MTOSI 2.1 Release Notes

RN306

Version 2.3

September, 2011

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1 Overview of MTOSI Release 2.1

Release 2.1 of the MTOSI product is a minor release. It means that it does not contain any new feature. There is one exception however: MTOSI 2.1 introduces a new supporting document documenting how to use MTOSI Service Management activation interfaces for the provisioning of broadband Ethernet services

The modifications introduced in this release all relate to bug fixes at different levels: from simple editorial modifications to more important changes in the information model or in the WSDL or XML Interface specification.

Those different modifications have had an impact on many files from the BA, the IA and the IIS. Also several Supporting Documents have been updated to reflect the changes.

Complementary to this release, and based on MTOSI (XML solution), the technical report TR 164 (RFx_Guide_for_Transport_Network_Management.doc) has been published in November 2010 as a supporting document to provide some reusable RFx material concerning the management of transport networks intended for reuse by service providers. This TR 164 is published independently from the MTOSI release.

1.1 DDP Structure (reminder)

The overall structure has not changed. We simply highlight the most important aspects to help the reader.

The MTOSI artifacts are structured into self-contained (though not independent) units called Document Delivery Packages (DDPs).

This is similar to the 3GPP concept of Integration Reference Point (IRP). The basic idea is that the Interface, which is specified by the entire document set (of a release), is partitioned into DDPs where each DDP specifies “a certain aspect” of the Interface, which needs to be very clearly scoped.

There are three kinds of DDPs:

- the FrameWork DDP (FMW) – this DDP contains the generic artifacts that are applicable to all the other DDPs.
- Data Model DDP (DM-DDP) – a DDP that concerns a data model (entities, data structures, attributes, state, but no operations)
- Operation Model DDP (OM-DDP) – a DDP that concerns a computational model (operations, notifications, transactions) for a given functional area (such as resource inventory management)

The unified deliverables structure for each DDP is as follows:

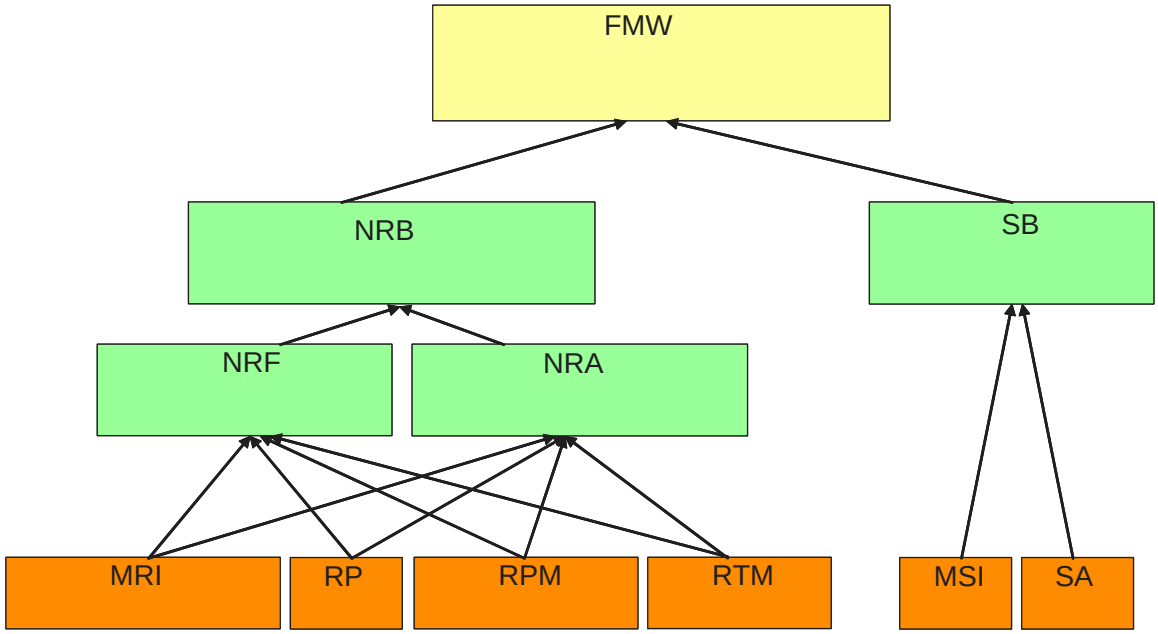
- Business Agreements (BAs): a business view specification
- Information Agreements (IAs): a system view specification
- Interface Implementation Specifications (ISSs): implementation and deployment view specification for XML (WSDL, XSD, bindings…)
- Supporting Documentation: normative and informative supporting documents.

The MTOSI 2.1 Release is constituted of several DDPs which names are presented in the table below (no change compared to MTOSI 2.0).

	DDP long name	DDP short name
General		
	Framework	FMW
RM related		
	DM-DDPs	
	NetworkResourceBasic	NRB
	NetworkResourceFulfilment	NRF
	NetworkResourceAssurance	NRA
	OM-DDPs	
	ManageResourceInventory	MRI
	ResourceProvisioning	RP
	ResourceTroubleManagement	RTM
	ResourcePerformanceManagement	RPM
SM related		
	DM-DDPs	
	ServiceBasic	SB
	OM-DDPs	
	ServiceActivation	SA
	ManageServiceInventory	MSI

The OM-DDPs reflect business scenarios as highlighted in the next sub section.

It may happen that artifacts defined in one DDP may use artifacts defined in one or several other DDPs. The figure below shows the DDP dependency graph:



2 Feature added: Ethernet Service Specification

SD2-21_Ethernet_Service_Specification.doc

This document provides a recommendation on how to use MTOSI Service Management activation interfaces for the provisioning of broadband Ethernet services.

3 Bugs Fixed and Modifications

3.1 Bugs reported as CRs

The table below references the bugs documented in the gforge tracker which have been fixed in this Release 2.1.

No	Problem description	Solution
artf1440	File: FMW/SD/SD1-18 (top of p 10) typo: bullet: ITU-T members + "(see… G.805)"	fix the typo and create a new version of the file
artf1440	File: FMW/BA/TMF518_NRF (section 3.1.13) error reference; the file under "Product/trunk" is correct; it seems that the file in "main" is not the correct one.	No need to change the file under "Product/trunk"; instead reuse this file in main and when packaging release 2.1
artf1440	FMW/BA/TMF518_NRF navigation does not work in PDF (works in Word)	need to re-generate the PDF (using the correct Word file)
artf1440	FMW/SD/SD0-1_mTOPDictionary.pdf (section 1.2) “TBD” left	fix the typo and create a new version of the file
artf1440	FMW/SD/SD0-4_mTOPGuidelines_IA.pdf "to be defined", highlighted in blue at different places	The Word file in "main" is correct (the pdf was generated from a previous version); need to regenerate the pdf in "main"and repackage.
artf1440	FMW/SD/SD0-5_mTOPGuidelines_WebServices.pdf section 1.1: reference to wiki on Gforge	reformulate the satement
artf1440	FMW/SD/SD0-5_mTOPGuidelines_WebServices.pdf section 7.2: some references are not navigable	fix the hyperlinks to relative reference
artf1440	NetworkResourceFulfillment/SD/SD2-20_EquipmentModel.pdf hyperlinks are not navigable	The Word file in "main" is correct; need to regenerate the pdf and check, then repackage.
artf1440	NetworkResourceFulfillment/SD/SD1-7_DSLOverview.pdf references should not have the "pdf" suffix	Remove the ".pdf" extension in the textToDisplay of the hyperlinks
artf1440	ServiceBasic\BA file "SD2-19_VoIPServiceDefinition.pdf" should not be here	"Product\trunk\ServiceBasic\BA" is correct; remove this file from "main\DDPs\ServiceBasic\BA"

No	Problem description	Solution
artf1670	FMW/SD/SD1-16_LayeredParameters.doc	
artf1951	TMF518_NRF	
artf1965	FMW/SD1/SD1-33_ProbableCauses	
artf1997	The operation getManagedElementsIterator is missing in ManagedElementRetrievalJms.wsdl description. Define the operation as done in ManagedElementRetrievalHttp.wsdl file	
artf1998	The structure getManagedElementsIteratorRequest to be used as input is of type GetAllDataIteratorRequestType (in MessageDefinitions.xsd in Framework pacakage) is empty. Define a type for getManagedElementsIteratorRequest.	
artf1999	SD1-44 gives some example how it is possible to name the member of a LAG. The string used is lag_fragment=XXX and it seems related to LR_LAG_FRAGMENT (30) layer. But SD1-17 states that this layer is NOT used for naming, but just to highlight the aggreagation/fragmentation at LAG. In addition it seems client of the LR_Ethernet. So it conflicts the general rule to use the more server LR for naming. Define clear rules in LAG member naming.	Nigel: SD1-18 provides patterns for naming of each of the "types" of CTP in Section 3.1 of SD1-18, Figure 38 "CTP connection layers, naming and terminationMode". Reading the figure I think the rule applied would ideally be stated as "The naming layer is the lowest G.805 TCP/CP layer.". So a CTPs with (roughly) an AP (e.g. L) where the layer X is just a hint of the layer terminated in the server CTP (e.g. a CTP of type K - clearly in this example Layer K.Y = layer L.X) is named from the next CP up (in the case of type L in the figure this is layer Y). In the short hand form of the MTNM figures the TCP in CTP type N in layer Y is not shown (just to make the rule especially hard to state for the figures). So for the MTNM figure style the naming layer is the layer of the lowest G.805 Trail Termination, G.805 Connection Point or G.805 Termination Connection Point (labels as per Figure 2 in SD1-18). So the rule is "The naming layer is the lowest G.805 TCP/CP/Trail Termination layer.". This is not explicitly stated in SD1-18, it is only implicit from the diagram. Bernd: Object Name String added for 305 LR_LAG_Fragment to SD1-17, version 3.4
artf2005	In the example table of SD1-44 v1.1 paragraph 9.2.10 page 39, the Traffic Mapping Table is reported with additional	TrafficMappingFrom_Table_InnerVID and

No	Problem description	Solution
	columns "Inner VLAN ID" and "Inner Priority" and it is stated "..In order to accommodate this situation, two more columns would be used: InnerVID and InnerPriority..". So it needs to add in SD1-16 the following layered paramters (missing in v3.3) valid for CPTP and FP: TrafficMappingFrom_Table_InnerVID TrafficMappingFrom_Table_InnerPriority	TrafficMappingFrom_Table_InnerPriority added to SD1-16, version 3.4
art2520	The createAndActivateSubnetworkConnection() operation does not allow to provide an SNC as a resource. It is possible to provide CCs via ccInclusionList:CrossConnect [*] = empty list. It is possible to provide TPs, MEs, TLs and GTPs via inclusionResourceRefList:ObjectName [*] = empty list. The requested change would allow having the ability to provide also server SNCs as a required resource for creating/ modifying an SNC. Note Figure 123 from SD1-18 showing that SNCs can serve SNCs.	Proposal: Enhance the description of the inclusionResourceRefList attribute as follows: "This attribute specifies a list of Termination Points, Managed Elements, Topological Links, Subnetwork Connections and Group Termination Points that must be used by the Subnetwork Connection. ..."
art2521	The PM data defined in the PM File Format (SD1-30) does not provide the userLabel of the SNC associated to the PM Data.	The SNCUserLabel should be added to the PM File Format as defined in the attached document
art2352	The operation getActiveAlarmsIterator is missing.	Add this operation

3.2 Bugs fixed not reported as CRs and modifications introduced

3.2.1 BAs and SDs

3.2.1.1 All BAs

- Updated sections 1.1 and 2.
- Replaced mTOP by MTNM / MTOSI everywhere in the document

3.2.1.2 Framework

- File: DDPs\Framework\SD \SD2-2_XML_ImplementationUserGuide.doc
  - Changed “NA” as “M*” for the iteratorReferenceURI header parameter.
- File: DDPs\Framework\SD\SD2-7_ObjectNaming
  - Accepted changes that appear to have been left there for some time in the past.
- File: DDPs\Framework\SD\ SD1-17_LayerRates
  - Added new requested layer rates

- File: DDPs\Framework\SD\ SD0-1, SD0-2, SD0-3, SD0-4, SD0-5, SD0-6
  - Removed “mTOP” from the title and the name of the documents.
- File: DDPs\Framework\SD\ SD0-1_Dictionary
  - Added section 3.1 (terms which were previously defined in the FMW BA)
- File: DDPs\Framework\SD\ SD1-16_LayeredParameters
  - Added TrafficMappingFrom_Table_InnerVID and TrafficMappingFrom_Table_InnerPriority to traffic mapping table

3.2.1.3 MRI

- File: DDPs\ManageResourceInventory\BA\TMF518_MRI
  - Section 3.3.1.4: Remove some inaccurate text and adding further explanation concerning the Merge with Overwrite case.

