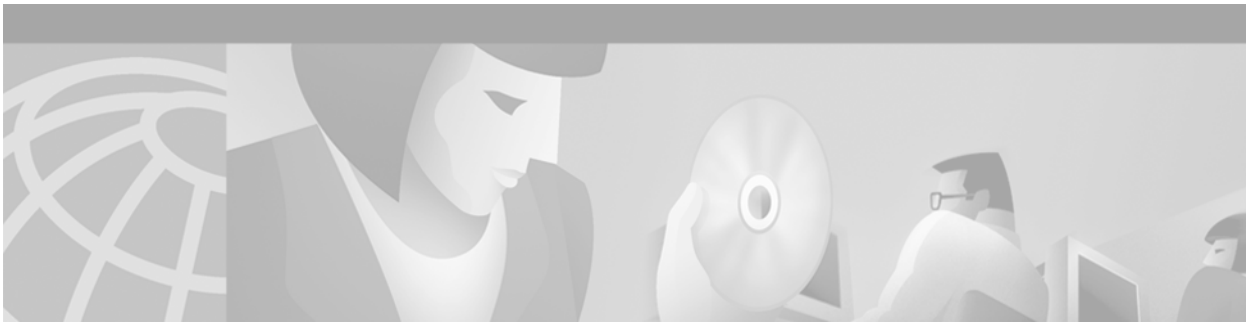

DSPU and SNA Service Point Commands

This chapter describes the commands you use to configure the downstream physical unit (DSPU) feature, which provides a gateway facility for downstream Systems Network Architecture (SNA) physical units (PUs), and SNA Service Point support. For DSPU and SNA Service Point configuration tasks and examples, refer to the "Configuring DSPU and SNA Service Point Support" chapter of the *Cisco IOS Bridging and IBM Networking Configuration Guide.*

dspu activation-window

To define the number of activation request units (RUs) and response messages (such as ACTLUs or DDDLU NMVTs) that can be sent without waiting for responses from the remote PU, use the **dspu activation-window** global configuration command. To restore the default window size, use the **no** form of this command.

dspu activation-window *window-size*

no dspu activation-window

Syntax Description

window-size	Number of outstanding unacknowledged activation RUs. The default is 5.

Defaults

The default window size is 5 outstanding unacknowledged activation RUs.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

You do not typically need to define the number of activation RUs, but doing so can enhance activation performance in some situations. Increasing the DSPU activation window allows more LUs to become active in a shorter amount of time (assuming the required buffers for activation RUs are available). Conversely, decreasing the DSPU activation window limits the amount of buffers the DSPU can use during PU/LU activation. This command provides pacing to avoid depleting the buffer pool during PU activation.

Examples

In the following example, the DSPU activation window is configured to 10. The DSPU can send up to 10 activation RUs without a response from the remote PU. However, the DSPU cannot send any additional activation RUs until a response is received. The DSPU can only have 10 activation RUs awaiting response at any given time.

```
dspu activation-window 10
```

dspu default-pu

To enable the default PU feature to be used when a downstream PU attempts to connect, but does not match any of the explicit PU definitions, use the **dspu default-pu** global configuration command. To disable the default PU feature, use the **no** form of this command.

dspu default-pu [**window** *window-size*] [**maxiframe** *max-iframe*]

no dspu default-pu [**window** *window-size*] [**maxiframe** *max-iframe*]

Syntax Description

window *window-size*	(Optional) Send and receive window sizes used across the link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Maximum size (in bytes) of an I-frame that can be sent or received across the link. The range is 64 bytes to 18,432 bytes. The default is 1472.

Defaults

The default window size is 7.

The default maximum I-frame size is 1472.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

If the DSPU default PU is not defined, a connection attempt by a downstream PU that does not match any explicit PU definition is rejected.

The **dspu default-pu** command must be followed by at least one **dspu lu** command to define which pool the default LUs will be assigned from. Default LUs cannot be defined as dedicated LUs from a host.

The maximum I-frame size includes the SNA transmission header (TH), request header (RH), and request unit (RU), but does not include the DLC header. The DSPU feature segments frames being sent to fit within this frame size. If an XID is received from a remote PU which indicates that it supports a different maximum I-frame size, then the smaller of the two values is used.

Examples

In the following example, the default PU feature is enabled with a window size of 5 and a maximum I-frame size of 128. Each default PU can have up to 3 LUs assigned from the *hostpool* pool of LUs.

```
dspu pool hostpool host ibm3745 lu 2 254
dspu default-pu window 5 maxiframe 128
dspu lu 2 4 pool hostpool
```

Related Commands

Command	Description
dspu lu	Defines a dedicated LU or a range of LUs for an upstream host and a downstream PU.
dspu pool	Defines a range of host LUs in an LU pool.

dspu enable-host (Token Ring, Ethernet, FDDI, Frame Relay)

To enable a local SAP on Token Ring, Ethernet, FDDI, or Frame Relay interfaces for use by upstream hosts, use the **dspu enable-host** interface configuration command. To cancel the definition, use the **no** form of this command.

dspu enable-host [**lsap** *local-sap*]

no dspu enable-host [**lsap** *local-sap*]

Syntax Description

lsap	(Optional) Specifies that the local SAP will be activated as an upstream SAP for both receiving incoming connection attempts and for starting outgoing connection attempts.
local-sap	(Optional) Local SAP address. The default is 12.

Defaults

The default local SAP address is 12.

Command Modes

Interface configuration

Command History

Release	Modification
10.3	This command was introduced.

Examples

In the following example, the local SAP address 10 on Token Ring interface 0 is enabled for use by upstream host connections:

```
interface tokenring 0
 dspu enable-host lsap 10
```

Related Commands

Command	Description
dspu host (Frame Relay)	Defines a DSPU host over a Frame Relay connection.
dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a DSPU host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.

dspu enable-host (QLLC)

To enable an X.121 subaddress for use by upstream host connections via QLLC, use the **dspu enable-host** interface configuration command. To disable the X.121 subaddress, use the **no** form of this command.

dspu enable-host qllc *x121-subaddress*

no dspu enable-host qllc *x121-subaddress*

Syntax Description

qllc	Required keyword for QLLC data-link control.
x121-subaddress	X.121 subaddress.

Defaults

No default X.121 subaddress is specified.

Command Modes

Interface configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

In the following example, X.121 subaddress 320108 is enabled for use by upstream host connections:

```
interface serial 0
 encapsulation x35
 x25 address 3202
 x25 map qllc 320112
 dspu enable-host qllc 320108
```

Related Commands

Command	Description
dspu host (QLLC)	Defines a DSPU host over an X.25/QLLC connection.
x25 map qllc	Specifies the X.121 address of the remote X.25 device with which communication is planned using QLLC conversion.

dspu enable-host (SDLC)

To enable an SDLC address for use by upstream host connections, use the **dspu enable-host** interface configuration command. To cancel the definition, use the **no** form of this command.

dspu enable-host sdlc *sdlc-address*

no dspu enable-host sdlc *sdlc-address*

Syntax Description

sdlc	Required keyword for SDLC data-link control.
sdlc-address	SDLC address.

Defaults

No default SDLC address is specified.

Command Modes

Interface configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

In the following example, SDLC address C1 is enabled for use by upstream host connections:

```
interface serial 0
 encapsulation sdlc
 sdlc role secondary
 sdlc address c1
 dspu enable-host sdlc c1
```

Related Commands

Command	Description
dspu host (SDLC)	Defines a DSPU host over an SDLC connection.
sdlc address	Assigns a set of secondary stations attached to the serial link.
sdlc role	Establishes the router to be either a primary or secondary SDLC station.

dspu enable-pu (Ethernet, Frame Relay, Token Ring, FDDI)

To enable an Ethernet, Frame Relay, Token Ring, or FDDI address for use by downstream PU connections, use the **dspu enable-pu** interface configuration command. To disable the connection, use the **no** form of this command.

dspu enable-pu [**lsap** *local-sap*]

no dspu enable-pu [**lsap** *local-sap*]

Syntax Description

lsap *local-sap*	(Optional) Local SAP address used by the DSPU to establish connection with the remote host. The default local SAP address is 8.

Defaults

The default local SAP address is 8.

Command Modes

Interface configuration

Command History

Release	Modification
10.3	This command was introduced.

Examples

The following example demonstrates the configuration of a downstream PU via Token Ring and Ethernet:

```
interface tokenring 0
 ring-speed 16
 dspu enable-pu lsap 8

interface ethernet 0
 dspu enable-pu lsap 8
```

Related Commands

Command	Description
dspu pu (Frame Relay)	Defines a DSPU host over a Frame Relay connection.
dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)	Defines an explicit downstream PU over Token Ring, Ethernet, FDDI, RSRB, VDLC, or NCIA connections.

dspu enable-pu (QLLC)

To enable an X.121 subaddress for use by downstream PU connections via QLLC, use the **dspu enable-pu** interface configuration command. To cancel the definition, use the **no** form of this command.

dspu enable-pu qllc *x121-subaddress*

no dspu enable-pu qllc *x121-subaddress*

Syntax Description

qllc	Required keyword for QLLC data-link control.
x121-subaddress	Variable-length X.121 address. It is assigned by the X.25 network service provider.

Defaults

No default address is assigned.

Command Modes

Interface configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following example enables an X.121 subaddress for use by downstream PU connections:

```
interface serial 0
 encapsulation x25
 x25 address 3201
 x25 map qllc 320208
 dspu enable-pu qllc 08
```

Related Commands

Command	Description
dspu pu (QLLC)	Defines a downstream PU over an X.25 connection explicitly.
x25 map qllc	Specifies the X.121 address of the remote X.25 device with which communication is planned using QLLC conversion.

dspu enable-pu (SDLC)

To enable an SDLC address for use by downstream PU connections, use the **dspu enable-pu** interface configuration command. To disable the connection, use the **no** form of this command.

dspu enable-pu sdlc *sdlc-address*

no dspu enable-pu sdlc *sdlc-address*

Syntax Description

sdlc	Required keyword for SDLC data-link control.
sdlc-address	SDLC address.

Defaults

No default address is specified.

