IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

KI-CHEOL LEE *et al.*

Serial No.:	11/336,878	Examiner:	NAJJAR, SALEH
Filed:	23 January 2006	Art Unit:	2155

For: APPARATUS AND METHOD FOR PROVIDING MULTI PROTOCOL LABEL SWITCHING (MPLS)-BASED VIRTUAL PRIVATE NETWORK (VPN)

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §1.56, and §§1.97 and 1.98 as amended, Applicant cites, describes, and provides copies of the following art references. Under 37 C.F.R. §1.98(a)(2) however, copies of U.S. patent reference(s) are not provided.

Cited as references in the Japanese Office Action dated 11 March 2008, corresponding to Japanese Patent Application No. 2006-014710.

FOREIGN REFERENCES:

- Japanese Patent Publication No. 2002-314587 to Haga, et al., entitled *ROUTE SETTING METHOD, ROUTE SETTING SERVICE METHOD, NETWORK PATH MANAGEMENT SYSTEM AND NETWORK AID SYSTEM,* published on 25 October 2002 (with English abstract).

- International Patent Publication No. 2004/068805 to Takeda, et al., entitled *VPN COMMUNICATION CONTROL, DEVICE, COMMUNICATION CONTROL*

METHOD IN VPN, AND VIRTUAL DEDICATED NETWORK MANAGEMENT DEVICE, published on 12 August 2004.

OTHER DOCUMENTS:

• Japanese Office Action dated 11 March 2008, corresponding to Japanese Patent Application No. 2006-014710.

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Mentioned as prior arts in the Japanese Office Action dated 11 March 2008, corresponding to Japanese Patent Application No. 2006-014710.

FOREIGN REFERENCE:

• Japanese Patent Publication No. 2006-180494 to Lee, et al., entitled *CENTRAL CONTROL UNIT OF MPLS NETWORK AND METHOD THEREOF,* published on 6 July 2006 (with English abstract).

OTHER DOCUMENT:

• SSE 2000 236-312, PP 241-248; Japanese IEIC Technical Report by Tajima, et al., entitled *A TRAFFIC ENGINEERING SCHEME IN A GLOBAL NETWORKING SERVICE PLATFORM,* dated on 9 March 2001 (with English abstract).

DISCUSSION

Haga, et al., JP'587 discloses that this invention provides the network management system including a network design aid system. The network design aid system conducts route search according to a QoS parameter that can simply be processed by the end user. Furthermore, the network design aid system makes routing by taking into account the configuration and the resource state of the entire network. The end user makes network settings with high real time performance

through the interaction with the network management system.

Takeda, et al., WO'805 discloses that link information in a common DB is classified for each VPN associated with the link information. A VPNID which is information for identifying the VPN is assigned to each link information. Link information of the same VPNID is extracted from the link information to which the VPNID of the common DB is assigned, and stored in the corresponding VPNDB. With this configuration, it is possible to provide the network information in the VPN provider and the network information of the customer network to a customer while maintaining a high scalability, thereby enabling easy realization of a path design of the customer.

Lee, et al., JP'494 discloses that the central control unit of the MPLS network which includes one or more label switching constituents. The unit is provided with an LSP calculation information collecting unit for receiving LSP calculation information including connection state information of the label switching network constituents and resource information from each of the label switching network constituents, and an LSP calculation unit for using the received LSP calculation information to calculate the LSP of the MPLS network.
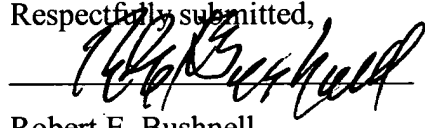
Tajima, et al., in SSE 2000 236-312, PP 241-248; Japanese IEIC Technical Report, entitled *A TRAFFIC ENGINERING SCHEME IN A GLOBAL NETWORKING SERVICE PLATFORM,* state that the paper presents a traffic engineering scheme in a label switched connection-less network, GNSP(Global Networking Service Platform). In our forwarding scheme, we introduce a route identifier(Route-ID) into the label, in order to exploit multipath without splitting a flow into multiple routes between a pair of edges, even in the connection-less forwarding environment. Core nodes perform forwarding with destination address and Route-ID, and Edge nodes perform mapping between flows and Route-ID. Besides, routing computation and configuration are controlled by a server, which sets the cores for multipath forwarding in advance and changes edges' flow mapping triggered by bandwidth reservation or network failure. Our scheme improves scalability against the increase of edges by surpressing the core nodes and also improves network utilization or network-wide fairness by traffic load balancing.

Pursuant to 37 CFR § 1.97 (e)(1), no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application, and, to the knowledge contained in the Information Disclosure Statement was known to any individual designated in section 1.56(e) more than three months prior to the filing of the Information Disclosure Statement.

The citation of the foregoing references is not intended to constitute an assertion that other or more relevant art does not exist. Accordingly, the Examiner is requested to make a wide-ranging and thorough search of the relevant art.

No fee is incurred by this Statement.

Respectfully submitted,

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