

Recommendation

ITU-T M.3392 (03/2025)

SERIES M: Telecommunication management, including
TMN and network maintenance

Telecommunications management network

Requirements for telecommunication service design within smart operation, management and maintenance (SOMM)

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Recommendation ITU-T M.3392

Requirements for telecommunication service design within smart operation, management and maintenance (SOMM)

Summary

With evolving network technology, network as a service (NaaS) has emerged as an issue for organizations in terms of network infrastructure consumption. Consequently, the question of how best to achieve efficient, flexible and automatic telecommunication service design (TSD) needs to be addressed. Recommendation ITU-T M.3392 provides the requirements for TSD within smart operation, management and maintenance (SOMM), which encompasses object design, operation activity design and verification.

History*

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Hierarchical decoupling design method, orchestration, SOMM, telecommunication service design.

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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.

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Recommendation ITU-T M.3392

Requirements for telecommunication service design within smart operation, management and maintenance (SOMM)

1 Scope

This Recommendation specifies the requirements for telecommunication service design (TSD) within smart operation, management and maintenance (SOMM), which encompasses object design, operation activity design and verification. This Recommendation also provides a typical use case of TSD and the relationship between TSD and SOMM.

The goal of this Recommendation is to specify the requirements of TSD in a hierarchical decoupling service provisioning design method, which is an important part of the orchestration within SOMM.

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 M.3041](#)] Recommendation ITU-T M.3041 (2020), *Framework of smart operation, management and maintenance*.

[[ITU-T M.3400](#)] Recommendation ITU-T M.3400 (2000), *TMN management functions*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 attribute [b-ITU-T X.710]: A property of a managed object. An attribute has a value.

3.1.2 cloud service [b-ITU-T Y.3500]: One or more capabilities offered via cloud computing invoked using a defined interface.

3.1.3 management service [b-ITU-T M.3010]: A management service is an offering fulfilling specific telecommunications management needs.

3.1.4 IP network [b-ITU-T Q.1742.3]: The IP network corresponds to IP-based packet data networks that provide a transport mechanism between the core network and external IP networks. IP Network represents packet networks connected to the core network including the public Internet, private IP backbone networks and private IP networks such as a corporate Intranets.

3.1.5 object [b-ITU-T X.680]: A well-defined piece of information, definition, or specification which requires a name in order to identify its use in an instance of communication.

3.1.6 operations systems function (OSF) [b-ITU-T M.3010]: A function block that processes information related to the telecommunications management for the purpose of monitoring/coordinating and/or controlling telecommunication functions including management functions (i.e., the TMN itself).

3.1.7 orchestration [b-ITU-T M.60]: Sequencing where a management operation is dependent upon several managed objects in a network being changed in a strict sequence.

3.1.8 passive optical network (PON) system [b-ITU-T G.987]: A combination of network elements in an ODN-based optical access network that includes an OLT and multiple ONUs and implements a particular coordinated suite of physical medium dependent layer, transmission convergence layer, and management protocols.

3.1.9 resource [b-ITU-T M.3050.1]: Resources represent physical and non-physical components used to construct services. They are drawn from the application, computing and network domains and include, for example, network elements, software, IT systems and technology components.

3.1.10 telecommunication service [b-ITU-T M.60]: That which is offered by an Administration to its customers in order to satisfy a specific telecommunication requirement.

3.2 Terms defined in this Recommendation

This Recommendation defines the following term:

3.2.1 telecommunication service design (TSD): Service provisioning information configuration for orchestration, which is performed in a hierarchical decoupling design method and is part of the management function set SDN/NFV aware orchestration within smart operation, management and maintenance (SOMM).

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

AMF	Access and Mobility Management Function
API	Application Programming Interface
BSS	Business Support System
CRM	Customer Relationship Management
DNN	Data Network Name
N-OSF	Network management layer – Operations Systems Function
NaaS	Network as a Service
NE	Network Element
NFV	Network Function Virtualization
NSSF	Network Slice Selection Function
NSSI	Network Slice Subnet Instance
ODN	Optical Distribution Network
OLT	Optical Line Terminal
OSF	Operations Systems Function
OSS	Operations Support System
PCF	Policy Control Function
PON	Passive Optical Network
QoS	Quality of Service
RAN	Radio Access Network
SDN	Software-Defined Networking