Title: Network Specification Version 2.37.0
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Inheritance
Association
Association with WEAK reference
Aggregation
Aggregation with WEAK reference
Composition Aggregation
Equivalent to: 0 … n

ServiceComponent
ServiceService
Dependency
Service SAP Dependency
ServiceAccessPoint
By SAP
HostedService

NetworkService (D)
(See Networks Model ( Deprecated VLAN ))

QoS Service
(See Networks Model ( QoS ))

SNMP Service
(See Networks Model (SNMP ))

Source Routing Service
(See Networks Model ( Switching & Bridging ))

Switch Service
(See Networks Model (Switching & Bridging ))

Transparent Bridging Service
(See Networks Model (Switching & Bridging ))

Routing and Forwarding Service
(See Networks Model (Routing & Forwarding ))

Forwarding Service
(See Networks Model (Routing & Forwarding ))

Virtual Link Service
(See Networks Model (Virtual Link ))

QoS Conditioning Services
(See Networks Model (QoS Conditioning Services ))

Routing and Forwarding
See Networks Model (Routing & Forwarding )

IPSec
(See Networks Model (IPSec ))

OSPF
(See Networks Model (OSPF ))

Buffer Pools
(See Networks Model (Buffers ))

Filtering and Filter Entries
(See Networks Model (Filtering and Filter Entries ))

Protocol Endpoints
(See Core Model)

SNMP Community Strings
(See Networks Model (SNMP ))

BGPPeer Group
(See Networks Model (BGP ))

BGPPeer Group
(See Networks Model (BGP ))

BGPPeer Group
(See Networks Model (BGP ))

Routing and Forwarding
See Networks Model (Routing & Forwarding )

IP Address Range
(See Networks Model (IP Address Range ))

Network Policy
(See Networks Model (Network Policies ))

Switching and Bridging
See Networks Model (Switching & Bridging )

System Specific Collection
(See Core Model)

System
(See Core Model)

Logical Device
(See Core Model)

Logical Port
(See Device Model)

Network Pipe
(See Networks Model ( Pipes ))

Routing and Forwarding
See Networks Model (Routing & Forwarding )

Switching and Bridging
See Networks Model (Switching & Bridging )

IP Address Range
(See Networks Model (IP Address Range ))

Network Policy
(See Networks Model (Network Policies ))

Switching and Bridging
See Networks Model (Switching & Bridging )

System Specific Collection
(See Core Model)

System
(See Core Model)

Logical Device
(See Core Model)

Logical Port
(See Device Model)

Network Pipe
(See Networks Model ( Pipes ))
**ManagedElement**
(See Core Model)

**LogicalElement**
(See Core Model)

**EnabledLogicalElement**
(See Core Model)

**System**
(See Core Model)

**ComputerSystem**
(See System Model)

**AdminDomain**
(See Core Model)

**AutonomousSystem**

- ASNumber: uint16
- IsSingleHomed: boolean
- IsTransit: boolean
- RequireIGPSync: boolean
- RoutingUpdateSource: uint16 (enum)
- AggregationType: uint16 (enum)

**Network**

- CreateNetworkPipes:
  - [IN] directionality: uint16 [ ]
  - [IN] ServiceAccessPoint: ref SourceSAP [ ]
  - [IN] ServiceAccessPoint: ref SinkSAP [ ]
  - [OUT] ConcreteJob: ref Job
  - [IN, OUT] NetworkPipe: ref NetworkPipe: unit32

**RouterInAS**: 0..1
Buffers

ManagedElement
(See Core Model)

LogicalElement
(See Core Model)

EnabledLogicalElement
(See Core Model)

ServiceAccessPoint
(See Core Model)

ProtocolEndpoint
(See Core Model)

MPLSProtocolEndpoint
(See Network Model (Protocol Endpoints))

Collection
(See Core Model)

CollectionOfMSEs
(See Core Model)