3.2.1.4 Resource Performance Management

- File: DDPs\ResourcePerformanceManagement\SD1-30_PMFileFormat
  - Added ConnectionUserLabel

3.2.1.5 Service Basic

- File: DDPs\ServiceBasic\BA\TMF518_SB
  - For CFS and RFS: change sapReferenceList into sapList
  - For SAP and SAP Specification: add describedByList
  - For Service Definition and Service Template:
    - change characterizedByList into describedByList,
    - add containedByServiceSpecRef and containsServiceSpecRefList
  - For SSC: add id, unique, extensible
  - For SCV: add rangeInterval, validFor, containsSSCVList

3.2.1.6 Service Activation

- File DDPs\ServiceActivation\BA\Part2\TMF518_SA_2
  - In order to synchronize the BA with the IIS:
    - removed feasibilityFlag and offeredActivationTime from the cfsCreationEvent and the list of response parameters in Table 3-3 of TMF518_SA_2
    - updated description for “list of Cfs”
    - removed “feasible” from the list of response parameters as it does not appear in the operation signatures in Table 3-3 of TMF518_SA_2 or in the associated XSD
    - removed productName from all the responses in TMF518_SA_2
    - made a note (in two places) that serviceRequestRef is handled in the message header in the IIS.
    - updated the first sentence of the Behavior statement in Table 3-4

- Added a note in Section 3.4.1 that says the various failure events are not exceptions but rather partial failures.
  - Also, removed the reasonForException parameter in the four failure events since these are being treated as replies not exceptions (and it is the exceptions that have a “reason” field).
- Removed serviceRequestRef and productName in both TMF518_SA_1 and SaExceptions.xsd since these are unnecessary. The correction is done via the message header as noted.

3.2.2 IAs

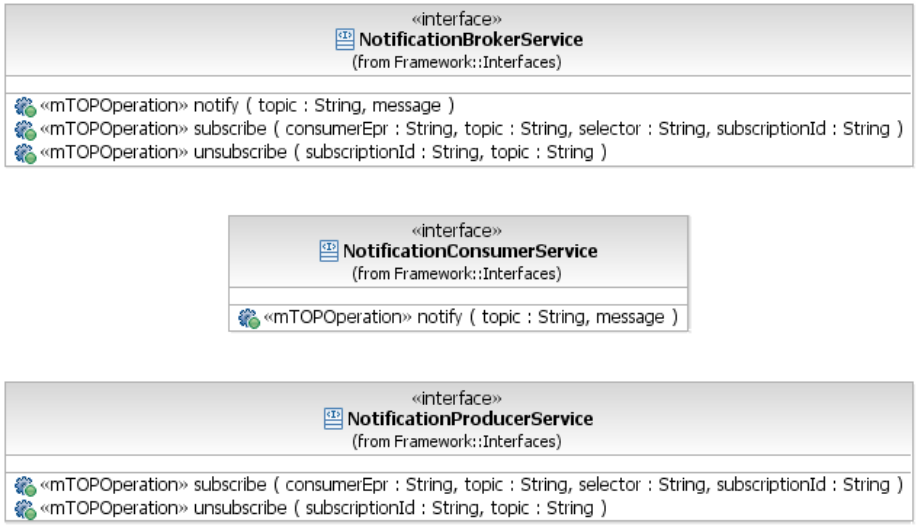
3.2.2.1 General

- HTML tags deleted from all documentations in all Resource related DDPs.

3.2.2.2 Framework

- Interfaces::CommonObjectProvisioning::setUserLabel
  Duplicate return parameter deleted.
- Type Definitions::State
  attribute1 deleted.
- Operation Exceptions: INVALID_FILTER_DEFINITION, INVALID_TOPIC, NOTIFICATION_SERVICE_PROBLEM, UNSUPPORTED_COMPRESSION_FORMAT and UNSUPPORTED_PACKING_FORMAT added.
- Interfaces::NotificationBrokerService::subscribe: Exceptions added.
- Interfaces::NotificationBrokerService::unsubscribe: Exceptions added.
- Interfaces::NotificationProducerService::subscribe: Exceptions added.
- Interfaces::NotificationProducerService::unsubscribe: Exceptions added.
- Interfaces::NotificationProducerService::unsubscribe: Exceptions added.
- Operation Exceptions: Names converted into upper camel case.
- Operation Exceptions: InvalidInputObjectDoesNotExist added.
- Operation Exceptions: InvalidInputUnsupportAttributesOrValues added.
- Operation Exceptions: InvalidInputUnsupportedObjectTypes added.
- Operation Exceptions: PolicyViolation added.
- Interfaces::NotificationBrokerService: Parameters completed.
- Interfaces::NotificationConsumerService: Parameters completed.
- Interfaces::NotificationProducerService: Parameters completed.

- FMW Notification Handling Class Diagram added.



- Type Definitions::MultiEventInventoryAttributes: added.
- Data Object Classes::CommonObjectInfo::additionalInfo: Note "In the IIS this attribute is defined as vendorExtensions." added.
- Type Definitions::CommonObjectSetData::additionalInfo: Note "In the IIS this attribute is defined as vendorExtensions." added.
- Notifications::ObjectCreationNotification: Attribute object added.

3.2.2.3 ManageResourceInventory

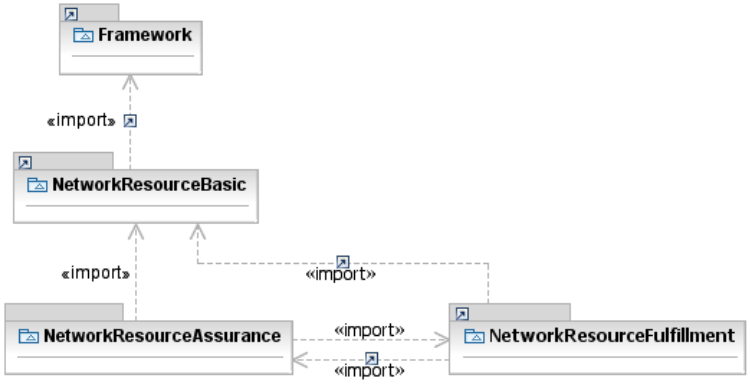
- Type Definitions::ManagedElementFilter::resourceState
  Default value UNKNOWN re-set.
- Interfaces::FlowDomainRetrievalService::getConnectivityAwareness::Documentation "R_TMF518_MRI_II_0154" replaced by "R_TMF518_MRI_V_0154"
- Interfaces::TerminationPointRetrievalService::getTerminationPointGroupingRelationships "and GTPs" added to the documentation in "- the names of all TP Pools << and GTPs>> associated to a provided TP".
- Interfaces::ConnectionRetrievalService::getIntendedRoute: New input parameter isHigherOrderCcListIncluded added.
- Interfaces::ConnectionRetrievalService::getIntendedRoute: Output parameter intendedRoute replaced by route to harmonise with IIS.
- Interfaces::FlowDomainRetrievalService::getAllFlowDomains: Exceptions INVALID_INPUT and ENTITY_NOT_FOUND added.
- Interfaces::ResourceInventoryRetrievalService::getInventory::whereAndHowToReply: Reference to SD2-5_Communication_Styles supporting document added.
- Interfaces::ResourceInventoryRetrievalService::getInventory: Exceptions UNSUPPORTED_COMPRESSION_FORMAT and UNSUPPORTED_PACKING_FORMAT added.
- Interfaces::FlowDomainRetrievalService::getAllFlowDomains: mdRef added as input parameter.

- Interfaces::OperationsSystemRetrievalService::getSubordinateOperationsSystem: subordinateOs replaced by os. subordinateOsRef replaced by osRef.
- Interfaces::TerminationPointRetrievalService::getAllEdgePoints: edgeTpList replaced by tpList.
- Interfaces::TerminationPointRetrievalService::getAllFloatingTerminationPoints: ftpList replaced by tpList.
- Interfaces::TerminationPointRetrievalService::getAllPhysicalTerminationPoints: ptpList replaced by tpList.
- Interfaces::TerminationPointRetrievalService::getAllPhysicalTerminationPointsWithoutFtps: ptpList replaced by tpList.
- Interfaces::TerminationPointRetrievalService::getAllSupportedPhysicalTerminationPoints: ptpList replaced by tpList.
- Interfaces::TerminationPointRetrievalService::getContainedCurrentConnectionTerminationPoints: ctpList replaced by tpList.
- Interfaces::TerminationPointRetrievalService::getContainedInUseConnectionTerminationPoints: ctpList replaced by tpList.
- Interfaces::TerminationPointRetrievalService::getContainedPotentialConnectionTerminationPoints: ctpList replaced by tpList.
- Interfaces::TrafficConditioningProfileRetrievalService::getAllTrafficConditioningProfiles: mdRef added as input parameter.
- Interfaces::ResourceInventoryUpdateService::updateInventory: Exception InvalidInput replaced by InvalidInputObjectDoesNotExist, InvalidInputUnsupportedObjectTypes and InvalidInputUnsupportAttributesOrValues.
- Interfaces::ResourceInventoryUpdateService::updateInventory: Exception PolicyViolation added.
- Interfaces::TopologicalLinkRetrievalService::getAllTopologicalLinksOfFd: Documentation updated.
- Type Definitions::InventoryData: moved to NRF DDP.

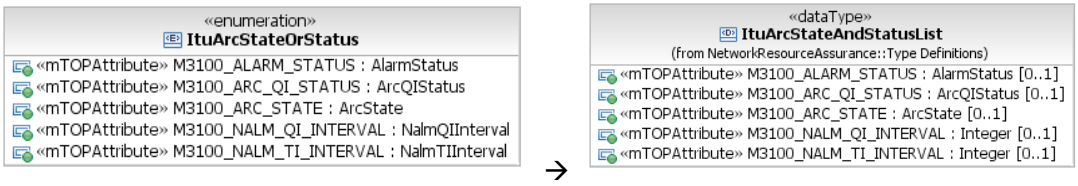
3.2.2.4 NetworkResourceAssurance

- Type Definitions::PerformanceMonitoringParameter::pmThresholdList
  Attribute pmThresholdList re-created.
- Type Definitions::correlatedNotifications
  "correlatedNotifications" replaced by "CorrelatedNotifications".

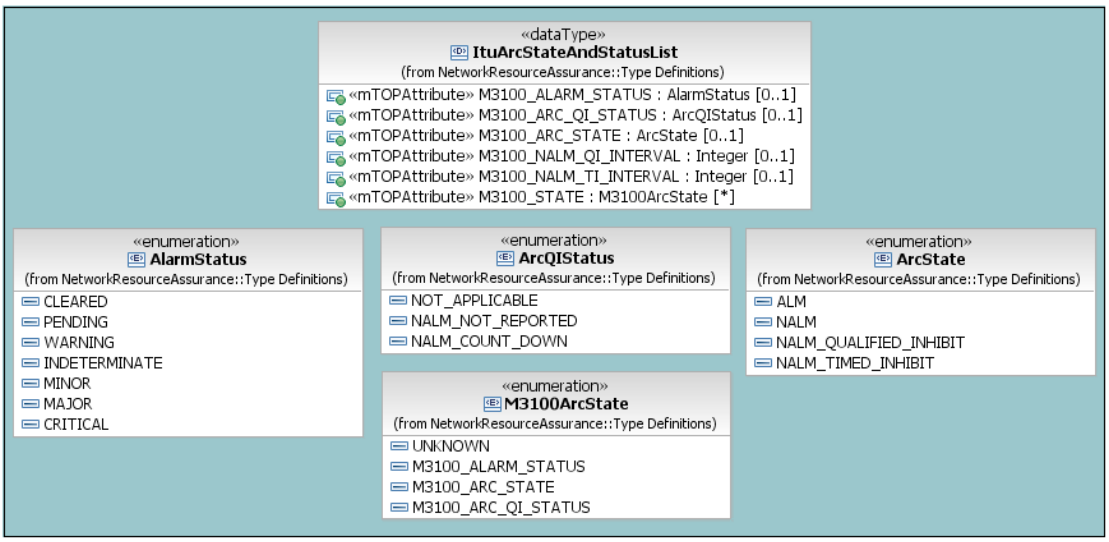
- NetworkResourceFulfillment model imported.



