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(54) **ATTRIBUTE PRIORITIZED CONFIGURATION USING A COMBINED CONFIGURATION-ATTRIBUTE DATA MODEL**

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(52) **U.S. Cl.**
USPC **707/723**; 705/26.5
(58) **Field of Classification Search**
USPC 707/723; 705/26.5
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,515,524 A	5/1996	Lynch et al.	
5,708,798 A	1/1998	Lynch et al.	
5,825,651 A	10/1998	Gupta et al.	
6,002,854 A	12/1999	Lynch et al.	
6,405,308 B1	6/2002	Gupta et al.	
6,549,908 B1 *	4/2003	Loomans	707/101
6,675,294 B1	1/2004	Gupta et al.	
6,725,257 B1 *	4/2004	Cansler et al.	709/219
6,810,406 B2 *	10/2004	Schlabach et al.	707/201
6,871,198 B2 *	3/2005	Neal et al.	1/1
7,043,407 B2	5/2006	Lynch et al.	
7,043,464 B2 *	5/2006	Abrahams	706/14
7,127,313 B2 *	10/2006	Neri	700/103
7,140,013 B2 *	11/2006	Te'eni et al.	717/173
7,200,582 B1	4/2007	Smith	
7,200,583 B1 *	4/2007	Shah et al.	706/47
7,216,092 B1 *	5/2007	Weber et al.	705/26
7,552,102 B2 *	6/2009	Huelsman et al.	706/47
2004/0122807 A1 *	6/2004	Hamilton et al.	707/3
2005/0144090 A1 *	6/2005	Gadamsetty et al.	705/26
2006/0111878 A1 *	5/2006	Pendyala et al.	703/1
2007/0233730 A1 *	10/2007	Johnston	707/104.1

* cited by examiner
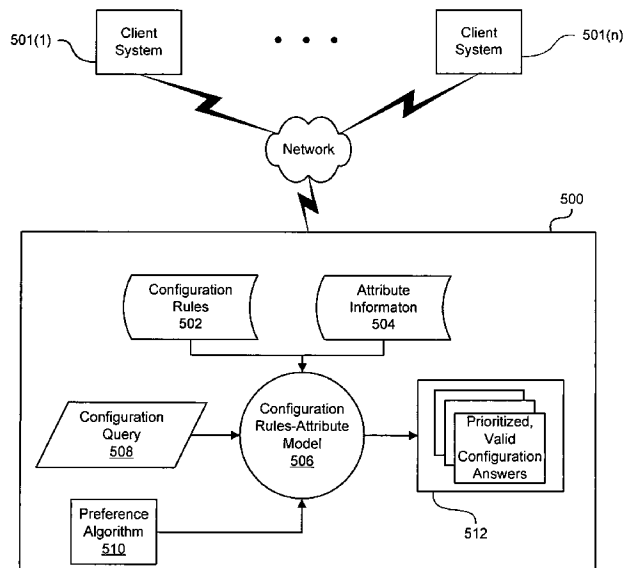
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(57) **ABSTRACT**

