	CHAMBERS,KENT B

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	T00121_RCETransmittal.pdf	697361 2948007aa8f44518a34fb5489875e33892d7a6ae	no	3

Warnings:

Information:

2	Information Disclosure Statement (IDS) Filed (SB/08)	T00121_IDS.pdf	612253 f8aaff4219b55857bda240a805c8c1a087d71962	no	5
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Warnings:

Information:

3	Fee Worksheet (PTO-875)	fee-info.pdf	30506 d1a841836ac6f7b25412cb7576de4bc24f18fab2	no	2
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Warnings:

Information:

Total Files Size (in bytes):

1340120

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



NOTICE OF ALLOWANCE AND FEE(S) DUE

33438 7590 09/09/2010

HAMILTON & TERRILE, LLP
P.O. BOX 203518
AUSTIN, TX 78720

EXAMINER
COUGHLAN, PETER D
ART UNIT PAPER NUMBER

2129
DATE MAILED: 09/09/2010

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

10/957,919 10/04/2004 Nathan E. Little T00121 9162

TITLE OF INVENTION: COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS

Table with 7 columns: APPLN. TYPE, SMALL ENTITY, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE

nonprovisional NO \$1510 \$0 \$0 \$1510 12/09/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P. O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes application details for Nathan E. Little and Hamilton & Terrile, LLP.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No. 10/957,919	Applicant(s) LITTLE ET AL.	
Examiner PETER COUGHLAN	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. This communication is responsive to 8/30/2010.
- 2. The allowed claim(s) is/are 1,3-15,17,19-30 and 32-50.
- 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 - 5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
- 6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1. Notice of References Cited (PTO-892)
- 2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3. Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 8/30/2010
- 4. Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 5. Notice of Informal Patent Application
- 6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
- 7. Examiner's Amendment/Comment
- 8. Examiner's Statement of Reasons for Allowance
- 9. Other _____.

Examiner's Amendment

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Claim 17 of the application has been amended as follows:

17.(Currently Amended) The computer system of claim [16]15 wherein the one or more configurations queries relate to a configuration completion problem.

Allowable Subject Matter

2. The following is an Examiner's statement of reason for allowance: Claims 21-52, 55 and 56 are considered allowable since when reading the claims in light of the specification, as per the MPEP §2111.01 or *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999), none of the references of record alone or in combination disclose or suggest the combination of limitations specified in the independent claims including, at least:

Claims 1, 14, 15, 29, 30, 44 and 45;

...dividing one or more configuration queries into multiple configuration sub-queries, wherein the multiple configuration sub-queries represent the one or more configuration queries; processing each sub-query using at least one configuration sub-model per sub-

Art Unit: 2129

query, wherein each configuration sub-model collectively models the configurable product and each configuration sub-models includes...the processing of each sub-query using at least one configuration sub-model per sub-query...

3. A practical application for the invention is disclosed in paragraph 0003 which relates to a configuration model which relates to an automobile.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Coughlan whose telephone number is (571) 272-5990, Monday through Friday from 7:15 a.m. to 3:45 p.m. or contact the Supervisor Mr. Donald Sparks at (571) 272-4201.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Peter Coughlan whose telephone number is (571)272-5990. The examiner can normally be reached on Mon-Fri 7am-3:30pm.

Art Unit: 2129


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Donald Sparks can be reached on 571-272-4201 The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PETER COUGHLAN/
Examiner, Art Unit 2129
5/11/2010

*/Michael B. Holmes/
Primary Examiner, Art Unit 2129*

Index of Claims 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
	Examiner PETER COUGHLAN	Art Unit 2129

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE									
Final	Original	09/12/2008	10/08/2009	05/11/2010	09/03/2010						
1	1	✓	✓	=	=						
	2	✓	✓	-	-						
2	3	✓	✓	=	=						
3	4	✓	✓	=	=						
4	5	✓	✓	=	=						
5	6	✓	✓	=	=						
6	7	✓	✓	=	=						
7	8	✓	✓	=	=						
8	9	✓	✓	=	=						
9	10	✓	✓	=	=						
10	11	✓	✓	=	=						
11	12	✓	✓	=	=						
12	13	✓	✓	=	=						
17	14	✓	✓	=	=						
18	15	✓	✓	=	=						
	16	✓	✓	-	-						
19	17	✓	✓	=	=						
	18	✓	✓	-	-						
20	19	✓	✓	=	=						
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29	28	✓	✓	=	=						
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32	32	✓	✓	=	=						
33	33	✓	✓	=	=						
34	34	✓	✓	=	=						
35	35	✓	✓	=	=						
36	36	✓	✓	=	=						

Index of Claims 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
	Examiner PETER COUGHLAN	Art Unit 2129

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	09/12/2008	10/08/2009	05/11/2010	09/03/2010				
37	37	✓	✓	=	=				
38	38	✓	✓	=	=				
39	39	✓	✓	=	=				
40	40	✓	✓	=	=				
41	41	✓	✓	=	=				
42	42	✓	✓	=	=				
43	43	✓	✓	=	=				
44	44	✓	✓	=	=				
45	45	✓	✓	=	=				
46	46	✓	✓	=	=				
13	47	✓	✓	=	=				
14	48	✓	✓	=	=				
15	49	✓	✓	=	=				
16	50	✓	✓	=	=				

Search Notes 	Application/Control No. 10957919	Applicant(s)/Patent Under Reexamination LITTLE ET AL.
	Examiner PETER COUGHLAN	Art Unit 2129

SEARCHED			
Class	Subclass	Date	Examiner
705	@pd<20041004 and 56	12/24/2007	PDC
706	@pd<20041004 and 20	12/24/2007	PDC
706	@pd<20041004 and 8, 6, 28, 45	9/12/2008	PDC
705	@pd<20041004 with query, configuration, model, compatibility and 26	9/12/2008	PDC
705	@pd<20041004 and 103	10/8/2009	PDC
706	60	5/11/2010	PDC

