



Switch Commands That Apply to the MGX 8850 Node

This appendix contains descriptions of the switch software commands that have been altered to support the MGX 8850 switch. These descriptions appear in the *Cisco WAN Switching Command Reference*.

addcon (ATM)

Establishes an ATM connection between the current node and one or more nodes in the network.

The **addcon** command for ATM adds any one of the following types of ATM connections:

- Constant Bit Rate (CBR)
- Variable Bit Rate (VBR)
- Frame relay-to-ATM interworking connection (ATFR)
- Frame relay-to-ATM interworking with ForeSight (ATFST) connection
- Available Bit Rate according to ATM Forum standards (ABRSTD)
- Available Bit Rate with ForeSight (ABRFST)
- Unspecified Bit Rate (UBR)

This description has the following explanations in the form of figures and tables

- Flow diagrams showing the sequence of parameter prompts for each connection type
 - Figure C-1 shows the prompt sequence for CBR connections.
 - Figure C-2 shows the prompt sequence for VBR connections.
 - Figure C-3 shows the prompt sequence for ATFR connections.
 - Figure C-4 shows the prompt sequence for ATFST connections
 - Figure C-5 shows the prompt sequence for ABRSTD connections.
 - Figure C-6 shows the prompt sequence for ABRFST connections.
 - Figure C-7 shows the prompt sequence for UBR connections.
- A table that names each type of policing
- A table showing each connection parameter, possible values, and defaults
- A table with a brief definition of each connection parameter
- Example screens from the command line interface

For detailed descriptions of the connection types, traffic classes, policing, and ATM-related topics, refer to the *Cisco BPX 8600 Series Reference*, the *Cisco WAN Switching System Overview*, and the ATM Forum specifications.

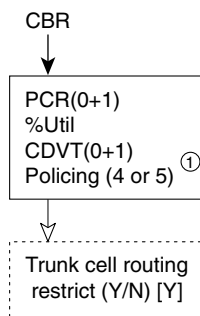
The node on which **addcon** executes is the “owner” of the connection. Connection ownership is important because automatic rerouting and preferred routing information is entered on the node that owns the connection. See the **cnfpref** and **cnfcos** descriptions for details on automatic rerouting.

The parameter prompts depend on the connection type. The figures on this and the following pages are flow diagrams showing the sequence of possible parameter prompts according to the connection type. The flow diagrams begin at the point after you have entered the remote node name and VPI and VCI (which are common parameters). The subsequent tables define the parameters and list the defaults and ranges for each parameter.

A form of notation appears for some parameters that may need explanation. The notation is either (0), (1), or (0+1). This refers to the state of the Cell Loss Priority (CLP) bit. The usage of the CLP bit is in the traffic policing schemes. (0+1) means cells with CLP=0 or 1. (0) means cells with CLP=0. (1) means cells with CLP=1. The CLP bit is used in different contexts. For example, CDVT (0+1) refers to Cell Delay Variation Tolerance (CDVT) for cells with CLP=0 or 1.

Before a connection is added, the proposed connection appears on the screen with a prompt for confirmation. After **addcon** executes, the system software automatically routes the connection.

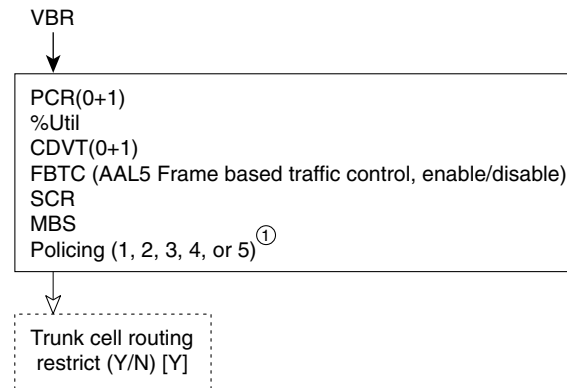
Figure C-1 Prompt Sequence for a CBR Connection



- ① For policing prompt:
4 = PCR policing only
5 = policing off

Note: BW allocation = (PCR)x(%Util)

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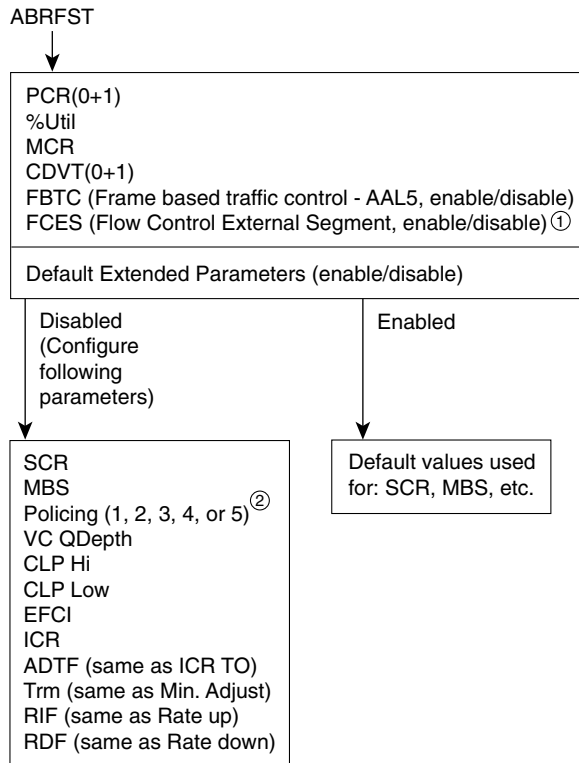
Figure C-2 Prompt Sequence for a VBR Connection

