Support Information for RAD Devices

This chapter contains support information for Virtual Network Elements (VNEs) that manage RAD devices in Prime Network Version 4.0.

Note For more information about the objects and attributes described in this chapter, see Cisco *Prime Network 4.0 Supported Cisco VNEs, Cisco Prime Network 4.0 Supported Service Alarms, Cisco Prime Network 4.0 Supported System and Security Events*, and *Cisco Prime Network 4.0 Supported Technologies and Topologies* in the *Cisco Prime Network 4.0 Documentation Guide.*

This chapter contains the following topics:

RAD ACE-3000-Series Cell-Site Gateway

This section includes the following information about RAD ACE-3000-Series Cell-Site Gateway devices (for information on the NE types supported in Prime Network Version 4.0, see RAD ACE-3000-Series Cell-Site Gateway):

RAD ACE CSG-Series—Supported Software Versions

Table 9-1 Supported Software Versions for RAD ACE CSG-Series—Prime Network Version 4.0

Software Version	Product Version	DP Version
RadOS V5.4	3.7.2	2.0
RadOS V6.1	3.7.2	2.0

RAD ACE CSG-Series—Supported Topologies

Table 9-2 Supported Topologies for RAD ACE CSG-Series—Prime Network Version 4.0

Topology Type	Link Type	Product Version	DP Version
Ethernet	Ethernet	3.7.2	1.0
ATM	ATM	3.7.2	2.0
ATM	PNNI	3.7.2	2.0
MPLS	MPLS	3.7.2	2.0
PWE3 (Martini)	Tunnel	3.7.2	2.0
GRE Tunnel	GRE Tunnel	3.7.2	2.0
Physical Layer	Physical Layer	3.7.2	2.0

RAD ACE CSG-Series—Supported Modules

Table 9-3 Supported Modules for RAD ACE CSG-Series—Prime Network Version 4.0

Module Name	Product Version	Module Description	DP Version
ACE-3205	3.7.2	Cell-Site Gateway	1.0
ACE-3105	3.7.2	Cell-Site Gateway	2.0
ACE-3100	3.7.2/3.7.3	Cell-Site Gateway	4.0
ACE-3200	3.7.2/3.7.3	Cell-Site Gateway	4.0

RAD ACE CSG-Series—Supported Technologies

The following technologies are supported by the RAD ACE CSG-Series in Prime Network Version 4.0:

- IP, page 9-7
- Ethernet, page 9-10

RAD ACE CSG-Series—Supported Service Events

Table 9-4 Supported Service Events for RAD ACE CSG-Series—Prime Network Version 4.0

Event Name	Product Version	Expedited	DP Version
GRE tunnel down	3.7.2	N	3.0
GRE tunnel up	3.7.2	N	3.0
LDP neighbor down	3.7.2	N	2.0
LDP neighbor up	3.7.2	N	2.0
Link Down	3.7.2	N	2.0
Link up	3.7.2	N	2.0

RAD ETX-Series Carrier Ethernet Demarcation Device

This section includes the following information about RAD ETX-Series devices (for information on the NE types supported in Prime Network Version 4.0, see RAD ETX-Series Carrier Ethernet Demarcation Device):

RAD ETX-Series—Supported Software Versions

Table 9-5 Supported Software Versions for RAD ETX-Series—Prime Network Version 4.0

Software Version	Product Version	DP Version
ETX V2.2	3.7.2	2.0

RAD ETX-Series—Supported Modules

Table 9-6 Supported Modules for RAD ETX-Series—Prime Network Version 4.0

Module Name	Product Version	Module Description	DP Version
ETX-204AW (Wide Box)	3.7.2	Carrier Ethernet Demarcation Device	2.0
ETX-204A (Short Box)	3.7.2/3.7.3	Carrier Ethernet Demarcation Device	4.0

RAD ETX-Series—Supported Technologies

The following technologies are supported by the RAD ETX-Series in Prime Network Version 4.0:

- Ethernet (IEEE 802.3ad), page 9-8
- Ethernet(IEEE 802.3), page 9-9
- Ethernet, page 9-10
- Hardware, page 9-15
- Serial, page 9-16

