使用ZBF配置Cisco IOS路由器上的AnyConnect VPN客戶端

目錄

簡介

在Cisco IOS® 軟體版本12.4(20)T和更新版本中，為AnyConnect VPN使用者端連線引入了虛擬介面SSLVPN-VIF0。但是，此SSLVPN-VIF0介面是內部介面，不支援使用者配置。這導致AnyConnect VPN和基於區域的策略防火牆出現問題，因為對於防火牆，當兩個介面都屬於安全區域時，流量只能在兩個介面之間流動。由於使用者無法將SSLVPN-VIF0介面配置為區域成員，因此，解密後在Cisco IOS WebVPN網關上終止的VPN客戶端流量無法轉發到屬於安全區域的任何其他介面。通過防火牆報告的以下日誌消息可以看到此問題的症狀：

```
*Mar 4 16:43:18.251: %FW-6-DROP_PKT: Dropping icmp
   session 192.168.1.12:0 192.168.10.1:0 due to One
   of the interfaces not being cfged for zoning
   with ip ident 0
```

此問題後來在較新版本的Cisco IOS中解決。使用新代碼，使用者可以將安全區域分配給虛擬模板介面（在WebVPN上下文中引用），以便將安全區域與WebVPN上下文相關聯。

必要條件

需求

為了利用Cisco IOS中的新功能，您需要確保Cisco IOS WebVPN網關裝置運行的是Cisco IOS軟體版本12.4(20)T3、Cisco IOS軟體版本12.4(22)T2或Cisco IOS軟體版本12.4(24)T1及更高版本。

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- 運行15.0(1)M1高級安全功能集的Cisco IOS 3845系列路由器
- 適用於Windows 2.4.1012的Cisco AnyConnect SSL VPN客戶端版本

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

慣例

請參閱思科技術提示慣例以瞭解更多有關文件慣例的資訊。

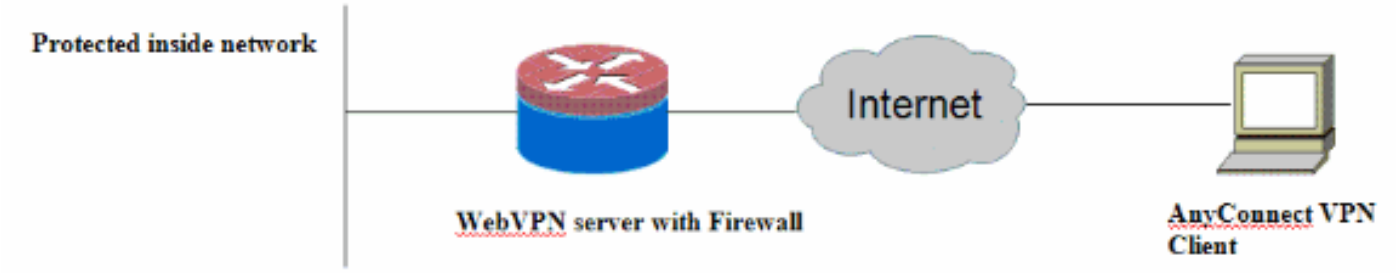
設定

本節提供用於設定本文件中所述功能的資訊。

註：使用Command Lookup Tool(僅供已註冊客戶使用)可獲取本節中使用的命令的詳細資訊。

網路圖表

本檔案會使用以下網路設定：



配置Cisco IOS AnyConnect伺服器

以下是在Cisco IOS AnyConnect伺服器上需要執行的高級配置步驟，以使其與基於區域的策略防火牆進行互操作。本文檔後面介紹的兩個典型部署方案的最終配置。

1. 配置虛擬模板介面，並將其分配到安全區域中，用於通過AnyConnect連線解密的流量。
2. 將之前配置的虛擬模板新增到AnyConnect配置的WebVPN上下文中。
3. 完成其餘的WebVPN和基於區域的策略防火牆配置。AnyConnect和ZBF有兩種典型方案，下面是每個方案的最終路由器配置。

