

instantiated functional units and said second of said instantiated functional units are within a nested loop of said calculation.

Please fax/forward a copy of this to Examiner Eric Coleman at 1-571-273-8300 as soon as possible.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/285,318	10/31/2002	Jon M. Huppenthal	SRC015	1420
25235	7590	10/27/2006	EXAMINER	
HOGAN & HARTSON LLP ONE TABOR CENTER, SUITE 1500 1200 SEVENTEENTH ST DENVER, CO 80202			COLEMAN, ERIC	
			ART UNIT	PAPER NUMBER
			2183	

DATE MAILED: 10/27/2006

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

<b>Interview Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/285,318	HUPPENTHAL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Eric Coleman	2183	

All participants (applicant, applicant's representative, PTO personnel):

- (1) Eric Coleman. (3) David E. Caliga.  
(2) Michael Martensen (Req.No. 46,901). (4) \_\_\_\_\_.

Date of Interview: 24 October 2006.

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: Dehon and Khan references.

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: Counsel and Examiner and Applicant discussed the prior art, the claimed and disclosed invention, and a proposed claim change. Counsel indicated the claims would be amended in a soon to be filed response.

(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.



**ERIC COLEMAN**  
**PRIMARY EXAMINER**

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

\_\_\_\_\_  
Examiner's signature, if required



## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

#### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. 10/285,318 Application of: Jon M. Huppenthal and David E. Caliga Filed: October 31, 2002 Attorney Docket No. SRC015 For: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS	Confirmation No.: 1420 Art Unit: 2183 Examiner: Coleman, Eric Customer No.: <b>25235</b>
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AMENDMENT

MAIL STOP AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the office communication mailed August 17, 2006, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begin on page 2 of this paper.

**Remarks/Arguments** begin on page 11 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (currently amended) A method for data processing in a reconfigurable computing system, the reconfigurable computing system comprising at least one reconfigurable processor, the reconfigurable processor comprising a plurality of functional units, said method comprising:

~~defining a calculation at the at least one reconfigurable processor for said reconfigurable computing system;~~

transforming an algorithm into a calculation that is systolically implemented by said reconfigurable computing system at the at least one reconfigurable processor;

~~instantiating at least two of said functional units at the at least one reconfigurable processor to perform said calculation wherein how many only functional units needed to solve and functional type of each functional unit is based on the calculation are instantiated and wherein each instantiated functional unit at the at least one reconfigurable processor communications interconnects with each other instantiated functional unit at the at least one reconfigurable processor independent of external and internal communication protocols based on reconfigurable routing resources within the at least one reconfigurable processor as established at instantiation, and wherein systolically linked lines of code of said calculation are instantiated as clusters of functional units within the at least one reconfigurable processor;~~

utilizing a first of said instantiated functional units to operate upon a subsequent data dimension of said calculation forming a first computational loop; and

substantially concurrently utilizing a second of said instantiated functional units to operate upon a previous data dimension of said calculation forming a second computational loop wherein said systolic implementation of said calculation enables said first computational loop and said second computational loop execute concurrently and pass computed data seamlessly between said computational loops.

2. (original) The method of claim 1 wherein said subsequent and previous data dimensions of said calculation comprise multiple vectors in said calculation.
3. (original) The method of claim 1 wherein said subsequent and previous data dimensions of said calculation comprise multiple planes in said calculation.
4. (original) The method of claim 1 wherein said subsequent and previous data dimensions of said calculation comprise multiple time steps in said calculation.
5. (original) The method of claim 1 wherein said subsequent and previous data dimensions of said calculation comprise multiple grid points in said calculation.
6. (original) The method of claim 1 wherein said calculation comprises a seismic imaging calculation.
7. (original) The method of claim 1 wherein said calculation comprises a synthetic aperture radar imaging calculation.
8. (original) The method of claim 1 wherein said calculation comprises a JPEG image compression calculation.



9. (original) The method of claim 1 wherein said calculation comprises an MPEG image compression calculation.
10. (original) The method of claim 1 wherein said calculation comprises a fluid flow calculation for a reservoir simulation.
11. (original) The method of claim 1 wherein said calculation comprises a fluid flow calculation for weather prediction.
12. (original) The method of claim 1 wherein said calculation comprises a fluid flow calculation for automotive applications.
13. (original) The method of claim 1 wherein said calculation comprises a fluid flow calculation for aerospace applications.
14. (original) The method of claim 1 wherein said calculation comprises a fluid flow calculation for an injection molding application.
15. (previously presented) The method of claim 1 wherein instantiating includes establishing a stream communication connection between functional units.
16. (original) The method of claim 1 wherein said calculation is comprises a structures calculation for structural analysis.
17. (original) The method of claim 1 wherein said calculation comprises a search algorithm for an image search.
18. (original) The method of claim 1 wherein said calculation comprises a search algorithm for data mining.
19. (original) The method of claim 1 wherein said calculation comprises a financial modeling application.

20. (original) The method of claim 1 wherein said calculation comprises an encryption algorithm.
21. (canceled)
22. (original) The method of claim 1 wherein said calculation comprises a genetic pattern matching function.
23. (original) The method of claim 1 wherein said calculation comprises a protein folding function.
24. (original) The method of claim 1 wherein said calculation comprises an organic structure interaction function.
25. (original) The method of claim 1 wherein said calculation comprises a signal filtering application.
26. (currently amended) A method for data processing in a reconfigurable computing system, the reconfigurable computing system comprising at least one reconfigurable processor comprising a plurality of functional units, said method comprising:
  - transforming an algorithm into a calculation that is systolically implemented by said reconfigurable computing system at the at least one reconfigurable processor wherein systolically linked lines of code of said calculation are instantiated as walls of functional units within the at least one reconfigurable processor;
  - defining a first systolic wall comprising rows of cells forming a subset of said plurality of functional units;
  - computing at the at least one reconfigurable processor a value at each of said cells in at least a first row of said first systolic wall substantially concurrently;
  - communicating said values between cells in said first row of said cells to

produce updated values, wherein communicating said values is based on reconfigurable routing resources within the at least one reconfigurable processor both internal and external communication protocol independent;

communicating said updated values substantially concurrently to a second row of said first systolic wall, wherein communicating said updated values is ~~both internal and external communication protocol independent~~ based on reconfigurable routing resources within the at least one reconfigurable processor; and

~~substantially concurrently providing~~ communicating said updated values substantially concurrently to a first row of a second systolic wall of rows of cells in said subset of said plurality of functional units, wherein communicating said updated values is based on reconfigurable routing resources within the at least one reconfigurable processor and wherein said first systolic wall of rows of cells and said second wall of rows of systolic cells execute substantially concurrently and pass computed data seamlessly between said systolic walls.

27. (original) The method of claim 26 wherein said values correspond to vectors in a computation.
28. (original) The method of claim 26 wherein said values correspond to planes in a computation.
29. (original) The method of claim 26 wherein said values correspond to time steps in a computation.
30. (original) The method of claim 26 wherein said values correspond to grid points in a computation.
31. (original) The method of claim 26 wherein said step of communicating said updated values to a second row of said first systolic wall is carried out without storing said updated values in an extrinsic memory.



32. (original) The method of claim 26 wherein said values correspond to a seismic imaging calculation.
33. (original) The method of claim 26 wherein said values correspond to a synthetic aperture radar imaging calculation.
34. (original) The method of claim 26 wherein said values correspond to a JPEG image compression calculation.
35. (original) The method of claim 26 wherein said values correspond to an MPEG image compression calculation.
36. (original) The method of claim 26 wherein said values correspond to a fluid flow calculation for a reservoir simulation.
37. (original) The method of claim 26 wherein said values correspond to a fluid flow calculation for weather prediction.
38. (original) The method of claim 26 wherein said values correspond to a fluid flow calculation for automotive applications.
39. (original) The method of claim 26 wherein said values correspond to a fluid flow calculation for aerospace applications.
40. (original) The method of claim 26 wherein said values correspond to a fluid flow calculation for an injection molding application.
41. (currently amended) The method of claim 26 wherein defining includes establishing a stream communication connection between functional units and wherein ~~how many~~ only functional units ~~and functional type of each functional unit is~~

~~based on a computing algorithm within the reconfigurable computing system needed to solve the calculations are instantiated.~~

42. (original) The method of claim 26 wherein said values correspond to a structures calculation for structural analysis.
43. (original) The method of claim 26 wherein said values correspond to a search algorithm for an image search.
44. (original) The method of claim 26 wherein said values correspond to a search algorithm for data mining.
45. (original) The method of claim 26 wherein said values correspond to a financial modeling application.
46. (original) The method of claim 26 wherein said values correspond to an encryption algorithm.
47. (canceled)
48. (original) The method of claim 26 wherein said values correspond to a genetic pattern matching function.
49. (original) The method of claim 26 wherein said values correspond to a protein folding function.
50. (original) The method of claim 26 wherein said values correspond to an organic structure interaction function.
51. (original) The method of claim 26 wherein said values correspond to a signal filtering application.

52. (canceled)

53. (previously presented) The method of claim 26 wherein said reconfigurable computing system comprises at least one microprocessor.

54. (currently amended) A method for data processing in a reconfigurable computing system, the reconfigurable computer system comprising at least one reconfigurable processor comprising a plurality of functional units, said method comprising:

transforming an algorithm into a calculation that is systolically implemented by said reconfigurable computing system at the at least one reconfigurable processor wherein systolically linked lines of code of said calculation are instantiated as subsets of said plurality of functional units within the at least one reconfigurable processor forming columns of said calculation;

performing said calculation at the at least one reconfigurable processor by said subsets ~~a subset~~ of said plurality of functional units to produce computed data;

passing ~~exchanging~~ said computed data between ~~[[from]]~~ a first column of said calculation ~~[[to]]~~ and a next column in said calculation, wherein said ~~exchanging~~ passing is based on reconfigurable routing resources within the at least one reconfigurable processor and wherein execution of said subsets of said plurality of function units occurs concurrently and said computed data is seamlessly passed between said first column of said calculation and said second column of said calculation ~~both internal and external communication protocol independent;~~

evaluating a rate of change in at least one variable for each of said columns in said calculation;

continuing said calculation when said variable does not change for a particular column of said calculation; and



Serial No. 10/285,318  
Reply to Office Action of August 17, 2006

restarting said calculation at said column of said calculation where said variable does change.

