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(71) Applicant: MICROSOFT TECHNOLOGY LICENSING, LLC [US/US]; One Microsoft Way, Redmond, Washington 98052-6399 (US).

(72) Inventors: CALLAHAN, Sean; c/o Microsoft Technology Licensing, LLC, LCA - International Patents (8/1172), One Microsoft Way, Redmond, Washington 98052-6399 (US). LATHAM, Ian Kelly; c/o Microsoft Technology Licensing, LLC, LCA - International Patents (8/1172), One Microsoft Way, Redmond, Washington 98052-6399 (US). LENZMEIER, Charles T.; c/o Microsoft Technology Li-

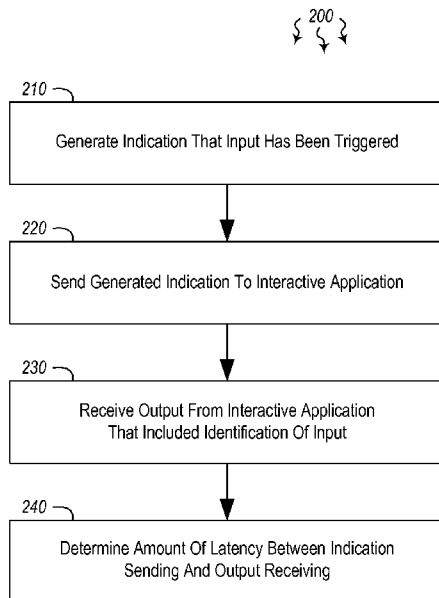
censing, LLC, LCA - International Patents (8/1172), One Microsoft Way, Redmond, Washington 98052-6399 (US). INGLE, Anil; c/o Microsoft Technology Licensing, LLC, LCA - International Patents (8/1172), One Microsoft Way, Redmond, Washington 98052-6399 (US).

(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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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[Continued on next page]

(54) Title: MEASURING LATENCY IN AN INTERACTIVE APPLICATION



(57) Abstract: Embodiments are directed to determining latency in an interactive application. In one scenario, a computer system generates an indication that an input has been triggered. This indication identifies the input. The computer system sends the indication to an interactive application that receives and accesses the indication. The computer system further receives an output from the interactive application that includes an indication of the input, and determines an amount of latency between the sending of the generated indication and the receiving of the interactive application output.

Figure 2





SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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))*

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))*

(88) Date of publication of the international search report:

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/022598

A. CLASSIFICATION OF SUBJECT MATTER
INV. A63F13/335 A63F13/355 A63F13/358 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)
A63F

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 949 943 A1 (KONAMI DIGITAL ENTERTAINMENT [JP]) 30 July 2008 (2008-07-30) abstract; figures 2,6,9,10 paragraph [0034] - paragraph [0036] paragraph [0045] - paragraph [0046] paragraph [0057] - paragraph [0059] paragraph [0066] - paragraph [0070] ----- -/--	1-4,9,10

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 8 July 2015	Date of mailing of the international search report 13/01/2016
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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 Fischer, Jan
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2015/022598

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.:

1-4, 9, 10

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.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/022598

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>CHEN KUAN-TA ET AL: "On the Quality of Service of Cloud Gaming Systems", IEEE TRANSACTIONS ON MULTIMEDIA, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 16, no. 2, 1 February 2014 (2014-02-01), pages 480-495, XP011537222, ISSN: 1520-9210, DOI: 10.1109/TMM.2013.2291532 [retrieved on 2014-01-15] abstract; figure 1 Sec. V, "Quantifying Responsiveness" incl. sub-sections A-C; page 5 - page 7 Sec. "B. Impact of Update Region Sizes"; page 10</p> <p style="text-align: center;">-----</p>	1-4,9,10
X	<p>US 2002/142843 A1 (ROELOFS GREGORY ROBERT [US]) 3 October 2002 (2002-10-03) abstract paragraphs [0010], [0011], [0013], [0022], [0023], [0026], [0030], [0050] claim 1</p> <p style="text-align: center;">-----</p>	1-4,9,10
A	<p>KUAN-TA CHEN ET AL: "Measuring the latency of cloud gaming systems", PROCEEDINGS OF THE 19TH ACM INTERNATIONAL CONFERENCE ON MULTIMEDIA, MM '11, 1 January 2011 (2011-01-01), page 1269, XP055200209, New York, New York, USA DOI: 10.1145/2072298.2071991 ISBN: 978-1-45-030616-4 abstract Sec. 3.2-3.4</p> <p style="text-align: center;">-----</p>	1-4,9,10
A	<p>YENG-TING LEE ET AL: "Are all games equally cloud-gaming-friendly? An electromyographic approach", NETWORK AND SYSTEMS SUPPORT FOR GAMES (NETGAMES), 2012 11TH ANNUAL WORKSHOP ON, IEEE, 22 November 2012 (2012-11-22), pages 1-6, XP032301096, DOI: 10.1109/NETGAMES.2012.6404025 ISBN: 978-1-4673-4576-7 abstract Sec. III,IV,V</p> <p style="text-align: center;">-----</p>	1-4,9,10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/022598

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1949943	A1	30-07-2008	CN 101309733 A
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			KR 20030020882 A
			US 2002142843 A1
			WO 02078808 A1

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4, 9, 10

Latency measurements in distributed gaming following user input.

1.1. claims: 1-4, 9

Repeated latency measurements in distributed gaming.

1.2. claim: 10

One-time latency measurement in distributed gaming.

2. claims: 5-7

Incorporation of display latency in latency handling in distributed gaming.

3. claim: 8

Tracking the processing of each input in a distributed game system.