SEARCH NOTES		
Search Notes	Date	Examiner
East -- @pd<20041004 and multimedia, knowledge base, structure, query, sub query, model, sub model, answer, sub answer, processor, CPU, Dell, central processing unit, rules, specification, elements, sub-elements, database, overlap, common range, combining answers, matching, retrieving, images, requirements, computer configuration, order, sales, internet	12/24/2007	PDC
IEEE <2005 Nathan E Little, Brandon M Beck, Brian K Showers, combining answers, matching, retrieving, images, requirements, multimedia, knowledge base, structure, query, sub query, model, sub model, answer, sub answer, processor, CPU, Central processing unit, rules, specification, elements, sub elements, database, overlap, common range	12/24/2007	PDC
Inventors -- Nathan E Little, Brandon M Beck, Brian K Showers,	12/24/2007	PDC
East -- @pd<20081004 and validation, enhancement, queries, part, configuration, relation, model, compatibility, sub model, computer, assist,	9/12/2008	PDC
East -- @pd<20041004 and valid, overlap, duplication, information, subset, submodel, part, configuration, product, page, web, model	10/8/2009	PDC
East -- @pd<20041004 and dividing, queries, sub-queries, subqueries, sub queries, sub-model, submodel, sub model, using, compatibility, relationship, parts, answer, consolidated, each	5/11/2010	PDC
East -- 706/46 w/model & w/query	9/3/2010	PDC
East -- sub queries, subqueries, subquer\$, divid\$, configuratioon, model, part, relationship, submodel, sub model, sub-model, collectively, model, compatibility, relationships, answer, combine	9/3/2010	PDC

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INTERFERENCE SEARCH

Class	Subclass	Date	Examiner
USPGPub	Independent claim keyword .CLM.	5/11/2010	PDC
USPGPub	Independent claim keyword .CLM.	9/3/2010	PDC

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
		@pd< "20041004" and ((submodel or "sub model" or sub-model)) with answer.clm.) with combined)	US-PGPUB; USPAT	OR	ON	2010/09/03 15:04
		"5825651".pn. and part\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:53
		"5825651".pn. and sub-\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:51
		"5825651".pn. and sub\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:50
		"5825651".pn. and over\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
		"5825651".pn. and sub\$	US-PGPUB; USPAT	OR	ON	2009/09/10 09:17
		@pd<"20041004" and multimedia and ("knowledge base" or knowledgebase) and structure and query and (subquery or sub-query or "sub query)	US-PGPUB; USPAT	OR	ON	2007/04/21 10:56
L1	10	"7200582".pn. or "7464064".pn. or "5515524".pn. or "5708798".pn. or "6002854".pn. or "7043407".pn. or "6115547".pn. or "6430730".pn. or "6405308".pn. or "6675294".pn.	US-PGPUB; USPAT	OR	ON	2010/09/03 13:19
L2	0	l1 and "sub queries"	US-PGPUB; USPAT	OR	ON	2010/09/03 13:22
L3	0	l1 and "sub-queries"	US-PGPUB; USPAT	OR	ON	2010/09/03 13:22
L4	0	l1 and subqueries	US-PGPUB; USPAT	OR	ON	2010/09/03 13:22
L5	0	l1 and subquer\$	US-PGPUB; USPAT	OR	ON	2010/09/03 13:23

L6	0	l1 and (divid\$4 with quer\$)	US-PGPUB; USPAT	OR	ON	2010/09/03 13:23
L7	6	l1 and (configuration with quer\$)	US-PGPUB; USPAT	OR	ON	2010/09/03 13:24
L8	67	((divid\$4 with quer\$) with (subquer\$ or sub-quer\$ or (sub adj quer\$)))	US-PGPUB; USPAT	OR	ON	2010/09/03 13:49
L9	21	@pd< "20041004" and ((divid\$4 with quer\$) with (subquer\$ or sub-quer\$ or (sub adj quer\$)))	US-PGPUB; USPAT	OR	ON	2010/09/03 13:52
L12	0	@pd< "20041004" and ((divid\$4 with quer\$) with (subquer\$ or sub-quer\$ or (sub adj quer\$))) and (submodel or sub-model or (sub adj model))	US-PGPUB; USPAT	OR	ON	2010/09/03 14:04
L13	1489	706/47.ccls.	US-PGPUB; USPAT	OR	ON	2010/09/03 14:41
L14	549	706/47.ccls. and query	US-PGPUB; USPAT	OR	ON	2010/09/03 14:42
L15	887	706/47.ccls. and model	US-PGPUB; USPAT	OR	ON	2010/09/03 14:42
L16	368	706/47.ccls. and model and query	US-PGPUB; USPAT	OR	ON	2010/09/03 14:42
L17	331	@pd< "20041004" and ((part.clm. with relationship) with configuration)	US-PGPUB; USPAT	OR	ON	2010/09/03 14:59
L18	0	@pd< "20041004" and ((part.clm. with relationship) with configuration) and ((subquery.clm. or "sub query".clm. or sub-query.clm.) with (submodel or "sub model" or sub-model))	US-PGPUB; USPAT	OR	ON	2010/09/03 15:01
L19	0	@pd< "20041004" and ((part with relationship) with configuration) and ((subquery.clm. or "sub query" or sub-query.clm.) with (submodel or "sub model" or sub-model))	US-PGPUB; USPAT	OR	ON	2010/09/03 15:01
L20	0	@pd< "20041004" and (((submodel or "sub model" or sub-model) with collectively.clm.) with model)	US-PGPUB; USPAT	OR	ON	2010/09/03 15:02