55. (canceled)

56. (currently amended) The method of claim 54 wherein how many functional units comprise the subset and functional type of each functional unit in said subset is based on the calculation and wherein the passing step is external communication protocol independent.

### **REMARKS/ARGUMENTS**

Claims 1-20, 22-46, 48-51, 53, 54 and 56 were presented for examination and are pending in this application. In an Official Office Action dated August 17, 2006, claims 1-20, 22-46, 48-51, 53, 54 and 56 were rejected. The Applicant thanks the Examiner for his consideration and addresses the Examiner's comments concerning the claims pending in this application below.

Applicant herein amends claims 1, 26, 41, 54 and 56 and respectfully traverses the Examiner's prior rejections. No claims are presently canceled and no new claims are presently added. These changes are believed not to introduce new matter, and their entry is respectfully requested. The claims have been amended to expedite the prosecution and issuance of the application. In making this amendment, Applicant has not and is not narrowing the scope of the protection to which the Applicant considers the claimed invention to be entitled and does not concede, directly or by implication, that the subject matter of such claims were in fact disclosed or taught by the cited prior art. Rather, Applicant reserves the right to pursue such protection at a later point in time and merely seeks to pursue protection for the subject matter presented in this submission.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding rejections and withdraw them.

#### **Summary of Interview with the Examiner**

A telephonic interview was conducted between the Examiner and the Applicant's attorney on October 12, 2006 and on October 24, 2006. During these interviews distinctions between the Applicant's invention and the prior art were

discussed. Specifically, the Applicant discussed the transformation of a serial based algorithm to one that can be systolically implemented in a reconfigurable processor. Additionally, the claims concurrent execution of computation units in such a systolic fashion in comparison to the non concurrent systolic nature of the cited references were discussed. Discussion also centered on the use of the words "protocol independent" to impart the ability of functional units to seamlessly pass computed data between computational loops comprised of functional units. Proposed amendments were discussed although no specific language was agreed upon. The Examiner requested that the Applicant further define the term instantiated and systolic in subsequent communications.

#### **Rejection of the claims under 35 U.S.C. §112**

Claims 1-20, 22-46, 48-51, 53, 54, and 56 were rejected under 35 U.S.C. §112 first paragraph as failing to comply with the written description requirement. The Examiner asserts that the application fails to comply with the written description and enablement requirement with respect to the language of the independent claims stating "wherein each functional unit at the at least one reconfigurable processor communicates with each other functional unit at the at least one reconfigurable processor independent of external and internal communication protocols." The Applicant respectfully disagrees.

The present invention describes and claims methods in a reconfigurable processing system comprising at least one reconfigurable processor. As described in the specification at least in the paragraphs beginning on line 26 of page 10 and on line 3 of page 11, each reconfigurable processor can possess a plurality of functional units. The instantiation of the at least one reconfigurable processor with at least two functional units enables each functional unit to communicate with each other. Certainly communication between other reconfigurable processors within the



system would require communication protocol but communication between functional units within an individual reconfigurable processor is free of such a requirement. To alleviate any confusion, the reference to the term "protocol" has been replaced with an "interconnection" between functional units that is established by reconfigurable routing resources inside each chip.

The Examiner also rejects the aforementioned claims on the grounds that the number of functional units needed to solve a particular problem is not described in the specification. The Applicant refers the Examiner to lines 2-8 of page 3 of the specification. While the Applicant believes the concept of the "type" and "number" of functional unit is implied in the aforementioned portion of the specification, the wording of the claim has been amended to align with the specification, namely that only the functional units needed to solve a particular application are instantiated.

Instantiation is a term well known to one of ordinary skill in the art of reconfigurable processing. A reconfigurable processor is essentially a blank processor that must be configured (instantiated) to conduct a particular task. To instantiate means to create such an instance or configuration by, for example, defining one particular variation of the processor's structure. This involves allocation of a structure with the types specified by a template and the initialization of instance variables with either default values or those provided by a constructor function. In reconfigurable computing a hard macro library file is typically inserted into a design file. A design may include multiple instances of the same library file with each possessing a unique name. Thus in the Applicant's invention the reconfigurable processor is instantiated and designed to perform the defined calculation. Each instantiation for each calculation is unique.

Similarly the term systolic computation is derived from continual and pulsating pumping of the human heart. In computer architecture a systolic array is an

arrangement of data processing units similar to a central processing unit but without a program counter or clock that drives the movement of data. That is because the operation of the systolic array is transport triggered, i.e. by the arrival of a data object. Data flows across the array between functional units, usually with different data flowing in different directions. David J. Evans in his work, *Systolic algorithms*. *Systolic algorithms*, number 3 in *Topics in Computer Mathematics*, Gordon and Breach, 1991 define a Systolic system as a "network of processors which rhythmically compute an pass data through the system" Thus in the Applicant's invention Systolic implementation will connect computational loops such that data from one compute loop will be passed as input data to a concurrently executing compute loop. In the Applicant's invention data computed by computation units or groups of functional units flows seamlessly and concurrently with data being computed by other groups of functional units. Thus, the process claimed by the Applicant therefore significantly increases the computing processes taking place in a reconfigurable processor.

### **35 U.S.C. §103(a) Obviousness Rejection of Claims**

Claims 1-5, 15, 21, 26-31, 41, 47, 52, 53 and 56 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,956,518 ("DeHon") in view of U.S. Patent No. 5,274,832 ("Khan"). Dependent claims 2-14, 16-20, 22-25, 32-40, 42-46, 48-51, and 54 were rejected as being unpatentable over DeHon in view of Khan as applied to the applicable independent claim in further view of various citations of prior art. Applicant respectfully traverses these rejections in view of the following remarks and addresses the rejection of all dependent claims as being based on the rejection of the underlying independent claim.

MPEP §2143 provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation,



either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teaching. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The cited references fail to teach or suggest all of the limitations recited in the claims as currently amended. For example, independent claim 1 (and claims 26 and 54 in varying language) recites, among other things, "transforming an algorithm into a calculation that is systolically implemented by said reconfigurable computing system at the at least one reconfigurable processor ... wherein systolically linked lines of code of said calculation are instantiated as clusters of functional units within the at least one reconfigurable processor ... [and] wherein said systolic implementation of said calculation enables said first computational loop and said second computational loop execute concurrently and pass computed data seamlessly between said computational loops."

DeHon and Khan fail to teach or suggest transforming an algorithm that is serial in nature to one that is systolic in nature for implementation on a reconfigurable processor. Converting a serial based algorithm into a calculation that can be implemented on a reconfigurable processor in a systolic fashion is described in detail in the examples provided in the specification. Specifically, Figures 8A-8C and the text beginning on line 8 of page 17 continuing through line 19 of page 20 describe a systolic wave front operation relating to, in this example, bioinformatics.

The Applicant's invention further forms computation units that are executed concurrently in a systolic fashion such that data computed within each computational unit is seamlessly and concurrently passed between the computational units. This transformation of the serial algorithm to one that is



Serial No. 10/285,318  
Reply to Office Action of August 17, 2006

systolic in nature and its implementation on a reconfigurable processor such that the computation units can operate concurrently and share data seamlessly provides considerable computational advantages and resulting efficiencies.

Several examples of this transformation and its implementation are illustrated in the specification and accompanying figures. As mentioned, Figures 8A-8C and the accompanying text beginning on page 17, line 8 convey the transformation of a bioinformatics process into a systolic wave-front operation. This and the other examples described in the specification detail the advantage and utility of the Applicant's invention which is distinguishable from both DeHon and Khan.

In view of all of the above, the claims are now believed to be allowable and the case in condition for allowance which action is respectfully requested. Should the Examiner be of the opinion that a telephone conference would expedite the prosecution of this case, the Examiner is requested to contact Applicant's attorney at the telephone number listed below.