- The "illustrative" association TpContainsPmps has been marked as abstract.
- Type Definitions::ItuArcStateOrStatus: Enumeration converted into a Data Type; name replaced by "ItuArcStateAndStatusList"; multiplicity of all attributes defined as [0..1]; type of attributes NalmQIInterval and NalmTIInterval changed to Integer.

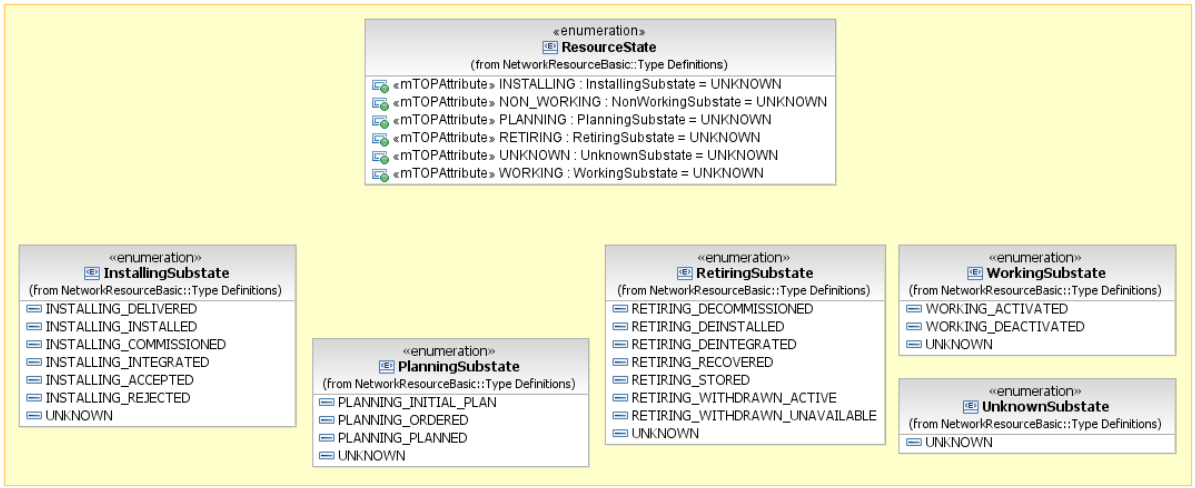


- Type Definitions::NalmQIInterval and Type Definitions::NalmTIInterval: deleted.
- Data Object Classes::EquipmentProtectionGroup::ituArcStateAndStatusList,
  Data Object Classes::ProtectionGroup::ituArcStateAndStatusList:
  multiplicity changed from [*] to [0..1]; default value deleted.
- Type Definitions::ItuArcStateAndStatusList: M3100_STATE added.
- Type Definitions: M3100ArcState added with M3100_ALARM_STATUS, M3100_ARC_QI_STATUS, M3100_ARC_STATE moved from State data type in NRB.



3.2.2.5 NetworkResourceBasic

- Enumeration Type Definitions::ResourceState
  All resource state sub states copied directly into ResourceState enumeration; all sub states deleted.



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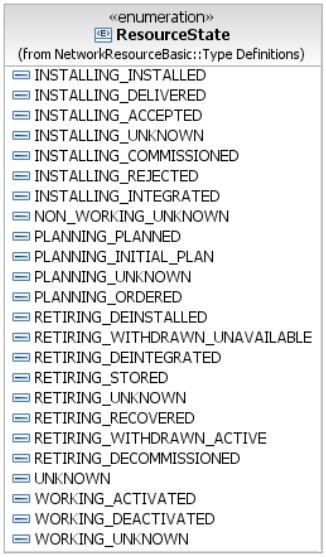
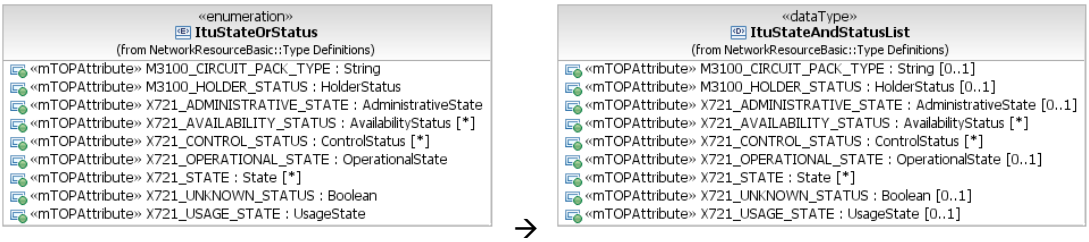


- Type Definitions::ItuStateOrStatus
  Enumeration converted into a Data Type; name replaced by "ItuStateAndStatusList"; multiplicity of all non list attributes changed to [0..1].



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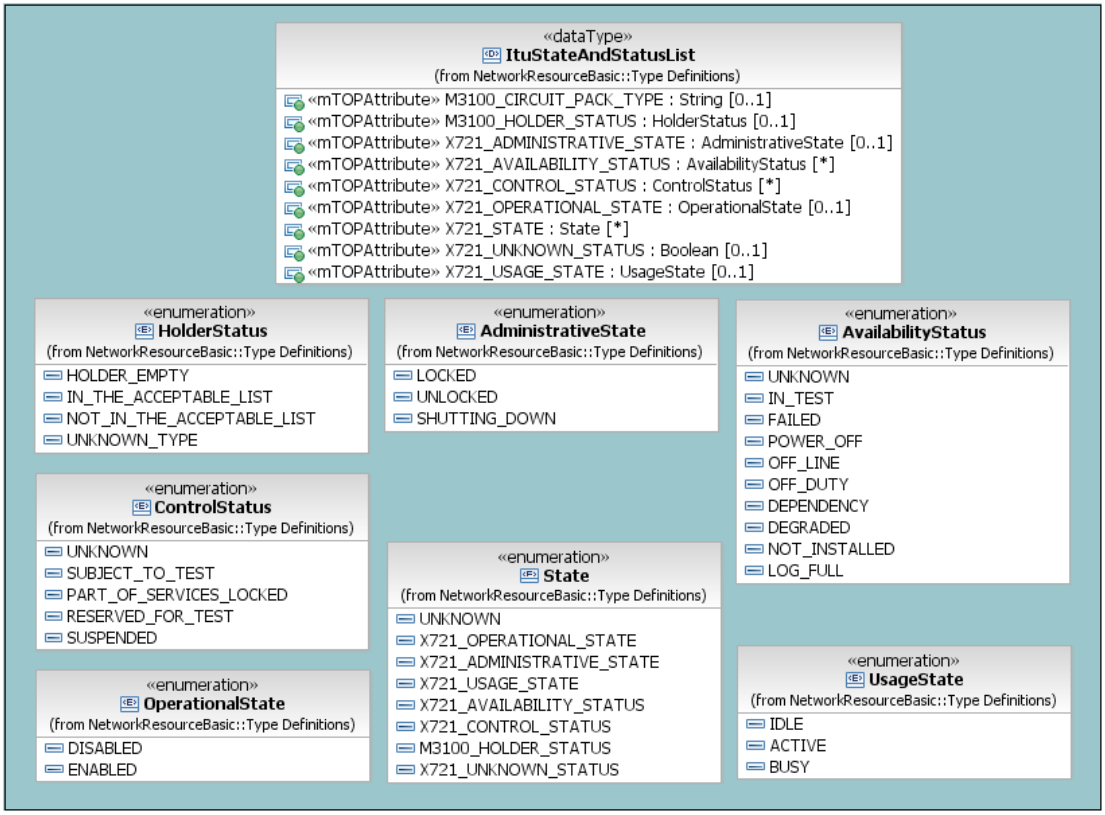
- Data Object Classes::CommonResourceInfo::ituStateAndStatusList
  Multiplicity changed from [*] to [0..1]; default value deleted.
- Type Definitions::ItuStateOrStatusNameValuePair
  Deleted; since was never used.
- Type Definitions::ItuStateOrStatusName
  Deleted; since was never used.
- Data Object Classes::CommonResourceInfo::meiAttributes: added.
- Type Definitions::State: M3100_ALARM_STATUS, M3100_ARC_QI_STATUS, M3100_ARC_STATE moved to a new data type M3100ArcState in NRA.



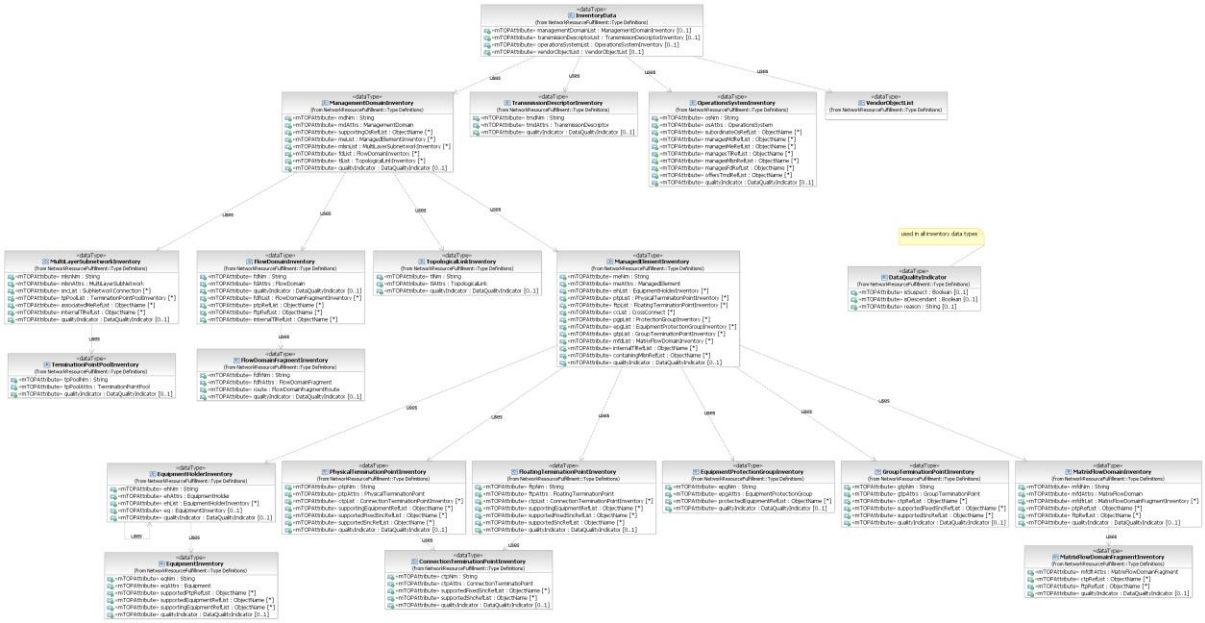
3.2.2.6 NetworkResourceFulfillment

- Data Object Classes::Associations::HasSubordinate
  Made the subordinateOS side of the relationship navigable.
- Data Object Classes::Associations::SncHasZEndGtps
  Made the GroupTerminationPoint (zEndTpList) side of the relationship navigable.
- Associations::RouteChangeNotificationHasRoute
  Relationship moved to Notifications::Associations and missing Route object class added.
- Data Object Classes::Equipment::ituArcStateAndStatusList,
  Data Object Classes::EquipmentHolder::ituArcStateAndStatusList,
  Data Object Classes::FlowDomain::ituArcStateAndStatusList;
  Data Object Classes::FlowDomainFragment::ituArcStateAndStatusList,

Data Object Classes::GroupTerminationPoint::ituArcStateAndStatusList,
Data Object Classes::OperationsSystem::ituArcStateAndStatusList,
Data Object Classes::ManagedElement::ituArcStateAndStatusList,
Data Object Classes::MatrixFlowDomain::ituArcStateAndStatusList,
Data Object Classes::MultiLayerSubNetwork::ituArcStateAndStatusList,
Data Object Classes::SubNetworkConnection::ituArcStateAndStatusList,
Data Object Classes::TerminationPoint::ituArcStateAndStatusList,
Data Object Classes::TopologicalLink::ituArcStateAndStatusList:
multiplicity changed from [*] to [0..1]; default value deleted.

