



CHAPTER 22

VCB Template Reference

Use the information in this chapter to determine which template best matches the device, module, or event that you want to manage with Prime Network. Information in this chapter is also useful when you test the customizations that you have made.

Topics include:

- [U-VNE Templates, page 22-1](#)
- [Module Templates, page 22-10](#)
- [Event Templates, page 22-24](#)

U-VNE Templates

Features, advantages, and limitations of template-based U-VNEs are template-dependent. The GenericUVNE template uses the same set of MIB-II based instrumentation for logical inventory discovery as is used by the Prime Network generic VNE. The advantage of the U-VNE—created using the VCB and the GenericUVNE template—over the Generic VNE is that you can identify the device type for the U-VNE and further extend the U-VNE for additional event recognition using the VCB.

For more information, see the following sections:

- [Generic VNE, U-VNE, and Developed VNE Comparison, page 18-5](#)
- [Advantages and Limitations of U-VNEs, page 18-3](#)
- [GenericUVNE Template, page 22-1](#)

GenericUVNE Template

The GenericUVNE template is applicable to Cisco and non-Cisco NEs and supports event customization with event association to Managed Element only.

Use the GenericUVNE template to model any NE that is not currently supported by Prime Network. The generic U-VNE is very similar to the generic VNE. It provides basic information, such as the physical interfaces available on the device and their status, rudimentary logical modeling, and parsing of basic traps; see [Generic U-VNE—Supported Traps, page 22-4](#). Using the VCB, however, you can configure additional traps and syslog recognition for a generic U-VNE.

The generic U-VNE models NEs using SNMP MIB-II, which is the most generic and widely used management interface. The generic U-VNE does not consider the device vendor, device type, or software version of the NE that it models. Using the VCB, however, you can update device type attributes for a generic U-VNE.

[Table 22-1](#) summarize the features and advantages of the GenericUVNE template.

Table 22-1 GenericUVNE Summary

Features	Advantages	Limitations
<ul style="list-style-type: none"> • Same physical and logical inventory as a Prime Network generic VNE. • Applicable to Cisco and non-Cisco NEs. • User-defined device type attributes: <ul style="list-style-type: none"> – Device category—Determines the icon that is displayed. – Element type. • Event recognition, enabling Prime Network to forward events from unsupported devices to OSS applications. 	<p>When compared with a generic VNE, a generic U-VNE provides:</p> <ul style="list-style-type: none"> • Simplified trap and syslog recognition (using the VCB). • Application of soft property and activation scripts to a specific generic U-VNE (as opposed to a device type). 	<p>Event association to Managed Element only</p>

The following terminology is used in the tables that describe the Generic U-VNE:

- Expedite Legend—The Expedites column in the service event (service alarm) tables in this chapter can contain these values:
 - Y—Indicates that the service event is expedited by a syslog or trap generated by the device. This means that the syslog or trap causes the VNE to poll the device without waiting for the usual polling cycle, thus enabling quicker detection of the event.
 - N —Indicates that the service event is not expedited. The service event is not expedited. This means that the VNE will poll this device during the next regularly scheduled polling cycle.
- Information Model Object (IMO)—For more information about IMOs, see the [Cisco Prime Network 3.8 Reference Guide](#).



Note

In some of the following tables, attributes, protocols, technologies, etc. are listed as supported. Supported denotes that SNMP queries are made to the NE for those attributes, etc. Whether values are available in response to the queries depends on whether the instrumentation supported in the NE works.

See the following sections:

- [Generic U-VNE—Physical Inventory Model, page 22-3](#)

- [Generic U-VNE—Logical Inventory Model, page 22-3](#)
- [Generic U-VNE—Supported Traps, page 22-4](#)
- [Generic U-VNE—Supported Events, page 22-5](#)
- [Generic U-VNE—Limitations, page 22-5](#)
- [Generic U-VNE—Supported Topologies, page 22-5](#)
- [Generic U-VNEs—Supported Technologies, page 22-5](#)
- [Generic U-VNE—Supported Service Events, page 22-10](#)

Generic U-VNE—Physical Inventory Model

The generic U-VNE uses a static model for the device chassis. The rest of the physical inventory is modeled using the ifTable. Since modules are not modeled, the generic U-VNE creates a single generic module on which all of the physical interfaces reside.

[Table 22-2](#) describes which MIB tables are used to model the physical inventory components that are supported by the generic U-VNE.

Table 22-2 MIBs Used for Physical Inventory Model of Generic U-VNE

Logical Component	MIB Table	Columns/Tables Used For Modeling
Interfaces	ifTable	<ul style="list-style-type: none"> • ifDescr • ifType • ifOperStatus
Ports		<ul style="list-style-type: none"> • ifOperStatus and ifAdminStatus
Port status	ifTable	<ul style="list-style-type: none"> • ifSpeed
Port speed	ifTable	<ul style="list-style-type: none"> • ifPhysAddress (Ethernet ports)
MAC address	ifTable	



Note

Certain general properties on the managed element, such as system description, are modeled using the RFC1213-MIB.

Generic U-VNE—Logical Inventory Model

[Table 22-3](#) describes which MIB tables are used to model the logical inventory components that are supported by the generic U-VNE. Attributes in [Table 22-3](#) are taken from MIB-II.

Table 22-3 MIBs Used for Logical Inventory Model of Generic U-VNE

Logical Component	MIB Table	Columns/Tables Used For Modeling
IP Interfaces	ipAddrTable	<ul style="list-style-type: none"> • ipAdEntIfIndex • ipAdEntNetMask
ARP table	ipNetToMediaTable	<ul style="list-style-type: none"> • ipNetToMediaPhysAddress • ipNetToMediaType

Table 22-3 MIBs Used for Logical Inventory Model of Generic U-VNE (continued)

Logical Component	MIB Table	Columns/Tables Used For Modeling
Routing table	ipRouteTable	<ul style="list-style-type: none"> ipRouteDest ipRouteIfIndex ipRouteNextHop ipRouteType ipRouteMask
Bridging table	dot1dTpFdbTable	—
Default bridge	dot1dBridge	<ul style="list-style-type: none"> dot1dBaseBridgeAddress dot1dBaseType

Generic U-VNE—Supported Traps

The generic U-VNE can parse the standard MIB-II and Bridge-MIB traps listed in [Table 22-4](#).

Table 22-4 Supported Traps for Generic U-VNE

Standard MIB-II Traps	
authenticationFailure	mplsTunnelReoptimized
bgpBackwardTransition	mplsTunnelRerouted
bgpEstablished	mplsTunnelUp
coldStart	ospfIfAuthFailure
entConfigChange	ospfIfConfigError
linkDown	ospfIfRxBadPacket
linkUp	ospfIfStateChange (down)
mplsL3VpnVrfDown	ospfIfStateChange (up)
mplsL3VpnVrfNumVrfRouteMaxThreshExceeded	ospfMaxAgeLsa
mplsL3VpnVrfRouteMidThreshExceeded	ospfNbrStateChange (down)
mplsL3VpnVrfUp	ospfNbrStateChange (up)
mplsLdpInitSessionThresholdExceeded	ospf-if-packet-retransmit
mplsLdpSessionDown	ospfOriginateLsa
mplsLdpSessionUp	ospfTxRetransmit
mplsTunnelDown	warmStart
Bridge-MIB Traps	
dot1dBaseBridgeAddress	dot1dBaseType

The generic U-VNE can identify traps, but it cannot correlate them. This is because the generic U-VNE does not include the model entities required by higher trap parsing levels.