- ① For policing prompt:
 1 = VBR.1
 2 = VBR.2
 3 = VBR.3
 4 = PCR policing only
 5 = policing off

Note: BW allocation = (PCR)x(%Util)

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Figure C-3 Prompt Sequence for an ATR Connection

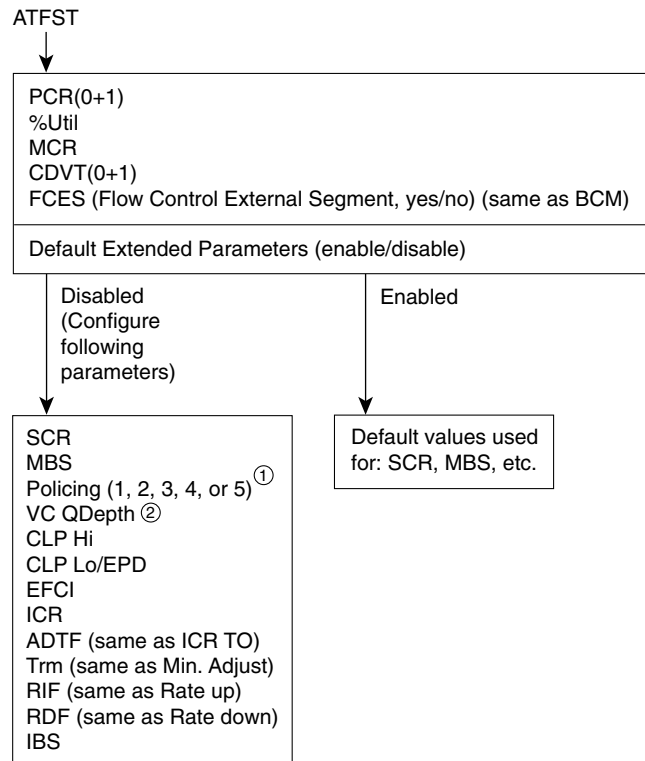


① At present, FCES is not available for ABR with ForeSight

② For policing prompt:
 1 = VBR.1
 2 = VBR.2
 3 = VBR.3
 4 = PCR policing only
 5 = policing off

Note: Bandwidth allocation
 = (MCR)x(%Util)

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Figure C-4 Prompt Sequence for a ATFST Connection

① For policing prompt:

- 1 = VBR.1
- 2 = VBR.2
- 3 = VBR.3
- 4 = PCR policing only
- 5 = policing off

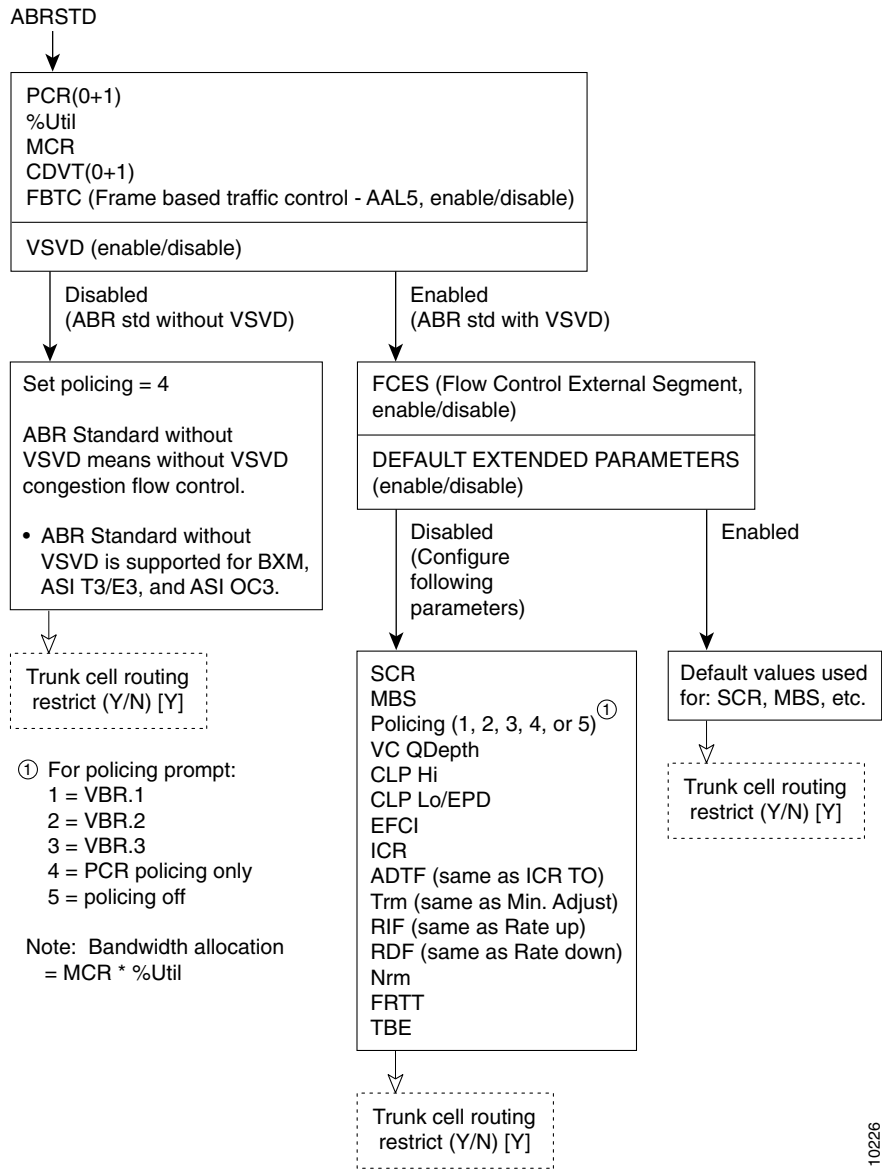
② VC QDepth maps to VC Queue max for frame relay.