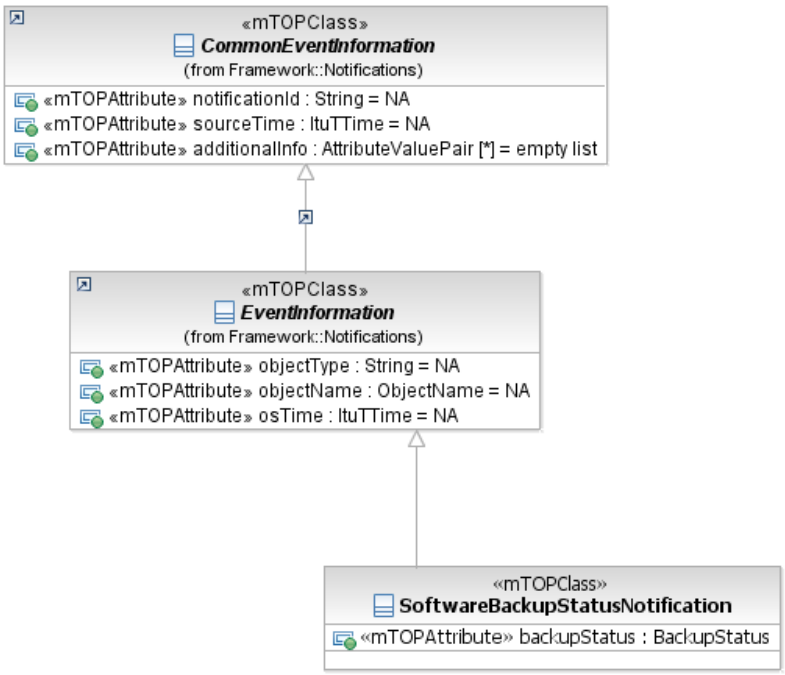
- Associations::CcHasZEndGtps
  Relationship added.
- Data Object Classes::SubNetworkConnection::correlationIdentifier
  Text "Changes in the value of this attribute lead to an AVC notification." deleted from documentation.
- Data Object Classes::Associations::GtpContainsCtps
  Made listOfTps public.
  Renamed listOfTps to "containedTpRefList".
  Made relationship non-abstract.
- Data Object Classes::Associations::GtpIsMemberOfTpPool
  Made relationship name compliant to upper camel case.
  Made tpPoolRef non-navigable and removed the role name.
- Data Object Classes::TrafficConditioningProfile
  Inheritance relationship added between TrafficConditioningProfile and CommonResourceInfo.
- Type Definitions::CrossConnect::connectionId::Documentation
  Current documentation "This attribute represents the identifier of the associated Connection." replaced by "This attribute represents the control plane identifier. It corresponds to the Connection Name attribute in G.7713. Note that also the Cross Connection points to its superior Connection." To align it with the IIS description.
- Data Object Classes::FlowDomainFragment::a/zEndTpDataList
  TerminationPointData associated as type to aEndTpDataList and zEndTpDataList.
- Data Object Classes::SubNetworkConnection::a/zEndTpDataList
  TerminationPointData associated as type to aEndTpDataList and zEndTpDataList.
- Data Object Classes::FlowDomainFragment: Traceability added to the description.
- Data Object Classes::FlowDomainFragment: asapRef attribute added.
- Data Object Classes::SncIsCharacterisedByRoutes: Association made non-navigable; i.e., route attribute removed from SubNetworkConnection.
- Data Object Classes::TopologicalLink: Naming relationship to FlowDomain added.
- Data Object Classes::OperationsSystem: "Manages" and "Offers" relationships added. Corresponding class diagram (NRF OS Relationships Class Diagram) created.
- Data Object Classes::Equipment::SupportedBy relationship: made non-navigable.
- Data Object Classes::Equipment::Supports relationship: made non-navigable.
- Data Object Classes::OperationsSystem::HasSubordinate relationship: made non-navigable.
- Data Object Classes::TerminationPoint::AssociatedWith relationship: made non-navigable.
- Data Object Classes::TransmissionDescriptor::serviceCategory: added with profile=corba.

- Data Object Classes::TransmissionDescriptor::conformanceDefinition: added with profile=corba.
- Type Definitions::InventoryData: moved from MRI DDP.
- Type Definitions::InventoryData: defined and corresponding "Resource Inventory Layout Class Diagram" added.



- Data Object Classes::SncHasAEndGtps: Made aEndTpList non navigable.
- Data Object Classes::SncHasZEndGtps: Made zEndTpList non navigable.
- Notifications::SoftwareBackupStatusNotification::meName: Deleted.
- Notifications::SoftwareBackupStatusNotification::neTime: Deleted.
- Notifications::SoftwareBackupStatusNotification::emsTime: Deleted.

- Notifications::SoftwareBackupStatusNotification: Inherits from EventInformation instead of CommonEventInformation.



3.2.2.7 ResourcePerformanceManagement

- Interfaces::PerformanceManagementRetrievalService::getHistoryPerformanceMonitoringData: String added as data type to destination, password and userName parameters.

3.2.2.8 ResourceProvisioning

- Documentation deleted from DDP.
- Interfaces::TransmissionDescriptorControlService::verifyTransmissionDescriptorAssignment: "profile=corba" removed from operation. Exception NE_COMM_LOSS replaced by COMM_LOSS.
- Type Definitions::SubnetworkConnectionSetData::inclusionResourceRefList::Documentation: Server SNCs added to the list of inclusions.
- Type Definitions::SubnetworkConnectionSetData::inclusionResourceRefList::Documentation: "If the target OS cannot fully satisfy the routing constraints provided, then the request will be rejected." added.
- Type Definitions::RouteCreateData::inclusionResourceRefList::Documentation: Server SNCs added to the list of inclusions.
- Type Definitions::RouteCreateData::inclusionResourceRefList::Documentation: "If the target OS cannot fully satisfy the routing constraints provided, then the request will be rejected." added.

3.2.2.9 ResourceTroubleManagement

- Documentation deleted from DDP.
- Interfaces::AlarmControlService::setResourceAlarmReportingOff
  Deleted the exceptions from the documentation.
- Interfaces::AlarmControlService::setAlarmReporting: Input parameter layerRate added and specification completed.
- Interfaces::ProtectionRetrievalService: Operation getContainingProtectionGroupNames() added.
- Interfaces::AlarmRetrievalService::getActiveAlarms: Exceptions UNSUPPORTED_COMPRESSION_FORMAT and UNSUPPORTED_PACKING_FORMAT added.
- Interfaces::TransmissionDescriptorControlService::verifyTransmissionDescriptorAssignment: "profile=corba" removed from operation. Exception NE_COMM_LOSS replaced by COMM_LOSS.
- Interfaces::MaintenanceControlService::getActiveMaintenanceOperations: Exception NOT_IN_VALID_STATE added.
- Interfaces::MaintenanceControlService::performMaintenanceOperation: Exception NOT_IN_VALID_STATE added.
- Interfaces::AlarmSeverityAssignmentProfileControlService::createAlarmSeverityAssignmentProfile::newAsap: "newASAP" renamed by "newAsap".
- Interfaces::AlarmSeverityAssignmentProfileControlService::modifyAlarmSeverityAssignmentProfile::modifiedAsap: "modifiedASAP" renamed by "modifiedAsap".
- Interfaces::AlarmHandlingService::acknowledgeAlarms: parameter notepad added.
- Interfaces::AlarmHandlingService::acknowledgeAlarms: parameter username added.
- Interfaces::AlarmHandlingService::unacknowledgeAlarms: parameter notepad added.
- Interfaces::AlarmHandlingService::unacknowledgeAlarms: parameter username added.
- Interfaces::AlarmRetrievalService::getActiveAlarms::whereAndHowToReply: Reference to supporting document SD2-5_Communication_Styles added.
- Type Definitions::ActiveAlarmFilter::scope: Addressing of managed elements in case of remote units clarified in the documentation.
- Interfaces::AlarmSeverityAssignmentProfileControlService::createAlarmSeverityAssignmentProfile: Parameter targetOperationsSystem deleted.

3.2.2.10 UML Profile

- Added a note to the UML Profile documentation to explain the ongoing usage of the term "mTOP" here.

3.2.3 IISs

3.2.3.1 Framework

- File: DDPs\Framework\IIS\xsd\MartMessages.xsd
  - Added entityNotFound as exception for operations "getProcessState"and "terminateProcess"

- File: DDPs\NetworkResourceBasic\IIS\xsd\CommonResourceInfo.xsd
  File: DDPs\Framework\IIS\xsd\GeneralDefinitions.xsd
  - Moved type “ObjectEnumType” from the second file to the first file above.

3.2.3.2 NRB

- File: DDPs\NetworkResourceBasic\IIS\xsd\ITU-T-Definitions.xsd
  - Removed all the artefacts related to itu**Arc**StateAndStatusList.
    These artefacts have been moved to a new file in the NRA DDP (“ITU-T-ArcDefinitions.xsd”):

    m3100.AlarmStatus
    m3100.ArcState
    m3100.NALMTIInterval
    m3100.NALMQIInterval
    m3100.ArcQIStatus
  - Created a type “ituStateAndStatusList” replacing the “ituParameters” element.
    This “ituStateAndStatusList” is used in type “CommonResourceInfoType” (see the modified “CommonResourceInfo.xsd” file)
  - Modified “X721.OperationalStateType” type from Boolean to enumeration (DISBALED, ENABLED)
- File: DDPs\NetworkResourceBasic\IIS\CommonResourceInfo.xsd
  - Created element
    <xsd:element name="ituStateAndStatusList" type="itu:ItuStateAndStatusList" />

    in the “CommonResourceInfoType” type.
- File: DDPs\NetworkResourceBasic\IIS\xsd\LayerRates.xsd
  - Added the following late rates:

    LR_LAG_Fragment.
    LR_DSR_10Megabit_Ethernet
    LR_DSR_100Megabit_Ethernet
    LR_DSR_2Gigabit_Ethernet
    LR_DSR_2.5Gigabit_Ethernet
    LR_DSR_10.7Gigabit_Ethernet
    LR_DSR_11.1Gigabit_Ethernet
    LR_DSR_10Gigabit_Ethernet_LAN
    LR_DSR_10Gigabit_Ethernet_WAN
    LR_DSR_40Gigabit_Ethernet
    LR_DSR_100Gigabit_Ethernet
    LR_DSR_OTU2e
    LR_DSR_OTU3e1
    LR_DSR_OTU3e2
    LR_DSR_OTU4
    LR_OCH_Data_Unit_0
    LR_OCH_Data_Unit_2e
    LR_OCH_Data_Unit_3e1
    LR_OCH_Data_Unit_3e2
    LR_OCH_Data_Unit_4
    LR_OCH_Data_Unit_Flexible
    LR_OCH_Transport_Unit_2e
    LR_OCH_Transport_Unit_3e1

LR_OCH_Transport_Unit_3e2
LR_OCH_Transport_Unit_4
LR_Optical_Physical_Section
LR_Optical_Physical_Section_Multilane
LR_Section_OC3072_STS3072_and_RS_STM1024
LR_Line_OC3072_STS3072_and_MS_STM1024
LR_DSR_OC3072_and_STM1024

