

Questions about this communication ?

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Robson, Aidan John
Reddie & Grose LLP
16 Theobalds Road
London WC1X 8PL
ROYAUME UNI

Date

10.08.16

Reference P/68061.EP01	Application No./Patent No. 10815479.0 - 1862 / 2479938 PCT/JP2010065712
Applicant/Proprietor NEC Corporation	

Communication

The extended European search report is enclosed.

The extended European search report includes, pursuant to Rule 62 EPC, the supplementary European search report (Art. 153(7) EPC) and the European search opinion.

Copies of documents cited in the European search report are attached.

☒ 0 additional set(s) of copies of such documents is (are) enclosed as well.

Refund of the search fee

If applicable under Article 9 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.

Should you wish to further prosecute this application in the examination phase, your attention is drawn to the provisions of Rule 70a EPC. An invitation to respond to the extended European search report will be issued shortly (R. 70(2) EPC).



The examination is being carried out on the **following application documents**

Description, Pages

1-48 filed with entry into the regional phase before the EPO

Claims, Numbers

1-28 filed with entry into the regional phase before the EPO

Drawings, Sheets

1/20-20/20 filed with entry into the regional phase before the EPO

1 Reference is made to the following documents; the numbering will be adhered to in the rest of the procedure:

D1 JOKELA PETRI ET AL: "Publish- Subscribe Internet Routing Paradigm. LIPSIN: Line Speed Publish /subscribe inter-networking. TR09-0001, version 1.0", PSIRP, PUBLISH-SUBSCRIBE INTERNET ROUTING PARADIGM, pages 1-2,1, XP002566408, Retrieved from the Internet: URL:http://www.psirp.org/files/Deliverables/PSIRP-TR09-0001_LIPSIN.pdf [retrieved on 2010-02-02]

D2 US 2009/046732 A1 (PRATT JR WALLACE A [US] ET AL) 19 February 2009 (2009-02-19)

2 The application does not meet the requirements of Article 84 EPC, because **claims 1, 5, 6, 12, 16 to 19 and 25 to 28** are not clear.

2.1 **Independent claims 1, 12, 16, 19 and 25 to 28** do not meet the requirements of Article 84 EPC in that the matter for which protection is sought is not clearly defined. The functional statement "... *or links extending...*" does not enable the skilled person to determine which words said "*or*" actually connect.

A reformulation clearly expressing that the *identifiers* are for identifying communication interfaces or links, as derivable from the description, in particular paragraph 31, would overcome this objection.

2.2 The expression "a **header**" repeatedly used in **claims 5, 6, 16, 17, 18, 25 and 27** is unclear and leaves the reader in doubt as to the relation between all said defined "*headers*", thereby rendering the definition of the subject-matter of said claims unclear (Article 84 EPC).

3 The present application does not meet the requirements of Article 52(1) EPC because the subject-matter of **claim 1** is not new within the meaning of Article 54(1) and (2) EPC.

Document **D1** discloses, according to **all** the features of **claim 1**, a communication system comprising:

a path management server (see the "topology management system" in section 2.3) that configures forwarding path information by arranging identifiers for identifying communication interfaces provided in respective forwarding nodes in a forwarding path of a data transfer network or links extending between said respective forwarding nodes and neighboring nodes thereof (see in particular the introduction, referring to "source routing" and section 2.5); and

a forwarding node that performs packet forwarding processing in accordance with said forwarding path information, with regard to a packet to which is added a header containing said forwarding path information (see sections 2.5, 3.4).

The subject-matter of claim 1 is therefore **not new**, Articles 52(1) and 54 EPC.

It should furthermore be noted that **even if** the Applicant intended to argue novelty of claim1, based on a slightly different interpretation of its features and those disclosed in document **D1**, the subject-matter of this claim would **not involve an inventive step**, Articles 52(1) and 56 EPC, having regard to the disclosure of document **D1** and the normal knowledge of a person skilled in the art of routing protocols, specifically applied by centralized systems, as PCEs or OpenFlow controllers, and source routing techniques).

4 The same objections as made in above paragraph 3 can be based also on the disclosure of document **D2** (see in particular paragraphs 12 to 14, 16, 83 to 91, 101), which describes a method for routing packets, where a network manager applies source routing and communicates to the network nodes the list of the nodes to be traversed in a selected path.

5 The same considerations as made in above paragraphs 3 and 4 regarding claim 1 are also valid for **independent claims 12, 16, 19 and 25 to 28** since these claims include the same or a corresponding feature combination as claim 1 in terms of claims respectively relating to a forwarding node (not new also just considering the "forwarding nodes" in the Software Defined Networks), a boundary forwarding node, a path management server (not new also considering the OpenFlow controller in the Software Defined Networks), a communication method and corresponding programs.

The subject-matter of claims 12, 16, 19 and 25 to 28 therefore is **neither new**, Articles 52(1) and 54(1),(2) EPC, **nor** does it **involve an inventive step**, Articles 52(1) and 56 EPC, and hence claims 12, 16, 19 and 25 to 28 are **not** allowable.

6 **Dependent claims 2 to 11, 13 to 15, 17, 18 and 20 to 24** do not contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step for the reason that the subject-matter of these claims is **either in principle** directly derivable from the disclosure of the cited documents (see in particular in **D1** section 2.5, where the information about a "direction" of the path is disclosed, and where it is described that the "links" are stored with their IDs in a "forwarding table"; see **D2**, paragraph 83, where it is stated that the source node, i.e. a "boundary node", includes in the header of the packet the list of devices through which the packet must travel) **or** represents simple design details which are generally known to the person skilled in the field of routing protocols and related source routing techniques.

