SNA Frame Relay Access Support Commands

This chapter describes the commands to configure System Network Architecture (SNA) Frame Relay access support. For SNA Frame Relay access support configuration tasks and examples, refer to the "Configuring SNA Frame Relay Access Support" chapter of the *Router Products Configuration Guide*.

Note   Since Frame Relay itself does not provide a reliable transport as required by SNA, the RFC 1490 support of SNA uses LLC2 as part of the encapsulation to provide link-level sequencing, acknowledgment, and flow control. The serial interface configured for IETF encapsulation (RFC 1490) accepts all LLC2 interface configuration commands. For more information about LLC2 interface configuration commands, refer to the "LLC2 and SDLC Commands" chapter of the *Router Products Command Reference* publications.

fras map llc

Use the **fras map llc** interface configuration command to associate an LLC connection with a Frame Relay connection. Use the **no** form of this command to cancel the association.

> **fras map llc** *mac-address lan-lsap lan-rsap* **serial** *port* **frame-relay** *dlci fr-lsap fr-rsap*
> [**PFID2** | **AFID2** | **FID4**]
> **no fras map llc** *mac-address lan-lsap lan-rsap* **serial** *port* **frame-relay** *dlci fr-lsap*
> *fr-rsap* [**PFID2** | **AFID2** | **FID4**]

Syntax Description

mac-address	The MAC address of the downstream SNA device. It is a 48-bit dotted-triple address.
lan-lsap	The local SAP address of the downstream SNA device in hexadecimal. For SNA, the address must be multiples of 4.
lan-rsap	The destination SAP address from the perspective of the downstream SNA device in hexadecimal. For SNA, the address must be multiples of 4.
serial *port*	The serial interface on which Frame Relay is configured.
frame-relay *dlci*	The Frame Relay data link connection identifier.
fr-lsap	The local SAP address of the logical link connection on the CFRAD.
fr-rsap	The destination SAP address on the host.
PFID2	(Optional) The FID2 SNA transmission header for SNA peripheral traffic.
AFID2	(Optional) The FID2 transmission header for APPN traffic.
FID4	(Optional) The transmission header used on SNA subarea flows.

Default

No defaults are defined.

Command Mode

Interface configuration

Usage Guidelines

You can map multiple LLC sessions to a DLCI.

Example

The following example associates an LLC connection to a Frame Relay connection:

```
fras map llc 0800.5a8f.8802 4 4 serial 0 frame-relay 200 4 4
```

Related Command

frame-relay map llc2

fras map sdlc

Use the **fras map sdlc** interface configuration command to associate an SDLC link with a Frame Relay DLCI. Use the **no** form of this command to cancel the association.

> **fras map sdlc** *sdlc-address* **serial** *port* **frame-relay** *dlci fr-lsap fr-rsap* [**PFID2** |
>   **AFID2** | **FID4**]
> **no fras map sdlc** *sdlc-address* **serial** *port* **frame-relay** *dlci fr-lsap fr-rsap* [**PFID2** |
>   **AFID2** | **FID4**]

Syntax Description

sdlc-address	The SDLC address of the downstream SNA device in hexadecimal.
serial *port*	The serial interface on which Frame Relay is configured.
frame-relay *dlci*	The Frame Relay data link connection identifier.
fr-lsap	The local SAP address of the logical link connection on the CFRAD.
fr-rsap	The destination SAP address on the host.
PFID	(Optional) The FID2 SNA transmission header for SNA peripheral traffic.
AFID2	(Optional) The FID2 transmission header for APPN traffic.
FID4	(Optional) The transmission header used on SNA subarea flows.

Default

No defaults are defined.

Command Mode

Interface configuration

Usage Guidelines

You can map multiple SDLC links to a DLCI.

Example

The following example associates an SDLC link with a Frame Relay DLCI:

```
fras map sdlc C1 serial 0 frame-relay 200 4 4
```

Related Command

frame-relay map llc2

frame-relay map llc2

Use the **frame-relay map llc2** interface configuration command to map LLC2 traffic to a DLCI.

frame-relay map llc2 *dlci*

Syntax Description

dlci	The Frame Relay data link connection identifier.

Default

No defaults are defined.

Command Mode

Interface configuration

Example

The following example maps LLC2 traffic to DLCI number 200:

```
frame-relay map llc2 200
```

frame-relay map rsrb

Use the **frame-relay map rsrb** interface configuration command to specify the DLCI number onto which the RSRB traffic is to be mapped.

frame-relay map rsrb *dlci*

Syntax Description

dlci	The Frame Relay data link connection identifier.

Default

No defaults are defined.

Command Mode

Interface configuration

Example

The following example shows RSRB traffic mapped to DLCI number 30:

```
frame-relay map rsrb 30
```

Related Command

encapsulation frame-relay

llc2 dynwind

Use the **llc2 dynwind** interface configuration command to enable dynamic window congestion management. Use the **no** form of this command to cancel the configuration.

    llc2 dynwind [**nw** *nw-number*] [**dwc** *dwc-number*]
    no llc2 dynwind [**nw** *nw-number*] [**dwc** *dwc-number*]

Syntax Description

nw *nw-number*	(Optional) Specifies a number of frames that must be received to increment the working window value by 1.
dwc *dwc-number*	(Optional) Specifies the number by which the working window value is divided when BECN occurs. Valid numbers are 1, 2, 4, 8, and 16. 1 is a special value that indicates that the working window value should be set to 1 when BECN is indicated

Default

The default *nw-number* value is 4 frames.

The default *dwc-number* value is 1.

Command Mode

Interface configuration

Example

The following example specifies that to increment the working window 6 frames must be received, and that when BECN is indicated the working window value should be set to 1:

```
llc2 dynwind nw 6 dwc 1
```

show fras map

Use the **show fras map** privileged EXEC command to display the mapping and connection state of Frame Relay access support.

> **show fras map**

Syntax Description

This command has no arguments or keywords.

Command Mode

Privileged EXEC

Sample Display

The following is sample output from the **show fras map** command:

```
Router# show fras map

Type Destination    Int   LSap   RSap   Role   State
tr   0800.5a8f.8802 tr0   4      4      P      ls_contacted
fr   200            s0    4      4      S      ls_contacted
```

Table 28-1 describes significant fields shown in the display.

Table 28-1   Show FRAS Map Field Descriptions

Field	Description
Type	Interface type.
Destination	Destination address.
Int	Interface.
LSap	Local SAP.
RSap	Remote SAP.
Role	Local link station role; P means Primary, S means Secondary.
State	Link station protocol machine state.