BufferPool

CollectionID: string {override, key}
CreationClassName: string {key}
Name: string
BufferSize: uint16 {D, units}
BufferSize: uint32 {units}
TotalBuffers: uint32
AvailableBuffers: uint32
SharedBuffers: uint32

MPLSProtocolEndpoint

MAxAllocMultiplier: uint16 {units}
ResourceClasses: uint32

MPLSBuffers (E)

ManagedSystemElement
(See Core Model)

LogicalIdentity

Composition Aggregation
(See Core Model)

Explicit LogicalElement

ManagedSystemElement
(See Core Model)

LogicalElement
(See Core Model)

EnabledLogicalElement
(See Core Model)

ServiceAccessPoint
(See Core Model)

ProtocolEndpoint
(See Core Model)

MPLSProtocolEndpoint

MAxAllocMultiplier: uint16 {units}
ResourceClasses: uint32

MPLS ReSharpers (E)

ManagedElement
(See Core Model)

LogicalIdentity

Inheritance
Association
Association with WEAK reference
Aggregation
Aggregation with WEAK reference
Composition Aggregation
* Equivalent to: '0 .. n'
SNMP Association
Aggregation
Association with WEAK reference
Aggregation with WEAK reference
Composition Aggregation
Equivalent to: 0 .. n

Component
ManagedElement
(See Core Model)

Dependency
LogicalIdentity

ManagedSystemElement
(See Core Model)

LogicalElement
(See Core Model)

EnabledLogicalElement
(See Core Model)

ServiceAccessPoint
(See Core Model)

Service
(See Core Model)

RemoteServiceAccessPoint
(See Core Model)

RemotePort
(See Core Model)

SNMPTrapTarget
NotificationMessage: uint16 {enum}
SNMPVersion: uint16 {enum}
CommunityString: string

SNMPCommuityStrings
CommunityString: string
TypeOfAccess: uint16 {enum}
LogicalEntitiesAccessed: string[]
LogicalEntitiesDescriptions: string[]

ProtocolEndpoint
(See Core and Networks Models (Protocol Endpoints))

SNMPService
TrapSourceForSNMPService
0..1
QoS Conditioning Services

1. ConditioningService
   (See Networks Model (QoS))

2. ClassifierService
   ClassifierElement
   ClassifierElementIn ClassifierService
   ClassifierElement
   FilterList
   UsesFilterList
   ClassifierElement
   FilterSet (D)

3. MeterService
   MeterType: uint16 (enum)
   OtherMeterType: string
   ConformanceLevels uint16
   AverageRate: uint32 (units)
   DeltaInterval: uint64 (units)

4. EWMAMeterService
   AverageRate: uint32 (units)
   DeltaInterval: uint64 (units)
   Gain: uint32

5. TokenBucketMeterService
   AverageRate: uint32 (units)
   PeakRate: uint32 (units)
   BurstSize: uint32 (units)
   ExcessBurstSize: uint32 (units)

6. MarkerService
   PreambleMarkerService
   FilterItemList: string [ ]
   ToSMarkerService
   ToSValue: uint8
   DSCPMarkerService
   DSCPValue: uint8
   Priority8021QMarkerService
   PriorityValue: uint8
QOS Conditioning Services

ConditioningService
(See Networks Model (QoS))

DropThresholdCalculationService
(See Networks Model (QoS))

CalculationBased
OnQueue

QueuingService
CurrentQueueDepth: uint32
DepthUnits: uint16 (enum)

BufferPool
(See Networks Model (Buffer Pools))

QueueHierarchy (D)

DropQueue
Allocation

HeadTail
DropQueue
Binding

REDDropperService
MinQueueThreshold: uint32
MaxQueueThreshold: uint32
StartProbability: uint32
StopProbability: uint32
ThresholdUnits: uint16 (enum)

HeadTailDropper
QueueThreshold: uint32

SchedulingElement

ManagedElement
(See Core Model)

