在安全防火墙上使用环回接口配置eBGP

简介

本文档介绍如何使用Cisco安全防火墙上的环回接口配置eBGP。

先决条件

要求

Cisco 建议您了解以下主题:

• BGP协议

7.4.0版中引入了BGP的环回接口支持,这是安全防火墙管理中心和思科安全Firepower威胁防御所 需的最低版本。

使用的组件

- 适用于VMware 7.4.1版的安全防火墙管理中心
- 2适用于VMware 7.4.1版的Cisco Secure Firepower威胁防御

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原 始(默认)配置。如果您的网络处于活动状态,请确保您了解所有命令的潜在影响。

背景信息

边界网关协议(BGP)是外部网关协议(EGP)标准化的路径矢量路由协议,可提供可扩展性、灵活性和 网络稳定性。具有相同自治系统(AS)的两个对等体之间的BGP会话称为内部BGP (iBGP)。具有不同 自治系统(AS)的两个对等体之间的BGP会话称为外部BGP (eBGP)。

通常,使用最接近对等体的接口的IP地址建立对等体关系,但是,使用环回接口建立BGP会话很有 用,因为当BGP对等体之间存在多条路径时,它不会关闭BGP会话。

✤ 注意:此进程描述了eBGP对等体使用Loopkack的过程,但对于iBGP对等体使用的是同一进程,因此可将其用作参考。

使用环回接口的eBGP配置

场景

在此配置中,防火墙SFTD-1具有IP地址为10.1.1.1/32的环回接口,并且AS 64000,防火墙SFTD-2具有IP地址为10.2.2.2/32且AS 64001的环回接口。两个防火墙均使用其外部接口到达另一个防火 墙的环回接口(在本场景中,两个防火墙上均预配置了外部接口)。

网络图

本文档使用以下网络设置:



图 1.埃斯库纳里奥图

环回配置

步骤1:点击Devices > Device Management,然后选择要配置环回的设备。

第二步:单击Interfaces > All Interfaces。

第三步:单击Add Interface > Loopback Interface。

| E , | rewall Management Center wices / Secure Firewall Interfaces | r _{Overview} | Analysis Po | olicies Devices | Objects | Integration | | Deplo | iy Q + | ¢ Ø • | dmin ~ dbab SECURE |
|-----------------------------|--|----------------------------|---------------|-----------------|---------|------------------------|-------------------|-------------------|-----------------------------|-------------|--|
| FTD- Cisco Fin Device | power Threat Defense for VMware Routing Interfaces Inlin | Ne Sets DHCP \ | /TEP | | | | | | | | Save Cancel |
| All Inte | faces Virtual Tunnels | | | | | | | Q. Search by name | | Sync Device | Add Interfaces V Sub Interface Redundant Interface |
| Inter | anagement0/0 | Logical Name management | Type Physical | Security Zones | MAC Ad | dress (Active/Standby) | IP Address | | Path Monitoring Disabled | Global | Pridge Group Interfere Virtual Tunnel Interface |
| • G | gabitEthernet0/0 | outside | Physical | | | | 10.10.10.1/24(Sta | atic) | Disabled | Global | VNI Interface |
| () () () | gabitEthernet0/1 | | Physical | | | | | | Disabled | | / |
| ies G | gabitEthemet0/3 | | Physical | | | | | | Disabled | | , |

图 2.添加接口环回

第四步: 在常规部分中,配置环回接口的名称,选中已启用框,并配置环回ID。

Add Loopback Interface ? General IPv4 IPv6 Name: . . Looback1 ? Enabled Loopback ID:* . . 1 . . (1-1024) Description .