Command Modes

Interface configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following example enables a DSPU downstream connection:

```
interface serial 0
 encapsulation x25
 sdlc role primary
 sdlc address c1
 dspu enable-pu sdlc c1
```

Related Commands

Command	Description
dspu pu (SDLC)	Defines a DSPU host over an SDLC connection.
sdlc address	Assigns a set of secondary stations attached to the serial link.
sdlc role	Establishes the router to be either a primary or secondary SDLC station.

dspu host (Frame Relay)

To define a DSPU host over a Frame Relay connection, use the **dspu host** global configuration command. To cancel the definition, use the **no** form of this command.

dspu host *host-name* **xid-snd** *xid* **dlci** *dlci-number* [**rsap** *rsap-addr*] [**lsap** *lsap-addr*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

no dspu host *host-name* **xid-snd** *xid* **dlci** *dlci-number* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

Syntax Description

host-name	The specified DSPU host.
xid-snd *xid*	XID that will be sent to the host during connection establishment. The XID value is 8 hexadecimal digits that include both block and ID numbers. For example, if the XID value is 05D00001, the block number is 05D and the ID number is 00001.
dlci *dlci-number*	Frame Relay data-link connection identifier (DLCI) number; a decimal number.
rsap *rsap-addr*	(Optional) Remote service access point (SAP) address.
lsap *lsap-addr*	(Optional) Local SAP address.
interface *slot/port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127.
maxiframe *max-iframe*	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the DSPU attempts to retry establishing connection with remote host PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 255.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between DSPU attempts to retry establishing connection with remote host PU. The range is 1 to 600 seconds. The default is 30 seconds.
focalpoint	(Optional) Specifies that the host link will be used for the focal point support.

Defaults

The default remote SAP is 4.

The default local SAP is 12.

The default window size is 7.

The default maximum I-frame is 1472.

The default retry count is 255.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

The local SAP address must be enabled by a **dspu enable-host** command.

If an XID is received from a remote PU that indicates it supports a different maximum I-frame size, then the smaller of the two values is used.

Alerts from downstream PUs will be forwarded to the focalpoint host. The **focalpoint** keyword must be included in no more than one **dspu host** command.

Examples

The following example defines a DSPU host for Frame Relay support:

```
dspu host rosebud xid-snd 06500001 dlci 200 rsap 4 lsap 12
```

Related Commands

Command	Description
dspu enable-host (Token Ring, Ethernet, FDDI, Frame Relay)	Enables a local SAP on Token Ring, Ethernet, FDDI, or Frame Relay interfaces for use by upstream hosts.
dspu pool	Defines a range of host LUs in an LU pool.

dspu host (QLLC)

To define a DSPU host over an X.25/QLLC connection, use the **dspu host** global configuration command. To delete the DSPU host definition, use the **no** form of this command.

dspu host *host-name* **xid-snd** *xid* **x25** *remote-x121-addr* [**qllc** *local-x121-subaddr*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

no dspu host *host-name* **xid-snd** *xid* **x25** *remote-x121-addr* [**qllc** *local-x121-subaddr*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

Syntax Description

host-name	The specified DSPU host.
xid-snd *xid*	XID that will be sent to the host during connection establishment. The XID value is 8 hexadecimal digits that include both block and ID numbers. For example, if the XID value is 05D00001, the Block number is 05D and the ID number is 00001.
x25 *remote-x121-addr*	Remote X.121 address.
qllc *local-x121-subaddr*	(Optional) Local X.121 subaddress.
interface *slot/port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the DSPU attempts to retry establishing connection with remote host PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 255.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between DSPU attempts to retry establishing connection with remote host PU. The range is 1 to 600 seconds. The default is 30 seconds.
focalpoint	(Optional) Specifies that the host link will be used for the focal point support.

Defaults

The default window size is 7.

The default maximum I-frame is 1472.

The default retry count is 255.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Usage Guidelines

The X.121 subaddress must be enabled by a **dspu enable-host (QLLC)** command.

If an XID is received from a remote PU that indicates it supports a different maximum I-frame size, then the smaller of the two values is used.

Alerts from downstream PUs will be forwarded to the focalpoint host. The **focalpoint** keyword must be included in no more than one **dspu host** command.

Examples

The following example defines a DSPU host:

```
dspu host hosta xid-snd 065ffff0 x25 00000123005 qllc 12
```

Related Commands

Command	Description
dspu enable-host (QLLC)	Enables an X.121 subaddress for use by upstream host connections through QLLC.
dspu pool	Defines a range of host LUs in an LU pool.
dspu start	Specifies that an attempt will be made to connect to the remote resource defined by host name or PU name.

dspu host (SDLC)

To define a DSPU host over an SDLC connection, use the **dspu host** global configuration command. To cancel the definition, use the **no** form of this command.

dspu host *host-name* **xid-snd** *xid* **sdlc** *sdlc-addr* [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

no dspu host *host-name* **xid-snd** *xid* **sdlc** *sdlc-addr* [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

Syntax Description

host-name	The specified DSPU host.
xid-snd *xid*	XID that will be sent to the host during connection establishment. The XID value is 8 hexadecimal digits that include both Block and ID numbers. For example, if the XID value is 05D00001, the Block number is 05D and the ID number is 00001.
sdlc *sdlc-addr*	SDLC hexadecimal address.
interface *slot/port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default window size is 7.
maxiframe *max-iframe*	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the DSPU attempts to retry establishing connection with remote host PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 255.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between DSPU attempts to retry establishing connection with remote host PU. The range is 1 to 600 seconds. The default is 30 seconds.
focalpoint	(Optional) Specifies that the host link will be used for the focal point support.

Defaults

The default window size is 7.

The default maximum I-frame is 1472.

The default number of retries is 255.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Usage Guidelines

The SDLC address must be enabled by a **dspu enable-host (SDLC)** command.

If an XID is received from a remote PU that indicates it supports a different maximum I-frame size, then the smaller of the two values is used.

Alerts from downstream PUs will be forwarded to the focalpoint host. The **focalpoint** keyword must be included in no more than one **dspu host** command.

Examples

The following example defines a DSPU host for SDLC:

```
dspu host hosta xid-snd 065ffff0 sdlc c1
```

Related Commands

Command	Description
dspu enable-host (SDLC)	Enables an SDLC address for use by upstream host connections.
dspu pool	Defines a range of host LUs in an LU pool.

dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)

To define a DSPU host over Token Ring, Ethernet, FDDI, RSRB, or virtual data-link control (VDLC) connections, use the **dspu host** global configuration command. To cancel the definition, use the **no** form of this command.

dspu host *host-name* **xid-snd** *xid* **rmac** *remote-mac* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**interface** *slot*/*port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

no dspu host *host-name* **xid-snd** *xid* **rmac** *remote-mac* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**interface** *slot*/*port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

Syntax Description

host-name	The specified DSPU host.
xid-snd *xid*	XID that will be sent to the host during connection establishment. The XID value is 8 hexadecimal digits that include both Block and ID numbers. For example, if the XID value is 05D00001, the Block number is 05D and the ID number is 00001.
rmac *remote-mac*	MAC address of the remote host PU.
rsap *remote-sap*	(Optional) SAP address of the remote host PU. The default is 4.
lsap *local-sap*	(Optional) Local SAP address used by the DSPU to establish connection with the remote host. The default is 12.
interface *slot*/*port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the DSPU attempts to retry establishing connection with remote host PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 255.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between DSPU attempts to retry establishing connection with remote host PU. The range is 1 to 600 seconds. The default is 30 seconds.
focalpoint	(Optional) Specifies that the host link will be used for the focal point support.

Defaults

The default remote SAP address is 4.

The default local SAP address is 12.

The default window size is 7.

The default maximum I-frame is 1472.

The default number of retries is 255.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Usage Guidelines

The local SAP address must be enabled by one of the following commands: **dspu enable-host**, **dspu rsrb enable-host**, or **dspu vdlc enable-host**.

If an XID is received from a remote PU that indicates it supports a different maximum I-frame size, then the smaller of the two values is used.

Alerts from downstream PUs will be forwarded to the focalpoint host. The **focalpoint** keyword must be included in no more than one **dspu host** command.

Examples

The following example shows the definition for a DSPU host with 252 LUs and a connection to be established across an RSRB link:

```
dspu rsrb 88 1 99 4000.ffff.0001
dspu rsrb enable-host lsap 10
dspu host ibm3745 xid 06500001 rmac 4000.3745.0001 lsap 10
dspu pool hostpool lu 2 253 host ibm3745
```

Related Commands

Command	Description
dspu enable-host (Token Ring, Ethernet, FDDI, Frame Relay)	Enables a local SAP on Token Ring, Ethernet, FDDI, or Frame Relay interfaces for use by upstream hosts.
dspu pool	Defines a range of host LUs in an LU pool.
dspu rsrb enable-host	Enables an RSRB SAP for use by DSPU host connections.
dspu rsrb start	Specifies that an attempt will be made to connect to the remote resource defined by host name or PU name through the RSRB.
dspu start	Specifies that an attempt will be made to connect to the remote resource defined by host name or PU name.
dspu vdlc enable-host	Enables a SAP for use by DSPU host connections.

dspu lu

To define a dedicated LU or a range of LUs for an upstream host and a downstream PU, use the **dspu lu** global configuration command. To cancel the definition, use the **no** form of this command.

dspu lu *lu-start* [*lu-end*] {**host** *host-name host-lu-start* | **pool** *pool-name*} [**pu** *pu-name*]

no dspu lu *lu-start* [*lu-end*] {**host** *host-name host-lu-start* | **pool** *pool-name*} [**pu** *pu-name*]

Syntax Description

lu-start	Starting LU address in the range of LUs to be assigned from a pool or dedicated to a host.
lu-end	(Optional) Ending LU address in the range of LUs to be assigned from a pool or dedicated to a host.
host *host-name host-lu-start*	Specifies that each LU in the range of LUs will be dedicated to a host LU *host-name*. The range of host LUs starts with the address *host-lu-start*.
pool *pool-name*	Specifies that each LU in the range of LUs will be assigned from the specified pool.
pu *pu-name*	(Optional) Downstream PU for which this range of LUs is being defined.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

The **dspu lu** command is applied to that PU, and the **pu** keyword and *pu-name* argument are not required if the **dspu lu** command immediately follows one of these commands: **dspu default-pu** or **dspu pu**.

If the keyword and argument are included, the LU defined by the **dspu lu** command will be applied to the named PU.

The pool and host parameters are mutually exclusive. You can define a range of LUs to be either assigned from a pool or dedicated to a host.