PrioritySchedulingElement
Priority: uint16

AllocationSchedulingElement
AllocationUnits: uint16 (enum)
BandwidthAllocation: uint32
BurstAllocation: uint32
CanShare: boolean
WorkFlexible: boolean

BoundedPrioritySchedulingElement
BandwidthBound: uint32 (units)

WRRSchedulingElement
WeightingFactor: uint32 (units)
Priority: uint16

QueueTo
Schedule

Queue
Allocation

SchedulerUsed (D)

WeightedREDDropperService (D)
DropMetric: uint16 (enum)
OtherDropMetric: string
Weight: real32

NonWorkConservingSchedulingService

PacketSchedulingService
SchedulerType: uint16 (enum)
OtherSchedulerType: string

Next
Scheduler

FailNext
Scheduler

Inheritance
Association
Aggregation
Composition Aggregation
Equivalent to: 0 .. n
VLAN Association
Aggregation
Association with WEAK reference

Inheritance

Aggregation
Aggregation with WEAK reference
Composition Aggregation

Equivalent to: 0..n

Composition Aggregation (See Core Model)

Collection (See Core Model)

SystemSpecificCollection (See Core Model)

SettingData (See Core Model)

OrganizationalEntity (See User Model)

StatisticalData (See Core Model)

ManagedObject

Dependency

Connection Aggregation

VLANId: uint16
MaxTransmissionSize: sint32
SAIdentifier: unit32
TypeOfMedia: uint 16
OtherTypeDescription: string

GARPMembershipSettingData (E)
Dot1dPortGarpJoinTime: uint32 (units)
Dot1dPortGarpLeave: uint32 (units)
Dot1dPortGarpLeaveAllTime: uint32 (units)

VLANMembershipSettingData (E)

GARPMembershipSettingData (E)
Dot1dPortGarpJoinTime: uint32 (units)
Dot1dPortGarpLeave: uint32 (units)
Dot1dPortGarpLeaveAllTime: uint32 (units)

VLANSystemSettingData (E)
ReservedVLANList: uint16 [ ]
InternalVLANList: uint16 [ ]
NumberOfConfiguredVLANs: uint16
DynamicVLANList: uint16 [ ]
StaticVLANList: uint16 [ ]

VLANEndpointSettingData
PruneEligibleVLANList: uint16 [ ]
Native VLAN: uint16
Default VLAN: uint16
TunkedVLANList: uint16 [ ]
Access VLAN: uint16

ConnectivityMembershipSettingData (See Network Model (Collections))

NetworkVLAN

VLANId: uint16
MaxTransmissionSize: sint32
SAIdentifier: unit32
TypeOfMedia: uint 16
OtherTypeDescription: string

VLANStats (E)

VLANPortInFrames: uint64
VLANPortOutFrames: uint64
VLANPortInDiscards: uint64
VLANId: uint16

ConnectivityCollection (See Network Model (Collections))

HostedCollection

System

ServiceAccessPoint (See Core Model)

ProtocolEndpoint (See Core Model)

Capabilities (See Core Model)

ManagedLogicalElement

ManagedSystemElement (See Core Model)

LogicalElement (See Core Model)

EnabledLogicalElement (See Core Model)

NetworkVLAN

VLANPortInFrames: uint64
VLANPortOutFrames: uint64
VLANPortInDiscards: uint64
VLANId: uint16

VLANSystemCapabilities (E)
MaxSupportedVLANs: uint16
MaxVLANId: uint16
MaxMTUsize: uint16
MinMTUsize: uint16

VLAN Endpoint Capabilities (E)

Dot1QTagging: boolean
Dot1AcceptableFrameTypes: uint16 (enum)
Dot1QIngressFiltering: boolean
SupportsTrunkEncapsulationNegotiation: boolean

ReservedVLANList: uint16 [ ]
InternalVLANList: uint16 [ ]
NumberOfConfiguredVLANs: uint16
DynamicVLANList: uint16 [ ]
StaticVLANList: uint16 [ ]