部署方案1

VPN流量與內部網路屬於同一安全區域。

AnyConnect流量進入內部LAN介面所屬的安全區域進行解密。

注意：還定義了一個自區域，僅允許到路由器本身的http/https流量進行訪問限制。

路由器配置

```
Router#show run
Building configuration...

Current configuration : 5225 bytes
!
! Last configuration change at 16:25:30 UTC Thu Mar 4
2010 by cisco
!
version 15.0
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Router
!
boot-start-marker
boot system flash:
boot-end-marker
!
aaa new-model
!
aaa authentication login default local
aaa authentication login webvpn local
!
aaa session-id common
!
!
ip cef
!
!
ip inspect log drop-pkt
no ip domain lookup
!
!
parameter-map type inspect audit-map
 audit-trail on
 tcp idle-time 20
!
parameter-map type inspect global
!
!
crypto pki trustpoint TP-self-signed-2692466680
 enrollment selfsigned
 subject-name cn=IOS-Self-Signed-Certificate-2692466680
 revocation-check none
 rsakeypair TP-self-signed-2692466680
!
!
crypto pki certificate chain TP-self-signed-2692466680
 certificate self-signed 01
 <actual certificate deleted here for brevity>
        quit
!
!
username cisco password 0 cisco
!
!
class-map type inspect match-any test
 match protocol tcp
 match protocol udp
 match protocol icmp
class-map type inspect match-all router-access
```

```
 match access-group name router-access
!
!
policy-map type inspect firewall-policy
 class type inspect test
  inspect audit-map
 class class-default
  drop
policy-map type inspect out-to-self-policy
 class type inspect router-access
  inspect
 class class-default
  drop
policy-map type inspect self-to-out-policy
 class type inspect test
  inspect
 class class-default
  drop
!
zone security inside
zone security outside
zone-pair security in-out source inside destination
outside
 service-policy type inspect firewall-policy
zone-pair security out-self source outside destination
self
 service-policy type inspect out-to-self-policy
zone-pair security self-out source self destination
outside
 service-policy type inspect self-to-out-policy
!
!
interface Loopback0
 ip address 172.16.1.1 255.255.255.255
!
interface GigabitEthernet0/0
 ip address 192.168.10.1 255.255.255.0
 ip nat inside
 ip virtual-reassembly
 zone-member security inside
!
interface GigabitEthernet0/1
 ip address 209.165.200.230 255.255.255.224
 ip nat outside
 ip virtual-reassembly
 zone-member security outside
!
interface Virtual-Template1
 ip unnumbered Loopback0
 zone-member security inside
 !
!
ip local pool test 192.168.1.1 192.168.1.100
ip forward-protocol nd
!
ip http server
ip http secure-server
ip nat inside source list 1 interface GigabitEthernet0/1
overload
ip route 0.0.0.0 0.0.0.0 209.165.200.225
!
ip access-list extended router-access
 permit tcp any host 209.165.200.230 eq www
 permit tcp any host 209.165.200.230 eq 443
```

```
!
access-list 1 permit 192.168.10.0 0.0.0.255
!
control-plane
 !
!
!
line con 0
 exec-timeout 0 0
 logging synchronous
line aux 0
 modem InOut
 transport input all
line vty 0 4
transport input all
!
exception data-corruption buffer truncate
scheduler allocate 20000 1000
!
webvpn gateway webvpn_gateway
 ip address 209.165.200.230 port 443
 http-redirect port 80
 ssl trustpoint TP-self-signed-2692466680
 inservice
 !
webvpn install svc flash:/webvpn/svc.pkg sequence 1
 !
webvpn context test
 secondary-color white
 title-color #669999
 text-color black
 ssl authenticate verify all
 !
 !
 policy group policy_1
   functions svc-enabled
   svc address-pool "test"
   svc keep-client-installed
   svc split include 192.168.10.0 255.255.255.0

 virtual-template 1
 default-group-policy policy_1
 aaa authentication list webvpn
 gateway webvpn_gateway
 inservice
!
end
```

部署方案2

VPN流量屬於與內部網路不同的安全區域。

AnyConnect流量屬於單獨的VPN區域，並且存在控制哪些vpn流量可以流向內部區域的安全策略。在此特定範例中，允許從AnyConnect使用者端到內部LAN網路的telnet和http流量。

