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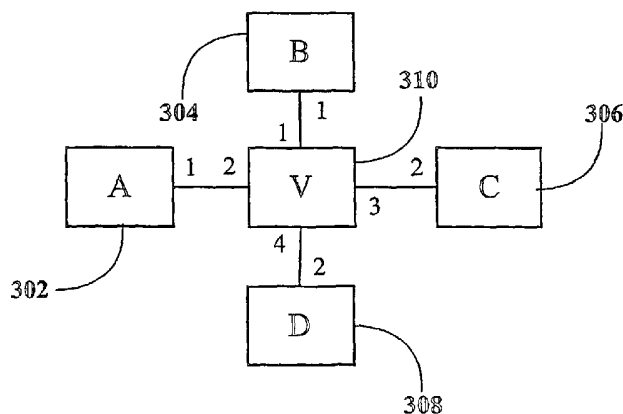
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**Declarations under Rule 4.17:**

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,*

*[Continued on next page]*

(54) Title: METHOD AND APPARATUS FOR DETERMINING AND RESOLVING MISSING TOPOLOGY FEATURES OF A NETWORK FOR IMPROVED TOPOLOGY ACCURACY



(57) Abstract: The present invention describes a method and apparatus for resolving anomalies within a network topology map that typically occur when a derived topology map fails, for a variety of reasons, to include devices resident on the network. The method of the present invention discovers missing devices by identifying a conflicting link within a received topology map, the conflicting link comprising a source and one or more conflicting destinations. The conflicting link is resolved through the use of one or more virtual devices within the topology map. The conflicting link is replaced with a link to a virtual device based upon the resolution of the conflicting link, thereby eliminating the anomaly in the topology map. The step of resolving the conflicting link may also comprise the steps of determining a number of conflicting destinations from the source of the conflicting link, resolving the source of the conflicting link, and resolving the conflicting destination. In order to reduce the number of virtual devices inserted to the topology, the method may further include identifying a link between two virtual devices and merging the virtual devices.



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## INTERNATIONAL SEARCH REPORT

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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)

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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 practical, search terms used)

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 933 416 A (DAWES NICHOLAS ET AL) 3 August 1999 (1999-08-03) column 20, line 29 - line 53; figures 6,7 column 22, line 37 - line 44 ---	1-12
X	WO 00 36790 A (LORAN NETWORK MANAGEMENT LTD ;DAWES NICHOLAS W (CA)) 22 June 2000 (2000-06-22) page 16, line 11 - line 12 page 16, line 29 -page 17, line 3 page 17, line 25 - line 29; figure 1 ---	1-12
X	US 6 003 074 A (VASCONCELLOS BRETT W) 14 December 1999 (1999-12-14) column 2, line 16 - line 38 column 4, line 63 -column 5, line 16 -----	1-12

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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