



Attribute Reference

This appendix is intended as a reference for the objects and object attributes that are used by the This is the name of the product (EM, SA, or software package).

The attribute tables in this section follow a convention that will help you easily identify important information such as derived values and mandatory attributes.

Table A-1 Cisco NI-2 DSLAM Equipment Module Attribute Reference Tables

Element Type	Element Name	Table
Fabric Elements	Network	Table A-4
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Table Conventions

The following codes refer to attribute behavior. They appear on a separate row in the attribute column for each attribute.

Table A-2 Attribute Behavior Codes

Code	Description
M	Attribute is Mandatory.

Table A-2 Attribute Behavior Codes

Code	Description
R W C	R—Attribute is read-only.
	W—Attribute is writable.
	C—Attribute is writable upon creation, and read-only thereafter.
A RDP	A—Attribute is autogenerated.
	RDP—Reverse Data Path. Attribute value is retrieved from the element or network management system after you create the corresponding object.
P	Attribute can be profiled.

**Note**

Some attributes contain restrictions or dependencies that are out of the scope of the above table conventions. In this case, the restriction or dependency will be included with the attribute description in the table or in a footnote.

Object Viewer Common Attributes

Many object viewers will contain the following attributes under the tab “Common Attributes.” This information is extracted from the attribute reference tables later in this section and is displayed here. “Name” is always required.

Table A-3 Attributes Common to All Object Viewers

Attribute	Acceptable Values
Name [sname] Specify the name of the profile, object, network, etc. M	Text string (up to 24 characters)
Customer [vpn] Specify the customer name. The customer field, like the Domain field, is used for CPC security purposes. It identifies the Service object with a customer and is used as a tag to give operators access to this customer’s Service object. Refer to the <i>CPC Installation and Administration Guide</i> for details.	Text string (up to 16 characters)
Domain [domain] This is the management domain name. It identifies a geographical or organizational scope for operator access control and corresponds to the MD tag within the CPC security procedure. Refer to the <i>CPC Installation and Administration Guide</i> for details.	Text string (up to 16 characters)
Profile [srprofile.sy_profname] Specify the profile to be used to create the logical port or service element	Text string (up to 32 characters)

Object Classification and Object Attribute Files

In this chapter, the object name and object attribute file name are provided for each object. Object attribute files (OAF) are located in the \$CCP_BIN directory on a CPC client installation

The OAFs list the attribute name, the FTI name, whether or not the attribute is used as a selector on a subset viewer, the read/write setting of the attribute, the syntax and a default value, if one is specified.

To view the contents of the OAFs:

- Step 1** Navigate to the \$CCP_BIN directory. The CPC environment must be sourced in order to use the \$CCP variables.

```
cd $CCP_BIN
```

- Step 2** All of the OAFs for each equipment module and service application are listed in this directory. Obtain a listing of the OAFs that are specific to the Cisco WAN Manager Equipment Module.

```
ls C2*
```

- Step 3** Use your text editor or the more command to view the files.

```
more C2alATMLogicalPort.oaf
```

Network

Object Name: C2ntNetwork

OAF: C2ntNetwork.oaf

Network objects are classes of managed objects that are collections of interconnected telecommunications and management objects (logical and physical) capable of exchanging information. Networks can be nested within other (larger) networks.

A network object is created to represent an actual network in the CPC database. A network object is required to perform an upload of network elements.

Table A-4 Cisco NI-2 DSLAM Network Attributes

Attributes	Acceptable Values	Default Value
Common Attributes		
Name [srname] The network name. M W	Text string (up to 64 characters)	
Customer [vpn] Specify the customer name. The customer field, like the Domain field, is used for CPC security purposes. It identifies the Service object with a customer and is used as a tag to give operators access to this customer's Service object. W	Text string (up to 64 characters)	

Table A-4 Cisco NI-2 DSLAM Network Attributes (continued)

Attributes	Acceptable Values	Default Value
Domain [domain] This is the management domain name. It identifies a geographical or organizational scope for operator access control and corresponds to the MD tag within the CPC security procedure. W	Text string (up to 64 characters)	
Common Parameters		
Containing Network [srsubnet.srname] The name of the network of which this network object is a subnet. R RDP	Text string (up to 64 characters)	
Transit Cost [srcost] The cost of crossing the sub-network. This attribute is used by the Threader to determine the lowest cost path when threading a service. M R	0-2147483647	500
Class [srclass] The CPC class name for the network object. R A	C2nt	C2nt
Opaque [sropaque] The threading strategy (opaque or transparent). If this attribute is set to FALSE, the standard ATM Threader is able to thread connections through subtended configurations. R	True, False	False
Use Backup EMS [srusebackupems] Specify whether or not to use a backup EMS. Disabled to use the primary EMS. Enabled to use the backup EMS. R	True, False	False
Resource Map [srrmap] This attribute is an integer used to carry a bit map of services supported by this Network. W	0-2147483647	\$*
Pre-provisioned [srpreprov] This attribute is not used. R	Full, Init, None	None

Node

Object Name: C2ndNode

OAF:C2ndNode.oaf

Node objects are classes of managed objects representing telecommunications equipment or TMN entities within the telecommunications network that perform managed element functions (i.e., they provide support and/or Services to the subscriber). Nodes communicate with the manager over one or more management interfaces for the purposes of being provisioned.

A node object is created to represent an actual Cisco 6260/6160/6130 DSLAM in the CPC database. This object is required to perform an upload of network elements.

Table A-5 Cisco NI-2 DSLAM (Node) Attributes

Attributes	Acceptable Values	Default Value
Common Attributes		
Containing Network [srnetwork.srname] The network that contains the node. M C RDP	Text string (up to 64 characters)	
Management Address [srmgmtaddress] The IP address or symbolic name for the primary system controller. M C	Text string (up to 32 characters)	
Transit Cost [srcost] The cost of crossing the sub-network. This attribute is used by the Threader to determine the lowest cost path when threading a service. M W	0-2147483647	1000
Node Type [srtype] This specifies the equipment type. R	Text string (up to 24 characters)	Cisco6000NI2
Class [srclass] The CPC class name for the node object. R	C2nd	C2nd
Containing Region [srarea] The name of the administrative area containing the node (a LATA, for example). W	Text string (up to 32 characters)	
Geographical Location [srgeogloc] The geographical location of the node (for example, a GPS reference). W	Text string (up to 32 characters)	
Organizational Location [srgloc] The organizational location of the node (for example, a Cisco 6100 directory reference). W	Text string (up to 64 characters)	
Pre-provisioned [srpreprov] Not supported in this release. R	Init, Full, None	None

Table A-5 Cisco NI-2 DSLAM (Node) Attributes (continued)

Attributes	Acceptable Values	Default Value
<p>Upload State [srustate]</p> <p>This attribute indicates when a site should be uploaded. Required indicates the site definitely needs uploading. Indeterminate indicates the site may need uploading. Not_Required means the site does not need uploading.</p> <p>Not_Applicable indicates that this class (e.g., a specific subclass of a network or node superclass) is not a site and does not have upload capability.</p> <p>A successfully completed Upload will set the status to Not_Required. CPC will also set the upload status attribute to Required when it detects that a failed transaction cannot rollback.</p> <p>R W</p>	Required, Not_Required, Indeterminate	
<p>Upload State Modification Time [srustime]</p> <p>The time and date that the upload state was last modified.</p> <p>R M</p>	Text string (up to 24 characters)	
<p>Last Successful Upload Time [sruntime]</p> <p>Specify the date and time of the last upload.</p> <p>R M</p>	Text string (up to 24 characters)	
<p>Last Upload Type [srutype]</p> <p>Specify the last upload type.</p>	Text string (up to 16 characters)	
Cisco IOS		
<p>User Name [c2user]</p> <p>The user name used for IOS access to the DSLAM.</p> <p>M W</p>	Text string (up to 24 characters)	
<p>Access Password [c2password]</p> <p>Password for IOS access to the DSLAM.</p> <p>M W</p>	Text string (up to 12 characters)	
<p>Enable Password [c2enablepwd]</p> <p>The enable password used to access the DSLAM configuration.</p> <p>M W</p>	Text string (up to 12 characters)	
<p>Chassis Type [c2chassistype]</p> <p>The DSLAM chassis type. Initially, you must set this attribute to "unknown". The upload process will set this attribute depending on the uploaded hardware.</p> <p>R</p>	C6260, C6160, C6130, C6100, C6015, unknown	unknown

Table A-5 Cisco NI-2 DSLAM (Node) Attributes (continued)

Attributes	Acceptable Values	Default Value
Subtend ID [c2_subtendid] The subtend ID should be unique within the subtend tree. Nodes connected to the trunk must have their subtend ID set to 0. A Subtend ID should be unique in a subtended tree. R	Text string (up to 32 characters)	0
IOS Version [c2_iosversion] The IOS version being used to communicate with the node. R	Text string (up to 34 characters)	
Host Name [c2_hostname] The system's network name. R	Text string (up to 64 characters)	

DSL Template

Object Name: C2dsDSLTemplate

OAF: C2dsDSLTemplate.oaf

DSL templates are profiles that define attributes for DSL physical ports. The Cisco NI-2 DSLAM uses templates to configure DSL physical ports rather than configuring them directly (direct configuration of port parameters is not allowed). These templates are uploaded during fabric element upload and can be associated with more than one DSL physical port. When the profile is modified, the modification affects all ports using the profile. Each port references a default profile. You can modify the default profile but you cannot delete it. This is useful when you want to modify one or two default parameters and apply this to every port in the system rather than creating a new profile and applying it to every port.

