

STUN Direct Encapsulation Configuration Example

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Related Information

Introduction

This document provides a sample configuration for serial tunnel (STUN) direct encapsulation. The relevant states in the **show stun** command output and state changes in **debug** command output are shown in the Verify and Troubleshoot sections of this document.

Although the **debug stun packet** and **debug stun event** commands should not cause excessive CPU utilization, 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 12.0(8) with IBM Features for STUN configuration.

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

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

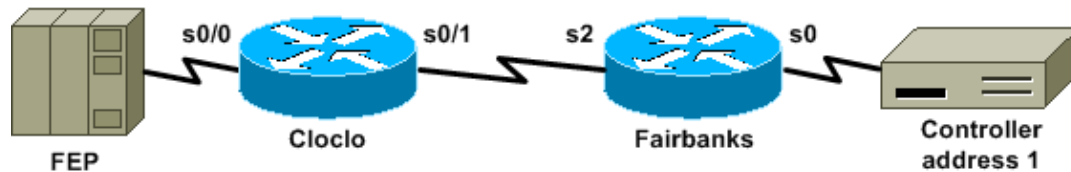
Configure

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:

- Cloclo
- Fairbanks

Cloclo
<pre>cloclo# show run Building configuration... Current configuration: ! version 12.0 no service pad service timestamps debug datetime msec service timestamps log datetime msec no service password-encryption ! hostname cloclo ! boot system flash rsp-jsv-mz.120-8 logging buffered 64000 debugging no logging console enable password cisco ! microcode CIP flash slot0:cip27-3 microcode reload ip subnet-zero no ip domain-lookup ip cef ! ! stun peer-name 10.10.10.10 stun protocol-group 2 sdlc ! ! ! ! interface Loopback0 ip address 10.10.10.10 255.255.255.0</pre>

```
no ip directed-broadcast
!
interface Serial0/0
no ip address
no ip directed-broadcast
encapsulation stun
no ip mroute-cache
clockrate 9600
stun group 2
stun route address 1 interface Serial0/1
!
interface Serial0/1
ip address 10.2.1.1 255.255.255.0
no ip directed-broadcast
no ip mroute-cache
!

!--- Output suppressed.

!
interface Ethernet1/0
ip address 10.1.1.1 255.255.255.0
no ip directed-broadcast
no ip mroute-cache
shutdown
!

!--- Output suppressed.

!
router eigrp 100
network 10.0.0.0
!
ip classless
!
!
!
line con 0
exec-timeout 0 0
transport input none
line aux 0
line vty 0 4
password cisco
login
!
end
cloclo#
```

Fairbanks

```
fairbanks# show run

Building configuration...
Current configuration:
!
version 12.0
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname fairbanks
!
boot system flash
logging buffered 64000 debugging
no logging console
```

```
enable password cisco
!
ip subnet-zero
!
!
stun peer-name 10.20.20.20
stun protocol-group 2 sdlc
!
!
!
!
interface Loopback0
 ip address 10.20.20.20 255.255.255.0
 no ip directed-broadcast
!
interface Ethernet0
 ip address 10.1.1.2 255.255.255.0
 no ip directed-broadcast
 shutdown
 media-type 10BaseT
!
interface Ethernet1
 ip address 172.17.240.12 255.255.255.0
 no ip directed-broadcast
 shutdown
 media-type 10BaseT
!
interface Serial0
 no ip address
 no ip directed-broadcast
 encapsulation stun
 no ip mroute-cache
 clockrate 9600
 stun group 2
 stun route address 1 interface Serial2
!

!--- Output suppressed.

!
interface Serial2
 ip address 10.2.1.2 255.255.255.0
 no ip directed-broadcast
 clockrate 19200
!

!--- Output suppressed.

!
router eigrp 100
 network 10.0.0.0
!
ip classless
!
!
!
line con 0
 exec-timeout 0 0
 transport input none
line aux 0
line vty 0 4
 login
!
end
fairbanks#
```

Verify

This section provides information that you can use to confirm that your configuration is working 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.

The **show stun** command output for both routers is shown in this section. It shows that the STUN state of each router is open. Also, the counters for received packets (**rx_pkts**) and for transmitted packets (**tx_pkts**) increment each time that you issue the **show stun** command.

```
cloclo# show stun

This peer: 10.10.10.10
 *Serial0/0 (group 2 [sdlc])
 1      IF Serial0/1      state      rx_pkts  tx_pkts  drops  poll
      open              4510     4513     0

```

```
fairbanks# show stun

This peer: 10.20.20.20
 *Serial0 (group 2 [sdlc])
 1      IF Serial2      state      rx_pkts  tx_pkts  drops  poll
      open              2260     2257     0

```

```
fairbanks# show stun

This peer: 10.20.20.20
 *Serial0 (group 2 [sdlc])
 1      IF Serial2      state      rx_pkts  tx_pkts  drops  poll
      open              2270     2267     0

```

Troubleshoot

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

Troubleshooting Commands

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

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

- **debug stun packet** Displays information about packets traveling through the STUN links.
- **debug stun event** Displays STUN connections and activity.