L21	1	@pd< "20041004" and ((submodel or "sub model" or sub-model) with collectively) with model)	US-PGPUB; USPAT	OR	ON	2010/09/03 15:03
L22	0	@pd< "20041004" and ((compatibility.clm. with (submodel or "sub model" or sub-model)) with relationship)	US-PGPUB; USPAT	OR	ON	2010/09/03 15:04
L23	0	@pd< "20041004" and ((compatibility with (submodel or "sub model" or sub-model)) with relationship)	US-PGPUB; USPAT	OR	ON	2010/09/03 15:04
L24	0	@pd< "20041004" and (((submodel or "sub model" or sub-model) with answer.clm.) with combined)	US-PGPUB; USPAT	OR	ON	2010/09/03 15:05
L25	0	@pd< "20041004" and (((submodel or "sub model" or sub-model) with answer) with combined)	US-PGPUB; USPAT	OR	ON	2010/09/03 15:05
S1	4	@pd< "20041004" and multimedia and ("knowledge base" or knowledgebase) and structure and query and (subquery or sub-query or "sub query")	US-PGPUB; USPAT	OR	ON	2007/04/21 10:56
S2	0	@pd< "20041004" and model and (submodel or sub-model or "sub model") and answer and (subanswer or sub-answer or "sub answer")	US-PGPUB; USPAT	OR	ON	2007/04/21 10:57
S3	74	@pd< "20041004" and model and (submodel or sub-model or "sub model") and answer	US-PGPUB; USPAT	OR	ON	2007/04/21 10:57
S4	0	@pd< "20041004" and (processor or cup) and rule and specification and element and (database or "data base") and overlap and (common with range)	US-PGPUB; USPAT	OR	ON	2007/04/21 10:59
S5	6	@pd< "20041004" and (processor or cup) and rule and specification and element and (database or "data base") and overlap	US-PGPUB; USPAT	OR	ON	2007/04/21 10:59

S6	14	@pd< "20041004" and (common with range) and (combining with average\$) and matching	US-PGPUB; USPAT	OR	ON	2007/04/21 11:00
S7	12673	@pd< "20041004" and retrieving and images and requirement	US-PGPUB; USPAT	OR	ON	2007/04/21 11:01
S8	1834	@pd< "20041004" and (database with retrieving) and images and requirement	US-PGPUB; USPAT	OR	ON	2007/04/21 11:01
S9	620	@pd< "20041004" and (database with retrieving) and (database with image) and requirement	US-PGPUB; USPAT	OR	ON	2007/04/21 11:02
S10	197	@pd< "20041004" and ((model with configuration) with problem)	US-PGPUB; USPAT	OR	ON	2007/12/21 07:55
S11	2	@pd< "20041004" and ((model with configuration) with problem) and (submodel or sub-model or "sub model")	US-PGPUB; USPAT	OR	ON	2007/04/21 11:04
S12	3	@pd< "20041004" and (((model with configuration) with problem) same rule)	US-PGPUB; USPAT	OR	ON	2007/04/21 11:04
S13	0	710/8.ccls and @pd< "20041004"	US-PGPUB; USPAT	OR	ON	2007/04/21 11:04
S14	1023	710/8.ccls. and @pd< "20041004"	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S15	289	710/8.ccls. and @pd< "20041004" and model	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S16	242	710/8.ccls. and @pd< "20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S17	39	710/8.ccls. and @pd< "20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S18	9	703/25.ccls. and @pd< "20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05

S19	61	703/25.ccls. and @pd< "20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S20	85	700/30.ccls. and @pd< "20041004" and model and configuration	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S21	28	700/30.ccls. and @pd< "20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:05
S22	95	706/46.ccls. and @pd< "20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
S23	112	706/47.ccls. and @pd< "20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
S24	7	706/6.ccls. and @pd< "20041004" and model and configuration and rule	US-PGPUB; USPAT	OR	ON	2007/04/21 11:06
S25	372	S24 or S23 or S22 or S21 or S20 or S19 or S17	US-PGPUB; USPAT	OR	ON	2007/04/21 11:07
S26	1309	@pd< "20041004" and dell.as.	US-PGPUB; USPAT	OR	ON	2007/12/24 09:50
S27	2	@pd< "20041004" and dell.as. and (internet with sale)	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07
S28	0	"09344391".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 07:59
S29	0	"9344391".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:21
S30	0	"09009401".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:21
S31	0	"9009401".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:22
S32	8	wyngarden.in.	US-PGPUB; USPAT	OR	ON	2007/12/21 08:22
S33	13	@pd< "20041004" and dell.as. and (internet with configuration)	US-PGPUB; USPAT	OR	ON	2007/12/21 08:46
S34	1	"6167383".pn.	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18
S35	0	"6167383".pn. and compatab\$	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18
S36	1	"6167383".pn. and compat \$	US-PGPUB; USPAT	OR	ON	2007/12/21 10:18

S37	286	@pd< "20041004" and dell. as. and (computer with configuration)	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07
S38	15	@pd< "20041004" and dell. as. and (computer with configuration) and ordering	US-PGPUB; USPAT	OR	ON	2007/12/24 08:07
S39	1	@pd< "20041004" and dell. as. and "706".clas.	US-PGPUB; USPAT	OR	ON	2007/12/24 09:50
S40	511	706/20.ccls. and @pd< "20041004"	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
S41	319	706/20.ccls. and @pd< "20041004" and (model\$ or silulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
S42	340	706/20.ccls. and @pd< "20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:51
S43	2503	707/102.ccls. and @pd< "20041004"	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S44	1208	707/102.ccls. and @pd< "20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S45	1368	707/1.ccls. and @pd< "20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S46	1690	707/10.ccls. and @pd< "20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S47	789	707/4.ccls. and @pd< "20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S48	1325	705/26.ccls. and @pd< "20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:52
S49	31	705/56.ccls. and @pd< "20041004" and (model\$ or simulation)	US-PGPUB; USPAT	OR	ON	2007/12/24 09:53
S50	371	S49 or S42	US-PGPUB; USPAT	OR	ON	2007/12/24 09:53
S51	1144	@pd< "20041004" and ((web adj (design or page)) same classes)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:09
S52	432	@pd< "20041004" and ((web adj (design or page)) with classes)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:09
S53	11	@pd< "20041004" and ((web.ab. adj (design or page)) with classes)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:09

