Provisioning SPVCs (PXM1E/PXM45) on AUSM and MPSM Cards

This chapter describes how to provision Soft Permanent Virtual Circuits (SPVCs) on the physical ports of the AUSM-8T1/B, AUSM-8E1/B, MPSM-8T1-ATM, and MPSM-8E1-ATM cards by using the command-line interface (CLI).

These topics describe how to provision ATM SPVCs on AUSM and MPSM cards:

- Preparing for Provisioning
- Quickstart Provisioning Procedures
- Configuring SPVCs on AUSM-8-T1E1/B and MPSM-8-T1E1 Cards

Note The easiest way to add connections is by using the Cisco WAN Manager (CWM) application. For full details on how to set up a connection with CWM, refer to the *Cisco WAN Manager User's Guide, Release 15.1*.

This chapter explains how to provision the SPVC connection types described in Table 3-1.

Table 3-1 SPVC Connection Types Applicable to AUSM and MPSM Cards

AUSM and MPSM SPVC Connection Type	Description
AUSM/MPSM-to-AUSM/MPSM SPVCs	Soft permanent virtual circuits (SPVCs) are permanent connections that can be rerouted in the event of a link failure. An AUSM/MPSM-to-AUSM/MPSM SPVC establishes a connection between two AUSM/MPSM ports. Such ports can be on the same card, on different cards in the same switch, or on different cards in different switches.
AUSM/MPSM-to-Non-AUSM/MPSM SPVCs	An AUSM/MPSM-to-non-AUSM/MPSM SPVC establishes a connection between an AUSM or MPSM port and a port on a non-AUSM/MPSM card such as a FRSM, RPM, or AXSM card. Such ports can be on different cards in the same switch or on different cards in different switches.

To eliminate redundancy and help experienced users complete configuration tasks efficiently, this chapter provides configuration quickstart procedures.

The first time you configure a connection, use the applicable quickstart procedure to get an overview of the tasks to be performed. Then, for more detailed instructions, consult the appropriate section(s) elsewhere in the document that are called out in the quickstart procedure. As you gain experience in configuring AUSM and MPSM card connections, referring to a quickstart procedure may suffice for performing a particular configuration task.

Tip You can get information about most CLI commands by entering the command without parameters. Ordinarily, experienced users can configure AUSM or MPSM card connections using just the quickstart procedures and the online help facilities.

Note For a detailed description of the commands used in this chapter, refer to Chapter 6, "AUSM and MPSM Command Reference."

Preparing for Provisioning

Before you can begin provisioning ATM SPVCs on AUSM and MPSM cards, you need to bring up the physical lines and add logical ports on the service modules. For instructions on bringing up physical lines and adding logical ports, see Chapter 2, "Preparing AUSM and MPSM Lines and Ports for Communications."

Quickstart Provisioning Procedures

The following quickstart sections contain abbreviated procedures for provisioning SPVCs on AUSM and MPSM cards installed in Cisco MGX 8850 (PXM1E/PXM45) and Cisco MGX 8830 (PXM1E/PXM45) switches:

- AUSM/MPSM-to-AUSM/MPSM SPVC Configuration Quickstart
- AUSM/MPSM-to-Non-AUSM/MPSM SPVC Configuration Quickstart

These procedures provide a high level overview and serve as a procedural reminder for users already experienced in configuring MGX switches.