- EFCI maps to ECN for frame relay.
- IBS maps to C max for frame relay.

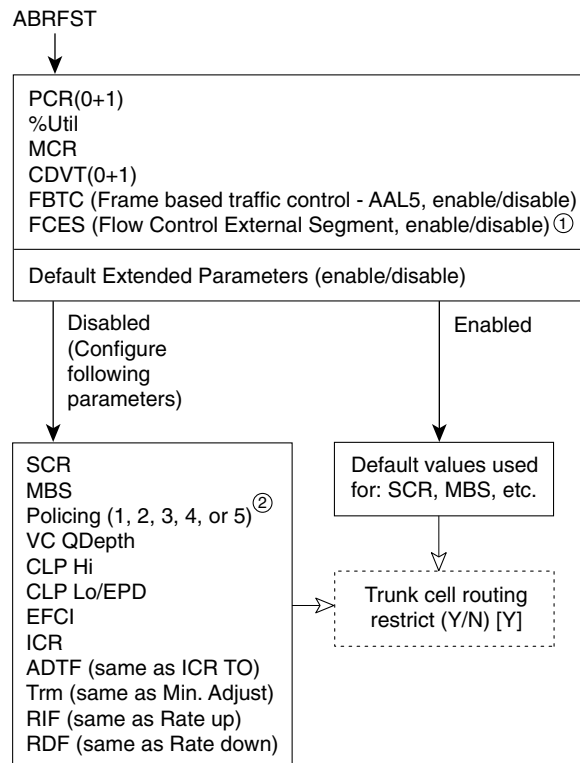
Note: FBTC (Frame based traffic control - AAL5, same as FGCR) is automatically set to yes.

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Figure C-5 Prompt Sequence for an ABRSTD Connection



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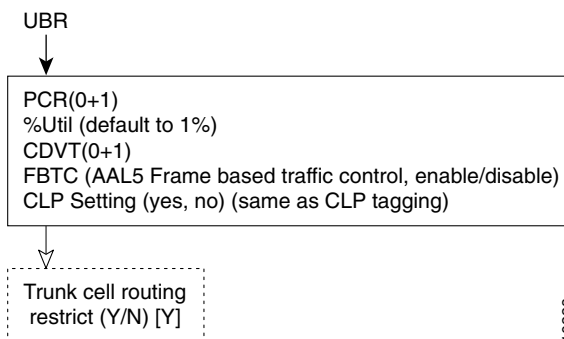
Figure C-6 Prompt Sequence for ABRFST Connection

① At present, FCES is not available for ABR with ForeSight

- ② For policing prompt:
- 1 = VBR.1
 - 2 = VBR.2
 - 3 = VBR.3
 - 4 = PCR policing only
 - 5 = policing off

Note: Bandwidth allocation
= (MCR)x(%Util)

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Figure C-7 Prompt Sequence for a UBR Connection

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Table C-1 contains descriptions of the ATM parameters that appear on screen. Table C-2 gives the defaults, ranges (or values), and applicable connection type (marked with an X) for each parameter. Table C-3 gives a shorthand definition of each type of traffic policing. In Table C-3, note that VBR.1,

VBR.2, VBR.3, CBR.1, UBR.1, and UBR.2 are ATM Forum standards for traffic policing. The columns in Table C-3 indicate the actions involved with each policing type. For descriptions of the *traffic types*, *connection types*, and *traffic policing*, refer to the *Cisco BPX 8600 Series Reference* and the *Cisco WAN Switching System Overview*. The preceding flow diagrams help clarify the information in the forthcoming tables. The remaining parts of this description contain attributes and screen examples.

**Note**

If the description states the parameter is transmit/receive, the system is prompting for two values: one is for the transmit direction, the other for the receive direction. Also, not all parameters apply to OC3/STM1 or OC12/STM4, as the text shows.