S54	151	@pd< "20041004" and ((web adj (design or page)) with "back end")	US-PGPUB; USPAT	OR	ON	2009/09/09 14:11
S55	0	@pd< "20041004" and (("web site" adj (design or page)) with "back end")	US-PGPUB; USPAT	OR	ON	2009/09/09 14:25
S56	0	@pd< "20041004" and (("web page" adj (design or page)) with "back end")	US-PGPUB; USPAT	OR	ON	2009/09/09 14:25
S57	432	@pd< "20041004" and ((web adj (design or page)) with class)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:25
S58	1	@pd< "20041004" and ((web adj (design or page)) with (submodel or sub-model or "sub model"))	US-PGPUB; USPAT	OR	ON	2009/09/09 14:26
S59	937	@pd< "20041004" and (web adj (design or page)) and (product with configuration)	US-PGPUB; USPAT	OR	ON	2009/09/09 14:29
S60	63	@pd< "20041004" and (web adj (design or page)) and (page with (product with configuration))	US-PGPUB; USPAT	OR	ON	2009/09/09 14:29
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S62	49	@pd< "20041004" and trilogy.as.	US-PGPUB; USPAT	OR	ON	2009/09/09 14:50
S64	1	"5825651".pn. and input	US-PGPUB; USPAT	OR	ON	2009/09/09 15:14
S65	0	"5825651".pn. and web	US-PGPUB; USPAT	OR	ON	2009/09/09 15:15
S66	0	"5825651".pn. and internet	US-PGPUB; USPAT	OR	ON	2009/09/09 15:15
S67	1	"5825651".pn. and interface	US-PGPUB; USPAT	OR	ON	2009/09/09 15:15
S68	1	"5825651".pn. and product	US-PGPUB; USPAT	OR	ON	2009/09/10 09:04
S69	0	"5825651".pn. and submodel	US-PGPUB; USPAT	OR	ON	2009/09/10 09:17
S70	0	"5825651".pn. and sub-model	US-PGPUB; USPAT	OR	ON	2009/09/10 09:17
S71	0	"5825651".pn. and "sub model"	US-PGPUB; USPAT	OR	ON	2009/09/10 09:17
S72	1	"5825651".pn. and group	US-PGPUB; USPAT	OR	ON	2009/09/10 09:57

S73	1	"5825651".pn. and display	US-PGPUB; USPAT	OR	ON	2009/09/10 11:04
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S75	1	"6167383".pn. and compatible	US-PGPUB; USPAT	OR	ON	2009/09/24 12:47
S76	1	"20010032100"	US-PGPUB; USPAT	OR	ON	2009/09/24 14:34
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S78	1	"5825651".pn. and valid\$	US-PGPUB; USPAT	OR	ON	2009/10/08 10:58
S79	0	"5825651".pn. and overlap \$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
S80	0	"5825651".pn. and duplic\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
S81	1	"5825651".pn. and informa \$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:48
S82	0	"5825651".pn. and sub-q\$	US-PGPUB; USPAT	OR	ON	2009/10/08 11:51
S83	1	"5825651".pn. and part	US-PGPUB; USPAT	OR	ON	2009/10/08 11:53
S84	1	"5825651".pn. and configuration	US-PGPUB; USPAT	OR	ON	2009/10/08 12:11
S85	1	"5825651".pn. and (configuration same product)	US-PGPUB; USPAT	OR	ON	2009/10/08 12:12
S86	2982	@pd< "20041004" and (web.ab. with page)	US-PGPUB; USPAT	OR	ON	2009/10/08 13:19
S87	865	@pd< "20041004" and (web.ab. with page) and model	US-PGPUB; USPAT	OR	ON	2009/10/08 13:20
S88	456	@pd< "20041004" and (web.ab. with page) and model and configuration	US-PGPUB; USPAT	OR	ON	2009/10/08 13:20
S89	72	@pd< "20041004" and (web.ab. with page) and (model same configuration)	US-PGPUB; USPAT	OR	ON	2009/10/08 13:21
S90	30	@pd< "20041004" and (web.ab. with page) and (model with configuration)	US-PGPUB; USPAT	OR	ON	2009/10/08 13:21
S91	42	S89 not S90	US-PGPUB; USPAT	OR	ON	2009/10/08 13:27
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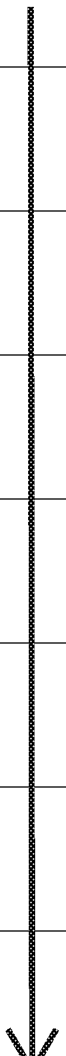
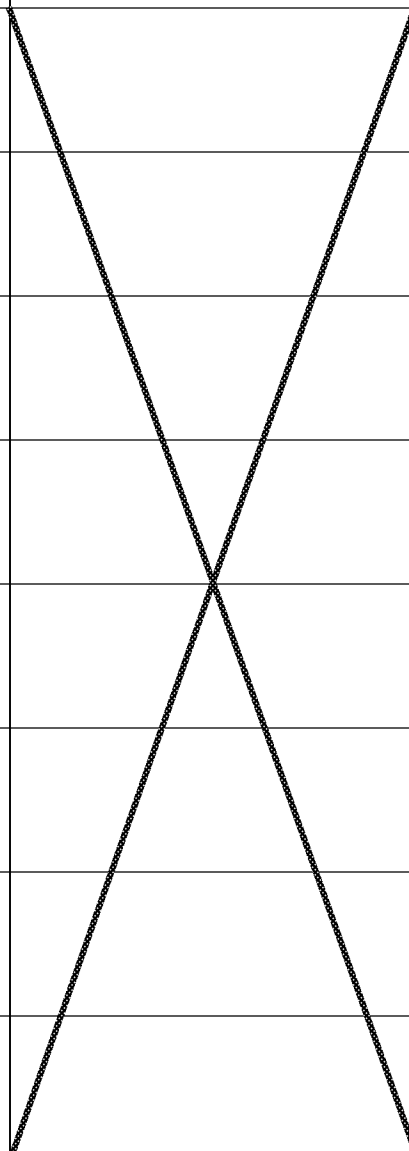
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S96	2	S95 not S94	US-PGPUB; USPAT	OR	ON	2010/05/11 13:42
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S98	0	@pd< "20041004" and (((sub-queries or subqueries or "sub queries") with using) with (sub-model or submodel or "sub model"))	US-PGPUB; USPAT	OR	ON	2010/05/11 13:43
S99	2	@pd< "20041004" and ((compatibility.clm. with relationship) with part)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:44
S100	10	@pd< "20041004" and ((compatibility with relationship) with part)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:44
S101	8	S100 not S99	US-PGPUB; USPAT	OR	ON	2010/05/11 13:44
S102	0	@pd< "20041004" and (((sub-model or submodel or "sub model") with answer.clm.) with consolidated)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:46
S103	0	@pd< "20041004" and (((sub-model or submodel or "sub model") with answer) with consolidated)	US-PGPUB; USPAT	OR	ON	2010/05/11 13:46
S104	0	@pd< "20041004" and (((sub-queries or subqueries or "sub queries") with each.clm.) with (sub-model or submodel or "sub model"))	US-PGPUB; USPAT	OR	ON	2010/05/11 13:46