For example, if Prime Network receives an `mplsTunnelDown` trap from a device modeled with the generic U-VNE, Prime Network can identify the Tunnel Down trap, but it cannot perform correlation on the trap. The reason is that the generic U-VNE does not investigate tunnels, which means that there is no Device Component in the model to which Prime Network can attach a correlation flow.

For the generic U-VNE, event association is always to the **Managed Element**.

Generic U-VNE—Supported Events

The generic U-VNE supports the service events listed in [Table 22-5](#).

Table 22-5 Supported Service Events for Generic U-VNE

Event Name	Supported	Expedited
Device Unreachable	Y	N
Discard Packets	Y	N
Dropped Packets	Y	N
Port Flapping	Y	N
Port Down	Y	N

Generic U-VNE—Limitations

The generic U-VNE uses MIB2 to cover the widest possible range of NEs. Although MIB2 is a widely accepted industry standard, most network equipment vendors augment MIB2 with other Management Interfaces such as private MIBs, Telnet, XML, and so on. In addition, different vendors sometimes have different implementations of standard MIBs. As a result, even the limited model created by the generic U-VNE is dependent on the vendor's adherence to general network management standards.

Generic U-VNE—Supported Topologies

The generic U-VNE supports the topologies listed in [Table 22-6](#).

Table 22-6 Supported Topologies for Generic U-VNE

Topology Type	Link Type	Supported
Ethernet	Ethernet	Y
Physical Layer	Ethernet	Y

Generic U-VNEs—Supported Technologies

The following sections list the objects and attributes that are recognized on generic U-VNEs per technology:

- [IP](#), page 22-6
- [Ethernet \(IEEE 802.3\)](#), page 22-7
- [Base Logical Components](#), page 22-7
- [Common](#), page 22-8

IP

Table 22-7 lists the IP attribute support on generic U-VNEs.

**Note**

Table 22-7 includes the supported technologies only.

Table 22-7 IP Attribute Support on Generic U-VNEs

Attribute	Supported
IMO Name—IIPInterface	
IP Address	Y
Subnetwork Mask	Y
IP Interface Addresses Array	
Interface Name	
Interface Description	Y
IP Interface State	Y
OSPF Interface Cost	
Broadcast Address	
MTU	
Lookup Method	
Address Resolution Type	
ARP Timeout	
Secured ARP	
ICMP Mask Reply	
IGMP Proxy	
HSRP Groups	
IP Multiplexing Table	
IANA Type	
Containing CTPs	
Contained CTPs	
IMO Name—IRoutingEntity	
Routing Table	Y
ARP Entity	Y
Routing Table Changes	
Name	Y
Logical Sons	Y
IMO Name—IRoutingEntry	
Destination IP Subnet	Y

Table 22-7 IP Attribute Support on Generic U-VNEs (continued)

Attribute	Supported
Next Hop IP Address	Y
Type	Y
Routing Protocol Type	Y
Outgoing Interface Name	Y
IMO Name—IARPEntity	
ARP Table	Y
IMO Name—IARPEntity	
IP Address	Y
MAC Address	Y
Port	Y
Entry Type	Y

Ethernet (IEEE 802.3)

Table 22-8 lists the Ethernet (IEEE 802.3) attribute support on generic U-VNEs.

Table 22-8 Ethernet (IEEE 802.3) Attribute Support on Generic U-VNEs

Attribute	Supported
IMO Name—IEthernet	
MAC Address	Y
Duplex Mode	
Output Flow Control	
Input Flow Control	
IANA Type	
Containing CTPs	
Contained CTPs	
Port Type	

Base Logical Components

Table 22-9 lists the base logical attribute support on generic U-VNEs.



Note

Table 22-9 includes the supported technologies only.

Table 22-9 Base Logical Components Attribute Support on Generic U-VNEs

Attribute	Supported
IMO Name—IManagedElement	
IP Address	Y
Communication State	Y
Investigation State	Y
Element Category	Y
Element Type and Key	Y
Device Name	Y
System Name	Y
System Description	Y
Up Time	Y
Software Version	Y
Vendor Identity	
Memory and CPU Usage	
DRAM Free	
DRAM Used	
Flash Device Size	
NVRAM Size	
Processor DRAM	
Sys Contact	
Sys Location	
Serial Number	
File Systems	
IMO Name—ISystemService	
Type	
Status	
Up Time	

Common

Table 22-10 lists the common attribute support on generic U-VNEs.

**Note**

Table 22-10 includes the supported technologies only.

Table 22-10 Common Attribute Support on Generic U-VNEs

Attribute	Supported
IMO Name—IPhysicalLayer	
Media Type	
Clocking Source	
Maximum Speed	Y
Is Internal Port	
Discarded Bandwidth	
Dropped Bandwidth	
Input Bandwidth	
Output Bandwidth	
Discarded and Received Input Data Counters	Y
Dropped and Forward Output Data Counters	Y
Administrative Status	Y
Operational Status	Y
Last Changed	Y
IANA Type	
Containing CTPs	
Contained CTPs	
Port Alias	
Location	
Sending Alarms	
Connector Description	
Part ID	
Connector Serial Num	
Product	
Status	
Managed	
IMO Name—IBridgeEntry	
Destination MAC	Y
Outgoing Interface	Y

Generic U-VNE—Supported Service Events

Table 22-11 lists the supported service events on generic U-VNEs.

Table 22-11 Supported Service Events for Generic U-VNE

Event Name	Supported	Expedited
Device Unreachable	Y	N
Discard Packets	Y	N
Dropped Packets	Y	N
Port Flapping	Y	N
Port Down	Y	N

Module Templates



Note

Module templates are applicable to standard modules only (not pluggable modules). You do not need to use a module template to add a pluggable module.

Module templates define a set of port layers—from the connector at Layer 0 to encapsulation at Layer 2—that are applicable to a module. For example, typical port layers for an OC3 ATM card are:

- Layer 0—Fiber Optic
- Layer 1—OC-3
- Layer 2—ATM

Use module templates to enable developed VNEs to recognize new modules.



Note

You cannot add modules to generic U-VNEs.

Module templates ensure that each port is modeled with the correct port layer information based on the ifType obtained from the SNMP MIB output.

This section contains the following topics:

- [Module Groups and Module Specification Files, page 22-10](#)
- [Module Templates by Technology, page 22-14](#)

Module Groups and Module Specification Files



Note

Unlike the modeling that Prime Network does for standard modules, Prime Network models only the ports for pluggable modules. The only module group for pluggable modules is the pluggable-ports-spec file. The remainder of this section applies to standard modules only (not pluggable modules).

A module group is the name of a vendor-specific module specification file that is stored in the Prime Network registry. A module specification file is an XML file that lists supported modules and other properties, such as port layers and sysOID. When you use **vcb module** commands to add, modify, or delete a module:

- You provide the name of a module specification file as an argument to the **-group** option. (For more information, see [Commands for Managing Modules, page 19-10](#).)
- The VCB modifies the module specification file: adding, updating, or deleting the module definition.



Note The VCB allows you to update and delete only those modules that you added using the VCB.

Prime Network enables you to extend the following module specification files:

- ciscophysicalspec2
- ciscocatalyst3400spec
- cisco-catalyst-spec

[Table 22-12](#) summarizes the technologies that are supported and the module templates that are provided in the module specification files. For more information about a module template, use the link in the Technologies column.

