



# DSPU and SNA Service Point Configuration Commands

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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 *Bridging and IBM Networking Configuration Guide*.

## dspu activation-window

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

```
dspu activation-window window-size  
no dspu activation-window
```

### Syntax Description

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

### Default

The default window size is 5 outstanding unacknowledged activation RUs.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

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.

### Example

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

Use the **dspu default-pu** global configuration command 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 **no** form of this command to disable the default PU feature.

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

### Syntax Description

**window** (Optional) Send and receive window sizes used across the link. The range is *window-size* 1 to 127. The default is 7.

**maxiframe** (Optional) Maximum size (in bytes) of an I-frame that can be transmitted or received across the link. The range is 64 bytes to 18,432 bytes. The default is *max-iframe* 1472.

### Defaults

The default window size is 7.

The default maximum I-frame size is 1472.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

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. Note that 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 transmitted 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.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**dspu lu**

**dspu pool**

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

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

```
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.

### Default

The default local SAP address is 12.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**dspu host (Frame Relay)**

**dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLc)**

## dspu enable-host (QLLC)

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

```
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.

### Default

No default X.121 subaddress is specified.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

#### **dspu host (QLLC)**

#### **x25 map qllc**

## dspu enable-host (SDLC)

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

```
dspu enable-host sdhc sdhc-address  
no dspu enable-host sdhc sdhc-address
```

### Syntax Description

**sdhc** Required keyword for SDLC data link control.

*sdhc-address* SDLC address.

### Default

No default SDLC address is specified.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

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

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

#### **dspu host (SDLC)**

**sdhc address**

**sdhc role**

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

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

```
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.

### Default

The default local SAP address is 8.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**dspu pu (Frame Relay)**

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

## dspu enable-pu (QLLC)

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

```
dspu enable-pu qlc x121-subaddress  
no dspu enable-pu qlc x121-subaddress
```

### Syntax Description

<b>qlc</b>	Required keyword for QLLC data link control.
<i>x121-subaddress</i>	Variable-length X.121 address. It is assigned by the X.25 network service provider.

### Default

No default address is assigned.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

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

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**dspu pu (QLLC)**  
**x25 map qlc**

## dspu enable-pu (SDLC)

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

**dspu enable-pu sdhc** *sdhc-address*  
**no dspu enable-pu sdhc** *sdhc-address*

### Syntax Description

**sdhc** Required keyword for SDLC data link control.

*sdhc-address* SDLC address.

### Default

No default address is specified.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

The following command enables a DSPU downstream connection:

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

#### **dspu pu (SDLC)**

**sdhc address**

**sdhc role**

## dspu host (Frame Relay)

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

```
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]
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

<i>host-name</i>	The specified DSPU host.
<b>xid-snd</b> <i>xid</i>	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.
<b>dlci</b> <i>dlci-number</i>	Frame Relay data-link connection identifier (DLCI) number; a decimal number.
<b>rsap</b> <i>rsap-addr</i>	(Optional) Remote service access point (SAP) address.
<b>lsap</b> <i>lsap-addr</i>	(Optional) Local SAP address.
<b>interface</b> <i>slot/port</i>	(Optional) Slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	(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.
<b>retry-timeout</b> <i>retry-timeout</i>	(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.
<b>focalpoint</b>	(Optional) Specifies that the host link will be used for the focal point support.

### Default

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 Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

The local SAP address must be enabled by a **dspu enable-host (Ethernet, Frame Relay, Token Ring, FDDI)** 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** parameter must be included in no more than one **dspu host** command.