A combined configuration rules-attribute configuration system uses an integrated configuration model to efficiently identify and attribute prioritize valid configuration answers. Submitting an attribute-based configuration query to the combined configuration rules-attribute configuration system allows the query to be answered in a single step. The combined configuration rules and attribute data guide product configuration processing and minimize configuration processing by, for example, calculating only the valid configuration answers that are candidates for the preferred valid answer(s). Thus, the combined configuration rules-attribute configuration system can minimize the number of valid configuration answers to be considered for presentation to a client system or other user of the combined configuration rules-attribute configuration system.
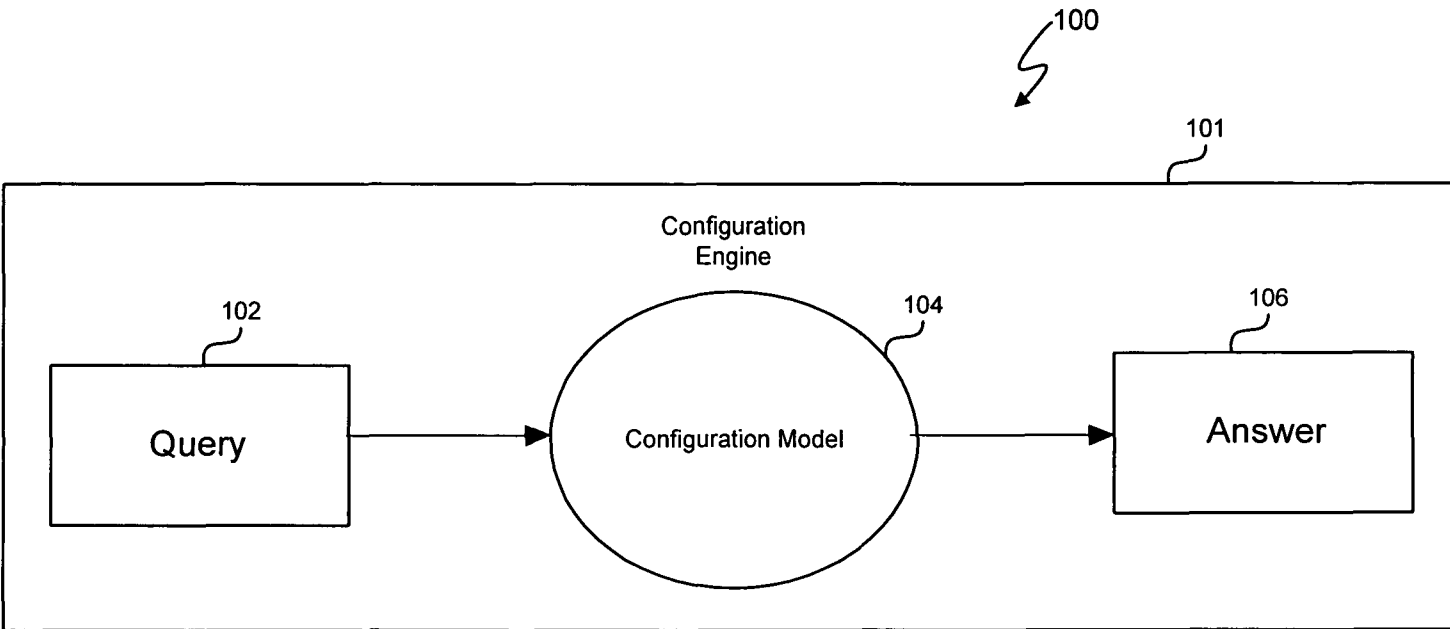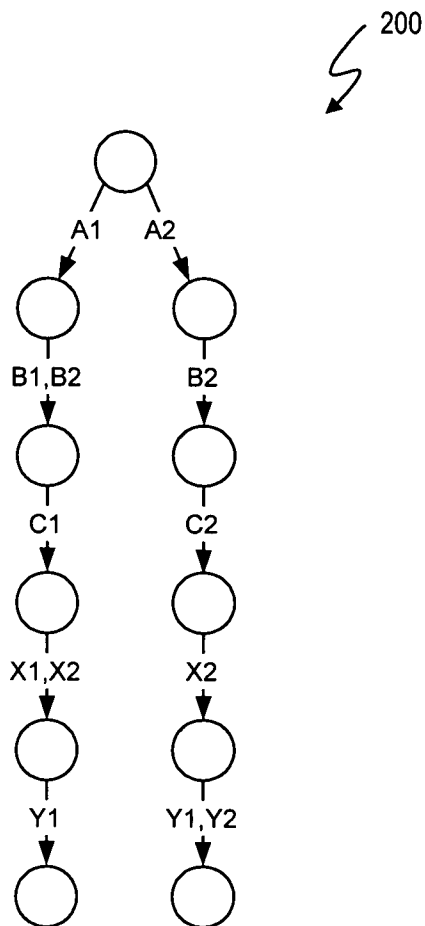
20 Claims, 9 Drawing Sheets

100

101

Configuration
Engine

102

Query

104

Configuration Model

106

Answer

Figure 1 (prior art)

FORD 1001

Figure 2 (prior art)

Figure 3 (prior art)

400

Configuration rules are manipulated to form a configuration model that is capable of answering configuration questions — 402

Interrogate configuration model to provide a set of valid answers to a particular configuration query — 404

Apply attributes from an attribute information model to the valid answers to order to associate each valid answer with the attributes that apply to it, which associates a weight to each valid answer. — 406

