Configuring BSTUN Point−to−Point over Frame Relay

Document ID: 12348

Introduction

The Bisync Serial Tunnel (BSTUN) feature enables support for devices using the Bisync datalink protocol. This protocol enables enterprises to transport Bisync traffic over the same network that supports their System Network Architecture (SNA) and multiprotocol traffic, eliminating the need for separate Bisync facilities. In this example, we configure BSTUN Point−to−Point over Frame Relay. The relevant states in the **show bstun** command output and state changes in **show log** command output are highlighted in the sections below.

Note: Although the **debug bstun packet/event** and **debug bsc packet/event** commands should not cause excessive CPU utilisation, the **logging buffered** command has been used to copy the output to the log file.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

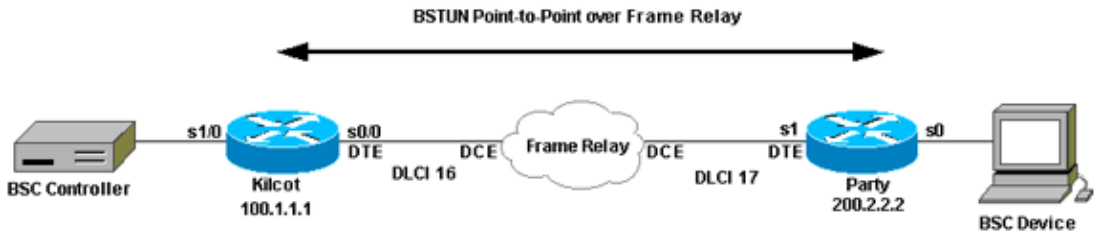
The information in this document is based on the Cisco IOS® Software release 12.1(5).

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Network Diagram



Configurations

Kilcot
Building configuration... ! version 12.1 service timestamps debug datetime msec ! hostname kilcot ! ! bstun peer-name 100.1.1.1 bstun protocol-group 72 bsc ! ! interface Loopback0 ip address 100.1.1.1 255.0.0.0 ! interface Serial0/0 ip address 10.1.1.1 255.0.0.0 encapsulation frame-relay no ip mroute-cache frame-relay interface-dlci 16 frame-relay lmi-type ansi ! interface Serial1/0 no ip address ip directed-broadcast encapsulation bstun no ip mroute-cache no keepalive full-duplex clockrate 9600 bstun group 72 bsc secondary bstun route all tcp 200.2.2.2 ! ! router rip network 10.0.0.0 network 100.0.0.0 ! end

Party
Building configuration... ! version 12.1 service timestamps debug datetime msec ! hostname party ! bstun peer-name 200.2.2.2

```
bstun protocol-group 72 bsc
!
!
interface Loopback0
ip address 200.2.2.2 255.255.255.0
!
interface Serial0
no ip address
encapsulation bstun
load-interval 30
no keepalive
full-duplex
clockrate 9600
bstun group 72
bsc primary
bstun route all tcp 100.1.1.1
!
interface Serial1
ip address 10.1.1.2 255.0.0.0
encapsulation frame-relay IETF
no ip mroute-cache
frame-relay interface-dlci 17
frame-relay lmi-type ansi
!
!
router rip
network 10.0.0.0
network 200.2.2.0
!
end
```

debug and show Commands

- **show bstun**
- **show bsc**
- **debug bstun packet/event**
- **debug bsc packet/event**

Sample show Output

```
kilcot#show bstun
This peer: 100.1.1.1
?
?*Serial1/0? (group 72 [bsc])
route transport address???????? dlci lsap state????? rx_pkts tx_pkts?? drops
all?? TCP?????? 200.2.2.2???????????????? open?????????? 120???? 125?????? 0
?
kilcot#show bsc
BSC pass-through on Serial1/0:
HDX enforcement state: IDLE.
Frame sequencing state: IDLE .
Total Tx Counts: 4668 frames(total). 4668 frames(data). 18680 bytes.
Total Rx Counts: 9400 frames(total). 9400 frames(data). 28276 bytes.
??

party#show bstun
This peer: 200.2.2.2
?
?*Serial0? (group 72 [bsc])
route transport address???????? dlci lsap state????? rx_pkts tx_pkts?? drops
all?? TCP?????? 100.1.1.1???????????????? open?????????? 78????? 74?????? 0
?
```

```
party#show bsc
BSC pass−through on Serial0:
HDX enforcement state: IDLE.
Frame sequencing state: IDLE .
Total Tx Counts: 4659 frames(total). 4659 frames(data). 65088 bytes.
Total Rx Counts: 4625 frames(total). 4625 frames(data). 4633 bytes.
```

Sample debug Output

The debug bstun packet/event and debug bsc packet/event output has been copied to the log file. When interpreting the debug output below:

- SDI: (Serial Data Incoming) − packets received from the SDLC interface
- NDI: (Network Data Incoming) − packets de−encapsulated from the WAN

```
kilcot#show log
Syslog logging: enabled (0 messages dropped, 0 flushes, 0 overruns)
??? Console logging: disabled
??? Monitor logging: level debugging, 0 messages logged
??? Buffer logging: level debugging, 7036 messages logged
??? Trap logging: level informational, 68 message lines logged
?
Log Buffer (100000 bytes):
?
Dec 27 13:41:20.626: %SYS−5−CONFIG_I: Configured from console by console
Dec 27 13:42:50.603: %SYS−5−CONFIG_I: Configured from console by console
Dec 27 13:44:19.983: BSC: Serial1/0: SDI: Data (1 bytes):? 37
Dec 27 13:44:19.983: BSC: Serial1/0: HDX−FSM event: RXV
Dec 27 13:44:19.983: BSC: Serial1/0: FS−FSM event: SDI EOT
Dec 27 13:44:19.983: BSC: Serial1/0: Discard SDI: Data (1 bytes):? 37
Dec 27 13:44:19.991: BSC: Serial1/0: SDI: Data (5 bytes):? 40407F7F2D
Dec 27 13:44:19.991: BSC: Serial1/0: HDX−FSM event: RXV
Dec 27 13:44:19.991: BSC: Serial1/0: FS−FSM event: SDI P/S
   BID old_state: IDLE .? new_state: PRI? .
Dec 27 13:44:19.991: BSTUN bsc: Serial1/0 SDI: Data:?? 405E0040407F7F2D
Dec 27 13:44:19.991: BSTUN: Change state for peer
   (all[72])200.2.2.2/1976 (closed−>opening)
Dec 27 13:44:19.999: BSTUN: Change state for peer
   (all[72])200.2.2.2/1976 (opening−>open wait)
Dec 27 13:44:19.999: %BSTUN−6−OPENING: CONN: opening peer
   (all[72])200.2.2.2/1976, 3
Dec 27 13:44:20.027: bsttcpd_connect: Refreshing
   tcp_encaps for group 72
Dec 27 13:44:20.027: %BSTUN−6−OPENED: CONN: peer
   (all[72])200.2.2.2/1976 opened, [previous state open wait]
Dec 27 13:44:20.027: BSTUN: Change state for peer
   (all[72])200.2.2.2/1976 (open wait−>open)
Dec 27 13:44:22.983: BSC: Serial1/0: SDI: Data (1 bytes):? 37
Dec 27 13:44:22.983: BSC: Serial1/0: HDX−FSM event: RXV
Dec 27 13:44:22.983: BSC: Serial1/0: FS−FSM event:
   SDI EOT old_state: PRI? .? new_state: IDLE .
Dec 27 13:44:22.983: BSTUN bsc: Serial1/0 SDI: Data:?? 40C00037
Dec 27 13:44:22.991: BSC: Serial1/0: SDI: Data (5 bytes):? 40407F7F2D
??

party#show log
Syslog logging: enabled (0 messages dropped, 0 flushes, 0 overruns)
??? Console logging: disabled
??? Monitor logging: level debugging, 0 messages logged
??? Buffer logging: level debugging, 6913 messages logged
??? Trap logging: level informational, 88 message lines logged
?
Log Buffer (100000 bytes):
?
```

```
Dec 27 13:44:20.042: %BSTUN-6-PASSIVEOPEN:
   passive open 100.1.1.1(11068) -> 1976
Dec 27 13:44:20.062: %BSTUN-6-OPENED: PHDR: peer
   (all[72])100.1.1.1/1976 opened, [previous state closed]
Dec 27 13:44:20.062: BSTUN: Change state for peer
   (all[72])100.1.1.1/1976 (closed->open)
Dec 27 13:44:20.062: BSTUN bsc: Serial0 NDI: Data:?? 405E0040407F7F2D
Dec 27 13:44:20.062: BSC: Serial0: NDI:
   Data (8 bytes):? 405E0040407F7F2D
Dec 27 13:44:20.062: BSC: Serial0: FS-FSM event:
   NDI BID old_state: IDLE .? new_state: SEC? .
Dec 27 13:44:20.062: BSC: Serial0: New Address(40) New NS(1E)
Dec 27 13:44:20.062: BSC: Serial0: HDX-FSM event:
   TX old_state: IDLE.? new_state: PND_COMP.
Dec 27 13:44:20.066: BSC: Serial0: HDX-FSM event:
   CmpOTH old_state: PND_COMP.? new_state: PND_RCV.
```

Related Information

- **Cisco IOS Release 12.0 Bridging and IBM Networking Configuration Guide**
- **Serial Tunnel (STUN) Support Page**
- **Technical Support & Documentation − Cisco Systems**

Updated: Sep 09, 2005 Document ID: 12348