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[Continued on next page]

(54) **Title:** NETWORK STATUS VISUALIZATION SYSTEMS AND METHODS

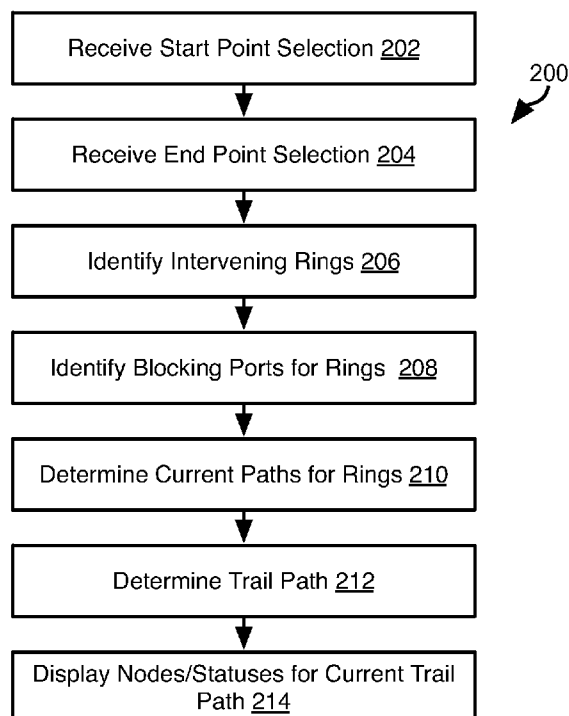


Fig. 2

(57) **Abstract:** Systems and methods are disclosed for visualizing a point to multi-point network, such as a network including Ethernet Ring Protection (ERP) using a visualization techniques used for point-to-point networks. For example, for a selected start and end node, intervening nodes may be identified and any protection rings also identified. A blocking port for each ring is identified and based thereon a path through the ring is identified. A trail between the start and end node is then generated using the current path through the protection rings. The trail may then be represented graphically. Unblocking of a blocked port of a ring may be detected and a new path through the ring may be determined and represented graphically. Status indicators may be included in the updated representation of the ring to indicate the presence of a failure condition.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H04L 12/28 (2014.01)

CPC - H04L 12/433 (2014.09)

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(8) - G06F 7/00, 17/50, 11/00, H04L 12/28, 12/56, 12/24, 12/26, G08B 1/08, H04B 10/2 (2014.01)

USPC - 707/100, 370/254, 225, 709/224, 714/43

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - H04L 12/26, 12/2621, 12/28, 12/422, 12/433 (2014.09)

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

Orbit, Google Patents, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y | US 2012/0243405 A1 (HOLNESS et al.) 27 September 2012 (27.09.2012) entire document | 1-20 |
| Y | US 2003/0051195 A1 (BOSA et al.) 13 March 2003 (13.03.2003) entire document | 1-20 |
| A | US 2005/0097108 A1 (WANG et al.) 5 May 2005 (05.05.2005) entire document | 1-20 |
| A | US 2007/0147269 A1 (ETTLE et al.) 28 June 2007 (28.06.2007) entire document | 1-20 |
| A | US 2013/0003530 A1 (DAVARI) 3 January 2013 (03.01.2013) entire document | 1-20 |
| A | US 5,999,288 A (ELLINAS et al.) 7 December 1999 (07.12.1999) entire document | 1-20 |
| A | US 6,826,607 B1 (GELVIN et al.) 30 November 2004 (30.11.2004) entire document | 1-20 |
| A | WO 01/97466 A1 (SHAW) 20 December 2001 (20.12.2001) entire document | 1-20 |

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