### Example

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

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

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

## dspu host (QLLC)

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

```
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

<i>host-name</i>	The specified DSPU host.
<b>xid-snd</b> <i>xid</i>	XID that will be sent to the host during connection establishment. The <i>xid</i> value is 8 hexadecimal digits that include both block and ID numbers. For example, if the <i>xid</i> value is 05D00001, the Block number is 05D and the ID number is 00001.
<b>x25</b> <i>remote-x121-addr</i>	Remote X.121 address.
<b>qllc</b> <i>local-x121-subaddr</i>	(Optional) Local X.121 subaddress.
<b>interface</b> <i>slot/port</i>	(Optional) Slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	(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.
<b>retry-timeout</b> <i>retry-timeout</i>	(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.
<b>focalpoint</b>	(Optional) Specifies that the host link will be used for the focal point support.

### Default

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 Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

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** parameter must be included in no more than one **dspu host** command.

### Example

The following command defines a DSPU host:

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**dspu enable-host (QLLC)**

**dspu pool**

**dspu start**

## dspu host (SDLC)

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

```
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

<i>host-name</i>	The specified DSPU host.
<b>xid-snd</b> <i>xid</i>	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.
<b>sdlc</b> <i>sdlc-addr</i>	SDLC hexadecimal address.
<b>interface</b> <i>slot/port</i>	(Optional) Slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default window size is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	(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.
<b>retry-timeout</b> <i>retry-timeout</i>	(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.
<b>focalpoint</b>	(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 Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

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** parameter must be included in no more than one **dspu host** command.

### Example

The following command defines a DSPU host for SDLC:

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**dspu enable-host (SDLC)**

**dspu pool**

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

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

```
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

<i>host-name</i>	The specified DSPU host.
<b>xid-snd</b> <i>xid</i>	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.
<b>rmac</b> <i>remote-mac</i>	MAC address of the remote host PU.
<b>rsap</b> <i>remote-sap</i>	(Optional) SAP address of the remote host PU. The default is 4.
<b>lsap</b> <i>local-sap</i>	(Optional) Local SAP address used by the DSPU to establish connection with the remote host. The default is 12.
<b>interface</b> <i>slot/port</i>	(Optional) Slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	(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.
<b>retry-timeout</b> <i>retry-timeout</i>	(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.
<b>focalpoint</b>	(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 Mode

Global configuration

## Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

The local SAP address must be enabled by one of the following commands: **dspu enable-host (Ethernet, Frame Relay, Token Ring, FDDI)**, **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** parameter must be included in no more than one **dspu host** command.

## Example

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

You can use the master indexes or search online to find documentation of related commands.

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

**dspu pool**

**dspu rsrb enable-host**

**dspu rsrb start**

**dspu start**

**dspu vdlc enable-host**

## dspu lu

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

```
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

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

### Default

There are no default specifications.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

If the **dspu lu** command immediately follows one of these commands:

```
dspu default-pu  
dspu pu (Frame Relay)  
dspu pu (QLLC)  
dspu pu (SDLC)  
dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)
```

The **dspu lu** command is applied to that PU, and the **pu** keyword and *pu-name* are not required. 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.

### Example

The following example defines downstream LUs as dedicated LUs. The downstream PU, ciscopu, has three downstream LUs with addresses 2, 3, 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

You can use the master indexes or search online to find documentation of related commands.

**dspu default-pu**

**dspu host (Frame Relay)**

**dspu host (QLLC)**

**dspu host (SDLC)**

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

**dspu pool**

**dspu pu (Frame Relay)**

**dspu pu (QLLC)**

**dspu pu (SDLC)**

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

## dspu ncia

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

```
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.

### Default

There are no default settings.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

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.

### Example

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

```
dspu ncia 1
```

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**dspu ncia enable-pu**  
**ncia server**

## dspu ncia enable-pu

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

```
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.

### Default

The default local SAP is 8.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

### **dspu ncia**

**dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDL, NCIA)**

## dspu notification-level

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

```
dspu notification-level {off | low | medium | high}  
no dspu notification-level
```

### Syntax Description

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

### Default

The default notification level is **low**.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.1.

This command applies to both SNMP traps and unsolicited SNA messages to operator. Note that 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.

### Example

The following command 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

You can use the master indexes or search online to find documentation of related commands.