3.2.3.3 NRA

- New file: DDPs\NetworkResourceAssurance\IIS\xsd\ITU-T-ArcDefinitions.xsd
  - This module contains the XML Schema type definitions of all the supported Alarm ITU-T parameters.
    Previously there were in the NRB file ITU-T-Definitions.xsd:

    m3100.AlarmStatus
    m3100.ArcState
    m3100.NALMTIInterval
    m3100.NALMQIInterval
    m3100.ArcQIStatus
- File: DDPs\ NetworkResourceAssurance\IIS\xsd\Epg.xsd
  - Added “ituArcStateAndStatusList”
- File: DDPs\ NetworkResourceAssurance\IIS\xsd\Pg.xsd
  - Added “ituArcStateAndStatusList”

3.2.3.4 NRF

- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Eh.xsd
  - Added “ituArcStateAndStatusList”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Eq.xsd
  - Added “ituArcStateAndStatusList”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Fd.xsd
  - Added “ituArcStateAndStatusList”
  - Added “ConnectivityAwarenessType”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Fdfr.xsd
  - Added “ituArcStateAndStatusList”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Gtp.xsd
  - Added “ituArcStateAndStatusList”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Me.xsd
  - Added “ituArcStateAndStatusList”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Mlsn.xsd
  - Added “ituArcStateAndStatusList”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Os.xsd

- Added “ituArcStateAndStatusList”

- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Snc.xsd
  - Added “ituArcStateAndStatusList”
  - Added “SubnetworkConnectionModeOfOperationType”
  - Added “mustRetainOldSnc”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Tl.xsd
  - Added “ituArcStateAndStatusList”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Ptp.xsd
  - Added “ituArcStateAndStatusList”
    Added “asapRef”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Ftp.xsd
  - Added “ituArcStateAndStatusList”
    Added “asapRef”
- File: DDPs\ NetworkResourceFulfillment\IIS\xsd\Ctp.xsd
  - Added “ituArcStateAndStatusList”
    Added “asapRef”
- File: DDPs\NetworkResourceFulfillment\IIS\xsd\FdfrRoute.xsd
  - Added actualState,
    Added vendorExtensions
- File: DDPs\NetworkResourceFulfillment\IIS\xsd\Mfd.xsd
  - Added tmdState
    Added “ituArcStateAndStatusList”
- File: DDPs\NetworkResourceFulfillment\IIS\xsd\ResourceInventoryLayout.xsd
  - Added managesFdRefList in OperationsSystemInventoryType

3.2.3.5 RP

- File: DDPs\ResourceProvisioning\IIS\xsd\EquipmentProvisioningMessages.xsd
  - Added “isReportingAlarm” to “EquipmentCreateDataType”
  - Replaced:

```
<xsd:element name="manufacturer"
             type="gen:ManufacturerType" minOccurs="0"/>
```

    by

```
<xsd:element name="manufacturer"
             type="xsd:string" minOccurs="0"/>
```

- File: DDPs\ResourceProvisioning\IIS\xsd\EventBackupStatus.xsd
  - Added emsTime
    Added neTime
    Added osTime

- File: DDPs\ResourceProvisioning\IIS\xsd\TransmissionDescriptorControlMessages.xsd
  - Delete operation « validateTransmissionDescriptorAssignmentToObject" (request, response, exception)
- File: DDPs\ResourceProvisioning\IIS\wsdl\TransmissionDescriptorControlHttp.wsdl
  - Delete operation « validateTransmissionDescriptorAssignmentToObject"
- File: DDPs\ResourceProvisioning\IIS\wsdl\TransmissionDescriptorControlJms.wsdl
  - Delete operation « validateTransmissionDescriptorAssignmentToObject"
- File: DDPs\ResourceProvisioning\IIS\wsdl\TransmissionDescriptorControlMessages.wsdl
  - Delete operation « validateTransmissionDescriptorAssignmentToObject"

- File: DDPs\ResourceProvisioning\IIS\xsd\CommonResourceProvisioningMessages.xsd
  - Added "modifiedVendorExtensions" as parameter of the setCommonAttributesRequest request

- File: DDPs\ResourceProvisioning\IIS\xsd\ConnectionControlMessages.xsd
  - Added "containingMlsnRef" to "createAndActivateSubnetworkConnection"
  - Added "containingMlsnRef" to "createSubnetworkConnection"
  - Added "errorReason" to "deleteSubnetworkConnection"
  - Replaced "com:TerminationPointRoleInSubnetworkConnectionType" by "com:EndPointRoleListType"
  - Added "objectInUse" to "checkValidSubnetworkConnectionException"
  - Added "timeSlotInUse", "notInValidState" to "createAndActivateSubnetworkConnectionException"
  - Added "unableToComply" to deleteSubnetworkConnectionException"
  - Added "SNCs" to the annotation associated to the "inclusionResourceRefList" parameter in the "SubnetworkConnectionCreateDataType" and "SubnetworkConnectionModifyDataType" data structures.

- File: DDPs\ResourceProvisioning\IIS\xsd\FlowDomainControlMessages.xsd
  - Added "containingFdRef" to "createAndActivateFlowDomainFragment"
  - Added "containingMeRef" to "createMatrixFlowDomain"
  - Added "tpInvalidEndPoint" to "createAndActivateFlowDomainFragmentException"
  - Added "accessDenied" to "deactivateAndDeleteFlowDomainFragmentException"
  - Added "objectInUse" to "deAssociateConnectionlessPortTerminationPointsFromFdException"
  - Added : "route" to "FlowDomainFragmentCreateDataType".

- File: DDPs\ResourceProvisioning\IIS\xsd\GuiCutThroughControlMessages.xsd

- Added “commLoss”, “unableToComply” to “destroyGuiCutThroughException”
- Added “commLoss”, “unableToComply”, “notImplemented” to “getGuiCutThroughProfileInfoException”
- Added “commLoss” to “launchGuiCutThroughException”

- File: DDPs\ResourceProvisioning\IIS\xsd\SoftwareAndDataControlMessages.xsd
  - Added “unableToComply” to “abortManagedElementBackupException”
  - Added “unableToComply” to “backupManagedElementException”
  - Added “unableToComply” to “getBackupListException”
  - Added “unableToComply” to “getManagedElementBackupStatusException”

- File: DDPs\ResourceProvisioning\IIS\xsd\TerminationPointControlMessages.xsd
  - Added “commLoss” to “deleteGroupTerminationPointException”
  - Added “commLoss”, “unableToComply” to “deleteTerminationPointPoolException”
  - Added “commLoss”, “notImplemented” to “setTerminationPointDataException”
  - Added “GroupTerminationPointCreateDataType” and “TerminationPointPoolCreateDataType”

- File: DDPs\ResourceProvisioning\IIS\xsd\TopologicalLinkControlMessages.xsd
  - Added “commLoss” to “deleteTopologicalLinkException”
  - Added “containingResourceRef” to “TopologicalLinkCreateDataType”

- File: DDPs\ResourceProvisioning\IIS\xsd\TrafficConditioningProfileControlMessages.xsd
  - Added “unableToComply” to “createTrafficConditioningProfileException”
  - Added “unableToComply” to “deleteTrafficConditioningProfileException”
  - Added “unableToComply” to “modifyTrafficConditioningProfileException”

- File: DDPs\ResourceProvisioning\IIS\xsd\TransmissionDescriptorControlMessages.xsd
  - Added “unableToComply” to “createTransmissionDescriptorException”
  - Added “unableToComply” to “deleteTransmissionDescriptorException”
  - Added “unableToComply” to “modifyTransmissionDescriptorException”

3.2.3.6 MRI

- File: DDPs\ManageResourceInventory\IIS\xsd\TransmissionDescriptorRetrievalMessages.xsd
  - Removed:
    <xsd:element ref="msg:entityNotFound"/>
    <xsd:element ref="msg:invalidInput"/>

from getAllTransmissionDescriptorsException

- Removed:
  <xsd:element ref="msg:tooManyOpenIterators"/>

  from getTransmissionDescriptorException

- File: DDPs\ManageResourceInventory\IIS\xsd\ConnectionRetrievalMessages.xsd
  - Added operation « getSubnetworkConnectionModeOfOperation" (request, response, exception)
- File: DDPs\ManageResourceInventory\IIS\wsdl\ConnectionRetrievalHttp.wsdl
  - Added operation « getSubnetworkConnectionModeOfOperation"
- File: DDPs\ManageResourceInventory\IIS\wsdl\ConnectionRetrievalJms.wsdl
  - Added operation « getSubnetworkConnectionModeOfOperation"
- File: DDPs\ManageResourceInventory\IIS\wsdl\ConnectionRetrievalMessages.wsdl
  - Added operation « getSubnetworkConnectionModeOfOperation"

- File: DDPs\ManageResourceInventory\IIS\xsd\ EquipmentInventoryRetrievalMessages.xsd
  - Changed "equipmentName" into "equipmentRef" in "GetSupportEquipmentRequestType"
  - Changed "ei:EquipmentOrEquipmentHolderListType" into a list of "equipment" for:
    - "getAllSupportingEquipmentResponse"
    - "getSupportingEquipmentResponse"
    - "getSupportedEquipmentResponse"

- File: DDPs\ManageResourceInventory\IIS\xsd\FlowDomainRetrievalMessages.xsd
  - Added operation « getConnectivityAwareness" (request, response, exception)
- File: DDPs\ManageResourceInventory\IIS\wsdl\FlowDomainRetrievalHttp.wsdl
  - Added operation « getConnectivityAwareness"
- File: DDPs\ManageResourceInventory\IIS\wsdl\FlowDomainRetrievalJms.wsdl
  - Added operation « getConnectivityAwareness"
- File: DDPs\ManageResourceInventory\IIS\wsdl\FlowDomainRetrievalMessages.wsdl
  - Added operation « getConnectivityAwareness"

- File: DDPs\ManageResourceInventory\IIS\xsd\FlowDomainRetrievalMessages.xsd
  - Added "notImplemented" to getAllManagedElementsException

- File: DDPs\ManageResourceInventory\IIS\xsd\TerminationPointRetrievalMessages.xsd
  - Corrected "getAssociatedTerminationPointsWrtTmdException"

3.2.3.7 RTM

- File: DDPs\ ResourceTroubleManagement\IIS\xsd\ AlarmSeverityAssignmentProfileControlMessages.xsd
  - Added “objectInUse” to deleteAlarmSeverityAssignmentProfileException
- File: DDPs\ ResourceTroubleManagement\IIS\xsd\ MaintenanceControlMessages.xsd
  - Added “resourceRef” to performMaintenanceOperation
- File: DDPs\ ResourceTroubleManagement\IIS\xsd\ AlarmControlMessages.xsd
  File: DDPs\ ResourceTroubleManagement\IIS\ wsdl\AlarmControl\ AlarmControlPortType.wsdl
  File: DDPs\ ResourceTroubleManagement\IIS\ wsdl\AlarmControl\ AlarmControlMessages.wsdl
  File: DDPs\ ResourceTroubleManagement\IIS\ wsdl\AlarmControl\ AlarmControlJms.wsdl
  File: DDPs\ ResourceTroubleManagement\IIS\ wsdl\AlarmControl\ AlarmControlHttp.wsdl
  - Replaced “setAlarmReportingOff”, “setAlarmReportingOn”, “setGtpAlarmReportingOff”, “setGtpAlarmReportingOn”

    By a single operation : “setAlarmReporting”
- File: DDPs\ ResourceTroubleManagement\IIS\ wsdl\ AlarmRetrieval\ AlarmRetrievalPortType.wsdl
  File: DDPs\ ResourceTroubleManagement\IIS\ wsdl\ AlarmRetrieval\ AlarmRetrievalMessages.wsdl
  File: DDPs\ ResourceTroubleManagement\IIS\ wsdl\ AlarmRetrieval\ AlarmRetrievalJms.wsdl
  File: DDPs\ ResourceTroubleManagement\IIS\ wsdl\ AlarmRetrieval\ AlarmRetrievalHttp.wsdl
  - Added “getActiveAlarmsIterator” operation