第五步:在IPv4部分中,在IP Type部分中选择Use Static IP选项,配置环回IP,然后单击OK保存 更改。

| General IPv4 IPv6 IP Type: Use Static IP IP Address: 10.1.1.1/32 e.g. 192.168.1.1/255.255.255.0 or 192.168.1.1/24 Cancel Cancel | |
|---|------------------------|
| IP Type: Use Static IP IP Address: 10.1.1.1/32 e.g. 192.168.1.1/255.255.255.0 or 192.168.1.1/24 Cancel Cancel | |
| Use Static IP IP Address: 10.1.1.1/32 e.g. 192.168.1.1/255.255.255.0 or 192.168.1.1/24 Cancel Garcel FillP地址配置 FillF: Click Save. | |
| IP Address: 10.1.1.1/32 e.g. 192.168.1.1/255.255.255.0 or 192.168.1.1/24 Cancel 回P地址配置 步 : Click Save. | |
| 10.1.1.1/32 e.g. 192.168.1.1/255.255.255.0 or 192.168.1.1/24 Cancel C 四P地址配置 步 : Click Save. | |
| e.g. 192.168.1.1/255.255.255.0 or 192.168.1.1/24 Cancel C 回P地址配置 步:Click Save. | |
| Cancel 回P地址配置 步:Click Save. | |
| Cancel C 回P地址配置 步:Click Save. | |
| | |
| ewall Management Center Overview Analysis Policies Devices Objects Integration Deploy Q | 🔅 🕜 admin 🗸 diad |
| You have You have You have | e unsaved changes Save |
| Routing Interfaces Inline Sets DHCP VTEP | Sync Device Add Int |
| ace Logical Name Type Security Zones MAC Address (Active/Standby) IP Address Path Monitorin | ng Virtual Router |
| nagement0/0 management Physical Disabled | Global |
| ablitEthernet0/0 outside Physical 10.10.10.1/24(Static) Disabled | |
| pabitEthernet0/1 Physical Disabled | Global |
| abitEthernet0/2 Physical Disabled | Global |
| | Global |
| abitEthernet0/3 Physical Disabled | Global |

步骤 7.对第二个防火墙重复此过程。

| Firewall Management Cente Devices / Secure Firewall Interfaces | r Overview | Analysis Po | olicies Devices | Objects Integration | Dep | oloy Q 🔅 | admin v duale | SECURE | | |
|---|---------------|-------------|-----------------|------------------------------|-----------------------|-----------------|---------------------|-----------|--|--|
| FTD-2 Cisco Firepower Threat Defense for VMware | | | | | | | | | | |
| All Interfaces Virtual Tunnels | NO SUS DHOP V | | | | Q. Search by name | | ync Device Add Inte | erfaces 🔻 | | |
| Interface | Logical Name | Туре | Security Zones | MAC Address (Active/Standby) | IP Address | Path Monitoring | Virtual Router | | | |
| Management0/0 | management | Physical | | | | Disabled | Global | ०. ⊲ | | |
| GigabitEthemet0/0 | outside | Physical | | | 10.10.10.2/24(Static) | Disabled | Global | / | | |
| GigabitEthernet0/1 | | Physical | | | | Disabled | | / | | |
| GigabitEthernet0/2 | | Physical | | | | Disabled | | / | | |
| GigabitEthernet0/3 | | Physical | | | | Disabled | | 1 | | |
| Loopback1 | Looback2 | Loopback | | | 10.2.2.2/32(Static) | Disabled | Global | 11 | | |

