

Configuración de la interceptación TCP en los routers Cisco IOS/IOS-XE

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Introducción

Este documento describe los requisitos para habilitar la función de interceptación del protocolo de control de transmisión (TCP) de Cisco en los routers Cisco IOS®/IOS-XE. La interceptación TCP es necesaria para proteger los servidores TCP de ataques de inundación TCP (SYN), un tipo de ataque de denegación de servicio.

Prerequisites

Requirements

No hay requisitos específicos para este documento.

Componentes Utilizados

Este documento no tiene restricciones específicas en cuanto a versiones de software y de hardware.

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. Si tiene una red en vivo, asegúrese de entender el posible impacto de cualquier comando.

Problema

No puede configurar 'ip tcp intercept' en los routers ISR G1/G2/G3 y ASR1k. Puede ver los

registros aquí:

• Para routers ISR G1

```
Router#show ver
```

```
Cisco IOS® Software, 2800 Software (C2800NM-IPBASEK9-M), Version 15.1(4)M12a, RELEASE SOFTWARE (fc1)
```

```
Router uptime is 14 minutes
```

```
System returned to ROM by reload at 07:45:56 UTC Tue Nov 1 2016
```

```
System image file is "flash:c2800nm-ipbasek9-mz.151-4.M12a(1).bin"
```

```
Last reload type: Normal Reload
```

```
<omitted>
```

```
Cisco 2811 (revision 1.0) with 512000K/12288K bytes of memory.
```

```
Processor board ID FHK1404F3U8
```

```
2 FastEthernet interfaces
```

```
1 Channelized E1/PRI port
```

```
DRAM configuration is 64 bits wide with parity enabled.
```

```
239K bytes of non-volatile configuration memory.
```

```
250368K bytes of ATA CompactFlash (Read/Write)
```

```
License Info:
```

```
License UDI:
```

```
-----  
Device#   PID                SN  
-----  
*0        CISCO2811          FHK1404F3U8
```

```
Configuration register is 0x2102
```

```
Router# config t
```

```
Enter configuration commands, one per line. End with CNTL/Z.
```

```
Router(config)#ip tcp ?
```

```
RST-count          Configure RST throttle count  
async-mobility     Configure async-mobility  
chunk-size         TCP chunk size  
ecn                Enable Explicit Congestion Notification  
mss                TCP initial maximum segment size  
path-mtu-discovery Enable path-MTU discovery on new TCP connections  
queuemax           Maximum queue of outgoing TCP packets  
selective-ack      Enable TCP selective-ACK  
synwait-time       Set time to wait on new TCP connections  
timestamp          Enable TCP timestamp option  
window-size        TCP window size
```

• Para routers ISR G2

Router#show ver

Cisco IOS® Software, C1900 Software (C1900-UNIVERSALK9-M), Version 15.4(3)M4, RELEASE SOFTWARE (fc1)

<omitted>

Router uptime is 1 minute
System returned to ROM by reload at 10:28:40 UTC Mon Oct 31 2016
System image file is "flash:c1900-universalk9-mz.SPA.154-3.M4.bin"
Last reload type: Normal Reload
Last reload reason: Reload Command

<omitted>

Cisco CISC01941/K9 (revision 1.0) with 2543552K/77824K bytes of memory.
Processor board ID FHK141571QW
4 FastEthernet interfaces

<omitted>

Technology Package License Information for Module:'c1900'

Technology	Technology-package Current	Type	Technology-package Next reboot
ipbase	ipbasek9	Permanent	ipbasek9
security	securityk9	RightToUse	securityk9
data	None	None	None
NtwkEss	None	None	None

Configuration register is 0x2102

Router# config t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#ip tcp ?

RST-count Configure RST throttle count
async-mobility Configure async-mobility
chunk-size TCP chunk size
ecn Enable Explicit Congestion Notification
keepalive Configure TCP Keepalive parameters
mss TCP initial maximum segment size
path-mtu-discovery Enable path-MTU discovery on new TCP connections
queuemax Maximum queue of outgoing TCP packets
selective-ack Enable TCP selective-ACK
synwait-time Set time to wait on new TCP connections
timestamp Enable TCP timestamp option
window-size TCP window size

• Para routers ISR G3

Router#sh ver

Cisco IOS® XE Software, Version 03.15.02.S - Standard Support Release
Cisco IOS® Software, ISR Software (X86_64_LINUX_IOS® D-UNIVERSALK9-M), Version 15.5(2)S2,

RELEASE SOFTWARE (fcl)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2015 by Cisco Systems, Inc.
Compiled Fri 16-Oct-15 18:00 by mcpre

