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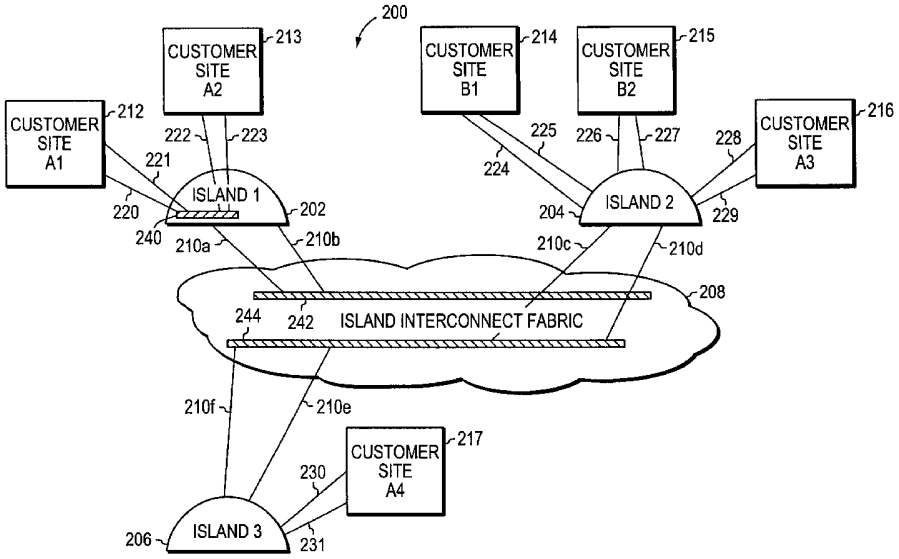
(54) Title: MODIFIED SPANNING TREE PROTOCOL FOR METROPOLITAN AREA NETWORK



(57) Abstract: A system and method permits the creation of very-large metropolitan area networks MANs (200) using Layer 2 switching technology. Different groups of L2 switches are logically organized into Islands. (202, 204, 206) connected to each Island are a plurality of customers sites (212, 214, 217) and an interconnect fabric (208) couples the Islands together. The Islands cooperate to provide a Virtual Ethernet Connection VEC to each set of customer sites being coupled together. Customers identify their traffic that corresponds to a VEC by labeling or tagging it with a Customer-Equipment VLAN Identifier CE-VLAN ID. Within each Island, the CE-VLAN ID specified by the customer's traffic (and hence the corresponding VEC) is mapped to a unique MAN Provider-Equipment VLAN ID PE- VLAN ID. To prevent the formation of loops, the Islands run the Inter-MAN Control Protocol IMCP, which represents a modified version of the Multiple Spanning Tree Protocol MSTP.

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International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04L12/46 H04L12/56

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 7 H04L

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)

EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	INTERWORKING TASK GROUP OF 802.1: "P802.1S, D14.1, DRAFT STANDARD FOR LOCAL AND METROPOLITAN AREA NETWORKS - AMENDMENT 3 TO 802.1Q VIRTUAL BRIDGED LOCAL AREA NETWORKS: MULTIPLE SPANNING TREE" IEEE COMPUTER SOCIETY, July 2002 (2002-07), XP002275799 paragraphs '06.1!, '07.5!, '08.6!, '8.6.2!, '8.6.4!, '8.10!, '11.2.1!, '13.3.1!, '13.4! - paragraphs '13.5!, '13.8!, '13.15!, '13.16!, '13.16.2!	1-13
A	US 6 236 659 B1 (PASCOE DAVID JOHN) 22 May 2001 (2001-05-22) abstract column 2, line 27 - column 4, line 15 column 5, line 25 - column 6, line 18; claims; figures	1-13

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
2 April 2004	21/04/2004

Name and mailing address of the ISA	Authorized officer
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 298 061 B1 (HAUSMAN RICHARD J ET AL) 2 October 2001 (2001-10-02) abstract column 2, line 13 - column 2, line 30 column 2, line 66 - column 4, line 16; claims; figures	1-13

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6236659 B1	22-05-2001	GB 2320169 A ,B	10-06-1998
US 6298061 B1	02-10-2001	US 6163543 A	19-12-2000
		US 5959968 A	28-09-1999