

# Exemplo de configuração de encapsulamento direto STUN

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## [Introduction](#)

Este documento fornece um exemplo de configuração para o encapsulamento direto do túnel serial (STUN). Os estados relevantes na saída do comando **show stun** e as alterações de estado na saída do comando **debug** são mostrados nas [seções Verificar](#) e [Solucionar Problemas](#) deste documento.

Embora os comandos **debug stun packet** e **debug stun event** não devam causar utilização excessiva da CPU, o comando **logging buffered** é usado para copiar a saída para o arquivo de log.

## [Prerequisites](#)

## [Requirements](#)

Não existem requisitos específicos para este documento.

## [Componentes Utilizados](#)

As informações neste documento são baseadas no software Cisco IOS® versão 12.0(8) com recursos IBM para configuração STUN.

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](#)

Para obter mais informações sobre convenções de documento, consulte as [Convenções de dicas técnicas Cisco](#).

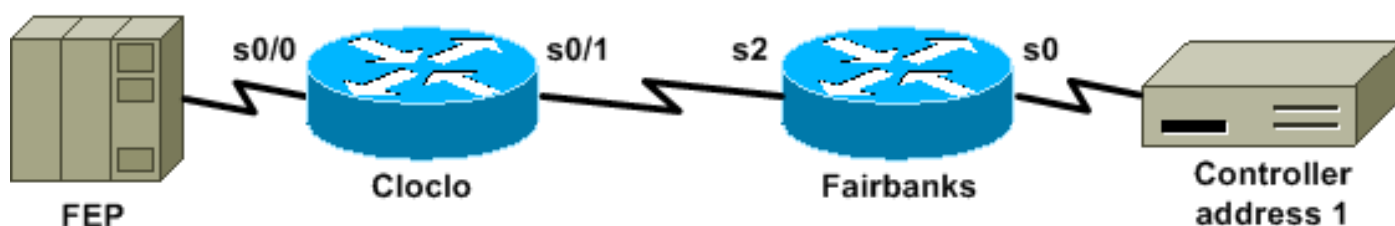
## [Configurar](#)

Nesta seção, você encontrará informações para configurar os recursos descritos neste documento.

**Observação:** para encontrar informações adicionais sobre os comandos usados neste documento, use a [ferramenta Command Lookup Tool](#) (somente clientes [registrados](#)).

## [Diagrama de Rede](#)

Este documento utiliza a seguinte configuração de rede:



## [Configurações](#)

Este documento utiliza as seguintes configurações:

- [Cloclo](#)
- [Fairbanks](#)

### **Cloclo**

```
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  
  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#

```

## Verificar

Esta seção fornece informações que você pode usar para confirmar se sua configuração está funcionando corretamente.

A [Output Interpreter Tool \(somente clientes registrados\)](#) oferece suporte a determinados comandos `show`, o que permite exibir uma análise da saída do comando `show`.

A saída do comando `show stun` para ambos os roteadores é mostrada nesta seção. Ele mostra que o estado STUN de cada roteador está aberto. Além disso, os contadores para pacotes recebidos (`rx_pkts`) e para pacotes transmitidos (`tx_pkts`) aumentam cada vez que você emite o comando `show stun`.

```
cloclo# show stun
```

```
This peer: 10.10.10.10
```

```
*Serial0/0 (group 2 [sdlc])
```

	state	rx_pkts	tx_pkts	drops	poll
1 IF Serial0/1	open	4510	4513	0	

```
fairbanks# show stun
```

This peer: 10.20.20.20

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

fairbanks# **show stun**

This peer: 10.20.20.20

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

## [Troubleshoot](#)

Esta seção fornece informações que você pode utilizar para fazer troubleshooting de configuração.

### [Comandos para Troubleshooting](#)

A [Output Interpreter Tool \(somente clientes registrados\)](#) oferece suporte a determinados comandos show, o que permite exibir uma análise da saída do comando show.

**Observação:** antes de inserir o comando **debug**, consulte [Informações importantes sobre os comandos debug](#).

- [debug stun packet](#) — Exibe informações sobre os pacotes que trafegam pelos links STUN.
- [debug stun event](#) — Exibe conexões e atividades STUN.

### [Capturas de depuração durante a ativação do STUN](#)

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 cloclclo#
```

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#
```

## [Informações Relacionadas](#)

- [Página de suporte do STUN \(Serial Tunnel\) e BSTUN \(Block Serial Tunnel\)](#)
- [Ferramentas e recursos](#)
- [Suporte Técnico - Cisco Systems](#)