(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(54) Title: METHOD AND APPARATUS FOR DYNAMIC CLASS-BASED PACKET SCHEDULING
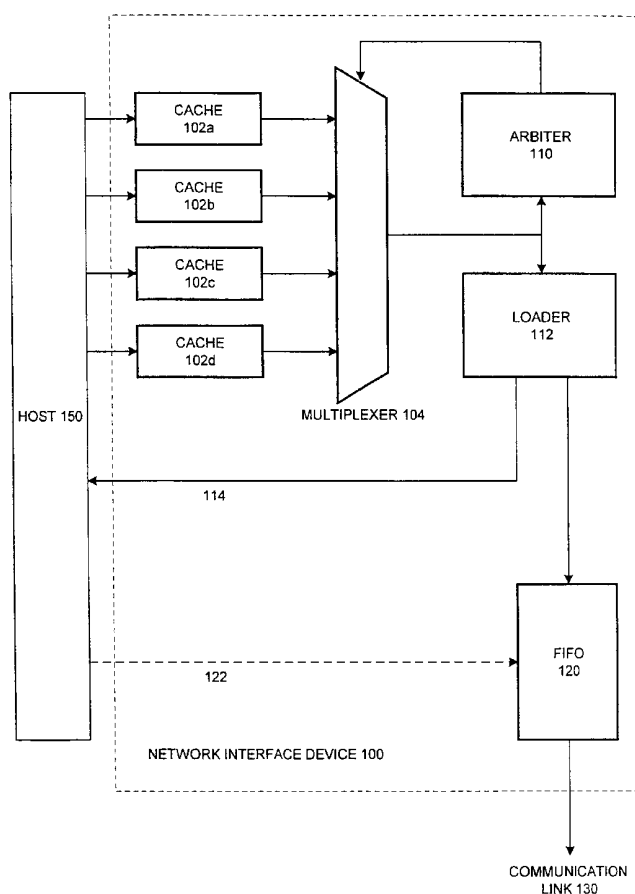
(57) Abstract: A method and apparatus are provided for scheduling data for transmission. Multiple storage components are serviced in turn to retrieve data descriptors, identify associated data, retrieve the data and prepare it for transmission. Weights are assigned to storage components, and may be proportional to the priority of data represented by the components' descriptors. Weights may indicate portions of transmission bandwidth that may be used, or a maximum amount of data that may be scheduled for transmission, each time a component is serviced. A weight may be dynamically updated to alter the amount of data that may be transmitted during a turn. If more data is scheduled for transmission during a servicing turn than is indicated by the serviced component's weight, a deficit is formed for that component. The maximum amount of data that may be scheduled during a succeeding turn for the component is decreased according to the deficit.

WO 01/63836 A3

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7   H04L29/06   G06F13/12

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   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)

EPO-Internal, WPI Data, PAJ, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 00949 A (SUN MICROSYSTEMS INC) 7 January 1999 (1999-01-07)	1,4,9, 11,16, 17, 23-26, 28-30
Y	abstract page 29, line 3 -page 33, line 29; figures 1-3,8 ---	2,8,10, 14,15,20
Y	EP 0 710 046 A (IBM) 1 May 1996 (1996-05-01) abstract column 1, line 17 - line 24 column 3, line 20 -column 5, line 23 ---	10,20

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| X | Further documents are listed in the continuation of box C. | X | Patent family members are listed in annex. |

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
18 September 2001	26/09/2001

Name and mailing address of the ISA	Authorized officer
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INTERNATIONAL SEARCH REPORT

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category°	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
Y	SHREEDHAR M ET AL: "EFFICIENT FAIR QUEUING USING DEFICIT ROUND ROBIN" COMPUTER COMMUNICATIONS REVIEW, ASSOCIATION FOR COMPUTING MACHINERY. NEW YORK, US, vol. 25, no. 4, 1 October 1995 (1995-10-01), pages 231-242, XP000541659 ISSN: 0146-4833	2,14,15
A	page 234, left-hand column, line 3 - line 11; figures 2,3 page 235, left-hand column, line 13 - line 22 page 242, left-hand column, line 4 - line 19	4,11,28, 29
A	SAHA D ET AL: "CARRY-OVER ROUND ROBIN: A SIMPLE CELL SCHEDULING MECHANISM FOR ATM NETWORKS" IEEE / ACM TRANSACTIONS ON NETWORKING. IEEE INC. NEW YORK, US, vol. 6, no. 6, December 1998 (1998-12), pages 779-796, XP000799243 ISSN: 1063-6692 abstract page 780, right-hand column, line 22 -page 781, left-hand column, line 3	4,11,28, 29
Y	US 5 732 094 A (BROWN DAVID R ET AL) 24 March 1998 (1998-03-24) abstract	8
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Information on patent family members

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