International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Y.1415

Amendment 1

(04/2007)

SERIES Y: GLOBAL INFORMATION INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS AND NEXT-GENERATION NETWORKS

Internet protocol aspects – Interworking

Ethernet-MPLS network interworking – User plane interworking

Amendment 1: New Appendix II – Use of Ethernet-MPLS interworking for transport of IP/MPLS services

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Ethernet-MPLS network interworking – User plane interworking

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New Appendix II – Use of Ethernet-MPLS interworking for transport of IP/MPLS services

Summary

New Appendix II to ITU-T Recommendation Y.1415 describes use of ITU-T Recommendation Y.1415 to interconnect IP/MPLS networks that are attached to a server MPLS network via Ethernet.

Source

Amendment 1 to ITU-T Recommendation Y.1415 (2005) was agreed on 27 April 2007 by ITU-T Study Group 13 (2005-2008).

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure e.g. interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

ITU-T Recommendation Y.1415

Ethernet-MPLS network interworking – User plane interworking

Amendment 1

New Appendix II – Use of Ethernet-MPLS interworking for transport of IP/MPLS services

(This appendix does not form an integral part of this Recommendation)

The IWF defined in the body of this Recommendation provides a point-to-point Ethernet service using MPLS as the transport network. This appendix describes use of this Recommendation to interconnect IP/MPLS networks that are attached to a server MPLS network via Ethernet, as depicted in Figure II.1.

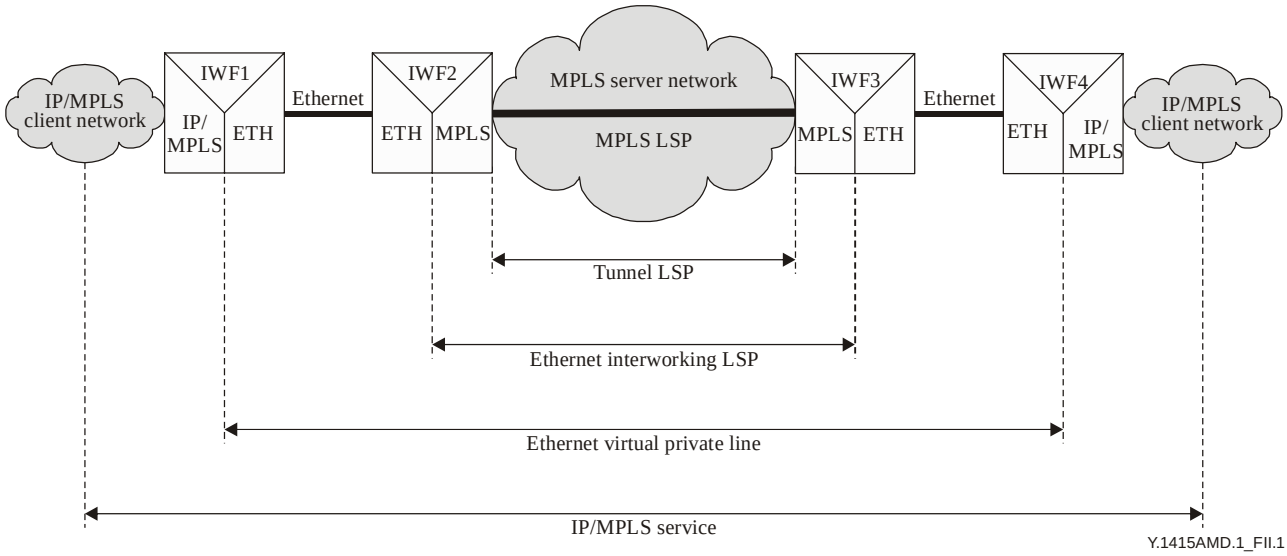

Figure II.1 – Functional model for transport of a client IP/MPLS over MPLS using Ethernet-MPLS client-server interworking

Figure II.1 depicts the functional model for transport of a client IP/MPLS over MPLS using Ethernet-MPLS client-server interworking as defined in this Recommendation. An MPLS label switch path (LSP) is provisioned in the server MPLS network between IWF2 and IWF3. An Ethernet interworking LSP is set up over this MPLS network, enabling IP or MPLS traffic encapsulated in Ethernet to be carried between IWF1 and IWF4. The functioning of IWF1 and IWF4 is beyond the scope of this Recommendation.

For this application:

– label merging is not used except to support fast reroute;
– penultimate-hop popping (PHP) is not enabled in the MPLS server network;
– equal cost multipath (ECMP) mechanisms are not used;
– the common interworking indicators are used, but the sequence number is set to zero;
– the tunnel label(s) and interworking label are provisioned (i.e., not signalled);
– the MPLS EXP field may be used;
– VCCV-based OAM may be used.

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