VLANId: uint16
MaxTransmissionSize: sint32
SAIdentifier: unit32
TypeOfMedia: uint 16
OtherTypeDescription: string

GVRPStatus: uint16 (enum)

VLANMembershipSettingData (E)

VLAN Membership Setting Data (E)

Inheritance

Association
Association with WEAK reference
Aggregation
Aggregation with WEAK reference
Composition Aggregation

Equivalent to: 0..n

VLAN Id: uint16
Network Policy

Service

Service

NetworkPolicyRule

PolicyRule

NetworkPolicyCondition

NetworkPolicyAction

SettingData

SupportedCapabilities: uint16[ ] (enum)
DeviceConnectivityCollection {E}

ConnectivityCollection
(See Network Model (Collection))

SystemSpecificCollection
(See Core Model)

TopologyGraph {E}
InstanceID : string (key)

RelatedTopologyGraph

Collection
(See Core Model)
Network Address Translation (NAT)

- **OverloadingPermitted**: boolean
- **NATListBasedSettings**
  - **OverloadingPermitted**: boolean
  - **AddressesToBeTranslated**
  - **TranslationPoolForNAT**
    - **RangeOfIPAddresses**
      - **FilterList**
        - (See Networks Model (Filtering))
      - (See Networks Model (Collections))
    - (See Core Model (Protocol Endpoints))
  - (See Core Model (Dependencies))

**ForwardsAmong**
- **ProtocolEndpoint**
  - **NATServiceRunningOnEndpoint**
    - Subclass of **ConnectedNetwork**: uint16
  - (See Core and Networks Model (Protocol Endpoints))

**NATService**
- (See Networks Model (Routing & Forwarding))

**ScopedSettingData**
- (See Core Model)

**TimeoutsForNATTranslation**
- **TranslationTimeout**: datetime
- **UDPTimeout**: datetime
- **TCPTimeout**: datetime

**NATSettingData**
- **IsInside**: boolean
- **AddressExamined**: uint16

**NATStaticSetting**
- **InsideAddress**: string
- **OutsideAddress**: string

**FilterList**
- (See Networks Model (Filtering))

**ForwardingService**
- (See Networks Model (Routing & Forwarding))

**ProtocolEndpoint**
- (See Core and Networks Model (Protocol Endpoints))

**Equivalence**: 0..n
- **Inheritance**
- **Association**
- **Aggregation**
- **Composition**

*Equivalent to: 0..n*
iSCSICapabilities

MinimumSpecificationVersionSupported : uint8
MaximumSpecificationVersionSupported : uint8
AuthenticationMethodsSupported : uint16[] (enum)
SupportedFeatures: uint16[] (E, Enum)
OtherSupportedFeatures: string[] (E)

MaxConnectionsPerSession : uint32
InitialR2TPreference : boolean
ImmediateDataPreference : boolean
MaxOutstandingR2T : uint32
MaxUnsolicitedFirstDataBurstLength : uint32
MaxDataBurstLength : uint32
DataSequenceInOrderPreference : boolean
DataPDUInOrderPreference : boolean
DefaultTimeToWaitPreference : uint32
DefaultTimeToRetainPreference : uint32
ErrorRecoveryLevelPreference : uint32
MaxReceiveDataSegmentLength : uint32
PrimaryHeaderDigestMethod : uint16 (enum)
SecondaryHeaderDigestMethod : uint16 (enum)
PrimaryDataDigestMethod : uint16 (enum)
SecondaryDataDigestMethod : uint16 (enum)
RequestingMarkersOnReceive : boolean
PrimaryAuthenticationMethod : uint16
SecondaryAuthenticationMethod : uint16