No fee is believed due for this submittal. However, any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

Respectfully submitted,

13 Nov, 2006

  
Michael C. Martensen, No. 46,901  
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(303) 899-7333 Fax

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	1310119
<b>Application Number:</b>	10285318
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1420
<b>Title of Invention:</b>	Multi-adaptive processing systems and techniques for enhancing parallelism and performance of computational functions
<b>First Named Inventor/Applicant Name:</b>	Jon M. Huppenthal
<b>Customer Number:</b>	25235
<b>Filer:</b>	Michael Christian Martensen/Julie Lange
<b>Filer Authorized By:</b>	Michael Christian Martensen
<b>Attorney Docket Number:</b>	SRC015
<b>Receipt Date:</b>	13-NOV-2006
<b>Filing Date:</b>	31-OCT-2002
<b>Time Stamp:</b>	17:16:34
<b>Application Type:</b>	Utility

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1		DOC097.PDF	128883	yes	16

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Amendment - After Non-Final Rejection	1	1
Claims	2	10
Applicant Arguments/Remarks Made in an Amendment	11	16
<b>Warnings:</b>		
<b>Information:</b>		
<b>Total Files Size (in bytes):</b>	128883	
<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><b><u>New Applications Under 35 U.S.C. 111</u></b>  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><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  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>		



**PATENT APPLICATION FEE DETERMINATION RECORD**  
Effective December 8, 2004

W/285318

**CLAIMS AS FILED - PART I**

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

\* 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	* 52	Minus ** 51	=
Independent	* 3	Minus *** 3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

	(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"/>			

	(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"/>			

SMALL ENTITY TYPE

OR OTHER THAN SMALL ENTITY

RATE	FEE	OR	RATE	FEE
BASIC FEE		OR	BASIC FEE	
X\$ 25=		OR	X\$50=	
X100=		OR	X200=	
+180=		OR	+360=	
TOTAL		OR	TOTAL	

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 25=		OR	X\$50=	
X100=		OR	X200=	
+180=		OR	+360=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 25=		OR	X\$50=	
X100=		OR	X200=	
+180=		OR	+360=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 25=		OR	X\$50=	
X100=		OR	X200=	
+180=		OR	+360=	

### EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	16	speculat\$3 with systolic\$4	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:48
L2	464	speculat\$3 and systolic\$4	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:49
L3	3	speculat\$3 and (systolic\$4 adj process\$3)	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:50
L4	169	rate near3 change near3 column\$1	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:50
L5	448	column\$1 near3 value near3 chang\$3	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:50
L6	69	restart\$3 and 5	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:50
L7	45	until adj value adj chang\$2	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:51
L8	0	"712"".""215".ccls.	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:51
L9	516	712/215.ccls.	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:51
L10	50	712/19.ccls.	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:51
L11	434	712/226.ccls.	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:51
L12	986	9 or 10 or 11	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:52
L13	89	benner and fluid adj flow	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:52
L14	2707	imaging and systolic	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:52
L15	2707	imaging and systolic\$5	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:52
L16	108	imaging with systolic\$5	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:52
L17	5	search adj algorithm with systolic\$5	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:53
L18	36	genetic with systolic\$5	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:53
L19	7	dna with systolic\$5	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:53
L20	93	protein with systolic\$5	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:53
L21	0	dna near3 match\$3 near3 systolic\$3	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:53



### EAST Search History

L22	12	dna near3 match\$3 and systolic\$3	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:54
L23	281	(process\$3 or execut\$3) near3 (concurrent\$4 or simultaneous\$2) near3 dimension\$3	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:54
L24	53528	reconfigur\$3	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:55
L25	464	1 or 2 or 3	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:55
L26	10888	functional adj unit	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:55
L27	25	24 with 26	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:55
L28	0	25 and 27	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:56
L29	1675	routing adj resource\$1	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:56
L30	0	29 with systolic\$5	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:57
L31	8223	(transform\$3 or convert\$3) near3 algorithm	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:57
L32	135	31 and systolic\$5	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:58
L33	4	29 and 32	US-PGPUB; USPAT	OR	OFF	2007/01/06 13:58
L34	181	rout\$3 near3 resourc\$3	EPO; JPO; IBM_TDB	OR	OFF	2007/01/06 13:58
L35	396	systolic\$5	EPO; JPO; IBM_TDB	OR	OFF	2007/01/06 13:59
L36	0	34 and 35	EPO; JPO; IBM_TDB	OR	OFF	2007/01/06 13:59
L37	279	(transform\$3 or convert\$4) near3 algorithm	EPO; JPO; IBM_TDB	OR	OFF	2007/01/06 13:59
L38	0	37 and systolic\$5	EPO; JPO; IBM_TDB	OR	OFF	2007/01/06 13:59





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

NOTICE OF ALLOWANCE AND FEE(S) DUE

25235 7590 01/10/2007

HOGAN & HARTSON LLP
ONE TABOR CENTER, SUITE 1500
1200 SEVENTEENTH ST
DENVER, CO 80202

EXAMINER

COLEMAN, ERIC

ART UNIT PAPER NUMBER

2183

DATE MAILED: 01/10/2007

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

10/285,318 10/31/2002 Jon M. Huppenthal SRC015 1420

TITLE OF INVENTION: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS

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 \$1400 \$300 \$0 \$1700 04/10/2007

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)

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.

25235 7590 01/10/2007

HOGAN & HARTSON LLP  
 ONE TABOR CENTER, SUITE 1500  
 1200 SEVENTEENTH ST  
 DENVER, CO 80202

**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.
-----------------	-------------	----------------------	---------------------	------------------

10/285,318 10/31/2002 Jon M. Huppenthal SRC015 1420

TITLE OF INVENTION: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$0	\$1700	04/10/2007

EXAMINER	ART UNIT	CLASS-SUBCLASS
COLEMAN, ERIC	2183	712-226000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).  
 Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
 "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.

2. For printing on the patent front page, list  
 (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,  
 (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.

1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_

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

4a. The following fee(s) are submitted:  
 Issue Fee  
 Publication Fee (No small entity discount permitted)  
 Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)  
 A check is enclosed.  
 Payment by credit card. Form PTO-2038 is attached.  
 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).

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.

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.



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UNITED STATES DEPARTMENT OF COMMERCE
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10/285,318 10/31/2002 Jon M. Huppenthal SRC015 1420
25235 7590 01/10/2007
HOGAN & HARTSON LLP
ONE TABOR CENTER, SUITE 1500
1200 SEVENTEENTH ST
DENVER, CO 80202
EXAMINER COLEMAN, ERIC
ART UNIT 2183 PAPER NUMBER
DATE MAILED: 01/10/2007

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 625 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 625 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.



<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/285,318	HUPPENTHAL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Eric Coleman	2183	

**-- 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 amendment filed 11/13/06.
2.  The allowed claim(s) is/are 1-20,22-46,48-51,53,54 and 56.
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)**

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
|--|---|

  
 Eric Coleman  
 Primary Examiner

<b>Notice of References Cited</b>	Application/Control No. 10/285,318	Applicant(s)/Patent Under Reexamination HUPPENTHAL ET AL.	
	Examiner Eric Coleman	Art Unit 2183	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-6,215,898	04-2001	Woodfill et al.	382/154
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**

*	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.



<b>Issue Classification</b> 	<b>Application/Control No.</b> 10/285,318	<b>Applicant(s)/Patent under Reexamination</b> HUPPENTHAL ET AL.
	<b>Examiner</b> Eric Coleman	<b>Art Unit</b> 2183

ISSUE CLASSIFICATION									
ORIGINAL				INTERNATIONAL CLASSIFICATION					
CLASS		SUBCLASS		CLAIMED			NON-CLAIMED		
712		226		G	06	F	17	/00	
CROSS REFERENCES									/
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)								/
									/
									/
									/
									/
									/
				<i>Eric Coleman</i> Eric Coleman 1/6/07 (Primary Examiner) (Date)			<b>Total Claims Allowed: 52</b>		
(Assistant Examiner) (Date)				O.G. Print Claim(s)			O.G. Print Fig.		
<i>[Signature]</i> (Legal Instruments Examiner) (Date)				1			2		

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47		
Final	Original	Final	Original	Final	Original	Final	Original	
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3	3	32	33	63	93	123	153	183
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24	25	<del>55</del>		85	115	145	175	205
25	26	52	56	86	116	146	176	206
26	27		57	87	117	147	177	207
27	28		58	88	118	148	178	208
28	29		59	89	119	149	179	209
29	30		60	90	120	150	180	210



**Search Notes**



Application/Control No.

10/285,318

Applicant(s)/Patent under Reexamination

HUPPENTHAL ET AL.

Examiner

Eric Coleman

Art Unit

2183

SEARCHED			
Class	Subclass	Date	Examiner
712	215 19 226	1/6/2007	EC

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner
712	226	1/6/2007	EC

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
Searched East US Pat file US PG Pub file	1/6/2007	EC
Searched East EPO file JPO file IBM TDB file	1/6/2007	EC

**Index of Claims**



Application/Control No.

10/285,318

Examiner

Eric Coleman

Applicant(s)/Patent under Reexamination

HUPPENTHAL ET AL.

Art Unit

2183

√	Rejected
=	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date		
Final	Original	1/6/07		
1	1	=		
2	2	=		
3	3	=		
4	4	=		
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Claim		Date		
Final	Original	1/6/07		
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UNITED STATES PATENT AND TRADEMARK OFFICE

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Bib Data Sheet

CONFIRMATION NO. 1420

<b>SERIAL NUMBER</b> 10/285,318	<b>FILING OR 371(c) DATE</b> 10/31/2002 <b>RULE</b>	<b>CLASS</b> 712	<b>GROUP ART UNIT</b> 2183	<b>ATTORNEY DOCKET NO.</b> SRC015	
<b>APPLICANTS</b> Jon M. Huppenthal, Colorado Springs, CO; David E. Caliga, Colorado Springs, CO;					
** CONTINUING DATA *****					
** FOREIGN APPLICATIONS *****					
<b>IF REQUIRED, FOREIGN FILING LICENSE GRANTED</b> ** 12/09/2002					
Foreign Priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		<b>STATE OR COUNTRY</b> CO	<b>SHEETS DRAWING</b> 20	<b>TOTAL CLAIMS</b> 55	<b>INDEPENDENT CLAIMS</b> 4
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Met after Allowance					
Verified and Acknowledged Examiner's Signature: <i>[Signature]</i> Initials: <i>EC</i>					
<b>ADDRESS</b> 25235					
<b>TITLE</b> Multi-adaptive processing systems and techniques for enhancing parallelism and performance of computational functions					
<b>FILING FEE RECEIVED</b> 1594	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		



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. 10/285,318 Application of: Jon M. Huppenthal and David E. Caliga Filed: October 31, 2002 Attorney Docket No. SRC015 For: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS	Confirmation No.: 1420 Art Unit: 2183 Examiner: Coleman, Eric Customer No.: <b>25235</b>
--	---

AMENDMENT UNDER 37 C.F.R. § 1.312

MAIL STOP ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

A Notice of Allowance was mailed in the above application on January 10, 2007.