Examples

The following example defines downstream LUs as dedicated LUs. The downstream PU, ciscopu, has three downstream LUs with addresses 2 and 4. When ciscopu establishes a connection with the DSPU, the three downstream LUs (2, 3, and 4) are dedicated to LUs 22, 23, and 24, respectively, from the IBM 3745 host.

```
dspu host ibm3745 xid-snd 065000001 rmac 4000.3745.0001
dspu pu ciscopu xid-rcv 05D00001 rmac 1000.5AED.1F53
dspu lu 2 4 host ibm3745 22
```

Related Commands

Command	Description
dspu default-pu	Enables the default PU feature to be used when a downstream PU attempts to connect, but does not match any of the explicit PU definitions.
dspu host (Frame Relay)	Defines a DSPU host over a Frame Relay connection.
dspu host (QLLC)	Defines a DSPU host over an X.25/QLLC connection.
dspu host (SDLC)	Defines a DSPU host over an SDLC connection.
dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a DSPU host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.
dspu pool	Defines a range of host LUs in an LU pool.
dspu pu (Frame Relay)	Defines a DSPU host over a Frame Relay connection.
dspu pu (QLLC)	Defines a downstream PU over an X.25 connection explicitly.
dspu pu (SDLC)	Defines a DSPU host over an SDLC connection.
dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)	Defines an explicit downstream PU over Token Ring, Ethernet, FDDI, RSRB, VDLC, or NCIA connections.

dspu ncia

To configure the NCIA server as the underlying transport, use the **dspu ncia** global configuration command. To cancel the definition, use the **no** form of this command.

dspu ncia [*server-number*]

no dspu ncia [*server-number*]

Syntax Description

server-number	(Optional) Server number configured in the **ncia server** command. Currently, only one NCIA server is supported.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

You must use the **ncia server** command to configure an NCIA server on the router before using the **dspu ncia** command to configure the NCIA server as the underlying transport.

Examples

The following example configures the NCIA server as the underlying transport mechanism communicating directly with DSPU:

```
dspu ncia 1
```

Related Commands

Command	Description
dspu ncia enable-pu	Enables a SAP on the NCIA server for use by downstream connections.
ncia server	Configures an NCIA server on a Cisco router.

dspu ncia enable-pu

To enable a SAP on the NCIA server for use by downstream connections, use the **dspu ncia enable-pu** global configuration command. To disable the SAP, use the **no** form of this command.

dspu ncia enable-pu [**lsap** *local-sap*]

no dspu ncia enable-pu [**lsap** *local-sap*]

Syntax Description

lsap *local-sap*	(Optional) Specifies that the local SAP address will be activated as an upstream SAP for receiving incoming connection attempts. The default is 8.

Defaults

The default local SAP is 8.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Examples

In the following example, the local SAP address 8 is enabled for use by the downstream PU CISCOPU-A:

```
dspu ncia 1
dspu ncia enable-pu lsap 8
!
dspu host HOST-9370 xid-snd 11100001 rmac 4000.1060.1000 rsap 4 lsap 4
!
dspu pu CISCOPU-A xid-rcv 01700001
dspu lu 2 6 host HOST-9370 2
!
interface TokenRing 0
 ring-speed 16
 llc2 xid-retry-time 0
 dspu enable-host lsap 4
 dspu start HOST-9370
```

Related Commands

Command	Description
dspu ncia	Configures the NCIA server as the underlying transport.
dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)	Defines an explicit downstream PU over Token Ring, Ethernet, FDDI, RSRB, VDLC, or NCIA connections.

dspu notification-level

To specify the DSPU notifications to send to SNMP and SNA network management, use the **dspu notification-level** global configuration command. To specify the default notification level **low**, use the **no** form of this command.

dspu notification-level {**off** | **low** | **medium** | **high**}

no dspu notification-level

Syntax Description

off	Sends neither SNMP traps nor unsolicited SNA messages for DSPU.
low	Sends PU and LU activation failures only.
medium	Sends PU state changes and PU and LU activation failures.
high	Sends both PU and LU state changes and activation failures.

Defaults

The default notification level is low.

Command Modes

Global configuration

Command History

Release	Modification
11.1	This command was introduced.

Usage Guidelines

This command applies to both SNMP traps and unsolicited SNA messages to operator. The upstream PU and LU notification events and the LU state change notification events are not sent as unsolicited SNA messages to operator. These events are sent as SNMP traps only.

Examples

The following example sets the notification level to enable DSPU to send notifications to network management for both PU and LU state changes and activation failures:

```
dspu notification-level high
```

Related Commands

Command	Description
snmp-server host	Specifies the recipient of SNMP notifications.

dspu pool

To define a range of host LUs in an LU pool, use the **dspu pool** global configuration command. To remove the definition, use the **no** form of this command.

dspu pool *pool-name* **host** *host-name* **lu** *lu-start* [*lu-end*] [**inactivity-timeout** *minutes*]

no dspu pool *pool-name* **host** *host-name* **lu** *lu-start* [*lu-end*] [**inactivity-timeout** *minutes*]

Syntax Description

pool-name	Name identifier of the pool.
host *host-name*	Name of the host that owns the range of host LUs in the pool.
lu *lu-start*	Starting LU address in the range of host LUs in the pool.
lu-end	(Optional) Ending address (inclusive) of the range of host LUs in the pool. If no ending address is specified, only one LU (identified by the *lu-start* argument) will be defined in the pool.
inactivity-timeout *minutes*	(Optional) Interval of inactivity (in minutes) on either the SSCP-LU or LU-LU sessions, which will cause the downstream LU to be disconnected from the upstream LU. The default is disabled.

Defaults

The inactivity-timeout is disabled.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

You can include multiple **dspu pool** commands that specify the same pool name. In this way, an LU pool can include several LU ranges from the one host PU, or it can include LUs from different host PUs. The LUs from host *host-name* starting at *lu-start* and ending with *lu-end*, inclusive, will be included in the pool *pool-name*. For the LUs in this pool, if there is no traffic on either the SSCP-LU or LU-LU sessions for the inactivity-timeout number of minutes, the downstream LU will be disconnected from the upstream LU, and the upstream LU will be allocated to any downstream LU waiting for a session. A value of zero for inactivity minutes means no timeouts. (The inactivity-timeout applies to all LUs in this pool, not just the LUs defined by this **dspu pool** command. The last value configured will be used.)

Examples

The following example defines a pool of host LUs. A pool of 253 host LUs is defined with all LUs supplied from the ibm3745 host PU:

```
dspu host ibm3745 xid-snd 065000001 rmac 4000.3745.0001
dspu pool hostpool host ibm3745 lu 2 254
```

The following example defines multiple pools and defines a disjoint pool of host LUs. One pool with a total of 205 host LUs and second pool with a total of 48 host LUs are defined with all LUs supplied from the same ibm3745 host PU. Host LUs with addresses 2 to 201 and 250 to 254 are defined in hostpool1. Host LUs with addresses 202 to 249 are defined in hostpool2.

```
dspu host ibm3745 xid-snd 065000001 rmac 4000.3745.0001
dspu pool hostpool1 host ibm3745 lu 2 201
dspu pool hostpool2 host ibm3745 lu 202 249
dspu pool hostpool1 host ibm3745 lu 250 254
```

The following example defines a pool of LUs from multiple hosts. A pool of 506 host LUs is defined with 253 LUs supplied by the ibm3475 host PU and 253 supplied by the ibm3172 host PU.

```
dspu host ibm3745 xid-snd 065000001 rmac 4000.3745.0001
dspu host ibm3172 xid 06500002 rmac 4000.3172.0001
dspu pool hostpool host ibm3745 lu 2 254
dspu pool hostpool host ibm3172 lu 2 254
```

Related Commands

Command	Description
dspu host (Frame Relay)	Defines a DSPU host over a Frame Relay connection.
dspu host (QLLC)	Defines a DSPU host over an X.25/QLLC connection.
dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a DSPU host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.
dspu lu	Defines a dedicated LU or a range of LUs for an upstream host and a downstream PU.

dspu pu (Frame Relay)

To define a DSPU host over a Frame Relay connection, use the **dspu pu** global configuration command. To cancel the definition, use the **no** form of this command.

dspu pu *pu-name* **dlci** *dlci-number* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**xid-rcv** *xid*] [**interface** *slot*/*port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*]

no dspu pu *pu-name* **dlci** *dlci-number* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**xid-rcv** *xid*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*]

Syntax Description

pu-name	Name of the downstream PU.
dlci *dlci-number*	Frame Relay data-link connection identifier (DLCI) number. This number is a decimal.
rsap *remote-sap*	(Optional) SAP address of the downstream PU. The default is 4.
lsap *local-sap*	(Optional) Local SAP address used by the DSPU to establish connection with the downstream PU. The default is 8.
xid-rcv *xid*	(Optional) Specifies a match on XID.
interface *slot*/*port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive sizes used for the downstream PU link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Maximum I-frame that can be sent or received across the link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the DSPU attempts to retry establishing connection with downstream PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 4.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between DSPU attempts to retry establishing connection with downstream PU. The range is 1 to 600 seconds. The default is 30 seconds.

Defaults

The default remote SAP is 4.

The default local SAP is 8.

The default window size is 7.

The default maximum I-frame is 1472.

The default retry count is 4.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following example defines a downstream PU:

```
dspu pu pub dlci 8
```

Related Commands

Command	Description
dspu enable-pu (Ethernet, Frame Relay, Token Ring, FDDI)	Enables an Ethernet, Frame Relay, Token Ring, or FDDI address for use by downstream PU connections.
dspu lu	Defines a dedicated LU or a range of LUs for an upstream host and a downstream PU.

dspu pu (QLLC)

To explicitly define a downstream PU over an X.25 connection, use the **dspu pu** global configuration command. To cancel the definition, use the **no** form of this command.

dspu pu *pu-name* **x25** *remote-x121-addr* [**qllc** *local-x121-subaddr*] [**xid-rcv** *xid*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*]

no dspu pu *pu-name* **x25** *remote-x121-addr* [**qllc** *local-x121-subaddr*] [**xid-rcv** *xid*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*]

Syntax Description

pu-name	Name of the downstream PU.
x25 *remote-x121-addr*	Variable-length X.121 address. It is assigned by the X.25 network service provider.
qllc *local-x121-subaddr*	(Optional) Local X.121 subaddress.
xid-rcv *xid*	(Optional) Specifies a match on XID.
interface *slot/port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive sizes used for the downstream PU link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Maximum I-frame that can be sent or received across the link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the DSPU attempts to retry establishing connection with downstream PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 4.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between DSPU attempts to retry establishing connection with downstream PU. The range is 1 to 600 seconds. The default is 30 seconds.