**snmp-server host**

## dspu pool

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

```
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

<i>pool-name</i>	Name identifier of the pool.
<b>host</b> <i>host-name</i>	Name of the host that owns the range of host LUs in the pool.
<b>lu</b> <i>lu-start</i>	Starting LU address in the range of host LUs in the pool.
<i>lu-end</i>	(Optional) Ending address (inclusive) of the range of host LUs in the pool. If no ending address is specified, only one LU (identified by <i>lu-start</i> ) will be defined in the pool.
<b>inactivity-timeout</b> <i>minutes</i>	(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.

### Default

The **inactivity-timeout** is disabled.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

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. (Note that 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* hostPU.

```
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

You can use the master indexes or search online to find documentation of related commands.

**dspu host (Frame Relay)**

**dspu host (QLLC)**

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

**dspu lu**

## dspu pu (Frame Relay)

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

```
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

<i>pu-name</i>	Name of the downstream PU.
<b>dlci</b> <i>dlci-number</i>	Frame Relay data-link connection identifier (DLCI) number; a decimal number.
<b>rsap</b> <i>remote-sap</i>	(Optional) SAP address of the downstream PU. The default is 4.
<b>lsap</b> <i>local-sap</i>	(Optional) Local SAP address used by the DSPU to establish connection with the downstream PU. The default is 8.
<b>xid-rcv</b> <i>xid</i>	(Optional) Specifies a match on XID.
<b>interface</b> <i>slot/port</i>	(Optional) Slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Send and receive sizes used for the downstream PU link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Maximum I-frame that can be transmitted or received across the link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	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.
<b>retry-timeout</b> <i>retry-timeout</i>	(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 Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

The following example defines a downstream PU:

```
dspu pu pub dlci 8
```

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

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

**dspu lu**

## dspu pu (QLLC)

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

```
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

<i>pu-name</i>	Name of the downstream PU.
<b>x25</b> <i>remote-x121-addr</i>	Variable-length X.121 address. It is assigned by the X.25 network service provider.
<b>qllc</b> <i>local-x121-subaddr</i>	(Optional) Local X.121 subaddress.
<b>xid-rcv</b> <i>xid</i>	(Optional) Specifies a match on XID.
<b>interface</b> <i>slot/port</i>	(Optional) Slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Send and receive sizes used for the downstream PU link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Maximum I-frame that can be transmitted or received across the link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	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.
<b>retry-timeout</b> <i>retry-timeout</i>	(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 Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

The following command defines a downstream PU:

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**dspu enable-pu (QLLC)**

**dspu lu**

## dspu pu (SDLC)

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

```
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

<i>pu-name</i>	Name of the downstream PU.
<b>sdlc</b> <i>sdlc-addr</i>	SDLC address.
<b>xid-rcv</b> <i>xid</i>	(Optional) Specifies a match on XID.
<b>interface</b> <i>slot/port</i>	(Optional) Slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Send and receive sizes used for the downstream PU link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Maximum I-frame that can be transmitted or received across the link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	(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.
<b>retry-timeout</b> <i>retry-timeout</i>	(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 Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

The following command defines a downstream PU:

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**dspu enable-pu (SDLC)**  
**dspu lu**

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

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

```
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

<i>pu-name</i>	Name of the downstream PU.
<b>rmac</b> <i>remote-mac</i>	(Optional) MAC address of the downstream PU.
<b>rsap</b> <i>remote-sap</i>	(Optional) SAP address of the downstream PU. The default is 4.
<b>lsap</b> <i>local-sap</i>	(Optional) Local SAP address used by the DSPU to establish connection with the downstream PU. The default is 8.
<b>xid-rcv</b> <i>xid</i>	(Optional) Specifies a match on XID.
<b>interface</b> <i>slot/port</i>	(Optional) Slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Send and receive sizes used for the downstream PU link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Maximum I-frame that can be transmitted or received across the link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	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.
<b>retry-timeout</b> <i>retry-timeout</i>	(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 Mode

Global configuration

## Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

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

- **dspu enable-pu (Ethernet, Frame Relay, Token Ring, FDDI) lsap**
- **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 transmitted 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 11.3 and above, 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 ConnectIn 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
```

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

---

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

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

**dspu lu**

**dspu ncia enable-pu**

**dspu rsrb enable-pu**

**dspu rsrb start**

**dspu start**

**dspu vdlc enable-pu**

## dspu rsrb

Use the **dspu rsrb** global configuration command 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 **no** form of this command to cancel the definition.