For this release, only the default DSL Template can be modified through CPC.

Table A-6 Cisco NI-2 DSLAM DSL Template Attributes

Attributes	Acceptable Values	Default Value
Common Attributes		
DSL Template Name [sname] Profile name. This name must be unique within a node. R	Text string (up to 24 characters).	
Alarms Enabled [c2alarms] Indicates if alarms are enabled for the card. R	FALSE, TRUE.	TRUE
Payload Scrambling Enabled [c2scrambling] Indicates if the payload scrambling feature is enabled. R	FALSE, TRUE	TRUE

Table A-6 Cisco NI-2 DSLAM DSL Template Attributes (continued)

Attributes	Acceptable Values	Default Value
Customer [vpn] Specify the customer name. The customer field, like the Domain field, is used for CPC security purposes. It identifies the Service object with a customer and is used as a tag to give operators access to this customer's Service object.	Text string (up to 16 characters).	
Domain [domain] This is the management domain name. It identifies a geographical or organizational scope for operator access control and corresponds to the MD tag within the CPC security procedure.	Text string (up to 16 characters)	
Profile [srprofile.sy_profname] The profile the DSL Template is using. R	Text string (up to 32 characters)	
Contained By		
Network [srnode.srnetwork.srname] The containing network object. R	Text string (up to 32 characters)	
Node [srnode.srname] The containing node object. R	Text string (up to 32 characters)	
DMT Parameters		
Operating Mode [c2d_opmode] The operating mode of the port. R	t1, g.lite, g.dmt, auto.	auto
Overhead Framing Mode [c2d_framing] The overhead framing mode used by the port. R	mode1, mode2, mode3	mode1
Training Mode [c2d_training] The training mode used by the port. R	quick, standard.	standard
Trellis Coding Enabled [c2d_tcoding] Indicates if Trellis Coding is enabled on the port. R	TRUE, FALSE	FALSE
Upstream/Downstream Interleaved FEC Check (bytes) [c2d_az_ilvfec][c2d_za_ilvfec] This is the interleaved FEC check (redundancy), in bytes. R	0-2147483647	16

Table A-6 Cisco NI-2 DSLAM DSL Template Attributes (continued)

Attributes	Acceptable Values	Default Value
Upstream/Downstream Interleaved Delay (microseconds) [c2d_az_ilvdelay][c2d_za_ilvdelay] This is the upstream/downstream interleaving delay (microseconds), R	16000, 8000, 4000, 2000, 1000, 500, 0	16000
Upstream/Downstream Signal-to-Noise Ratio Margin (db) [c2d_az_margin][c2d_za_margin] This is upstream/downstream signal-to-noise ration margin (dB), R	0-15	6
Upstream/Downstream Minimum Interleaved Path Bit [c2d_az_minlrate] [c2d_za_minlrate] This is the upstream/downstream minimum interleaved path bit rate (kb/s). R	:0~864, 32increments	0
Upstream/Downstream Maximum Interleaved Path Bit [c2d_az_maxlrate] [c2d_za_maxlrate] This is the upstream/downstream maximum interleaved path bit rate (kb/s), range:0~1024, 32increments R	0-1024	128 (upstream) 640 (downstream)
Upstream/Downstream Minimum Fast Path Bit Rate (kb/s) [c2d_az_minfrate] [c2d_za_minfrate] This is the upstream/downstream minimum fast path bit rate (kb/s), range:0~8064, 32 increments R	Upstream range is 0-1024, (in increments of 32) Downstream range is 0-8064 (in increments of 32)	0
Upstream/Downstream Maximum Fast Path Bit Rate (kb/s) [c2d_az_maxlrate] [c2d_za_maxlrate] This is the upstream/downstream maximum interleaved path bit rate (kb/s), range:0~1024, 32increments R	Upstream range is 0-1024, (in increments of 32) Downstream range is 0-8064 (in increments of 32)	128 (upstream) 640 (downstream)
Upstream/Downstream Reed Solomon Codeword Size [c2d_az_cwsize] [c2d_za_cwsize] This is the upstream/downstream Reed Solomon codeword size. R	auto, 16, 8, 4, 2, 1	auto
CAP Parameters		
Interleaving Delay [c2c_ilvdelay] Specify the interleaving delay. R	none, short, long.	long

Table A-6 Cisco NI-2 DSLAM DSL Template Attributes (continued)

Attributes	Acceptable Values	Default Value
136K Additional Downstream Baud Rates [c2c_dsbaud136] 136K baud downstream rate enabled. R	TRUE, FALSE.	TRUE
17K Upstream Baud Rate Enabled [c2c_usbaud17] 17K baud upstream rate enabled. R	TRUE, FALSE.	FALSE
68K Upstream Baud Rate Enabled [c2c_usbaud68] 68K baud upstream rate enabled. R	TRUE, FALSE.	FALSE
Minimum CPE Signature Allowed [c2c_cpe] This the CPE signature R	0-127	0
Upstream/Downstream Margin [c2c_az_margin] [c2c_za_margin] This is the upstream/downstream signal-to-noise ration margin (dB). R	0-12	3 (upstream) 6 (downstream)
Upstream/Downstream Minimum Bitrates [c2c_az_minrate] [c2c_za_minrate] This is the upstream/downstream minimum bit rate (kb/s). R	0-2147483647	0
Upstream/Downstream Maximum Bitrates [c2c_az_maxrate] [c2c_za_maxrate] This is the upstream/downstream maximum bit rate (kb/s) R	0-2147483647	91 (upstream) 640 (downstream)
Upstream PSDM [c2c_az_psdm] [c2c_za_psdm] This is the downstream PSDM R	-38 ~ -53 (in increments of -3). -37 ~ -52 (in increments of -3)	-38 (upstream) -40 (downstream)
IDSL Parameters		
Bit Rate [c2i_maxbrate] IDSL maximum bit rates (kb/s) R	64, 56, 144, 128	
Interface Encapsulation Type [c2i_encap] IDSL encapsulation type. R	mux-ppp, llc-ppp, frame-relay, cisco-ppp	llc-ppp
Default Bc [c2i_fr_bc] Default Bc (bytes). R	0-32768	32768

Table A-6 Cisco NI-2 DSLAM DSL Template Attributes (continued)

Attributes	Acceptable Values	Default Value
LMI Error Threshold [c2i_frlmi_n392] Specify the LMI error threshold. R	range: 1-10	2
LMI Monitored Event Count [c2i_frlmi_n393] Specify the LMI monitored event count. R	range: 1-10	2
DCE Polling Verification Timer [c2i_frlmi_t392] Specify the DCE polling verification timer. R	range: 5-30	15
Cisco-ANSI-CCITT Type LMI [c2i_frlmi_type] Specify the Cisco-ANSI-CCITT Type LMI R	q933a, ansi, cisco, none	cisco
UPC to Use on Soft-VCs/PVCs [c2i_fr_upc] Specify the UPC to Use on Soft-VCs/PVCs R	tag, pass, drop	pass
SDSL Parameters		
Bit Rate [c2s_maxbrate] SDSL maximum bit rates (kbits/s). R	1168, 1040, 784, 528, 400, 272, 144	784

DSL Physical Port

Object Name: C2dpDSLPhysicalPort

OAF: C2dpDSLPhysicalPort.oaf

The physical port object class represents a physical (i.e., layer 1) termination point where layer 1 trails and network connections terminate. Physical port objects can support layer 2 termination points (i.e., logical ports).