S105	0	@pd< "20041004" and (((sub-queries or subqueries or "sub queries") with each) with (sub-model or submodel or "sub model"))	US-PGPUB; USPAT	OR	ON	2010/05/11 13:47
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9/ 3/ 2010 3:09:54 PM

C:\ Documents and Settings\ pcoughlan\ My Documents\ EAST\ Workspaces\ 10957919.wsp

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		10957919
	Filing Date		2004-10-04
	First Named Inventor	Nathan E. Little	
	Art Unit		2129
	Examiner Name	Peter D. Coughlan	
	Attorney Docket Number		T00121

U.S. PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
<i>/P.C./</i> 	1	7200582	B1	2007-04-03	Smith		
	2	7464064	B1	2008-12-09	Smith		
	3	5515524		1996-05-07	Lynch		
	4	5708798		1998-01-13	Lynch et al.		
	5	6002854		1999-12-14	Lynch et al.		
	6	7043407	B2	2006-05-09	Lynch et al.		
	7	6115547		2000-09-05	Ghatate et al.		
	8	6430730	B1	2002-08-06	Ghatate et al.		

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10957919
Filing Date	2004-10-04
First Named Inventor	Nathan E. Little
Art Unit	2129
Examiner Name	Peter D. Coughlan
Attorney Docket Number	T00121

/P.C./ ↓ ↓ ↓	9	6405308	B1	2002-06-11	Gupta et al.	
	10	6675294	B1	2004-01-06	Gupta et al.	

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U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear

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FOREIGN PATENT DOCUMENTS

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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
			<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10957919	
Filing Date	2004-10-04	
First Named Inventor	Nathan E. Little	
Art Unit	2129	
Examiner Name	Peter D. Coughlan	
Attorney Docket Number	T00121	

EXAMINER SIGNATURE

Examiner Signature	/Peter Coughlan/	Date Considered	09/03/2010
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

Electronic Patent Application Fee Transmittal

Application Number:	10957919
Filing Date:	04-Oct-2004
Title of Invention:	COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS
First Named Inventor/Applicant Name:	Nathan E. Little
Filer:	Kent Bryan Chambers/Nishi Pasarya
Attorney Docket Number:	T00121

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	1501	1	1510	1510

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				1510

Electronic Acknowledgement Receipt

EFS ID:	8994817
Application Number:	10957919
International Application Number:	
Confirmation Number:	9162
Title of Invention:	COMPLEX CONFIGURATION PROCESSING USING CONFIGURATION SUB-MODELS
First Named Inventor/Applicant Name:	Nathan E. Little
Customer Number:	33438
Filer:	Kent Bryan Chambers/Nishi Pasarya
Filer Authorized By:	Kent Bryan Chambers
Attorney Docket Number:	T00121
Receipt Date:	08-DEC-2010
Filing Date:	04-OCT-2004
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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		T00121_312Amendment.pdf	105771 676098656d3213db70cca59d39b0cfc15ae256c6	yes	15
Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Amendment after Notice of Allowance (Rule 312)			1	1	
Claims			2	14	
Applicant Arguments/Remarks Made in an Amendment			15	15	
Warnings:					
Information:					
2	Issue Fee Payment (PTO-85B)	T00121_IFXMTL.pdf	91979 87f298bc45cd8b02d60080e4e7cf74461d52b69d	no	1
Warnings:					
Information:					
3	Fee Worksheet (PTO-875)	fee-info.pdf	30037 dab316e822f8e3225995d669833ff1d915c332db	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			227787		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Versata Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

December 8, 2010

Filed Electronically

**AMENDMENT AFTER NOTICE OF ALLOWANCE AND PRIOR TO ISSUE
FEE PAYMENT- 37 C.F.R. § 1.312 -**

Dear Sir:

This paper is an amendment filed pursuant to 37 C.F.R. § 1.132 after notice of allowance and prior to payment of the issue fee. Pursuant to MPEP Section 714.16, Applicants respectfully submit that entry of the amendment is needed for proper disclosure or protection of the invention and requires no substantial amount of additional work on the part of the Office.