AUSM/MPSM-to-AUSM/MPSM SPVC Configuration Quickstart

To configure an SPVC between two AUSM/MPSM ATM ports or IMA groups (on the same card in a switch, on different cards in the same switch, or on cards in different switches), perform the following steps:

	Command	Purpose
Step 1	*username* *<password>*	Start a configuration session. **Note** To perform all the steps in this quickstart procedure, you must log in as a user with GROUP1 privileges or higher.
Step 2	Refer to the appropriate switch software configuration guide to configure the trunk that links the switches that host the AUSM or MPSM card ports.	Configure the trunks that link the switch(es) that host(s) the AUSM or MPSM card ports. Verify PNNI connectivity between the nodes that host the SPVC endpoints. **Note** See the *Cisco MGX 8800/8900 Series Configuration Guide, Release 5.2*.
Step 3	See the "AUSM and MPSM Line Configuration Quickstart" section in Chapter 2, "Preparing AUSM and MPSM Lines and Ports for Communications."	Bring up the physical lines at each end of the SPVC you are creating.
Step 4	See the "ATM Port Configuration Quickstart" section or the "IMA Group Configuration Quickstart" sections in Chapter 2, "Preparing AUSM and MPSM Lines and Ports for Communications.".	Configure the ATM port or IMA group at each end of the SPVC you are creating.
Step 5	**addcon** *<Port> <VPI> <VCI>* Related commands: **dspcons** **dspcon** *<Port>* **cnfcon** *<Port.VPI.VCI>*	Configure the slave side of the SPVC (if you are configuring a double-ended SPVC). See the "Configuring the Slave Side of SPVCs" section that appears later in this chapter.
Step 6	**addcon** *<Port> <VPI> <VCI>* Related commands: **dspcons** **dspcon** *<Port> <VPI> <VCI>* or **dspcon** *<Port.VPI.VCI>* **cnfcon** *<Port.VPI.VCI>*	Configure the master side of the SPVC. **Note** In Cisco MGX Release 5.1 and Release 1.3, the AUSM and MPSM cards cannot host the master side of a single-ended SPVC. See the "Configuring the Master Side of SPVCs" section that appears later in this chapter.

AUSM/MPSM-to-Non-AUSM/MPSM SPVC Configuration Quickstart

When creating an SPVC between a AUSM or MPSM card and a non-AUSM/MPSM card (such as a FRSM, RPM, or AXSM card), you must define both ends of the connection, just as you would for an AUSM-to-AUSM connection. The difference is that you will have to refer to the documentation for the non-AUSM/MPSM product for information on configuring the connection endpoint.

To configure an SPVC between an AUSM/MPSM card and a non-AUSM/MPSM card, perform the following steps:

	Command	Purpose
Step 1	*username* *<password>*	Start a configuration session. **Note** To perform all the steps in this quickstart procedure, you must log in as a user with GROUP1 privileges or higher.
Step 2	Refer to the appropriate switch software configuration guide to configure the trunk that links the switches that host the AUSM or MPSM card ports.	Configure the trunks that link the switch(es) that host(s) the connection endpoints. Verify PNNI connectivity between the nodes that host the SPVC endpoints. **Note** See the *Cisco MGX 8800/8900 Series Configuration Guide, Release 5.2*.
Step 3	See the "AUSM and MPSM Line Configuration Quickstart" section in Chapter 2, "Preparing AUSM and MPSM Lines and Ports for Communications."	Bring up the physical line at the AUSM/MPSM card end of the SPVC you are creating.
Step 4	See the "ATM Port Configuration Quickstart" section or the "IMA Group Configuration Quickstart" section, both of which appear in Chapter 2, "Preparing AUSM and MPSM Lines and Ports for Communications."	Configure the ATM port or IMA group at the AUSM/MPSM end of the SPVC you are creating.

	Command	Purpose
Step 5	**addcon** <*Port*> <*VPI*> <*VCI*> Related commands: **dspcons** **dspcon** <*port.VPI.VCI*> **cnfcon** <*Port.VPI.VCI*>	Configure the slave side of the SPVC (if you are configuring a double-ended SPVC). If the slave side of the connection is on the AUSM or MPSM card, see the "Configuring the Slave Side of SPVCs" section that appears later in this chapter. If the slave side of the connection is on a non-AUSM/MPSM card, refer to the documentation for that card.
Step 6	**addcon** <*Port*> <*VPI*> <*VCI*> Related commands: **dspcons** **dspcon** <*port.VPI.VCI*> **cnfcon** <*Port.VPI.VCI*>	Configure the master side of the SPVC. **Note** In Cisco MGX Release 5.1 and Release 1.3, the AUSM and MPSM cards cannot host the master side of a single-ended SPVC. If the master side of the connection is on the AUSM or MPSM card, see the "Configuring the Master Side of SPVCs" section that appears later in this chapter. If the master side of the connection is on a non-AUSM/MPSM card, refer to the documentation for that card.

