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

Internet protocol aspects – Operation, administration and
maintenance

MPLS management and OAM framework

Recommendation ITU-T Y.1714

ITU-T Y-SERIES RECOMMENDATIONS

**GLOBAL INFORMATION INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS AND NEXT-
GENERATION NETWORKS**

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For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T Y.1714

MPLS management and OAM framework

Summary

Recommendation ITU-T Y.1714 covers MPLS user-plane operation, administration and maintenance, control plane aspects and TMN aspects of MPLS management. Specifically, the mechanisms covered in this Recommendation are being worked on at different standard bodies mainly ITU-T and IETF.

This Recommendation focuses on MPLS technology specific OAM aspects of the TMN model of Recommendation ITU-T M.3010. The Recommendation's scope is limited to those components and interfaces that interface between network elements (user and control plane), and between network elements and EMS, NMS systems.

Source

Recommendation ITU-T Y.1714 was approved on 13 January 2009 by ITU-T Study Group 15 (2009-2012) under Recommendation ITU-T A.8 procedures.

FOREWORD

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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.

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Introduction

This Recommendation is an umbrella Recommendation to progress work on all aspects of multiprotocol label switching (MPLS) management. This Recommendation covers MPLS user-plane operation, administration and maintenance (OAM); control plane aspects, and TMN aspects of MPLS management. It is recognized that the scope of this work crosses many ITU-T Study Groups and Questions as well as other standards bodies.

Many aspects of MPLS management have been worked concurrently with the preparation of this Recommendation. Those specific aspects of management not ready for normative reference at the time of issue will be addressed via normal ITU document update procedures and are identified in this Recommendation as "for further study".

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Recommendation ITU-T Y.1714

MPLS management and OAM framework

1 Scope

This Recommendation covers MPLS user-plane operation, administration and maintenance, control plane aspects and TMN aspects of MPLS management. The mechanisms covered in this Recommendation are being worked on at different standard bodies mainly ITU-T and IETF.

This Recommendation focuses on MPLS technology specific OAM aspects of the TMN model of [ITU-T M.3010]. The Recommendation's scope is limited to those components and interfaces that interface between network elements (user and control plane), and between network elements and EMS, NMS systems (the 'Q' interface).

Figure 1 shows the scope of this Recommendation and interaction with other ITU-T Study Groups and standard bodies.

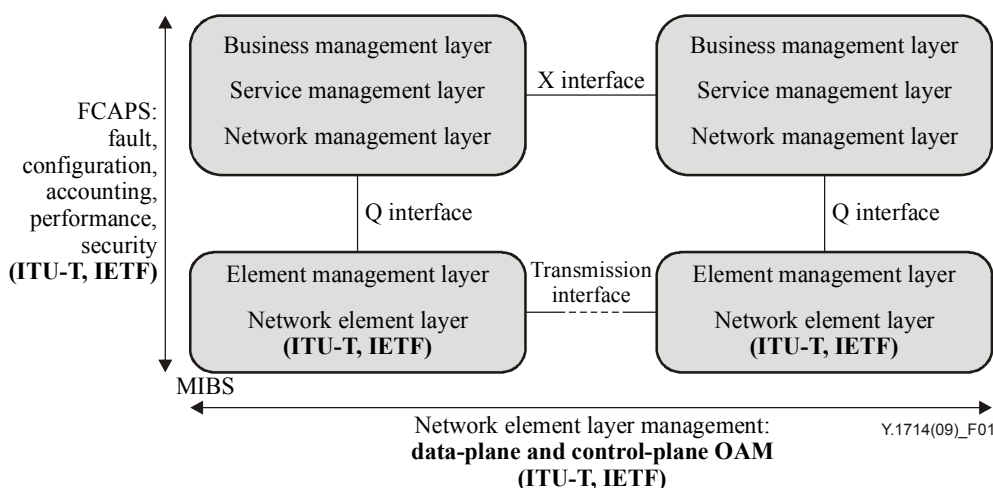


Figure 1 – Generic TMN model

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

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3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following term defined elsewhere:

3.1.1 control plane: [ITU-T Y.2011].

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 link protection: In this type of protection, during the failure, all the label switched paths (LSPs) using the protected link as an output interface are rerouted over the single backup LSP. A backup LSP that bypasses a single link of the protected LSP is called next hop (NHOP) bypass LSP.

3.2.2 network supervisory function: A function, which coordinates a set of mechanisms to monitor the defect state of the LSP.

3.2.3 node protection: Node protection is similar to link protection except that the destination of the backup LSP is a node further downstream the point of failure. Typically node protection is using the next node downstream the point of failure, in this case the backup LSP is known as the "next next hop (NNHOP) bypass LSP".