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(71) Applicant: **CITRIX SYSTEMS, INC.** [US/US]; 851 West Cypress Creek Road, Fort Lauderdale, Florida 33309 (US).

(72) Inventors: **MOMCHILOV, Georgy**; c/o Citrix Systems, Inc., 4988 Great America Parkway, Santa Clara, California 95054 (US). **THORSLUND, Derek**; c/o Citrix Systems, Inc., 4988 Great America Parkway, Santa Clara, California 95054 (US). **SINGH, Daljit**; c/o Citrix Systems, Inc., 4988 Great America Parkway, Santa Clara, California 95054 (US). **VYSOTSKY, Vladimir**; c/o Citrix Systems, Inc., 4988 Great America Parkway, Santa Clara, California 95054 (US).

(74) Agent: **MCKENNA, Christopher J.** et al.; FOLEY & LARDNER LLP, 3000 K Street N.W., Suite 600, Washington, District of Columbia 20007-5109 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

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(54) Title: SYSTEMS AND METHODS FOR MANAGING STREAMS OF PACKETS VIA INTERMEDIARY DEVICES

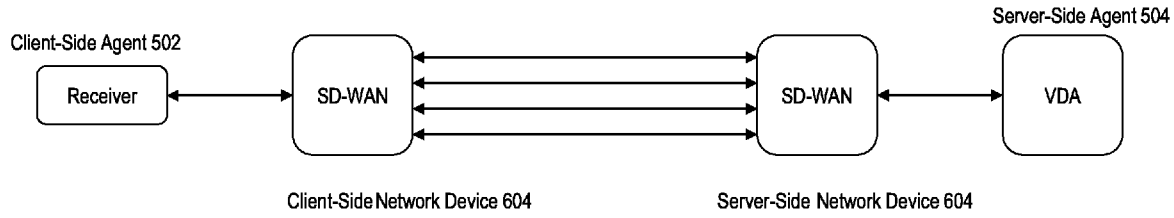

FIG. 11

(57) Abstract: Virtual application and desktop delivery may be optimized by supplying application metadata and user intent to the device between a client and a server hosting resources for the delivery. The data packets used to deliver the virtual application or desktop may be also tagged with references to the application. By supplying the metadata and tagging packets with the metadata, an intermediary network device may provide streams of data packets at the target QoS. In addition, the device may apply network resource allocation rules (e.g., firewalls and QoS configuration) for redirected content retrieved by the client out of band relative to a virtual channel such as the Internet. The network resource allocation rules may differ for different types of resources accessed. The device may also control a delivery agent on the server to modify communication sessions established through the virtual channels based on network conditions.

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[Continued on next page]

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Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
07 January 2021 (07.01.2021)

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. G06F9/50 H04L12/24 H04L12/26
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)
G06F 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, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/073061 A1 (COLLINS HENRY [GB]) 13 June 2002 (2002-06-13) abstract paragraph [0002] - paragraph [0018] paragraph [0035] - paragraph [0043] paragraph [0046] - paragraph [0057] paragraph [0065] - paragraph [0068] claims 1-20; figures 1-12 -----	1-20, 41-60
A	US 9 813 341 B1 (TAILOR PINAL [US] ET AL) 7 November 2017 (2017-11-07) abstract column 1, line 7 - line 21 column 1, line 60 - column 2, line 35 column 3, line 7 - column 7, line 4 column 7, line 27 - column 11, line 23 claims 1-20; figures 1-7 -----	1-20, 41-60

☐ 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

"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

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

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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	Date of mailing of the international search report
10 September 2020	09/12/2020

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Eftimescu, Nicolae

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Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2020/033546

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.:

1-20, 41-60

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: 1-20, 41-60

   Methods, network devices and computer readable media for updating the transmission configuration of virtual channels depending on the determined network conditions.

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2. claims: 21-40

   Methods, network devices and computer readable media for providing network resources to a client device.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2020/033546

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