Table 22-12 Module Group Summary for Standard Modules

Module Group	Technologies	Template Names
ciscophysicalspec2	Ethernet (Fixed), page 22-14	<ul style="list-style-type: none"> • A10GigaEthernet • ethernet-default-over-optic • ethernetDefault • gigaEthernet • EthernetChannelSwitchDefault
	Ethernet (Multiloader), page 22-15	<ul style="list-style-type: none"> • 10Gigaethernet- • Gigaethernet-Fiber • GE-fiberoptic-ethernet-default • ethernetDefault-RJ45-or-Fiber2 • E1orGigabitTechnology2 • GE-over-OC12-pos-default • GE-over-OC3-pos-default3 • ethernet-or-oc-pos-default3 • ethernet-or-OC12- • pos-default3 • ethernet-or-oc48- • pos-default • DWDMA10GigaEthernet
	POS (Fixed), page 22-16	<ul style="list-style-type: none"> • PPPdefaultOC48 • PPPdefault
	POS (Multiloader), page 22-17	<ul style="list-style-type: none"> • POS-OC3-default • PPPdefaultOC12 • PPPdefaultOC192 • PPPdefaultOC3 • PPPdefaultOC768 • DWDMOC768

Table 22-12 Module Group Summary for Standard Modules (continued)

Module Group	Technologies	Template Names
ciscophysicalspec2 (continued)	Channelized T1/E1 (Fixed), page 22-18	<ul style="list-style-type: none"> • RJ45-T1E1Channelized • T1E1Channelized • T1E1Channelized-ATMorCEM • E3Default • E3Loader • E1Channelized • E1Default
	Channelized OCXX (Fixed), page 22-18	<ul style="list-style-type: none"> • ChannelizedOC3 • ChannelizedOC12 • ChannelizedOC12xx • ChannelizedOCxx
	ATM (Fixed), page 22-19	<ul style="list-style-type: none"> • atmDefault • atmOverOC12 • atm-over-e3ds3 • T1E1_ATM-IMA • ds1Default • ds3Default • ads1Default
	ATM (Multiloader), page 22-19	<ul style="list-style-type: none"> • T3Channelized • T3Loader • layer2-over-ds1 • layer2-over-ds3 • layer2-over-ds3-over-bnc • pppOverDS3Default • layer2-over-e1 • HSSIDefault
	Multitechnology, page 22-20	<ul style="list-style-type: none"> • 36xxMultiTechnologiesModuleDefault • 8xxMultiTechnologiesModuleDefault • MultiTechnologiesModuleLayers • MultiTechnologiesModuleDefault2
	Serial, page 22-21	<ul style="list-style-type: none"> • PPPwithRJ11 • multichannelDefault • serialPPPDefault
	ISDN, page 22-22	<ul style="list-style-type: none"> • ds1T1Default • BRIDefault

Table 22-12 Module Group Summary for Standard Modules (continued)

Module Group	Technologies	Template Names
ciscophysicalspec2 (continued)	Generic, page 22-22	<ul style="list-style-type: none"> • TSLineDefault • generic-port1 • voiceEMDefault
ciscocatalyst3400spec	Ethernet (Cisco Catalyst 3400), page 22-23	<ul style="list-style-type: none"> • cisco-3400-MultiTechnologiesModuleDefault • cisco-3400-ethernetDefault- • RJ45-or-Fiber
cisco-catalyst-spec	Ethernet (Cisco Catalyst), page 22-23	<ul style="list-style-type: none"> • EthernetDefault • FastEthernetDefault • GigaEthernetDefault • GigaEthernetOnCopper • giga-ethernet

Module Templates by Technology

This section presents module templates organized by technology:

- [Ethernet \(Fixed\), page 22-14](#)
- [Ethernet \(Multiloader\), page 22-15](#)
- [POS \(Fixed\), page 22-16](#)
- [POS \(Multiloader\), page 22-17](#)
- [Channelized T1/E1 \(Fixed\), page 22-18](#)
- [Channelized OCXX \(Fixed\), page 22-18](#)
- [ATM \(Fixed\), page 22-19](#)
- [ATM \(Multiloader\), page 22-19](#)
- [Multitechnology, page 22-20](#)
- [Serial, page 22-21](#)
- [ISDN, page 22-22](#)
- [Generic, page 22-22](#)
- [Ethernet \(Cisco Catalyst 3400\), page 22-23](#)
- [Ethernet \(Cisco Catalyst\), page 22-23](#)

Ethernet (Fixed)

[Table 22-13](#) lists module templates that support EthernetCSMA/CD at Layer 1 and a single connector type at Layer 0. When there is more than one Layer 2 option, Layer 2 is modeled based on transmission rate.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-13 Module Templates—Ethernet (Fixed)

Template Name	Layer 0	Layer 1	Layer 2	Example Modules
A10GigaEthernet	Fiber optic	EthernetCSMA/CD	10 Gigabit Ethernet	<ul style="list-style-type: none"> WS-SUP32-10GE-3B 7600-ES+2TG
ethernet-default-over-optic	Fiber optic	EthernetCSMA/CD	<ul style="list-style-type: none"> Ethernet Fast Ethernet Gigabit Ethernet 	<ul style="list-style-type: none"> WS-6700-DFC3B WS-6700-DFC3BXL
ethernetDefault	RJ45	EthernetCSMA/CD	<ul style="list-style-type: none"> Ethernet Fast Ethernet Gigabit Ethernet 	<ul style="list-style-type: none"> 8FE-TX-RJ45 SPA-8X1FE-TX-V2
gigaEthernet	Fiber optic	EthernetCSMA/CD	Gigabit Ethernet	<ul style="list-style-type: none"> WS-X4624-SFP-E 7600-ES+3C
EthernetChannelSwitchDefault	RJ45	EthernetCSMA/CD	EtherChannel	NM-16ESW

Ethernet (Multiloader)

Table 22-14 lists Ethernet module templates that support multiple options at more than one port layer.

Module Group

These templates are defined in the ciscophysicalspec2 module group.



Note

In addition to Ethernet, some module templates in Table 22-14 also support POS or DWDM ports. (See the footnotes for Table 22-14.)

Table 22-14 Module Templates—Ethernet (Multiloader)

Template Name	Layer 0	Layer 1	Layer 2	Example Modules
10Gigaethernet-Gigaethernet-Fiber ¹	<ul style="list-style-type: none"> Fiber optic RJ45 	EthernetCSMA/CD	<ul style="list-style-type: none"> 10 Gigabit Ethernet Gigabit Ethernet 	<ul style="list-style-type: none"> 76-ES+XC-20G3C WS-X45-SUP6-E WS-X4606-X2-E
GE-fiberoptic-ethernet-default ²	RJ45	EthernetCSMA/CD	<ul style="list-style-type: none"> Ethernet Fast Ethernet 	catalyst375024ME (cevModuleCat375024M)
	Fiber optic		<ul style="list-style-type: none"> Gigabit Ethernet 	
ethernetDefault-RJ45-or-Fiber ²	<ul style="list-style-type: none"> Fiber optic RJ45 	EthernetCSMA/CD	<ul style="list-style-type: none"> Ethernet Fast Ethernet Gigabit Ethernet 	<ul style="list-style-type: none"> WS-X4232-RJ-XX WS-X4524-GB-RJ45V
E1orGigabitTechnology ²	<ul style="list-style-type: none"> RJ45 Fiber optic 	EthernetCSMA/CD	<ul style="list-style-type: none"> Ethernet Fast Ethernet 	Motherboard for 2941 (cevCpu2941)
	<ul style="list-style-type: none"> RJ48 	DS1/E1	<ul style="list-style-type: none"> Gigabit Ethernet 	

Table 22-14 Module Templates—Ethernet (Multiloader) (continued)