RAD ETX-Series—Supported Service Events

Table 9-7 Supported Service Events for RAD ETX-Series—Prime Network Version 4.0

Event Name	Product Version	Expedited	DP Version
Link Down	3.7.2	N	2.0
Link Up	3.7.2	N	2.0

RAD IPmux-4L TDM Pseudowire Access Gateway

This section includes the following information about RAD IPmux-4L devices (for information on the NE types supported in Prime Network Version 4.0, see RAD IPmux-4L TDM Pseudowire Access Gateway):

RAD IPmux-4L—Supported Software Versions

Table 9-8 Supported Software Versions for RAD IPmux-4L—Prime Network Version 4.0

Software Version	Product Version	DP Version
1.00	3.7.2	2.0

RAD IPmux-4L—Supported Modules

Table 9-9 Supported Modules for RAD IPmux-4L—Prime Network Version 4.0

Module Name	Product Version	Module Description	DP Version
IPmux-4L	3.7.2	TDM Pseudowire Access Gateway. It also offers Ethernet based Access services	2.0

RAD IPmux-4L—Supported Technologies

The following technologies are supported by the RAD IPmux-4L in Prime Network Version 4.0:

RAD IPmux-4L—Supported Service Events

Table 9-10 Supported Service Events for RAD IPmux-4L—Prime Network Version 4.0

Event Name	Product Version	Expedited	DP Version
Link Down	3.7.2	N	2.0
Link Up	3.7.2	N	2.0

RAD LA-210 EFM DSL Network Termination Unit

This section includes the following information about RAD LA-210 devices (for information on the NE types supported in Prime Network Version 4.0, see RAD LA-210 EFM DSL Network Termination Unit):

RAD LA-210—Supported Software Versions

Table 9-11 Supported Software Versions for RAD LA-210—Prime Network Version 4.0

Software Version	Product Version	DP Version
LA-210 V2.6	3.7.2	2.0
LA-210 V2.7	3.7.2	2.0

RAD LA-210—Supported Modules

Table 9-12 Supported Modules for RAD LA-210—Prime Network Version 4.0

Module Name	Product Version	Module Description	DP Version
LA-210	3.7.2	EFM DSL Network Termination Unit	2.0

RAD LA-210—Supported Technologies

The following technologies are supported by the RAD LA-210 in Prime Network Version 4.0:

RAD LA-210—Supported Service Events

Table 9-13 Supported Service Events for RAD LA-210—Prime Network Version 4.0

Event Name	Product Version	Expedited	DP Version
Link Down	3.7.2	N	2.0

Table 9-13 Supported Service Events for RAD LA-210—Prime Network Version 4.0 (Continued)

Event Name	Product Version	Expedited	DP Version
Link Up	3.7.2	N	2.0

Supported Technologies on RAD Devices

The following sections list the objects and attributes that are supported on RAD devices in Cisco Product Version 3.7.2 and 3.7.3 per technology:

IP

The following table (Table 9-14) lists the ip protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-14 IP Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IIPInterface				
IP Address	Y			
Subnetwork Mask	Y			
Interface Name	Y			
IP Interface State	Y			
IMO Name—IRoutingEntity				
Routing Table	Y			

Table 9-14 IP Attribute Support on RAD Devices—Prime Network Version 4.0 (Continued)

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IRoutingEntry				
Destination IP Subnet	Y			
Next Hop IP Address	Y			
Type	Y			
Routing Protocol Type	Y			
Outgoing Interface Name	Y			
IMO Name—ITunnelGRE				
Name	Y			
Tunnel Destination and Source	Y			
IP Address	Y			

Ethernet (IEEE 802.3ad)

The following table (Table 9-15) lists the ethernet (ieee 802.3ad) protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-15 Ethernet (IEEE 802.3ad) Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—ILinkAggregationGroup802dot3ad				
dot3adAggMACAddress				Y
dot3adAggActorSystemPriority				Y
dot3adAggActorSystemID				Y
dot3adAggActorAdminKey				Y
dot3adAggActorOperKey				Y
dot3adAggPartnerSystemID				Y
dot3adAggPartnerSystemPriority				Y
dot3adAggPartnerOperKey				Y
GroupNumber				Y

