

Configuring BSTUN Point-to-Point with Local Acknowledgement over Frame Relay

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Introduction

The Bisync Serial Tunnel (BSTUN) feature enables support for devices that use the Bisync datalink protocol. This protocol enables enterprises to transport Bisync traffic over the same network that supports their Systems Network Architecture (SNA) and multiprotocol traffic, which eliminates the need for separate Bisync facilities. With Frame Relay, you can use the local acknowledgment feature to provide local termination of the session on the BSTUN peer.

In this example, BSTUN Point-to-Point is configured with Local Acknowledgement over Frame Relay. The relevant states in the **show bstun** command output are highlighted in the this document.

Note: Although the **debug bstun packet/event** and **debug bsc packet/event** commands should not cause excessive CPU utilisation, the **logging buffered** command is 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 Cisco IOS® Software Release 12.1(5).

Conventions

For more information on document conventions, refer to Cisco Technical Tips Conventions.

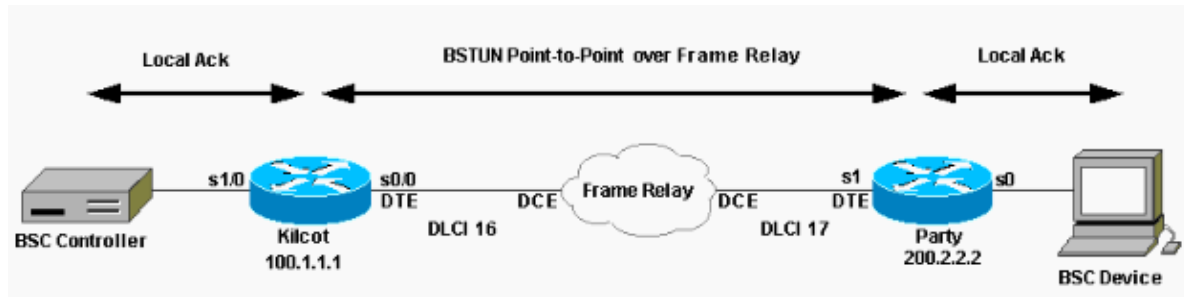
Configure

In this section, you are presented with the information to configure the features described in this document.

Note: To find additional information on the commands used in this document, use the Command Lookup Tool (registered customers only) .

Network Diagram

This document uses this network setup:



Configurations

This document uses these configurations:

Kilcot
<pre>Building configuration ! version 12.1 service timestamps debug datetime msec ! hostname kilcot ! ! bstun peer-name 100.1.1.1 bstun protocol-group 72 bsc-local-ack ! ! 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 bstun secondary bstun route all tcp 200.2.2.2</pre>

```
!  
!  
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-local-ack  
!  
!  
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
```

Verify

This section provides information you can use to confirm your configuration works properly.

Certain **show** commands are supported by the Output Interpreter Tool (registered customers only) , which allows you to view an analysis of **show** command output.

- **show bstun**
- **show bsc**

```
kilcot#show bsc  
BSC local-ack on Serial1/0:
```

secondary state is CU_Idle.
Control units on this interface:

```
Poll address: 40. Select address: 60 *CURRENT-CU*  
State is Initializing.  
Tx Counts: 0 frames(total). 0 frames(data). 0 bytes.  
Rx Counts: 3 frames(total). 0 frames(data). 15 bytes.
```

```
Total Tx Counts: 0 frames(total). 0 frames(data). 0 bytes.  
Total Rx Counts: 19 frames(total). 0 frames(data). 59 bytes.
```

```
kilcot#show bstun  
This peer: 100.1.1.1
```

```
*Serial1/0 (group 72 [bsc-local-ack])  
route transport address          dlci lsap state          rx_pkts tx_pkts  drops  
all   TCP          200.2.2.2                open           1         3         0
```

```
party#show bsc  
BSC local-ack on Serial0:  
primary state is TCU_Polled.  
Control units on this interface:
```

```
Poll address: 40. Select address: 60 *CURRENT-CU*  
State is Inactive.  
Tx Counts: 126 frames(total). 0 frames(data). 378 bytes.  
Rx Counts: 0 frames(total). 0 frames(data). 0 bytes.
```

```
Total Tx Counts: 126 frames(total). 0 frames(data). 378 bytes.  
Total Rx Counts: 0 frames(total). 0 frames(data). 0 bytes.
```

```
party#show bstun  
This peer: 200.2.2.2
```

```
*Serial0 (group 72 [bsc-local-ack])  
route transport address          dlci lsap state          rx_pkts tx_pkts  drops  
all   TCP          100.1.1.1                open           3         2         0
```

Troubleshoot

This section provides information you can use to troubleshoot your configuration.