```
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

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

### Default

There are no default settings.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

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

You can use the master indexes or search online to find documentation of related commands.

**dspu rsrb enable-host**  
**dspu rsrb enable-pu**  
**dspu rsrb start**  
**source-bridge ring-group**  
**source-bridge remote-peer**

## dspu rsrb enable-host

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

```
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.

### Default

The default local SAP is 12.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLIC)**  
**dspu rsrb**

## dspu rsrb enable-pu

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

```
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.

### Default

The default local SAP is 8.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

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

## dspu rsrb start

Use the **dspu rsrb start** global configuration command 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 **no** form of this command to cancel the definition.

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

### Syntax Description

<i>host-name</i>	Name of a host defined in a <b>dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)</b> command.
<i>pu-name</i>	Name of a PU defined in a <b>dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)</b> command.

### Default

There are no default settings.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

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.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

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

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

**dspu rsrb**

**dspu rsrb enable-host**

**dspu rsrb enable-pu**

## dspu start

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

```
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.

### Default

There are no default settings.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

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 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.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

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

**dspu enable-host (QLLC)**

**dspu enable-host (SDLC)**

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

**dspu enable-pu (SDLC)**

**dspu enable-pu (QLLC)**

**dspu host (Frame Relay)**

**dspu host (QLLC)**

**dspu host (SDLC)**

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

**dspu pu (Frame Relay)**

**dspu pu (QLLC)**

**dspu pu (SDLC)**

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

## dspu vdlc

Use the **dspu vdlc** global configuration command 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 **no** form of this command to cancel the definition.

```
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.

### Default

There are no default settings.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

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.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**dlsw local-peer**

**dlsw remote-peer**

**dspu vdlc enable-host**

**dspu vdlc enable-pu**

**dspu vdlc start**

**source-bridge ring-group**

## dspu vdlc enable-host

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

```
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.

### Default

The default local SAP is 12.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

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

**dspu vdlc**

## dspu vdlc enable-pu

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

```
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.

### Default

The default local SAP is 8.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

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

## dspu vdlc start

Use the **dspu vdlc start** global configuration command 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 **no** form of this command to cancel the definition.

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

### Syntax Description

<i>host-name</i>	Name of a host defined in a <b>dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)</b> command.
<i>pu-name</i>	Name of a PU defined in a <b>dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)</b> command.

### Default

There are no default settings.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

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.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**dspu host (Token Ring, Ethernet, FDDI, RSRB, VDLC)**  
**dspu pu (Token Ring, Ethernet, FDDI, RSRB, VDLC, NCIA)**  
**dspu vdlc**  
**dspu vdlc enable-host**  
**dspu vdlc enable-pu**

## lan-name

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

**lan-name** *lan-name*

### Syntax Description

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

### Default

The default name used for the LAN is the name of the interface, such as tr0.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

The following example identifies a LAN:

```
lan-name LAN1
```

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**show sna**

---

## location

Use the **location** global configuration command to specify the physical location of the router or access server. This information is included in the vital product information when this information is requested from an SNA host. Use the **no** form of this command to remove the physical location information.

**location** *location-description*

### Syntax Description

*location-description*                      A description of the physical location of the device. This can be up to 50 characters long, and can include blanks.

### Default

No default is specified.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

The following example describes the location of a router:

```
location Building G, Level 4, Room 45
```

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**show sna**

## show dspu

Use the **show dspu** privileged EXEC command to display the status of the DSPU feature.

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

### Syntax Description

<b>pool</b> <i>pool-name</i>	(Optional) Name of a pool of LUs (as defined by the <b>dspu pool</b> command).
<b>pu</b>	(Optional) Name of defined PU (as defined by either the <b>dspu pu</b> or the <b>dspu host</b> command).
<i>host-name</i>	Name of a host defined in a <b>dspu host</b> command.
<i>pu-name</i>	Name of a PU defined in a <b>dspu pu</b> command.
<b>all</b>	(Optional) Shows a detailed status.

