

Related Work: TMForum and ITU

Freek Dijkstra

TMForum IPR Policies Apply



TM Forum - mTOP-MTNM Documents









http://www.tmforum.org/BestPracticesStandards/mTOPMT

TM Forum - mTOP-M... Resource Managemen... Comments: RM: SID-... proposed LS to ITU-T ... NGOSS Shared Inform...

Best Practices & Standards

- TM Forum Framework
- Business Process Framework (eTOM)
- Information Framework (SID)
- Application Framework (TAM)
- Integration Framework
- TM Forum Interfaces
 - Latest News
 - Input Programs
 - OSS/J
 - Co-operative OSS Project
 - IPDR
 - MTNM
 - mTOP-MTNM Overview
 - mTOP-MTNM Documents
 - mTOP-MTNM Team Activities
 - mTOP-MTNM Case Studies
 - Submit White Paper
 - mTOP-MTNM Testimonials
 - mTOP-MTNM Datasheets
- MTOSI
- Datasheets
- About the Interface Program
- Benefits of Standardized Interfaces
- White Papers
- Download Center
- Interface Program Teams

mTOP-MTNM Documents

Number	Date	Title	Summary
 TMF513 Release 3.5	February 18, 2009	TMF513_MTNM Business Agreement, Release 3.5	The MTNM business agreement document provides requirements and use cases. The requirements pertain to the interface itself and describe what is expected of an EMS or NMS that supports MTNM. The use ca...
 TMF608 R3.5	February 18, 2009	TMF608_Information Agreement for MTNM, Release 3.5	This information agreement contains the protocol independent UML model for the MTNM interface. In addition to being used for MTNM this model has also been used by the MTOSI product. However the MTNM ...
 TMF814 R3.5	February 18, 2009	TMF814 Multi Technology Network Management IDL Solution Set Release 3.5	The Solution Set and associated CORBA IDL provides the specification for the MTNM implementation. This deliverable entails a brief overview of the MTNM CORBA IDL interface and the CORBA IDL specifica...
 TMF814A	February 18, 2009	TMF814A MTNM Implementation Statement and Guidelines for MTNM Release 3.5	This document provides a template for a compliance statement that is intended to be exchanged between two parties that are intending to build an MTNM interface. It enables each party to determine exa...
 RN312 R3.5	February 18, 2009	RN312 MTNM Release Notes for Release 3.5	Release Notes for the MTNM Release 3.5 Solution Suite....
	January 01, 2006	Bridging the GAP - CBE Extensions for MTNM: Harmonizing OSS/J and Transport Technologies	This document is intended for those people in Telecommunication industry who deal with End-to-End OSS integration involving various COTs products, EMS/NMS systems and underlying Networks. This documen...
 MTNM v3.0	October 09, 2003	MTNM Solution Suite v3.0	The MTNM Solution Suite version 3.0 consists of a set of documents which define the information exchange, or interface, between Network Management Systems (NMS) and Element Management Systems (EMS) en...
 MTNM v2.1	December 17, 2002	MTNM Solution Suite 2.1	The MTNM Solution Suite consists of a set of documents which define the information exchange, or interface, between Network Management Systems (NMS) and Element Management Systems (EMS) enabling manag...

Find: SID Next Previous Highlight all Match case

Done

TMForum and ITU-T



ITU-T International Telecommunication Union (Standards Sector)
ITU founded 1865 (!); ITU-T (CCIT) founded 1925.
Focus on transmission technology and telecom services.

TMForum Telemanagement Forum
Founded 1984
“The voice of the OSS/BSS industry”

(OGF founded 1988; focus on grid service)