Table C-1 addcon-Parameters

Parameter/Prompt	Description
local channel	<p>Specifies the local slot, port, virtual path identifier (vpi), and virtual connection identifier (vci) for the connection. The format is <i>slot.port.vpi.vci</i>.</p> <p>The vpi range for a UNI connection is 0–255. The vpi range for an NNI connection is 1–4095.</p> <p>The range for a vci is 1–65355. The vci can be an asterisk (*) to indicate the connection is a <i>virtual path connection</i> (so the vci has no meaning within the network).</p> <p>When adding an MGX 8850 interface shelf with a UNI interface to a BPX 8600-series routing node, the VPI range is 1–255. The VCI range is 1–65355.</p> <p>When adding an MGX 8850 interface shelf with an NNI interface to a BPX 8600-series routing node, the VPI range is 1–4095. The VCI range is 1–65355.</p>
remote node name	Specifies the name of the node at the other (or remote) end of the connection.
remote channel	<p>Specifies the remote node's slot, port, vpi, and vci for this connection. The format is <i>slot.port.vpi.vci</i>. The vpi and vci ranges are:</p> <p>The vpi range for a UNI connection is 0–255. The vpi range for an NNI connection is 0–1023</p> <p>The range for a vci is 1–4095. The vci can be an asterisk (*) to indicate the connection is a <i>virtual path</i> (the vci does not provide a distinction within the network).</p>

Table C-1 addcon-Parameters (continued)

Parameter/Prompt	Description
connection class	<p>Specifies one of the following connection types: VBR, UBR, CBR, ATFST, ATFR, ATFX, ATFT, ABRSTD, or ABRFST. The subsequent displayed parameters depend on the connection type you choose. To see the parameters associated with each connection type, refer to the appropriate flow diagrams (Figure C-1 through Figure C-7). For a definition of each class, refer to the <i>Cisco WAN Switching System Overview</i>.</p> <p>The option for choosing a class <i>number</i> is also available. The class is a <i>template</i> for a connection type. The class serves as an alternative to specifying each parameter for a connection type. To specify a connection class, enter a digit in the range 1–10. To see the parameter values for a class, use the dspcls commands. To customize any class template, use cnfcls.</p>
PCR	Peak Cell Rate: the cell rate that the source cannot exceed.
%Util	Specifies the percentage of bandwidth utilization.
MCR	Minimum Cell Rate: the committed, minimum cell rate for a connection in a network.
CDVT	Cell Delay Variation Tolerance: controls time scale over which the PCR is policed.
FBTC (AAL5 Frame Base Traffic Control)	Enables the possibility of discarding a whole frame rather than a single, non-compliant cell. FBTC used to set the Early Packet Discard bit at every node along a connection.
VSVD	Virtual Source Virtual Destination.
Flow Control External Segments	Enables Cisco WAN switches to perform flow control on external segments (on the CPE, for example) in addition to the Cisco WAN Switching segments.
SCR	Sustainable Cell Rate: the long-term limit on the rate that a connection can sustain.
MBS	Maximum Burst Size: the maximum number of cells that can burst at the PCR and still be compliant. MBS is used to determine the Burst Tolerance (BT), which controls the time period over which the SCR is policed.
Policing	(see Table C-3, “Traffic Policing Definitions”).
VC QDepth	The depth of the queue VC QDepth.
CLP Hi	Cell Loss Priority Hi threshold (% of VC QDepth). When the high threshold is exceeded, the node discards cells with CLP=1 until the number of cells in the queue drops below the level specified by CLP Lo/EPD.

Table C-1 addcon-Parameters (continued)

Parameter/Prompt	Description
CLP Lo/EPD	Cell Loss Priority Low threshold (% of VC QDepth)/Early Packet Discard. When the number of cells in the queue drops below the level specified by CLP Lo/EPD, the node stops discarding cells with CLP=1. If the card is a BXM and AAL5 FBTC=yes, the percent of VC QMax equals the value of EPD. Frame-based Traffic Control (FBTC) is FGCRA for AAL5. For an ASI card, the percent of VC QMax is CLP Lo regardless of the FBTC setting.
EFCI	Explicit Forward Congestion Indication threshold (% of VC QDepth).
ICR	Initial Cell Rate: the rate at which a source initially transmits after an idle period.
IBR	Initial Burst Size: the maximum burst size a source can initially transmit after an idle period. IBR applies to only BXM cards.
ADTF (ATM Forum TM 4.0 term)	The Allowed-Cell-Rate Decrease Factor. Time permitted between sending RM-cells before the rate is decreased to ICR. (In previous software releases, ADTF was ICR TO—Initial Cell Rate Time Out.)
Trm (ATM Forum TM 4.0 term)	An upper bound on the time between forward RM-cells for an active source: an RM cell must be sent at least every <i>Trm</i> milliseconds. (In previous software releases, Trm was Min. Adjust.)
RIF (ATM Forum TM 4.0 term)	Rate Increase Factor: controls the amount by which the cell transmission rate may increase upon receipt of an RM cell. (In previous software releases, RIF was Rate Up.)
RDF (ATM Forum TM 4.0 term)	Rate Decrease Factor: controls the amount decrease in cell transmission rate when an RM cell arrives. (In previous software releases, RDF was Rate Down.)
Nrm (ATM Forum TM 4.0 term)	Nrm. Maximum number of cells a source may send for each forward RM cell: an RM cell must be sent for every <i>Nrm</i> -1 data cells.
FRTT (ATM Forum TM 4.0 term)	Fixed Round Trip Time: the sum of the fixed and propagation delays from the source to a destination and back.
TBE (ATM Forum TM 4.0 term)	Transient Buffer Exposure The negotiated number of cells that the network would like to limit the source to sending during start-up periods, before the first RM-cell returns.
PCR	Peak cell rate: the cell rate which the source may never exceed.