Debug Captures During STUN Activation

```
cloclo# 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, 232 messages logged
  Trap logging: level informational, 43 message lines logged

Log Buffer (64000 bytes):
```

!--- These timestamped lines each appear on one line in normal output:

```
*Nov 3 11:35:06.191: %LINK-3-UPDOWN:
  Interface Serial0/1, changed state to up
*Nov 3 11:35:07.191: %LINEPROTO-5-UPDOWN:
  Line protocol on Interface Serial0/1, changed state to up
*Nov 3 11:35:31.819: %LINK-3-UPDOWN:
  Interface Serial0/0, changed state to up
*Nov 3 11:35:32.819: %LINEPROTO-5-UPDOWN:
  Line protocol on Interface Serial0/0, changed state to up
*Nov 3 11:35:36.631: STUN sdlc:
  00:04:12 Serial0/0      SDI: (001/008) U: SNRM    PF:1
*Nov 3 11:35:37.831: STUN sdlc:
  00:00:01 Serial0/0      SDI: (001/008) U: SNRM    PF:1
*Nov 3 11:35:37.859: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) U: UA      PF:1
*Nov 3 11:35:37.879: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) S: RR      PF:1  NR:000
*Nov 3 11:35:37.907: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) S: RR      PF:1  NR:000
*Nov 3 11:35:38.031: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) S: RR      PF:1  NR:000
*Nov 3 11:35:38.059: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) S: RR      PF:1  NR:000
*Nov 3 11:35:38.091: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) I:         PF:0  NR:000  NS:000
*Nov 3 11:35:38.231: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) S: RR      PF:1  NR:000
*Nov 3 11:35:38.295: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) I:         PF:1  NR:001  NS:000
*Nov 3 11:35:38.431: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) S: RR      PF:1  NR:001
*Nov 3 11:35:38.459: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) S: RR      PF:1  NR:001
*Nov 3 11:35:38.555: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) I:         PF:0  NR:001  NS:001
*Nov 3 11:35:38.631: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) S: RR      PF:1  NR:001
*Nov 3 11:35:38.691: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) I:         PF:1  NR:002  NS:001
*Nov 3 11:35:38.831: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) S: RR      PF:1  NR:002
*Nov 3 11:35:38.859: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) S: RR      PF:1  NR:002
*Nov 3 11:35:39.031: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) S: RR      PF:1  NR:002
*Nov 3 11:35:39.059: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) S: RR      PF:1  NR:002
*Nov 3 11:35:39.231: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) S: RR      PF:1  NR:002
*Nov 3 11:35:39.259: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) S: RR      PF:1  NR:002
*Nov 3 11:35:39.431: STUN sdlc:
  00:00:00 Serial0/0      SDI: (001/008) S: RR      PF:1  NR:002
*Nov 3 11:35:39.563: STUN sdlc:
  00:00:00 Serial0/0      NDI: (001/008) S: RR      PF:1  NR:002
```

cloclo#

fairbanks# **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, 203 messages logged
  Trap logging: level informational, 40 message lines logged
```

Log Buffer (64000 bytes):

!--- These timestamped lines each appear on one line in normal output:

```
*Nov 3 09:38:12.759: %SYS-5-CONFIG_I:
  Configured from console by console
*Nov 3 09:38:14.231: %LINK-3-UPDOWN:
  Interface Serial2, changed state to up
*Nov 3 09:38:15.231: %LINEPROTO-5-UPDOWN:
  Line protocol on Interface Serial2, changed state to up
*Nov 3 09:38:44.687: STUN sdlc:
  00:04:41 Serial0      NDI: (001/008) U: SNRM    PF:1
*Nov 3 09:38:45.887: STUN sdlc:
  00:00:01 Serial0      NDI: (001/008) U: SNRM    PF:1 @
*Nov 3 09:38:45.899: STUN sdlc:
  00:00:00 Serial0      SDI: (001/008) U: UA      PF:1
*Nov 3 09:38:45.935: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) S: RR      PF:1 NR:000
*Nov 3 09:38:45.947: STUN sdlc:
  00:00:00 Serial0      SDI: (001/008) S: RR      PF:1 NR:000
*Nov 3 09:38:46.087: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) S: RR      PF:1 NR:000
*Nov 3 09:38:46.099: STUN sdlc:
  00:00:00 Serial0      SDI: (001/008) S: RR      PF:1 NR:000
*Nov 3 09:38:46.155: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) I:        PF:0 NR:000 NS:000
*Nov 3 09:38:46.287: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) S: RR      PF:1 NR:000
*Nov 3 09:38:46.323: STUN sdlc:
  00:00:00 Serial0      SDI: (001/008) I:        PF:1 NR:001 NS:000
*Nov 3 09:38:46.487: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) S: RR      PF:1 NR:001
*Nov 3 09:38:46.499: STUN sdlc:
  00:00:00 Serial0      SDI: (001/008) S: RR      PF:1 NR:001
*Nov 3 09:38:46.615: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) I:        PF:0 NR:001 NS:001
*Nov 3 09:38:46.687: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) S: RR      PF:1 NR:001
*Nov 3 09:38:46.719: STUN sdlc:
  00:00:00 Serial0      SDI: (001/008) I:        PF:1 NR:002 NS:001
*Nov 3 09:38:46.887: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) S: RR      PF:1 NR:002
*Nov 3 09:38:46.899: STUN sdlc:
  00:00:00 Serial0      SDI: (001/008) S: RR      PF:1 NR:002
*Nov 3 09:38:47.087: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) S: RR      PF:1 NR:002
*Nov 3 09:38:47.099: STUN sdlc:
  00:00:00 Serial0      SDI: (001/008) S: RR      PF:1 NR:002
*Nov 3 09:38:47.287: STUN sdlc:
  00:00:00 Serial0      NDI: (001/008) S: RR      PF:1 NR:002
*Nov 3 09:38:47.299: STUN sdlc:
  00:00:00 Serial0      SDI: (001/008) S: RR      PF:1 NR:002
```

fairbanks#

Related Information

- [STUN \(Serial Tunnel\) & BSTUN \(Block Serial Tunnel\) Support Page](#)
- [Tools & Resources](#)
- [Technical Support – Cisco Systems](#)