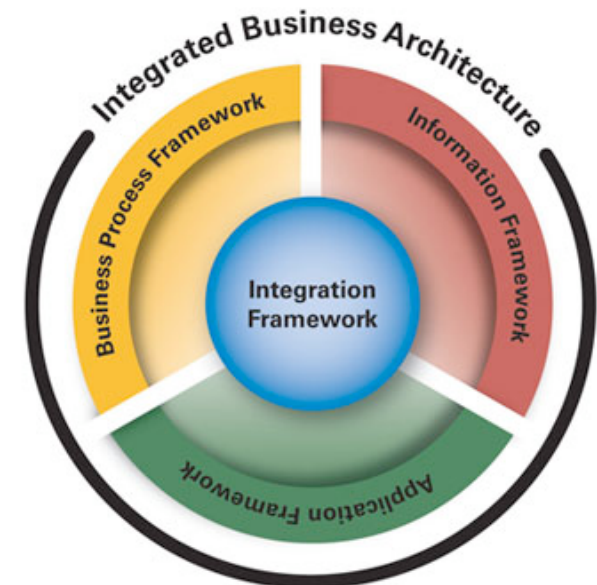
Operations & Business Support Systems

TMForum Standards



- **Business Process Framework (eTOM)**
Common vocabulary for both business and functional processes.
Describes relation between *service plane* and *business plane* (long document)
- **Information Framework (SID)**
Common language and ability to align data with pertinent business processes.
- **Application Framework (TAM)**
Standardized model for grouping function and data into recognizable applications or services.
- **Integration Framework (TNA)**
Unifying function in the Solution Frameworks
- **Service Delivery Framework (SDF)**
Maintain control of service lifecycle management
- **IPsphere Framework**
Business layer for rapid service delivery

tmforum Frameworkx



TMForum Best Practices



- **Revenue Assurance**
- **Managing Service Quality**
- **Certified Compliance Testing**
- **Catalyst Program** (Rapid Prototyping)

TMForum Software Interfaces (=API)

TMForum Interface Program (TIP)

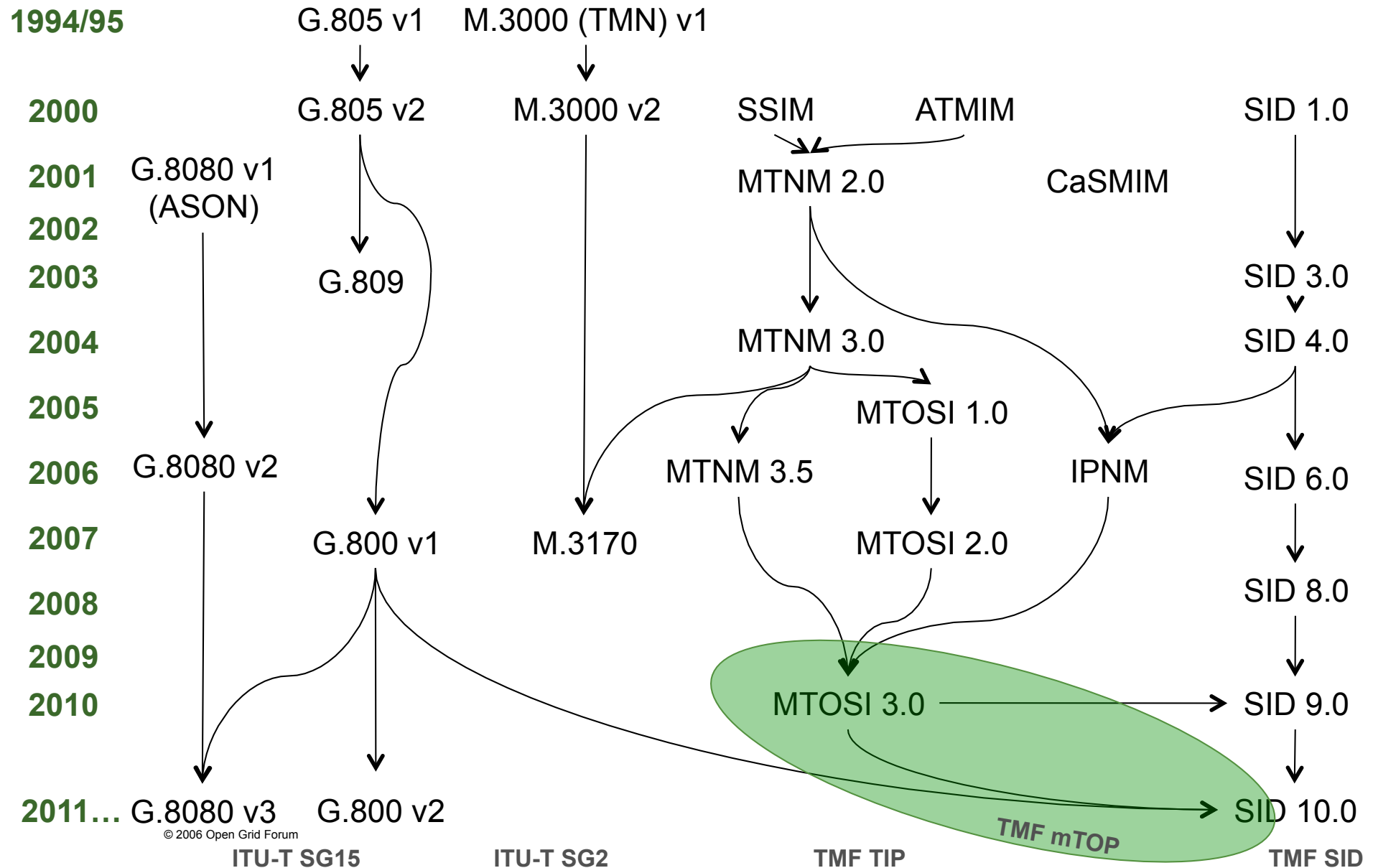
- **MTOSI (Multi-Technology Operations System Interface)**
Interfaces for network and service management for transport networks
- **MTNM (Multi-Technology Network Management)**
Interfaces that model the management of multi-technology networks
- **OSS/J (Operations Support Systems / Java)**
Multi-technology APIs that deliver on Solution Frameworks (NGOSS (next gen OSS)) design guidelines for component-based management systems
- **IPDR (Internet Protocol Detail Record)**
Interfaces used for usage data management and accounting
- **Identity Management**
Unified identity management across operational systems