### Command Mode

Privileged EXEC

### Usage Guidelines

This command first appeared in Cisco IOS Release 10.3.

### Sample Displays

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 PUTEEST 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 PUTEEST 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

Use the **show sna** privileged EXEC command to display the status of the SNA Service Point feature.

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

### Syntax Description

<b>pu</b>	(Optional) The name of a host defined in an <b>sna host</b> command.
<i>host-name</i>	The name of a host defined in an <b>sna host</b> command.
<b>all</b>	(Optional) Shows a detailed status.

### Command Mode

Privileged EXEC

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Sample Displays

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

## sna enable-host (QLLC)

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

```
sna enable-host qlc x121-subaddress  
no sna enable-host qlc x121-subaddress
```

### Syntax Description

**qlc** Required keyword for QLLC data link control.

*x121-subaddress* The X.121 subaddress.

### Default

No default X.121 subaddress is specified.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

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

```
sna enable-host qlc 320108
```

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**sna host (QLLC)**

**x25 map qlc**

## sna enable-host (SDLC)

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

**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* The SDLC address.

### Default

No default SDLC address is specified.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**encapsulation sdlc**  
**sna host (SDLC)**

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

Use the **sna enable-host** interface configuration command to enable SNA on the interface. Use the **no** form of this command to disable SNA on the interface.

```
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* Local SAP. The default is 12.

### Default

The default LSAP parameter is 12.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**show sna**

**sna host (Frame Relay)**

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

## sna host (Frame Relay)

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

```
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

<i>host-name</i>	The specified SNA host.
<b>xid-snd</b> <i>xid</i>	The 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.
<b>dlci</b> <i>dlci-number</i>	DLCI number.
<b>rsap</b> <i>remote-sap</i>	(Optional) Specifies the SAP address of the remote host PU. The default is 4.
<b>lsap</b> <i>local-sap</i>	(Optional) Specifies the local SAP address used by the SNA Service Point to establish connection with the remote host. The default is 12.
<b>interface</b> <i>slot/port</i>	(Optional) The slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Specifies the send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Specifies the send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	(Optional) Specifies the 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.
<b>retry-timeout</b> <i>retry-timeout</i>	(Optional) Specifies the 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.
<b>focalpoint</b>	(Optional) Specifies that the host link will be used for the focal point support.

### Default

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 Mode

Global configuration

## Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

## Example

The following command defines a link to an SNA host:

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

## Related Commands

You can use the master indexes or search online to find documentation of related commands.

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

**sna start**

## sna host (QLLC)

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

```
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

<i>host-name</i>	The specified SNA host.
<b>xid-snd</b> <i>xid</i>	The 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.
<b>x25</b> <i>remote-x121-addr</i>	The SDLC address.
<b>qllc</b> <i>local-x121-subaddr</i>	(Optional) Specifies the SAP address of the remote host PU. The default is 4.
<b>interface</b> <i>slot/port</i>	(Optional) The slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Specifies the send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Specifies the send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	(Optional) Specifies the 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.
<b>retry-timeout</b> <i>retry-timeout</i>	(Optional) Specifies the 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.
<b>focalpoint</b>	(Optional) Specifies that the host link will be used for the focal point support.

### Default

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 Mode

Global configuration

## Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

## Example

The following command defines a link to an SNA host:

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

## Related Commands

You can use the master indexes or search online to find documentation of related commands.

**sna enable-host (QLLC)**

**sna start**

## sna host (SDLC)

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

```
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

<i>host-name</i>	The specified SNA host.
<b>xid-snd</b> <i>xid</i>	The 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.
<b>sdlc</b> <i>sdlc-addr</i>	The SDLC address.
<b>rsap</b> <i>remote-sap</i>	(Optional) Specifies the SAP address of the remote host PU. The default is 4.
<b>lsap</b> <i>local-sap</i>	(Optional) Specifies the local SAP address used by the SNA Service Point to establish connection with the remote host. The default is 12.
<b>interface</b> <i>slot/port</i>	(Optional) The slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Specifies the send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Specifies the send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	(Optional) Specifies the 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.
<b>retry-timeout</b> <i>retry-timeout</i>	(Optional) Specifies the 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.
<b>focalpoint</b>	(Optional) Specifies that the host link will be used for the focal point support.