Template Name	Layer 0	Layer 1	Layer 2	Example Modules
GE-over-OC12-pos-default ³	Fiber optic	OC12	<ul style="list-style-type: none"> • PPP • HDLC 	OSM-4OC12-POS-SI+
		EthernetCSMA/CD	<ul style="list-style-type: none"> • Gigabit Ethernet 	
GE-over-OC3-pos-default ³	Fiber optic	OC3	<ul style="list-style-type: none"> • PPP • HDLC 	OSM-4OC3-POS-SI+
		RJ45	<ul style="list-style-type: none"> • Gigabit Ethernet 	
ethernet-or-oc-pos-default ³	Fiber optic	OC3	<ul style="list-style-type: none"> • PPP • HDLC 	OSM-2+4GE-WAN+
		EthernetCSMA/CD	<ul style="list-style-type: none"> • Fast Ethernet • Gigabit Ethernet • 10 Gigabit Ethernet 	
ethernet-or-OC12-pos-default ³	Fiber optic	OC12	<ul style="list-style-type: none"> • PPP • HDLC 	<ul style="list-style-type: none"> • OSM-2OC12-POS-SI • OSM-2OC12-POS-SI+
		EthernetCSMA/CD	<ul style="list-style-type: none"> • Fast Ethernet • Gigabit Ethernet • 10 Gigabit Ethernet 	
ethernet-or-oc48-pos-default	Fiber optic	OC48	<ul style="list-style-type: none"> • PPP • HDLC 	OSM-1OC48-POS-SI+
		EthernetCSMA/CD	<ul style="list-style-type: none"> • Fast Ethernet • Gigabit Ethernet • 10 Gigabit Ethernet 	
DWDMA10GigaEthernet ⁴	Fiber optic	<ul style="list-style-type: none"> • DWDM • EthernetCSMA/CD 	10 Gigabit Ethernet	<ul style="list-style-type: none"> • 76-ES+XT-2TG3CXL • 76-ES+XT-4TG3C

1. The connector type is modeled as RJ45 only for a Gigabit Ethernet port that is not pluggable. The connector type for other Gigabit Ethernet and 10 Gigabit Ethernet ports is modeled as fiber optic.
2. The connector type is modeled based on transmission rate.
3. This module template supports either Ethernet or POS ports.
4. This module template supports either Ethernet or DWDM ports.

POS (Fixed)

Table 22-15 lists POS module templates that support fixed Layer 0 (fiber optic) and Layer 1 (OC3, OC12, or OC48) options.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-15 Module Templates—POS (Fixed)

Template Name	Maximum Transmission Rate (Mbps) Supported	Layer 0	Layer 1	Layer 2	Example Modules
PPPdefaultOC48	2488.32	Fiber optic	OC48	<ul style="list-style-type: none"> • PPP • HDLC • Frame relay 	<ul style="list-style-type: none"> • SFP-OC48-IR1 • gsr-e-qoc48-sm-lr-sc • 16OC48-POS/DPT
PPPdefault	155.52	Fiber optic	OC3	<ul style="list-style-type: none"> • PPP • HDLC • Frame relay 	<ul style="list-style-type: none"> • GSR-SFC6 • GSR-CSC

POS (Multiloader)

Table 22-16 lists templates for POS modules with multiple Layer 2 options.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-16 Module Templates—POS (Multiloader)

Template Name	Maximum Transmission Rate (Mbps) Supported	Layer 0	Layer 1	Layer 2	Example Modules
POS-OC3-default	155.52	Fiber optic	OC3	<ul style="list-style-type: none"> • PPP • HDLC • Frame Relay 	—
PPPdefaultOC12	622.08	Fiber optic	OC12	<ul style="list-style-type: none"> • PPP • HDLC • Frame Relay 	SPA-8XOC12-POS
PPPdefaultOC192	9,953.28	Fiber optic	OC192	<ul style="list-style-type: none"> • PPP • HDLC 	SPA-OC192POS-LR
PPPdefaultOC3	155.52	Fiber optic	OC3	<ul style="list-style-type: none"> • PPP • HDLC • Frame Relay 	<ul style="list-style-type: none"> • SFP-OC3-SR • SFP-OC3-IR1
PPPdefaultOC768	39,813.12	Fiber optic	OC768	<ul style="list-style-type: none"> • PPP • HDLC • Frame Relay 	1OC768-ITU/C
DWDMOC768	39,813.12	Fiber optic	OC768	<ul style="list-style-type: none"> • PPP • HDLC 	—

Channelized T1/E1 (Fixed)

Table 22-17 lists templates for channelized T1/E1 modules where port layers are fixed.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-17 Module Templates—Channelized T1/E1 (Fixed)

Template Name	Maximum Transmission Rate (Mbps) Supported	Layer 0	Layer 1	Layer 2	Example Modules
RJ45-T1E1Channelized	1.544	RJ45	T1E1	—	SPA-8XCHT1/E1
T1E1Channelized	1.544	RJ48	T1E1	—	<ul style="list-style-type: none"> NM-2CE1T1-PRI PA-MC-4T1
T1E1Channelized-ATMorCEM ¹	1.544	RJ48	T1E1	—	HWIC-4T1/E1
E3Default	44.736	BNC	DS3	—	ESR-8E3/DS3
E3Loader	44.736	BNC	DS3	—	—
E1Channelized	1.544	RJ48	E1	—	PA-8CE1
E1Default	1.544	RJ45	E1T1	—	VWIC2-1MFT-T1E1

1. Layer 2—ATM or CEM—is built at runtime.

Channelized OCXX (Fixed)

Table 22-18 lists templates for Optical Carrier modules where port layers are fixed.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-18 Module Templates—Channelized OCXX (Fixed)

Template Name	Maximum Transmission Rate (Mbps) Supported	Layer 0	Layer 1	Layer 2	Example Modules
ChannelizedOC3	155.52	Fiber optic	OC3	—	—
ChannelizedOC12	622.08	Fiber optic	OC12	—	—
ChannelizedOC12xx	622.08	Fiber optic	OC12	—	SPA-1XCHOC12/DS0
Note See CSCtd93353 in CDETs.					
ChannelizedOCxx	155.52	Fiber optic	OC3	—	<ul style="list-style-type: none"> SPA-1XCHSTM1/OC3 SPA-CHOC3-CE-ATM
Note See CSCtd93353 in CDETs.					

ATM (Fixed)

Table 22-19 lists templates for ATM modules where port layers are fixed.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-19 Module Templates—ATM (Fixed)

Template Name	Maximum Transmission Rate (Mbps) Supported	Layer 0	Layer 1	Layer 2	Example Modules
atmDefault	155.52	Fiber optic	OC3	ATM	GSR-SFC12410
atmOverOC12	—	Fiber optic	OC12	ATM	<ul style="list-style-type: none"> SPA-1XOC12-ATM-V2 SPA-1XOC12-ATM
atm-over-e3ds3	—	RJ48	DS3	ATM	—
T1E1_ATM-IMA	1.544	RJ48	T1E1	ATM	—
ds1Default	—	BNC	DS1	ATM	—
ds3Default	—	BNC	DS3	ATM	PA-A3-T3
adslDefault	—	RJ11	ADSL	ATM	<ul style="list-style-type: none"> WIC-1SHDSL WIC-1ADSL WIC-1ADSL-DG

ATM (Multiloader)

Table 22-20 lists templates for ATM modules with multiple Layer 2 options.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-20 Module Templates—ATM (Multiloader)

Template Name	Maximum Transmission Rate (Mbps) Supported	Layer 0	Layer 1	Layer 2	Example Modules
T3Channelized ¹	—	BNC	DS3	<ul style="list-style-type: none"> PPP HDLC Frame relay ATM 	<ul style="list-style-type: none"> SPA-2XCT3/DS0 PA-2T3/E3-EC
T3Loader	—	BNC	DS3	<ul style="list-style-type: none"> PPP HDLC Frame relay 	—

Table 22-20 Module Templates—ATM (Multiloader) (continued)