- **UML**-based interface between the Network Management Layer (NML) and Element Management Layer (EML).
- Support for ATM, frame relay, SONET/SDH, DSL and Ethernet.
- Business Scenarios:
 - Inventory Discovery
 - Connection Provisioning
 - Equipment Provisioning
 - Performance Management

TMForum Resource Management

- Ensures consistency of **resource descriptions** between frameworks
- Resources are **Logical Network Resources**
(note: everything is logical, physical is irrelevant!)
- **Three tasks** (2010)
 - ConConConvergence (Connection-Connectionless Convergence)
 - SID-MTNM/MTOSI Alignment
 - Model inspired by G.800
- Integration of MTNM, MTOSI and SID models
 - **Phase I** (completed): Integrate MTNM and MTOSI and include in SID as-is.
 - **Phase II** (started sep 2009): Create a new model based on G.800
- MTNM, MTOSI and SID are all **UML models**

Timeline



ITU-T Study Group 15



Study Period 2009-2012:

- Q 1/15 Coordination of Access Network Transport standards
- Q 2/15 Optical systems for fibre access networks
- Q 3/15 General characteristics of transport networks
- Q 4/15 Transceivers for customer access and in-premises networking systems on metallic conductors
- Q 5/15 Characteristics and test methods of optical fibres and cables
- Q 6/15 Characteristics of optical systems for terrestrial transport networks
- Q 7/15 Characteristics of optical components and subsystems
- Q 8/15 Characteristics of optical fibre submarine cable systems
- Q 9/15 Transport equipment and network protection/restoration
- Q 10/15 OAM for transport networks
- Q 11/15 Signal structures, interfaces and interworking for transport networks
- Q 12/15 Transport network architectures**
- Q 13/15 Network synchronization and time distribution performance
- Q 14/15 Management and control of transport systems and equipment
- Q 15/15 Test and measurement techniques and instrumentation
- Q 16/15 Optical physical infrastructure and cables
- Q 17/15 Maintenance and operation of optical fibre cable networks
- Q 18/15 Development of optical networks in the access area

Tasks in Q12/15 (Transport network architectures):

