



(12) **United States Patent**  
**Nabors et al.**

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(54) **HIERARCHICAL DATA STRUCTURE FOR VEHICLE IDENTIFICATION AND CONFIGURATION DATA INCLUDING PROTECTED CUSTOMER DATA**

5,515,524 A \* 5/1996 Lynch et al. .... 703/13

(Continued)

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FOREIGN PATENT DOCUMENTS

W● W● 98/21679 5/1998

(73) Assignee: **Chrome Data Corporation**, Oregon City, OR (US)

OTHER PUBLICATIONS

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

f"Lycos deploys Seven of PersonaLogic's Interactive Decision Guides for an Enhanced Online Shopping Experience" PR Newswire, Jun. 8, 1998 Dialog File 20, Record # 01863400.\*

(Continued)

(21) Appl. No.: **09/374,577**

Primary Examiner—Jack Choules

(22) Filed: **Aug. 13, 1999**

(74) Attorney, Agent, or Firm—Blakely Sokoloff Taylor & Zafman

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 09/188,863, filed on Nov. 9, 1998.

(57) **ABSTRACT**

(51) **Int. Cl.**  
**G06F 17/30** (2006.01)

(52) **U.S. Cl.** ..... **707/104.1; 707/9; 707/10**

(58) **Field of Classification Search** ..... **707/9, 707/10, 100, 104.1, 26, 27**

See application file for complete search history.

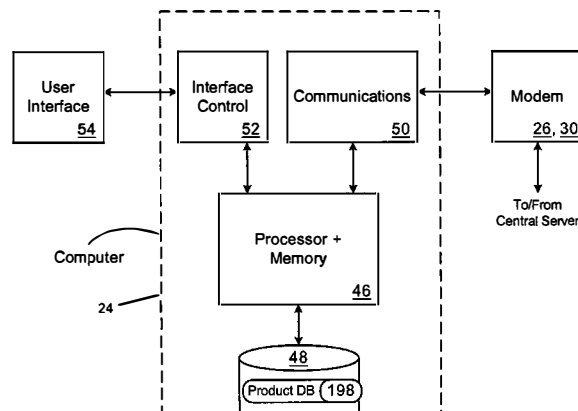
A description language providing a hierarchical data structure that includes a public portion, hierarchically storing product information including identification of the product and standard and optional features desired for the product. The data structure further includes a private portion for secure storage of customer information. The disclosure includes a system comprising a server with a product database, an intermediary subsystem, and a seller subsystem. A product is configured which stores the configured product and features in the data structure. A request for quote (RFQ) is transmitted, with the data structure, to sellers in the customer's geographic area, based on a comparison of product features with sellers stock. Quotes are returned from the sellers in response to which the customer sends an acceptance of a quote to the appropriate seller. While the invention is applicable to any product available in multiple configurations, specific embodiments are directed to vehicle implementations.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

|           |     |         |                |         |
|-----------|-----|---------|----------------|---------|
| 4,799,156 | A   | 1/1989  | Shavit et al.  |         |
| 4,992,940 | A * | 2/1991  | Dworkin        | 705/26  |
| 5,021,953 | A   | 6/1991  | Webber et al.  |         |
| 5,113,341 | A * | 5/1992  | Kozol et al.   | 707/513 |
| 5,117,354 | A   | 5/1992  | Long et al.    |         |
| 5,185,698 | A * | 2/1993  | Hesse et al.   | 707/513 |
| 5,283,731 | A * | 2/1994  | Lalonde et al. | 705/1   |
| 5,307,261 | A   | 4/1994  | Maki et al.    |         |
| 5,471,619 | A * | 11/1995 | Messina        | 707/8   |
| 5,515,269 | A   | 5/1996  | Willis et al.  |         |

**12 Claims, 17 Drawing Sheets**



U.S. PATENT DOCUMENTS

5,592,375 A \* 1/1997 Salmon et al. .... 705/7  
 5,689,652 A 11/1997 Lupien et al.  
 5,701,458 A \* 12/1997 Bsaibes et al. .... 707/9  
 5,708,798 A 1/1998 Lynch et al.  
 5,748,618 A \* 5/1998 Rothrock ..... 370/260  
 5,774,121 A 6/1998 Stiegler  
 5,794,207 A 8/1998 Walker et al.  
 5,825,651 A 10/1998 Gupta et al.  
 5,897,620 A 4/1999 Walker et al.  
 5,924,082 A 7/1999 Silverman et al.  
 5,966,699 A 10/1999 Zandi  
 5,970,475 A 10/1999 Barnes et al.  
 5,997,475 A 12/1999 Bortz  
 6,009,406 A 12/1999 Nick  
 6,012,051 A \* 1/2000 Sanunon et al. .... 705/26  
 6,041,308 A 3/2000 Walker et al.