In response thereto, please enter the following amendments:

**Amendments to the Specification** begin on page 2 of this paper.

**Remarks/Arguments** begin on page 3 of this paper.

**Amendments to the Specification:**

Please replace the paragraph beginning at page 1, line 2, with the following amended paragraph:

The present invention is related to the subject matter of United States Patent Application Ser. No. 09/755,744 filed January 5, 2001 for: "Multiprocessor Computer Architecture Incorporating a Plurality of Memory Algorithm Processors in the Memory Subsystem" and is further related to the subject matter of United States Patent No. ~~6,454,687~~ 6,434,687 for: "System and Method for Accelerating Web Site Access and Processing Utilizing a Computer System Incorporating Reconfigurable Processors Operating Under a Single Operating System Image", all of which are assigned to SRC Computers, Inc., Colorado Springs, Colorado and the disclosures of which are herein specifically incorporated in their entirety by this reference.

Serial No. 10/285,318  
Response to Notice of Allowance dated January 10, 2007

**REMARKS/ARGUMENTS**

The amendment presented herein corrects a typographical error in the patent number of the related application. No new matter is added by this amendment. No fee is believed due for this submittal. However, any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

Respectfully submitted,

 , 2007



William J. Kubida, No. 29,664  
Hogan & Hartson LLP  
One Tabor Center  
1200 17th Street, Suite 1500  
Denver, Colorado 80202  
(719) 448-5909 Tel  
(303) 899-7333 Fax



## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	1601103
<b>Application Number:</b>	10285318
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1420
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS
<b>First Named Inventor/Applicant Name:</b>	Jon M. Huppenthal
<b>Customer Number:</b>	25235
<b>Filer:</b>	William J. Kubida/Julie Lange
<b>Filer Authorized By:</b>	William J. Kubida
<b>Attorney Docket Number:</b>	SRC015
<b>Receipt Date:</b>	16-MAR-2007
<b>Filing Date:</b>	31-OCT-2002
<b>Time Stamp:</b>	21:32:28
<b>Application Type:</b>	Utility

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1		DOC006.PDF	21081	yes	3

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Amendment after Notice of Allowance (Rule 312)	1	1
Specification	2	2
Applicant Arguments/Remarks Made in an Amendment	3	3
<b>Warnings:</b>		
<b>Information:</b>		
<b>Total Files Size (in bytes):</b>	21081	
<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><b><u>New Applications Under 35 U.S.C. 111</u></b>  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><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  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><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  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 contains a valid OMB control number.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	10285318
	Filing Date	2002-10-31
	First Named Inventor	Jon M. Huppenthal et al.
	Art Unit	2183
	Examiner Name	Coleman, Eric
	Attorney Docket Number	SRC015

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If you wish to add additional U.S. Patent citation information please click the Add button.							Add	
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Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
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If you wish to add additional U.S. Published Application citation information please click the Add button.							Add	
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Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> j	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							<input type="checkbox"/>
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NON-PATENT LITERATURE DOCUMENTS							Remove	
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 <sup>5</sup>	



<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		10285318
	Filing Date		2002-10-31
	First Named Inventor	Jon M. Huppenthal et al.	
	Art Unit		2183
	Examiner Name	Coleman, Eric	
	Attorney Docket Number		SRC015

1	MIYAMORI, TAKASHI, "REMARC: Reconfigurable Multimedia Array Coprocessor", IEICE Transactions on Information and Systems, Information & Systems Society, Tokyo, JP, vol. E82-D, no. 2, February 1999 (1999-02), pgs. 389-397, XP000821922.	<input type="checkbox"/>
2	GROSS THOMAS, et al., "Compilation for a High-performance Systolic Array", Sigplan Notices USA, vol. 21, no. 7, July 1986, (1986-07), pgs. 27-38, XP002418625.	<input type="checkbox"/>
3	RAUCHWERGER, LAWRENCE, et al., "The LRPD Test: Speculative Run-Time Parallelization of Loops with Privatization and Reduction Parallelization", IEEE Transactions on Parallel and Distributed Systems, IEEE Service Center, Los Alamitos, CA, vol. 10, no. 2, February 1999 (1999-02), pgs. 160-180, XP000908318.	<input type="checkbox"/>
4	ARNOLD JEFFREY M. et al., "The Splash 2 Processor and Applications", Computer Design: VLSI in Computers and Processors, 1993, ICCD '93 Proceedings, 1993 IEEE International Conference on Cambridge, MA, 3-6 Oct. 1993, Los Alamitos, CA, IEEE Comput. Soc., 3 October 1993 (1993-10-03), pgs. 482-485, XP010134571.	<input type="checkbox"/>
5	HWANG, KAI, "Computer Architecture and Parallel Processing", Data Flow Computers and VLSI Computations, 1985, McGraw Hill, Chapter 10, pgs. 732-807, XP-002418655	<input type="checkbox"/>
6	HARTENSTEIN, REINER W., et al. "A Synthesis System for Bus-based Wavefront Array Architectures", Proceedings, International Conference on Application-Specific Systems, Architectures and Processors, 1996, pgs 274-283, XP002132819.	<input type="checkbox"/>
7	ALEXANDER, THOMAS, et al. "A Reconfigurable Approach To A Systolic Sorting Architecture", ISCAS 89, 8 May 1989, (1989-05-08), pgs. 1178-1182, XP010084477.	<input type="checkbox"/>
8	WU, YOUFENG, et al. "Better Exploration of Region-Level Value Locality with Integrated Computation Reuse and Value Prediction", Proceedings of the 28th International Symposium on Computer Architecture, ISCA 2001, Goteborg, Sweden, June 30-July 4, 2001, International Symposium on Computer Architecture, (ISCA), Los Alamitos, CA, IEEE Comp. Soc. US, 30 June 2001 (2001-06-30), pgs. 93-103, XP010552866.	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

**EXAMINER SIGNATURE**

Examiner Signature		Date Considered	
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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.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	10285318
	Filing Date	2002-10-31
	First Named Inventor	Jon M. Huppenthal et al.
	Art Unit	2183
	Examiner Name	Coleman, Eric
	Attorney Docket Number	SRC015

**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	/william j. kubida/	Date (YYYY-MM-DD)	2007-03-16
Name/Print	William J. Kubida	Registration Number	29664

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.
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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

In re Application of:

Jon M. Huppenthal and David E. Caliga

Serial No. 10/285,318

Filed: October 31, 2002

For: MULTI-ADAPTIVE PROCESSING SYSTEMS  
AND TECHNIQUES FOR ENHANCING  
PARALLELISM AND PERFORMANCE OF  
COMPUTATIONAL FUNCTIONS

Confirmation No.: 1420

Group Art Unit: 2183

Examiner: Coleman, Eric

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BASED ON AN  
INTERNATIONAL SEARCH REPORT AND PETITION REQUESTING CONSIDERATION

MAIL STOP ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR 1.97(d), Applicants hereby petition for consideration of this Information Disclosure Statement and the references listed on the attached Form PTO/SB/08A. In submitting these references for the Examiner's consideration, no representation is made or implied that the references are or are not material to the examination of the application. The Examiner is encouraged to make his or her own determination of materiality. Copies of the references are provided.

This Information Disclosure Statement is being filed pursuant to 37 CFR 1.97(d), after issuance of a Notice of Allowance but before payment of the Issue Fee. Accordingly, pursuant to 37 CFR 1.97(e), it is hereby certified that each item in this IDS was cited in a communication from a foreign patent office in counterpart European Application No. 03759296.1, believed to be dated February 19, 2007, a date not more than three months prior to the filing of this statement.

The petition fee of \$180 is enclosed. No other fee is believed due for this submittal. However, any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

15 March 2007  
Date

Respectfully submitted,



William J. Kubida, Reg. No. 29,664  
HOGAN & HARTSON LLP  
One Tabor Center  
1200 17th Street, Suite 1500  
Denver, Colorado 80202  
(719) 448-5909 Tel  
(303) 899-7333 Fa

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	10285318			
<b>Filing Date:</b>	31-Oct-2002			
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS			
First Named Inventor/Applicant Name:	Jon M. Huppenthal			
<b>Filer:</b>	William J. Kubida/Julie Lange			
<b>Attorney Docket Number:</b>	SRC015			
Filed as Large Entity				
<b>Utility Filing Fees</b>				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Post-Allowance-and-Post-Issuance:				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
Submission- Information Disclosure Stmt	1806	1	180	180
<b>Total in USD (\$)</b>				<b>180</b>



## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	1601117
<b>Application Number:</b>	10285318
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1420
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS
<b>First Named Inventor/Applicant Name:</b>	Jon M. Huppenthal
<b>Customer Number:</b>	25235
<b>Filer:</b>	William J. Kubida/Julie Lange
<b>Filer Authorized By:</b>	William J. Kubida
<b>Attorney Docket Number:</b>	SRC015
<b>Receipt Date:</b>	16-MAR-2007
<b>Filing Date:</b>	31-OCT-2002
<b>Time Stamp:</b>	21:52:22
<b>Application Type:</b>	Utility

### Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$ 180
RAM confirmation Number	1259
Deposit Account	501123
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 and 1.17	

### File Listing:

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Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
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<b>Information:</b>					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
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<b>Total Files Size (in bytes):</b>			4566270		
<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><b><u>New Applications Under 35 U.S.C. 111</u></b>  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><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  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><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  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>					



<b>Substitute for form 1449A/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>		Application Number	<b>10/285,318</b>		
		Filing Date	<b>October 31, 2002</b>		
		First Named Inventor	<b>Jon M. Huppenthal et al.</b>		
		Art Unit	<b>2183</b>		
		Examiner Name	<b>Coleman, Eric</b>		
Sheet	1	of	1	Attorney Docket No.	<b>SRC015</b>