### Default

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 Mode

Global configuration

## Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

## Example

The following command defines a link to an SNA host:

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

## Related Commands

You can use the master indexes or search online to find documentation of related commands.

**sna enable-host (SDLC)**

**sna start**

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

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

```
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]
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

<i>host-name</i>	The specified SNA host.
<b>xid-snd</b> <i>xid</i>	The 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.
<b>rmac</b> <i>remote-mac</i>	The MAC address of the remote host PU.
<b>rsap</b> <i>remote-sap</i>	(Optional) Specifies the SAP address of the remote host PU. The default is 4.
<b>lsap</b> <i>local-sap</i>	(Optional) Specifies the local SAP address used by the SNA Service Point to establish connection with the remote host. The default is 12.
<b>interface</b> <i>slot/port</i>	(Optional) The slot and port number of the interface.
<b>window</b> <i>window-size</i>	(Optional) Specifies the send and receive window sizes used for the host link. The range is 1 to 127. The default is 7.
<b>maxiframe</b> <i>max-iframe</i>	(Optional) Specifies the send and receive maximum I-frame sizes used for the host link. The range is 64 to 18432. The default is 1472.
<b>retries</b> <i>retry-count</i>	(Optional) Specifies the 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.
<b>retry-timeout</b> <i>retry-timeout</i>	(Optional) Specifies the 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.
<b>focalpoint</b>	(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 size is 1472.

The default retry count is 255.

The default retry timeout is 30 seconds.

## Command Mode

Global configuration

## Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

## Example

The following command defines a link to an SNA host:

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

## Related Commands

You can use the master indexes or search online to find documentation of related commands.

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

**sna rsrb enable-host**

**sna rsrb start**

**sna start**

**sna vdlc enable-host**

**sna vdlc start**

## sna rsrb

Use the **sna rsrb** interface configuration command to specify the entities that the SNA feature will simulate at the remote source-route bridge. Use the **no** form of this command to cancel the specification.

**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

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

### Default

No defaults are specified.

### Command Mode

Interface configuration

### Usage Guideline

This command first appeared in Cisco IOS Release 11.0.

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

### Example

The following example identifies a LAN:

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

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**sna rsrb start**

## sna rsrb enable-host

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

```
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.

### Default

The default local SAP address is 12.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**sna host (Token Ring, Ethernet, FDDI, RSRB, VDL C)**

## sna rsrb start

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

```
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 (Token Ring, Ethernet, FDDI, RSRB, VDLC)** or equivalent command.

### Default

There are no default settings.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

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

### Example

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

You can use the master indexes or search online to find documentation of related commands.

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

## sna start

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

```
sna start [resource-name]  
no sna start [resource-name]
```

### Syntax Description

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

### Default

No default is specified.

### Command Mode

Interface configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.0.

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

### Example

The following example initiates a connection to CNM01:

```
sna start CNM01
```

### Related Commands

You can use the master indexes or search online to find documentation of related commands.

**sna host (Frame Relay)**

**sna host (QLLC)**

**sna host (SDLC)**

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

## sna vdlc

Use the **sna vdlc** global configuration command 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 **no** form of this command to cancel the definition.

```
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.

### Default

There are no default settings.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

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.xxx.xxx.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**dlsw local-peer**

**dlsw remote-peer**

**sna vdlc start**

**source-bridge ring-group**

## sna vdlc enable-host

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

```
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.

### Default

The default local SAP address is 12.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**sna host (Token Ring, Ethernet, FDDI, RSRB, VDLc)**

## sna vdlc start

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

```
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 (Token Ring, Ethernet, FDDI, RSRB, VDLC)** or equivalent command.

### Default

There are no default settings.

### Command Mode

Global configuration

### Usage Guidelines

This command first appeared in Cisco IOS Release 11.2.

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

### Example

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

You can use the master indexes or search online to find documentation of related commands.

**sna vdlc**