General AUSM and MPSM SPVC Provisioning Procedures

The following sections describe SPVC configuration on AUSM and MPSM cards:

- "Configuring SPVCs on AUSM-8-T1E1/B and MPSM-8-T1E1 Cards"
- "Configuring the Slave Side of SPVCs"
- "Configuring the Master Side of SPVCs"

Configuring SPVCs on AUSM-8-T1E1/B and MPSM-8-T1E1 Cards

AUSM and MPSM SPVCs are created between one ATM port and another ATM port. Each SPVC has two endpoints. SPVCs are permanent connections that can be rerouted in the event of a link failure. An SPVC is a variant of a PVC that can be rerouted using the Private Network-to-Network Interface (PNNI) Version 1.0 protocol.

Both PVCs and SPVCs are full-time connections. However, a PVC uses a predefined circuit path that fails altogether if that path is interrupted for any reason. Conversely, if a link along an SPVC path fails or that link cannot provide the required bandwidth to support the connection, the PNNI protocol reroutes that link to maintain the connection and to supply the necessary bandwidth.

Each SPVC has two endpoints. The master endpoint is responsible for routing and rerouting functions. The slave endpoint is responsible for responding to requests from the master during connection setup and rerouting. Both endpoints are configured on the switch or switches to which the ATM CPE connects. Such endpoints can be on the same switch or on different switches.

The master/slave relationship exists for each SPVC and applies only to that SPVC connection. For example, you can have one SPVC with a master on Node A and a slave on Node B, and then create another SPVC with the master on Node B and the slave on Node A. It is good practice to distribute the master side of SPVCs among network nodes so that route processing functions can be distributed.

You can create two types of SPVCs on AUSM and MPSM cards in PXM45/PXM1E platforms:

- Single-ended SPVCs
- Double-ended SPVCs

Single-ended SPVCs are defined at the master endpoint and do not require configuration of a slave endpoint. The primary benefit of single-ended SPVCs is that they are easier to configure. After configuration, the master endpoint configures and brings up the slave endpoint. In order for this feature to work correctly, the destination endpoint must support single-ended SPVCs.

Note In Cisco MGX Release 5.1 and Release 1.3, the AUSM and MPSM cards support only the slave side of single-ended SPVCs. This means that you can configure master endpoints for single-ended SPVCs on other devices that support this feature, but you cannot create a single-ended SPVC by defining a master endpoint on an AUSM card. If both SPVC endpoints must terminate on AUSM cards, you must create a double-ended SPVC.

Double-ended SPVCs require separate configuration of the master and slave endpoints. The slave endpoint must be configured first to generate a slave address. The slave address must be entered during master endpoint configuration.

Configuring the Slave Side of SPVCs

If you wish to configure a double-ended SPVC connection, you must first configure the slave endpoint for the connection. If you are configuring a single-ended SPVC, you need not configure a slave endpoint.

To configure the slave side of a double-ended SPVC, perform the following steps:

Step 1 Establish a configuration session using a user name with GROUP1 privileges or higher.