图 6.对等体上的环回接口配置

静态路由配置

必须配置静态路由,以确保用于对等连接的远程对等体地址(环回)可通过所需接口访问。

步骤1:点击Devices > Device Management,然后选择要配置静态路由的设备。

步骤 2依次单击Routing > Manage Virtual Routers > Static Route,然后单击Add Route。

| Firewall Management Devices / Secure Firewall Rout | t Center Overview | Analysis Policies | Devices Objects | Integration | | Deploy Q | 🔅 🞯 🛛 admin 🗸 | cisco SECURE |
|---|--------------------|-------------------|-------------------------------|-------------|----------|----------|---------------|--------------|
| FTD-1 Cisco Firepower Threat Defense for V | /Mware | | | | | | | we Cancel |
| Device Routing Interface | s Inline Sets DHCP | VTEP | | | | | | |
| Manage Virtual Routers | | | | | | | | + Add Route |
| Global 🔻 | Network 🔺 | Interface | Leaked from Virtual Router | Gateway | Tunneled | Metric | Tracked | |
| Virtual Router Properties | ▶ IPv4 Routes | | | | | | | |
| ECMP | ▼ IPv6 Routes | | | | | | | |
| BFD | | | | | | | | |
| OSPF | | | | | | | | |
| OSPFv3 | | | | | | | | |
| EIGRP | | | | | | | | |
| KIP Daliau Dasad Dautian | | | | | | | | |
| V RGD | | | | | | | | |
| IPv4 | | | | | | | | |
| IPv6 | | | | | | | | |
| Static Route | | | | | | | | |
| Multicast Routing | | | | | | | | |
| IGMP | | | | | | | | |
| PIM | | | | | | | | |
| Multicast Routes | | | | | | | | |
| Multicast Boundary Filter | | | | | | | | |
| General Settings | | | | | | | | |
| BGP | | | | | | | | |

图 7.添加新的静态路由

第3步:选中Type的IPv4选项。在Interface选项中选择用于到达远程对等体的环回接口的物理接口 ,然后指定到达网关上环回接口的下一跳。 Edit Static Route Configuration

| Type: |) IPv6 |
|-----------------------------------|---------------|
| Interface* | |
| outside | * |
| (Interface starting with this icc | ın 🗟 signific |
| Available Network C | + |
| Q, Search | |
| any-ipv4 | |
| IPv4-Benchmark-Tests | |
| IPv4-Link-Local | |
| IPv4-Multicast | |
| IPv4-Private-10.0.0.0-8 | |
| IPv4-Private-172.16.0.0-12 | |

Ensure that egress virtualrouter has route to that destination

| Sateway | |
|-------------------------------------|-------|
| 10.10.10.2 + | + |
| Aetric: | |
| 1 | |
| 1 - 254) | |
| unneled: 🗌 (Used only for default R | loute |
| toute Tracking: | |
| Ŧ | + |
| , | |
| | |
| | |

图 8.静态路由配置

第4步:点击可用网络部分旁边的图标(+)。

Edit Static Route Configuration

| Type: IPv4 | O IPv6 | |
|-------------------------------|----------------|-------------------------------------|
| Interface* | | |
| outside | ٠ | |
| (Interface starting with this | icon 🚳 signifi | hes it is available for route leak) |
| Available Network C | + | Selected Network |
| Q, Search | | Add |
| anv-ipv4 | | |
| IPv4-Benchmark-Tests | | |
| IPv4-Link-Local | | |
| IPv4-Multicast | | |
| IPv4-Private-10.0.0.0-8 | | |
| IPv4-Private-172.16.0.0 | -12 | |

Ensure that egress virtualrouter has route to that destination

| 1.0 |
|------|
| PC - |
| |

| 10.10.10.2 | • + | | |
|---------------------|------------------------|--------|----|
| Metric: | | | |
| 1 | | | |
| (1 - 254) | | | |
| Tunneled: 🗌 (Used o | nly for default Route) | | |
| Route Tracking: | | | |
| | • + | | |
| | | | |
| | | Cancel | ОК |

图 9.添加新网络对象

第5步:配置供参考的名称和远程对等体的Looback的IP地址,然后使用Save。

o

New Network Object

| Name | |
|------------------------|-------------|
| Loopback-FTD2 | |
| Description | |
| Network | |
| Host O Range O Network | O FQDN |
| 10.2.2.2 | |
| Allow Overrides | |
| | Cancel Save |

?

图 10.在静态路由中配置网络目标

步骤 6 搜索在搜索栏中创建的新对象,选择它,然后单击Add,再单击OK。

| Type: Interface* Interface* Interface starting with this icon |] mifies it is available | for route leak) | |
|--|-----------------------------|--------------------------------|---|
| Available Network C - Q. Loopback-FTD2 X Loopback-FTD2 | Add L | lected Network oopback-FTD2 | Ĩ |
| | | | |

Ensure that egress virtualrouter has route to that destination

Gateway

| 10.10.10.2 | • + |
|------------------------|--------------------|
| Metric: | |
| 1 | |
| (1 - 254) | |
| Tunneled: 🗌 (Used only | for default Route) |
| Route Tracking: | |
| | • + |
| | |

图 11.配置静态路由中的下一跳

步骤 7.Click Save.