Troubleshooting Commands

The **debug bstun packet/event** and **debug bsc packet/event** output has been copied to the log file. When you interpret this **debug** output:

- Serial Data Incoming (SDI) Packets received from the Synchronous Data Link Control (SDLC) interface.
- Network Data Incoming (NDI) Packets de-encapsulated from the WAN.

Note: Before you issue **debug** commands, refer to Important Information on Debug Commands.

```
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, 5088 messages logged  
Trap logging: level informational, 70 message lines logged  
  
Log Buffer (100000 bytes):
```

```
Dec 28 09:43:21.748: BSC: Serial1/0: POLLEE-FSM event: E_LineUp old_state: CU_Down. new_
Dec 28 09:43:21.756: BSC: Serial1/0: SDI-rx: Data (5 bytes): 40407F7F2D
Dec 28 09:43:36.756: BSTUN bsc-local-ack: Serial1/0 SDI: Data: 401100
Dec 28 09:43:36.756: BSTUN: Change state for peer (all[72])200.2.2.2/1976 (closed->openin
Dec 28 09:43:36.756: BSC: Serial1/0: POLLEE-FSM event: E_RxEnq
Dec 28 09:43:36.760: BSTUN: Change state for peer (all[72])200.2.2.2/1976 (opening->open
Dec 28 09:43:36.764: %BSTUN-6-OPENING: CONN: opening peer (all[72])200.2.2.2/1976, 3
Dec 28 09:43:36.792: bsttcpd_connect: Refreshing tcp_encaps for group 72
Dec 28 09:43:36.792: %BSTUN-6-OPENED: CONN: peer (all[72])200.2.2.2/1976 opened, [previou
Dec 28 09:43:36.792: BSTUN: Change state for peer (all[72])200.2.2.2/1976 (open wait->ope
Dec 28 09:43:36.844: BSTUN bsc-local-ack: Serial1/0 NDI: Data: 401400
Dec 28 09:43:36.848: BSC: Serial1/0: NDI-rx: Data (3 bytes): 401400
Dec 28 09:43:37.640: %SYS-5-CONFIG_I: Configured from console by vty0
```

party#show log

```
Syslog logging: enabled (0 messages
  dropped, 0 flushes, 0 overruns)
  Console logging: disabled
  Monitor logging: level debugging, 114 messages logged
    Logging to: vty2(114)
  Buffer logging: level debugging, 5199 messages logged
  Trap logging: level informational, 79 message lines logged
```

Log Buffer (100000 bytes):

```
ec 28 09:48:09.816: %BSTUN-6-PASSIVEOPEN: passive open 100.1.1.1(11017) -> 1976
Dec 28 09:48:09.836: %BSTUN-6-OPENED: PHDR: peer (all[72])100.1.1.1/1976 opened, [previou
Dec 28 09:48:09.836: BSTUN: Change state for peer (all[72])100.1.1.1/1976 (closed->open)
Dec 28 09:48:09.836: BSTUN bsc-local-ack: Serial0 NDI: Data: 401100
Dec 28 09:48:09.836: BSC: Serial0: NDI-rx: Data (3 bytes): 401100
Dec 28 09:48:09.836: BSTUN bsc-local-ack: Serial0 SDI: Data: 401400
Dec 28 09:48:09.836: BSC: Serial0: SDI-tx: Data (10 bytes): 37FF32323240407F7F2D
```

Related Information

- [STUN Support Page](#)
- [Cisco Documentation on Configuring STUN and BSTUN](#)
- [IBM SNA Support Page](#)
- [Technical Support – Cisco Systems](#)

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