Step 2 Enter the **addcon** command as follows to define the slave side of the SPVC:

```
PXM1E_SJ.VHSHS2B.a > addcon <port_number> <vpi> <vci> [-ct <ConnectionType>]
[-contp <ControllerType>] [-st  <ServiceClassTtype>] [-master  <MasterShip>]
[-abrtype <ABRType>] [-abrpcr  <ABRPCR>] [-abrmcr <ABRMCR>] [-osub <OvrSubFlag>]
[-ipcu <IngrPercentUtil>] [-epcu <EgrPercentUtil>] [-upce <UpcEnable>]
[-scrp <SCRPolicing>] [-ccdv <CDVT[0+1]>] [-cte <CLPTagEnable>] [-dis <DiscardOption>]
[-pcr01 <IngrUpcPCR[0+1]>] [-scr <IngrUpcSCR>] [-cbs <MaxBurstSize>] [-maxcost <MaxCost>]
[-rtngpri <RoutingPriority>] [-type <restrictedType>] [-rpcr <RemotePCR>]
[-rscr <RemoteSCR>] [-rmcr <RemoteMCR>] [-rcbs <RemoteMaxBurstSize>]
```

Note If the **addcon** command fails and displays the “Failed to update disk” message, it could be that the PNNI controller has not been added on the PXM1E card. For information on adding the PNNI controller, refer to the *Cisco MGX 8800/8900 Series Configuration Guide, Release 5.2*.

If the **addcon** command fails and displays the “InvalidTrafficParm: check conformance or local/remote param mismatch” message, it could be that the local connection parameters on the slave/master endpoint do not match the remote connection parameters on the master/slave endpoint. To successfully add a connection both the local and remote connection parameters must match.

Table 3-2 lists and describes the parameters for the **addcon** command. If you omit an option, a default value for that option is used for SPVC configuration. To override the default value for a given option, enter the option with a desired value.

Caution Once you create an SPVC connection, you cannot change the SPVC prefix until all SPVC connections have been deleted. The procedure for changing the SPVC prefix is described in the *Cisco MGX 8800/8900 Series Configuration Guide, Release 5.2*.

Table 3-2 Parameters for the addcon Command

Parameter	Description
port_num	Enter the port number for the ATM port or IMA group to which you will add the connection. To display a list of configured ports, enter the **dspports** command.
vpi	Enter a VPI number in the range from 0 to 255.
vci	Enter a VCI number in the range from 32 to 65535. For virtual path connections, enter *****.
-ct	Enter a connection type: • VCC = 0 • VPC range = 1 to 1000
-contp	Controller type. Select one of the following: • 1 = PAR • 2 = PNNI (default) • 3 = MPLS
-st	Service class type. Select one of the following service types: • CBR = 1 (default) • CBR1 = 21 • CBR2 = 31 • CBR3 = 32 • rtVBR = 5 • rtVBR1 = 22 • rtVBR2 = 23 • rtVBR3 = 24 • nrtVBR = 2 • nrtVBR1 = 25 • nrtVBR2 = 26 • nrtVBR3 = 27 • ABR = 3 • UBR = 4 • UBR1 = 28 • UBR2 = 29

Table 3-2 Parameters for the addcon Command (continued)

Parameter	Description
-master	Mastership role of connection. Select from the following options: • 1 = master • 2 = slave (default)
-rmc	Remote connection ID. This option is used when defining the master end of a connection. Enter the slave connection ID as it appears after the **addcon** command is issued. The format is: *RemoteNsapAddress.VPI.VCI*.
-abrtype	ABR connection behavior type: • Switch behavior = 1 • Source/destination behavior = 2
-abrpcr	Peak cell rate for ABR connections. The range is 10 to 38328 cps.
-abrmcr	Minimum cell rate for ABR connections. The range is 10 to 38328 cps.
-osub	Subscription override. To apply CAC, enter **-osub 1**. To ignore CAC, enter **-osub 2**. Default setting does not apply CAC.
-ipcu	Ingress percent utilization. Range is 1 to 100 percent. Default setting is 100 percent.
-epcu	Egress percent utilization. Range is 1 to 100 percent. Default setting is 100 percent.
-upce	Usage parameter control (UPC) feature. Enter **1** to disable this feature, or enter **2** to enable UPC. **Note** This option only applies to the following service class types (-st option): CBR (1), nrtVBR (2), ABR (3), UBR (4), and rtVBR (5).
-scrp	Sustainable Cell Rate (SCR) policing method: • CLP[0] = 1 • CLP[0+1] = 2 • No SCR policing = 3 **Note** This option only applies to the following service class types (-st option): CBR (1), nrtVBR (2), ABR (3), UBR (4), and rtVBR (5).
-ccdv	Enter the Cell Delay Variation Tolerance (CDVT[0+1]). The range is 1 to 250000 microseconds.
-cte	Cell Loss Priority (CLP) tagging feature. Enter **1** to disable this feature, or enter **2** to enable CLP tagging. **Note** This option only applies to the following service class types (-st option): CBR (1), nrtVBR (2), ABR (3), UBR (4), and rtVBR (5).
-dis	Enter the cell discard method: • CLP hysteresis = 1 • Frame based = 2