0

Cancel

| Firewall Management Devices / Secure Firewall Routin | Center Overview | Analysis Policies | Devices Objects I | integration | | Deploy Q | 🔅 🕼 admin 🗸 🖓 | ECURE |
|---|---------------------------|-------------------|-------------------------------|-------------|----------|----------|--------------------------|--------|
| FTD-1 Cisco Firepower Threat Defense for VM Device Routing Interfaces | Aware Inline Sets DHCP | VTEP | | | | You have | e unsaved changes Save C | Cancel |
| Manage Virtual Routers | | | | | | | + Add R | Route |
| Global 🔻 | Network . | Interface | Leaked from Virtual Router | Gateway | Tunneled | Metric | Tracked | |
| Virtual Router Properties | ▼ IPv4 Routes | | | | | | | |
| ECMP | Loopback-FTD2 | outside | Global | 10.10.10.2 | false | 1 | | 11 |
| BFD | ▼ IPv6 Routes | | | | | | | |
| OSPFv3 | | | | | | | | |
| EIGRP | | | | | | | | |
| RIP | | | | | | | | |
| Policy Based Routing | | | | | | | | |
| ∼ BGP | | | | | | | | |
| IPv4 | | | | | | | | |
| IPv6 | | | | | | | | |
| Static Route | | | | | | | | |

图 12.保存静态路由接口配置

步骤 8对第二个防火墙重复此过程。

| Firewall Management Devices / Secure Firewall Routin | Center ov | erview Analysis | Policies | Devices | Objects | Integration | | Deploy Q | 🔅 🙆 admin 🗸 🖞 | SECURE |
|---|----------------------|-----------------|----------|----------------------|------------|-------------|----------|----------|---------------|-----------|
| FTD-2 Cisco Firepower Threat Defense for VP Device Routing Interfaces | Mware Inline Sets | DHCP VTEP | | | | | | | | Cancel |
| Manage Virtual Routers | | | | | | | | | + | Add Route |
| Global 🔻 | Network + | Interface | | Leaked fre Router | om Virtual | Gateway | Tunneled | Metric | Tracked | |
| Virtual Router Properties | ▼ IPv4 Routes | | | | | | | | | |
| ECMP | Loopback-FTD1 | outside | | Global | | 10.10.10.1 | false | 1 | | 11 |
| BFD OSPF | ▼ IPv6 Routes | | | | | | | | | |
| OSPFv3 | | | | | | | | | | |
| EIGRP | | | | | | | | | | |
| RIP | | | | | | | | | | |
| Policy Based Routing | | | | | | | | | | |
| ✓ BGP | | | | | | | | | | |
| IPv4 | | | | | | | | | | |
| Static Route | | | | | | | | | | |

图 13.配置对等体上的静态路由

BGP配置

步骤1:单击Devices > Device Management,然后选择要启用BGP的设备。

步骤 2 单击Routing > Manage Virtual Routers > General Settings, 然后单击BGP。

第3步:选中Enable BGP框,然后在AS Number部分中配置防火墙的本地AS。



图 14.全局启用BGP

第4步:单击Save按钮保存更改。

| Firewall Manageme | nt Center Overview Analysis Policies Devices Objects | Integration | Deploy | Q. 슈 @ admin ~ "finally SECURE |
|--|---|-------------|--------------------|--------------------------------------|
| FTD-1 Cisco Firepower Threat Defense for Device Routing Interfa | r VMware ces Inline Sets DHCP VTEP | | | You have unsaved changes Save Cancel |
| Manage Virtual Routers Global Virtual Router Properties ECMP BFD OSPF OSPF-V3 EIGRP | Enable BGP: AS Number* 6400 (1-4294967295 & 1.0-65535.65535) Override BGP general settings router-id address: Router Id Automatic IP Address* | | | |
| RIP | General | 1 | Neighbor Timers | / |
| Policy Based Routing | Scanning Interval | 60 | Keepalive Interval | 60 |
| ∼ BGP | Number of AS numbers in AS_PATH attribute of received routes | None | Hold time | 180 |
| IPv4 | Log Neighbor Changes | Yes | Min hold time | 0 |
| IPv6 Static Route | Use TCP path MTU discovery | Yes | | |