A DSL physical port represents a DSL port on a Cisco 6260/6160/6130 line card. This object class can represent any of the supported xDSL cards supported by the chassis.

The Slot Number attribute contains a text string that uniquely identifies the cards within the node (e.g. this may be a sequence containing shelf number and slot number on the shelf).

Table A-7 Cisco NI-2 DSLAM DSL Physical Port Attributes

Attributes	Acceptable Values	Default Values
Common Attributes		
Port Number [srportnumber] The physical port number. R	0-2147483647	
Shelf Slot Number [srslotnumber] The physical port shelf slot number. R P	Text string (up to 16 characters)	
Port Type [srporttype] The DSL physical port type. R P	unknown, SDSL, IDSL, ADSL	ADSL
Provisionable Bandwidth (kbits/s) [srbandwidth] The bandwidth for the physical port. R P	0-2147483647	0
Max PDU size (bytes) [srmaxpdusize] This attribute is not used. R P	0-2147483647	0
Circuit ID [srsubscriberid] The circuit identification number. R	Text string (up to 32 characters).	
Class [srclass] The CPC class name for this physical port object. R P	C2dp	C2dp
Service Object ID [srsoid] The ID number of the Service object that owns this port. R	Text string (up to 44 characters).	
Protocol [srprotocol] The protocol supported by this physical port. R P	DSL	DSL
Maximum Channels [srmaxchans] This attribute is not used. R P	0-2147483647	0
EMS Name		
Administrative State P		
Resource Model Specific Map P		

Table A-7 Cisco NI-2 DSLAM DSL Physical Port Attributes (continued)

Attributes	Acceptable Values	Default Values
Service Map P		
First Channel on this Port P		
User Label [sruserlabel] Use this field to add user information. W P	Text string (up to 64 characters)	
Contained By		
Network [srnetwork.srname] This identifies the network that contains the physical port. R RDP	Text string (up to 32 characters)	
Node [srnode.srname] This identifies the node that contains the physical port. R RDP	Text string (up to 32 characters)	
MtptLink [srmlink.srname] Multipoint Link. This attribute is not used. R	Text string (up to 32 characters)	
LAN Attributes		
Maximum Incoming Bandwidth (kbits/s) [sraz_maxbandw] The maximum incoming bandwidth supported by this physical port. This value is auto-generated based on the physical port type. R P	0-2147483647	
Maximum Outgoing Bandwidth (kbits/s) [srza_maxbandw] The maximum outgoing bandwidth supported by this physical port. This value is auto-generated based on the physical port type. R P	0-2147483647	
Incoming Bandwidth (kbits/s) [sraz_bandwidth] The incoming bandwidth for this physical port. R P	0-2147483647	0
Outgoing Bandwidth (kbits/s) [srza_bandwidth] The outgoing bandwidth for this physical port. R P	0-2147483647	0
Min upstream signal-to-noise ratio margin (dB/10) [rdaz_minsnrmarg] The minimum AZ signal-to-noise ratio margin. The higher this margin is set, the more protection there is against data corruption. Higher margins support lower data rates for a given loop. R P	0-2147483647	3

Table A-7 Cisco NI-2 DSLAM DSL Physical Port Attributes (continued)

Attributes	Acceptable Values	Default Values
Min downstream signal-to-noise ratio margin (dB/10) [rdza_minsnrmarg] The minimum ZA signal-to-noise ratio margin. The higher this margin is set, the more protection there is against data corruption. Higher margins support lower data rates for a given loop. R P	0-2147483647	3
Max upstream/downstream signal-to-noise ratio margin (dB/10) [rdaz_maxsnrmarg] [rdza_maxsnrmarg] The maximum AZ/ZA signal-to-noise ratio margin. The higher this margin is set, the more protection there is against data corruption. Higher margins support lower data rates for a given loop. R P	0-310	60
Target upstream/downstream signal-to-noise ratio margin (dB/10) [rdaz_targsnrmarg] [rdza_targsnrmarg] Specify the target upstream signal-to-noise ratio margin (dB/10). R P	0-310	60
DSL Subtype [rdsubtype] The physical port's DSL subtype (e.g., CAP, DMT, G.Lite, t1 etc.) R P	Text string (up to 16 characters)	
Rate Adaption Mode [rdramode] The rate adaptation mode for the physical port. R P	Fixed, Dynamic, Startup	Fixed
MDF Reference [srmdfref] This attribute is used to hold the shelf, pair and cable name on the Main Distribution Frame to which a physical port is attached. R P	Text string (up to 64 characters)	
ADSL Channel Type [rdchantype] Specify the ADSL channel type. R P	Unknown, Interleaved, Fast	
Line Sharing Usage [srrezchanmap] This attribute is not used. R	Unknown, D, VD	
Port Reservation Lock [srlock] This attribute is used to mark an object so that it cannot be accidentally deleted. W P	Locked, Unlocked	Unlocked

Table A-7 Cisco NI-2 DSLAM DSL Physical Port Attributes (continued)

Attributes	Acceptable Values	Default Values
Cisco NI-2 DSLAM		
DSL Template [c2dsltemplate] The Cisco NI-2 DSLAM DSL template that is being used. W P	Text string (up to 32 characters)	default
Subscriber ID [c2subscriber] Specify the subscriber ID. W P	Text string (up to 64 characters)	
Card Type [c2cardtype] Line card type. The value for this attribute is uploaded. R P	unknown, ATUC-2CAP, ATUC-1-4DMT-I, ATUC-1-4DMT, ATUC-4FLEXICAP, ATUC-4FLEXIDMT , ITUC-1-18IDSL, STUC-4-2B1Q-DIR-1, ATU-1-4DMT-I-DIR , ATUC-2DMT, ATUC-1-DMT8	unknown
Card Exists [c2exist] Verify the existence of card in the physical hardware. This option is used for pre-provisioning purposes. The value for this attribute is uploaded. R P	TRUE, FALSE	FALSE

WAN Physical Port

Object Name: C2wpWANPhysicalPort

OAF: C2wpWANPhysicalPort.oaf

The physical port object class represents a physical (i.e., layer 1) termination point where layer 1 trails and network connections terminate. Physical port objects can support layer 2 termination points (i.e., logical ports).

A WAN physical port represents a WAN port on a Cisco 6260/6160/6130 NI-2 network interface card. This object class can represent the supported WAN network interface cards supported by the chassis.

The slot number attribute contains a text string that uniquely identifies the cards within the node (e.g. this may be a sequence containing shelf number and slot number on the shelf).

Port 0/0 is the internal port and is modelled as the CPU port. Port 0/1 is the trunk port. Port 0/2 is the subtending port and port 0/3 (if it exists) is the second subtending port.

Table A-8 Cisco NI-2 DSLAM WAN Physical Port Attributes

Attributes	Acceptable Values	Default Value
Common Attributes		
Port Number [srportnumber] The physical port number. R	Integer (0-2147483647).	
Shelf Slot Number [srslotnumber] The physical port shelf slot number. R	Text string (up to 16 characters).	
Port Type [srporttype] The WAN physical port type. R	CPU, OC3, E3, DS3	
Provisionable Bandwidth (kbits/s) [srbandwidth] The bandwidth for the physical port.) R	0-2147483647	0
Max PDU size (bytes) [srmaxpdu size] The maximum protocol data unit size. R	0-2147483647	53
Subscriber ID [srsubscriberid] The subscriber identification number. R	Text string (up to 32 characters)	
Class [srclass] The CPC class name for this physical port object. R	C2wp	C2wp
Service Object ID [srsoid] The ID number of the Service Object that owns this port. R	Text string (up to 44 characters)	
Protocol [srprotocol] The protocol supported by this physical port. R	None	None
Maximum Channels [srmaxchans] This attribute is not used. R	0-2147483647	0
EMS Name [sremsname] This attribute can be used to hold a second name for an object to accommodate different names in CPC and in the EMS/NMS. This attribute holds the name of the object as stored in the EMS/NMS.	Text string (up to 64 charcaters)	

Table A-8 Cisco NI-2 DSLAM WAN Physical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
Administrative State [sradmin status] Specify the administrative status of the port W	Locked, Unlocked	
Resource Model Specific Map [srrmap] Specify a resource model specific map.	0-2147483647	0
First Channel on this Pport [srstarchan] Specify the first channel on this physical port.	0-2147483647	1
Reserved Channels [srrezchanmap] This attribute is not used. R	Text string (up to 38 charcaters)	
User Label [sruserlabel] Use this field to add user information. W	Text string (up to 64 characters)	
Contained By		
Network [srnetwork.srname] This identifies the network that contains the physical port. This attribute is auto-generated based on the physical port's location. R RDP	Text string (up to 32 characters)	
Node [srnode.srname] This identifies the node that contains the physical port. This attribute is auto-generated based on the physical port's location. R RDP	Text string (up to 32 characters)	
MtptLink [srmlink.srname] Multipoint Link. This attribute is not used. R	Text string (up to 32 characters)	
Relationship Attributes		
Lower Layer Pport [srport.srname] SPCify the lower layer physical port that contains this port.	Text string (up to 32 characters)	
Peer Physical Port [srpeer.srname] Specify a peer physical port, if applicable.	Text string (up to 32 characters)	
Card [srcard.srname] Specify the card containing the physical port.		