Table 3-2 Parameters for the addcon Command (continued)

Parameter	Description
-pcr01	Peak cell rate for cells with CLP = 0 and CLP = 1. The range depends on the speed of the logical port: • T1 = 10 to 3622 • E1 = 10 to 4528 • Clear E1 = 10 to 4830 • IMA T1 = 10 to (3591 * *number_of_lines*) • IMA E1 = 10 to (4490 * *number_of_lines*) • IMA clear E1 = 10 to (4789 * *number_of_lines*) **Note** An IMA group's range depends on the number of links in the group. Multiply the single line rate by the number of lines.
-scr	Select the ingress UPC Committed Information Rate (CIR): • Full ATM port rate (T1-3622, E1-4528, clearE1-4830) = 10 • IMA group rate = ATM port rate x #links
-cbs	Enter the maximum burst size. The range is 1 to 5000 cells.
-maxcost	Maximum end-to-end cost for the connection. Range is 1 to 2,147,483,647. Default setting is 2147483647.
-rtngpri	Routing priority for this connection. Range is 1 to 15. Default setting is 8.
-type	Trunk restriction option. To restrict the connection routing to terrestrial trunks, enter **-type 2**. To restrict the connection routing to satellite trunks, enter **-type 3**. To enable connection routing without trunk restrictions, enter **-type 1**. Default setting routes connections with no restrictions.
-rpcr	Remote peak cell rate in cells per second (cps): • Full ATM port rate (T1-3622, E1-4528, clearE1-4830) = 10 • IMA group rate = ATM port rate x #links
-rscr	Remote sustainable cell rate: • Full ATM port rate (T1-3622, E1-4528, clearE1-4830) = 10 • IMA group rate = ATM port rate x #links
-rmcr	Remote minimum cell rate: • Full ATM port rate (T1-3622, E1-4528, clearE1-4830) = 10 • IMA group rate = ATM port rate x #links
-rcbs	Remote maximum burst size. Range is 1 to 5,000,000.

The following **addcon** command example defines a port as the slave side of an SPVC connection. Note the slave Local Connection ID shown at the end of the display.

```
PXM1E_SJ.1.4.AUSMB8.a > addcon 1 100 100

Local Connection Id is : 47009181000000000016444445c00000101230100.100.100


PXM1E_SJ.1.4.AUSMB8.a >
```

Step 3 Write down the NSAP address displayed when the **addcon** command output is completed. You will need the NSAP address to configure the master side of the SPVC connection.

Tip When you set up the master side of the SPVC, you will need to enter the slave ATM address reported by the **addcon** command. If you maintain the current session or use the session Copy command to copy the ATM address now, you can use the session Paste command to complete the **addcon** command on the switch that hosts the master side of the SPVC.