Due to the above reasons, dependent claims 2 to 11, 13 to 15, 17, 18 and 20 to 24 are **not** allowable, Articles 52(1) and 56 EPC.

- 7 It is not at present apparent which part of the application could serve as a basis for new, allowable claims. Should the Applicant nevertheless regard some particular matter as patentable, an independent claim including such particular matter should be filed taking account of Rule 43 (1) EPC.
- The Applicant should also indicate in the letter of reply the difference vis-à-vis the state of the art and the significance thereof (i.e. particular advantages).
- 8 Should the Applicant intend to file a new set of claims, the following requirements should also be taken into consideration:
- 8.1 To meet the requirements of Rule 43 (1) EPC any new independent claim should be properly cast in the **two-part form**, with those features which in combination are part of the nearest prior art being placed in the preamble.
- 8.2 To meet the requirements of Rule 42(1)(b) EPC, the cited document **D1** should be acknowledged and briefly discussed in the opening part of the description.
- 8.3 The features of the claims should be provided with reference signs placed in parentheses to increase the intelligibility of the claims (Rule 43(7) EPC). This applies to both the preamble and characterising portion (see Guidelines F-IV, 4.19).
- 8.4 The opening part of the description should be modified to bring it into agreement with any new independent claim, Rule 42 (1) (c) EPC.
- 8.5 References in European patent applications to other documents may relate either to the background art, or to part of the disclosure of the invention (e.g. details of one of the components of a claimed apparatus). Because the document referenced on page 1, paragraph 1, is not essential for carrying out the invention as meant by Art. 83, this reference should be deleted from the description.
- 8.6 The "**incorporated by reference**" statement on page 5, lines 7 and 8, should be deleted, since the application should be self-contained (see EPO Guidelines, F-III, 8).
- 9 Care should be taken during revision not to add subject-matter which extends beyond the content of the application as originally filed, Article 123 (2) EPC.

Datum
Date cf Form 1507
Date

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Sheet 5
Feuille

Anmelde-Nr:
Application 10 815 479.0
No:
Demande n°:

In his letter of reply, the Applicant should indicate the parts of the originally filed application serving as a basis for subject-matter newly introduced into the claims.

**SUPPLEMENTARY
EUROPEAN SEARCH REPORT**

Application Number
EP 10 81 5479

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	JOKELA PETRI ET AL: "Publish- Subscribe Internet Routing Paradigm. LIPSIN: Line Speed Publish /subscribe inter-networking. TR09-0001, version 1.0", PSIRP, PUBLISH-SUBSCRIBE INTERNET ROUTING PARADIGM 9 January 2009 (2009-01-09), pages 1-2,1, XP002566408, Retrieved from the Internet: URL:http://www.psirp.org/files/Deliverables/PSIRP-TR09-0001_LIPSIN.pdf [retrieved on 2010-02-02] * sections "Introduction", 2.3, 2.5, 3.4 * -----	1-28	INV. H04L12/721 ADD. H04L12/717
X	US 2009/046732 A1 (PRATT JR WALLACE A [US] ET AL) 19 February 2009 (2009-02-19) * paragraphs [0012] - [0014], [0016], [0083] - [0091], [0101] * -----	1,12,16, 19,25-28	
X	EP 1 320 224 A1 (CIT ALCATEL [FR]) 18 June 2003 (2003-06-18) * paragraphs [0011] - [0013], [0028] - [0030], [0039] - [0041], [0058] * -----	12,16, 26,27	TECHNICAL FIELDS SEARCHED (IPC)
A		1-11,14, 15, 17-25,28	H04L
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search		Date of completion of the search	Examiner
Munich		2 August 2016	Ramenzoni, Stefano
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C04)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 81 5479

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

02-08-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009046732 A1	19-02-2009	CN 101682541 A	24-03-2010
		EP 2140617 A2	06-01-2010
		US 2009046732 A1	19-02-2009
		US 2011216656 A1	08-09-2011
		WO 2009008934 A2	15-01-2009

EP 1320224 A1	18-06-2003	DE 60131551 T2	23-10-2008
		EP 1320224 A1	18-06-2003
		US 2003118051 A1	26-06-2003

TITLE: COMMUNICATION SYSTEM, FORWARDING NODE, PATH MANAGEMENT SERVER, COMMUNICATION METHOD, AND PROGRAM

APPLICANT: NEC Corporation

IPC CLASSIFICATION: H04L12/721, H04L12/717

EXAMINER: Ramenzoni, Stefano

CONSULTED DATABASES: DOSYS, EPODOC, INET, NPL, TXT+, WPI, XPIETF

CLASSIFICATION SYMBOLS DEFINING EXTENT OF THE SEARCH:

IPC:

CPC: H04L45/34, H04L45/64, H04L45/42

FI/F-TERMS:

KEYWORDS OR OTHER ELEMENTS FEATURING THE INVENTION:

A communication system comprising:

a path management server that configures forwarding path information by arranging identifiers for identifying communication interfaces provided in respective forwarding nodes in a forwarding path of a data transfer network or links extending between said respective forwarding nodes and neighboring nodes thereof; and

a forwarding node that performs packet forwarding processing in accordance with said forwarding path information, with regard to a packet to which is added a header containing said forwarding path information;

wherein, among said forwarding nodes, a forwarding node (boundary forwarding node) positioned at a boundary with an external network comprises a header operation unit that performs addition of a header containing said forwarding path information to a packet received from said external network, or performs removal of a header containing said forwarding path information from a packet transmitted to said external network.