Table A-8 Cisco NI-2 DSLAM WAN Physical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
Cisco NI-2 DSLAM		
WAN Physical Port Type [c2type] Type or role of physical port. This attribute is uploaded. R	CPU, Subtend, Trunk	
NI-2 Card Type [c2ni2type] NI-2 card type. This attribute is uploaded. R	unknown, NI-2-DS3-DS3, NI-2-155MM-DS3, NI-2-155SM-DS3, NI-2-155MM-155M M, NI-2-155SM-155SM , NI2-E3-E3	

ATM Logical Port

Object Name: C2alATMLogicalPort

OAF:C2alATMLogicalPort.oaf

The logical port object class is a layer 2 termination point that represents a communication protocol associate with a physical port. Logical ports terminate layer 2 trails and network connections. Logical ports have an associated bandwidth that is allocated to the subnetwork connections that terminate at the logical port.

An ATM logical port object represents a logical port on a Cisco 6260/6160/6130 NI-2 network interface card or line card. Only line card logical ports can be provisioned by CPC. The set of attributes modelled is intended to allow ILMI to be enabled and configured for a PVC/PVP only environment (no SVCs).

Table A-9 Cisco NI-2 DSLAM ATM Logical Port Attributes

Attributes	Acceptable Values	Default Value
Common Attributes		
Protocol [srprotocol] Protocol used for this logical port. R P	ATM	ATM
Signalling Role [rsignallingrole] This attribute is not used. R P	DCE, DTE	DCE
NNI Enable [srnnienabled] This attribute is not used. R P	TRUE, FALSE	FALSE

Table A-9 Cisco NI-2 DSLAM ATM Logical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
Admin Status [sadminstatus] The administrative status of the logical port. W P	Unlocked, Locked, Shutting Down	Unlocked
Maximum Connections [srconnections] Maximum number of VC connections that can be supported on this port. M W P	0-2147483647	
Service Object ID [srsoid] The Service object identification number that owns this port. R	Text string (up to 32 characters)	
Class [srclass] The CPC class name for this physical port object. R P	C2al	C2al
Resource Map [srrmmap] An integer used to carry a bit map of services supported by this port. R P	0-2147483647	18
Peer Logical Port [srpeer] Specify the logical port joined to this logical port by a link. W	Text string (up to 32 characters)	
QoS [srqos] Quality of Service provisioned on this logical port. W P	Text string (up to 32 characters)	
Group [srgroup] Specify the logical port group membership. W P	Text string (up to 32 characters)	
Priority [srpriority] The logical port usage priority. W P	0-2147483647	0
Multiple Service Ranges [srmultirange] Specify whether or not to enable or disable multiple service ranges. W P	TRUE, FALSE	FALSE
Multiple Fabric Ranges [sremmultirange] Specify whether or not to enable or disable multiple fabric ranges W P	TRUE, FALSE	FALSE

Table A-9 Cisco NI-2 DSLAM ATM Logical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
Multiple Reserved Ranges [srmultiresrange] Specify whether or not to enable or disable multiple reserved ranges W P	TRUE, FALSE	FALSE
User Label [sruserlabel] Use this field to add user information. This information is not interpreted by the EM W P	Text string (up to 64 characters)	
Service Map [srservermap] Map of supported service types P	Text string (up to 32 characters)	DDDDD..... ...D
Contained By		
Network [srnetwork.srname] This identifies the network that contains the logical port. M C RD	Text string (up to 32 characters)	
Node [srnode.srname] This identifies the node that contains the logical port. M C RD	Text string (up to 32 characters)	
Backup LPort [srbackupport.srname] The logical port's backup port. W	Text string (up to 32 characters)	
Physical Port [srport.srname] The containing physical port. M C RD	Text string (up to 32 characters)	
Slot Number [srport.srslotnumber] The physical port shelf slot number. R	Text string (up to 32 characters)	
Port Number [srport.srportnumber] The physical port number. R	Text string (up to 32 characters)	
EMS Name [sremsname] EMS name of the logical port. R	Text string (up to 65 characters)	
Bandwidth (Bandwidth information should be consistent with DSL template parameters for DSL physical ports)		
Incoming		
Maximum (kbits/s) [sraz_bandwidth/srza_bandwidth] Specify the maximum bandwidth (incoming and outgoing). R P	0-2147483647	

Table A-9 Cisco NI-2 DSLAM ATM Logical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
Nominal Threshold (%) [sraz_cbnt/srza_cbnt] Specify the nominal threshold percentage (incoming and outgoing). W P	0-2147483647	100
Provisionable (kbits/s) [sraz_cbw/srza_cbw] Specify the committed bandwidth (incoming and outgoing). W P	0-2147483647	0
Outgoing		
Maximum (kbits/s) [sraz_bandwidth/srza_bandwidth] Specify the maximum bandwidth (incoming and outgoing). R P	0-2147483647	
Nominal Threshold (%) [sraz_cbnt/srza_cbnt] Specify the nominal threshold percentage (incoming and outgoing). W P	0-2147483647	100
Provisionable (kbits/s) [sraz_cbw/srza_cbw] Specify the committed bandwidth (incoming and outgoing). W P	0-2147483647	0
ATM Attributes		
VPI		
ILMI ID [railmivpi] Specify the VPI ILMI ID. R P	0-2147483647	10
Max VPI bits [ramaxvpibits] Specify the maximum size of the VPI attribute (in bits). R P	0-2147483647	8
VCI		
ILMI ID [railmivci] Specify the VCI ILMI ID. R P	0-2147483647	16
Max VCI bits [ramaxvcibits] Specify the maximum size of the VCI attribute (in bits). R P	0-2147483647	14
Local Management Interface		
Management Protocol [ramgmtprotocol] The logical port's management protocol. R P	ILMI, None	None

Table A-9 Cisco NI-2 DSLAM ATM Logical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
ATM Address		
Default ATM Address Type [raaddressstype] This attribute is not used. R P	AESA, E.164, Private	AESA
Default ATM Address [raaddress] This attribute is not used. R P	Text string (up to 64 characters)	
Cisco NI-2 DSLAM		
Description [c2_description] A description of the interface. W P	Text string (up to 80 characters)	
IP Address [c2_ipaddr] ATM interface IP address. W P	Text string (up to 16 characters)	
IP Mask [c2_ipmask] ATM interface IP mask. W P	Text string (up to 16 characters)	
Unnumbered Interface [c2_unnumbered] W P	Text string (up to 40 characters)	
Inbound Access Control List [c2_acl_in] Access control list for inbound packets. C P	Text string (up to 16 characters)	
Outbound Access Control List [c2_acl_out] Access control list for outbound packets. C P	Text string (up to 16 characters)	
Logical Port Type [c2_porttype] The logical port type should comply with the DSL template associated with the containing DSL physical port or with the containing WAN port. R P	unknown, cpu, subtend, trunk, sdsl, cap, dmt, shdsl	dmt

FR Logical Port

Object Name: C2ilIDSLLLogicalPort

OAF:C2ilIDSLLLogicalPort.oaf

The logical port object class is a layer 2 termination point that represents a communication protocol associate with a physical port. Logical ports terminate layer 2 trails and network connections. Logical ports have an associated bandwidth that is allocated to the subnetwork connections that terminate at the logical port.