Defaults

The default window size is 7.

The default maximum I-frame is 1472.

The default retry count is 4.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following example defines a downstream PU:

```
dspu pu testpu xid-rcv 05d00001 x25 32012 qllc 12
```

Related Commands

Command	Description
dspu enable-pu (QLLC)	Enables an X.121 subaddress for use by downstream PU connections through QLLC.
dspu lu	Defines a dedicated LU or a range of LUs for an upstream host and a downstream PU.

dspu pu (SDLC)

To define a DSPU host over an SDLC connection, use the **dspu pu** global configuration command. To cancel the definition, use the **no** form of this command.

dspu pu *pu-name* **sdlc** *sdlc-addr* [**xid-rcv** *xid*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*]

no dspu pu *pu-name* **sdlc** *sdlc-addr* [**xid-rcv** *xid*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*]

Syntax Description

pu-name	Name of the downstream PU.
sdlc *sdlc-addr*	SDLC address.
xid-rcv *xid*	(Optional) Specifies a match on XID.
interface *slot/port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive sizes used for the downstream PU link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Maximum I-frame that can be sent or received across the link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the DSPU attempts to retry establishing connection with downstream PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 4.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between DSPU attempts to retry establishing connection with downstream PU. The range is 1 to 600 seconds. The default is 30 seconds.

Defaults

The default window size is 7.

The default maximum I-frame is 1472.

The default retry count is 4.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following example defines a downstream PU:

```
dspu pu testpu sdlc c1 interface serial 0
```

Related Commands

Command	Description
dspu enable-pu (SDLC)	Enables an SDLC address for use by downstream PU connections.
dspu lu	Defines a dedicated LU or a range of LUs for an upstream host and a downstream PU.

dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)

To define an explicit downstream PU over Token Ring, Ethernet, FDDI, RSRB, virtual data-link control, or NCIA connections, use the **dspu pu** global configuration command. To cancel the definition, use the **no** form of this command.

dspu pu *pu-name* [**rmac** *remote-mac*] [**rsap** *remote-sap*] [**lsap** *local-sap*] [**xid-rcv** *xid*] [**interface** *slot*/*port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*]

no dspu pu *pu-name* [**rmac** *remote-mac*] [**rsap** *remote-sap*] [**lsap** *local-sap*] [**xid-rcv** *xid*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*]

Syntax Description

pu-name	Name of the downstream PU.
rmac *remote-mac*	(Optional) MAC address of the downstream PU.
rsap *remote-sap*	(Optional) SAP address of the downstream PU. The default is 4.
lsap *local-sap*	(Optional) Local SAP address used by the DSPU to establish connection with the downstream PU. The default is 8.
xid-rcv *xid*	(Optional) Specifies a match on XID.
interface *slot*/*port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive sizes used for the downstream PU link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Maximum I-frame that can be sent or received across the link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the DSPU attempts to retry establishing connection with downstream PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 4.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between DSPU attempts to retry establishing connection with downstream PU. The range is 1 to 600 seconds. The default is 30 seconds.

Defaults

The default remote SAP is 4.

The default local SAP is 8.

The default window size is 7.

The default maximum I-frame is 1472.

The default retry count is 4.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

The local SAP address must be enabled by one of the following commands:

- **dspu enable-pu lsap fo5**
- **dspu ncia enable-pu lsap**
- **dspu rsrb enable-pu lsap**
- **dspu vdlc enable-pu lsap**

The send and receive maximum I-frame size includes the SNA TH and RH, but does not include the data-link control header. The DSPU feature will segment frames being sent to fit within this frame size. If an XID is received from a remote PU which indicates that it supports a different maximum I-frame size, then the smaller of the two values is used.

If you want the DSPU to attempt a ConnectOut to the remote node using the **dspu start** command, you must configure the **rmac** keyword and argument. If you want this PU to match against a ConnectIn attempt, then several combinations of **rmac**, **rsap**, **xid-rcv** are possible. The matching algorithms are as follows:

- **rmac**—Match on remote MAC/SAP address of downstream PU
- **xid-rcv**—Match on XID value received from downstream PU.
- **rmac/rsap, xid-rcv**—Match on remote MAC/SAP address of downstream PU and XID value received from downstream PU.

If an XID is received from a remote PU which indicates that it supports a different maximum I-frame size, then the smaller of the two values is used.

For Cisco IOS Release 11.3 and later, the number of DSPU PUs that can be configured is 1024.

Examples

In the following example, a downstream PU is defined with only the MAC address and SAP address specified. A downstream PU that attempts an incoming connection to the DSPU will only be accepted if the remote MAC/SAP address matches the configured values for this downstream PU (and the proper local SAP address is enabled).

```
dspu pu ciscopu rmac 1000.5AED.1F53 rsap 20
dspu lu 2 5 pool hostpool
interface tokenring 0
dspu enable-pu lsap 8
```

In the following example, a downstream PU is defined with only an **xid-rcv** value. Any downstream PU that attempts an incoming connection specifying the **xid-rcv** value, 05D00001, will be accepted without regard to remote MAC or SAP address (although the proper local SAP address must be enabled).

```
dspu pu ciscopu xid-rcv 05d00001
dspu lu 2 5 pool hostpool
interface tokenring 0
 dspu enable-pu lsap 8
```

In the following example, a downstream PU is defined with **xid-rcv**, **rmac**, and **rsap** keywords. Any downstream PU that attempts to connect in to the DSPU must match all three configured values for the connection to be accepted (the proper local SAP address must also be enabled).

```
dspu pu ciscopu xid-rcv 05d00001 rmac 1000.5AED.1F53 rsap 20
dspu lu 2 5 pool hostpool
interface tokenring 0
 dspu enable-pu lsap 8
```

Related Commands

Command	Description
dspu enable-pu (Ethernet, Frame Relay, Token Ring, FDDI)	Enables an Ethernet, Frame Relay, Token Ring, or FDDI address for use by downstream PU connections.
dspu lu	Defines a dedicated LU or a range of LUs for an upstream host and a downstream PU.
dspu ncia enable-pu	Enables a SAP on the NCIA server for use by downstream connections.
dspu rsrb enable-pu	Enables an RSRB SAP for use by DSPU downstream connections.
dspu rsrb start	Specifies that an attempt will be made to connect to the remote resource defined by host name or PU name through the RSRB.
dspu start	Specifies that an attempt will be made to connect to the remote resource defined by host name or PU name.
dspu vdlc enable-pu	Enables a SAP for use by DSPU VDLC downstream connections.

dspu rsrb

To define the local virtual ring, virtual bridge, target virtual ring, and virtual MAC address that the DSPU feature will simulate at the RSRB, use the **dspu rsrb** global configuration command. To cancel the definition, use the **no** form of this command.

dspu rsrb *local-virtual-ring bridge-number target-virtual-ring virtual-macaddr*

no dspu rsrb *local-virtual-ring bridge-number target-virtual-ring virtual-macaddr*

Syntax Description

local-virtual-ring	DSPU local virtual ring number.
bridge-number	Bridge number connecting the DSPU local virtual ring and the RSRB target virtual ring. The valid range is 1 to 15.
target-virtual-ring	RSRB target virtual ring number. The RSRB target virtual ring corresponds to the ring-number parameter defined by a **source-bridge ring-group** command.
virtual-macaddr	DSPU virtual MAC address.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

The bridge number parameter can be specified only once in a configuration.

Use the **dspu rsrb** command to enable DSPU host and downstream connections to be established across an RSRB link.

If the **local-ack** parameter is specified on the **source-bridge remote-peer** statement, DSPU will establish host connections across RSRB using local acknowledgment. DSPU cannot support local acknowledgment for downstream PU connections across RSRB.

Examples

The following example defines DSPU to start a connection to the host across an RSRB link (without local acknowledgment). The DSPU is identified by its local ring number 88 and its virtual MAC address 4000.FFFF.0001. When the DSPU attempts an outgoing connection to the ibm3745 host, the connection will be established across the RSRB virtual ring 99.

```
source-bridge ring-group 99
source-bridge remote-peer 99 tcp 150.10.13.1
source-bridge remote-peer 99 tcp 150.10.13.2
```

```
dspu rsrb 88 1 99 4000.FFFF.0001
dspu rsrb enable-host lsap 10

dspu host ibm3745 xid-snd 06500001 rmac 4000.3745.0001 lsap 10
dspu rsrb start ibm3745
interface serial 0
 ip address 150.10.13.1 255.255.255.0
```

The following example defines DSPU to start a connection to the host across an RSRB link (with local acknowledgment). The DSPU is identified by its local ring number 88 and its virtual MAC address 4000.FFFF.0001. When the DSPU attempts an outward connection to the ibm3745 host, the connection will be established across the RSRB virtual ring 99 using RSRB local acknowledgment.

```
source-bridge ring-group 99
source-bridge remote-peer 99 tcp 150.10.13.1
source-bridge remote-peer 99 tcp 150.10.13.2 local-ack

dspu rsrb 88 1 99 4000.FFFF.0001
dspu rsrb enable-host lsap 10

dspu host ibm3745 xid-snd 06500001 rmac 4000.3745.0001 lsap 10
dspu rsrb start ibm3745

interface serial 0
 ip address 150.10.13.1 255.255.255.0
```

The following example defines DSPU to allow a connection from the downstream PU across an RSRB link.The DSPU is identified by its local ring number 88 and its virtual MAC address 4000.FFFF.0001. The downstream PU will specify the DSPU virtual MAC address 4000.FFFF.0001 and SAP address 20 in its host definitions. The DSPU will accept incoming connections from the downstream PU across the RSRB virtual ring 99.

```
source-bridge ring-group 99
source-bridge remote-peer 99 tcp 150.10.13.1
source-bridge remote-peer 99 tcp 150.10.13.2

dspu rsrb 88 1 99 4000.FFFF.0001
dspu rsrb enable-pu lsap 20

dspu pu ciscopu xid-rcv 05D00001 lsap 20

interface serial 0
 ip address 150.10.13.1 255.255.255.0
```

Related Commands

Command	Description
dspu rsrb enable-host	Enables an RSRB SAP for use by DSPU host connections.
dspu rsrb enable-pu	Enables an RSRB SAP for use by DSPU downstream connections.
dspu rsrb start	Specifies that an attempt will be made to connect to the remote resource defined by host name or PU name through the RSRB.
source-bridge ring-group	Defines or removes a ring group from the configuration.
source-bridge remote-peer tcp	Identifies the IP address of a peer in the ring group with which to exchange source-bridge traffic using TCP.

dspu rsrb enable-host

To enable an RSRB SAP for use by DSPU host connections, use the **dspu rsrb enable-host** global configuration command. To disable the RSRB SAP, use the **no** form of this command.

dspu rsrb enable-host [**lsap** *local-sap*]

no dspu rsrb enable-host [**lsap** *local-sap*]

Syntax Description

lsap *local-sap*	(Optional) Specifies that the local SAP address will be activated as an upstream SAP for both receiving incoming connections attempts and for starting outgoing connection attempts. The default is 12.