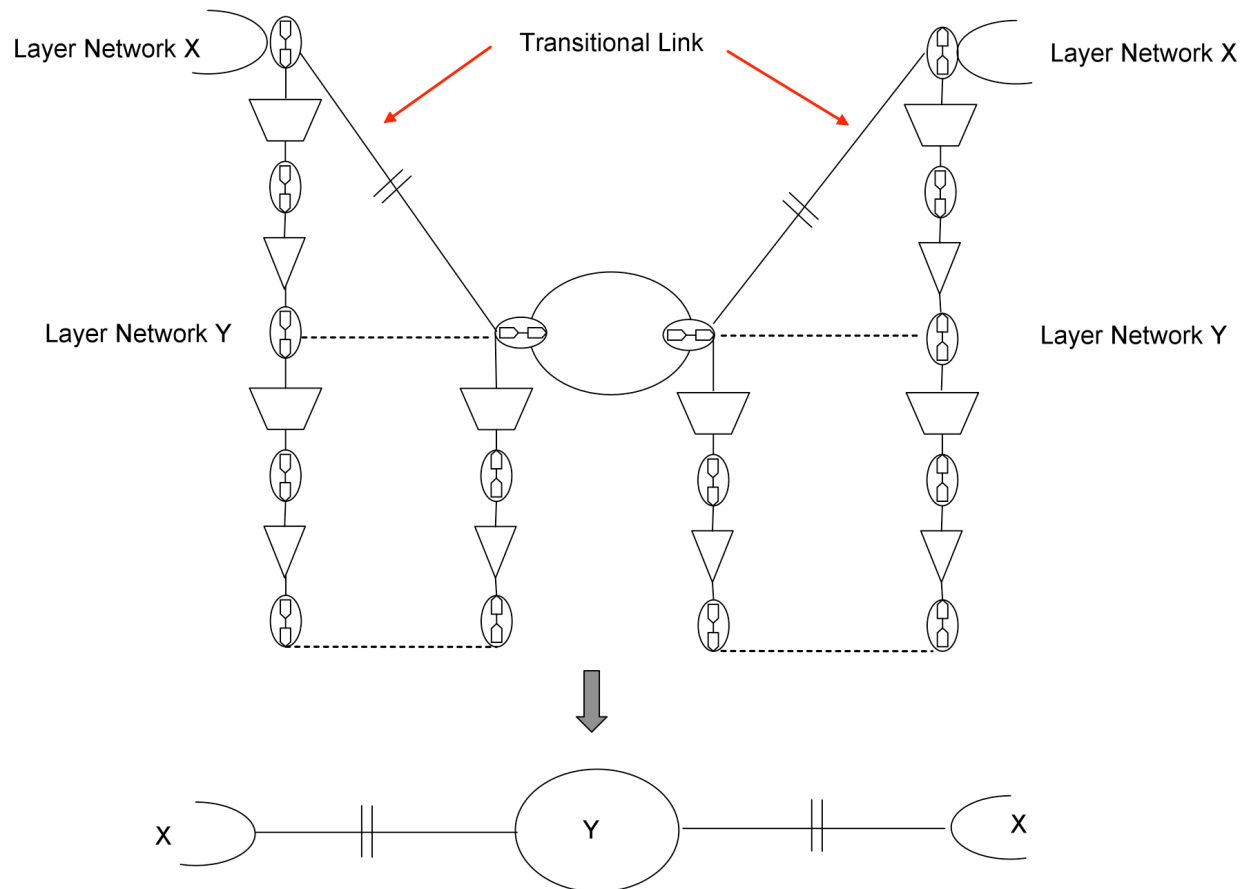
- Maintenance of Recommendations I.326 and G.803
- Refinement and enhancement of Recommendations G.800, G.805, G.809, G.8080, G.8010, G.8110 and G.872
- Develop a revised version of Recommendation G.8110.1 to align with the MPLS-TP architecture.

Current revisions:

- G.800 Unified functional architecture of transport networks
- G.803 Architecture of Transport Networks based on the Synchronous Digital Hierarchy (SDH)
- G.872 Architecture of Optical Transport Networks
- G.8010/Y.1306 Ethernet Layer Network Architecture
- G.8080/Y.1304 Automatic Switched Optical Networks
- G.8110/Y.1370 MPLS Layer Network Architecture
- G.8110.1/Y.1370.1 Architecture of MPLS-TP Layer Network

Transitional Link Concept

- A **transitional link** consists of the **link port** at the edge of one subnetwork and a corresponding **link port** at the edge of **another subnetwork** that operates on **different instances of characteristic information** or whose characteristic information is the same but with different Layer Information. A transitional link (topological component) is supported by or implemented by layer processors and/or adaptation/termination functions (transport processing functions). A transitional link can be partitioned into parallel transitional links, or a concatenation of transitional links. It can also be partitioned into a concatenation of transitional links and zero or more links.



Feedback on Transitional Links



- Distinguish between **Transport** functions and **Transform** functions
- Transitional Link is **not a new topological component**
- Component in a topology **view** for (multilayer) **routing**.
- The described routing topology view is **incomplete** (e.g. it does not describe routing restrictions, which is needed for a complete view).
- There may be **more** application specific **views**.
- Define each derivation from topology to a specific view in a **separate document**
- Requirement of 1:1 relation between source and sink is very **limited** (multiplexing and inverse multiplexing are not supported).