Table A-10 Cisco NI-2 DSLAM FR Logical Port Attributes

Attributes	Acceptable Values	Default Value
Common Attributes		
Profile [srprofile.sy_profname] The logical port profile that the logical port is using. W	Text string (up to 32 characters)	
Protocol [srprotocol] Protocol used for this logical port. R P	FR	FR
Signalling Role [rsignallingrole] This attribute is not used. R P	DCE, DTE	DCE
NNI Enable [srnnienabled] This attribute is not used. R P	TRUE, FALSE	FALSE
Admin Status [sradminstatus] The administrative status of the logical port. W P	Unlocked, Locked, Shutting Down	Unlocked
Maximum Connections [srconnections] Maximum number of VC connections that can be supported on this port. W P	0-2147483647	
Service Object ID [srsoid] The ID number of the Service object that owns this port. R	Text string (up to 32 characters)	
Class [srclass] The CPC class name for this physical port object. R P	C2il	C2il
Resource Map [srrmmap] An integer used to carry a bit map of services supported by this port. R P	0-2147483647	2
Peer Logical Port [srpeer] Specify the logical port joined to this logical port by a link. W	Text string (up to 32 characters)	

Table A-10 Cisco NI-2 DSLAM FR Logical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
QoS [srqos] Quality of Service provisioned on this logical port. W P	Text string (up to 32 characters)	
Group [srgroup] Specify the logical port group membership. W P	Text string (up to 32 characters)	
Priority [srpriority] The logical port usage priority. W P	0-2147483647	0
Multiple Service Ranges [srmultirange] Specify whether or not to enable or disable multiple service ranges. W P	TRUE, FALSE	FALSE
Multiple Fabric Ranges [sremmultirange] Specify whether or not to enable or disable multiple fabric ranges W P	TRUE, FALSE	FALSE
Multiple Reserved Ranges [srmultiresrange] Specify whether or not to enable or disable multiple reserved ranges W P	TRUE, FALSE	FALSE
User Label [sruserlabel] Use this field to add user information. This information is not interpreted by the EM W P	Text string (up to 64 characters)	
Service Map [srservmap] Map of supported service types. P	Text string (up to 32 characters)	DDDD.....DD
Contained By		
Network [srnetwork.srname] This identifies the network that contains the logical port. M C RD	Text string (up to 32 characters)	
Node [srnode.srname] This identifies the node that contains the logical port. M C RD	Text string (up to 32 characters)	
Backup LPort [srbackupport.srname] The logical port's backup port. W	Text string (up to 32 characters)	

Table A-10 Cisco NI-2 DSLAM FR Logical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
Physical Port [srport.srname] The containing physical port. M C RD	Text string (up to 32 characters)	
Slot Number [srport.srslotnumber] The physical port shelf slot number. R	Text string (up to 32 characters)	
Port Number [srport.portnumber] The physical port number. R	Text string (up to 32 characters)	
EMS Name [sremsname] EMS name of the logical port. R	Text string (up to 65 characters)	
Bandwidth		
Incoming/Outgoing Maximum (kbits/s) [sraz_bandwidth/srza_bandwidth] Specify the maximum bandwidth (incoming and outgoing). R P	0-2147483647	0
Incoming/Outgoing Nominal Threshold (%) [sraz_cbnt/srza_cbnt] Specify the nominal threshold percentage (incoming and outgoing). W P	0-2147483647	100
Incoming/Outgoing Provisionable (kbits/s) [sraz_cbw/srza_cbw] Specify the committed bandwidth (incoming and outgoing). R P	0-2147483647	0
FR Attributes		
Address Length [rfaddresslength] The FR address length. R P	2Byte10, 3Byte10, 3Byte16, 4Byte17, 4Byte23	2Byte10
Management Protocol [rfmgmtprotocol] The logical port's management protocol. R P	None, LMI, Annex A, Annex D	None
DTE Polling Interval (sec) [rfdtepollintv] The time between DTE-initiated status polls in seconds. R P	0-30	0
DTE Full Enquiry Intervals [rfdtefullenqintv] The periods between DTE-initiated full status polls. R P	0-255	0

Table A-10 Cisco NI-2 DSLAM FR Logical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
DTE Error Threshold [rfdteerrthreshold] The periods required to declare a line down. R P	0-10	0
DTE Error Window [rfdteerrwindow] The periods monitored to declare a line up or down. R P	0-10	0
DCE Polling Interval (sec) [rfdcpollintv] The period between DCE-initiated status polls. R P	0-30	0
DCE Error Threshold [rfdceerrthreshold] The periods required to declare a line down. R P	0-10	0
DCE Error Window [rfdceerrwindow] The periods monitored to declare a line up or down. R P	0-10	0
FR Address		
Default FR Address Type [rfaddressstype] The default FR address type. R P	E.164	E.164
Default FR Address [rfaddress] Default FR address for SPVCs. R P	Text string (up to 64 characters)	
Cisco NI-2 DSLAM		
Description [c2_description] A description of the interface. W P	Text string (up to 80 characters)	
IP Address [c2_ipaddr] IDSL interface IP address. W P	Text string (up to 16 characters)	
IP Mask [c2_ipmask] IDSL interface IP mask. W P	Text string (up to 16 characters)	
Unnumbered Interface [c2_unnumbered] W P	Text string (up to 40 characters)	

Table A-10 Cisco NI-2 DSLAM FR Logical Port Attributes (continued)

Attributes	Acceptable Values	Default Value
Inbound Access Control List [c2_acl_in] Access control list for inbound packets. C I P	0-2147483647	
Outbound Access Control List [c2_acl_out] Access control list for outbound packets. C I P	0-2147483647	
Logical Port Type [c2_porttype] The logical port type should comply with the DSL template associated with the containing DSL physical port. R I P	ppp, frame-relay	ppp

ATM-ATM Traffic Table (ATM QoS)

Object Name: C2ttTraffTable

OAF: C2ttTraffTable.oaf

Nodes in the Cisco NI-2 DSLAM network contain traffic tables. Rows in the traffic table define traffic parameters for one direction of a PVC flow. Each PVC may refer to two traffic table rows, one for each direction. Traffic tables rows can also be referenced by more than one PVC, applying the same traffic parameters to each. Before creating an ATM-ATM PVC cross connection with specific traffic parameters, a traffic table index (with corresponding traffic parameters) must be present. Traffic table indices are created in the DSLAM and are uploaded. They cannot be created, modified or deleted in CPC.

Table A-11 Cisco NI-2 DSLAM ATM-ATM Traffic Table Attributes

Attributes	Acceptable Values	Default Value
Common Attributes		
Customer [vpn] Specify the customer name. The customer field, like the Domain field, is used for CPC security purposes. It identifies the Service object with a customer and is used as a tag to give operators access to this customer's Service object. W	Text string (up to 16 characters)	
Domain [domain] This is the management domain name. It identifies a geographical or organizational scope for operator access control and corresponds to the MD tag within the CPC security procedure. W	Text string (up to 16 characters)	
IOS QoS Parameters		

Table A-11 Cisco NI-2 DSLAM ATM-ATM Traffic Table Attributes (continued)

Attributes	Acceptable Values	Default Value
Index [iosindex] Index number of the set of traffic description from the traffic table in the DSLAM. If this attribute value is set to -1, the Equipment Module auto-generates an available index for this object. If this attribute value is set to 0, the DSLAM auto-selects an available index for this object. C	0-2147483647	-1
Quality of Service [qos] Quality of service of the traffic index. C	none, ABR, nrt_VBR.1, nrt_VBR, rt_VBR, rt_VBR.1, UBR, CBR	None.
SCR [scr] Sustained cell rate. C	0-2147483647	0
PCR [pcr] Peak cell rate. C	0-2147483647	0
MCR [mcr] Minimum cell rate. C	0-2147483647	0
MBS [mbs] Maximum burst size. C	0-2147483647	0
CDVT [cdvt] Cell Delay Variation Tolerance establishes the time scale over which the PCR is policed. This is set to allow for jitter (CDV). C	0-2147483647	0
Contained By		
Node [srnode.srname] The traffic table's containing node. R	Text string (up to 32 characters)	

FR-ATM Traffic Table (FR QoS)

Object Name: C2ftFRTraffTable

OAF: C2ftFRTraffTable.oaf

Nodes in the Cisco NI-2 DSLAM network contain traffic tables. Rows in the traffic table define traffic parameters for one direction of a PVC flow. Each PVC may refer to two traffic table rows, one for each direction. Traffic tables rows can also be referenced by more than one PVC, applying the same traffic

parameters to each. Before creating an ATM-FR Interworking cross connection with specific traffic parameters, a traffic table index (with corresponding traffic parameters) must be present. Traffic table indices are created in the DSLAM and are uploaded. They cannot be created, modified or deleted in CPC.