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	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, page(s), volume-issue number(s) publisher, city and/or country where published	T <sup>2</sup>
		BABB, JONATHAN, et al., "Parallelizing applications into silicon", © 1999 IEEE.	
		DESHPANDE, DEEPALI, et al., "Hybrid data/configuration caching for striped FPGAs" © 1999 IEEE.	
		PURNA, KARTHIKEYA, et al., "Temporal partitioning and scheduling data flow graphs for reconfigurable computers", © 1999 IEEE, Publ. No. 0018-9340/99, Pages 579-590.	
		GIBBS, W. WAYT, "Blitzing bits", © 1999 Scientific American Presents, Pages 57-61.	
		GONZALEZ, RICARDO, "Configurable and extensible processors change system design", August 15-17, 1999, Hot Chips 11 Tutorials, Pages 135-146.	
		GRAHAM, PAUL, et al., "FPGA-based sonar processing", © 1998 ACM 0-89791-978-5/98, Pages 201-208.	
		HASEBE, A., et al., "Architecture of SIPS, a real time image processing system," © 1988 IEEE, Publ. No. CH2603-9/88/0000/0621, Pages 621-630.	
		HAMMOND, LANCE, et al., "The Stanford Hydra CMP", August 15-17, 1999 Hot Chips 11 Tutorials, Pages 23-31.	
		JEAN, JACK, et al., "Dynamic reconfiguration to support concurrent applications", © 1999 IEEE, Publ. No. 0018-9340/99, Pages 591-602.	
		KASTRUP, BERNARDO, et al., "Concise: a compiler-driven CPLD-based instruction set accelerator", © 1999 IEEE.	
		MOTOMURA, MASATO, et al., "An embedded DRAM-FPGA chip with instantaneous logic reconfiguration", © 1998 IEEE, Publ. No. 0-8186-8900-5/98, Pages 264-266.	
		MCCONNELL, RAY, "Massively parallel computing on the FUZION chip", August 15-17, 1999, Hot Chips 11 Tutorials, Pages 83-94.	
		MCSHANE, ERIK, et al., "Functionally integrated systems on a chip: technologies, architectures, CAD tools, and applications", © 1998 IEEE, Publ. No. 8-8186-8424-0/98, Pages 67-75.	
		RUPP, CHARLEY, et al., "The NAPA adaptive processing architecture", © 1998 the Authors, Pages 1-10.	
		SAITO, OSAMU, et al., "A 1M synapse self learning digital neural network chip", © 1998 IEEE, Publ. No. 0-7803-4344/1/98, Pages 94-95.	
		SCHOTT, BRIAN, et al., "Architectures for system-level applications of adaptive computing", © 1999 IEEE.	
		MENCER, OSKAR, et al., "PAM-Blox: High Performance FPGA Design for Adaptive Computing", © 1998 IEEE, Conference Paper, INSPEC Abstract Nos. B9811-1265B-044, C9811-5210-009.	
		MIYAMORI, TAKASHI, et al., "A quantitative analysis of reconfigurable coprocessors for multimedia applications", © 1998 IEEE, Conference Paper, INSPEC Abstract Nos. B9811-1265F-011, C9811-5310-010.	
EXAMINER SIGNATURE		DATE CONSIDERED	
<small>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</small>			
<small><sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. 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) and application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours 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.</small>			

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<b>EFS ID:</b>	1601214
<b>Application Number:</b>	10285318
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1420
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS
<b>First Named Inventor/Applicant Name:</b>	Jon M. Huppenthal
<b>Customer Number:</b>	25235
<b>Filer:</b>	William J. Kubida/Julie Lange
<b>Filer Authorized By:</b>	William J. Kubida
<b>Attorney Docket Number:</b>	SRC015
<b>Receipt Date:</b>	17-MAR-2007
<b>Filing Date:</b>	31-OCT-2002
<b>Time Stamp:</b>	11:04:12
<b>Application Type:</b>	Utility

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Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
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Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Miscellaneous Incoming Letter			1	1	
Information Disclosure Statement (IDS) Filed			2	2	
<b>Warnings:</b>					
<b>Information:</b>					
2	NPL Documents	DOC019.PDF	203545	no	13
<b>Warnings:</b>					
<b>Information:</b>					
3	NPL Documents	DOC020.PDF	80553	no	4
<b>Warnings:</b>					
<b>Information:</b>					
4	NPL Documents	DOC021.PDF	351178	no	12
<b>Warnings:</b>					
<b>Information:</b>					
5	NPL Documents	DOC022.PDF	643380	no	7
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<b>Information:</b>					
6	NPL Documents	DOC023.PDF	646632	no	13
<b>Warnings:</b>					
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9	NPL Documents	DOC026.PDF	335743	no	10
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10	NPL Documents	DOC027.PDF	326026	no	12
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<b>Information:</b>					
12	NPL Documents	DOC029.PDF	126889	no	3
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. 10/285,318 Application of: Jon M. Huppenthal and David E. Caliga Filed: October 31, 2002 Attorney Docket No. SRC015 For: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS	Art Unit: 2183 Confirmation No.: 1420 Examiner: Coleman, Eric Customer No.: <b>25235</b>
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INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. § 1.97

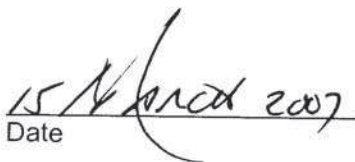
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Sir:

Pursuant to 37 C.F.R. § 1.97(i), please place the attached Form PTO/SB/08A of the listed patents and non-patent publications in the above-referenced file. In submitting these references, no representation is made or implied that the references are or are not material to the examination of this application.

A Notice of Allowance was mailed in this case on January 10, 2007. The Issue Fee has not yet been paid.

This Information Disclosure Statement is filed with no request for consideration of these references. Accordingly, no fee is believed due. However, any fee associated herewith may be charged to Deposit Account No. 50-1123.

  
Date

Respectfully submitted,  
  
William J. Kubida, Reg. No. 29,664  
HOGAN & HARTSON LLP  
One Tabor Center  
1200 17th Street, Suite 1500  
Denver, Colorado 80202  
(719) 448-5909 Tel  
(303) 899-7333 Fax





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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/285,318	10/31/2002	Jon M. Huppenthal	SRC015	1420
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25235 7590 04/03/2007  
HOGAN & HARTSON LLP  
ONE TABOR CENTER, SUITE 1500  
1200 SEVENTEENTH ST  
DENVER, CO 80202

EXAMINER
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COLEMAN, ERIC

ART UNIT	PAPER NUMBER
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2183

MAIL DATE	DELIVERY MODE
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04/03/2007

PAPER

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

<b>Response to Rule 312 Communication</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/285,318	HUPPENTHAL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Eric Coleman	2183	

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

1.  The amendment filed on 16 March 2007 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.

The information disclosure statement filed 3/17/07 fails to comply with 37 CFR 1.97(d) because it lacks a statement as specified in 37 CFR 1.97(e). It has been placed in the application file, but the information referred to therein has not been considered.

The information disclosure statement (IDS) submitted on 3/16/07 was filed after the mailing date of the notice of allowance on 1/10/07. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.



Eric Coleman  
Primary Examiner

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	10285318
	Filing Date	2002-10-31
	First Named Inventor	Jon M. Huppenthal et al.
	Art Unit	2183
	Examiner Name	Coleman, Eric
	Attorney Docket Number	SRC015

ES	1	MIYAMORI, TAKASHI, "REMARC: Reconfigurable Multimedia Array Coprocessor", IEICE Transactions on Information and Systems, Information & Systems Society, Tokyo, JP, vol. E82-D, no. 2, February 1999 (1999-02), pgs. 389-397, XP000821922.	<input type="checkbox"/>
ES	2	GROSS THOMAS, et al., "Compilation for a High-performance Systolic Array", Sigplan Notices USA, vol. 21, no. 7, July 1986, (1986-07), pgs. 27-38, XP002418625.	<input type="checkbox"/>
ES	3	RAUCHWERGER, LAWRENCE, et al., "The LRPD Test: Speculative Run-Time Parallelization of Loops with Privatization and Reduction Parallelization", IEEE Transactions on Parallel and Distributed Systems, IEEE Service Center, Los Alamitos, CA, vol. 10, no. 2, February 1999 (1999-02), pgs. 160-180, XP000908318.	<input type="checkbox"/>
ES	4	ARNOLD JEFFREY M. et al., "The Splash 2 Processor and Applications", Computer Design: VLSI in Computers and Processors, 1993, ICCD '93 Proceedings, 1993 IEEE International Conference on Cambridge, MA, 3-6 Oct. 1993, Los Alamitos, CA, IEEE Comput. Soc., 3 October 1993 (1993-10-03), pgs. 482-485, XP010134571.	<input type="checkbox"/>
ES	5	HWANG, KAI, "Computer Architecture and Parallel Processing", Data Flow Computers and VLSI Computations, 1985, McGraw Hill, Chapter 10, pgs. 732-807, XP-002418655	<input type="checkbox"/>
ES	6	HARTENSTEIN, REINER W., et al. "A Synthesis System for Bus-based Wavefront Array Architectures", Proceedings, International Conference on Application-Specific Systems, Architectures and Processors, 1996, pgs 274-283, XP002132819.	<input type="checkbox"/>
ES	7	ALEXANDER, THOMAS, et al. "A Reconfigurable Approach To A Systolic Sorting Architecture", ISCAS 89, 8 May 1989, (1989-05-08), pgs. 1178-1182, XP010084477.	<input type="checkbox"/>
ES	8	WU, YOUFENG, et al. "Better Exploration of Region-Level Value Locality with Integrated Computation Reuse and Value Prediction", Proceedings of the 28th International Symposium on Computer Architecture, ISCA 2001, Goteborg, Sweden, June 30-July 4, 2001, International Symposium on Computer Architecture, (ISCA), Los Alamitos, CA, IEEE Comp. Soc. US, 30 June 2001 (2001-06-30), pgs. 93-103, XP010552866.	<input type="checkbox"/>

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**EXAMINER SIGNATURE**

Examiner Signature	<i>Eric Coleman</i>	Date Considered	4/2/07
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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.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.