Step 4 Enter the **dspcons** command to verify the addition of the slave side of the SPVC connection, as shown in the following example:

```
PXM1E_SJ.1.4.AUSMB8.a > dspcons

  LCN  Port VPI  VCI  Class    Type  M/S EgrQ Admin Alarm
  ---- ---- --- ----- -------  ----- --- ---- ----- -----
  0016 001  100 00100 CBR1      VCC   S   1   Up    PORT-ALARM

  Number of channels:    1

  ChanNumNextAvailable     :  17
  Local VpId NextAvailable :  1

PXM1E_SJ.1.4.AUSMB8.a >
```

Step 5 If you add the master side of the SPVC at a later date, you can display the slave connection ID with the **dspcon** command as follows. The connection number is specified by entering the port number, the VPI, and the VCI of the connection:

```
PXM1E_SJ.1.4.AUSMB8.a > dspcon <port_num> <vpi> <vci>
```

In the following example, the user displays the slave connection on Port 1, VPI 100, VCI 100. Note that the slave connection ID appears next to the *LocalNSAP* field:

```
PXM1E_SJ.1.4.AUSMB8.a > dspcon 1 100 100

  ----------------------------------------
  ChanNum:   16         RowStatus: Add
  AdmnState: Up         ChanState: Failed
  ---------- ---------- ---------- ----------
  PORT-ALARM CTRLR-ABIT E-AIS/RDI  I-AIS/RDI
  ---------- ---------- ---------- ----------
     YES        YES         NO         NO
  ----------------------------------------
  ChanNum:                          16
  RowStatus:                        Add
  ConnAdminStatus:                  Up
  ConnectionType:                   VCC
  ServiceType:                      CBR1
  ChanSvcFlag:                      PNNI
  PortNum:                          1
  VPI:                              100
  VCI (For VCC):                    100
  Local VPId(for VPC):              0
  EgressQNum:                       1
  IngressQDepth(cells):             1000
  IngressDiscardOption:             CLP hysterisis
  IngressFrameDiscardThreshold      1000
  IngressQCLPHigh(cells):           900
  IngressQCLPLow(cells):            800
  QCLPState:                        LOW
```

```
  IngressEfciThreshold(cells):       1000

  UPCEnable:                         Enabled
  PeakCellRate[0+1](cells/sec):      3591
  CellDelayVariation[0+1]:           10000 (micro secs)
  PeakCellRate[0](cells/sec):        3591
  CellDelayVariation[0]:             250000 (micro secs)
  SustainedCellRate(cells/sec):      10
  MaximumBurstSize(cells):           1024
  SCRPolicing:                       CLP[0]
  CLPTagEnable:                      Enabled
  FrameGCRAEnable:                   Disable

  InitialBurstSize(cells):           0
  LocalRemoteLpbkState:              Disable
  ChanTestType:                      No Test
  ChanTestState:                     Not In Progress
  ChanRTDresult:                     65535 ms

  Ingress percentage util:           100
  Egress percentage util :           100
  Egress Service Rate:               3591
  LocalVpi:                          100
  LocalVci:                          100
  LocalNSAP:                         47009181000000000016444445c00000101230100
  RemoteVpi:                         0
  RemoteVci:                         0
  RemoteNSAP:                        00000000000000000000000000000000000000000000
  Mastership:                        Slave
  VpcFlag:                           Vcc
  RoutingPriority:                   8
  MaxCost:                           2147483647
  RestrictTrunkType:                 No Restriction
  LocalConnPCR:                      3591
  LocalConnSCR:                      10
  LocalConnMCR:                      10
  RemoteConnPCR:                     3591
  RemoteConnSCR:                     10
  RemoteConnMCR:                     10
  LocalConnMBS:                      1024
  RemoteConnMBS:                     1024
  Chan Reroute:                      False
  ConnPercentUtil:                   100
  ChanOvrSubOvrRide:                 Enabled

 Stdabr Parameters:
  Minimum Cell Rate:                 10 Cells per second
  Peak Cell Rate:                    10 Cells per second
  Initial Cell rate:                 10 Cells per second
  Rate Increase Factor:              64
  Rate Decrease Factor:              16
  Nrm -- Inrate Cell Count:          64
  Trm -- Time limit for Frm:         255 milliseconds
  Transient Buffer Exposure:         16777215 Cells
  Fixed Round Trip Time:             0 milliseconds
  ACR Decrease Time Factor:          500 milliseconds
  Cutoff Decrease Factor:            16
  AbrType:                           Switch behavior without VS/VD

  ChanNumNextAvailable     :  17
  Local VpId NextAvailable :  1

PXM1E_SJ.1.4.AUSMB8.a >
```