Table 9-15 Ethernet (IEEE 802.3ad) Attribute Support on RAD Devices—Prime Network Version 4.0 (Continued)

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
AggregationProtocolType				Y
MacAddress				Y
ChannelAdminStatus				Y
ChannelOperStatus				Y
IMO Name—ILagPortEntry				
Selected and Attached Aggregation Identification				Y
Actor Port				Y
Actor Port Priority				Y
Partner Admin and Oper Port[1]				Y
Partner Admin and Oper Port Priority[2]				Y
Actor and Partner Admin States				Y
Actor and Partner Oper States				Y

1. ETX-Series supports only Partner Oper Port.
2. ETX-Series supports only Partner Oper Port Priority.

Ethernet(IEEE 802.3)

The following table (Table 9-17) lists the ethernet (IEEE 802.3) protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-16 Ethernet (IEEE 802.3)Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—ILagPortEntry				
Selected and Attached Aggregation Identification				Y
Actor Port				Y
Actor Port Priority				Y

Table 9-16 Ethernet (IEEE 802.3)Attribute Support on RAD Devices—Prime Network Version 4.0 (Continued)

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
Partner Admin and Oper Port				Y
Partner Admin and Oper Port Priority				Y
Actor and Partner Admin States				Y
Actor and Partner Oper States				Y

Ethernet

The following table (Table 9-17) lists the ethernet protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-17 Ethernet Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IEthernet				
MAC Address	Y		Y	Y
Duplex Mode	Y	Y	Y	Y
IMO Name—IVlanInterface				
Mode		Y	Y	
Virtual LAN Table		Y	Y	
IANA Type		Y	Y	
vlanencapType		Y	Y	
IMO Name—IIEEE802				
VLAN Identification		Y	Y	
IMO Name—ILinkAggregationGroup802dot3ad				
dot3adAggMACAddress				Y
dot3adAggActorSystemPriority				Y
dot3adAggActorSystemID				Y
dot3adAggActorAdminKey				Y
dot3adAggActorOperKey				Y

Table 9-17 Ethernet Attribute Support on RAD Devices—Prime Network Version 4.0 (Continued)

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
dot3adAggPartnerSystemID				Y
dot3adAggPartnerSystemPriority				Y
dot3adAggPartnerOperKey				Y
GroupNumber				Y
AggregationProtocolType				Y
MacAddress				Y
ChannelAdminStatus				Y
ChannelOperStatus				Y

ATM

The following table (Table 9-18) lists the atm protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-18 ATM Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IAtm				
VC Table	Y			
Cross-Connect Table	Y			
IMO Name—IAtmVc				
Virtual Channel Identifier	Y			
Virtual Path Identifier	Y			
Operational Status	Y			
IMO Name—IIMAGroup				
Description	Y			
Admin Status	Y			
Oper Status	Y			
Oper Status Last Change	Y			
GroupNumber	Y			

Table 9-18 ATM Attribute Support on RAD Devices—Prime Network Version 4.0 (Continued)

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
ImaVersion	Y			
ConfiguredBandwidth	Y			
NumberOfLinks	Y			
NumberOfActiveLinks	Y			
MinimumNumberOfTxLinks	Y			
MinimumNumberOfRxLinks	Y			
ClockMode	Y			
FrameLength	Y			
interfaceName	Y			
groupStatus	Y			
IANA Type	Y			
Ima Group Rx Speed	Y			
Ima Group Tx Speed	Y			
IMO Name—IAtmTrafficDescriptor				
Traffic Descriptor Type	Y			
Service Category	Y			
Cell Loss Priority	Y			
Cell Delay Variation Tolerance	Y			
Maximum High Priority and Aggregate Cell Rates	Y			
Minimum High Priority and Aggregate Cell Rates	Y			
Sustainable High Priority and Aggregate Cell Rates	Y			
Peak High Priority and Aggregate Cell Rates	Y			
Index	Y			
IMO Name—IVcSwitchingEntity				
Cross Connect Table	Y			

xDSL

The following table (Table 9-19) lists the dsl protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-19 DSL Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IDsl / IIdsl / ISdsl / Ishdsl				
Same as IPhysicalLayer	Y		Y	
IMO Name—IADsl				
Same as IDsl	Y			
IMO Name—IADsl2				
Same as IADsl	Y			

