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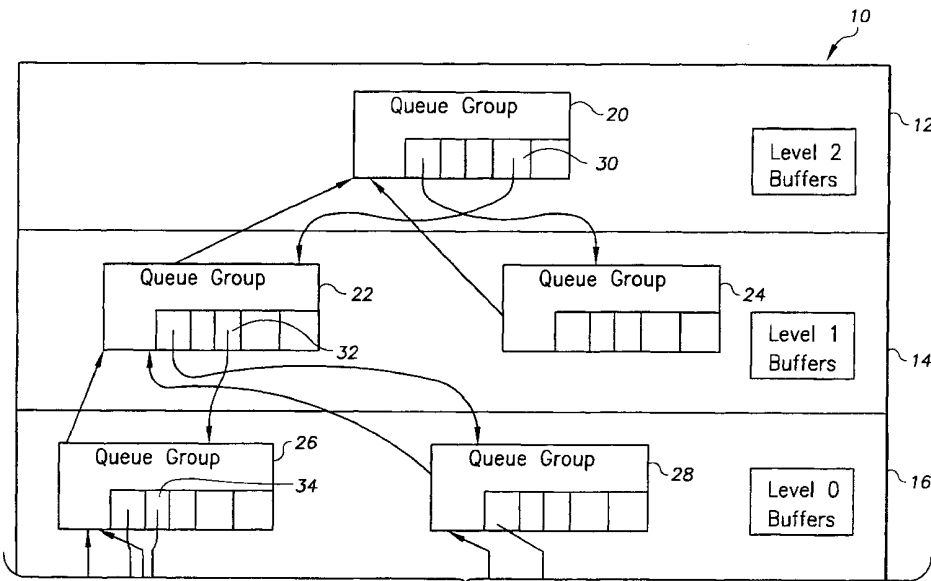
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DATA PACKET DISCARDING



TO FIG. 3 (CONT.)

(57) Abstract: A system for hierarchically storing packetized data and transferring the packetized data includes an input configured to receive packets of data, a memory coupled to the input and configured to store packets of data, an output coupled to the memory and configured to transfer packets of data from the memory, and a controller coupled to the memory and configured to control the memory to store packets of data in queues associated with a hierarchy in which a first level of the hierarchy includes a group of queue group components, wherein at least one of the queue group components in the group at the first level includes a group of queue group components associated with a second level of the hierarchy that is different from the first level of the hierarchy.



WO 01/84788 A3

# INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**  
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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)  
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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)

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**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 748 629 A (COLSMAN MATTHIAS L ET AL) 5 May 1998 (1998-05-05) figures 1,5 column 2, line 8 - line 37 column 4, line 30 - line 44 column 7, line 27 -column 8, line 31 ---	1-4, 25, 26, 42, 43
A	ENDO N ET AL: "LARGE SCALE ENTERPRISE ATM NODE WITH PER-VC TRAFFIC CONTROL" COMPUTER NETWORKS AND ISDN SYSTEMS, NORTH HOLLAND PUBLISHING. AMSTERDAM, NL, vol. 31, no. 6, 25 March 1999 (1999-03-25), pages 617-625, XP000700292 ISSN: 0169-7552 page 620, column 2, paragraph 3.2.1 -----	5, 35

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5748629	A	05-05-1998	
		AU 6500796 A	18-02-1997
		AU 6500896 A	18-02-1997
		AU 6500996 A	18-02-1997
		AU 6501096 A	18-02-1997
		AU 6501496 A	18-02-1997
		AU 6501696 A	18-02-1997
		AU 6501796 A	18-02-1997
		AU 6501996 A	18-02-1997
		AU 6502096 A	18-02-1997
		AU 6502496 A	18-02-1997
		AU 6502596 A	18-02-1997
		AU 6502696 A	18-02-1997
		AU 6502796 A	18-02-1997
		AU 6503196 A	18-02-1997
		AU 6503296 A	18-02-1997
		AU 6503396 A	18-02-1997
		AU 6503496 A	18-02-1997
		AU 6503596 A	18-02-1997
		AU 6503696 A	18-02-1997
		AU 6503796 A	18-02-1997
		AU 6549196 A	18-02-1997
		AU 6549296 A	18-02-1997
		AU 6648496 A	18-02-1997
		AU 6648796 A	18-02-1997
		AU 6712496 A	18-02-1997
		AU 6712596 A	18-02-1997
		AU 6761896 A	18-02-1997
		AU 6762096 A	18-02-1997
		EP 0845181 A1	03-06-1998
		EP 0839420 A1	06-05-1998
		EP 0839419 A2	06-05-1998
		EP 0872086 A1	21-10-1998
		EP 0839421 A2	06-05-1998
		EP 0839422 A1	06-05-1998
		JP 11510323 T	07-09-1999
		JP 2000501897 T	15-02-2000
		JP 11510324 T	07-09-1999
		JP 2000501900 T	15-02-2000
		JP 2000501901 T	15-02-2000
		JP 2001519973 T	23-10-2001
		JP 11510003 T	31-08-1999
		JP 2000501902 T	15-02-2000
		JP 11510004 T	31-08-1999
		JP 11510005 T	31-08-1999
		JP 11510006 T	31-08-1999
		JP 11511303 T	28-09-1999
		JP 11510007 T	31-08-1999
		JP 11510008 T	31-08-1999
		JP 11510009 T	31-08-1999