6,041,310 A \* 3/2000 Green et al. .... 705/26  
 6,052,669 A \* 4/2000 Smith et al. .... 705/26  
 6,112,189 A 8/2000 Rickard et al.  
 6,119,101 A \* 9/2000 Peckover ..... 705/27  
 6,131,087 A 10/2000 Luke et al.  
 6,131,118 A \* 10/2000 Stupek et al. .... 709/223  
 6,154,738 A \* 11/2000 Call ..... 705/20

OTHER PUBLICATIONS

“PCAgent and CMP Partner to Launch TechShopper”, DIALOG, File 813:PR Newswire, Apr. 22, 1997.\*  
 ask.chrysler.com webpage, copyright 1996-2000.\*  
 Draft Proposal. An Industry Standard Data Format for the Export and Import of Automotive Customer Leads, 21 pages from www.carpaint.msn.com/xml/.

\* cited by examiner

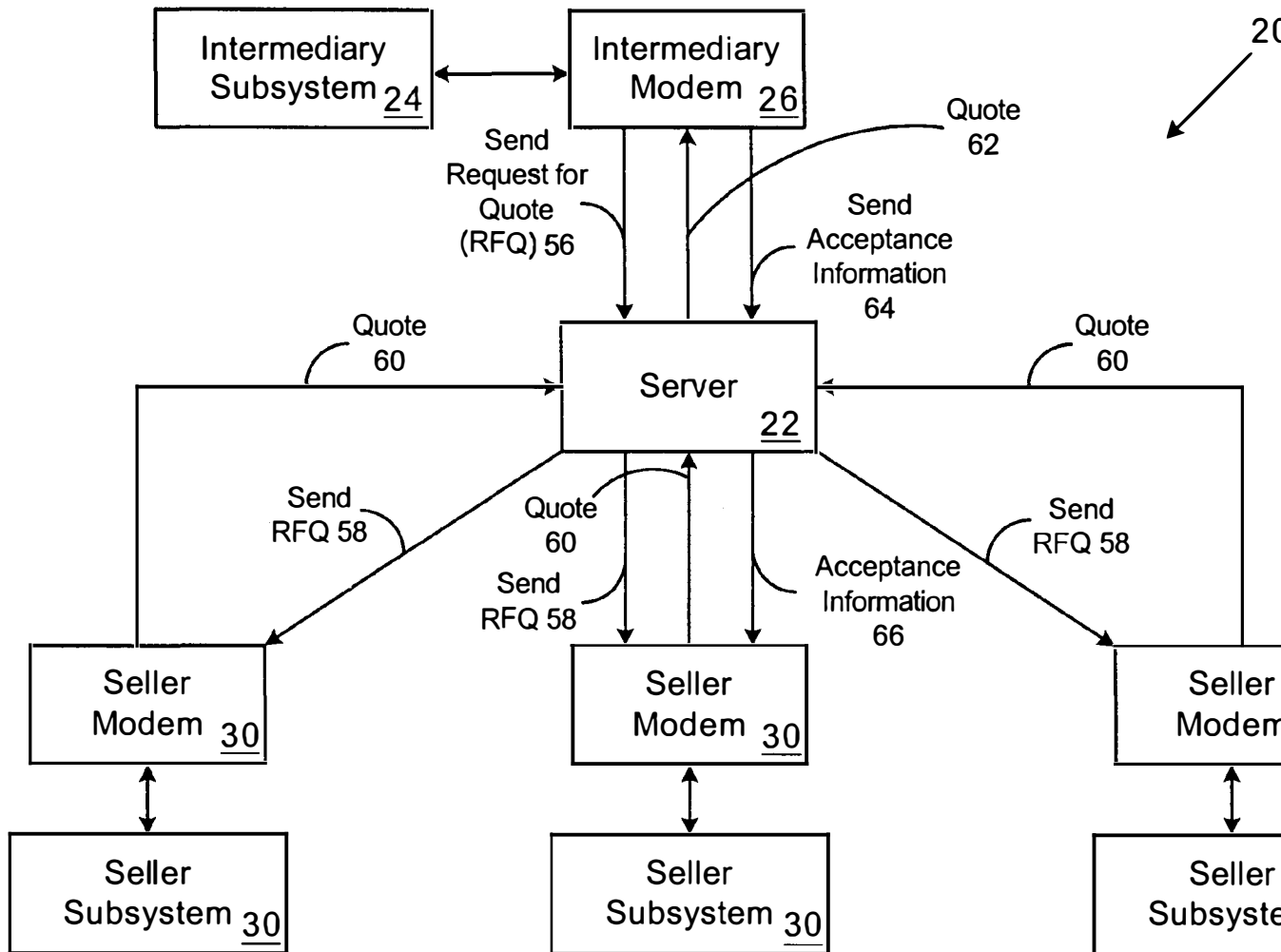


FIG. 1

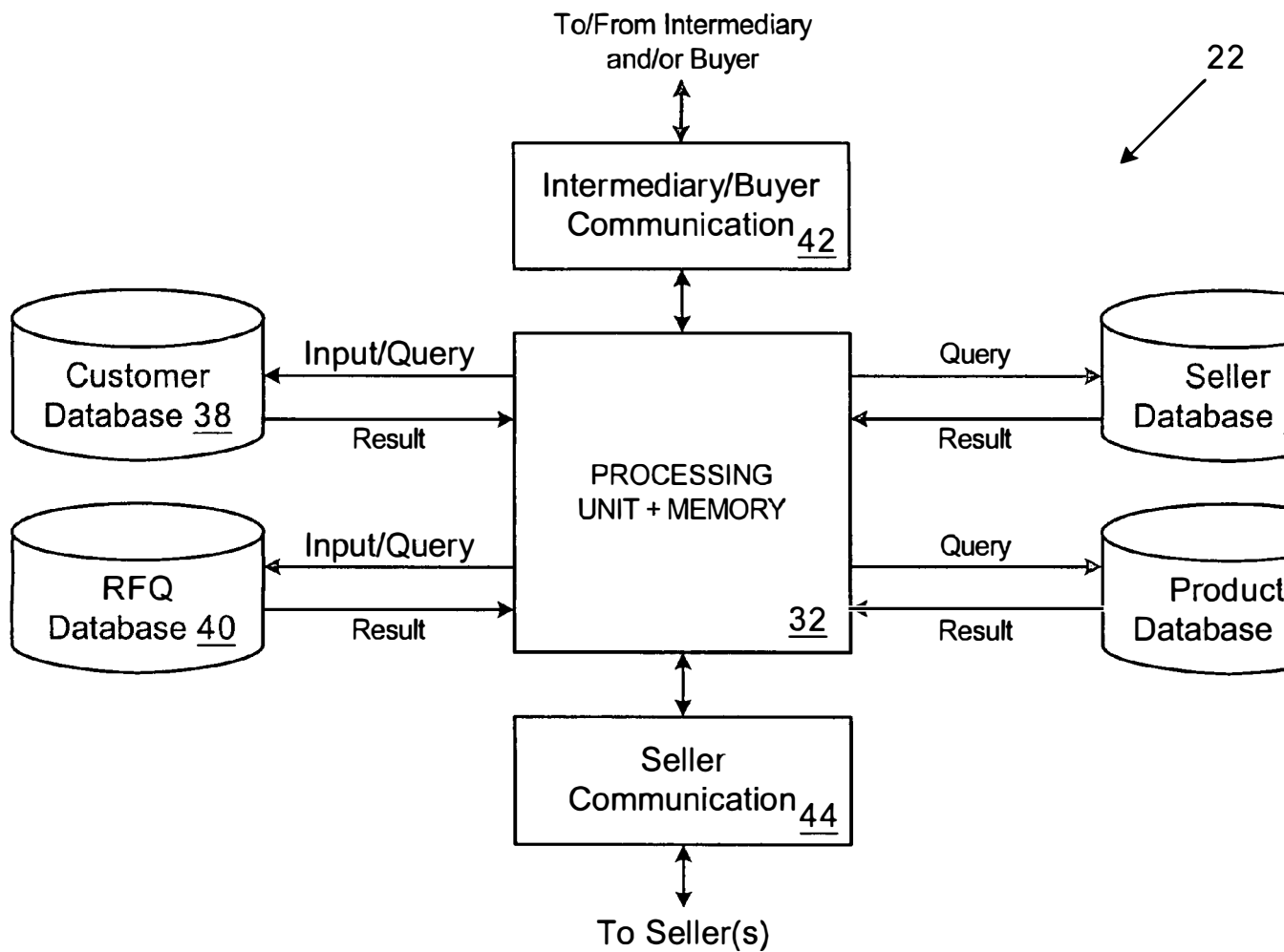


FIG. 2

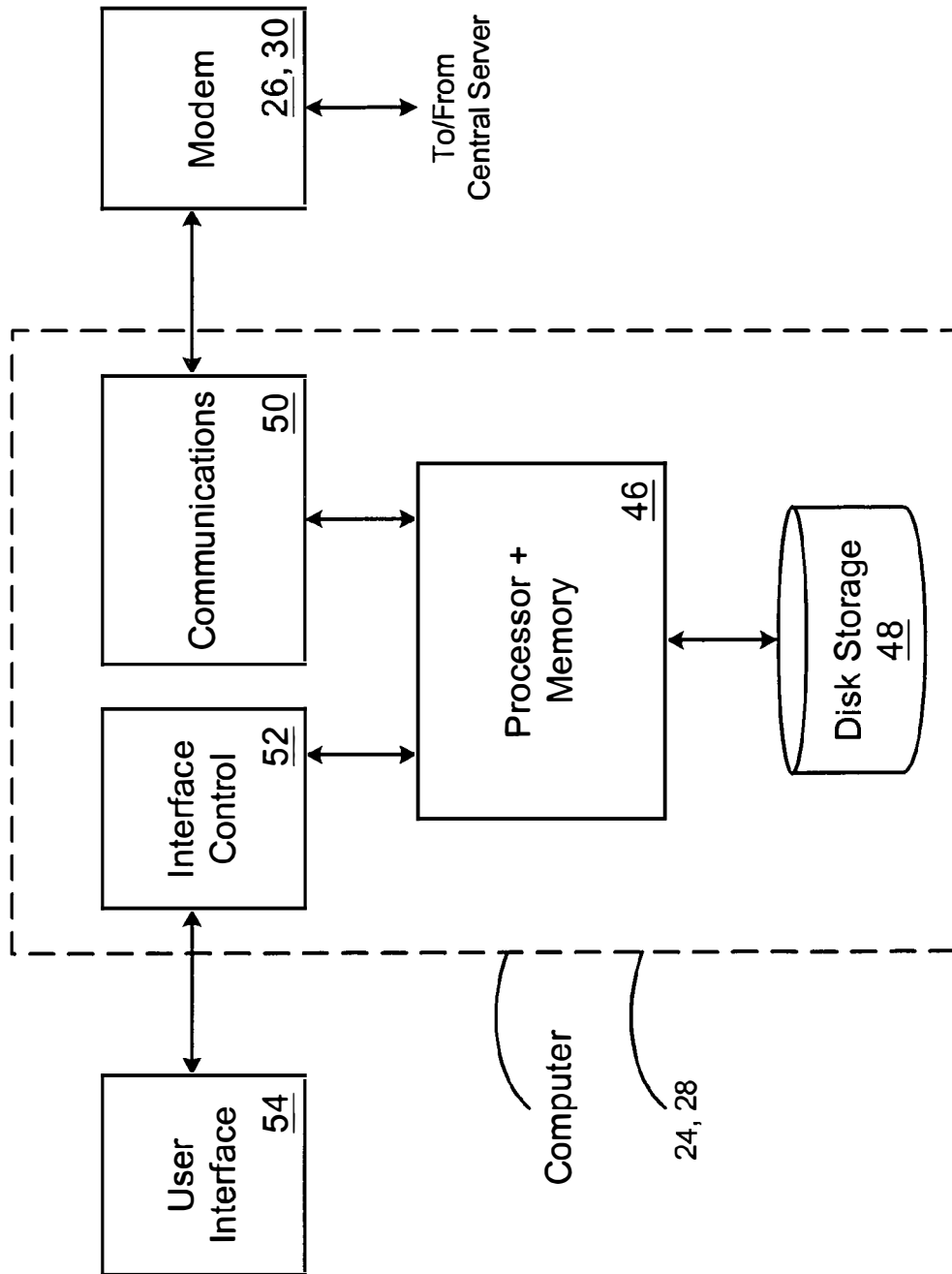


FIG. 3

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