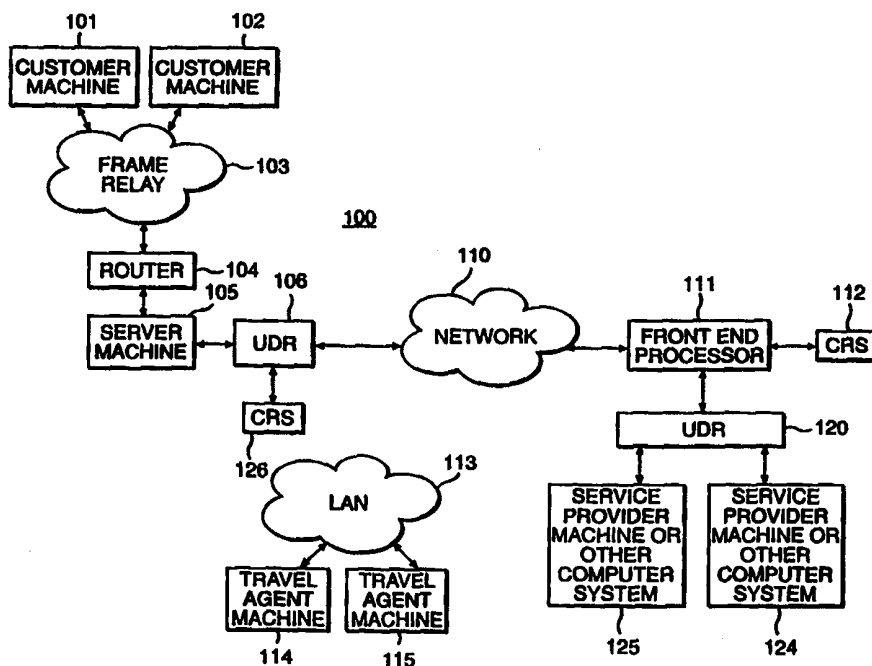




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : G06F 9/46</p>	<p>A3</p>	<p>(11) International Publication Number: WO 99/44155 (43) International Publication Date: 2 September 1999 (02.09.99)</p>
<p>(21) International Application Number: PCT/US99/04070 (22) International Filing Date: 25 February 1999 (25.02.99) (30) Priority Data: 09/031,671 27 February 1998 (27.02.98) US (71) Applicant: THE SABRE GROUP, INC. [US/US]; 4255 Amon Carter Boulevard, Fort Worth, TX 76155 (US). (72) Inventors: BAMFORTH, John; 1401 Timberlake Circle, Richardson, TX 75080 (US). HUBER, Glenn; Apartment 2224, 501 Sycamore Lane, Euless, TX 76039 (US). BUCKLEY, Kevin; 4160 Hallmont Drive, Grapevine, TX 76051 (US). SHENOY, Aravinda; 601 Park Boulevard #1804, Grapevine, TX 76051 (US). THORPE, Kenneth, P., III; 1633 Valencia Drive, Plano, TX 75074-4028 (US). AKSHAYAKUMAR, Sudha; 7425 Angel Fire Drive, Plano, TX 75025 (US). KARRA, Srinivas; 2400 Timberline Drive #127, Grapevine, TX 76051 (US). (74) Agents: GARRETT, Arthur, S. et al.; Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., 1300 I Street, N.W., Washington, DC 20005-3315 (US).</p>		<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 9 March 2000 (09.03.00)</p>

(54) Title: APPARATUS AND METHOD FOR DATA CONVERSION AND LOAD BALANCING IN A COMPUTER NETWORK



(57) Abstract

Conversion of a data in a variable field message to a fixed format message. The variable field message has a varying length and fields of varying types of data. The corresponding fixed format message has fields of a fixed data type and length, which facilitates parsing and processing data from the variable field message. Customers for the data conversion or other processing are load balanced among multiple servers sharing load level information.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/04070

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 G06F9/46

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>"METHOD FOR UNIVERSAL MAC FRAME ENCODING" IBM TECHNICAL DISCLOSURE BULLETIN, vol. 35, no. 2, 1 July 1992 (1992-07-01), pages 489-493, XP000313371 ISSN: 0018-8689 the whole document</p>	<p>1-3, 6-10, 13-17, 20,21</p>
X	<p>US 5 590 281 A (STEVENS BRUCE W) 31 December 1996 (1996-12-31)</p> <p>column 3, line 7 - line 48</p>	<p>1-3, 6-10, 13-17, 20,21</p>

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

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- * & * document member of the same patent family

Date of the actual completion of the international search

15 December 1999

Date of mailing of the international search report

17. 01. 00

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/04070

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>SUDO T: "INFRASTRUCTURE FOR DISTRIBUTED OBJECTS" HITACHI REVIEW, vol. 45, no. 3, 1 June 1996 (1996-06-01), pages 155-160, XP000679571 ISSN: 0018-277X the whole document</p>	1-21
X	<p>WO 97 29424 A (CITRIX SYSTEMS INC) 14 August 1997 (1997-08-14) page 2, line 20 -page 3, line 11</p>	22-42
A	<p>EP 0 240 145 A (TOKYO SHIBAURA ELECTRIC CO) 7 October 1987 (1987-10-07) column 1, line 1 -column 2, line 32</p>	22-42

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 99/04070

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-21

Converting between message formats. Stripping of protocols.

2. Claims: 22-42

Load balancing in a network of servers.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/04070

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5590281 A	31-12-1996	NONE	
WO 9729424 A	14-08-1997	US 5862348 A AU 2114097 A EP 0880741 A	19-01-1999 28-08-1997 02-12-1998
EP 0240145 A	07-10-1987	JP 2044981 C JP 7078785 B JP 62229358 A US 4954945 A	09-04-1996 23-08-1995 08-10-1987 04-09-1990