CreateiSCSIProtocolEndpoint (  
[IN] iSCSINode : ref SCSIProtocolController,  
[IN] Role : uint16 (enum),  
[IN] Identifier : string,  
[IN] NetworkPortals : ref ProtocolEndpoint[]),  
[OUT] iSCSIPort : ref iSCSIProtocolEndpoint ) : uint32 (enum)
DeleteiSCSIProtocolEndpoint (  
[IN] iSCSIPort : ref iSCSIProtocolEndpoint ) : uint32 (enum)
BindiSCSIProtocolEndpoint (  
[IN] iSCSIPort : ref iSCSIProtocolEndpoint ),  
[IN] NetworkPortal : ref ProtocolEndpoint,  
[OUT] iSCSIPort : ref iSCSIProtocolEndpoint ) : uint32 (enum)
CreateiSCSINode (  
[IN] Alias : string,  
[OUT] iSCSINode : ref SCSIProtocolController ) : uint32
DeleteiSCSINode (  
[IN] iSCSINode : ref SCSIProtocolController ) : uint32

CreateiSCSIProtocolEndpointCreationSupported : boolean
IdentifierSelectionSupported : boolean
iSCSINodeCreationSupported : boolean

Composition Aggregation
iSCSI 2

StatisticalData
(See Core Model)

iSCSISessionStatistics

CommandPDUsTransferred : uint64
ResponsePDUsTransferred : uint64
BytesTransmitted : uint64
BytesReceived : uint64
DigestErrors : uint64
ConnectionTimeoutErrors : uint64

iSCSILoginStatistics

LoginFailures : uint64
LastLoginFailureTime : datetime
LastLoginFailureType : uint16 (enum)
OtherLastLoginFailureType : string
LastLoginFailureRemoteNodeName : string
LastLoginFailureRemoteAddress : uint32
SuccessfulLogins : uint64
NegotiationLoginFailures : uint64
AuthenticationLoginFailures : uint64
AuthorizationLoginFailures : uint64
LoginRedirects : uint64
OtherLoginFailures : uint64
NormalLogouts : uint64
OtherLogouts : uint64

iSCSISessionFailures

SessionFailures : uint64
LastSessionFailureType : uint16 (enum)
OtherLastSessionFailureType : string
LastSessionFailureRemoteNodeName : string
SessionDigestFailures : uint64
SessionConnectionTimeoutFailures : uint64
SessionFormatErrors : uint64

ManagedElement
(See Core Model)
EnabledLogicalElementCapabilities
(See Core Model)

ManagedSystemElement
(See Core Model)

Capabilities
(See Core Model)

EnabledLogicalElement
(See Core Model)

RedirectServiceCapabilities [E]
SharingModeSupported : uint16 [enum]

EnablingLogicalElementCapabilities
(See Core Model)

Service
(See Core Model)

TextRedirectionSAP
SessionTerminateSequence : string
TextFlowType : unit16 [enum]
OtherTextFlowType : string

RedirectService
RedirectServiceType[] : unit16
OtherRedirectServiceType : string
MaxCurrentEnabledSAPs : uint16
SharingMode : unit16 [enum]

TextRedirectionService
MaxConcurrentEnabledSAPs : uint16
SharingMode : unit16 [enum]

USBRedirectionService
RedirectServiceType : unit16 [enum]

CreateRedirectionSAP

DeleteRedirectionSAP

CreateUSBDevice

USBRedirectionCapabilities [E]
ClassesSupported : uint8 []
ConnectionModesSupported : unit16 [enum]
InfoFormatsSupported : unit16 [enum]
MaxDevicesPerSAP : unit16
MaxDevicesSupported : unit16
RequestedStatesSupportedForCreatedSAP : unit16
SAPCapabilitiesSupported : unit16 [enum]
SubClassesSupported : uint8 []
USBVersionsSupported : unit16 []

RedirectionService

Dependency

Component

ManagedElement
(See Core Model)

ManagedSystemElement
(See Core Model)

LogicalElement
(See Core Model)

ServiceAccessPoint
(See Core Model)

Service
(See Core Model)