Table A-12 Cisco NI-2 DSLAM FR-ATM Traffic Table Attributes

Attributes	Acceptable Values	Default Value
Common Attributes		
Customer [vpn] Specify the customer name. The customer field, like the Domain field, is used for CPC security purposes. It identifies the Service object with a customer and is used as a tag to give operators access to this customer's Service object. W	Text string (up to 16 characters)	
Domain [domain] This is the management domain name. It identifies a geographical or organizational scope for operator access control and corresponds to the MD tag within the CPC security procedure. W	Text string (up to 16 characters)	
IOS QoS Parameters		
FR Traffic Table Index [iosindex] Index number of the set of traffic description from the traffic table in the DSLAM. If this attribute value is set to -1, the Equipment Module auto-generates an available index for this object. If this attribute value is set to 0, the DSLAM auto-selects an available index for this object. C	1-1073741823	-1
Quality of Service [c2_qos] Quality of service of the traffic index. This attribute must be specified when creating a FR connection traffic table object. C	ubr, vbr-rt, vbr-nrt	ubr
Committed Information Rate [c2_cir] This attribute must be specified when creating a FR connection traffic table object. C	0-2048000	0
Committed Burst Size [c2_bc] This attribute must be specified when creating a FR connection traffic table object. C	0-32768	0
Excess Burst Size [c2_be] Specify the excess burst size in bps. Entering a value of -1 results in no delivery of this attribute. C	-1-32768	-1

Table A-12 Cisco NI-2 DSLAM FR-ATM Traffic Table Attributes (continued)

Attributes	Acceptable Values	Default Value
Peak Information Rate [c2_pir] The PIR should always be set to a value equal to the IDSL interface (logical port) bit rate to ensure consistent allocation of ATM bandwidth in the Cisco DSLAM and throughout the ATM network. This attribute must be specified when creating a FR connection traffic table object. C	0-2038000	0
ATM Traffic Table Index [c2_atmindex] Specify the ATM Traffic Table Index. Entering a value of 0 results in no delivery of this attribute. C	1-1073741823	0
Contained By		
Network [srnetwork] Specify the containing network. R	Text string (up to 32 characters)	
Node [srnode.srname] The traffic table's containing node. R	Text string (up to 32 characters)	

ATM-ATM Cross Connection

Object Name: C2axATMCC

OAF:C2axATMCC.oaf

An ATM cross connect represents a VP or VC cross connect within an ATM switching node. When you create a PVC, if both endpoints of the PVC are in the same node then the Equipment Module is allowed to create either a PVC or a PVC cross connection. These two classes are treated interchangeably by CPC. The ATM cross connect object class models all the attributes necessary to provision a PVC.

Table A-13 Cisco NI-2 DSLAM ATM-ATM Cross Connect Attributes

Attributes	Acceptable Values	Default Value
Common Attributes		
Name [srname] The cross connect name. M C	Text string (up to 64 characters)	

Table A-13 Cisco NI-2 DSLAM ATM-ATM Cross Connect Attributes (continued)

Attributes	Acceptable Values	Default Value
Customer [vpn] Specify the customer name. The customer field, like the Domain field, is used for CPC security purposes. It identifies the Service object with a customer and is used as a tag to give operators access to this customer's Service object. W	Text string (up to 16 characters)	
Domain [domain] This is the management domain name. It identifies a geographical or organizational scope for operator access control and corresponds to the MD tag within the CPC security procedure. W	Text string (up to 16 characters)	
Profile [srprofile.sy_profname] The profile that this cross connection is using. W	Text string (up to 32 characters)	
Network [srnetwork.srname] The cross connection's containing network. M C RDP	Text string (up to 32 characters)	
Node [srnode.srname] The cross connection's containing node. M C RDP	Text string (up to 32 characters)	
Recovery Priority [srpriority] The recovery priority for NNI resiliency. C P	0...n where 0 indicates that the service should not be moved, 1 is the highest priority and n is the lowest priority	0
UNI Recovery Priority [srunitypriority] The recovery priority for UNI resiliency. C P	0...n where 0 indicates that the service should not be moved, 1 is the highest priority and n is the lowest priority	0
Provider Service [srdestserv] DSL Service Application Provider Service Definition Service object that created this cross connect (if applicable). W P	Text string (up to 32 characters)	
Service Object ID [srsoid] The ID number of the service object that owns the cross connect. R	Text string (up to 32 characters)	

Table A-13 Cisco NI-2 DSLAM ATM-ATM Cross Connect Attributes (continued)

Attributes	Acceptable Values	Default Value
Transit Cost [srcost] M W	0-2147483647	0
ATM LPort Associations		
A/Z Endpoint		
LPort [sra_tp.srname][srz_tp.srname] Specify the logical port containing the A-endpoint. M C	Text string (up to 32 characters)	
VPI [raa_vpi][raz_vpi] Specify the VPI for the A-endpoint. M C	-3-255	-1
VCI [raa_vci][raz_vci] Specify the VCI for the A-endpoint. M C	-3-16383	-1
Enable Frame Discard [raa_frdisc] [raz_frdisc] Setting this attribute to TRUE causes the ATM Service Access Point to discard all cells containing the same SDU (frame) whenever any one of the cells is discarded. This is not applicable here, use the attribute Frame Discard [csframediscard]. P	TRUE, FALSE	FALSE
ATM Attributes		
Circuit Type [ratype] The circuit type. M C P	VC, VP	VC
Class of Service [raqos] You can specify the class of service for traffic. The class of service determines which traffic descriptor you can select. M W P	nrt_VBR, rt_VBR, UBR, CBR, None	None
Fixed Round Trip Time [ra_frftt] This attribute is not used. W P	0-16700000	0
A to Z Direction		
Bandwidth (kbits/s) [sraz_bandwidth] The bandwidth for the cross connection. R P	0-2147483647	0
Primary Logical Port [sra_primtp] This attribute is not used. R P	text string (up to 44 characters)	

Table A-13 Cisco NI-2 DSLAM ATM-ATM Cross Connect Attributes (continued)

Attributes	Acceptable Values	Default Value
<p>Sustainable Cell Rate (cells/s)¹ [raaz_scr]</p> <p>SCR is the maximum average cell transmission rate that is allowed over a given period of time on a given circuit. It allows the network to allocate sufficient resources for guaranteeing the network performance objectives are met.</p> <p>W P</p>	0-910533065	0
<p>Peak Cell Rate (cells/s)¹ [raaz_pcr]</p> <p>PCR is the maximum allowed cell transmission rate. It defines the shortest time period between cells and provides the highest guarantee that network performance objectives (based on cell loss ratio) will be met.</p> <p>W P</p>	0-910533065	0
<p>Minimum Cell Rate (cells/s)¹ [raaz_mcr]</p> <p>MCR is the minimum cell rate, which is the minimum allocated bandwidth for a connection.</p> <p>W P</p>	0-910533065	0
<p>Maximum Burst Size (cells)¹ [raaz_mbs]</p> <p>MBS is the maximum number of cells that can be received at the PCR. This allows a burst of cells to arrive at a rate higher than the SCR. If the burst is larger than anticipated, the additional cells are tagged or dropped. This parameter applies only to VBR traffic.</p> <p>W P</p>	0-2147483647	0
<p>CDVT (microseconds)¹ [raaz_cdvt]</p> <p>Cell Delay Variation Tolerance establishes the time scale over which the PCR is policed. This is set to allow for jitter (CDV).</p> <p>W P</p>	0-2147483647	100
<p>Traffic Desc [raaz_tdtype]</p> <p>The traffic descriptor type which describes the specified traffic parameters for the service.</p> <p>M W P</p>	VBR.3, VBR.2, VBR.1, UBR.2, UBR.1, CBR.1, None	None
<p>Initial Cell Rate (cells/sec) [raaz_icr]</p> <p>This attribute is not used.</p> <p>R P</p>	0-2147483647	0
<p>Rate Increase Factor [raaz_rif]</p> <p>This attribute is not used.</p> <p>R P</p>	1/32768, 1/16384, 1/8192, 1/4096, 1/2048, 1/1024, 1/512, 1/256, 1/128, 1/64, 1/32/ 1/16, 1/8, 1/4, 1/2, 1	1/16

Table A-13 Cisco NI-2 DSLAM ATM-ATM Cross Connect Attributes (continued)