Defaults

The default local SAP is 12.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Examples

In the following example, the local SAP address 10 of the RSRB is enabled for use by the ibm3745 host PU:

```
source-bridge ring-group 99
source-bridge remote-peer 99 tcp 150.10.13.1
source-bridge remote-peer 99 tcp 150.10.13.2

dspu rsrb 88 1 99 4000.FFFF.0001
dspu rsrb enable-host lsap 10

dspu host ibm3745 xid-snd 06500001 rmac 4000.3745.0001 lsap 10

interface serial 0
 ip address 150.10.13.1 255.255.255.0
```

Related Commands

Command	Description
dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a DSPU host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.
dspu rsrb	Defines the local virtual ring, virtual bridge, target virtual ring, and virtual MAC address that the DSPU feature will simulate at the RSRB.

dspu rsrb enable-pu

To enable an RSRB SAP for use by DSPU downstream connections, use the **dspu rsrb enable-pu** global configuration command. To disable the SAP, use the **no** form of this command.

dspu rsrb enable-pu [**lsap** *local-sap*]

no dspu rsrb enable-pu [**lsap** *local-sap*]

Syntax Description

lsap *local-sap*	(Optional) Specifies that the local SAP address will be activated as an upstream SAP for both receiving incoming connection attempts and for starting outgoing connection attempts.

Defaults

The default local SAP is 8.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Examples

In the following example, the local SAP address 20 of the RSRB is enabled for use by the ciscopu DSPU downstream PU:

```
source-bridge ring-group 99
source-bridge remote-peer 99 tcp 150.10.13.1
source-bridge remote-peer 99 tcp 150.10.13.2

dspu rsrb 88 1 99 4000.FFFF.0001
dspu rsrb enable-pu lsap 20

dspu pu ciscopu xid-rcv 05D00001 lsap 20
```

Related Commands

Command	Description
dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)	Defines an explicit downstream PU over Token Ring, Ethernet, FDDI, RSRB, VDLC, or NCIA connections.
dspu rsrb	Defines the local virtual ring, virtual bridge, target virtual ring, and virtual MAC address that the DSPU feature will simulate at the RSRB.

dspu rsrb start

To specify that an attempt will be made to connect to the remote resource defined by host name or PU name through the RSRB, use the **dspu rsrb start** global configuration command. To cancel the definition, use the **no** form of this command.

dspu rsrb start {*host-name* | *pu-name*}

no dspu rsrb start {*host-name* | *pu-name*}

Syntax Description

host-name	Name of a host defined in a **dspu host** (Token Ring, Ethernet, FDDI, RSRB, VDLC) command.
pu-name	Name of a PU defined in a **dspu host** (Token Ring, Ethernet, FDDI, RSRB, VDLC) command.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

Before issuing this command, you must enable the correct local SAP with the appropriate enable command (**dspu rsrb enable-host** for a host resource, and **dspu rsrb enable-pu** for a PU resource).

This command is only valid if the target MAC address has been defined in the resource. For a host resource, this not a problem because the MAC address is mandatory, but for a PU resource the MAC address is optional. The command will fail if the MAC address is missing.

Examples

In the following example, the DSPU will initiate a connection with the ibm3745 host PU across the RSRB link:

```
source-bridge ring-group 99
source-bridge remote-peer 99 tcp 150.10.13.1
source-bridge remote-peer 99 tcp 150.10.13.2

dspu rsrb 88 1 99 4000.FFFF.0001
dspu rsrb enable-host lsap 10

dspu host ibm3745 xid-snd 06500001 rmac 4000.3745.0001 lsap 10
dspu rsrb start ibm3745

interface serial 0
 ip address 150.10.13.1 255.255.255.0
```

Related Commands

Command	Description
dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a DSPU host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.
dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)	Defines an explicit downstream PU over Token Ring, Ethernet, FDDI, RSRB, VDLC, or NCIA connections.
dspu rsrb	Defines the local virtual ring, virtual bridge, target virtual ring, and virtual MAC address that the DSPU feature will simulate at the RSRB.
dspu rsrb enable-host	Enables an RSRB SAP for use by DSPU host connections.
dspu rsrb enable-pu	Enables an RSRB SAP for use by DSPU downstream connections.

dspu start

To specify that an attempt will be made to connect to the remote resource defined by host name or PU name, use the **dspu start** interface configuration command. To cancel the definition, use the **no** form of this command.

dspu start {*host-name* | *pu-name*}

no dspu start {*host-name* | *pu-name*}

Syntax Description

host-name	Name of a host defined in a **dspu host** command.
pu-name	Name of a PU defined in a **dspu pu** command.

Defaults

No default behavior or values.

Command Modes

Interface configuration

Command History

Release	Modification
10.3	This command was introduced.

Usage Guidelines

Before issuing this command, you must enable the correct address using the appropriate **dspu enable-host** or **dspu enable-pu** command.

This command is only valid if the target address (RMAC SDLC, DLCI, or X.25 parameter) has been defined for the resource. For a host resource, this is not a problem because the address specification is mandatory, but for a PU resource, specifying the address is optional. The **dspu start** command will fail if the address is missing.

Examples

In the following example, the DSPU will initiate a connection with the ciscopu downstream PU on Token Ring interface 0:

```
dspu pu ciscopu xid-rcv 05D00001 rmac 1000.5AED.1F53 lsap 20
interface tokenring 0
 dspu enable-pu lsap 20
 dspu start ciscopu
```

Related Commands

Command	Description
dspu enable-host (Token Ring, Ethernet, FDDI, Frame Relay)	Enables a local SAP on Token Ring, Ethernet, FDDI, or Frame Relay interfaces for use by upstream hosts.
dspu enable-host (QLLC)	Enables an X.121 subaddress for use by upstream host connections through QLLC.
dspu enable-host (SDLC)	Enables an SDLC address for use by upstream host connections.
dspu enable-pu (Ethernet, Frame Relay, Token Ring, FDDI)	Enables an Ethernet, Frame Relay, Token Ring, or FDDI address for use by downstream PU connections.
dspu enable-pu (SDLC)	Enables an SDLC address for use by downstream PU connections.
dspu enable-pu (QLLC)	Enables an X.121 subaddress for use by downstream PU connections through QLLC.
dspu host (Frame Relay)	Defines a DSPU host over a Frame Relay connection.
dspu host (QLLC)	Defines a DSPU host over an X.25/QLLC connection.
dspu host (SDLC)	Defines a DSPU host over an SDLC connection.
dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a DSPU host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.
dspu pu (Frame Relay)	Defines a DSPU host over a Frame Relay connection.
dspu pu (QLLC)	Defines a downstream PU over an X.25 connection explicitly.
dspu pu (SDLC)	Defines a DSPU host over an SDLC connection.
dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)	Defines an explicit downstream PU over Token Ring, Ethernet, FDDI, RSRB, VDLC, or NCIA connections.

dspu vdlc

To identify the local virtual ring and virtual MAC address that will be used to establish DSPU host and downstream connections over DLSw+ using virtual data-link control, use the **dspu vdlc** global configuration command. To cancel the definition, use the **no** form of this command.

dspu vdlc *ring-group virtual-mac-address*

no dspu vdlc *ring-group virtual-mac-address*

Syntax Description

ring-group	Local virtual ring number identifying the SRB ring group.
virtual-mac-address	Virtual MAC address that represents the DSPU virtual data-link control.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

The virtual data-link control local virtual ring must have been previously configured using the **source-bridge ring-group** command.

The virtual data-link control virtual MAC address must be unique within the DLSw+ network.

To avoid an address conflict on the virtual MAC address, use a locally administered address in the form 4000.*xxxx*.*xxxx*.

Examples

The following example defines DSPU to start a connection to the host using virtual data-link control. The DSPU virtual data-link control is identified by its virtual MAC address 4000.4500.01f0, existing on the SRB virtual ring 99. When the DSPU attempts an outgoing connection to the host HOST-B, the connection will be established across the virtual ring 99.

```
source-bridge ring-group 99
dlsw local-peer peer-id 150.10.16.2
dlsw remote-peer 0 tcp 150.10.16.1

dspu vdlc 99 4000.4500.01f0
dspu vdlc enable-host lsap 12

dspu host HOST-B xid-snd 065bbbb0 rmac 4000.7000.01f1 rsap 4 lsap 12 focalpoint

dspu vdlc start HOST-B
```

```
interface serial 3
 description IP connection to dspu7k
 ip address 150.10.16.2 255.255.255.0
 clockrate 4000000
```

Related Commands

Command	Description
dlsw local-peer	Defines the parameters of the DLSw+ local peer.
dlsw remote-peer tcp	Identifies the IP address of a peer with which to exchange traffic using TCP.
dspu vdlc enable-host	Enables a SAP for use by DSPU host connections.
dspu vdlc enable-pu	Enables a SAP for use by DSPU VDLC downstream connections.
dspu vdlc start	Specifies that an attempt will be made to connect to the remote resource defined by host name or PU name through VDLC.
source-bridge ring-group	Defines or removes a ring group from the configuration.

dspu vdlc enable-host

To enable a SAP for use by DSPU host connections, use the **dspu vdlc enable-host** global configuration command. To disable the SAP, use the **no** form of this command.

dspu vdlc enable-host [**lsap** *local-sap*]

no dspu vdlc enable-host [**lsap** *local-sap*]

Syntax Description

lsap *local-sap*	(Optional) Specifies that the local SAP address will be activated as an upstream SAP for both receiving incoming connections attempts and for starting outgoing connection attempts. The default is 12.