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A method for using a computer system, wherein the
2 computer system includes computer assisted configuration technology to respond to one
3 or more configuration queries using configuration sub-models, the method comprising:
4 receiving one or more configuration queries representing one or more questions
5 involving parts and part relationships in a configuration of a configurable
6 product; and
7 performing with the computer system:
8 dividing one or more configuration queries into multiple configuration
9 sub-queries, wherein the multiple configuration sub-queries
10 represent the one or more configuration queries;
11 processing each sub-query using at least one configuration sub-model per
12 sub-query, wherein each configuration sub-model collectively
13 models the configurable product and each configuration sub-model
14 includes data to define compatibility relationships between parts
15 included in the configuration sub-model and each configuration
16 sub-model (i) represents a portion of a configuration model of the
17 configurable product and (ii) allows answers from each
18 configuration sub-model to be combined to provide a consolidated
19 answer to the one or more configuration queries;
20 generating a response to the one or more configuration queries based upon
21 [[the]] the processing of each sub-query using at least one
22 configuration sub-model per sub-query; and
23 providing the response to the one or more configuration queries as data for
24 display by a display device.

1 2. (Canceled).

1 3. (Previously Presented) The method of claim 1 wherein the one or
2 more configuration queries relate to a configuration completion problem.

1 4. (Previously Presented) The method of claim 1 further comprising:
2 processing each sub-query using multiple configuration sub-models per sub-
3 query.

1 5. (Previously Presented) The method of claim 1 wherein the one or
2 more configuration queries relate to a configuration validation problem and processing
3 one or more configuration queries further comprises:
4 processing at least one of the sub-queries using different configuration sub-
5 models until a configuration validation answer can be determined.

1 6. (Previously Presented) The method of claim 1 wherein the data
2 collectively included in the configuration sub-models provides a response for each of the
3 sub-queries being processed.

1 7. (Previously Presented) The method of claim 1 wherein at least two
2 sub-queries include overlapping information.

1 8. (Previously Presented) The method of claim 1 further comprising:
2 dividing a consolidated configuration model into the multiple configuration sub-
3 models in accordance with a predetermined data structure;
4 wherein at least one of the configuration queries into multiple configuration sub-
5 queries further comprises dividing the sub-queries in accordance with the
6 sub-model structure.

1 9. (Previously Presented) The method of claim 8 wherein the
2 predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 10. (Previously Presented) The method of claim 1 wherein generating a
2 response to the one or more configuration queries based upon the processed one or more
3 configuration queries and the configuration sub-models further comprises:
4 generating a response for each processed configuration sub-model; and
5 combining each response for each processed configuration sub-model to generate
6 the answer.

1 11. (Original) The method of claim 1 further comprising:
2 dividing a consolidated configuration model into the configuration sub-models.

1 12. (Previously Presented) The method of claim 11 wherein dividing
2 the consolidated configuration model into multiple configuration sub-models further
3 comprises:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer assisted configuration technology while still representing the
7 relationships included in the consolidated configuration model.

1 13. (Original) The method of claim 11 wherein each configuration sub-
2 model represents a portion of the consolidated configuration model.

1 14. (Currently Amended) A method for using a computer system, wherein the
2 computer system includes computer assisted configuration technology to respond to one
3 or more configuration queries using configuration sub-models, the method comprising:
4 dividing a consolidated configuration model into multiple configuration sub-
5 models; and
6 performing with the computer system:
7 responding to the one or more configuration queries representing
8 questions involving configuration of a configurable product,
9 wherein responding to the one or more configuration queries
10 comprises:

11 dividing one or more configuration queries into multiple
12 configuration sub-queries, wherein the multiple
13 configuration sub-queries represent the one or more
14 configuration queries;
15 processing each sub-query using at least one configuration sub-
16 model per sub-query, wherein each configuration sub-
17 model collectively models the configurable product and
18 each configuration sub-model includes data to define
19 compatibility relationships between parts included in the
20 configuration sub-model and each configuration sub-model
21 (i) represents a portion of a configuration model of the
22 configurable product and (ii) allows answers from each
23 configuration sub-model to be combined to provide a
24 consolidated answer to the one or more configuration
25 queries;
26 generating a response to the one or more configuration queries
27 based upon [[the]] the processing of each sub-query using
28 at least one configuration sub-model per sub-query; and
29 providing the response to the one or more configuration queries as
30 data for display by a display device.

1 15. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 receiving one or more configuration queries representing a questions
8 involving parts and part relationships in a configuration of a
9 configurable product;

10 dividing one or more configuration queries into multiple configuration
11 sub-queries, wherein the multiple configuration sub-queries
12 represent the one or more configuration queries;
13 processing each sub-query using at least one configuration sub-model per
14 sub-query, wherein each configuration sub-model collectively
15 models the configurable product and each configuration sub-model
16 includes data to define compatibility relationships between parts
17 included in the configuration sub-model and each configuration
18 sub-model (i) represents a portion of a configuration model of the
19 configurable product and (ii) allows answers from each
20 configuration sub-model to be combined to provide a consolidated
21 answer to the one or more configuration queries;
22 generating a response to the one or more configuration queries based upon
23 [[the]] the processing of each sub-query using at least one
24 configuration sub-model per sub-query; and
25 providing the response to the one or more configuration queries as data for
26 display by a display device.

1 16. (Canceled).

1 17. (Previously Presented) The computer system of claim 16 wherein
2 the one or more configuration queries relate to a configuration completion problem.
3

1 18. (Canceled).

1 19. (Previously Presented) The computer system of claim 15 wherein
2 the one or more configuration queries relate to a configuration validation problem and
3 when solving the configuration validation problem, and the code for processing one or
4 more configuration queries further comprises:

5 processing at least one of the sub-queries using different configuration sub-
6 models until a configuration validation answer can be determined.