Attributes	Acceptable Values	Default Value
NRM (cells) [raaz_nrm] This attribute is not used. R P	0-2147483647	0
Rate Decrease Factor [raaz_rdf] This attribute is not used. R P	1/32768, 1/16384, 1/8192, 1/4096, 1/2048, 1/1024, 1/512, 1/256, 1/128, 1/64, 1/32/ 1/16, 1/8, 1/4, 1/2, 1	1/16
ACR Decrease Time Factor (millisec) [raaz_adtf] This attribute is not used. R P	0-2147483647	0
TRM (millisec) [raaz_trm] This attribute is not used. R P	100, 100/2, 100/4, 100/8, 100/16, 100/32, 100/64, 100/128	100
Transient Buffer Exposure (cell) [raaz_tbe] This attribute is not used. R P	0-2147483647	0
Cutoff Decrease Factor [raaz_cdf] This attribute is not used. R P	1/64, 1/32, 1/16, 1/8, 1/4, 1/2, 1, 0	1/16
Z to A Direction		
Bandwidth (kbits/s) [srza_bandwidth] The bandwidth for the cross connection. R P	0-2147483647	0
Primary Logical Port [srz_primtp] This attribute is not used. R P	text string (up to 44 characters)	
Sustainable Cell Rate (cells/s)² [raza_scr] SCR is the maximum average cell transmission rate that is allowed over a given period of time on a given circuit. It allows the network to allocate sufficient resources for guaranteeing the network performance objectives are met. W P	0-910533065	0

Table A-13 Cisco NI-2 DSLAM ATM-ATM Cross Connect Attributes (continued)

Attributes	Acceptable Values	Default Value
<p>Peak Cell Rate (cells/s)¹ [raza_pcr]</p> <p>PCR is the maximum allowed cell transmission rate. It defines the shortest time period between cells and provides the highest guarantee that network performance objectives (based on cell loss ratio) will be met.</p> <p>W P</p>	0-910533065	0
<p>Minimum Cell Rate (cells/s)¹ [raza_mcr]</p> <p>MCR is the minimum cell rate, which is the minimum allocated bandwidth for a connection.</p> <p>W P</p>	0-910533065	0
<p>Maximum Burst Size (cells)¹ [raza_mbs]</p> <p>MBS is the maximum number of cells that can be received at the PCR. This allows a burst of cells to arrive at a rate higher than the SCR. If the burst is larger than anticipated, the additional cells are tagged or dropped. This parameter applies only to VBR traffic.</p> <p>W P</p>	0-2147483647	0
<p>CDVT (microseconds)¹ [raza_cdvt]</p> <p>Cell Delay Variation Tolerance establishes the time scale over which the PCR is policed. This is set to allow for jitter (CDV).</p> <p>W P</p>	0-2147483647	100
<p>Traffic Desc [raza_tdtype]</p> <p>The traffic descriptor type which describes the specified traffic parameters for the service.</p> <p>M W P</p>	VBR.3, VBR.2, VBR.1, UBR.2, UBR.1, CBR.1, None	None
<p>Initial Cell Rate (cells/sec) [raza_icr]</p> <p>This attribute is not used.</p> <p>R P</p>	0-2147483647	0
<p>Rate Increase Factor [raza_rif]</p> <p>This attribute is not used.</p> <p>R P</p>	1/32768, 1/16384, 1/8192, 1/4096, 1/2048, 1/1024, 1/512, 1/256, 1/128, 1/64, 1/32/ 1/16, 1/8, 1/4, 1/2, 1	1/16
<p>NRM (cells) [raza_nrm]</p> <p>This attribute is not used.</p> <p>R P</p>	0-2147483647	0

Table A-13 Cisco NI-2 DSLAM ATM-ATM Cross Connect Attributes (continued)

Attributes	Acceptable Values	Default Value
Rate Decrease Factor [raza_rdf] This attribute is not used. R P	1/32768, 1/16384, 1/8192, 1/4096, 1/2048, 1/1024, 1/512, 1/256, 1/128, 1/64, 1/32/ 1/16, 1/8, 1/4, 1/2, 1	1/16
ACR Decrease Time Factor (millisec) [raza_adtf] This attribute is not used. R P	0-2147483647	0
TRM (millisec) [raza_trm] This attribute is not used. R P	100, 100/2, 100/4, 100/8, 100/16, 100/32, 100/64, 100/128	100
Transient Buffer Exposure (cell) [raza_tbe] This attribute is not used. R P	0-2147483647	0
Cutoff Decrease Factor [raza_cdf] This attribute is not used. R P	1/64, 1/32, 1/16, 1/8, 1/4, 1/2, 1, 0	1/16
Cisco NI-2 DSLAM		
A to Z		
Usage Parameter Control [c2az_upc] The usage parameter control for the a-z and z-a directions. When set to "derived," the Equipment Module delivers a value of pass, tag, or drop based on the traffic descriptor type. C P	pass, tag, drop	pass
Cast Type [c2az_cast] Configures a filtering criteria based on the cast type of the rejected call. C P	p2mp-leaf, p2mp-root, p2p, none	p2mp-leaf
CTT Index [c2_az_atmctt] The A to Z, Z to A connection traffic table index. When the value of this attribute is 0, there is no delivery of A to Z, Z to A CTT attributes which define the PVC traffic and allow the DSLAM to create the PVC. W P	0-2147483647	-1
Z to A		

Table A-13 Cisco NI-2 DSLAM ATM-ATM Cross Connect Attributes (continued)

Attributes	Acceptable Values	Default Value
Usage Parameter Control [c2za_upc] The usage parameter control for the a-z and z-a directions. When set to "derived," the Equipment Module delivers a value of pass, tag, or drop based on the traffic descriptor type. C P	pass, tag, drop	pass
Cast Type [c2za_cast] Configures a filtering criteria based on the cast type of the rejected call. C P	p2mp-leaf, p2mp-root, p2p, none	p2mp-leaf
CTT Index [c2_za_atmctt] The A to Z, Z to A connection traffic table index. When the value of this attribute is 0, there is no delivery of A to Z, Z to A CTT attributes which define the PVC traffic and allow the DSLAM to create the PVC. W P	0-2147483647	-1

1. These values are also specified in the Cisco NI-2 DSLAM's traffic tables. When creating or modifying an ATM-ATM cross connect, the values for these traffic parameters must exactly match the values specified in the traffic tables. If the set of traffic descriptors do not match any one traffic table index set of traffic descriptor, an error will occur.
2. These values are also specified in the Cisco NI-2 DSLAM's traffic tables. When creating or modifying an ATM-ATM cross connect, the values for these traffic parameters must exactly match the values specified in the traffic tables. If the set of traffic descriptors do not match any one traffic table index set of traffic descriptor, an error will occur.

FR-ATM Interworking Cross Connection

Object Name: C2iaFRATMIWCC

OAF: C2iaFRATMIWCC.oaf

An ATM-FR interworking cross connect represents a VP or VC cross connect within an ATM/FR switching node. When you create a PVC, if both endpoints of the PVC are in the same node, then the Equipment Module is allowed to create either a PVC or a PVC cross connection. These two classes are treated interchangeably by CPC. The ATM-FR cross connect object class models all the attributes necessary to provision a PVC.

Table A-14 Cisco NI-2 DSLAM FR-ATM Interworking Cross Connection

Attributes	Acceptable Values	Default Value
Common Attributes		
Network [srnetwork.srname] The cross connection's containing network. M C RDP	Text string (up to 32 characters)	
Node [srnode.srname] The cross connection's containing node. M C RDP	Text string (up to 32 characters)	

Table A-14 Cisco NI-2 DSLAM FR-ATM Interworking Cross Connection (continued)

Attributes	Acceptable Values	Default Value
Recovery Priority [srpriority] The recovery priority for NNI resiliency. W P	0...n where 0 indicates that the service should not be moved, 1 is the highest priority and n is the lowest priority	0
UNI Recovery Priority [srnipriority] The recovery priority for UNI resiliency. W P	0...n where 0 indicates that the service should not be moved, 1 is the highest priority and n is the lowest priority	0
Provider Service [srdestserv] DSL Service Application Provider Service Definition Service object that created this cross connect (if applicable). W P	Text string (up to 32 characters)	
Service Object ID [srsoid] The service object Id for the cross connect. R	Text string (up to 32 characters)	
Transit Cost [srcost] M W	0-2147483647	0
LPort Associations		
Frame Relay Endpoint		
Lport [sra_tp.srname] The name of the logical port at the Frame Relay endpoint. M C	Text string (up to 32 characters)	
DLCI [rfa_dlc] The DLCI at the Frame Relay endpoint. M C	-3-1007	-1
ATM Endpoint		
Lport [srz_tp.srname] The name of the logical port at the ATM endpoint. M C	Text string (up to 32 characters)	
VPI [raz_vpi] The ATM endpoint VPI. M C	-1-255	-1
VCI [raz_vci] The ATM endpoint VCI. M C	-1-16383	-1