图 15.保存BGP启用更改

第五步:在管理虚拟路由器部分中,转到BGP 选项,然后单击IPv4。

第六步:选中Enable IPv4框,然后单击Neighbor,再单击+ Add。

| Firewall Management Center Devices / Secure Firewall Routing Overview Analyst | s Policies Devices Objects | Integration | Deploy | Q 🌣 🕑 admin 🗸 👘 SECUR | ۶E |
|--|---------------------------------|--------------------------------|--------------------------|-------------------------------------|----|
| FTD-1 Cisco Firepower Threat Defense for VMware | | | | You have unsaved changes Save Cance | əl |
| Device Routing Interfaces Inline Sets DHCP VTEP | | | | | |
| Manage Virtual Routers | | | | | |
| General Neighbor Add Aggr | gate Address Filtering Networks | Redistribution Route Injection | | | |
| ECMP | | | | + 444 | Т |
| BFD | | | | | ۰. |
| OSPF Address | Remote AS Number | Address Family | Remote Private AS Number | Description | |
| OSPFv3 | | No records to display | | | |
| EIGRP | | | | | |
| RIP | | | | | |
| Policy Based Routing | | | | | |
| ∽ BGP | | | | | |
| IPv4 | | | | | |
| IPv6 | | | | | |
| Static Route | | | | | |
| ✓ Multicast Routing | | | | | |

图 16.添加新的BGP对等体

步骤 7.在IP Address部分中配置远程对等体的IP地址,然后在Remote AS部分中配置远程对等体的 AS,并选中Enable address框。

0

步骤 8在更新源部分中选择本地接口环回。

Edit Neighbor

| IP Address* | | Enabled address | | | | | |
|---|-------------------|--|--|--|--|--|--|
| 10.2.2.2 | | Shutdown administratively | | | | | |
| Remote AS* | | Configure-praceful restart | | | | | |
| 64001 | | Graceful restart(failover/soanned mode) | | | | | |
| (1-4294967295 or 1.0-65535.65535) | | | | | | | |
| BFD Fallover | De | escription | | | | | |
| none v | | | | | | | |
| Update Source: | 1 | | | | | | |
| Loopbeck1 · | | | | | | | |
| Filtering Routes Routes Tin | ners | Advanced Migration | | | | | |
| | | | | | | | |
| | | A sector | | | | | |
| Incoming | | Outgoing Access List | | | | | |
| Incoming Access List | + | Outgoing Access List | | | | | |
| Incoming Access List | + | Outgoing Access List | | | | | |
| Incoming Access List V Route Map | + | Outgoing Access List v + Route Map | | | | | |
| Incoming Access List Route Map |] +] + | Outgoing Access List Poute Map + | | | | | |
| Incoming Access List V Route Map V Prefix List |]+]+ | Outgoing Access List v + Route Map v + Prefix List | | | | | |
| Incoming Access List Route Map Prefix List |) +) +) + | Outgoing Access List v + Route Map v + Prefix List v + | | | | | |
| Incoming Access List Route Map Prefix List AS path filter | + + + | Outgoing Access List + Route Map + Prefix List + AS path filter | | | | | |