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Substitute for form 1449A/PTO		Application Number	10/285,318
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		Filing Date	October 31, 2002
		First Named Inventor	Jon M. Huppenthal et al.
		Art Unit	2183
		Examiner Name	Coleman, Eric
		Attorney Docket No.	SRC015
Sheet	1	of	1

(Use as many sheets as necessary)

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	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, page(s), volume-issue number(s) publisher, city and/or country where published	T <sup>2</sup>
		BABB, JONATHAN, et al., "Parallelizing applications into silicon", © 1999 IEEE.	
		DESHPANDE, DEEPALI, et al., "Hybrid data/configuration caching for striped FPGAs" © 1999 IEEE.	
		PURNA, KARTHIKEYA, et al., "Temporal partitioning and scheduling data flow graphs for reconfigurable computers", © 1999 IEEE, Publ. No. 0018-9340/99, Pages 578-590.	
		GIBBS, W. WAYT, "Blitzing bits", © 1999 Scientific American Presents, Pages 57-61.	
		GONZALEZ, RICARDO, "Configurable and extensible processors change system design", August 15-17, 1999, Hot Chips 11 Tutorials, Pages 135-146.	
		GRAHAM, PAUL, et al., "FPGA-based sonar processing", © 1998 ACM 0-89791-978-5/98, Pages 201-208.	
		HASEBE, A., et al., "Architecture of SIPS, a real time image processing system," © 1988 IEEE, Publ. No. CH2603-9/88/0000/0621, Pages 621-630.	
		HAMMOND, LANCE, et al., "The Stanford Hydra CMP", August 15-17, 1999 Hot Chips 11 Tutorials, Pages 23-31.	
		JEAN, JACK, et al., "Dynamic reconfiguration to support concurrent applications", © 1999 IEEE, Publ. No. 0018-9340/99, Pages 591-602.	
		KASTRUP, BERNARDO, et al., "Concise: a compiler-driven CPLD-based instruction set accelerator", © 1999 IEEE.	
		MOTOMURA, MASATO, et al., "An embedded DRAM-FPGA chip with instantaneous logic reconfiguration", © 1998 IEEE, Publ. No. 0-8186-8900-5/98, Pages 264-266.	
		MCCONNELL, RAY, "Massively parallel computing on the FUZION chip", August 15-17, 1999, Hot Chips 11 Tutorials, Pages 83-94.	
		MCSHANE, ERIK, et al., "Functionally integrated systems on a chip: technologies, architectures, CAD tools, and applications", © 1998 IEEE, Publ. No. 0-8186-8424-0/98, Pages 67-75.	
		RUPP, CHARLEY, et al., "The NAPA adaptive processing architecture", © 1998 the Authors, Pages 1-10.	
		SAITO, OSAMU, et al., "A 1M synapse self learning digital neural network chip", © 1998 IEEE, Publ. No. 0-7803-4344/1/98, Pages 94-95.	
		SCHOTT, BRIAN, et al., "Architectures for system-level applications of adaptive computing", © 1999 IEEE.	
		MENCER, OSKAR, et al., "PAM-Blox: High Performance FPGA Design for Adaptive Computing", © 1998 IEEE, Conference Paper, INSPEC Abstract Nos. B9811-1265B-044, C9811-5210-009.	
		MIYAMORI, TAKASHI, et al., "A quantitative analysis of reconfigurable coprocessors for multimedia applications", © 1998 IEEE, Conference Paper, INSPEC Abstract Nos. B9811-1265F-011, C9811-5310-010.	
EXAMINER SIGNATURE		DATE CONSIDERED	
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
<p><sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. 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) and application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours 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 1460, Alexandria, VA 22313-1460. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.</p>			

NOT CONSIDERED

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. 10/285,318 Application of: Jon M. Huppenthal and David E. Caliga Filed: October 31, 2002 Attorney Docket No. SRC015 For: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS	Confirmation No.: 1420 Art Unit: 2183 Examiner: Coleman, Eric Customer No.: <b>25235</b>
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AMENDMENT UNDER 37 C.F.R. § 1.312

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A Notice of Allowance was mailed in the above application on January 10, 2007.

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Julie Lange	(Depositor's name)
	(Signature)
10 April 2007	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/285,318	10/31/2002	Jon M. Huppenthal	SRC015	1420

TITLE OF INVENTION: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$0	\$1700	04/10/2007

EXAMINER	ART UNIT	CLASS-SUBCLASS
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1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

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- "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.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
- (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.

- 1 William J. Kubida
- 2 Michael C. Martensen
- 3 Hogan & Hartson LLP

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

SRC Computers, Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Colorado Springs, Colorado

Please check the appropriate assignee category or categories (will not be printed on the patent):  Individual  Corporation or other private group entity  Government

4a. The following fee(s) are submitted:

- Issue Fee
- Publication Fee (No small entity discount permitted)
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4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- A check is enclosed.
- Payment by credit card. Form PTO-2038 is attached.
- The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 50-1123 (enclose an extra copy of this form).

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 10 April 2007

Typed or printed name

William J. Kubida

Registration No. 29,664

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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## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	10285318			
<b>Filing Date:</b>	31-Oct-2002			
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS			
First Named Inventor/Applicant Name:	Jon M. Huppenthal			
<b>Filer:</b>	William J. Kubida/Julie Lange			
<b>Attorney Docket Number:</b>	SRC015			
Filed as Large Entity				
<b>Utility Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	1501	1	1400	1400
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>1700</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	1669647
<b>Application Number:</b>	10285318
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1420
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS
<b>First Named Inventor/Applicant Name:</b>	Jon M. Huppenthal
<b>Customer Number:</b>	25235
<b>Filer:</b>	William J. Kubida/Julie Lange
<b>Filer Authorized By:</b>	William J. Kubida
<b>Attorney Docket Number:</b>	SRC015
<b>Receipt Date:</b>	10-APR-2007
<b>Filing Date:</b>	31-OCT-2002
<b>Time Stamp:</b>	15:58:19
<b>Application Type:</b>	Utility

### Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$ 1700
RAM confirmation Number	337
Deposit Account	501123
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 and 1.17	

### File Listing:



Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	DOC001.PDF	36086	no	1
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (PTO-06)	fee-info.pdf	8371	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			44457		
<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><b><u>New Applications Under 35 U.S.C. 111</u></b>  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><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  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><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  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>					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
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www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/285,318	05/29/2007	7225324	SRC015	1420

25235 7590 05/09/2007  
HOGAN & HARTSON LLP  
ONE TABOR CENTER, SUITE 1500  
1200 SEVENTEENTH ST  
DENVER, CO 80202

**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 550 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 Customer Service Center of the Office of Patent Publication at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Jon M. Huppenthal, Colorado Springs, CO;  
David E. Caliga, Colorado Springs, CO;

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

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.

PTO/SB/08a (03-09)

Approved for use through 04/30/2009. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	10285318
	Filing Date	2002-10-31
	First Named Inventor	Jon M. Huppenthal et al.
	Art Unit	2183
	Examiner Name	Eric Coleman
	Attorney Docket Number	SRC015

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> j	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

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 <sup>5</sup>



<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		10285318
	Filing Date		2002-10-31
	First Named Inventor	Jon M. Huppenthal et al.	
	Art Unit	2183	
	Examiner Name	Eric Coleman	
	Attorney Docket Number	SRC015	

1	MATHIAS P C; PATNAIK L M: "Systolic Evaluation of Polynomial Expressions," IEEE Transactions on Computers, vol. 39, no. 5, 1 May 1990, pgs. 653-665, XP000116659	<input type="checkbox"/>
2	EPO EXAMINATION REPORT, App. No. 03 759 296.1-2211, mailing date January 30, 2009.	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

**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.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	10285318
	Filing Date	2002-10-31
	First Named Inventor	Jon M. Huppenthal et al.
	Art Unit	2183
	Examiner Name	Eric Coleman
	Attorney Docket Number	SRC015

**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).

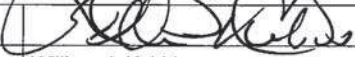
See attached certification statement.

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		Date (YYYY-MM-DD)	2009-04-23
Name/Print	William J. Kubida	Registration Number	29664

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.**

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	5215768
<b>Application Number:</b>	10285318
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1420
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS
<b>First Named Inventor/Applicant Name:</b>	Jon M. Huppenthal
<b>Customer Number:</b>	25235
<b>Filer:</b>	William J. Kubida/Julie Lange
<b>Filer Authorized By:</b>	William J. Kubida
<b>Attorney Docket Number:</b>	SRC015
<b>Receipt Date:</b>	24-APR-2009
<b>Filing Date:</b>	31-OCT-2002
<b>Time Stamp:</b>	15:18:30
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	NPL Documents	DOC128.PDF	685019 <small>2c20f33b5f25be09222409a7ce856b1b22d954d4</small>	no	13

### Warnings:

### Information:



2	Information Disclosure Statement (IDS) Filed (SB/08)	DOC140.PDF	132350 <small>6384e7b6c498e6af45049d087f31075ccdf b200</small>	no	3
<b>Warnings:</b>					
<b>Information:</b>					
This is not an USPTO supplied IDS fillable form					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
3	Foreign Reference	DOC141.PDF	345999 <small>c3a7aae06dda44be10fc9d334cacb0ca3fb 2ff9</small>	no	9
<b>Warnings:</b>					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>				1163368	
<p><b>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.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b> 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><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b> 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><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b> 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

Serial No. 10/285,318 Application of: Jon M. Huppenthal and David E. Caliga Filed: October 31, 2002 Attorney Docket No. SRC015 For: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS	Art Unit: 2183 Confirmation No.: 1420 Examiner: Coleman, Eric Customer No.: <b>25235</b>
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INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. § 1.97

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 1.97(i), please place the attached Form 1449 and the enclosed copy of the listed patent references in the above-referenced file. In submitting this reference, no representation is made or implied that the references are or are not material.