Defaults

The default local SAP is 12.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Examples

In the following example, the local SAP address 12 is enabled for use by the host PU HOST-B:

```
source-bridge ring-group 99
dlsw local-peer peer-id 150.10.16.2
dlsw remote-peer 0 tcp 150.10.16.1

dspu vdlc 99 4000.4500.01f0
dspu vdlc enable-pu lsap 8
dspu vdlc enable-host lsap 12

dspu host HOST-B xid-snd 065bbbb0 rmac 4000.7000.01f1 rsap 4 lsap 12 focalpoint
dspu pool pool-b host HOST-B lu 2 254

dspu host HOST3K-A xid-snd 05d0000a rmac 4000.3000.0100 rsap 8 lsap 12
dspu pool pool3k-a host HOST3K-A lu 2 254

dspu pu PU3K-A xid-rcv 05d0000a rmac 4000.3000.0100 rsap 10 lsap 8
dspu lu 2 254 pool pool-b

dspu default-pu
dspu lu 2 5 pool pool3k-a

dspu vdlc start HOST-B
dspu vdlc start HOST3K-A
dspu vdlc start PU3K-A

interface serial 3
 description IP connection to dspu7k
 ip address 150.10.16.2 255.255.255.0
 clockrate 4000000
```

Related Commands

Command	Description
dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a DSPU host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.
dspu vdlc	Identifies the local virtual ring and virtual MAC address that will be used to establish DSPU host and downstream connections over DLSw+ using VDLC.

dspu vdlc enable-pu

To enable a SAP for use by DSPU virtual data-link control downstream connections, use the **dspu vdlc enable-pu** global configuration command. To disable the SAP, use the **no** form of this command.

dspu vdlc enable-pu [**lsap** *local-sap*]

no dspu vdlc enable-pu [**lsap** *local-sap*]

Syntax Description

lsap *local-sap*	(Optional) Specifies that the local SAP address will be activated as an upstream SAP for both receiving incoming connection attempts and for starting outgoing connection attempts. The default is 8.

Defaults

The default local SAP is 8.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Examples

In the following example, the local SAP address 8 is enabled for use by the downstream PU PU3K-A:

```
source-bridge ring-group 99
dlsw local-peer peer-id 150.10.16.2
dlsw remote-peer 0 tcp 150.10.16.1

dspu vdlc 99 4000.4500.01f0
dspu vdlc enable-pu lsap 8
dspu vdlc enable-host lsap 12

dspu host HOST-B xid-snd 065bbbb0 rmac 4000.7000.01f1 rsap 4 lsap 12 focalpoint
dspu pool pool-b host HOST-B lu 2 254

dspu host HOST3K-A xid-snd 05d0000a rmac 4000.3000.0100 rsap 8 lsap 12
dspu pool pool3k-a host HOST3K-A lu 2 254

dspu pu PU3K-A xid-rcv 05d0000a rmac 4000.3000.0100 rsap 10 lsap 8
dspu lu 2 254 pool pool-b

dspu default-pu
dspu lu 2 5 pool pool3k-a

dspu vdlc start HOST-B
dspu vdlc start HOST3K-A
dspu vdlc start PU3K-A
interface serial 3
 description IP connection to dspu7k
 ip address 150.10.16.2 255.255.255.0
 clockrate 4000000
```

Related Commands

Command	Description
dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)	Defines an explicit downstream PU over Token Ring, Ethernet, FDDI, RSRB, VDLC, or NCIA connections.
dspu vdlc	Identifies the local virtual ring and virtual MAC address that will be used to establish DSPU host and downstream connections over DLSw+ using VDLC.

dspu vdlc start

To specify that an attempt will be made to connect to the remote resource defined by host name or PU name through virtual data-link control, use the **dspu vdlc start** global configuration command. To cancel the definition, use the **no** form of this command.

dspu vdlc start {*host-name* | *pu-name*}

no dspu vdlc start {*host-name* | *pu-name*}

Syntax Description

host-name	Name of a host defined in a **dspu host** command.
pu-name	Name of a PU defined in a **dspu host** command.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

Before issuing this command, you must enable the correct local SAP with the appropriate enable command (**dspu vdlc enable-host** for a host resource, and **dspu vdlc enable-pu** for a PU resource).

This command is only valid if the target MAC address has been defined in the resource. For a host resource, this is not a problem because the MAC address is mandatory, but for a PU resource the MAC address is optional. The command will fail if the MAC address is missing.

Examples

In the following example, DSPU attempts to initiate connections with host PU HOST-B, host PU HOST3k-A, and downstream PU PU3k-A over DLSw+ using virtual data-link control:

```
source-bridge ring-group 99
dlsw local-peer peer-id 150.10.16.2
dlsw remote-peer 0 tcp 150.10.16.1

dspu vdlc 99 4000.4500.01f0
dspu vdlc enable-pu lsap 8
dspu vdlc enable-host lsap 12

dspu host HOST-B xid-snd 065bbbb0 rmac 4000.7000.01f1 rsap 4 lsap 12 focalpoint
dspu pool pool-b host HOST-B lu 2 254

dspu host HOST3K-A xid-snd 05d0000a rmac 4000.3000.0100 rsap 8 lsap 12
dspu pool pool3k-a host HOST3K-A lu 2 254
```

```
dspu pu PU3K-A xid-rcv 05d0000a rmac 4000.3000.0100 rsap 10 lsap 8
dspu lu 2 254 pool pool-b

dspu default-pu
dspu lu 2 5 pool pool3k-a
dspu vdlc start HOST-B
dspu vdlc start HOST3K-A
dspu vdlc start PU3K-A

interface serial 3
 description IP connection to dspu7k
 ip address 150.10.16.2 255.255.255.0
 clockrate 4000000
```

Related Commands

Command	Description
dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a DSPU host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.
dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)	Defines an explicit downstream PU over Token Ring, Ethernet, FDDI, RSRB, VDLC, or NCIA connections.
dspu vdlc	Identifies the local virtual ring and virtual MAC address that will be used to establish DSPU host and downstream connections over DLSw+ using VDLC.
dspu vdlc enable-host	Enables a SAP for use by DSPU host connections.
dspu vdlc enable-pu	Enables a SAP for use by DSPU VDLC downstream connections.

lan-name

To specify a name for the LAN that is attached to the interface, use the **lan-name** interface configuration command. This name is included in any Alert sent to the SNA host when a problem occurs on this interface or LAN. To revert to the default name, use the **no** form of this command.

lan-name *lan-name*

no lan-name *lan-name*

Syntax Description

lan-name	Name used to identify the LAN when you send Alerts to the SNA host. The default LAN name is the name of the interface.

Defaults

The default name used for the LAN is the name of the interface.

Command Modes

Interface configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following example identifies a LAN:

```
lan-name LAN1
```

Related Commands

Command	Description
show sna	Displays the status of the SNA Service Point feature.

show dspu

To display the status of the DSPU feature, use the **show dspu** privileged EXEC command.

show dspu [**pool** *pool-name* | [**pu** {*host-name* | *pu-name*} [**all**]]

Syntax Description

pool *pool-name*	(Optional) Name of a pool of LUs (as defined by the **dspu pool** command).
pu	(Optional) Name of defined PU (as defined by either the **dspu pu** or the **dspu host** command).
host-name	Name of a host defined in a **dspu host** command.
pu-name	Name of a PU defined in a **dspu pu** command.
all	(Optional) Displays a detailed status.

Defaults

No default behavior or values.

Command Modes

Privileged EXEC

Command History

Release	Modification
10.3	This command was introduced.

Examples

The following is sample output from the **show dspu** command. It shows a summary of the DSPU status.

```
Router# show dspu

dspu host HOST_NAMEA interface PU STATUS ssssssss
FRAMES RECEIVED nnnnnn FRAMES SENT nnnnnn
LUs USED BY DSPU nnn LUs ACTIVE nnn
LUs USED BY API nnn LUs ACTIVE nnn
LUs ACTIVATED BY HOST BUT NOT USED nnn
dspu host HOST_NAMEB interface PU STATUS ssssssss
FRAMES RECEIVED nnnnnn FRAMES SENT nnnnnn
LUs USED BY DSPU nnn LUs ACTIVE nnn
LUs USED BY API nnn LUs ACTIVE nnn
LUs ACTIVATED BY HOST BUT NOT USED nnn
dspu pu PU_NAMEE interface PU STATUS ssssssss
FRAMES RECEIVED nnnnnn FRAMES SENT nnnnnn
LUs USED BY DSPU nnn LUs ACTIVE nnn
LUs USED BY API nnn LUs ACTIVE nnn
LUs ACTIVATED BY HOST BUT NOT USED nnn
dspu pu PU_NAMEF interface PU STATUS ssssssss
FRAMES RECEIVED nnnnnn FRAMES SENT nnnnnn
LUs USED BY DSPU nnn LUs ACTIVE nnn
LUs USED BY API nnn LUs ACTIVE nnn
LUs ACTIVATED BY HOST BUT NOT USED nnn
```

The following is sample output from the **show dspu** command with the **pu** keyword:

```
Router# show dspu pu putest

dspu pu PUTEST interface PU STATUS ssssssss
RMAC remote_mac RSAP remote_sap LSAP local_sap
XID xid RETRIES retry_count RETRY_TIMEOUT retry_timeout
WINDOW window_size MAXIFRAME max_iframe
FRAMES RECEIVED nnnnnn FRAMES SENT nnnnnn
LUs USED BY DSPU nnn LUs ACTIVE nnn
LUs USED BY API nnn LUs ACTIVE nnn
LUs ACTIVATED BY HOST BUT NOT USED nnn
```

The following is sample output from the **show dspu** command with the **all** keyword:

```
Router# show dspu pu putest all

dspu pu PUTEST interface PU STATUS ssssssss
RMAC remote_mac RSAP remote_sap LSAP local_sap
XID xid RETRIES retry_count RETRY_TIMEOUT retry_timeout
WINDOW window_size MAXIFRAME max_iframe
FRAMES RECEIVED nnnnnn FRAMES SENT nnnnnn
LU nnn PEER PU HOST_NAMEA PEER LU nnn STATUS tttttttt
       FRAMES RECEIVED nnnnnn FRAMES SENT nnnnnn
LU nnn PEER PU HOST_NAMEA PEER LU nnn STATUS tttttttt
       FRAMES RECEIVED nnnnnn, FRAMES SENT nnnnnn
LU nnn PEER PU HOST_NAMEB PEER LU nnn STATUS tttttttt
       FRAMES RECEIVED nnnnnn, FRAMES SENT nnnnnn
```

The following shows a summary of the LUs in a pool:

```
Router# show dspu pool poolname

dspu pool poolname host HOST_NAMEA lu start-lu end-lu
```