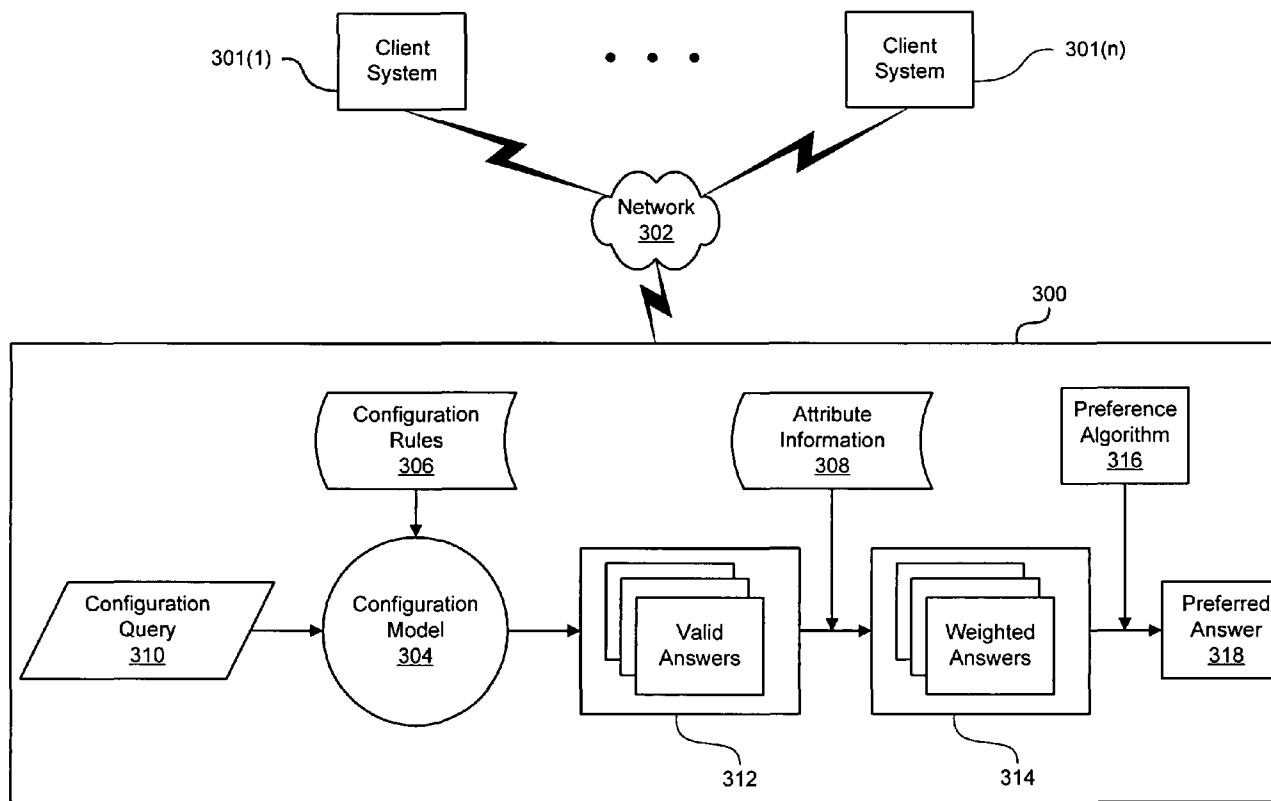Use a preference algorithm to select the preferred answer given the weighted valid answers. — 408

Figure 4 (prior art)

DOCKET ALARM
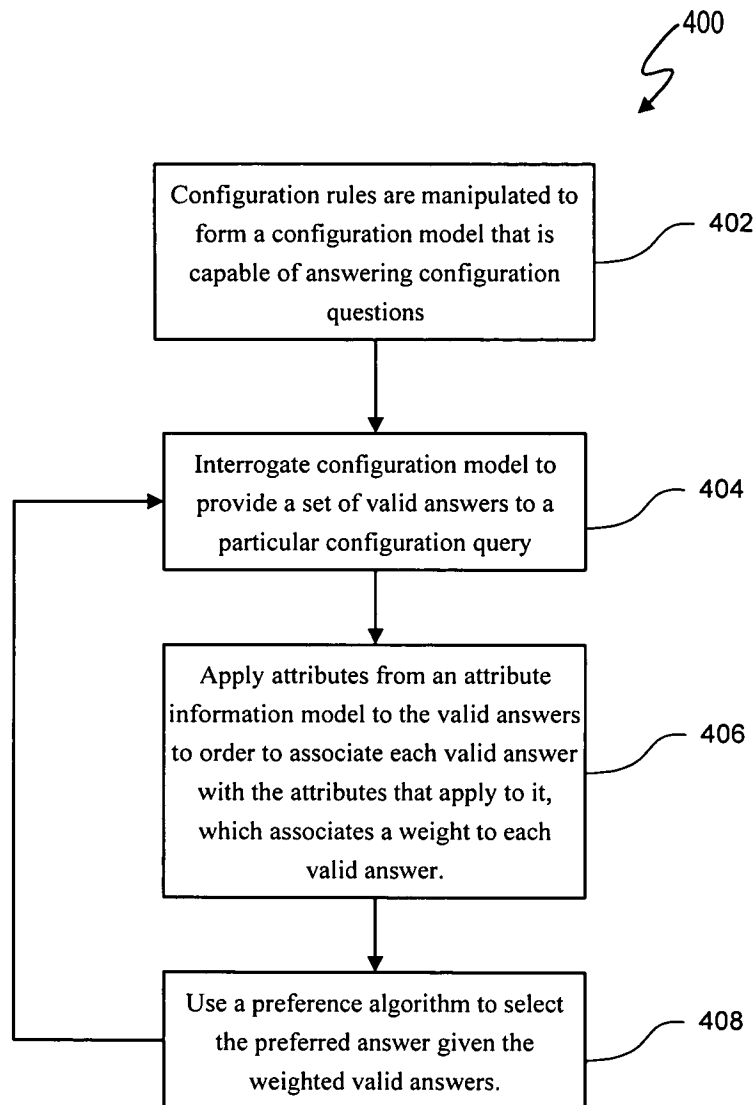
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