Table A-14 Cisco NI-2 DSLAM FR-ATM Interworking Cross Connection (continued)

Attributes	Acceptable Values	Default Value
FR Attributes		
Frame Relay Priority [rfpriority] W P	High, Medium, Low	High
Interworking Type [rfinterworking] Network interworking (N_IW) transports Frame Relay packets across an intermediate ATM network to another Frame Relay network. The frames are encapsulated into ATM cells. Service interworking (S_IW) adapts Frame relay packets into ATM cells for transmission onto an ATM network. After the ATM cells enter the network, the network can send them to ATM-attached devices or Frame Relay devices. C P	N_IW, S_IW	S_IW
CLP Determination [rffrclp] This parameter allows you to set mapping from the Frame Relay DE (Discard Eligible) bit to the ATM CLP (Cell loss priority) bit of 0 or 1. Cells with CLP = 0 are insured traffic, which is unlikely to be dropped. Cells with CLP = 1 are best-effort traffic. R P	DE, 0, 1	DE
Service IW Mode [rfsiwproto] For translated protocol mapping, the system determines the protocol type and remaps the Frame Relay protocol to the ATM protocol, and vice versa. For transparent protocol mapping, the system does not determine the protocol type, it only removes the Frame Relay header and transfers the payload transparently between the Frame Relay and ATM networks. R P	Translated, Transparent, PPP	Translated
FR to ATM		
CIR (kbits/s) [rfaz_cir] Committed Information Rate. W P	0-2147483647	0
Be (kbits) [rfaz_be] Excess Burst Size. W P	0-2147483647	0
Bc (kbits) [rfaz_bc] Committed Burst Size. W P	0-2147483647	0
Bandwidth (Kbits/s) [sraz_abandwidth] Specify the bandwidth. R P	0-2147483647	0

Table A-14 Cisco NI-2 DSLAM FR-ATM Interworking Cross Connection (continued)

Attributes	Acceptable Values	Default Value
Primary Logical Port [sra_primtp] This attribute is not used. R P	Text string (up to 44 characters)	
Max Frame Size (bytes) [rfa_maxfrmsize] The maximum frame size at the Frame Relay endpoint. R P	0-2147483647	0
ATM to FR		
CIR (kbits/s) [rfza_cir] Committed Information Rate. W P	0-2147483647	0
Be (kbits) [rfza_be] Excess Burst Size. W P	0-2147483647	0
Bc (kbits) [rfza_bc] Committed Burst Size. W P	0-2147483647	0
Primary Logical Port [srz_primtp] This attribute is not used. R P	Text string (up to 44 characters)	
Bandwidth (Kbits/s) [srza_abandwidth] R P	0-2147483647	0
Max Frame Size (bytes) [rfz_maxfrmsize] The maximum frame size at the ATM endpoint. R P	0-2147483647	0
ATM Attributes		
Class of Service [raqos] You can specify the class of service for traffic. The class of service determines which traffic descriptor you can select. R P	nrt_VBR, ABR, UBR	nrt_VBR
DE Determination [rfatmde] This parameter allows you to set the mapping from the ATM CLP bit of 0 or 1 to the Frame Relay DE bit. R P	CLP, 0, 1	CLP

Table A-14 Cisco NI-2 DSLAM FR-ATM Interworking Cross Connection (continued)

Attributes	Acceptable Values	Default Value
EFCI Determination [rfatmefci] This parameter allows you to set mapping from Frame Relay FECN (Forward Explicit Congestion Notification) bits to the ATM EFCI (Explicit Forward Congestion Indication) bit to 0. R P	FECN, 0	FECN
Fixed Round Trip Time [rfatm_frft] ABR VS/VD fixed round trip time. R P	0-16700000	0
FR to ATM Direction		
Bandwidth (kbits/s) [sraz_zbandwidth] Specify the available bandwidth. R P	0-2147483647	0
Sustainable Cell Rate (cells/s) [raaz_scr] SCR is the maximum average cell transmission rate that is allowed over a given period of time on a given circuit. It allows the network to allocate sufficient resources for guaranteeing the network performance objectives are met. W P	0-2147483647	0
Peak Cell Rate (cells/s) [raaz_pcr] PCR is the maximum allowed cell transmission rate. It defines the shortest time period between cells and provides the highest guarantee that network performance objectives (based on cell loss ratio) will be met. W P	0-2147483647	0
Minimum Cell Rate (cells/s) [raaz_mcr] MCR is the minimum cell rate, which is the minimum allocated bandwidth for a connection. W P	0-2147483647	0
Maximum Burst Size (cells) [raaz_mbs] MBS is the maximum number of cells that can be received at the PCR. This allows a burst of cells to arrive at a rate higher than the SCR. If the burst is larger than anticipated, the additional cells are either tagged or dropped. This parameter applies only to VBR traffic. W P	0-2147483647	0
CDVT (microseconds) [raaz_cdvt] Cell Delay Variation Tolerance establishes the time scale over which the PCR is policed. This is set to allow for jitter (CDV). W P	0-2147483647	0

Table A-14 Cisco NI-2 DSLAM FR-ATM Interworking Cross Connection (continued)

Attributes	Acceptable Values	Default Value
Traffic Desc [raaz_tdtype] This is the traffic descriptor type which describes the specified traffic parameters for the service. M W P	None, ABR_FC, ABR_NFC, CBR.1, UBR.1, UBR.2, VBR.1, VBR.2, VBR.3, Other	None
Peak to Peak Cell Delay Variation [raaz_cdv] Specify the peak to peak delay variation. R P	0-2147483647	0
ATM to FR Direction		
Bandwidth (kbits/s) [srza_zbandwidth] Specify the available bandwidth. R P	0-2147483647	0
Sustainable Cell Rate (cells/s) [raza_scr] SCR is the maximum average cell transmission rate that is allowed over a given period of time on a given circuit. It allows the network to allocate sufficient resources for guaranteeing the network performance objectives are met. W P	0-2147483647	0
Peak Cell Rate (cells/s) [raza_pcr] PCR is the maximum allowed cell transmission rate. It defines the shortest time period between cells and provides the highest guarantee that network performance objectives (based on cell loss ratio) will be met. W P	0-2147483647	0
Minimum Cell Rate (cells/s) [raza_mcr] MCR is the minimum cell rate, which is the minimum allocated bandwidth for a connection. W P	0-2147483647	0
Maximum Burst Size (cells) [raza_mbs] MBS is the maximum number of cells that can be received at the PCR. This allows a burst of cells to arrive at a rate higher than the SCR. If the burst is larger than anticipated, the additional cells are either tagged or dropped. This parameter applies only to VBR traffic. W P	0-2147483647	0
CDVT (microseconds) [raza_cdvt] Cell Delay Variation Tolerance establishes the time scale over which the PCR is policed. This is set to allow for jitter (CDV). W P	0-2147483647	0

Table A-14 Cisco NI-2 DSLAM FR-ATM Interworking Cross Connection (continued)

Attributes	Acceptable Values	Default Value
Traffic Desc [raza_tdtype] This is the traffic descriptor type which describes the specified traffic parameters for the service. M W P	None, ABR_FC, ABR_NFC, CBR.1, UBR.1, UBR.2, VBR.1, VBR.2, VBR.3, Other	None
Peak to Peak Cell Delay Variation [raza_cdv] R P	0-2147483647	0
C2 Specific Attributes		
A-Z ATM CTT Index [c2_az_atmctt] ATM connection traffic table index in the FR to ATM direction. W P	0-2147483647	-1
Z-A ATM CTT Index [c2_za_atmctt] ATM connection traffic table index in the ATM to FR direction. W P	0-2147483647	-1
A-Z FR CTT Index [c2_az_frctt] FR connection traffic table index in the FR to ATM direction. When the value of this attribute is 0, there is no delivery of A to Z, Z to A CTT attributes which define the PVC traffic and allow the DSLAM to create the PVC. W P	0-2147483647	-1
Z-A FR CTT Index [c2_za_frctt] FR connection traffic table index in the ATM to FR direction. When the value of this attribute is 0, there is no delivery of A to Z, Z to A CTT attributes which define the PVC traffic and allow the DSLAM to create the PVC. W P	0-2147483647	-1
ATM Packet Discard [c2_pd] Specify the ATM packet discard W P	on, off, none	on
Usage Parameter Control [c2_upc] Specify the usage parameter control W P	pass, tag, drop, none	drop

