Title: SYSTEM AND METHOD FOR EFFICIENT WIDE AREA NETWORK ROUTING

(57) Abstract: An overlay on a wide area network is disclosed. The wide area network includes at least one backbone network, and the overlay includes a processor coupled to the backbone network. The processor furthermore contains instructions which, when executed, cause the processor to optimize real time performance of data delivery from the processor to another processor on the wide area network. A method of optimizing at least two routes in a wide area network is also provided. The method includes optimizing a first route based on a first characteristic and optimizing a second route based on a second characteristic.
Declarations under Rule 4.17:
— as to applicant’s entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations
— as to the applicant’s entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

Published:
— with international search report

(88) Date of publication of the international search report:
16 October 2003

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.
### INTERNATIONAL SEARCH REPORT

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 H04L12/56

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 7 H04L

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

Electronic database consulted during the international search (name of database and, where practical, search terms used)

EPO-Internal, INSPEC

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>WO 00 11838 A (HOWE WAYNE R) 2 March 2000 (2000-03-02) page 7, line 18 - page 9, line 6; figure 1</td>
<td>1</td>
</tr>
<tr>
<td>P,X</td>
<td>EP 1 137 226 A (TEXAS INSTRUMENTS INC) 26 September 2001 (2001-09-26) abstract; figure 1</td>
<td>1</td>
</tr>
</tbody>
</table>

* 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 document 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
- **S** document member of the same patent family

**Date of the actual completion of the international search**

14 November 2002

**Date of mailing of the international search report**

26.03.2003

**Name and mailing address of the ISA**

European Patent Office, P.B. 5819, Pachtenlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Fax (+31-70) 348-3919

**Authorized officer**

Perrier, S
INTERNATIONAL SEARCH REPORT

Box I  Observations where certain claims were found unsearchable (Continuation of item 1 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 II  Observations where unity of invention is lacking (Continuation of item 2 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 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.:

1

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claim: 1
   Optimisation of real time performance of data delivery from a processor

2. Claims: 2-12,17
   Selection of an optimum route in a wide area network.

3. Claim: 13
   Coupling nodes of an overlay network

4. Claims: 14-16
   Method for optimizing the throughput
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
<th>Publication date</th>
</tr>
</thead>
<tbody>
<tr>
<td>WO 0011838 A</td>
<td>02-03-2000</td>
<td>AU 6129599 A</td>
<td>14-03-2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CA 2340369 A</td>
<td>02-03-2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 1106001 A</td>
<td>13-06-2001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 2002031086 A</td>
<td>14-03-2002</td>
</tr>
</tbody>
</table>