Table C-2 addcon-Parameter Defaults and Ranges

Parameter with [Default Settings]	UXM and BXM T1/E1, T3/E3, OC3, and OC12 Range	ASI Range
PCR(0+1)[50/50]	50-max. T1/E1 cells/sec. 50-max. T3/E3 cells/sec. 50-max. OC3 cells/sec 50-max. OC12 cells/sec	T3: MCR-96000 E3: MCR-80000 OC3 (STM1): 0-353200 Limited to MCR-5333 cells/sec for ATFR connections.
%Util [100/100] for UBR [1/1]	0-100%	1-100%
MCR [50/50]	cells/sec 6-max. of T3/E3/OC3/OC12	T3: 0-96000 cells/sec E3: 0-80000 cells/sec
AAL5 Frame Base Traffic Control: for VBR [disable] for ABR/UBR [enable] for Path connection [disable]	enable/disable	enable/disable
CDVT(0+1): for CBR [10000/10000], others [250000/250000]	0-5,000,000 microseconds.	T3/E3: 1-250,000 microseconds. OC3/STM1: 0-10000 microseconds.
ForeSight [disable]	0 = disable 1 = enable	0 = disable 1 = enable
VSVD [disable]	enable/disable	enable/disable
Flow Control External Segment [disable]	enable/disable	enable/disable
Default Extended Parameters [enable]	enable/disable	enable/disable
CLP Setting [enable]	enable/disable	enable/disable
SCR [50/50]	c50-max. T1/E1 cells/sec 50-max. T3/E3 cells/sec 50-max. OC3 cells/sec 50-max. OC12 cells/sec	T3: MCR-96000:T3 E3: MCR-80000: E3 OC3/STM1: 0-353200 Limited to MCR-5333 cells/sec for ATFR connections.
MBS [1000/1000]	1-5,000,000 cells	T3/E3: 1-24000 cells OC3 (STM1): 10-1000 cells

Table C-2 addcon-Parameter Defaults and Ranges (continued)

Parameter with [Default Settings]	UXM and BXM T1/E1, T3/E3, OC3, and OC12 Range	ASI Range
Policing [3] For CBR: [4]	1 = VBR.1 2 = VBR.2 3 = VBR.3 4 = PCR policing only 5 = off	1 = VBR.1 2 = VBR.2 3 = VBR.3 4 = PCR policing only 5 = off
ICR: max [MCR, PCR/10]	MCR - PCR cells/sec	MCR - PCR cells/sec
ADTF [1000]	62–8000 msec	1000–255000 msec
Trm [100]	ABRSTD: 1–100 msec. ABRFST: 3–255 msec	20–250 msec
VC QDepth [16000/16000] For ATFR/ATFST [1366/1366]	0–61440 cells	Applies to T3/E3 only ABR: 1–64000 cells ATFR: 1–1366 cells
CLP Hi [80/80]	1–100%	1–100%
CLP Lo/EPD [35/35]	1–100%	1–100%
EFCI [30/30] For ATFR/ATFST [100/100]	1–100%	1–100%
RIF: For ForeSight: = max [PCR/128, 10] For ABRSTD [128]	If ForeSight, then in absolute (0–PCR) If ABR, then 2 ⁿ (1–32768)	If ForeSight, then in absolute (0–PCR) If ABR, then 2 ⁿ (1–32768)
RDF: For ForeSight [93] For ABRSTD [16]	IF ForeSight, then % (0%–100%) If ABR, then 2 ⁿ (1–32768)	IF ForeSight, then % (0%–100%) If ABR, then 2 ⁿ (1–32768)
Nrm[32]–BXM only	2–256 cells	not applicable
FRTT[0]–BXM only	0–16700 msec	not applicable
TBE[1,048,320]–BXM only	0–1,048,320 cells (different maximum range from TM spec. but limited by firmware for CRM (4095 only) where CRM=TBE/Nrm	not applicable

Table C-2 addcon-Parameter Defaults and Ranges (continued)

Parameter with [Default Settings]	UXM and BXM T1/E1, T3/E3, OC3, and OC12 Range	ASI Range
IBS [0/0]	0–24000 cells	T3/E3 ABR: 0–24000 cells ATFR: 1–107 cells OC3: 0–999 cells
Trunk Cell Routing Restriction (y/n) [y]	yes or no	yes or no

Table C-3 Traffic Policing Definitions

Connection Type	ATM Forum TM spec. 4.0 conformance definition	PCR Flow (1st leaky bucket)	CLP tagging (for PCR flow)	SCR Flow (2nd leaky bucket)	CLP tagging (for SCR flow)
CBR	CBR.1 when policing set to 4 (PCR Policing only)	CLP(0+1)	no	off	n/a
CBR	When policing = 5 (off)	off	n/a	off	n/a
UBR	UBR.1 when CLP setting = no	CLP(0+1)	no	off	n/a
UBR	UBR.2 when CLP setting = yes	CLP(0+1)	no	CLP(0)	yes
VBR, ATFR, ATFST, ABRSTD with VSVD, and ABRFST	VBR.1 when policing = 1	CLP(0+1)	no	CLP(0+1)	no
VBR, ATFR, ATFST, ABRSTD with VSVD, and ABRFST	VBR.2 when policing = 2	CLP(0+1)	no	CLP(0)	no
VBR, ATFR, ATFST, ABRSTD with VSVD, and ABRFST	VBR.3 when policing = 3	CLP(0+1)	no	CLP(0)	yes
VBR, ATFR, ATFST, ABRFST	(when Policing = 4)	CLP(0+1)	no	off	n/a
VBR, ATFR, ATFST, and ABRSTD with VSVD	(when Policing = off)	off	n/a	off	n/a

■ addcon (ATM)

Full Name

Add a connection

addcon *parameters* (see preceding flow diagrams and tables)

Related Commands

delcon, dspcons

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	IGX, BPX
Lock	Yes

Example 1

```
addcon 9.1.100.100 pubsbpx2 9.1.102.102
```

Description

Add a standard ABR connection with VSVD and no Default Extended Parameters (which then require user input for SCR, MBS, and so on).