This Information Disclosure Statement is filed with no request for consideration of this reference. Accordingly, no fee is believed due. However, any fee associated herewith may be charged to Deposit Account No. 50-1123.

Respectfully submitted,

15/NOV/04 2004  
Date

  
William J. Kubida, Reg. No. 29,664  
HOGAN LOVELLS US LLP  
One Tabor Center  
1200 17th Street, Suite 1500  
Denver, Colorado 80202  
(719) 448-5909 Tel  
(303) 899-7333 Fax

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

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.

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		10285318
	Filing Date		2002-10-31
	First Named Inventor	Jon M. Huppenthal	
	Art Unit	2183	
	Examiner Name	Coleman, Eric	
	Attorney Docket Number	SRC015	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1					

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U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> j	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							<input type="checkbox"/>

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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 <sup>5</sup>



<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		10285318
	Filing Date		2002-10-31
	First Named Inventor	Jon M. Huppenthal	
	Art Unit		2183
	Examiner Name	Coleman, Eric	
	Attorney Docket Number		SRC015

1	CALIGA, D.; BARKER, D. P.: "Delivering Acceleration: The Potential for Increased HPC Application Performance Using Reconfigurable Logic," SC2001 November 2001, Denver(c) ACM 1-58113-293-X/01/0011, XP002418626	<input type="checkbox"/>
2	EPO EXAMINATION REPORT, App. No. 10183862.1-2211/2278495, mailing date January 11, 2011, pps. 11.	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

**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.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	10285318
	Filing Date	2002-10-31
	First Named Inventor	Jon M. Huppenthal
	Art Unit	2183
	Examiner Name	Coleman, Eric
	Attorney Docket Number	SRC015

**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.
- The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- A certification statement is not submitted herewith.

**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	/william j. kubida/	Date (YYYY-MM-DD)	2011-03-15
Name/Print	William J. Kubida	Registration Number	29664

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.**

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	9701896
<b>Application Number:</b>	10285318
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1420
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS
<b>First Named Inventor/Applicant Name:</b>	Jon M. Huppenthal
<b>Customer Number:</b>	25235
<b>Filer:</b>	William J. Kubida/Julie Lange
<b>Filer Authorized By:</b>	William J. Kubida
<b>Attorney Docket Number:</b>	SRC015
<b>Receipt Date:</b>	21-MAR-2011
<b>Filing Date:</b>	31-OCT-2002
<b>Time Stamp:</b>	16:19:33
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		DOC290.PDF	565457 25ccee74318fa9b3a12ecc7733748e73f308b9dac	yes	15



Multipart Description/PDF files in .zip description		
Document Description	Start	End
Information Disclosure Statement (IDS) Filed (SB/08)	1	4
Foreign Reference	5	15
<b>Warnings:</b>		
<b>Information:</b>		
<b>Total Files Size (in bytes):</b>	565457	
<p><b>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.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  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><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  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><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  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

Serial No. 10/285,318 Filed: October 31, 2002 Attorney Docket No. SRC015 For: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS	Confirmation No.: 1420 Art Unit: 2183 Examiner: Coleman, Eric Customer No.: <b>25235</b>
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TRANSMITTAL OF NOTIFICATION OF ENTITLEMENT TO SMALL ENTITY STATUS  
PURSUANT TO 37 C.F.R. § 1.27(c)(2)

MAIL STOP - OFFICE OF PETITIONS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

By this communication, Applicant hereby notifies the Commissioner of Patents that large entity status is no longer appropriate for the above-identified application, and we assert that Applicant is entitled to small entity status.

A **Certification of Small Entity Status**, signed by Applicant, is attached.

Respectfully submitted,



---

Peter J. Meza, No. 32,920  
Hogan Lovells US LLP  
2 North Cascade Avenue, Suite 1300  
Colorado Springs, Colorado 80903  
(719) 448-5906 Tel  
(719) 448-5922 Fax

December 17, 2014

## SMALL ENTITY STATUS

The Patent Office allows "Small Entities" to pay lower Patent Office fees. However, improperly claiming small entity status can invalidate your patent. Section A below will help you determine if you or your business qualify as a small entity. Section B includes a certification for small entity status. If after reviewing the following materials you determine that you qualify for small entity status, please complete the certification and return it to us. If we do not receive the signed certification from you, we will not claim small entity status for the application identified below, and you will not qualify for the lower Patent Office fees. If you do complete the certification, we may ask you to confirm your small entity status at various points during the prosecution of the application and the life of the issued patent.

### A. Definition of Small Entity

A small entity means any "person," "small business concern," "nonprofit organization," or a combination of these, that holds the rights in the invention and (a) has not assigned or licensed the rights to another who is not a small entity, and (b) is not obligated to assign or license the rights to another who is not a small entity.

- (1) *Person.* An inventor or other individuals who hold the rights in an invention.
- (2) *Nonprofit organization.* A nonprofit organization is either:
  - (i) A university or institution of higher education in any country;
  - (ii) An organization described in section 501(c)(3), and exempt from taxation under section 501(a) of the Internal Revenue Code;
  - (iii) Any nonprofit scientific or educational organization qualified under a state's nonprofit organization statute; or
  - (iv) Any nonprofit organization located in a foreign country, that would otherwise qualify as a "nonprofit organization" if it were located in the U.S.A.
- (3) *Small business concern.* Any business concern whose number of employees, (part-time and full-time), including affiliates, does not exceed 500 persons.

### B. Certification

Applicant or Patentee: SRC Computers, LLC

Assignee: SRC Computers, LLC

Application No(s). SEE EXHIBIT A

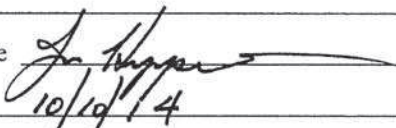


# SRC Computers, LLC

## STATEMENT CONCERNING SMALL ENTITY STATUS

I hereby certify that the owner of the application/patent identified above qualifies for small entity status because the owner has not assigned or licensed the rights in the invention to another who is not a small entity, and is not obligated to assign or license the rights in the invention to another who is not a small entity, and because:

The owner is a small business concern:

Business Name SRC Computers, LLC  
Signor's Name Jon Huppenthal Signature   
Title President and CEO Date 10/19/14  
Business Address 4240 N. Nevada Avenue, Colorado Springs, CO 80907