3.2.3.8 RPM

- File: DDPs\ResourcePerformanceManagement\IIS\xsd\ThresholdCrossingAlertControlMessages.xsd
  - Removed operation « getAllTcaParameterProfileNames” (request, response, exception)
  - Removed operation « getTcaParameterProfileNamesIterator” (request, response, exception)
  - Removed operation « setTcaParameterProfilePointer” (request, response, exception)
  - Added « tcaParameterProfile” as output parameter to the “setTcaParameterProfile” operation
  - Added pmRef and pmParameter as input parameters to the “getTcaTpParameter”operation
- File: DDPs\ ResourcePerformanceManagement \IIS\wsdl\ ThresholdCrossingAlertControl\ ThresholdCrossingAlertControlPortType.wsdl
  - Removed operation « getAllTcaParameterProfileNames”
  - Removed operation « getTcaParameterProfileNamesIterator”
  - Removed operation « setTcaParameterProfilePointer”
- File: DDPs\ ResourcePerformanceManagement \IIS\wsdl\ ThresholdCrossingAlertControl \ ThresholdCrossingAlertControlMessages.wsdl
  - Removed operation « getAllTcaParameterProfileNames”
  - Removed operation « getTcaParameterProfileNamesIterator”
  - Removed operation « setTcaParameterProfilePointer”

- File: DDPs\ ResourcePerformanceManagement \IIS\wsdl\ ThresholdCrossingAlertControl \ ThresholdCrossingAlertControlJms.wsdl
  - Removed operation « getAllTcaParameterProfileNames”
  - Removed operation « getTcaParameterProfileNamesIterator”
  - Removed operation « setTcaParameterProfilePointer”
- File: DDPs\ ResourcePerformanceManagement \IIS\wsdl\ ThresholdCrossingAlertControl \ ThresholdCrossingAlertControlHttp.wsdl
  - Removed operation « getAllTcaParameterProfileNames”
  - Removed operation « getTcaParameterProfileNamesIterator”
  - Removed operation « setTcaParameterProfilePointer”

- File: DDPs\ResourcePerformanceManagement\IIS\xsd\ PerformanceManagementRetrievalMessages.xsd
  - Removed operation « getAllPerformanceMonitoringPointNames” (request, response, exception)
  - Removed operation « getPerformanceMonitoringPointNamesIterator” (request, response, exception)
  - Added “userName", “password” and “destination” as input parameters to the “getHistoryPerformanceMonitoringData”operation
- File: DDPs\ ResourcePerformanceManagement \IIS\wsdl\ PerformanceManagementRetrieval\ PerformanceManagementRetrievalPortType.wsdl
  - Removed operation « getAllPerformanceMonitoringPointNames”
  - Removed operation « getPerformanceMonitoringPointNamesIterator”
- File: DDPs\ ResourcePerformanceManagement \IIS\wsdl\ PerformanceManagementRetrieval\ PerformanceManagementRetrievalMessages.wsdl
  - Removed operation « getAllPerformanceMonitoringPointNames”
  - Removed operation « getPerformanceMonitoringPointNamesIterator”
- File: DDPs\ ResourcePerformanceManagement \IIS\wsdl\ PerformanceManagementRetrieval\ PerformanceManagementRetrievalJms.wsdl
  - Removed operation « getAllPerformanceMonitoringPointNames”
  - Removed operation « getPerformanceMonitoringPointNamesIterator”
- File: DDPs\ ResourcePerformanceManagement \IIS\wsdl\ PerformanceManagementRetrieval\ PerformanceManagementRetrievalHttp.wsdl
  - Removed operation « getAllPerformanceMonitoringPointNames”
  - Removed operation « getPerformanceMonitoringPointNamesIterator”

3.2.3.9 Service Basic

- File: DDPs\ServiceBasic\IIS\xsd\Service.xsd

- For CFS and RFS: change sapReferenceList into sapList
- For SAP and SAP Specification: add describedByList
- For Service Definition and Service Template:
  - change characterizedByList into describedByList,
  - add containedByServiceSpecRef and containsServiceSpecRefList
- For SSC: add id, unique, extensible
- For SCV: add rangeInterval, validFor, containsSSCVList

3.2.3.10 Service Activation

- File DDPs\ServiceActivation\IIS\SaExceptions.xsd
  - corrected “documentation” which said something about an ftp exception (seems to have been a cut and paste error)
  - corrected comment concerning ServiceDeletionFailureEven
  - Added entityNotFound and objectInUse to the list of BasicFailureEventType
- File DDPs\ServiceActivation\IIS\xsd\ServiceComponentActivationInterfaceMessages.xsd
  - Update the `sapList` element of the `ModifyServiceDataType` complexType to reflect the service modify data pointing to SAP objects, and not referencing them directly
  - For each operation, replaced the list of specific exceptions by reference to BasicFailureEventType as defined in SaExceptions.xsd

4 Release Definition

This section describes the documents included in MTOSI Release 2.1.

4.1 Document Release Description

Document	Title	New Doc	Version	Doc Status	Latest Date
ProductDescriptions/ RN306_MTOSI_Release2.1.doc (this document)	MTOSI 2.1 Release Notes		1.0	Member Evaluation	Sept 2011
ProductDescriptions/ MTOSI_R2-1_DDP_Maps.xls	MTOSI_R2-1_DDP_Maps		1.0	Member Evaluation	Sept 2011

The following table lists the documents that constitute the full MTOSI 2.1 Release, organized per DDP.

Table 1. Documents in the MTOSI 2.1 Release

DDP	Document	Title	New Doc	Version	Doc Status	Latest Date
FMW	TMF518_FMW	Framework – DDP BA		1.2	Member Evaluation	Sept 2011
FMW	TMF612_FMW	Framework – DDP IA		1.1	Ditto	Sept 2011
FMW	TMF864_FMW_XML	Framework – DDP IIS		1.1	Ditto	Sept 2011
FMW	SD0-1_mTOPDictionary	mTOP Dictionary		1.3	Ditto	June 2011
FMW	SD0-2_mTOPGuidelines_BA	mTOP BA Guideliness		1.0	Ditto	May 2008
FMW	SD0-3_mTOPTemplate_BA.dot	mTOP Word template for BA documents		1.0	Ditto	May 2008
FMW	SD0-4_mTOPGuidelines_IA	mTOP IA Guidelines		1.0	Ditto	May 2008
FMW	SD0-5_mTOPGuidelines_WebServices	mTOP Web Services Design Guidelines		1.1	Ditto	Dec 2009
FMW	SD0-6_mTOPTemplate_SD.dot	mTOP Word template for SD documents		1.0	Ditto	May 2008
FMW	SD1-6_ContainedTPs	Examples for contained TPs in different states of usage		3.3	Ditto	Nov 2007

DDP	Document	Title	New Doc	Version	Doc Status	Latest Date
FMW	SD1-8_encodingX731M3100	Coding of X.731 and M.3100 State and Status Information		3.2	Ditto	Nov 2007
FMW	SD1-14_IMOverview	Inverse Multiplexing Overview		3.2	Ditto	Oct 2007
FMW	SD1-16_LayeredParameters	Layered Parameters		3.4	Ditto	Dec 2010
FMW	SD1-17_LayerRates	Layer Rates		3.5	Ditto	May 2011
FMW	SD1-18_layers	Functional Modeling Concepts		3.4	Ditto	Dec 2010
FMW	SD1-19_LocationIdentification	Location Identification		3.0	Ditto	Apr 2005
FMW	SD1-20_MaintenanceCommands	Maintenance Commands		3.2	Ditto	Nov 2007
FMW	SD1-22_modelDiagramComponents.ppt	Modeling Components		3.1	Ditto	
FMW	SD1-25_objectNaming.doc	MTNM support for a Naming convention		3.4	Ditto	Dec 2007
FMW	SD1-28_PerformanceParameters	Performance Parameters		3.1	Ditto	Oct 2006
FMW	SD1-33_ProbableCauses	Specification of probableCause strings		4.1	Ditto	Oct 2006
FMW	SD1-36_SNCTypes	SNC And Protection		3.1	Ditto	Dec 2006
FMW	SD1-44_ ConnectionlessTechnologyManagement	Connectionless Technology Management		1.1	Ditto	Dec 2007
FMW	SD2-1_MTOSI_IS_Main.doc	MTOSI Implementation Statement	Deleted, replaced by ProductDescriptions/ MTOSI_R2-1_DDP_Maps.xls			
FMW	SD2-2_XML_ImplementationUserGuide.doc	MTOSI XML Implementation User Guide		2.1	Ditto	Sept 2011
FMW	SD2-4_TransportIndependentExampleOfMTOSI.zip	Transport Independent Example of MTOSI		1.2	Ditto	May 2008
FMW	SD2-5_Communication_Styles	Communication Styles		1.3	Ditto	May 2008
FMW	SD2-6_VersioningAndExtensibility	Versioning and Extensibility		2.0	Ditto	May 2008
FMW	SD2-7_ObjectNaming	Object Naming		2.0	Ditto	May 2008

DDP	Document	Title	New Doc	Version	Doc Status	Latest Date
FMW	SD2-9_UsingJMSAsMTOSITransport	Using JMS as an MTOSI Transport		1.2	Ditto	May 2008
FMW	SD2-10_ExampleUsingJMS	Example using JMS		1.2	Ditto	May 2008
FMW	SD2-16_UsingHTTPAsMTOSITransport	Using HTTP as an MTOSI Transport		1.1	Ditto	May 2008
NRB	TMF518_NRB	Network Resource Basic - DDP BA		1.2	Ditto	Sept 2011
NRB	TMF612_NRB	Network Resource Basic – DDP IA		1.1	Ditto	Sept 2011
NRB	TMF864_NRB_XML	Network Resource Basic – DDP IIS		1.1	Ditto	Sept 2011
NRB	SD2-17_ MTOSI_EnhancedResourceStates	MTOSI Enhanced Resource States		1.0	Ditto	Oct 2007
NRF	TMF518_NRF	Network Resource Fulfillment - DDP BA		1.2	Ditto	Sept 2011
NRF	TMF612_NRF	Network Resource Fulfillment – DDP IA		1.1	Ditto	Sept 2011
NRF	TMF864_NRF_XML	Network Resource Fulfillment – DDP IIS		1.1	Ditto	Sept 2011
NRF	SD1-3_BundledSNC	Bundled SNC		3.0	Ditto	June 2005
NRF	SD1-5_ATMConformanceDefinitions	ATM Conformance Definitions		3.0	Ditto	Nov 2006
NRF	SD1-7_DSLOverview	DSL Overview		3.1	Ditto	Nov 2005
NRF	SD2-12_MTOSI_Inventory_Layout	Inventory Layout		2.1	Ditto	May 2008
NRF	SD2-20_EquipmentModel	Equipment Model		1.0	Ditto	May 2008
NRA	TMF518_NRA	Network Resource Assurance - DDP BA		1.2	Ditto	Sept 2011
NRA	TMF612_NRA	Network Resource Assurance – DDP IA		1.1	Ditto	Sept 2011
NRA	TMF864_NRA_XML	Network Resource Assurance – DDP IIS		1.1	Ditto	Sept 2011
NRA	SD1-29_PGPParameters	PGP Parameters		3.0	Ditto	April 2005