TextRedirectionSAP
SessionTerminateSequence : string
TextFlowType : unit16 [enum]
OtherTextFlowType : string

KVMRedirectionSAP [E]
KVMProtocol : unit16 [enum]
OtherKVMProtocol : string

USBRedirectionSAP [E]
ConnectionMode : unit16 [enum]
ResetTimeout : datetime
SessionTimeout : datetime

Capabilities
(See Core Model)

SharingModeSupported : uint16 [] [enum]
MediaRedirection

ServiceAccessPoint

(See Core Model)

MediaRedirectionSAP (E)

ConnectionMode: uint16 (enum)
CommandTimeout: datetime
ResetTimeout: datetime
SessionTimeout: datetime

MediaRedirectionCapabilities (E)

ConnectionModesSupported: uint16[] (enum)
DevicesSupported: uint16[] (enum)
MaxDevicesSupported: uint16
MaxDevicesPerSAP: uint16[]
SAPCapabilitiesSupported: uint16[] (enum)
InfoFormatsSupported: uint16[] (enum)

RedirectionServiceCapabilities (E)

(See Redirection)
ConfigurationServices

AddLANEndpoint

(See Core Model)

Service

(See Core Model)

EnabledLogicalElement

(See Core Model)

ServiceAccessPoint

(See Core Model)

NetworkPortConfigurationService

AddLANEndpoint

(See Core Model)

IPConfigurationService

AddStaticIPv4Address

[IN, OUT] StaticIPAssignmentSettingData REF StaticSetting,
[IN] Address: string,
[IN] SubnetMask: string,
[IN] Gateway: string
): uint32 enum

ApplySettingToLANEndpoint

[IN] IPAssignmentSettingData REF Configuration,
[IN] LANEEndpoint REF Endpoint,
[IN] ConcreteJob REF Job
): uint32 enum

ApplySettingToIPProtocolEndpoint

[IN] CIM_IPAssignmentSettingData REF Configuration,
[IN] CIM_IPProtocolEndpoint REF Endpoint,
[IN] CIM_ConcreteJob REF Job
): uint32 enum

AddStaticIPv4Address

[OUT] CIM_StaticIPv4AssignmentSettingData REF StaticSetting
[IN] CIM_IPAssignmentSettingData REF Configuration
[IN] Address: string
[IN] Gateway: string
[IN] SubnetMask: string
): uint32 enum

ApplySettingToLANEndpoint

[IN] CIM_IPAssignmentSettingData REF Configuration
[IN] CIM_LANEEndpoint REF Endpoint
[OUT] CIM_ConcreteJob REF Job
): uint32 enum

ApplyingSettingToIPProtocolEndpoint

[IN] CIM_IPAssignmentSettingData REF Configuration
[IN] CIM_IPProtocolEndpoint REF Endpoint
[OUT] CIM_ConcreteJob REF Job
): uint32 enum
Deprecated Associations

**HostedDependency**
(See Network Model (HostedDependency))

**Switchable (D)**
Antecedent: ref LANEndpoint {0..1}
Dependent: ref SwitchPort {0..1}

**NetworkServicesInAdminDomain (D)**
Antecedent: ref AdminDomain (*)
Dependent: ref NetworkService (*)

**BindsToLANEndpoint**
(See Network Model (Dependency 2))

**ServiceStatistics**
Stats: ref ServiceStatisticalInformation {weak, *}
Element: ref Service {1}

**Statistics**
Stats: ref StatisticalInformation {key *}
Element: ref ManagedElement {key, *}

**BGPServiceStatistics (D)**
Stats: ref BGPStatistics {0..1}
Element: ref BGPService {1}

**LogicalNetworkService (D)**
Network: ref LogicalNetwork {key, *}
NetworkService: ref NetworkService {key, *}
ContainmentType: uint16 (enum)

**NetworksInAdminDomain (D)**
Domain: ref AdminDomain {key, 1}
Network: ref LogicalNetwork {key, weak, *}