1 20. (Previously Presented) The computer system of claim 15 wherein
2 the data collectively included in the configuration sub-models provides a response for
3 each of the sub-queries being processed.

1 21. (Previously Presented) The computer system of claim 15 wherein at
2 least two sub-queries include overlapping information.

1 22. (Previously Presented) The computer system of claim 15 wherein
2 the code further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 23. (Previously Presented) The computer system of claim 22 wherein
2 the predetermined data structure comprises a data structure divided along configuration
3 model part groups, wherein the part groups are a collection of related parts.

1 24. (Previously Presented) The computer system of claim 15 wherein
2 the code for generating a response to the one or more configuration queries based upon
3 the processed one or more configuration queries and the configuration sub-models further
4 comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 25. (Previously Presented) The computer system of claim 15 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 26. (Original) The computer system of claim 15 wherein the data further
2 comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 27. (Previously Presented) The computer system of claim 26 wherein
2 the code for dividing the consolidated configuration model into multiple configuration
3 sub-models further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 28. (Original) The computer system of claim 26 wherein each
2 configuration sub-model represents a portion of the consolidated configuration model.

1 29. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 a processor; and
5 a storage medium having data encoded therein, the data comprising processor
6 executable code for:
7 dividing a consolidated configuration model into multiple configuration
8 sub-models;

9 responding to the one or more configuration queries representing
10 questions involving configuration of a configurable product,
11 wherein responding to the one or more configuration queries
12 comprises:
13 dividing one or more configuration queries into multiple
14 configuration sub-queries, wherein the multiple
15 configuration sub-queries represent the one or more
16 configuration queries;
17 processing each sub-query using at least one configuration sub-
18 model per sub-query, wherein each configuration sub-
19 model collectively models the configurable product and
20 each configuration sub-model includes data to define
21 compatibility relationships between parts included in the
22 configuration sub-model and each configuration sub-model
23 (i) represents a portion of a configuration model of the
24 configurable product and (ii) allows answers from each
25 configuration sub-model to be combined to provide a
26 consolidated answer to the one or more configuration
27 queries;
28 generating a response to the one or more configuration queries
29 based upon [[the]] the processing of each sub-query using
30 at least one configuration sub-model per sub-query; and
31 providing the response to the one or more configuration queries as
32 data for display by a display device.

1 30. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to respond to one or more configuration
3 queries using configuration sub-models, wherein the data comprises processor executable
4 code for:
5 receiving one or more configuration queries representing a questions involving
6 parts and part relationships in a configuration of a configurable product;

7 dividing one or more configuration queries into multiple configuration
8 sub-queries, wherein the multiple configuration sub-queries
9 represent the one or more configuration queries;
10 processing each sub-query using at least one configuration sub-model per sub-
11 query, wherein each configuration sub-model collectively models the
12 configurable product and each configuration sub-model includes data to
13 define compatibility relationships between parts included in the
14 configuration sub-model and each configuration sub-model (i) represents a
15 portion of a configuration model of the configurable product and (ii)
16 allows answers from each configuration sub-model to be combined to
17 provide a consolidated answer to the one or more configuration queries;
18 generating a response to the one or more configuration queries based upon [[the]]
19 the processing of each sub-query using at least one configuration sub-
20 model per sub-query; and
21 providing the response to the one or more configuration queries as data for
22 display by a display device.

1 31. (Canceled).

1 32. (Previously Presented) The computer storage medium of claim 30
2 wherein the one or more configuration queries relate to a configuration completion
3 problem.

1 33. (Previously Presented) The computer storage medium of claim 30
2 wherein the data further comprises processor executable code for:
3 processing each sub-query using multiple configuration sub-models per sub-
4 query.

1 34. (Previously Presented) The computer storage medium of claim 30
2 wherein the one or more configuration queries relate to a configuration validation
3 problem and the code for processing one or more configuration queries further comprises:
4 processing at least one of the sub-queries using different configuration sub-
5 models until a configuration validation answer can be determined.

1 35. (Previously Presented) The computer storage medium of claim 30
2 wherein the data collectively included in the configuration sub-models provides a
3 response for each of the sub-queries being processed.

1 36. (Previously Presented) The computer storage medium of claim 30
2 wherein at least two sub-queries include overlapping information.

1 37. (Previously Presented) The computer storage medium of claim 30
2 the code further comprises code for:
3 dividing the configuration sub-models in accordance with a predetermined data
4 structure; and
5 dividing the sub-queries in accordance with the sub-model structure.

1 38. (Previously Presented) The computer storage medium of claim 37
2 wherein the predetermined data structure comprises a data structure divided along
3 configuration model part groups, wherein the part groups are a collection of related parts.

1 39. (Previously Presented) The computer storage medium of claim 30
2 wherein the code for generating a response to the one or more configuration queries
3 based upon the processed one or more configuration queries and the configuration sub-
4 models further comprises code for:
5 generating a response for each processed configuration sub-model; and
6 combining each response for each processed configuration sub-model to generate
7 the answer.

1 40. (Previously Presented) The computer storage medium of claim 30
2 wherein the code for dividing the consolidated configuration model into multiple
3 configuration sub-models further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 41. (Original) The computer storage medium of claim 30 wherein the data
2 further comprises processor executable code for:
3 dividing a consolidated configuration model into the configuration sub-models.

1 42. (Previously Presented) The computer storage medium of claim 41
2 wherein the code for dividing the consolidated configuration model into multiple
3 configuration sub-models further comprises code for:
4 dividing the configuration model so that complexity of each configuration sub-
5 model allows processing using available data processing capabilities of the
6 computer system while still representing the relationships included in the
7 consolidated configuration model.

1 43. (Original) The computer storage medium of claim 41 wherein each
2 configuration sub-model represents a portion of the consolidated configuration model.