The following shows the details of all the LUs in a pool:

```
Router# show dspu pool poolname all

dspu pool poolname host HOST_NAMEA lu start-lu end-lu
DSPU POOL poolname INACTIVITY_TIMEOUT timeout-value
lu nnn host HOST_NAMEA peer lu nnn pu PU_NAMEF status tttttttt
lu nnn host HOST_NAMEA peer lu nnn pu PU_NAMEF status tttttttt
lu nnn host HOST_NAMEA peer lu nnn pu PU_NAMEF status tttttttt
```

show sna

To display the status of the SNA Service Point feature, use the **show sna** privileged EXEC command.

show sna [**pu** *host-name* [**all**]]

Syntax Description

pu	(Optional) Name of a host defined in an **sna host** command.
host-name	(Optional) Name of a host defined in an **sna host** command.
all	(Optional) Displays detailed status.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following is sample output from the **show sna** command. It shows a summary of the SNA features status.

```
Router# show sna

sna host HOST_NAMEA TokenRing1 PU STATUS active
FRAMES RECEIVED 00450 FRAMES SENT 00010
LUs USED BY DSPU nnn LUs ACTIVE nnn
LUs USED BY API nnn LUs ACTIVE nnn
LUs ACTIVATED BY HOST BUT NOT USED nnn
```

The following is sample output from the **show sna** command with the **pu** keyword:

```
Router# show sna pu putest

sna host PUTEST TokenRing1 PU STATUS active
RMAC 400000000004 RSAP 04 LSAP 04
XID 05d00001 RETRIES 255 RETRY_TIMEOUT 30
WINDOW 7 MAXIFRAME 1472
FRAMES RECEIVED 0450 FRAMES SENT 0010
LUs USED BY DSPU nnn LUs ACTIVE nnn
LUs USED BY API nnn LUs ACTIVE nnn
LUs ACTIVATED BY HOST BUT NOT USED nnn
```

Because the **all** keyword refers to LUs under the PU, this has no significance for the Service Point host.

sna enable-host (QLLC)

To enable an X.121 subaddress for use by the SNA Service Point feature on the interface, use the **sna enable-host** interface configuration command. To disable SNA Service Point on the interface, use the **no** form of this command.

sna enable-host qllc *x121-subaddress*

no sna enable-host qllc *x121-subaddress*

Syntax Description

qllc	Required keyword for QLLC data-link control.
x121-subaddress	X.121 subaddress.

Defaults

No default X.121 subaddress is specified.

Command Modes

Interface configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

In the following example, X.121 subaddress 320108 is enabled for use by host connections:

```
sna enable-host qllc 320108
```

Related Commands

Command	Description
sna host (QLLC)	Defines a link to an SNA host over an X.25/QLLC connection.
x25 map qllc	Specifies the X.121 address of the remote X.25 device with which communication is planned using QLLC conversion.

sna enable-host (SDLC)

To enable an SDLC address for use by host connections, use the **sna enable-host** interface configuration command. To cancel the definition, use the **no** form of this command.

sna enable-host sdlc *sdlc-address*

no sna enable-host sdlc *sdlc-address*

Syntax Description

sdlc	Required keyword for SDLC data-link control.
sdlc-address	SDLC address.

Defaults

No default SDLC address is specified.

Command Modes

Interface configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

In the following example, SDLC address C1 is enabled for use by host connections:

```
encapsulation sdlc
sdlc role secondary
sdlc address c1
sna enable-host sdlc c1
```

Related Commands

Command	Description
encapsulation sdlc	Configures an SDLC interface.
sna host (SDLC)	Defines a link to an SNA host over an SDLC connection.

sna enable-host (Token Ring, Ethernet, Frame Relay, FDDI)

To enable SNA on the interface, use the **sna enable-host** interface configuration command. To disable SNA on the interface, use the **no** form of this command.

sna enable-host [**lsap** *lsap-address*]

no sna enable-host [**lsap** *lsap-address*]

Syntax Description

lsap	(Optional) Activate a local SAP as an upstream SAP, for both receiving ConnectIn attempts and for starting ConnectOut attempts.
lsap-address	(Optional) Local SAP. The default is 12.

Defaults

The default LSAP parameter is 12.

Command Modes

Interface configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following example enables SNA on the interface and specifies that the local SAP 10 will be activated as an upstream SAP:

```
sna enable-host lsap 10
```

Related Commands

Command	Description
show sna	Displays the status of the SNA Service Point feature.
sna host (Frame Relay)	Defines a link to an SNA host over a Frame Relay connection.
sna host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a link to an SNA host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.

sna host (Frame Relay)

To define a link to an SNA host over a Frame Relay connection, use this form of the **sna host** global configuration command. To cancel the definition, use the **no** form of this command.

sna host *host-name* **xid-snd** *xid* **dlci** *dlci-number* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**interface** *slot*/*port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

no sna host *host-name* **xid-snd** *xid* **dlci** *dlci-number* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**interface** *slot*/*port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

Syntax Description

host-name	Specified SNA host.
xid-snd *xid*	XID that will be sent to the host during connection establishment. The XID value is 8 hexadecimal digits that include both block and ID numbers. For example, if the XID value is 05D00001, the block number is 05D and the ID number is 00001.
dlci *dlci-number*	DLCI number.
rsap *remote-sap*	(Optional) SAP address of the remote host PU. The default is 4.
lsap *local-sap*	(Optional) Local SAP address used by the SNA Service Point to establish connection with the remote host. The default is 12.
interface *slot*/*port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the SNA Service Point attempts to retry establishing connection with remote host PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 255.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between attempts to retry establishing connection with remote host PU. The range is 1 to 600 seconds. The default is 30 seconds.
focalpoint	(Optional) Host link to be used for the focal point support.

Defaults

The default remote SAP is 4.

The default local SAP is 12.

The default window size is 7.

The default maximum I-frame size is 1472.

The default retry count is 255.

The default retry timeout is 30 seconds.

Command Modes Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples The following example defines a link to an SNA host:

```
sna host CNM01 xid-snd 05d00001 dlci 200 rsap 4 lsap 4
```

Related Commands

Command	Description
sna enable-host (Token Ring, Ethernet, Frame Relay, FDDI)	Enables SNA on the interface.
sna start	Initiates a connection to a remote resource.

sna host (QLLC)

To define a link to an SNA host over an X.25/QLLC connection, use this form of the **sna host** global configuration command. To cancel the definition, use the **no** form of this command.

sna host *host-name* **xid-snd** *xid* **x25** *remote-x121-addr* [**qllc** *local-x121-subaddr*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

no sna host *host-name* **xid-snd** *xid* **x25** *remote-x121-addr* [**qllc** *local-x121-subaddr*] [**interface** *slot/port]* [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

Syntax Description

host-name	SNA host.
xid-snd *xid*	XID that will be sent to the host during connection establishment. The XID value is 8 hexadecimal digits that include both block and ID numbers. For example, if the XID value is 05D00001, the block number is 05D and the ID number is 00001.
x25 *remote-x121-addr*	SDLC address.
qllc *local-x121-subaddr*	(Optional) Specifies the SAP address of the remote host PU. The default is 4.
interface *slot*/*port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the SNA Service Point attempts to retry establishing connection with remote host PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 255.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between attempts to retry establishing connection with remote host PU. The range is 1 to 600 seconds. The default is 30 seconds.
focalpoint	(Optional) Host link to be used for the focal point support.

Defaults

The default remote SAP is 4.

The default window size is 7.

The default maximum I-frame size is 1472.

The default retry count is 255.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following example defines a link to an SNA host:

```
sna host MLM1 xid-snd 05d00001 x25 320108 qllc 08
```

Related Commands

Command	Description
sna enable-host (QLLC)	Enables an X.121 subaddress for use by the SNA Service Point feature on the interface.
sna start	Initiates a connection to a remote resource.

sna host (SDLC)

To define a link to an SNA host over an SDLC connection, use this form of the **sna host** global configuration command. To cancel the definition, use the **no** form of this command.

sna host *host-name* **xid-snd** *xid* **sdlc** *sdlc-addr* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**interface** *slot*/*port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

no sna host *host-name* **xid-snd** *xid* **rmac** *remote-mac* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**interface** *slot*/*port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

Syntax Description

host-name	SNA host.
xid-snd *xid*	XID that will be sent to the host during connection establishment. The XID value is 8 hexadecimal digits that include both block and ID numbers. For example, if the XID value is 05D00001, the block number is 05D and the ID number is 00001.
sdlc *sdlc-addr*	SDLC address.
rsap *remote-sap*	(Optional) SAP address of the remote host PU. The default is 4.
lsap *local-sap*	(Optional) Local SAP address used by the SNA Service Point to establish connection with the remote host. The default is 12.
interface *slot*/*port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the SNA Service Point attempts to retry establishing connection with remote host PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 255.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between attempts to retry establishing connection with remote host PU. The range is 1 to 600 seconds. The default is 30 seconds.
focalpoint	(Optional) Host link to be used for the focal point support.

Defaults

The default remote SAP is 4.

The default local SAP is 12.

The default window size is 7.

The default maximum I-frame size is 1472.

The default retry count is 255.

The default retry timeout is 30 seconds.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

The following example defines a link to an SNA host:

```
sna host CNM01 xid-snd 05d00001 sdlc c1 rsap 4 lsap 4 focalpoint
```

Related Commands

Command	Description
sna enable-host (SDLC)	Enables an SDLC address for use by host connections.
sna start	Initiates a connection to a remote resource.

sna host (Token Ring, Ethernet, FDDI, RSRB, VDLC)

To define a link to an SNA host over Token Ring, Ethernet, FDDI, RSRB, or virtual data-link control connections, use the **sna host** global configuration command. To cancel the definition, use the **no** form of this command.

sna host *host-name* **xid-snd** *xid* **rmac** *remote-mac* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**interface** s*lot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

no sna host *host-name* **xid-snd** *xid* **rmac** *remote-mac* [**rsap** *remote-sap*] [**lsap** *local-sap*] [**interface** *slot/port*] [**window** *window-size*] [**maxiframe** *max-iframe*] [**retries** *retry-count*] [**retry-timeout** *retry-timeout*] [**focalpoint**]

Syntax Description

host-name	SNA host.
xid-snd *xid*	XID that will be sent to the host during connection establishment. The XID value is 8 hexadecimal digits that include both block and ID numbers. For example, if the XID value is 05D00001, the block number is 05D and the ID number is 00001.
rmac *remote-mac*	MAC address of the remote host PU.
rsap *remote-sap*	(Optional) SAP address of the remote host PU. The default is 4.
lsap *local-sap*	(Optional) Local SAP address used by the SNA Service Point to establish connection with the remote host. The default is 12.
interface *slot/port*	(Optional) Slot and port number of the interface.
window *window-size*	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
maxiframe *max-iframe*	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
retries *retry-count*	(Optional) Number of times the SNA Service Point attempts to retry establishing connection with remote host PU. The range is 0 to 255 (0 = no retry attempts, 255 = infinite retry attempts). The default is 255.
retry-timeout *retry-timeout*	(Optional) Delay (in seconds) between attempts to retry establishing connection with remote host PU. The range is 1 to 600 seconds. The default is 30 seconds.
focalpoint	(Optional) Host link to be used for the focal point support.