DDP	Document	Title	New Doc	Version	Doc Status	Latest Date
NRA	SD1-34_protectionSwitch	Protection Switching		3.0	Ditto	April 2005
NRA	SD1-37_TCAs	PM Threshold Types		3.0	Ditto	Jun 2005
MRI	TMF518_MRI	Manage Resource Inventory - DDP BA		1.2	Ditto	Sept 2011
MRI	TMF612_MRI	Manage Resource Inventory – DDP IA		1.1	Ditto	Sept 2011
MRI	TMF864_MRI_XML	Manage Resource Inventory – DDP IIS		1.1	Ditto	Sept 2011
MRI	SD1-41_TPPoolRelationship	Relationship between a TPPool and its TerminationPoints		3.0	Ditto	April 2005
MRI	SD2-14_AVC_SC_Notifications	Attribute Value Change & State Change Notifications		2.0.2	Ditto	Nov 2007
RP	TMF518_RP	Resource Provisioning - DDP BA		1.2	Ditto	Sept 2011
RP	TMF612_RP	Resource Provisioning – DDP IA		1.1	Ditto	Sept 2011
RP	TMF864_RP_XML	Resource Provisioning - DDP IIS		1.1	Ditto	Sept 2011
RP	SD1-13_guiCutThrough	GUI Cut Through		3.0	Ditto	Nov 2006
RP	SD1-23_ModesOfOperation	Modes of Operation		3.0	Ditto	June 2005
RTM	TMF518_RTM	Resource Trouble Management - DDP BA		1.2	Ditto	Sept 2011
RTM	TMF612_RTM	Resource Trouble Management - DDP IA		1.1	Ditto	Sept 2011
RTM	TMF864_RTM_XML	Resource Trouble Management - DDP IIS		1.1	Ditto	Sept 2011

DDP	Document	Title	New Doc	Version	Doc Status	Latest Date
RPM	TMF518_RPM	Resource Performance Management - DDP BA		1.2	Ditto	Sept 2011
RPM	TMF612_RPM	Resource Performance Management - DDP IA		1.1	Ditto	Sept 2011
RPM	TMF864_RPM_XML	Resource Performance Management - DDP IIS		1.1	Ditto	Sept 2011
RPM	SD1-30_PMFileFormat	PM File Format Definition		3.5	Ditto	Sept 2011
RPM	SD1-31_PMExample	An example of a PM File format in plain text				
RPM	SD1-32_PMExample	An example of a PM File format in xls				
SB	TMF518_SB	Service Basic - DDP BA		1.3	Ditto	Sept 2011
SB	TMF612_SB	Service Basic - DDP IA		1.0	Ditto	May 2008
SB	TMF864_SB_XML	Service Basic - DDP IIS		1.1	Ditto	Sept 2011
SB	SD2-18_VPNServiceModel.xls	VPN Service Model		1.0	Ditto	Nov 2007
SB	SD2-19_VoIPServiceDefinition			1.0	Ditto	May 2008
SB	SD2-21_Ethernet_Service_Specification	Ethernet Service Specification	**Yes**	1.0	Ditto	Dec 2010
MSI	TMF518_MSI	Manage Service Inventory – DDP BA		1.1	Ditto	Sept 2011
MSI	TMF864_MSI_XML	Manage Service Inventory - DDP IIS		1.0	Ditto	May 2008
SA	TMF518_SA_1	Service Activation - DDP BA - Part 1: Overview		1.2	Ditto	Sept 2011

DDP	Document	Title	New Doc	Version	Doc Status	Latest Date
SA	TMF518_SA_2	Service Activation - DDP BA - Part 2: Service Activation Interface (SAI)		1.2	Ditto	Sept 2011
SA	TMF518_SA_3	Service Activation - DDP BA - Part 3: Service Component Activation		1.2	Ditto	June 2011
SA	TMF612_SA	Service Activation - DDP IA		1.0	Ditto	May 2008
SA	TMF864_SA_XML	Service Activation - DDP IIS		1.1	Ditto	Sept 2011

4.1.1 Major BA Deliverables

4.1.1.1 TMF518_FMW, Framework - DDP BA

This Framework BA covers requirements and use cases concerning both the interface communication mechanisms and the general network resources aspects.

The following items are covered:

- Resource identification
- Functional modeling
- Resources data retrieval mechanisms
- Notification mechanisms

4.1.1.2 TMF518_NRB, Network Resource Basic - DDP BA

The Network Resource Basic BA covers the static requirements for the general aspects of the network resources (Data Model).

4.1.1.3 TMF518_NRF, Network Resource Fulfillment - DDP BA

The Network Resource Fulfillment BA addresses the Data Model (DM) aspects of resource fulfillment and as such it defines all resource related managed entities visible across the Interface that are used in support of resource fulfillment.

4.1.1.4 TMF518_NRA, Network Resource Assurance - DDP BA

The Network Resource Assurance BA addresses the Data Model (DM) aspects of resource assurance and as such it defines all resource related managed entities visible across the Interface that are used in support of resource assurance.

4.1.1.5 TMF518_MRI, Manage Resource Inventory - DDP BA

The Manage Resource Inventory BA covers requirements and use cases concerning the management of resource inventory.

The following management capabilities are covered:

- General Management such as (among others):
  - Bulk inventory retrieval (retrieving selected information in a single operation)
  - Multi-Object Inventory Update
- Inventory Management of Connection Oriented Technologies
- Inventory Management of Connectionless Technologies
- Inventory Notifications

4.1.1.6 TMF518_RP, Resource Provisioning - DDP BA

The Resource Provisioning BA covers requirements and use cases concerning the provisioning of network resources.

The following management capabilities are covered:

- Connection Control
- Equipment Provisioning
- Flow Domain Control
- GUI Cut-Through Control
- Software and Data Control
- Termination Point Control
- Transmission Descriptor Control
- Assignment of Transmission Descriptors
- Topological Link Control

4.1.1.7 TMF518_RTM, Resource Trouble Management (RTM) - DDP BA

The Resource Trouble Management BA covers requirements and use cases for the following aspects of RTM: resource fault management, protection management, and maintenance and diagnostics control.

4.1.1.8 TMF518_RPM, Resource Performance Management - DDP BA

The Resource Performance Management BA covers requirements and use cases concerning resource performance management.

The following management capabilities are covered:

- Monitor Performance Management
  - PM Retrieval – this includes the retrieval of both current and historical PM data
  - Threshold Crossing Alert (TCA) Notifications
- Control Performance Management
  - PM Control – this includes, for example, the enabling and disabling of PM collection
  - TCA Control – this includes, for example, the enabling and disabling of TCA generation

4.1.1.9 TMF518_SB, Service Basic - DDP BA

The Service Management BA presents the service Management technology neutral data model. It initiates from the SID service management information model with several extensions and adaptations introduced to fit the business needs for service activation and inventory (those modifications will be proposed to the SID team as suggestion for improvement).
It defines the static and structural requirements of the managed objects that are visible across the Service Activation Interface(s) and the Service Component Activation Interface.

4.1.1.10 TMF518_SA_1, Service Activation - DDP BA - Part 1: Overview

The Service Activation BA Overview specifies common definitions, architecture aspects and functional requirements for the MTOSI Service Activation feature.

It introduces two interfaces:

- The Service Activation interface between the CRM and SM&O layers
- The Service Component Activation interface is an internal SM&O layer interface.

The primary focus of both interfaces is service activation exclusively.

4.1.1.11 TMF518_SA_2, Service Activation - DDP BA - Part 2: Service Activation Interface (SAI)

The Service Activation BA Service Activation Interface covers requirements and use cases for a service activation interface where it is assumed that one side of the interface supports and understands the eTOM's Customer Relationship Management (CRM) concepts, e.g., product and customer, and the other side of the interface supports and understands the eTOM Service Management & Operations (SM&O) concepts, e.g., customer facing service and service order. This interface also allows for the management of service orders that are created as a result of a service activation request.

4.1.1.12 TMF518_SA_3, Service Activation - DDP BA - Part 3: Service Component Activation

The Service Activation BA Service Component Activation covers requirements and use cases for a service component activation interface (SCAI). This interface is entirely within the eTOM SM&O layer. As such, it receives activation requests from another SM&O application that is normally responsible for the orchestration of end-to-end service activation.
The interfaces exposed by the SCAI hide the complexity of the underlying resource activation process through the use of service templates and references to service access points.

4.1.1.13 TMF518_MSI, Manage Service Inventory - DDP BA

This Manage Service Inventory BA covers the requirements for a Service Inventory interface.

Only bulk inventory retrieval, retrieving selected information in a single operation, is required. The information of interest is selected by a filter mechanism using a white page of a yellow page style (driven by names or by properties).

As opposed to the Inventory for Network Resources, the objects in the Service Inventory OS are not organized in a hierarchical way and there is no containment tree. Service Inventory Objects do not have a superior and do not have subordinates. However, objects relate together through associations represented by specific reference attributes which values contain the name of the associated object.

4.1.2 Major IA Deliverables

All IA deliverables, for all DDPs, are structured in the same way:

- a “xxx.emx” file containing the UML2 specification of the information model or of the interface operations; those files have been created using the RSM tool
- a “xxx_HTML.zip” file containing the equivalent information in HTML format.

There are two exceptions to this principle:

- the IA for the Framework DDP (TMF612_FMW) contains in addition a RSM file specifying UML Profile specifications.
- the MSI DDP does not contain an specific information model since the entities used are those from the SID (extended version containing ServiceTemplate and ServiceDefinition).

4.1.3 Major IIS Deliverables

The IIS deliverables are structured in the following way:

- a “wsdl” directory containing the wsdl specification of each operation interface, with one wsdl file per interface (relevant only for the OM-DDP)
- a “xsd” directory containing the schema specifications of the entities and data structures specified in the DM or OM DDPs
- a “xml” directory giving concrete examples illustrating the usage of the MTOSI specifications both on the data or the operations aspects.
- a “xxxHtml.zip” file containing a HTML description of the associated specifications of the DDP.

The table below presents the list of interfaces for the FMW-DDP and for each OM-DDP :

DDP name	Functional Interfaces
TMF864_FMW_XML	Mart, NotificationBroker, NotificationConsumer, NotificationProducer
TMF864_MRI_XML	ResourceInventoryRetrieval, ResourceInventoryUpdate ConnectionRetrieval, EquipmentInventoryRetrieval, FlowDomainRetrieval, ManagedElementRetrieval, ManagementDomainRetrieval, MultiLayerSubnetworkRetrieval, OperationsSystemRetrieval, TerminationPointRetrieval, TopologicalLinkRetrieval, TrafficConditioningProfileRetrieval, TransmissionDescriptorRetrieval
TMF864_RP_XML	CommonResourceProvisioning, ConnectionControl, EquipmentProvisioning, FlowDomainControl, GuiCutThroughControl, SoftwareAndDataControl,

	TerminationPointControl, TopologicalLinkControl, TrafficConditioningProfileControl, TransmissionDescriptorControl
TMF864_RTM_XML	AlarmControl, AlarmHandling, AlarmRetrieval, AsapControl, AsapRetrieval, MaintenanceControl, ProtectionControl, ProtectionRetrieval
TMF864_RPM_XML	PerformanceManagementControl, PerformanceManagementRetrieval, ThresholdCrossingAlertControl
TMF864_MSI_XML	ServiceInventoryRetrieval
TMF864_SA_XML	ServiceActivationInterface, ServiceComponentActivationInterface

4.1.4 Joint MTOSI / MTNM Supporting Documents

Few supporting documents present general guidelines, tools or set of terms and as such they are applicable to both MTOSI and MTNM.

4.1.4.1 SD0-1, mTOP Dictionary

The document presents the acronyms and the definitions of the essential terms used throughout the different MTOSI documents.

4.1.4.2 SD0-2_mTOPGuidelines_BA, SD0-3_mTOPTemplate_BA.dot

The BAs are edited as Word documents, following some guidelines for the editorial presentation of the requirements and use cases and the control of their numbering.
A Word template file (".dot") is available to automate some editorial tasks using Word macros.

4.1.4.3 SD0-4_mTOPGuidelines_IA

The purpose of this document is to be the unique design reference for the development of all mTOP Information Agreements (IA).

The Unified Modelling Language (UML) Version 2.1 is used as the notation for the IA. These guidelines shall ensure that different people can create individual parts of the Information Agreement with the same "look and feel" which can then be combined into an mTOP Release.

4.1.4.4 SD0-5_mTOPGuidelines_WebServices

This mTOP supporting document captures all the design guidelines applied to the development of the mTOP DDP Web Services Interface Implementation Specifications (IIS). The intent of this document is to be an mTOP contributor helper's guide for the generation of the MTOSI R2.0 WS IIS for any given DDP.