<omitted>

Router uptime is 7 minutes
Uptime for this control processor is 8 minutes
System returned to ROM by reload
System image file is "bootflash:isr4300-universalk9.03.15.02.S.155-2.S2-std.SPA.bin"
Last reload reason: Reload Command

<omitted>

Technology Package License Information:

Technology	Technology-package Current	Technology-package Type	Technology-package Next reboot
appx	None	None	None
uc	uck9	Permanent	uck9
security	securityk9	EvalRightToUse	securityk9
ipbase	ipbasek9	Permanent	ipbasek9

cisco ISR4331/K9 (1RU) processor with 1665776K/6147K bytes of memory.
Processor board ID FDO2012A0AT
3 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
4194304K bytes of physical memory.
3223551K bytes of flash memory at bootflash:.

Configuration register is 0x2102

Router# config t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#ip tcp ?

- RST-count Configure RST throttle count
- async-mobility Configure async-mobility
- chunk-size TCP chunk size
- ecn Enable Explicit Congestion Notification
- keepalive Configure TCP Keepalive parameters
- mss TCP initial maximum segment size
- path-mtu-discovery Enable path-MTU discovery on new TCP connections
- queuemax Maximum queue of outgoing TCP packets
- selective-ack Enable TCP selective-ACK
- synwait-time Set time to wait on new TCP connections
- timestamp Enable TCP timestamp option
- window-size TCP window size

• Para routers ASR1k

Router#show version

Cisco IOS® XE Software, Version 03.16.01a.S - Extended Support Release
Cisco IOS® Software, ASR1000 Software (X86_64_LINUX_IOSD-UNIVERSAL-M), Version 15.5(3)S1a,
RELEASE SOFTWARE (fc1)
Technical Support: <http://www.cisco.com/techsupport>
Copyright (c) 1986-2015 by Cisco Systems, Inc.
Compiled Wed 04-Nov-15 13:57 by mcpre

<omitted>

Router uptime is 1 minute
Uptime for this control processor is 2 minutes
System returned to ROM by reload
System image file is "bootflash:asr1001x-universal.03.16.01a.S.155-3.S1a-ext.SPA.bin"
Last reload reason: PowerOn

License Level: ipbase
License Type: Permanent
Next reload license Level: ipbase

cisco ASR1001-X (1NG) processor (revision 1NG) with 3753592K/6147K bytes of memory.
Processor board ID FXS1925Q33T
6 Gigabit Ethernet interfaces
2 Ten Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
6684671K bytes of eUSB flash at bootflash:

Configuration register is 0x2102
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#ip tcp ?
RST-count Configure RST throttle count
async-mobility Configure async-mobility
chunk-size TCP chunk size
ecn Enable Explicit Congestion Notification
keepalive Configure TCP Keepalive parameters
mss TCP initial maximum segment size
path-mtu-discovery Enable path-MTU discovery on new TCP connections
queuemax Maximum queue of outgoing TCP packets
selective-ack Enable TCP selective-ACK
synwait-time Set time to wait on new TCP connections
timestamp Enable TCP timestamp option
window-size TCP window size

Solución

Para habilitar la función TCP Intercept, necesitará:

- Mínimo de conjunto de funciones **entbase** en los routers ISR G1
- **Appxk9/Datak9** en los routers de las series ISRG2 y G3
- Licencia mínima de **servicios de asesoramiento** en el router de la serie ASR1k

Una vez que habilita la licencia requerida en la plataforma, puede configurar lo mismo:

```
Router(config)#ip tcp ?  
RST-count Configure RST throttle count  
async-mobility Configure async-mobility  
chunk-size TCP chunk size  
ecn Enable Explicit Congestion Notification
```

intercept	Enable TCP intercepting
keepalive	Configure TCP Keepalive parameters
mss	TCP initial maximum segment size
path-mtu-discovery	Enable path-MTU discovery on new TCP connections
queuemax	Maximum queue of outgoing TCP packets
selective-ack	Enable TCP selective-ACK
synwait-time	Set time to wait on new TCP connections
timestamp	Enable TCP timestamp option
window-size	TCP window size

Verificación

Actualmente, no hay un procedimiento de verificación disponible para esta configuración.

Troubleshoot

Actualmente, no hay información específica de troubleshooting disponible para esta configuración.

Información Relacionada

- http://www.cisco.com/c/en/us/td/docs/ios/12_2/security/configuration/guide/fsecur_c/scfdenl.html
- [Soporte Técnico y Documentación - Cisco Systems](#)