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SERIES Y: GLOBAL INFORMATION
INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS,
NEXT-GENERATION NETWORKS, INTERNET OF
THINGS AND SMART CITIES

Next Generation Networks – Packet-based Networks

The M interface in public packet telecommunication data networks

Recommendation ITU-T Y.2618

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Recommendation ITU-T Y.2618

The M interface in public packet telecommunication data networks

Summary

As one hierarchical packet data network which can meet requirements of future packet based networks, the public packet telecommunication data network (PTDN) has a reference point, called the M interface, between the PTDN management entities and network elements. Recommendation ITU-T Y.2618 defines this interface, specifies common PTDN management functions and protocols and defines specific PTDN management functions related to a virtual packet network (VPN) and multicast service. Annex A of Recommendation ITU-T Y.2618 describes a management information model for VPN and multicast service management using the management interface specification methodology defined in Recommendation ITU-T M.3020.



History

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Recommendation ITU-T Y.2618

The M interface in public packet telecommunication data networks

1 Scope

This Recommendation defines the M interface and specifies generic public packet telecommunication data network (PTDN) management functions and related protocols on the M interface. Further, it defines the specific network service management functions and information model for the M interface of a PTDN.

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.

- [ITU-T Y.2613] Recommendation ITU-T Y.2613 (2010), *General technical architecture for public packet telecommunication data network*.
- [ITU-T Y.2615] Recommendation ITU-T Y.2615 (2012), *Routing mechanisms in public packet telecommunication data networks*.
- [ITU-T M.3020] Recommendation ITU-T M.3020 (2017), *Management interface specification methodology*.
- [ITU-T M.3160] Recommendation ITU-T M.3160 (2008), *Generic, protocol-neutral management information model*.
- [ITU-T M.3400] Recommendation ITU-T M.3400 (2000), *TMN management functions*.
- [ITU-T X.731] Recommendation ITU-T X.731 (1992), *Information technology – Open Systems Interconnection – Systems management: State management function*.
- [ITU-T X.800] Recommendation ITU-T X.800 (1991), *Security architecture for Open Systems Interconnection for CCITT applications*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 network element [b-ITU-T Q.1741]: A discrete telecommunications entity, which can be managed over a specific interface.

3.1.2 network manager [b-ITU-T Q.1741]: Provides a package of end-user functions with the responsibility for the management of a network, mainly as supported by the EM(s) but it may also involve direct access to the network elements. All communication with the network is based on open and well-standardized interfaces supporting management of multi-vendor and multi-technology network elements.

3.1.3 public packet telecommunication data network (PTDN) [ITU-T Y.2613]: A packet data network designed for the NGN transport stratum, which should be secure, trustworthy, controllable, and manageable, and can meet all requirements described in [b-ITU-T Y.2601]. The PTDN is a hierarchical network, which can be subdivided into several network layers.

3.2 Terms defined in this Recommendation

This Recommendation defines the following term:

3.2.1 M interface: The interface between the network manager and public packet telecommunication data network (PTDN) network elements to provide the capability of managing, both physical and logical, PTDN devices, resources in core networks aggregation networks and access networks, and the services the PTDN provides.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

ADT	Address Translator
CMIP	Common Management Information Protocol
ED	Edge Device
ER	Entity Relation
HTML	Hypertext Markup Language
IOC	Information Object Class
IP	Internet Protocol
ME	Management Entity
NE	Network Element
NGN	Network Generation Network
NM	Network Manager
OAM	Operation, Administration and Maintenance
PTDN	Public packet Telecommunication Data Network
QoS	Quality of Service
SNMP	Simple Network Management Protocol
SR	Service Router
VPN	Virtual Packet Network

5 Conventions

None.

6 Introduction

As defined in [ITU-T Y.2613], a PTDN is a hierarchical network which consists of access networks, aggregation networks, and core networks. A PTDN provides virtual network service such as virtual packet network (VPN) and multicast services. Figure 6-1 illustrates the reference model of a PTDN by replacing manage entity (ME) with network manager (NM) in the reference model of the PTDN specified in [ITU-T Y.2613]. PTDN nodes, such as service routers (SRs) and edge devices (EDs), connect to one another by the R interface, end users or other networks (e.g., IP network, asynchronous