4.1.4.5 SD0-6_mTOPTemplate_SD.dot

This Word template document helps the edition of SDs documents

4.1.5 MTOSI Supporting Documents

In cases where the main MTOSI deliverables need to supply the same information, it was decided to move the common information into the set of supporting documents listed below. This allows for updates to the common information in a single place without needing to coordinate updates in several of the main deliverables.

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4.1.5.1 SD2-2_XML_ImplementationUserGuide.doc

This document provides an overview of the MTOSI data and service interface models and their associated XML definitions, which are described and captured in the various MTOSI Delivery Document Packages (DDPs).

This document provides behavior descriptions and usage guidelines that:

1. require a rather long description
2. require supporting diagrams
3. appear repeatedly throughout the XML.

4.1.5.2 SD2-4_TransportIndependentExampleOfMTOSI.zip

This zip file contains a Word document and an XML file.
The Word document presents a concrete example of a very small network and shows how inventory information is handled by the MTOSI XML. The XML inventory information is available in the appendix file “getInventoryResponse.xml”.

4.1.5.3 SD2-5_Communication_Styles

This document outlines the top down approach followed by MTOSI to define the technology neutral abstract interfaces and the various technology specific concrete solutions set.

4.1.5.4 SD2-6_VersioningAndExtensibility

This supporting document addresses versioning and extendibility mechanisms adopted by MTOSI.

Through the versioning mechanism it is possible to evolve the interfaces in a controlled manner maintaining backward and forward compatibility for a class of changes considered minor.

The extendibility mechanism allows a vendor (and\or an MTOSI architect) to tailor the specification to deal with future or specific concerns not addressed in the most current MTOSI release (latest version of the service interfaces).

4.1.5.5 SD2-7_ObjectNaming

This MTOSI Supporting Document provides a normative and informative description of the MTOSI Object Naming. It should be read in conjunction with:

- The MTNM Supporting document SD1-25 ObjectNaming
- The Framework BA, IA and IIS.

4.1.5.6 SD2-9_UsingJMSAsMTOSITransport

This document illustrates how the JMS API can be used as transport mechanism supporting the MTOSI application level requirements in terms of communication and operation exchange.

It gives an introduction to the JMS concepts and then it gives the bindings rules and recommendations to use JMS to support MTOSI operations.

4.1.5.7 SD2-10_ExampleUsingJMS

This document illustrates how the rules and recommendations on how to use JMS as MTOSI transport can be exercised, using the support of a concrete example.
The usage of the JMS API will be demonstrated using code snippets.

4.1.5.8 SD2-12_MTOSI_Inventory_Layout

The document includes a diagram and associated explanation for the MTOSI inventory layout structure. This layout structure is used to transport inventory data via the various bulk inventory operations.

4.1.5.9 SD2-14, Attribute Value Change & State Change Notifications

The document lists the minimum set of attributes for which the OS is expected to provide Attribute Value Change (AVC) and State Change (SC) notifications.

4.1.5.10 SD2-16_UsingHTTPAsMTOSITransport

This document illustrates how MTOSI messages can be encapsulated in SOAP and transported over HTTP in support of the MTOSI application level requirements for communication and operation exchange.

It gives an introduction to the HTTP SOAP concepts and then it gives the bindings rules and recommendations to use SOAP encapsulated message over HTTP to support MTOSI operations.

4.1.5.11 SD2-17_MTOSI_EnhancedResourceStates

The document presents how the static states Planned, Installed Retired are replaced by complex dynamic super-states 'Planning' 'Installing' 'Retiring' each refined into a number of substates.

4.1.5.12 SD2-18_VPNServiceModel.xls

The document presents a simple example illustrating the key concepts of the Service Activation interface.

4.1.5.13 SD2-19_VoIPServiceDefinition

This document contains a Service Definition example for Voice over IP to be used in the context of the overall TM Forum framework for Service Activation. The VoIP Service Definition description in this document will be used for the creation of a formal VoIP Service Definition expressed in XMLSchema. This document also includes an example of a Service Template and shows how it fits into the overall product/service context.

4.1.5.14 SD2-20_EquipmentModel

This document presents some technical aspects related to the equipment model through its various manageable physical components of the Network Element (circuit packs or field replaceable units or also, fan, fuse panel, power supply, etc.).
The document presents the class definitions, the naming structure, the protection aspects and also supplies different illustrative examples.

4.1.5.15 SD2-21_Ethernet_Service_Specification.pdf

This document provides a recommendation on how to use MTOSI Service Management activation interfaces for the provisioning of broadband Ethernet services

4.1.6 MTNM Supporting Documents

For the resource management aspects, MTOSI is based on the MTNM model and, as such, MTOSI relies on much of the background information in the MTNM supporting documents. This section describes how each of the MTNM supporting documents is to be used for MTOSI Release 2.0.

4.1.6.1 SD1-3_BundledSNC

This document illustrates how the concept of bundled SNC service involves the establishment of a bundle of connections (i.e., not necessarily of the same layerRate) from one point in a subnetwork to another. The bundled SNC service is treated as a single SNC.

4.1.6.2 SD1-5_ATMConformanceDefinitions

This document shows different tables representing the mapping Service Category and Conformance Definition values against Supported Traffic Descriptor Combinations for ATM: UNI 4.1, UNI 4.0, UNI 3.1

4.1.6.3 SD1-6, Examples for contained TPs different states of usage

The document provides examples of configurations explaining the expected output of the operations *getContainedPotentialTP(Name)s*, *getContainedInUseTP(Name)s* and *getContainedCurrentTP(Name)s*. MTOSI reuses the MTNM behavior as-is.

4.1.6.4 SD1-7_DSLOverview

This very comprehensive document provides an overview of standard DSL technology and the support of DSL lines by the interface model.

4.1.6.5 SD1-8, Coding of X.731 and M.3100 State and Status Information

The document specifies how X.731 and M.3100 state and status information MUST be mapped to the Interface information model if supported by an OS

4.1.6.6 SD1-13_guiCutThrough

4.1.6.7 SD1-14, Inverse Multiplexing (IM) Overview

The document describes inverse multiplexing and how it is supported in the MTNM model. MTOSI reuses this document “as-is”.

4.1.6.8 SD1-16, Layered Parameters

The document lists all the general and technology-specific transmission parameters for MTNM. MTOSI reuses this document “as-is”.

4.1.6.9 SD1-17, Layer Rates

The document lists all the layer rates for MTNM. MTOSI reuses this document “as-is”.

4.1.6.10 SD1-18, Functional Modeling Concepts

The document extends the layered concepts of ITU-T Recommendation G.805 using encapsulations identified from real network element behavior to provide modeling and performance advantages for information transfer between the management systems. This document provides an explanation of the layering and encapsulation and then builds a view of the use of the layered components in a large number of network scenarios. MTOSI reuses this document “as-is”, with the exception that references to

"NMS" should be replaced "Requesting OS" and references to "EMS" should be replaced by "Target OS", i.e., an OS that fulfills the request of another OS.

4.1.6.11 SD1-19, Location Identification

The document defines and provides examples for terms related to the location of alarms and performance monitoring. Since MTOSI Release 1.1 does not cover performance management, only the sections entitled Probable Causes and Layered Parameters pertain to MTOSI.

4.1.6.12 SD1-20, Maintenance Commands

The document presents figures showing the maintenance operation signal flow for some of the maintenance commands supported by the NML-EML interface.

4.1.6.13 SD1-22, Modeling Components

The document includes diagram components from SD1-18, Functional Modeling Concepts. The components are to be used in proposals to update SD1-18, with the goal of using a single consistent convent for all the diagrams in SD1-18. MTOSI reuses this document "as-is".

4.1.6.14 SD1-23_ModesOfOperation

This document illustrates how, in the context of the Interface, the target OS can manage the SNCs using different rules that best suit the particular application or architecture of the target OS. The target OS' ehavior regarding SNCs is called an "SNC management mode of operation".

Four different SNC management modes of operation can be used by an target OS. Each target OS operates in any one (but only one) of these four modes.

4.1.6.15 SD1-28, Performance Parameters

The document lists various performance measurement parameters.

4.1.6.16 SD1-29_PGPParameters

This document lists in tabular format all the PGP parameters, giving for each of them its name, its valid values, the PG types to which it is applicable and a description.

4.1.6.17 SD1-30, PM File Format

The document describes the PM file format. Also, text and Excel examples are provided.

4.1.6.18 SD1-31, PM File Format

Shows an example of a PM File format in plain text.

4.1.6.19 SD1-32 PM File Format

Shows an example of a PM File format in xls.

4.1.6.20 SD1-33, Specification of probableCause strings

The document describes the probable causes to be used in MTOSI alarms. This version of the document (i.e., Version 4.0) includes all the probable causes from the Version 3.0 of SD1-33 with a few additions for MTOSI.

4.1.6.21 SD1-34_protectionSwitch

This document illustrates through figures and examples different aspects related to protection switching.

4.1.6.22 SD1-36, SNC and Protection

The document describes the various SNC types and protection schemes. MTOSI reuses this document "as-is".

4.1.6.23 SD1-37, PM Threshold Types

The document presents a figure illustrating the identification of Trigger/Clear for each threshold type.

4.1.6.24 SD1-41_TPPoolRelationship

This short document illustrates that the relationship between a TPPool and its associated TPs (not GTPs) is an "asymmetric" relationship.

4.1.6.25 SD1-44, Connectionless Technology Management

The document aims at specifying a framework for supporting connectionless technologies from the Interface. While seeking compliance with the generic modelling concepts recommended in ITU-T (G.809, G.8010) this work is initially intended to address the management of Ethernet and related technologies as defined in ITU-T G.8011 and MEF 10. The term "Ethernet" refers to the Ethernet MAC layer (ETH). This model is designed to complement and integrates seamlessly with the existing ITU-T G.805 based MTNM release 3.0 interface aimed at connection oriented technologies. Similar modelling activities from ITU-T (Q.840.1) and MEF Phase 1 (MEF 7) have been considered for consistency.

5 Administrative Appendix

5.1 Document History

Version History (This document)

Version Number	Date Modified	Modified by:	Description of changes
0.1	June 2005	MTOSI Team	Initial version
0.2	27-July 2005	Tina O'Sullivan	Updated version numbers, and other items prior to Member Evaluation.
0.3	Dec. 2005	Stephen Fratini	Updated the version number of the various SD after the Member Evaluation.
1.0	Oct. 2006	Michel Besson	MTOSI Release 1.1 Notes
1.1	Dec 2006	Michel Besson	Aligned document versions
1.2	Dec 2006	Tina O'Sullivan	Final modifications prior to ME web posting.
1.3	Mar 2007	Tina O'Sullivan	Updated document status, to reflect end of Member Evaluation.
2.0	November 2007	Michel Besson	Initial new version
2.1	May 2008	Michel Besson	Added: - the IA for each DDP, - the IIS for each DDP, - the MSI DDP - and several SDs for the full MTOSI 2.0 release.
2.2	March 2009	Michel Besson	Corrections from ME comments
2.3	September 2011	Michel Besson	MTOSI Release 2.1 Notes

Release History (MTOSI Release)

Release Number	Date Modified	Modified by:	Description of changes
1.0	June 2005	MTOSI Team	Initial version
1.1	October 2006	MTOSI Team	• Bug fixes • Support for HTTP • MEPs for synchronous communication • Reorganisation of the SS
2.0 BA	November 2007	mTOP Team	• Service activation management • Resource provisioning and activation • Management of connectionless networks • Performance management and maintenance commands • Inventory updates, multi-event inventory notifications and enhanced inventory retrieval (attribute value matching) • Enhanced model for resource states • Multi-action and request transactions • Division of deliverables into Document Delivery Packages (DDPs) as shown in the next subsection.
2.0ME	May 2008	mTOP Team	• Added the Service Inventory DDP • For all DDPs, added the IA and the XML IIS • Added several SDs
2.0 final	March 2009	mTOP Team	• Corrections from ME comments
2.1	September 2011	MTOSI team	• Bug fixes • New SD on Ethernet Service Specification

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