Template Name	Maximum Transmission Rate (Mbps) Supported	Layer 0	Layer 1	Layer 2	Example Modules
layer2-over-ds1	1.544	RJ48	DS1	<ul style="list-style-type: none"> • PPP • HDLC • Frame relay • ATM 	VVIC-2MFT-T1-DIR
layer2-over-ds3	44.736	RJ48	DS3	<ul style="list-style-type: none"> • PPP • HDLC • Frame relay • ATM 	<ul style="list-style-type: none"> • NM-1A-E3 • NM-1T3/E3
layer2-over-ds3-over-bnc	44.736	BNC	DS3	<ul style="list-style-type: none"> • PPP • HDLC • Frame relay • ATM 	—
pppOverDS3Default	44.736	BNC	DS3	<ul style="list-style-type: none"> • PPP • HDLC 	<ul style="list-style-type: none"> • copper-6ds3 • copper-12ds3 • 2DS3-SMB • NM-4T
layer2-over-e1	1.544	RJ48	E1	<ul style="list-style-type: none"> • PPP • HDLC • Frame relay • ATM 	NM-1CE1T1-PRI
HSSIDefault	—	DB50	HSSI	<ul style="list-style-type: none"> • PPP • HDLC • Frame relay 	—

1. This module template supports both full and channelized T3 and ATM over T3.

Multitechnology

Table 22-21 lists multitechnology templates, including the following, which support modules where the connector type is not determined:

- MultiTechnologiesModuleLayers
- MultiTechnologiesModuleDefault



Note Do not use these templates unless no other template matches the modules to be added.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-21 *Module Templates—Multitechnology*

Template Name	Layer 0	Layer 1	Layer 2	Example Modules
36xxMultiTechnologiesModuleDefault ¹	RJ45	<ul style="list-style-type: none"> EthernetCSMA/CD 	<ul style="list-style-type: none"> Fast Ethernet Gigabit Ethernet 	—
		<ul style="list-style-type: none"> Serial 	<ul style="list-style-type: none"> PPP HDLC Frame relay 	
8xxMultiTechnologiesModuleDefault	RJ45	<ul style="list-style-type: none"> EthernetCSMA/CD 	<ul style="list-style-type: none"> Fast Ethernet Gigabit Ethernet 	—
		<ul style="list-style-type: none"> Serial 	<ul style="list-style-type: none"> PPP HDLC Frame relay 	
MultiTechnologiesModuleLayers ²	<ul style="list-style-type: none"> RJ11 RJ45 RJ48 Fiber optic DB60 	<ul style="list-style-type: none"> EthernetCSMA/CD DS1 E1 OC3 ADSL Serial 	<ul style="list-style-type: none"> Fast Ethernet Gigabit Ethernet PPP HDLC Frame relay ATM 	OSM-1CHOC12/T3-SI
MultiTechnologiesModuleDefault ²	<ul style="list-style-type: none"> RJ11 RJ45 RJ48 Fiber optic DB60 	<ul style="list-style-type: none"> EthernetCSMA/CD DS1 E1 OC3 ADSL Serial 	<ul style="list-style-type: none"> Fast Ethernet Gigabit Ethernet PPP HDLC Frame relay ATM 	gsr-sfc16-oc192

1. This module template primarily supports Cisco 3600 series modules.

2. Use this template only when no other template matches the modules to be supported.

Serial

Table 22-22 lists templates that provide support for modules with serial interfaces when the information for Layer 1 is not clear.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-22 Module Templates—Serial

Template Name	Layer 0	Layer 1	Layer 2	Example Modules
PPPwithRJ11	RJ11	Serial	PPP	WIC-1AM-V2
multichannelDefault	RJ48	Serial	PPP	—
serialPPPIDefault	<ul style="list-style-type: none"> • RJ45 • RJ48 • Fiber optic • DB60 • Generic connector 	Serial	<ul style="list-style-type: none"> • PPP • HDLC • Frame relay 	<ul style="list-style-type: none"> • HWIC-4T • NM-2W • WIC-SERIAL-1T

ISDN

Table 22-23 lists templates for ISDN modules.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-23 Module Templates—ISDN

Template Name	Maximum Transmission Rate (kbps) Supported	Layer 0 ¹	Layer 1	Layer 2	Example Modules
ds1T1Default	—	<ul style="list-style-type: none"> • RJ45 • RJ48 • DB60 • Fiber optic 	<ul style="list-style-type: none"> • DS1 • E1 • EthernetCSMA/CD 	ISDN	—
BRIDefault	64	RJ45	ISDN layer 1	ISDN layer 2	WIC-1B-U-V2

1. The connector type is modeled based on the type of port.

Generic

Table 22-24 lists generic templates. Use them to configure modules for technologies that Prime Network does not support.

Module Group

These templates are defined in the ciscophysicalspec2 module group.

Table 22-24 Module Templates—Generic

Template Name	Layer 0	Layer 1	Layer 2	Example Modules
TSLineDefault ¹	Generic connector	Generic Layer 1	—	<ul style="list-style-type: none"> NM-16A NM-32A
generic-port ¹	Generic connector	Generic Layer 1	Generic Layer 2	—
voiceEMDefault ²	RJ45	Generic Layer 1	Generic Layer 2	<ul style="list-style-type: none"> VIC-EM VIC-4VP-FXS-DID

1. This template provides support for modules whose technologies are not currently supported in Prime Network.

2. This template provides support for voice modules.

Ethernet (Cisco Catalyst 3400)

[Table 22-25](#) lists templates that support modules for the Cisco Catalyst 3400 device group.

Module Group

These templates are defined in the ciscocatalyst3400spec module group.

Table 22-25 Module Templates—Ethernet (Cisco Catalyst 3400)

Template Name	Layer 0	Layer 1	Layer 2	Example Modules
cisco-3400-MultiTechnologiesModuleDefault	RJ45	EthernetCSMA/CD	Ethernet	3400 fixed modules
Note Not recommended for 10/100/1000 Ethernet ports. Instead, use cisco-3400-ethernetDefault-RJ45-or-Fiber. (See CSCtd93353 in CDETs.)				
cisco-3400-ethernetDefault-RJ45-or-Fiber	<ul style="list-style-type: none"> RJ45 Fiber optic 	EthernetCSMA/CD	<ul style="list-style-type: none"> Ethernet FastEthernet GigaEthernet 	3400 fixed modules

Ethernet (Cisco Catalyst)



Note

For modules in the Cisco Catalyst 3400 device group, see [Ethernet \(Cisco Catalyst 3400\)](#).

[Table 22-26](#) lists templates that support modules for Cisco Catalyst devices.

Module Group

These templates are defined in the cisco-catalyst-spec module group.

Table 22-26 Module Templates—Ethernet (Cisco Catalyst)

Template Name	Layer 0	Layer 1	Layer 2	Example Modules
EthernetDefault	RJ45	EthernetCSMA/CD	Ethernet	<ul style="list-style-type: none"> WS-C3560G-24TS WS-SUP720-3BXL
FastEthernetDefault Note See CSCtd93353 in CDETs.	RJ45	EthernetCSMA/CD	FastEthernet	<ul style="list-style-type: none"> WS-X4148-RJ ws-c2924-x1-v
GigaEthernetDefault Note See CSCtd93353 in CDETs.	RJ45	EthernetCSMA/CD	GigaEthernet	<ul style="list-style-type: none"> WS-F6K-MSFC2A OSM-2+4GE-WAN+
GigaEthernetOnCopper	UTP	EthernetCSMS/CD	GigaEthernet	Catalyst 6500 Supervisor Module 720 base board
giga-ethernet	Fiber optic	EthernetCSMA/CD	GigaEthernet	<ul style="list-style-type: none"> cat6k-wsx-6066-slb-apc wsx6ksup1a2ge wsx6ksup22ge

Event Templates

Event templates work together to extract information from a syslog or a trap and to generate the keys and the location ID for associating a Prime Network event with a managed element device component. For more information, see the following sections:

- [Terminology Used in Event Templates, page 22-24](#)
- [Supported Interface Types, page 22-25](#)
- [Event Templates Functional Summary, page 22-25](#)
- [Event Templates Input Summary—Required and Optional Input, page 22-27](#)

For information about specific template types, see the following sections:

- [Event Identification Templates, page 22-29](#)
- [Unique ID Templates—for Traps Only, page 22-31](#)
- [Event Subtype Templates, page 22-32](#)
- [Entity ID Templates—for Traps Only, page 22-34](#)
- [Entity Key Templates, page 22-35](#)
- [Prime Network Event Templates, page 22-37](#)

Terminology Used in Event Templates

The following terms are used in the tables in this section.

