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(54) Title: TRAFFIC MANAGEMENT IN A NETWORK SWITCHING SYSTEM WITH REMOTE PHYSICAL PORTS

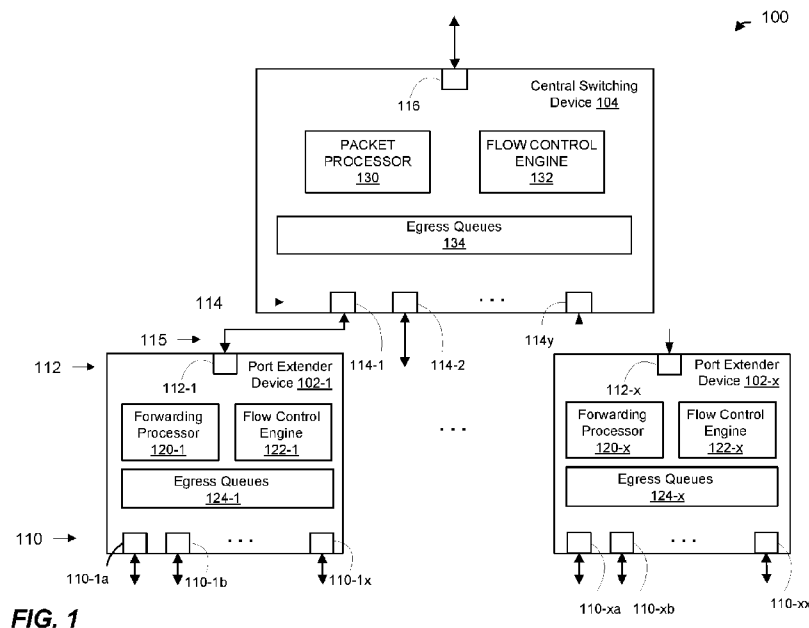


FIG. 1

(57) Abstract: A switching system includes a port extender device coupled to a central switching device. Packets processed by the central switching device are forwarded to the port extender device and enqueued in ones of a plurality of egress queues in the port extender device for transmission of the packets via the front ports of the port extender device. Respective egress queues in the port extender device have a queue depth that is less than a queue depth of corresponding respective egress queues in the central switching device. A flow control message indicative of congestion in a particular egress queue of the port extender device is generated and transmitted to the central switch device to control transmission of packets from the central switching device to the particular egress queue of the port extender device.



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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ADD.
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
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 practicable, search terms used)
EPO-Internal, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 2 911 352 A2 (BROADCOM CORP [US]) 26 August 2015 (2015-08-26) the whole document -----	1,7,13, 16,25
A	WO 2013/082407 A1 (NO STRINGS TOYS LLC [US]) 6 June 2013 (2013-06-06) the whole document -----	1,7,13, 16,25
A	US 7 016 352 B1 (CHOW PETER KA-FAI [US] ET AL) 21 March 2006 (2006-03-21) the whole document -----	1,7,13, 16,25
A	EP 0 960 536 B1 (ADVANCED MICRO DEVICES INC [US]) 20 August 2003 (2003-08-20) the whole document -----	1,7,13, 16,25

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 application or patent but published on or after the international filing date
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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
- "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 13 September 2017	Date of mailing of the international search report 01/12/2017
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 Vaskimo, Kimmo

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2017/052951

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2911352	A2	26-08-2015	CN 104869078 A
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			DE 69817328 T2
			EP 0960536 A2
			US 6487212 B1
			WO 9836587 A2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2017/052951

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 all searchable 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.:

1-18, 25-27

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: 1-18, 25-27

Apparatuses and methods for traffic management in a network switching system with remote physical ports, where a port extender device sends flow control messages to a central switch device, the port extender and the central switch comprising corresponding egress queues.

2. claims: 19-24

Apparatuses and methods for traffic management in a network switching system with remote physical ports, where the central switch sends two flow control messages to the port extender using two different flow control protocols.
