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(54) Title: BANDWIDTH RESERVATION FOR DATA FLOWS IN INTERCONNECTION NETWORKS

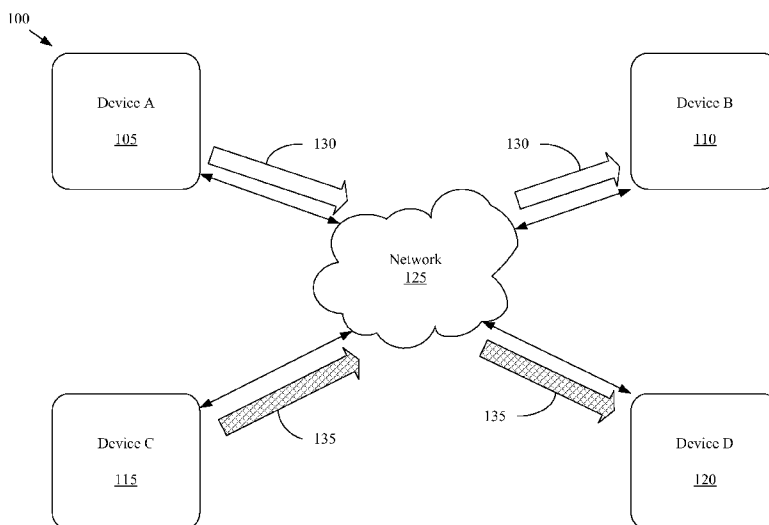


Fig. 1

(57) Abstract: A method and apparatus for bandwidth reservation for data flows in interconnection networks. Some embodiments of an apparatus for transmitting a data stream include a transmitter to transmit a data stream to a recipient apparatus, the data stream including a plurality of data packets. The apparatus further includes a receiver to receive a response from the recipient apparatus regarding data packet arrival status, and a network unit to direct the operation of the transmitter, the network unit to direct the transmitter to maintain the data stream with a constant bandwidth.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/069256

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04L12/28 H04L12/56 H04L29/06

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)
H04L H04N

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007/121678 A1 (BROOKS PAUL D [US] ET AL) 31 May 2007 (2007-05-31) page 7, paragraph 78 - page 8, paragraph 89 page 10, paragraph 115 - page 11, paragraph 128 page 14, paragraph 155 - page 16, paragraph 168 figures 1-1b, 2-2b, 3-5	1-16, 22-31
Y	US 2002/146023 A1 (MYERS REGAN [US]) 10 October 2002 (2002-10-10) page 6, paragraph 65 - page 10, paragraph 93 figures 1-11	1-16, 22-31

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
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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
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search 7 November 2008	Date of mailing of the international search report 10/02/2009
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Koch, György
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INTERNATIONAL SEARCH REPORT

International application No
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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.
Y	US 2003/067872 A1 (HARRELL CHANDLEE [US] ET AL) 10 April 2003 (2003-04-10) page 3, paragraph 37 - page 5, paragraph 56 page 7, paragraph 65 page 8, paragraph 78 figures 2-4 -----	1-16, 22-31
Y	WO 00/41352 A (NOKIA NETWORKS OY [FI]; BERGENWALL MARTIN [FI]; RAESAENEN JUHA [FI]; O) 13 July 2000 (2000-07-13) page 6, line 29 - page 10, line 14 figures 3-6 -----	1-16, 22-31

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/069256

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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 No. III Observations where unity of invention is lacking (Continuation of item 3 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 allsearchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

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.:

1-16, 22-31

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- 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: 1-16, 22-31

Data stream transmission with constant bandwidth by adding additional packets to the data stream.

2. claims: 17-21

Congestion detection in a network by measuring the level of data interference over a certain time period.

3. claims: 32-42

Bandwidth reservation determination based on successful transmission of a data stream over an initial time period.

INTERNATIONAL SEARCH REPORT

information on patent family members

International application No PCT/US2008/069256

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
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