Entity ID

The entity ID identifies the entity in the VNE with which to associate the event. For example, for interface-based events, ifIndex or ifName can be used as the entity ID.

Unique ID

The unique ID is used to create a unique location for the event when association to the exact entity is not possible. For example, when associating BGP traps to the Managed Element, the neighbor IP address can be used as the unique ID.

Supported Interface Types

The VCB can automatically identify the following interface types and associates events to them:

- Ether Channel
- GRE Tunnel
- DSO Bundle
- MPLSTunnel
- IMA Group
- MLPPP
- CEM Group
- IpInterface (Loopback, Vlan, all other subinterfaces)

For other interface types, the VCB associates the event to the layer 1 device component.

Event Templates Functional Summary

Event templates extract information and generate keys to associate an event with the correct VNE or U-VNE component. [Table 22-27](#) lists event templates (by type) and explains what each template does.

Table 22-27 Event Template Functions

Template	Performs This Function for a...	
	Syslog	Trap
Event Identification Templates—Mandatory. Use one.		
snmp-trap-identification	—	Extracts information that identifies an event
syslog-identification	Extracts: <ul style="list-style-type: none"> • Information that identifies an event • Event subtypes • Entity ID • Unique ID 	—
Event Subtype Templates—Optional. Use one if there are subtypes for the event.		
snmp-trap-subtype-from-oid	—	<ul style="list-style-type: none"> • Extracts subtype information from the event • Maps the subtype values to the event subtypes defined in Prime Network
snmp-trap-subtype-from-trapoid		
snmp-trap-subtype-from-value		

Table 22-27 Event Template Functions (continued)

Template	Performs This Function for a...	
	Syslog	Trap
syslog-subtype-from-expression	Maps the subtype values—extracted by the syslog-identification template—to the event subtypes defined in Prime Network	—
Unique ID Templates—Optional. Use one when you cannot associate the event to an exact entity.		
snmp-trap-identifier-from-oid	—	Extracts the unique ID
snmp-trap-identifier-from-value	—	—
Entity ID Templates—Optional. Use one when you can associate the event to an exact entity.		
snmp-trap-entity-from-oid	—	Extracts the entity ID
snmp-trap-entity-from-value	—	—
Entity Key Templates—Mandatory. Use one.		
create-managedelement-key	<ul style="list-style-type: none"> Creates the device component key Associates the event with the Managed Element device component 	
create-interface-key-from-ifindex	—	<p>Creates the interface device component key from the ifIndex, using the entity ID that was extracted by an entity ID template (snmp-trap-entity-from-oid or snmp-trap-entity-from-value)</p> <p>Associates the event with the appropriate interface layer; see Supported Interface Types, page 22-25</p>
create-interface-key-from-ifname	<ul style="list-style-type: none"> Creates the interface device component key from the ifname, using the entity ID that was extracted by: <ul style="list-style-type: none"> syslog-identification template for a syslog an entity ID template (snmp-trap-entity-from-oid or snmp-trap-entity-from-value) for a trap Associates the event with the appropriate interface layer; see Supported Interface Types, page 22-25 <p>Note This template is more frequently used with syslogs than with traps.</p>	

Table 22-27 Event Template Functions (continued)

Template	Performs This Function for a...	
	Syslog	Trap
Prime Network Event Templates—Mandatory. Use one.		
create-ana-trap-event	—	Creates both of the following: <ul style="list-style-type: none"> • A unique location for the event, based on the entity ID (device component key) or the unique ID (extracted by an entity ID or a unique ID template) • Prime Network event, using subtypes extracted by an event subtype template: <ul style="list-style-type: none"> – snmp-trap-subtype-from-oid – snmp-trap-subtype-from-trapoid – snmp-trap-subtype-from-value
create-ana-syslog-event	Creates both of the following: <ul style="list-style-type: none"> • A unique location for the event, based on entity ID (device component key) or unique ID (extracted by the syslog-identification template). • Prime Network event, using subtypes extracted by the syslog-identification template 	—

For the input required for each template, see [Event Templates Input Summary—Required and Optional Input, page 22-27](#).

Event Templates Input Summary—Required and Optional Input

Table 22-28 summarizes event templates and the mandatory and optional input arguments for them.

Table 22-28 Event Template Variables

Templates	Variable Name	Variable Type	Variable Description
Event Identification Templates			
syslog-identification	expression	Mandatory	Regular expression to match against the incoming syslog message.
	testmessage	Optional	String that is an example of the actual syslog message.
snmp-trap-identification	oid	Mandatory	SNMP trap OID.

Table 22-28 Event Template Variables (continued)

Templates	Variable Name	Variable Type	Variable Description
Unique ID Templates			
snmp-trap-identifier-from-oid	inOID	Mandatory	Partial string that uniquely identifies the required OID in the varbind list.
	index	Optional	Used to create a unique location ID for the event when association to the exact entity is not possible. Default value is 1.
snmp-trap-identifier-from-value	inOID	Mandatory	Partial string that uniquely identifies the required OID in the varbind list.
Event Subtype Templates			
snmp-trap-subtype-from-oid	inOID	Mandatory	Partial string that uniquely identifies the required OID in the varbind list.
	replacing-rules		Defines mapping between event subtype and value in the trap that indicates the subtype. The subtype names provided in replacing-rules must match the subtype names used to add the event using the vcb event add command. To view event subtypes, use the vcb event view command.
	index	Optional	Used to create a unique location ID for the event when association to the exact entity is not possible. Default value is 1.
snmp-trap-subtype-from-trapoid	replacing-rules	Mandatory	Defines the mapping between event subtype and value in the trap that indicates the subtype.
snmp-trap-subtype-from-value	inOID	Mandatory	Partial string that uniquely identifies the required OID in the varbind list.
	replacing-rules		Defines the mapping between event subtype and value in the trap that indicates the subtype.
syslog-subtype-from-expression	replacing-rules	Mandatory	Defines the mapping between event subtype and value in the trap that indicates the subtype.
Entity ID Templates			
snmp-trap-entity-from-oid	inOID	Mandatory	Partial string that uniquely identifies the required OID in the varbind list.
	index	Optional	Used to create a unique location ID for the event when association to the exact entity is not possible. Default value is 1.
snmp-trap-entity-from-value	inOID	Mandatory	Partial string that uniquely identifies the required OID in the varbind list.
Entity Key Templates			
create-interface-key-from-ifindex	—	—	—
create-interface-key-from-ifname	—	—	—
create-managedelement-key	—	—	—

Table 22-28 Event Template Variables (continued)

Templates	Variable Name	Variable Type	Variable Description
Prime Network Event Templates			
create-ana-trap-event	type	Mandatory	Event name, a string that must match the event name used to create the Prime Network event using the vcb event add command.
	subtype	Mandatory for INFO events only	Event subtype name, a string that must match the subtype name used to create the Prime Network event using the vcb event add command.
create-ana-syslog-event	type	Mandatory	Event name, a string that must match the event name used to create the Prime Network event using the vcb event add command.
	subtype	Mandatory for INFO events only	Event subtype name, a string that must match the subtype name used to create the Prime Network event using the vcb event add command.