Defaults

The default remote SAP is 4.

The default local SAP is 12.

The default window size is 7.

The default maximum I-frame size is 1472.

The default retry count is 255.

The default retry timeout is 30 seconds.

Command Modes Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples The following example defines a link to an SNA host:

```
sna host CNM01 xid-snd 05d00001 rmac 4001.3745.1088 rsap 4 lsap 4 focalpoint
```

Related Commands

Command	Description
sna enable-host (Token Ring, Ethernet, Frame Relay, FDDI)	Enables SNA on the interface.
sna rsrb enable-host	Enables an RSRB SAP for use by the SNA Service Point feature.
sna rsrb start	Specifies that an attempt will be made to connect to the remote resource defined by host name through the RSRB.
sna start	Initiates a connection to a remote resource.
sna vdlc enable-host	Enables a SAP for use by the SNA Service Point feature.
sna vdlc start	Specifies that an attempt will be made to connect to the remote resource defined by host name through VDLC.

sna rsrb

To specify the entities that the SNA feature will simulate at the remote source-route bridge (RSRB), use the **sna rsrb** interface configuration command. To cancel the specification, use the **no** form of this command.

sna rsrb *local-virtual-ring bridge-number target-virtual-ring virtual-macaddr*

no sna rsrb *local-virtual-ring bridge-number target-virtual-ring virtual-macaddr*

Syntax Description

local-virtual-ring	Local virtual ring number.
bridge-number	Virtual bridge number. The valid range is 1 to 15.
target-virtual-ring	Target virtual ring number.
virtual-macaddr	Virtual MAC address.

Defaults

No default behavior or values.

Command Modes

Interface configuration.

Command History

Release	Modification
11.0	This command was introduced.

Usage Guidelines

You can specify the bridge number no more than once in any configuration.

Examples

The following example identifies a LAN:

```
sna rsrb 88 1 99 4000.FFFF.0001
```

Related Commands

Command	Description
sna rsrb start	Specifies that an attempt will be made to connect to the remote resource defined by host name through the RSRB.

sna rsrb enable-host

To enable an RSRB SAP for use by SNA Service Point feature, use the **sna rsrb enable-host** global configuration command. To disable the RSRB SAP, use the **no** form of this command.

sna rsrb enable-host [**lsap** *local-sap*]

no sna rsrb enable-host [**lsap** *local-sap*]

Syntax Description

lsap *local-sap*	(Optional) Specifies that the local SAP address will be activated as an upstream SAP for both receiving incoming connections attempts and for starting outgoing connection attempts. The default is 12.

Defaults

The default local SAP address is 12.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Examples

In the following example, the local SAP address 10 of the RSRB is enabled for use by the ibm3745 host PU:

```
source-bridge ring-group 99
source-bridge remote-peer 99 tcp 150.10.13.1
source-bridge remote-peer 99 tcp 150.10.13.2

sna rsrb 88 1 99 4000.FFFF.0001
sna rsrb enable-host lsap 10

sna host ibm3745 xid-snd 06500001 rmac 4000.3745.0001 lsap 10

interface serial 0
 ip address 150.10.13.1 255.255.255.0
```

Related Commands

Command	Description
sna host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a link to an SNA host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.

sna rsrb start

To specify that an attempt will be made to connect to the remote resource defined by host name through the RSRB, use the **sna rsrb start** global configuration command. To cancel the definition, use the **no** form of this command.

sna rsrb start *host-name*

no sna rsrb start *host-name*

Syntax Description

host-name	The name of a host defined in an **sna host** or equivalent command.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
11.0	This command was introduced.

Usage Guidelines

Before issuing this command, you must enable the correct local SAP with the appropriate enable command (**sna rsrb enable-host**).

Examples

In the following example, the SNA Service Point will initiate a connection with the ibm3745 host PU across the RSRB link:

```
source-bridge ring-group 99
source-bridge remote-peer 99 tcp 150.10.13.1
source-bridge remote-peer 99 tcp 150.10.13.2

sna rsrb 88 1 99 4000.FFFF.0001
sna rsrb enable-host lsap 10

sna host ibm3745 xid-snd 06500001 rmac 4000.3745.0001 lsap 10
sna rsrb start ibm3745

interface serial 0
 ip address 150.10.13.1 255.255.255.0
```

Related Commands

Command	Description
sna host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a link to an SNA host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.
sna rsrb	Specifies the entities that the SNA feature will simulate at the RSRB.

sna start

To initiate a connection to a remote resource, use the **sna start** interface configuration command. To cancel the connection attempt, use the **no** form of this command.

sna start [*resource-name*]

no sna start [*resource-name*]

Syntax Description

resource-name	(Optional) Name of a host defined in an **sna host** command.

Defaults

No default behavior or values.

Command Modes

Interface configuration

Command History

Release	Modification
11.0	This command was introduced.

Usage Guidelines

Before issuing this command you must enable the correct address using the **sna enable-host** command.

Examples

The following example initiates a connection to CNM01:

```
sna start CNM01
```

Related Commands

Command	Description
sna host (Frame Relay)	Defines a link to an SNA host over a Frame Relay connection.
sna host (QLLC)	Defines a link to an SNA host over an X.25/QLLC connection.
sna host (SDLC)	Defines a link to an SNA host over an SDLC connection.
sna host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a link to an SNA host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.

sna vdlc

To identify the local virtual ring and virtual MAC address that will be used to establish SNA host connections over DLSw+ using virtual data-link control, use the **sna vdlc** global configuration command. To cancel the definition, use the **no** form of this command.

sna vdlc *ring-group virtual-mac-address*

no sna vdlc *ring-group virtual-mac-address*

Syntax Description

ring-group	Local virtual ring number identifying the SRB ring group.
virtual-mac-address	Virtual MAC address that represents the SNA virtual data-link control.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

The virtual data-link control local virtual ring must have been previously configured using the **source-bridge ring-group** command.

The virtual data-link control virtual MAC address must be unique within the DLSw+ network.

To avoid an address conflict on the virtual MAC address, use a locally administered address in the form 4000.*xxxx*.*xxxx*.

Examples

The following is an example of an SNA Service Point configuration that uses virtual data-link control over DLSw+:

```
source-bridge ring-group 99
dlsw local-peer peer-id 150.10.16.2
dlsw remote-peer 0 tcp 150.10.16.1

sna vdlc 99 4000.4500.01f0
sna vdlc enable-host lsap 12

sna host HOST-B xid-snd 065bbbb0 rmac 4000.7000.01f1 rsap 4 lsap 12 focalpoint

sna vdlc start HOST-B

interface serial 3
 description IP connection to dspu7k
 ip address 150.10.16.2 255.255.255.0
 clockrate 4000000
```

Related Commands

Command	Description
dlsw local-peer	Defines the parameters of the DLSw+ local peer.
dlsw remote-peer tcp	Identifies the IP address of a peer with which to exchange traffic using TCP.
sna vdlc start	Specifies that an attempt will be made to connect to the remote resource defined by host name through VDLC.
source-bridge ring-group	Defines or removes a ring group from the configuration.

sna vdlc enable-host

To enable a SAP for use by SNA Service Point feature, use the **sna vdlc enable-host** global configuration command. To disable the SAP, use the **no** form of this command.

sna vdlc enable-host [**lsap** *local-sap*]

no sna vdlc enable-host [**lsap** *local-sap*]

Syntax Description

lsap *local-sap*	(Optional) Specifies that the local SAP address will be activated as an upstream SAP for both receiving incoming connection attempts and for starting outgoing connection attempts. The default is 12.

Defaults

The default local SAP address is 12.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Examples

In the following example, the local SAP address 12 is enabled for use by the host PU HOST-B:

```
source-bridge ring-group 99
dlsw local-peer peer-id 150.10.16.2
dlsw remote-peer 0 tcp 150.10.16.1

sna vdlc 99 4000.4500.01f0
sna vdlc enable-host lsap 12

sna host HOST-B xid-snd 065bbbb0 rmac 4000.7000.01f1 rsap 4 lsap 12 focalpoint

sna vdlc start HOST-B

interface serial 3
 description IP connection to dspu7k
 ip address 150.10.16.2 255.255.255.0
 clockrate 4000000
```

Related Commands

Command	Description
sna host (Token Ring, Ethernet, FDDI, RSRB, VDLC)	Defines a link to an SNA host over Token Ring, Ethernet, FDDI, RSRB, or VDLC connections.

sna vdlc start

To specify that an attempt will be made to connect to the remote resource defined by host name through virtual data-link control (VDLC), use the **sna vdlc start** global configuration command. To cancel the definition, use the **no** form of this command.

sna vdlc start *host-name*

no sna vdlc start *host-name*

Syntax Description

host-name	The name of a host defined in an **sna host** or equivalent command.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

Before issuing this command, you must enable the correct local SAP with the **sna vdlc enable-host** command.

Examples

In the following example, SNA Service Point uses virtual data-link control to initiate a connection with the host PU HOST-B:

```
source-bridge ring-group 99
dlsw local-peer peer-id 150.10.16.2
dlsw remote-peer 0 tcp 150.10.16.1

sna vdlc 99 4000.4500.01f0
sna vdlc enable-host lsap 12

sna host HOST-B xid-snd 065bbbb0 rmac 4000.7000.01f1 rsap 4 lsap 12 focalpoint

sna vdlc start HOST-B

interface serial 3
 description IP connection to dspu7k
 ip address 150.10.16.2 255.255.255.0
 clockrate 4000000
```

Related Commands

Command	Description
sna vdlc	Identifies the local virtual ring and virtual MAC address that will be used to establish SNA host connections over DLSw+ using VDLC.