

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 January 2007 (18.01.2007)

PCT

(10) International Publication Number
WO 2007/006845 A3

(51) International Patent Classification:
H04L 12/56 (2006.01)

(21) International Application Number:
PCT/FI2006/000244

(22) International Filing Date: 7 July 2006 (07.07.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/175,477 7 July 2005 (07.07.2005) US

(71) Applicant (for all designated States except US): NOKIA CORPORATION [FI/FI]; Keilalahdentie 4, FI-02150 Espoo (FI).

(72) Inventor; and

(75) Inventor/Applicant (for US only): BALANDIN, Sergey [RU/FI]; Alakiventie 7 D 55, FI-00920 Helsinki (FI).

(74) Agent: PAPULA OY; PO Box 981, (mechelininkatu 1 A), FI-00101 Helsinki (FI).

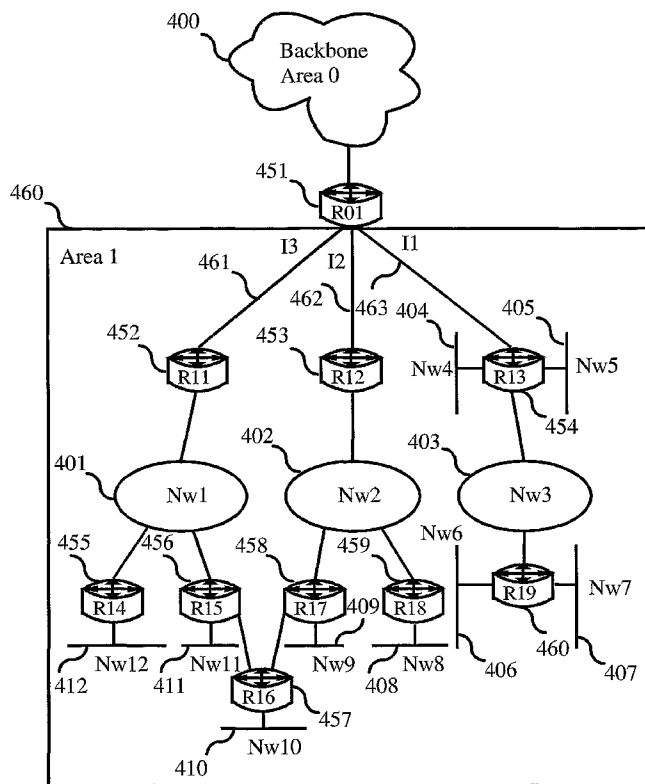
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ,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

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

[Continued on next page]

(54) Title: METHOD FOR AUTOMATIC ROUTE AGGREGATION IN A COMMUNICATION SYSTEM



(57) Abstract: The invention relates to a method for automatic route aggregation in a communication system. Routes are aggregated in area boundary or equivalently in edge routers. The edge routers calculate most specific route aggregation solutions based on route information received from subordinate routers. The route aggregation solutions are provided to a master edge router, which performs further route aggregation based on information from all edge routers. The master edge router performs also route combination avoiding routing conflicts. The master edge router provides the resulting route aggregates to the other edge routers. The edge routers advertise the resultant route aggregates to an upper-level network.

WO 2007/006845 A3



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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

1 March 2007

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI2006/000244

A. CLASSIFICATION OF SUBJECT MATTER

IPC: see extra sheet
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)

IPC: H04L, H04J, H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ, COMPENDEX, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BALANDIN, S: "Automatic Route Aggregation for increasing performance of the Fault Tolerant Networks". In: Proc SPIE Int Soc Opt Eng; Proceedings of SPIE - The International Society for Optical Engineering; Performance, Quality of Service, and Control of Next-Generation Communication Networks II 26-27 Oct 2004, Philadelphia, PA, US, vol 5598, esp. section 2 --	1-27
A	US 20040223491 A1 (LEVY-ABEGNOLI, E M ET AL), 11 November 2004 (11.11.2004), abstract --	1-27
A	WO 2004056047 A1 (INTERNAP NETWORK SERVICES CORP), 1 July 2004 (01.07.2004), abstract -- -----	1-27

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search 21 December 2006	Date of mailing of the international search report 28-12-2006
---	--

Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Åsa Rydenius /LR Telephone No. +46 8 782 25 00
--	---

International patent classification (IPC)
H04L 12/56 (2006.01)

Download your patent documents at www.prv.se

The cited patent documents can be downloaded at www.prv.se by following the links:

- In English/Searches and advisory services/Cited documents (service in English) or
- e-tjänster/anförda dokument (service in Swedish).

Use the application number as username.

The password is **NQZHLNUSBE**.

Paper copies can be ordered at a cost of 50 SEK per copy from PRV InterPat (telephone number 08-782 28 85).

Cited literature, if any, will be enclosed in paper form.

INTERNATIONAL SEARCH REPORT

Information on patent family members

25/11/2006

International application No.

PCT/FI2006/000244

US	20040223491	A1	11/11/2004	CA	2520560	A	25/11/2004
				CN	1839586	A	27/09/2006
				EP	1627486	A	22/02/2006
				WO	2004102849	A	25/11/2004

WO	2004056047	A1	01/07/2004	AU	2003300900	A	00/00/0000
				EP	1570604	A	07/09/2005
				US	20060182034	A	17/08/2006