1 44. (Currently Amended) A computer storage medium comprising data
2 embedded therein to cause a computer system to respond to one or more configuration
3 queries using configuration sub-models, wherein the data comprises code for:
4 dividing a consolidated configuration model into multiple configuration sub-
5 models;
6 responding to the one or more configuration queries representing questions
7 involving configuration of a configurable product, wherein responding to
8 the one or more configuration queries comprises:

9 dividing one or more configuration queries into multiple configuration
10 sub-queries, wherein the multiple configuration sub-queries
11 represent the one or more configuration queries;
12 processing each sub-query using at least one configuration sub-model per
13 sub-query, wherein each configuration sub-model collectively
14 models the configurable product and each configuration sub-model
15 includes data to define compatibility relationships between parts
16 included in the configuration sub-model;
17 generating a response to the one or more configuration queries based upon
18 [[the]] the processing of each sub-query using at least one
19 configuration sub-model per sub-query and each configuration
20 sub-model (i) represents a portion of a configuration model of the
21 configurable product and (ii) allows answers from each
22 configuration sub-model to be combined to provide a consolidated
23 answer to the one or more configuration queries; and
24 providing the response to the one or more configuration queries as data for
25 display by a display device.

1 45. (Currently Amended) A computer system to implement an inference
2 procedure for responding to one or more configuration queries using configuration sub-
3 models, the system comprising:
4 means for receiving one or more configuration queries representing a questions
5 involving parts and part relationships in a configuration of a configurable
6 product;
7 means for dividing one or more configuration queries into multiple configuration
8 sub-queries, wherein the multiple configuration sub-queries represent the
9 one or more configuration queries;
10 means for processing each sub-query using at least one configuration sub-model
11 per sub-query, wherein each configuration sub-model collectively models
12 the configurable product and each configuration sub-model includes data
13 to define compatibility relationships between parts included in the

14 configuration sub-model and each configuration sub-model (i) represents a
15 portion of a configuration model of the configurable product and (ii)
16 allows answers from each configuration sub-model to be combined to
17 provide a consolidated answer to the one or more configuration queries;
18 means for generating a response to the one or more configuration queries based
19 upon [[the]] the processing of each sub-query using at least one
20 configuration sub-model per sub-query; and
21 means for providing the response to the one or more configuration queries as data
22 for display by a display device.

1 46. (Original) The computer system of claim 45 further comprising:
2 means for dividing a consolidated configuration model into the configuration sub-
3 models.

1 47. (Previously Presented) The method of claim 1 wherein the
2 configurable product is a vehicle.

1 48. (Previously Presented) The method of claim 1 further comprising:
2 displaying the response on display device.

1 49. (Previously Presented) The method of claim 1 wherein the
2 configuration sub-models each comprise data and rules to define compatibility
3 relationships between parts included in a product.

1 50. (Previously Presented) The method of claim 1 wherein the
2 configuration problem comprises a configuration problem involving parts of a product

REMARKS

Claims 1, 3-15, 17, 19-30 and 32-50 have been allowed. Claims 1, 14, 15, 29, 30, 44, and 45 have been amended to delete the duplicate occurrence of “the”.

Applicants respectfully submit that the claim amendments merely embody the correction of formal matters without changing the scope of the claims and, thus, respectfully requests entry of the amendments.

CONCLUSION

Entry of the amendment submitted herein is respectfully requested.

Should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned at 512-338-9100.

CERTIFICATE OF TRANSMISSION

I hereby certify that on December 8, 2010 this correspondence is being transmitted via the U.S. Patent & Trademark Office's electronic filing system.

/Kent B. Chambers/

Respectfully submitted,

/Kent B. Chambers/

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes fields for EXAMINER (COUGHLAN, PETER D), ART UNIT (2129), PAPER NUMBER, NOTIFICATION DATE (12/30/2010), and DELIVERY MODE (ELECTRONIC).

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tmunoz@hamiltontertile.com

Response to Rule 312 Communication	Application No.	Applicant(s)
	10/957,919	LITTLE ET AL.
	Examiner	Art Unit
	PETER COUGHLAN	2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. The amendment filed on 08 December 2010 under 37 CFR 1.312 has been considered, and has been:
- a) entered.
 - b) entered as directed to matters of form not affecting the scope of the invention.
 - c) disapproved because the amendment was filed after the payment of the issue fee.
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.
 - d) disapproved. See explanation below.
 - e) entered in part. See explanation below.

/Donald Sparks/
Supervisory Patent Examiner, Art Unit 2129

/P. C./
Examiner, Art Unit 2129

OK TO ENTER: /P.C./

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Nathan E. Little, Brandon M. Beck, Brian K. Showers
Assignee: Versata Development Group, Inc.
Title: Complex Configuration Processing Using Configuration Sub-Models
Serial No.: 10/957,919 Filing Date: October 4, 2004
Examiner: Peter D. Coughlan Group Art Unit: 2129
Docket No.: T00121 Customer No.: 33438

December 8, 2010

Filed Electronically

**AMENDMENT AFTER NOTICE OF ALLOWANCE AND PRIOR TO ISSUE
FEE PAYMENT- 37 C.F.R. § 1.312 -**

Dear Sir:

This paper is an amendment filed pursuant to 37 C.F.R. § 1.132 after notice of allowance and prior to payment of the issue fee. Pursuant to MPEP Section 714.16, Applicants respectfully submit that entry of the amendment is needed for proper disclosure or protection of the invention and requires no substantial amount of additional work on the part of the Office.



APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/957,919	02/01/2011	7882057	T00121	9162

33438 7590 01/12/2011
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AUSTIN, TX 78720

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Nathan E. Little, Austin, TX;
Brandon M. Beck, Austin, TX;
Brian K. Showers, Cedar Park, TX;