Configuring the Master Side of SPVCs

To configure the master side of an SPVC, perform the following steps:

Step 1 Establish a configuration session using a user name with GROUP1 privileges or higher.

Tip During this procedure, you will have to enter the ATM address for the slave end of the connection. If you establish this session from the same workstation you used to create the slave connection, you can do a copy and paste sequence to avoid data entry errors.

Step 2 Enter the **addcon** command as follows to define the master side of the SPVC connection:

```
PXM1E_SJ.VHSHS2B.a > addcon <port_number> <vpi> <vci> [-ct <ConnectionType>]
[-contp <ControllerType>] [-st  <ServiceClassTtype>] [-master  <MasterShip>]
[-rmc <RemoteConnId>] [-abrtype <ABRType>] [-abrpcr  <ABRPCR>] [-abrmcr <ABRMCR>]
[-osub <OvrSubFlag>] [-ipcu <IngrPercentUtil>] [-epcu <EgrPercentUtil>]
[-upce <UpcEnable>] [-scrp <SCRPolicing>] [-ccdv <CDVT[0+1]>] [-cte <CLPTagEnable>]
[-dis <DiscardOption>] [-pcr01 <IngrUpcPCR[0+1]>] [-scr <IngrUpcSCR>]
[-cbs <MaxBurstSize>] [-maxcost <MaxCost>] [-rtngpri <RoutingPriority>]
[-type <restrictedType>] [-rpcr <RemotePCR>] [-rscr <RemoteSCR>] [-rmcr <RemoteMCR>]
[-rcbs <RemoteMaxBurstSize>]
```

Table 3-2 lists and describes the parameters for the **addcon** command. If you omit an option, a default value for that option is used for SPVC configuration. To override the default value for a given option, enter the option with the desired value.

Note If the **addcon** command fails and displays the "Failed to update disk" message, it could be that the PNNI controller has not been added on the PXM1E card. For information on adding the PNNI controller, refer to the *Cisco MGX 8800/8900 Series Configuration Guide, Release 5.2*.

If the **addcon** command fails and displays the "InvalidTrafficParm: check conformance or local/remote param mismatch" message, it could be that the local connection parameters on the slave/master endpoint do not match the remote connection parameters on the master/slave endpoint. To successfully add a connection both the local and remote connection parameters must match.

The following **addcon** command defines an AUSM port as the master side of a double-ended SPVC.

```
PXM1E_SJ.1.4.AUSMB8.a > addcon 2 100 100 -master 1 -rmc
47009181000000000016444445c00000101230100.100.100
```

Step 3 Enter the **dspcons** command to view the master-side of the new SPVC connection,: as shown in the following example:

```
PXM1E_SJ.1.4.AUSMB8.a > dspcons

  LCN  Port VPI  VCI  Class    Type  M/S EgrQ Admin Alarm
  ---- ---- --- ----- -------  ----- --- ---- ----- -----
  0016 001  100 00100 CBR1      VCC   S   1   Up    PORT-ALARM
  0017 002  100 00100 CBR1      VCC   M   1   Up    PORT-ALARM

  Number of channels:    2

  ChanNumNextAvailable     :  18
  Local VpId NextAvailable :  1
```

This command displays all the connections for the AUSM or MPSM card.