图 17.基本BGP对等体参数

注意:Update Source 选项启用neighbor update-source 命令,用于允许任何工作接口(包括

步骤 9单击Advanced,然后在TTL Hops 选项中配置数字2,然后单击OK。

| It Neighbor | | | | | | 0 |
|---|------------------|-------------------|-----------|---|--------|----|
| none | • | | | 7 | | |
| Update Source: | | | | | | |
| Loopback1 | | | 1 | | | |
| Filtering Routes Routes | Timers | Advanced | Migration | | | |
| Enable Authentication | L | | | | | |
| Enable Encryption | | | | | | |
| 0 | Ŧ | | | | | |
| Password | | | | | | |
| | | | | | | |
| Confirm Password | | | | | | |
| | | | | | | |
| Send Community attribute | to this neighbo | W . | | | | |
| Use itself as next hop for r | this neighbor | | | | | |
| Disable Connection Verific | ation | | | | | |
| Allow connections with ne | ighbor that is n | ot directly conne | cted | | | |
| Limited number of TTL hop | os to neighbor | | | | | |
| TTL Hops | | | | | | |
| 2 | | | | | | |
| (1-230) | | | | | | |
| Use TCP path MTU discov | ery | | | | | |
| TCP Transport Mode | | | | | | |
| Default | • | | | | | |
| Weight | | | | | | |
| | | | | | Cancel | 00 |
| | | | | | | |
| 3.配置TTL跳数 | | | | | | |

✤ 注意:TTL Hops 选项用于启用ebgp-multihop 命令,该命令用于更改TTL值,以允许数据包到 达非直连的外部BGP对等体或者具有直连接口以外的接口。

步骤 10点击保存并部署更改。

| Firewall Management Devices / Secure Firewall Ro | nt Center Oven | view Analysis | Policies | Devices | Objects | Integration | | D | eploy | ۹ | 0 | ${\rm admin}{\scriptstyle \sim}$ | cisco SECURE |
|---|--|---------------|-------------|-----------|----------|----------------|-----------------|--------------------------|-------|----------|-----------|----------------------------------|--------------|
| FTD-1 Cisco Firepower Threat Defense for | VMware | | | | | | | | Ľ | You hav | e unsaved | changes Sav | Cancel |
| Device Routing Interfac | es Inline Sets DH | ICP VTEP | | | | | | | | | | | |
| Manage Virtual Routers | Enable IPv4: AS Number 64000 General Neighbo | r Add Aggreg | ate Address | Filtering | Networks | Redistribution | Route Injection | | | | | | |
| Virtual Router Properties | | | | | | | | | | | | | + Add |
| BFD | | | | | | | | | | | | | 1 Aug |
| OSPF | Address | | Remote AS N | lumber | | Address Family | | Remote Private AS Number | | Descript | tion | | |
| OSPFv3 | 10.2.2.2 | | 64001 | | | Enabled | | | | | | | 11 |
| EIGRP | | | | | | | | | | | | | |
| RIP | | | | | | | | | | | | | |
| Policy Based Routing | | | | | | | | | | | | | |
| ✓ BGP | | | | | | | | | | | | | |
| IPVe | | | | | | | | | | | | | |

图 19.保存BGP配置

步骤 11对第二个防火墙重复此过程。

| Firewall Manageme Devices / Secure Firewall Ro | nt Center Overview | Analysis Policies | Devices Objects | Integration | | De | eploy | ¢ م | 0 | admin v dodo Si | ECURE |
|--|---|-----------------------|--------------------|------------------|-----------------|--------------------------|-------|-------------|---|-----------------|--------|
| FTD-2 Cisco Firepower Threat Defense fo Device Routing Interface | r VMware ces Inline Sets DHCP | VTEP | | | | | | | | Save | Cancel |
| Manage Virtual Routers Global v Virtual Router Properties | Enable IPv4: 🗹 AS Number 64001 General Neighbor A | Add Aggregate Address | Filtering Networks | Redistribution R | toute Injection | | | | | | |
| ECMP | | | | | | | | | | + | Add |
| BFD OSPF | Address | Remote AS Nu | imber | Address Family | | Remote Private AS Number | | Description | | | |
| OSPFv3 | 10.1.1.1 | 64000 | | Enabled | | | | | | | 11 |
| EIGRP RIP | | | | | | | | | | | _ |
| Policy Based Routing | | | | | | | | | | | |
| BGP IPv4 | | | | | | | | | | | |
| IPv6 | | | | | | | | | | | |