TDM/DSx

The following table (Table 9-20) lists the TDM/DSx protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-20 TDM/DSx Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IDS1Pdh / IDS3Pdh				
Framing Type	Y	Y		
Loopback Type	Y	Y		
Same as IPhysicalLayer	Y	Y		

MPLS

The following table (Table 9-21) lists the mpls protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-21 MPLS Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—ILse				
LDP Service	Y			
IMO Name—ILdpService				
Local Identification Status	Y			
LDP Peers	Y			
IMO Name—ILdpPeer				
Peer Identification	Y			
Distribution Method	Y			
Protocol Type	Y			
Session Status	Y			
Protocol Version Hold Time	Y			
Hold Time	Y			
Keep Alive Time	Y			

PWE3

The following table (Table 9-22) lists the pwe3 protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-22 PWE3 Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IPTPLayer2MplsTunnel				
Local and Remote Router Addresses	Y			
Local and Remote Virtual Connection Labels	Y			
Tunnel Identification	Y			
Tunnel Status	Y			
PsuedowireType	Y			
LocalMTU	Y			
RemoteMTU	Y			

Table 9-22 PWE3 Attribute Support on RAD Devices—Prime Network Version 4.0 (Continued)

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
LocalVcLabel	Y			
PeerVcLabel	Y			

Hardware

The following table (Table 9-23) lists the hardware protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-23 Physical Equipment Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IChassis				
Description	Y	Y	Y	Y
Equipment Holder Type	Y	Y	Y	Y
IMO Name—IModule				
Module Name	Y	Y	Y	Y
Module Description	Y	Y	Y	Y
Software Version	Y	Y	Y	Y
Operational Status	Y	Y	Y	Y
Hardware Type & Version	Y	Y	Y	Y
IMO Name—IManagedElement				
IP Address	Y	Y	Y	Y
Communication State	Y	Y	Y	Y
Investigation State	Y	Y	Y	Y
Element Category	Y	Y	Y	Y
Element Type and Key	Y	Y	Y	Y
Device Name	Y	Y	Y	Y
Device Series	Y	Y	Y	Y
System Name	Y	Y	Y	Y
System Description	Y	Y	Y	Y

Table 9-23 Physical Equipment Attribute Support on RAD Devices—Prime Network Version 4.0 (Continued)

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
Up Time	Y	Y	Y	Y
Software Version	Y	Y	Y	Y
Vendor Identity	Y	Y	Y	Y
Sys Contact	Y	Y	Y	Y
Sys Location	Y	Y	Y	Y
IMO Name—IPower Supply				
Voltage names	Y	Y	Y	Y
Voltage Description	Y	Y	Y	Y
Voltage Status	Y	Y	Y	Y
Voltage Type	Y	Y	Y	Y
IMO Name—IFan				
Fan Name	Y		Y	Y
Fan Value	Y		Y	Y
IMO Name—IBridge				
Type		Y	Y	
Name		Y	Y	

Serial

The following table (Table 9-24) lists the serial protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-24 Common Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IPhysicalLayer				
Media Type	Y	Y	Y	
Clocking Source	Y	Y		
Maximum Speed	Y	Y	Y	Y

Table 9-24 Common Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
Administrative Status	Y	Y	Y	Y
Operational Status	Y	Y	Y	Y
IANA Type	Y	Y	Y	Y
Connector Description	Y	Y	Y	Y
IMO Name—IVcSwitchingEntity				
Cross Connect Table	Y			

Additional Technologies

The following table (Table 9-25) lists the additional technologies protocols attributes that are supported on RAD devices in Prime Network Version 4.0 per technology:

Table 9-25 Additional Technologies Attribute Support on RAD Devices—Prime Network Version 4.0

Attributes	ACE CSG-Series	IPmux-4L	LA-210	ETX-Series
IMO Name—IIMAGroup				
Ima Group Rx Speed	Y			
Ima Group Tx Speed	Y			
IMO Name—IADSL2+				
Adsl2+ Maximum Rx Speed	Y			
Adsl2+ Maximum Tx Speed	Y			
IMO Name—ISHDSL				
Shdsl Speed	Y			