System Response

```
pubsbpx1      TN      SuperUser      BPX 15      9.19.1 Oct. 27 1998 05:22 GMT

From          Remote      Remote
9.1.100.100   NodeName   Channel
9.1.100.100   pubsbpx2  9.1.102.102   Ok   abrstd
9.1.102.102   pubsbpx2  9.1.100.100   Ok   abrstd

State Type      Route
Avoid COS O
```

```
This Command: addcon 9.1.100.100 pubsbpx2 9.1.102.102 abr * * * * e e * d * * 1
* * * * * * * * *
```

```
Add these connections (y/n)?
```

addshelf

Adds an ATM link between a hub node and a concentrator such as an MGX 8220, MGX 8850, or IGX 8400-series shelf in a tiered network; an ATM link between a BXM card on a BPX 8600-series node and a label switching controller (LSC) such as a series 7200 or 7500 router; or an ATM link between a BXM card on a BPX 8600-series node and an Extended Services Processor. A label switching (LSC) or an Extended Services Processor is considered an interface shelf from the BPX 8600 perspective. The routing hub can be either a BPX 8600-series or an IGX 8400-series node.

The interface shelf can be one of the following:

- An MGX 8220 shelf connected to a BPX 8600-series node
- An MGX 8850 shelf connected to a BPX 8600-series node
- An IGX node connected to an IGX routing node which serves as a hub for the IGX/AF
- A Label Switching Controller (LSC) connected to a BPX 8600-series node
- An Extended Services Processor Controller connected to a BPX 8600-series node

The signaling protocol that applies to the trunk on an interface shelf is Annex G.



Note

Because tiered network capability is a paid option, personnel in the Cisco Technical Assistance Center (TAC) must telnet to the unit and configure it as an interface shelf before you can execute **addshelf**.

Each IGX/AF, MGX 8220, or MGX 8850 shelf has one trunk that connects to the BPX 8600-series or IGX 8400-series node serving as an access hub. A BPX 8600-series routing hub can support up to 16 T3 trunks to the interface shelves, which can be an IGX/AF, MGX 8220, or MGX 8850 interface shelf. An IGX hub can support up to four trunks to the interface shelves, which can be IGX/AF shelves only.

Before it can carry traffic, the trunk on an interface shelf must be “upped” (using **uptrk**) on both the interface shelf and the hub node and “added” to the network (using **addshelf**). Also, a trunk must be free of major alarms before you can add it with the **addshelf** command.

Full Name

Add an interface shelf (feeder).

Syntax

Interface shelf:

```
addshelf <slot.port> <shelf-type> <vpi> <vci>
```

LSC:

```
addshelf <slot.port> <device-type> <control partition> <control ID>
```



Note

If you manage a tiered network through the command line interface, you can manage only Frame Relay interworking connections (ATFR) across the network. Three-segment connections for carrying serial data or voice between IGX/AFs is allowed, but you must manage them through the Cisco WAN Manager application.

Related Commands

delsshelf, dspnode, dsptrks

Attributes

Privilege	1–4
Jobs	Yes
Log	Yes
Node	BPX 8600-series switch with IGX and IPX interface shelves; IGX switch with IPX and IGX shelves BPX 8600-series switch with the MGX 8220 shelf BPX 8600-series switch with the MGX 8850 shelf BPX 8600-series switch for label switching controller (LSC) BPX 8600-series switch for Extended Services Processor
Lock	Yes

Example 1Interface shelf: **addshelf** 11.1 a 21 200LSC: **addshelf** 4.1 vsi 1 1**Description**

Interface shelf:

Add trunk 11.1 as an MGX 8220 interface shelf. After you add the shelf, the screen displays a confirmation message and the name of the shelf.

LSC:

Add trunk 4.1 as a VSI-LSC interface shelf. After you add the LSC, the screen displays a confirmation message and the name of the shelf.

Description for Label Switching

For label switching, before it can carry traffic, you need to “up” the link to a label switch controller (using either **uptrk** or **upport**) at the BPX 8600-series node. You can then “add” the link to the network (using **addshelf**). Also, the link must be free of major alarms before you can add it with the **addshelf** command. (See Table C-4.)

**Note**

Once you “up” a port on the BXM in either trunk or port mode by using either the **uptrk** or **upport** commands, respectively, you can only “up” the ports in the same mode.

Table C-4 Label Switching Parameters- addshelf

Parameter	Description
slot.port	Specifies the BXM slot and port number of the trunk. (You can configure the port for either trunk (network) or port (service) mode.
device-type	vsi, which is “virtual switch interface, specifies a virtual interface to a label switch controller (LSC) such as a Cisco 7200 or 7500 series router.
control partition	
control ID	Control IDs must be in the range of 1 to 32, and you must set these identically on the LSC and in the addshelf command. A control ID of “1” is the default used by the label switch controller (LSC).