图 20.配置对等体上的BGP

验证

步骤1:验证环回和静态路由配置,然后使用ping测试检查BGP对等体之间的连接。

show running-config interface interface_name

show running-config route

show destination_ip

| SFTD-1 | SFTD-2 |
|---|---|
| show running-config interface Loopback1 | show running-config interface Loopback1 |
| interface Loopback1 | interface Loopback1 |
| nameif Loopback1 | nameif Looback2 |

| ip address 10.1.1.1 255.255.255.255 | ip address 10.2.2.2 255.255.255.255 |
|---|---|
| show running-config route | show running-config route |
| outside 10.2.2.2 255.255.255.255 10.10.10.2 1 | outside 10.1.1.1 255.255.255.255 10.10.10.1 1 |
| ping 10.2.2.2 | ping 10.1.1.1 |
| Sending 5, 100-byte ICMP Echos to 10.2.2.2, timeout is 2 seconds: | Sending 5, 100-byte ICMP Echos to 10.1.1.1, timeout is 2 seconds: |
| !!!!! | !!!!! |
| Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms | Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms |

第二步:验证BGP配置,然后确保BGP对等已建立。

show running-config router bgp

show bgp neighbors

show bgp summary

| SFTD-1 | SFTD-2 |
|--|--|
| show running-config router bgp | show running-config router bgp |
| router bgp 64000 | router bgp 64001 |
| bgp log-neighbor-changes | bgp log-neighbor-changes |
| bgp router-id vrf auto-assign | bgp router-id vrf auto-assign |
| address-family ipv4 unicast | address-family ipv4 unicast |
| neighbor 10.2.2.2 remote-as 64001 | neighbor 10.1.1.1 remote-as 64000 |
| neighbor 10.2.2.2 ebgp-multihop 2 | neighbor 10.1.1.1 ebgp-multihop 2 |
| neighbor 10.2.2.2 transport path-mtu-discovery disable | neighbor 10.1.1.1 transport path-mtu-discovery disable |
| neighbor 10.2.2.2 update-source Loopback1 | neighbor 10.1.1.1 update-source Looback2 |
| 邻居10.2.2.2激活 | ◎ 邻居10.1.1.1激活 |
| no auto-summary | no auto-summary |

| 无同步 | 无同步 |
|---|---|
| exit-address-family | exit-address-family |
| ! | ! |
| show bgp neighbors i BGP | show bgp neighbors i BGP |
| BGP邻居为10.2.2.2,vrf single_vf,远程AS 64001,外部链路 | BGP邻居为10.1.1.1,vrf single_vf,远程AS 64000,外部链路 |
| BGP版本4,远程路由器ID 10.2.2.2 | BGP版本4,远程路由器ID 10.1.1.1 |
| BGP状态= Established,持续了1d15h | BGP状态= Established,持续了1d16h |
| BGP表版本7,邻居版本7/0 | BGP表版本1,邻居版本1/0 |
| 外部BGP邻居的距离可能高达2跳。 | 外部BGP邻居的距离可能高达2跳。 |
| show bgp summary | show bgp summary |
| BGP路由器标识符10.1.1.1,本地AS编号64000 | BGP路由器标识符10.2.2.2,本地AS编号64001 |
| BGP表版本为7,主路由表版本为7 | BGP表版本为1,主路由表版本为1 |
| Neighbor V AS MsgRcvd MsgSent TblVer InQ OutQ Up/Down State/PfxRcd | Neighbor V AS MsgRcvd MsgSent TblVer InQ OutQ Up/Down State/PfxRcd |
| 10.2.2.2 4 64001 2167 2162 7 0 1d15h 0 | 10.1.1.1 4 64000 2168 2173 1 0 1d16h 0 |

故障排除

如果在此过程中遇到任何问题,请阅读本文:

·<u>边界网关协议(BGP)</u>

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