Event Identification Templates

Event identification templates are mandatory. You must use one of these templates:

- [snmp-trap-identification, page 22-29](#)
- [syslog-identification, page 22-30](#)

snmp-trap-identification

This template supports SNMP V1, V2, and V3 traps. Any incoming SNMP V1 traps are converted automatically to SNMP V2 and then parsed as SNMP V2 traps. (The first rule in this template is the conversion rule.)

Mandatory Input

oid—The trap OID. [Table 22-29](#) describes how to format the OID for different traps.

Table 22-29 Template Input—snmp-trap-identification

If the OID...	Format Input Like This...	Example Input String
Is for a V1 trap	Supply the enterprise OID appended by 0 and then by the specific type.	—
Contains subtype information as these do: <ul style="list-style-type: none"> • mplsLdpLibLspUp - 1.3.6.1.4.1.9.10.65.2.0.5 • mplsLdpLibLspDown - 1.3.6.1.4.1.9.10.65.2.0.6 	Remove subtype information from the input string.	1.3.6.1.4.1.9.10.65.2.0

Table 22-29 Template Input—snmp-trap-identification

If the OID...	Format Input Like This...	Example Input String
Is an informational trap as this one is: mplsLdpPathVectorLimitMismatch - 1.3.6.1.4.1.9.10.65.2.0.2	Supply the entire OID.	1.3.6.1.4.1.9.10.65.2.0.2
Does not contain subtype information; however, subtype information is contained in one of the varbinds: demandNbrLayer2Change - 1.3.6.1.4.1.9.9.26.2.0.3 The subtype for this trap is a varbind: isdNlapdOperStatus.	Supply the entire OID.	1.3.6.1.4.1.9.9.26.2.0.3

syslog-identification

This template supports syslogs. This template contains a single rule that extracts not only event identification information, but also subtype, unique ID, and entity ID when they are available for the event.

Mandatory Input

expression—A regular expression to be matched against the incoming syslog message.

The input string need not be a complete regular expression. It can be a partial syslog message with the parameters in which you are interested marked using keywords. Replace event-specific parameters in the syslog message with the following keywords:

- `%%subtypekey%%`—Use when the substring represents an event subtype.
- `%%uniqueid%%`—Use when the substring represents a parameter that uniquely identifies the event.
- `%%entityid%%`—Use when the substring represents the associated entity of the event.

For example, for the following syslogs:

```
%C6KENV-4-CLOCKFAILED: clock [dec] failed
```

```
%C6KENV-4-CLOCKKOK: clock [dec] operational
```

you could provide the following input string:

```
%C6KENV-4-CLOCK%%subtypekey%%: clock %%uniqueid%%
```

There are no `%%entityid%%` parameters in this example, because this syslog must be associated with the ManagedElement device component.

The VCB uses the input string to automatically create a regular expression:

```
“.*%C6KENV-4-CLOCK(\S+):clock (\S+).*”
```

There are instance when we require more than one input to uniquely identify the entity in the VNE. VCB allows you to subscript the keywords `%%entityid%%` and `%%uniqueid%%` with integers in order to specify more than one input that constitutes the entityid, for example, `%%entityid1%%`, `%%entityid2%%`.

For example, for EFP syslogs:

`%ETHER_SERVICE-6-UPDOWN`: Service instance 111 on interface GigabitEthernet10/0/3 changed to down.

Here, service instance id and interface name are inputs required to uniquely identify the EFP instance in the VNE. Read the template documentation to determine which variable should be marked as `entityid1` and which should be marked `entityid2`.

Optional Input

testmessage—An input string that supplies an example of the actual syslog message. For example:

`%C6KENV-4-CLOCKFAILED`: clock 1 failed

If supplied, VCB checks this test message against the automatically created regular expression.

Input Format

`-syslog_identification_expression` *regular_expression*

`-syslog_identification_testmessage` *message*

Unique ID Templates—for Traps Only



Note

For syslogs, unique ID information is extracted by the event identification template. For more information, see [Event Identification Templates, page 22-29](#).

The unique ID differentiates a particular instance of an event from other events of the same type. This parameter is required when:

- It is not possible to associate the event to the appropriate device component in the VNE for some reason, possibly one of the following:
 - The device component is not modeled due to lack of technology support.
 - The corresponding key generation template is not available.
- A unique ID is not required at this time. For example, when Prime Network associates interface traps to a managed element device component, the `ifIndex` or `ifName` is the unique ID. Prime Network automatically appends this unique ID to the location, thereby creating a unique location for each interface despite associating the event with a common entity, the managed element device component.

These templates differ in the way the information is extracted from the trap; select and use only one of the following:

- [snmp-trap-identifier-from-oid, page 22-31](#)
- [snmp-trap-identifier-from-value, page 22-32](#)

snmp-trap-identifier-from-oid

The rules in this template extract the unique identifier from one of the OIDs in the `varbind` list of the trap.

Mandatory Input

inOID—A partial string that uniquely identifies the required OID in the `varbind` list.

Optional Input

index—The location of the required value from the end of the OID. Default value is 1.

Input Format

```
-snmp_trap_identifier_from_oid_inOID OID
-snmpt_trap_identifier_from_oid_index indexValue
```

snmp-trap-identifier-from-value

The rules in this template extract the unique identifier from the value of one of the OIDs in the varbind list.

Mandatory Input

inOID—A partial string that uniquely identifies the required OID in the varbind list.

Input Format

```
-snmp_trap_identifier_from_value_inOID OID
```

Event Subtype Templates

Use an event subtype template when configuring a trap or a syslog that includes event subtypes. For example, you should use an event subtype template when events arrive as a multistatus set or in asserted and cleared pairs, as is the case with link status traps. Link status traps send Link Down and Link Up traps, two subevents that are related to the same event:

- An asserted event indicates that the link is down.
- A clearing event indicates that the link status has changed to up.

Event subtype templates do the following:

- Extract event subtype information for traps. (For syslogs, event subtype information is extracted by the syslog-identification template; see [syslog-identification, page 22-30](#).)
- Map the subtype value to the event subtype name defined in Prime Network.

When subtypes exist for a trap, use one of these event subtype templates:

- [snmp-trap-subtype-from-oid, page 22-32](#)
- [snmp-trap-subtype-from-trapoid, page 22-33](#)
- [snmp-trap-subtype-from-value, page 22-33](#)

When subtypes exist for a syslog, use this template:

- [syslog-subtype-from-expression, page 22-34](#).

snmp-trap-subtype-from-oid

The rules in this template extract event subtype information from one of the OIDs in the varbind list of the trap.

Mandatory Input

inOID—A partial string that uniquely identifies the required OID in the varbind list.

replacing-rules—Replacing rules define the mapping between the event subtype and the value in the trap that indicates the subtype.

The format for a rule is *value-event subtype*. The hyphen between the value and the event subtype is mandatory. Rules must be comma-separated.

**Note**

Supply the same event subtype that was defined for the event with the **vcb event add** command. Use the **vcb event view** command to obtain a list of subtypes.

Optional Input

index—The location of the required value from the end of the OID. Default value is 1.

