

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
8 May 2008 (08.05.2008)

PCT

(10) International Publication Number  
**WO 2008/054323 A3**

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

(21) International Application Number:  
PCT/SE2007/050816

(22) International Filing Date:  
2 November 2007 (02.11.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0602336-0 3 November 2006 (03.11.2006) SE  
0700378-3 15 February 2007 (15.02.2007) SE  
0700691-9 19 March 2007 (19.03.2007) SE

(71) Applicant (for all designated States except US): **ORICANE AB** [SE/SE]; Aurorum 2, S-977 75 Luleå (SE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **SUNDSTRÖM, Mikael** [SE/SE]; Nilsandersvägen 19, S-975 96 Luleå (SE).

(74) Agent: **ZACCO SWEDEN AB**; P.O. Box 23101, Sveavägen 151, S-104 35 Stockholm (SE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

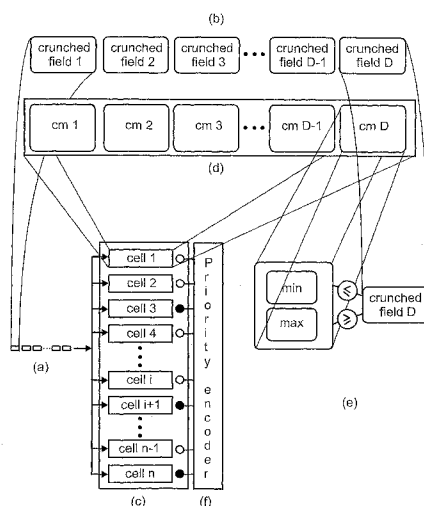
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, 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
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
5 June 2008

(54) Title: MULTI FIELD CLASSIFICATION IN DATA COMMUNICATIONS NETWORK



(57) Abstract: The present invention pertains to a method for performing specific data forwarding actions depending on the nature of data traffic comprising data packets, which method comprises the steps of: -receiving incoming data traffic of a specific nature, belonging to at least a specific class among a number of pre-defined classes, step 101 -classifying the data traffic by determining the nature of the data traffic, step 102, provided by a process of inspecting values of one or more selected header field(s) of an address space of a data packet and selecting a first matching class from an ordered list of classes providing multi-dimensional classification, step 103.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE2007/050816

## 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, G06F

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, INSPEC, COMPDX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 0159702 A1 (XSTREAM LOGIC, INC.), 16 August 2001 (16.08.2001), page 3, claim 1, abstract  --	1,4,8-13
X	US 6289013 B1 (LAKSHMAN, T V ET AL), 11 Sept 2001 (11.09.2001), column 3, line 52 - line 61, claim 1, abstract  --	1,4,8-13
A	US 20050018615 A1 (ITOH, T ET AL), 27 January 2005 (27.01.2005), claim 1, abstract, paragraphs [0015]-[0016]  -- -----	1-13

☐ 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 April 2008

Date of mailing of the international search report

09-04-2008

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

Patrik Rydman/PR  
 Telephone No. +46 8 782 25 00

## Box II.2

Present claims 14-37 relate to a method defined by reference to the following parameters:

P1: crunching  
P2: crunching modules  
P3: custom crunchers  
P4: skipper  
P5: pre-crunched header  
P6: pre-crunching  
P7: pre-crunching device  
P8: crunched interval  
P9: crunched key  
P10: crunched classes  
P11: crunched field

The use of these parameters in the present context is considered to lead to a lack of clarity within the meaning of Article 6 PCT. It is impossible to compare the parameters the applicant has chosen to employ with what is set out in the prior art. The lack of clarity is such as to render a meaningful complete search impossible.

Thence it follows that a reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability only is established for claims 1-13 of the international application.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/SE2007/050816

## 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.: 14 - 37  
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:  
  
See extra sheet
  
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:

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 fee, this Authority did not invite payment of any additional fee.
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.:

### 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 patent classification (IPC)****H04L 12/56** (2006.01)**Download your patent documents at [www.prv.se](http://www.prv.se)**

The cited patent documents can be downloaded at [www.prv.se](http://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 **EJHGSZVZWR**.

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

26/01/2008

International application No.

PCT/SE2007/050816

WO 0159702 A1 16/08/2001

AU 2632501 A 20/08/2001

AU 3807301 A 20/08/2001

US 7043467 B 09/05/2006

WO 0159622 A 16/08/2001

US 6289013 B1 11/09/2001

US 6408127 B 18/06/2002

US 20050018615 A1 27/01/2005

AU 2003212650 A 22/09/2003

EP 1491009 A 29/12/2004

JP 2003338817 A 28/11/2003

JP 2003338830 A 28/11/2003

WO 03077485 A,B 18/09/2003

US D507557 S 19/07/2005