Example for Label Switching

Add a label switch controller link to a BPX 8600-series node by entering the **addshelf** command at the desired BXM port as follows:

```
addshelf 4.1 vsi 1 1
```

System Response

```
nmsbpx23      TN      SuperUser      BPX 15      9.1      Apr. 4 1998 13:28 PST
```

BPX Interface Shelf Information

Trunk	Name	Type	Alarm
5.1	j6c	AXIS	MIN
5.3	j5c	IGX/AF	MIN
4.1	VSI	VSI	OK

```
This Command: addshelf 4.1 v 1 1
```

```
Next Command:
```

Description for Interface Shelves

An interface shelf can be one of the following:

- An MGX 8220 connected to a BPX 8600-series node.
- An MGX 8850 connected to a BPX 8600-series node.
- An IGX node connected to a BPX 8600-series node, which serves as a hub for the IGX/AF.
- An IGX node connected to an IGX routing node, which serves as a hub for the IGX/AF.

Each MGX 8850 or MGX 8220 feeder has one trunk that connects to the BPX 8600-series or IGX node serving as an access hub. A BPX 8600-series hub can support up to 16 T3 trunks to the interface shelves. An IGX hub can support up to four trunks to the interface shelves.

Before it can carry traffic, the trunk on an interface shelf must be “upped” (using **uptrk**) on both the interface shelf and the hub node and “added” to the network (using **addshelf**). Also, a trunk must be free of major alarms before you can add it using the **addshelf** command. (See Table C-5.)

Table C-5 Interface Shelf Parameters- addshel

Parameter	Description
slot.port (trunk)	slot.port Specifies the slot and port number of the trunk.
shelf type	I or A or P or V or X On a BPX 8600-series node, shelf type specifies the type of interface shelf when you execute addshelf . The choices are I for IGX/AF, A for the MGX 8220, P for EPS (Extended Services Processor, a type of Adjunct Processor Shelf), V for VSI, or X for the MGX 8850 node. On an IGX hub, only the IGX/AF is possible, so <i>shelf type</i> does not appear.
vpi vci	Specifies the VPI and VCI (Annex G VPI and VCI used). For the MGX 8220 only, the valid range for VPI is 5–14 and for VCI is 16–271.

Example for Interface Shelves

Add an MGX 8220 at trunk 11.1 After you add the shelf, the screen displays a confirmation message and the name of the shelf. Add the MGX 8220 (may be referred to on screen as AXIS) as follows:

addshelf 11.1 a

The sample display shows the partial execution of a command with the prompt requesting that the I/F type be entered.

System Response

```
nmsbpx23      TN      SuperUser      BPX 15      9.1      Apr. 4 1998 13:28 PST
```

```
BPX Interface Shelf Information
```

Trunk	Name	Type	Alarm
1.3	AXIS240	AXIS	OK
11.2	A242	AXIS	OK

```
This Command: addshelf 11.1
```

```
Enter Interface Shelf Type: I (IGX/AF), A (AXIS), P (APS), V (VSI), X (PAR)
```

```
Next Command:
```

Example for Adding an MGX 8850 PAR (Portable AutoRoute) Interface Shelf

Add an MGX 8850 at trunk 4.8. After you add the MGX 8850 shelf, the screen displays a confirmation message and the name of the shelf. Add the MGX 8850 (may be referred to on screen as PAR) as follows:

addshelf 4.8 x

The sample display shows that an MGX 8850 was added on trunk 4.8 as a Portable AutoRoute (PAR) type of interface shelf. (Adding an MGX 8850 shelf is similar to adding a LSC interface shelf.)

System Response

```
pswbpx3      TN      SuperUser      BPX 8600      9.1      June 6 1998 13:28 PST
```

BPX Interface Shelf Information

Trunk	Name	Type	Part Id	Ctrl Id	Alarm
4.8	SIMFDR0	PAR	-	-	OK

This Command: addshelf 4.8 x

Enter Interface Shelf Type: A (MGX 8220), P (EPS), V (VSI), X (PAR), I (IGX/AF)

Next Command:

dspnode (LSC)

Displays a summary of the interface shelves.

The **dspnode** command can isolate the shelf where an alarm has originated. For example, when you execute **dspalms**, the display indicates the number of shelves with alarms but does not identify the shelves. Therefore, execute **dspnode** on the hub node to determine which interface shelf generated the alarm.

The first example shows a screen display with **dspnode** executed on a BPX 8600-series node. The second example shows a screen with **dspnode** executed on an IGX/AF. When executed on an IGX/AF, **dspnode** shows the name of the hub node and the trunk number. Note that to execute a command from an IGX/AF itself, you must either telnet to the shelf or use a control terminal attached to the shelf.

Full Name

Display node

Syntax

dspnode

Related Commands

addshelf, delshelf, dsptrk

Attributes

Privilege	1–6
Jobs	No
Log	No
Node	BPX, IGX, IGX/AF
Lock	Yes

Example 1

dspnode

Description

Display information about the interface shelves (executed on the BPX 8600-series hub node).