Input Format

```
-snmp_trap_subtype_from_oid_inOID OID
-snm_trap_subtype_from_oid_index indexValue
-snm_trap_subtype_from_oid_replacing_rules value-subtype, value-subtype, value-subtype
```

**Note**

The hyphen between value and subtype is required.

snmp-trap-subtype-from-trapoid

The rules in this template extract event subtype information from one of the OIDs in the varbind list of the trap.

Mandatory Input

replacing-rules—Replacing rules define the mapping between the event subtype and the value in the trap that indicates the subtype.

The format for a rule is *value-event subtype*. Rules must be comma-separated.

**Note**

Supply the same event subtype that was defined for the event with the **vcb event add** command. Use the **vcb event view** command to obtain a list of subtypes.

Input Format

```
-snmp_trap_subtype_from_trapoid_replacing_rules value-subtype, value-subtype, value-subtype
```

snmp-trap-subtype-from-value

The rules in this template extract the event subtype information from the value of one of the OIDs in the varbind list.

Mandatory Input

- **inOID**—A partial string that uniquely identifies the required OID in the varbind list.
- **replacing-rules**—Replacing rules define the mapping between the event subtype and the value in the trap that indicates the subtype.

The format for a rule is *value-event subtype*. Rules must be comma-separated.

**Note**

Supply the same event subtype that was defined for the event with the **vcb event add** command. Use the **vcb event view** command to obtain a list of subtypes.

Input Format

```
-snmp_trap_subtype_from_value_inOID inOID
-snmp_trap_subtype_from_value_replacing_rules value-subtype, value-subtype,
value-subtype
```

syslog-subtype-from-expression

The rules in this template extract the event subtype information from the value of one of the OIDs in the varbind list.

Mandatory Input

replacing-rules—Replacing rules define the mapping between the event subtype and the value in the trap that indicates the subtype.

The format for a rule is *value-event subtype*. Rules must be comma-separated.

**Note**

Supply the same event subtype that was defined for the event with the **vcb event add** command. use the **vcb event view** command to obtain a list of subtypes.

Input Format

```
-syslog_subtype_from_expression_replacing_rules value-subtype, value-subtype,
value-subtype
```

Entity ID Templates—for Traps Only

**Note**

For syslogs, entity ID information is extracted by an event identification template. For more information, see [Event Identification Templates, page 22-29](#).

The entity ID specifies the device component to which the event should be associated in the VNE. These templates differ in the way that the information is extracted from the trap:

- [snmp-trap-entity-from-oid, page 22-35](#)
- [snmp-trap-entity-from-value, page 22-35](#)

snmp-trap-entity-from-oid

The rules in this template extract the entityID from the one of OIDs in the varbind list of the trap.

Mandatory Input

inOID—A partial string that uniquely identifies the required OID in the varbind list

Optional Input

index—The location of the required value from the end of the OID. Default value is 1.

Input Format

```
-snmp_trap_entity_from_oid_inOID inOID
```

snmp-trap-entity-from-value

The rules in this template extract the entity ID from the value of one of the OIDs in the varbind list.

Mandatory Input

inOID—A partial string that uniquely identifies the required OID in the varbind list

Input Format

```
-snmp_trap_entity_from_value_inOID inOID
```

Entity Key Templates

Selecting a template from this category is mandatory. Entity key templates use the entity ID information—extracted using other templates—to generate a key to uniquely identify the device component in the VNE. The event is later associated with the corresponding device component.

For templates that extract the entity ID, see [syslog-identification, page 22-30](#) and [Entity ID Templates—for Traps Only, page 22-34](#).

Select one of the following templates:

- [create-interface-key-from-ifindex, page 22-36](#)
- [create-interface-key-from-ifname, page 22-36](#)
- [create-managedelement-key, page 22-36](#)
- [create-efp-key-from-ifname-serviceid, page 22-36](#)
- [create-logical-container-key, page 22-36](#)
- [create-moduleDC-key-given-entPhysicalIndex, page 22-36](#)
- [create-moduleDC-with-slotSubslot-value-key, page 22-37](#)
- [create-pw-interface-key-from-tunnelindex, page 22-37](#)

create-interface-key-from-ifindex

This template creates the interface device component key from the ifIndex and associates the event with the appropriate interface layer.

No input is required.

create-interface-key-from-ifname

This template creates the interface device component key from an ifName and associates the event with the appropriate interface layer.

No input is required.

create-managedelement-key

This template creates the managed element device component key, associating the event with the managed element device component.

No input is required.

create-efp-key-from-ifname-serviceid

This template creates the EFP DC key from the Service Instance+ifName.



Note

The service instance ID should be marked as %%entityid1%% and interface name as %%entityid2%% in the syslog expression given by the user.

The event will be associated with particular EFP DC. For example, consider the following:

Syslog Feb 8 11:04:18 MSK: %ETHER_SERVICE-6-UPDOWN: Service instance 214 on interface TenGigabitEthernet3/3 changed to up

The syslog expression for this should be given as %ETHER_SERVICE-6-UPDOWN: Service instance %%entityid1%% on interface %%entityid2%% change to %%subtypekey%%.

No input is required.

create-logical-container-key

This template associates syslog/trap events to the designated containers, as preferred.

Containers list:

CfmService,BfdService,MPBgp,REPSservice,StpService,SbcService,EthernetLMI,ISISSystem,LSE,ClockService. Provide the desired logical container string, from the containers list.

Requires mandatory user input.

create-moduleDC-key-given-entPhysicalIndex

This template associates trap events to the designated moduleDC, when its observed entPhysicalIndex of Entity-MIB, through mib instrumentation queries from the device; Is given as the input for the desired module entity.

No input is required.

create-moduleDC-with-slotSubslot-value-key

This template associates syslog events to the corresponding module, knowing the residing slot number. For example, Syslog message "%OIR-6-REMCARD: Card removed from slot 4, interfaces disabled" USER_INPUT_MANDATORY <- %OIR-6-REMCARDCARD: Card removed from slot%%entityid%%, interfaces disabled entityid <- 4

No input is required.

create-pw-interface-key-from-tunnelindex

This template associates trap events to the designated pseudowire tunnel interface. To achieve this, provide the appropriate oid of the var bind for the trap to be associated with this pseudowire tunnel interface while providing inputs for "snmp-trap-entity-from-oid" template. The tunnel interface index provided by "snmp-trap-entity-from-oid" template, becomes the automatic input to the current "create-pw-interface-key-from-tunnelindex" template.

No input is required.

Prime Network Event Templates

These templates create a unique location ID for the event using the device component key and unique ID information created in the previous rules.

create-ana-trap-event

Template to create a unique location ID for a Prime Network trap event.

Mandatory Input

type—A string that specifies the event name.



Note This string should match the event name that was used to create the Prime Network event using the **vcb event add** command. View the event name using the **vcb event view** command.

Optional Input

subtype—A string that specifies the event subtype name.



Note The subtype parameter is mandatory for INFO events because INFO events do not have subtypes. For events that have subtypes, the subtype parameter is not needed.

Input Format

```
-create_ana_trap_event_type type
-create_ana_trap_event_subtype subtype
```

create-ana-syslog-event

Template to create a unique location ID for a Prime Network syslog event.

Mandatory Input

type—A string that specifies the event name. Mandatory for an INFO event only.



Note This string should match the event name used for creating the Prime Network event using the **vcb event add** command.

Optional Input

subtype—A string that specifies the event subtype name.



Note The subtype parameter is mandatory for INFO events because INFO events do not have subtypes. For events that have subtypes, the subtype parameter is not needed.

Input Format

```
-create_ana_syslog_event_type type
-create_ana_syslog_event_subtype subtype
```



Note For more information about **vcb eventparsingrules** commands, see [vcb eventparsingrules Commands, page 20-21](#).