Step 4 Enter the **dspcon** command as follows to display the configuration information for a specific SPVC endpoint:

```
PXM1E_SJ.1.4.AUSMB8.a > dspcon <port_num> <vpi> <vci>
```

Replace the <*port_num*>, <*vpi*>, and <*vci*> parameters with the port number, the VPI, and the VCI of the connection you want to display:

Note The port, VPI, and VCI numbers are listed in the **dspcons** command display.

The following is sample output from the **dspcon** command for the connection created in the previous example. Notice that this report shows the NSAP IDs for both ends of the connection.

```
PXM1E_SJ.1.4.AUSMB8.a > dspcon 2 100 100

  ------------------------------------------
  ChanNum:   17         RowStatus: Add
  AdmnState: Up         ChanState: Alarm
  ---------- ---------- ---------- ----------
  PORT-ALARM CTRLR-ABIT E-AIS/RDI  I-AIS/RDI
  ---------- ---------- ---------- ----------
     YES         NO         NO         NO
  ------------------------------------------
  ChanNum:                          17
  RowStatus:                        Add
  ConnAdminStatus:                  Up
  ConnectionType:                   VCC
  ServiceType:                      CBR1
  ChanSvcFlag:                      PNNI
  PortNum:                          2
  VPI:                              100
  VCI (For VCC):                    100
  Local VPId(for VPC):              0
  EgressQNum:                       1
  IngressQDepth(cells):             1000
  IngressDiscardOption:             CLP hysterisis
  IngressFrameDiscardThreshold      1000
  IngressQCLPHigh(cells):           900
  IngressQCLPLow(cells):            800
  QCLPState:                        LOW
  IngressEfciThreshold(cells):      1000
```

```
 UPCEnable:                          Enabled
 PeakCellRate[0+1](cells/sec):       3591
 CellDelayVariation[0+1]:            10000 (micro secs)
 PeakCellRate[0](cells/sec):         3591
 CellDelayVariation[0]:              250000 (micro secs)
 SustainedCellRate(cells/sec):       10
 MaximumBurstSize(cells):            1024
 SCRPolicing:                        CLP[0]
 CLPTagEnable:                       Enabled
 FrameGCRAEnable:                    Disable

 InitialBurstSize(cells):            0
 LocalRemoteLpbkState:               Disable
 ChanTestType:                       No Test
 ChanTestState:                      Not In Progress
 ChanRTDresult:                      65535 ms

 Ingress percentage util:            100
 Egress percentage util :            100
 Egress Service Rate:                3591
 LocalVpi:                           100
 LocalVci:                           100
 LocalNSAP:                          47009181000000000016444445c00000101230200
 RemoteVpi:                          100
 RemoteVci:                          100
 RemoteNSAP:                         47009181000000000016444445c00000101230100
 Mastership:                         Master
 VpcFlag:                            Vcc
 RoutingPriority:                    8
 MaxCost:                            2147483647
 RestrictTrunkType:                  No Restriction
 LocalConnPCR:                       3591
 LocalConnSCR:                       10
 LocalConnMCR:                       10
 RemoteConnPCR:                      3591
 RemoteConnSCR:                      10
 RemoteConnMCR:                      10
 LocalConnMBS:                       1024
 RemoteConnMBS:                      1024
 Chan Reroute:                       False
 ConnPercentUtil:                    100
 ChanOvrSubOvrRide:                  Enabled

Stdabr Parameters:
 Minimum Cell Rate:                  10 Cells per second
 Peak Cell Rate:                     10 Cells per second
 Initial Cell rate:                  10 Cells per second
 Rate Increase Factor:               64
 Rate Decrease Factor:               16
 Nrm -- Inrate Cell Count:           64
 Trm -- Time limit for Frm:          255 milliseconds
 Transient Buffer Exposure:          16777215 Cells
 Fixed Round Trip Time:              0 milliseconds
 ACR Decrease Time Factor:           500 milliseconds
 Cutoff Decrease Factor:             16
 AbrType:                            Switch behavior without VS/VD

 ChanNumNextAvailable     :  18
 Local VpId NextAvailable :  1
```