路由器配置

```
Router#show run
Building configuration...
```

```
Current configuration : 6029 bytes
!
! Last configuration change at 20:57:32 UTC Fri Mar 5
2010 by cisco
!
version 15.0
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Router
!
boot-start-marker
boot system flash:
boot-end-marker
!
aaa new-model
!
!
aaa authentication login default local
aaa authentication login webvpn local
!
!
aaa session-id common
!
ip cef
!
!
ip inspect log drop-pkt
no ip domain lookup
!
multilink bundle-name authenticated

parameter-map type inspect global

parameter-map type inspect audit-map
 audit-trail on
 tcp idle-time 20
!
!
crypto pki trustpoint TP-self-signed-2692466680
 enrollment selfsigned
 subject-name cn=IOS-Self-Signed-Certificate-2692466680
 revocation-check none
 rsakeypair TP-self-signed-2692466680
!
!
crypto pki certificate chain TP-self-signed-2692466680
 certificate self-signed 01
 <actual certificate deleted for brevity>
        quit
!
!
license udi pid CISCO3845-MB sn FOC09483Y8J
archive
 log config
  hidekeys
username cisco password 0 cisco
!
!
class-map type inspect match-any test
 match protocol tcp
match protocol udp
 match protocol icmp
```

```
class-map type inspect match-all router-access
 match access-group name router-access
class-map type inspect match-any http-telnet-ftp
 match protocol http
 match protocol telnet
 match protocol ftp
class-map type inspect match-all vpn-to-inside-cmap
 match class-map http-telnet-ftp
 match access-group name tunnel-traffic
!
!
policy-map type inspect firewall-policy
 class type inspect test
  inspect audit-map
 class class-default
  drop
policy-map type inspect out-to-self-policy
 class type inspect router-access
  inspect
 class class-default
  drop
policy-map type inspect self-to-out-policy
 class type inspect test
  inspect
 class class-default
  pass
policy-map type inspect vpn-to-in-policy
 class type inspect vpn-to-inside-cmap
  inspect
 class class-default
  drop
!
zone security inside
zone security outside
zone security vpn
zone-pair security in-out source inside destination
outside
 service-policy type inspect firewall-policy
zone-pair security out-self source outside destination
self
 service-policy type inspect out-to-self-policy
zone-pair security self-out source self destination
outside
 service-policy type inspect self-to-out-policy
zone-pair security in-vpn source inside destination vpn
 service-policy type inspect firewall-policy
zone-pair security vpn-in source vpn destination inside
 service-policy type inspect vpn-to-in-policy
!
!
interface Loopback0
 ip address 172.16.1.1 255.255.255.255
 !
!
interface GigabitEthernet0/0
 ip address 192.168.10.1 255.255.255.0
 ip nat inside
 ip virtual-reassembly
 zone-member security inside
 !
!
interface GigabitEthernet0/1
 ip address 209.165.200.230 255.255.255.224
 ip nat outside
```

```
 ip virtual-reassembly
 zone-member security outside
 !
!
interface Virtual-Template1
 ip unnumbered Loopback0
 zone-member security vpn
 !
!
ip local pool test 192.168.1.1 192.168.1.100
ip forward-protocol nd
!
!
ip http server
ip http secure-server
ip nat inside source list 1 interface GigabitEthernet0/1
overload
ip route 0.0.0.0 0.0.0.0 209.165.200.225

!
ip access-list extended broadcast
 permit ip any host 255.255.255.255
ip access-list extended router-access
 permit tcp any host 209.165.200.230 eq www
 permit tcp any host 209.165.200.230 eq 443
ip access-list extended tunnel-traffic
 permit ip any 192.168.1.0 0.0.0.255
!
access-list 1 permit 192.168.10.0 0.0.0.255
!
!
control-plane
 !
!
!
line con 0
 exec-timeout 0 0
 logging synchronous
line aux 0
 modem InOut
 transport input all
line vty 0 4
 transport input all
!
exception data-corruption buffer truncate
scheduler allocate 20000 1000
!
webvpn gateway webvpn_gateway
 ip address 209.165.200.230 port 443
 http-redirect port 80
 ssl trustpoint TP-self-signed-2692466680
 inservice
 !
webvpn install svc flash:/webvpn/svc.pkg sequence 1
 !
webvpn context test
 secondary-color white
 title-color #669999
 text-color black
 ssl authenticate verify all
 !
 !
 policy group policy_1
   functions svc-enabled
```

```
   svc address-pool "test"
   svc keep-client-installed
   svc split include 192.168.10.0 255.255.255.0

 virtual-template 1
 default-group-policy policy_1
 aaa authentication list webvpn
 gateway webvpn_gateway
 inservice
!
end
```

驗證

使用本節內容，確認您的組態是否正常運作。

輸出直譯器工具(僅供已註冊客戶使用)(OIT)支援某些**show**命令。使用OIT檢視**show**命令輸出的分析。

有幾個**show**命令與WebVPN關聯。您可以在命令列介面(CLI)上執行這些命令，以顯示**statistics**和其他資訊。有關show命令的詳細資訊，請參閱驗證WebVPN配置。有關用於驗證基於區域的策略防火牆配置的命令的詳細資訊，請參閱基於區域的策略防火牆配置指南。

疑難排解

本節提供的資訊可用於對組態進行疑難排解。

疑難排解指令

附註：使用 **debug** 指令之前，請先參閱有關 Debug 指令的重要資訊。

有幾個debug命令與WebVPN關聯。有關這些命令的詳細資訊，請參閱使用WebVPN Debug命令。有關基於區域的策略防火牆調試命令的詳細資訊，請參閱命令。

相關資訊

- Cisco IOS軟體
- 技術支援與文件 - Cisco Systems