SRC Computers, LLC  
EXHIBIT A

Docket Number	Application Date	Application Number	Grant Date	Patent Number	Title
SRC001	12/17/1997	08/992,763	06/13/2000	6,076,152	MULTIPROCESSOR COMPUTER ARCHITECTURE
SRC001 CON	01/12/2000	09/481,902	06/12/2001	6,247,110	MULTIPROCESSOR COMPUTER ARCHITECTURE
SRC001 CON/DIV	01/05/2001	09/755,744			MULTIPROCESSOR COMPUTER ARCHITECTURE
SRC001 CON2	01/08/2003	10/339,133	11/01/2005	6,961,841	MULTIPROCESSOR COMPUTER ARCHITECTURE
SRC001 CON3	10/20/2004	10/969,635	06/26/2007	7,237,091	MULTIPROCESSOR COMPUTER ARCHITECTURE
SRC002	01/20/1998	09/008,871			SCALABLE SINGLE SYSTEM IMAGE OPERATING
SRC003	02/03/1998	09/018,032	02/15/2000	6,026,459	SYSTEM AND METHOD FOR DYNAMIC PRIORITY
SRC004	06/30/1998	09/108,088	09/25/2001	6,295,598	SPLIT DIRECTORY-BASED CACHE COHERENCY
SRC006	07/25/2000	09/624,788	03/12/2002	6,356,983	SYSTEM AND METHOD PROVIDING CACHE
SRC007	08/15/2000	09/638,365	07/15/2003	6,594,736	SYSTEM AND METHOD FOR SEMAPHORE AND
SRC008	05/03/2000	09/563,561	01/15/2002	6,339,819	MULTIPROCESSOR WITH EACH PROCESSOR
SRC009	11/05/2001	10/008,128	12/28/2004	6,836,823	BANDWIDTH ENHANCEMENT FOR UNCACHED
SRC010	06/22/2001	09/888,276	08/13/2002	6,434,687	SYSTEM AND METHOD FOR ACCELERATING WEB
SRC011	12/05/2001	10/011,835	12/26/2006	7,155,602	INTERFACE FOR INTEGRATING
SRC011 CON	05/31/2005	11/140,718	01/23/2007	7,167,976	AN INTERFACE FOR INTEGRATING
SRC011 PRO	04/30/2001	60/286,979			DELIVERING ACCELERATION: THE POTENTIAL
SRC012	08/17/2001	09/932,330	05/13/2008	7,373,440	SWITCH/NETWORK ADAPTER PORT FOR
SRC012 CIP	01/10/2003	10/340,390	03/27/2007	7,197,575	SWITCH/NETWORK ADAPTER PORT COUPLING A
SRC012 CIP2	08/15/2005	11/203,983	07/21/2009	7,565,461	SWITCH/NETWORK ADAPTER PORT COUPLING A
SRC012 DIV	11/23/2004	10/996,016	09/02/2008	7,421,524	SWITCH/NETWORK ADAPTER PORT FOR
SRC013	10/23/2002	10/278,345	10/17/2006	7,124,211	SYSTEM AND METHOD FOR EXPLICIT
SRC014	05/09/2002	10/142,045			ADAPTIVE PROCESSOR ARCHITECTURE
SRC014 DIV	05/02/2005	11/119,598			ADAPTIVE PROCESSOR ARCHITECTURE
SRC014 DIV/CIP	09/08/2005	11/222,417	07/29/2008	7,406,573	RECONFIGURABLE PROCESSOR ELEMENT
→SRC015	10/31/2002	10/285,318	05/29/2007	7,225,324	MULTI-ADAPTIVE PROCESSING SYSTEMS AND
SRC015 CON	04/09/2007	11/733,064	11/17/2009	7,620,800	MULTI-ADAPTIVE PROCESSING SYSTEMS AND
SRC016	10/29/2002	10/282,986	02/21/2006	7,003,593	COMPUTER SYSTEM ARCHITECTURE AND
SRC017	10/31/2002	10/284,994	02/07/2006	6,996,656	SYSTEM AND METHOD FOR PROVIDING AN
SRC017 CON	07/22/2005	11/187,534			SYSTEM AND METHOD FOR PROVIDING AN
SRC018	10/31/2002	10/285,401	09/06/2005	6,941,539	EFFICIENCY OF RECONFIGURABLE HARDWARE
SRC019	10/31/2002	10/285,299	01/03/2006	6,983,456	PROCESS FOR CONVERTING PROGRAMS IN
SRC019 CON	10/04/2005	11/243,498	04/20/2010	7,703,085	PROCESS FOR CONVERTING PROGRAMS IN
SRC020 PRO	10/31/2002	60/422,722			GENERAL PURPOSE RECONFIGURABLE
SRC021	10/31/2002	10/285,399	11/20/2007	7,299,458	SYSTEM AND METHOD FOR CONVERTING
SRC022	10/31/2002	10/285,298	11/08/2005	6,964,029	SYSTEM AND METHOD FOR PARTITIONING
SRC023	10/31/2002	10/285,389	12/26/2006	7,155,708	DEBUGGING AND PERFORMANCE PROFILING
SRC024	01/10/2003	10/340,400			SYSTEM AND METHOD FOR SCALABLE
SRC025	01/14/2003	10/345,082	11/07/2006	7,134,120	MAP COMPILER PIPELINED LOOP STRUCTURE
SRC026					HANDLING OF NON-NUMERIC VARIABLES
SRC027	07/11/2003	10/618,041	09/09/2008	7,424,552	SWITCH/NETWORK ADAPTER PORT
SRC027 CIP	06/16/2004	10/869,199			SWITCH/NETWORK ADAPTER PORT
SRC027 CIP/DIV	08/06/2007	11/834,439	03/16/2010	7,680,968	SWITCH/NETWORK ADAPTER PORT
SRC028	06/16/2004	10/869,200	12/12/2006	7,149,867	SYSTEM AND METHOD OF ENHANCING
SRC028 PRO	06/18/2003	60/479,339			BANDWIDTH EFFICIENCY AND UTILIZATION
SRC029	10/17/2005	11/252,341	02/15/2011	7,890,686	DYNAMIC PRIORITY CONFLICT RESOLUTION IN A
SRC030	07/10/2006	11/456,466	11/19/2013	8,589,666	ELIMINATION OF STREAM CONSUMER LOOP

SRC Computers, LLC  
EXHIBIT A

SRC031 PRO	11/05/2010	61/410,676			SNAP INTERFACE USING MEMORY BUFFERS
SRC032 PRO	11/10/2010	61/412,124			COMPUTATIONAL UNIFICATION
SRC033 PRO	12/16/2011	61/576,846			MOBILE DEVICE UTILIZING RECONFIGURABLE
SRC031	11/01/2011	13/286,996			HETEROGENEOUS COMPUTING SYSTEM
SRC032	11/02/2011	13/287,322	04/29/2014	8,713,518	SYSTEM AND METHOD FOR COMPUTATIONAL
SRC033	02/02/2012	13/365,090			MOBILE ELECTRONIC DEVICES UTILIZING
SRC036	05/27/2014	14/288,094			SYSTEM AND METHOD FOR RETAINING DRAM
SRC037	05/22/2014	14/284,616			SYSTEM AND METHOD FOR THERMALLY
SRC035	05/28/2013	13/903,720			MULTI-PROCESSOR COMPUTER ARCHITECTURE
SRC032 CON	03/10/2014	14/203,035			SYSTEM AND METHOD FOR COMPUTATIONAL

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## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	21123706
<b>Application Number:</b>	10285318
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1420
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS
<b>First Named Inventor/Applicant Name:</b>	Jon M. Huppenthal
<b>Customer Number:</b>	25235
<b>Filer:</b>	Peter John Meza/Joyce Medrano-Paywa
<b>Filer Authorized By:</b>	Peter John Meza
<b>Attorney Docket Number:</b>	SRC015
<b>Receipt Date:</b>	05-JAN-2015
<b>Filing Date:</b>	31-OCT-2002
<b>Time Stamp:</b>	18:48:14
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assertion of entitlement to small entity status	DOC024.pdf	218005 438e8542f48e401d7c2a2574c22a091d86b9e323	no	5

### Warnings:

### Information:

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

<b>PATENT - POWER OF ATTORNEY                  OR                  REVOCATION OF POWER OF ATTORNEY                  WITH A NEW POWER OF ATTORNEY                  AND                  CHANGE OF CORRESPONDENCE ADDRESS</b>	Patent Number	7,225,324
	Issue Date	05-29-2007
	First Named Inventor	Jon M. Huppenthal
	Title	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS
	Attorney Docket No.	

I hereby revoke all previous powers of attorney given in the above-identified patent.

A Power of Attorney is submitted herewith.

**OR**

I hereby appoint Practitioner(s) associated with the Customer Number identified in the box at right as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith: 23452

**OR**

I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified patent to:

The address associated with the above-identified Customer Number.

**OR**

The address associated with the Customer Number identified in the box at right:

**OR**

<input type="checkbox"/> Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

I am the:

Applicant.

**OR**

Patent owner.  
 Statement under 37 CFR 3.73(c) (Form PTO/AIA/96) submitted herewith or filed on \_\_\_\_\_.

SIGNATURE of Applicant or Patent Owner			
Signature	/Todd Rooke/	Date	March 3, 2016
Name	Todd Rooke	Telephone	
Title and Company	CEO, SRC Labs, LLC		

**NOTE:** Signatures of all the applicants or patent owners of the entire interest or their representative(s) are required. If more than one signature is required, submit multiple forms, check the box below, and identify the total number of forms submitted in the blank below.

A total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 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.



## 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 disclosure of these records is required by the Freedom of Information Act.
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 inspection 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.

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.

**STATEMENT UNDER 37 CFR 3.73(c)**

Applicant/Patent Owner: SRC Labs, LLC

Application No./Patent No.: 7,225,324 Filed/Issue Date: 05-29-2007

Titled: MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS

SRC Labs, LLC, a Limited Liability Company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

- 1.  The assignee of the entire right, title, and interest.
- 2.  An assignee of less than the entire right, title, and interest (check applicable box):
  - The extent (by percentage) of its ownership interest is \_\_\_\_\_%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
  - There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

[Empty box for listing other parties]

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

- 3.  The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

[Empty box for listing other parties]

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

- 4.  The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A.  An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 037820, Frame 0147, or for which a copy thereof is attached.
- B.  A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

2. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). 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. 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.*



**STATEMENT UNDER 37 CFR 3.73(c)**

3. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

4. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

5. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

6. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet(s).

As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Todd R. Fronek/

March 3, 2016

Signature

Date

Todd R. Fronek

48516

Printed or Typed Name

Title or Registration Number



## 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 disclosure of these records is required by the Freedom of Information Act.
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 inspection 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 Acknowledgement Receipt

<b>EFS ID:</b>	25095789
<b>Application Number:</b>	10285318
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1420
<b>Title of Invention:</b>	MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS
<b>First Named Inventor/Applicant Name:</b>	Jon M. Huppenthal
<b>Customer Number:</b>	25235
<b>Filer:</b>	Todd Ryan Fronek/Kathryn Becker
<b>Filer Authorized By:</b>	Todd Ryan Fronek
<b>Attorney Docket Number:</b>	SRC015
<b>Receipt Date:</b>	03-MAR-2016
<b>Filing Date:</b>	31-OCT-2002
<b>Time Stamp:</b>	16:35:43
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment:	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	324.pdf	135766 <small>6012418b344d87218e9e73683cfb6450dd918e8</small>	no	2

### Warnings:

### Information:

2	Assignee showing of ownership per 37 CFR 3.73	324_373c.pdf	104535 <small>15fa7437a09cd057d405e89058d1de0c55739a66</small>	no	3
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>				240301	
<p><b>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.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  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><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  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><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  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>					





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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/285,318	10/31/2002	Jon M. Huppenthal	

23452  
LARKIN HOFFMAN DALY & LINDGREN, LTD.  
8300 Norman Center Drive  
Suite 1000  
Minneapolis, MN 55437

**CONFIRMATION NO. 1420  
POA ACCEPTANCE LETTER**



Date Mailed: 03/08/2016

**NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 03/03/2016.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/dtvernon/



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
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10/285,318

10/31/2002

Jon M. Huppenthal

SRC015

**CONFIRMATION NO. 1420**

**POWER OF ATTORNEY NOTICE**

25235  
HOGAN LOVELLS US LLP - Colorado Springs  
TWO NORTH CASCADE AVENUE  
SUITE 1300  
COLORADO SPRINGS, CO 80903



Date Mailed: 03/08/2016

**NOTICE REGARDING CHANGE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 03/03/2016.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervenered as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/dtvernon/