System Response

```
sw53          TN      SuperUser      BPX 15      9.1 July 21 1998 15:09 GMT
```

```
          BPX Interface Shelf Information
```

Trunk	Name	Type	Part ID	Ctrl ID	Alarm
1.1	sw89	IGX/AF			OK
1.2	SW93AXIS	AXIS			UNRCH
1.3	SW77AXIS	AXIS			MAJ
3.1	sw92	LSC			OK
3.2	sw91	IGX/AF			OK
3.3	sw90	IGX/AF			OK
4.1	sw24	IGX/AF			MIN
4.3	sw25	IGX/AF			MIN
5.8	SIMFDR0	PAR	-	-	OK

```
Last Command: dspnode
```

```
Next Command:
```

Example 2

```
dspnode
```

Description

Display information about the trunk to the hub node (executed on an IGX/AF).

System Response

```
sw141          TN      SuperUser      IGX 16      9.1 Aug. 20 1998 07:23 PDT
```

```
Switching Shelf Information
```

Trunk	Name	Type	Alarm
3	sw45	BPX	OK

```
Last Command: dspnode
```

```
Next Command:
```

dspnode

Displays a summary of the interface shelves.

The **dspnode** command can isolate the shelf where an alarm has originated. For example, when you execute **dspalms**, the display indicates the number of shelves with alarms but does not identify the shelves. Therefore, execute **dspnode** on the hub node to determine which interface shelf generated the alarm.

The first example shows a screen display with **dspnode** executed on a BPX node. The second example shows a screen with **dspnode** executed on an IGX/AF. When executed on an IGX/AF, **dspnode** shows the name of the hub node and the trunk number. Note that to execute a command from an IGX/AF itself, you must either telnet to the shelf or use a control terminal attached to the shelf.

You can also display the VSI controllers on a BPX node using **dspnode**.

Full Name

Display node

Syntax

dspnode

Related Commands

addshelf, delshelf, dsptrk

Attributes

Privilege	1–6
Jobs	No
Log	No
Node	BPX, IGX, IGX/AF
Lock	Yes

Example 1

```
dspnode
```

Description

Display information about the interface shelves (executed on the BPX 8600-series hub node).

■ dspnode

System Response

```
sw53          TN      SuperUser      BPX 15      9.1 July 21 1998 15:09 GMT
```

```
          BPX Interface Shelf Information
```

Trunk	Name	Type	Alarm
1.1	sw89	IGX/AF	OK
1.2	SW93AXIS	AXIS	UNRCH
1.3	SW77AXIS	AXIS	MAJ
3.1	sw92	LSC	OK
3.2	sw91	IGX/AF	OK
3.3	sw90	IGX/AF	OK
4.1	sw24	IGX/AF	MIN
4.3	sw25	IGX/AF	MIN

```
Last Command: dspnode
```

```
Next Command:
```

Example 2

```
dspnode
```

Description

Display information about the trunk to the hub node (executed on an IGX/AF).

System Response

```
sw141          TN      SuperUser      IGX 16      9.1 Aug. 20 1998 07:23 PDT
```

```
          Switching Shelf Information
```

Trunk	Name	Type	Alarm
3	sw45	BPX	OK

```
Last Command: dspnode
```

```
Next Command:
```

dsptrks

Displays basic trunk information for all trunks on a node. This command applies to both physical only and virtual trunks. The displayed information consists of:

- Trunk number, including the virtual trunk number if applicable
- Line type (E1, T3, or OC3, for example)
- Alarm status

In addition, for trunks that have been added to the network with the **addtrk** command, the information includes the node name and trunk number at the other end. Trunks that have a “-” in the Other End column have been upped with **uptrk** but not yet added on both ends with **addtrk**. For disabled trunks, the trunk numbers appear in reverse video on the screen.

Full Name

Display trunks

Syntax

dsptrks

Related Commands

addtrk, deltrk, dntrk, uptrk

Attributes

Privilege	1–6
Jobs	No
Log	No
Node	IPX, IGX, BPX
Lock	No

Example 1

dsptrks

Description

Display information on the trunk configuration and alarm status for the trunks at a node. The trunk numbers with three places represent virtual trunks.

System Response

```

sw53          TN      SuperUser      BPX 15      9.1      Sep. 24 1998 23:03 GMT

TRK  Type      Current Line Alarm Status      Other End
1.1  T3Clear - OK                      sw89 (IGX/AF)
1.2  T3Clear - OK                      -
1.3  T3Clear - OK                      -
2.1.1OC3Clear - OK                    -
3.1  T3Clear - OK                      sw92 (IGX/AF)
3.2  T3Clear - OK                      sw91 (IGX/AF)
3.3  T3Clear - OK                      sw90 (IGX/AF)
4.1  T3Clear - OK                      sw24 (IGX/AF)
4.2  T3Clear - OK                      swstorm/1.1
4.3  T3Clear - OK                      sw25 (IGX/AF)
13.1 T3(E3)Clear - OK                  -
13.2.1T3 Clear - OK                    -
13.2.2T3Clear - OK                    -
13.2.3T3Clear - OK                    -

```

Last Command: dsptrks

Next Command:

Example 1**dsptrks****Description**

Display information on the trunk configuration and alarm status for the trunks at a node. The trunk numbers with three places represent virtual trunks.

System Response

```

sw53          TN      SuperUser      BPX 15      9.1      Sep. 24 1998 23:03 GMT

TRK  Type      Current Line Alarm Status      Other End
2.1  T3Clear - OK                      pswbpx1/1.2
4.8  T3Clear - OK                      SIMFDR0 (PAR)

```

Last Command: dsptrks

Next Command: