将ASA防火墙替换为主用/备用故障转移对

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简介

本文档介绍如何用主用/备用故障转移对替换自适应安全设备(ASA)防火墙。

背景信息

ASA防火墙支持两种故障切换配置：主用/主用故障切换和主用/备用故障切换。

有2个防火墙：

- firewall-a is primary/active
- 防火墙b为辅助/备用

故障切换配置中主设备和辅助设备之间的区别

此命令意味着此防火墙始终将活动配置推送到辅助防火墙。

```
# failover lan unit primary
```

此命令意味着此防火墙始终从主防火墙接收活动配置。

```
# failover lan unit secondary
```

故障切换配置中主用设备和备用设备之间的区别

此命令意味着此防火墙是故障转移对中的活动运行防火墙。

```
# failover active
```

此命令意味着此防火墙是运行故障切换对中防火墙的备用防火墙。

```
# failover standby
```

替换辅助防火墙故障

1. 验证主防火墙是否处于活动状态并处于联机状态。例如：

```
firewall-a/pri/act# show failover
Failover On
Failover unit Primary
Failover LAN Interface: sync Port-channel1 (up)
Reconnect timeout 0:00:00
Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds
Interface Policy 1
Monitored Interfaces 0 of 1292 maximum
MAC Address Move Notification Interval not set
Version: Ours 9.12(4)56, Mate 9.12(4)56
Serial Number: Ours JADSERIAL1, Mate JADSERIAL2
Last Failover at: 19:54:29 GMT May 23 2023
   This host: Primary - Active
      Active time: 2204 (sec)
      slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
        Interface inside (10.0.0.1): Normal (Not-Monitored)
        Interface outside (10.1.1.1): Normal (Not-Monitored)
        Interface management (10.2.2.1): Normal (Not-Monitored)
   Other host: Secondary - Failed
      Active time: 0 (sec)
      slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
        Interface inside (10.0.0.2): Normal (Not-Monitored)
        Interface outside (10.1.1.2): Normal (Not-Monitored)
        Interface management (10.2.2.2): Normal (Not-Monitored)
```

2. 关闭并实际移除辅助防火墙。

3. 以物理方式添加新的辅助防火墙并打开其电源。

4. 当新的辅助防火墙以默认出厂配置处于活动状态时，启用故障切换链路no shutdown(即故障切换物理链路)。

示例：

```
firewall-a/pri/act#conf t
firewall-a/pri/act#(config)#interface Port-channel1
firewall-a/pri/act#(config-if)#no shutdown
firewall-a/pri/act#(config)#exit
firewall-a/pri/act#
firewall-b/sec/stby#conf t
firewall-b/sec/stby#(config)#interface Port-channel1
firewall-b/sec/stby#(config-if)#no shutdown
firewall-b/sec/stby#(config)#exit
firewall-b/sec/stby#
```

5. 配置故障切换命令。例如：

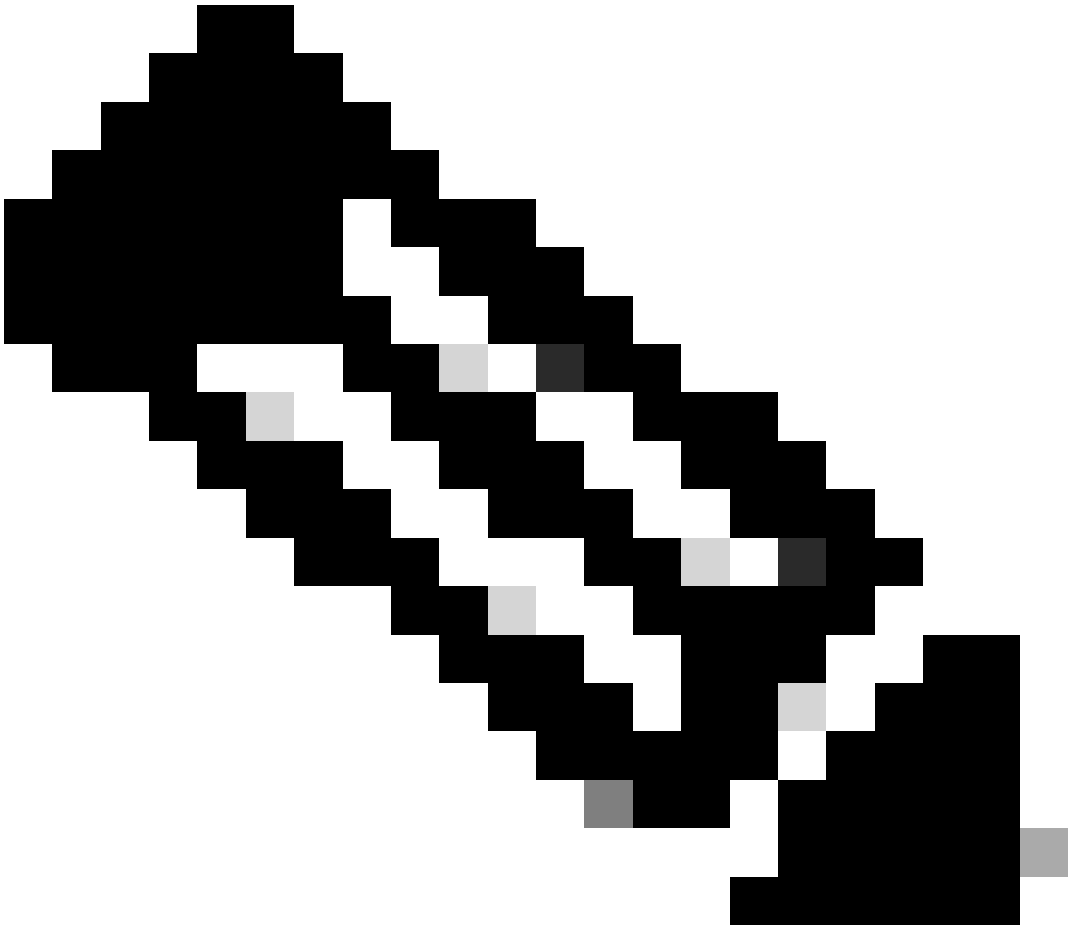
```
firewall-a/pri/act# sh run | inc fail
failover
failover lan unit primary
failover lan interface sync Port-channel1
failover link sync Port-channel1
failover interface ip sync 10.10.13.9 255.255.255.252 standby 10.10.13.10
no failover wait-disable
firewall-a/pri/act#

firewall-b/sec/stby# sh run | inc fail
no failover
failover lan unit secondary
failover lan interface sync Port-channel1
failover link sync Port-channel1
failover interface ip sync 10.10.13.9 255.255.255.252 standby 10.10.13.10
no failover wait-disable
firewall-b/sec/stby#
```

6. 在新的辅助防火墙上启用故障切换。例如：

```
firewall-b/sec/stby#conf t
firewall-b/sec/stby#(config)#failover
firewall-b/sec/stby#(config)#exit
firewall-b/sec/stby#
firewall-b/sec/stby# sh run | inc fail
failover
firewall-b/sec/stby#
```

7. 等待活动配置同步到新设备并验证正确的故障转移状态。例如：

```
firewall-a/pri/act#
Beginning configuration replication: Sending to mate.
End Configuration Replication to mate
firewall-a/pri/act#
firewall-b/sec/stby#
Beginning configuration replication from mate.
End configuration replication from mate.
firewall-b/sec/stby#
```



注意：请注意，主防火墙(firewall-a)将配置发送到辅助防火墙(firewall-b)。

---

8. 保存主/主上的配置并验证新的辅助/备用上的写入内存。例如：

```
firewall-a/pri/act#write memory
Building configuration...
Cryptochecksum: ad317407 935a773c 6c5fb66a c5edc342
64509 bytes copied in 9.290 secs (7167 bytes/sec)
```

[OK]
firewall-a/pri/act#
firewall-b/sec/stby#
May 24 2023 15:16:21 firewall-b : %ASA-5-111001: Begin configuration: console writing to memory
May 24 2023 15:16:22 firewall-b : %ASA-5-111004: console end configuration: OK
May 24 2023 15:16:22 firewall-b : %ASA-5-111008: User 'failover' executed the 'write memory' command.
May 24 2023 15:16:22 firewall-b : %ASA-5-111010: User 'failover', running 'N/A' from IP x.x.x.x , executed 'write memory'
firewall-b/sec/stby#

9. 验证故障转移对在两个防火墙上均处于up/up活动状态。例如：

```
firewall-a/pri/act# show failover
Failover On
Failover unit Primary
Failover LAN Interface: sync Port-channel1 (up)
Reconnect timeout 0:00:00
Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds
Interface Policy 1
Monitored Interfaces 0 of 1292 maximum
MAC Address Move Notification Interval not set
Version: Ours 9.12(4)56, Mate 9.12(4)56
Serial Number: Ours JADSERIAL1, Mate JADSERIAL2
Last Failover at: 19:54:29 GMT May 23 2023
    This host: Primary - Active
        Active time: 71564 (sec)
        slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
          Interface inside (10.0.0.1): Normal (Not-Monitored)
          Interface outside (10.1.1.1): Normal (Not-Monitored)
          Interface management (10.2.2.1): Normal (Not-Monitored)
    Other host: Secondary - Standby Ready
        Active time: 0 (sec)
        slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
          Interface inside (10.0.0.2): Normal (Not-Monitored)
          Interface outside (10.1.1.2): Normal (Not-Monitored)
          Interface management (10.2.2.2): Normal (Not-Monitored)

firewall-b/sec/stby# show failover
Failover On
Failover unit Secondary
Failover LAN Interface: sync Port-channel1 (up)
Reconnect timeout 0:00:00
Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds
Interface Policy 1
Monitored Interfaces 0 of 1292 maximum
MAC Address Move Notification Interval not set
Version: Ours 9.12(4)56, Mate 9.12(4)56
Serial Number: Ours JADSERIAL2, Mate JADSERIAL1
Last Failover at: 20:51:27 GMT May 23 2023
    This host: Secondary - Standby Ready
        Active time: 0 (sec)
        slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
          Interface inside (10.0.0.2): Normal (Not-Monitored)
          Interface outside (10.1.1.2): Normal (Not-Monitored)
```

```
        Interface management (10.2.2.2): Normal (Not-Monitored)
    Other host: Primary - Active
        Active time: 71635 (sec)
        slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
          Interface inside (10.0.0.1: Normal (Not-Monitored)
          Interface outide (10.1.1.1): Normal (Not-Monitored)
          Interface management (10.2.2.1): Normal (Not-Monitored)
```

替换主防火墙故障

1. 验证辅助防火墙是否处于活动状态并处于联机状态。例如：

```
firewall-b/sec/act# show failover
Failover On
Failover unit Secondary
Failover LAN Interface: sync Port-channel1 (up)
Reconnect timeout 0:00:00
Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds
Interface Policy 1
Monitored Interfaces 0 of 1292 maximum
MAC Address Move Notification Interval not set
Version: Ours 9.12(4)56, Mate 9.12(4)56
Serial Number: Ours JADSERIAL2, Mate JADSERIAL1
Last Failover at: 19:54:29 GMT May 23 2023
    This host: Secondary - Active
        Active time: 2204 (sec)
        slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
          Interface inside (10.0.0.1): Normal (Not-Monitored)
          Interface outside (10.1.1.1): Normal (Not-Monitored)
          Interface management (10.2.2.1): Normal (Not-Monitored)
    Other host: Primary - Failed
        Active time: 0 (sec)
        slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
          Interface inside (10.0.0.2): Normal (Not-Monitored)
          Interface outside (10.1.1.2): Normal (Not-Monitored)
          Interface management (10.2.2.2): Normal (Not-Monitored)
```

2. 关闭并实际移除主防火墙。
3. 以物理方式添加新的主防火墙并打开其电源。
4. 现在，新的主防火墙使用默认出厂配置激活。
5. 启用故障切换链路，no shutdown故障切换物理链路。例如：

```
firewall-a/pri/stby#conf t
firewall-a/pri/stby#(config)#interface Port-channel1
firewall-a/pri/stby#(config-if)#no shutdown
firewall-a/pri/stby#(config)#exit
firewall-a/pri/stby#
```

```
firewall-b/sec/act#conf t
firewall-b/sec/act#(config)#interface Port-channel1
firewall-b/sec/act#(config-if)#no shutdown
firewall-b/sec/act#(config)#exit
firewall-b/sec/act#
```

6. 保存配置.在辅助/活动防火墙上写入内存，并确保启动配置中有故障切换lan设备“secondary”。

示例：

```
firewall-b/sec/act# write memory
Building configuration...
Cryptochecksum: ad317407 935a773c 6c5fb66a c5edc342

64509 bytes copied in 9.290 secs (7167 bytes/sec)
[OK]
firewall-b/sec/act# show start | inc unit
failover lan unit secondary
firewall-b/sec/act#
```

7. 配置故障切换命令。
    1. 在辅助/活动防火墙上，必须首先设置failover lan unit primary命令，以确保活动配置从辅助/活动防火墙推送到新的默认配置主要/备用防火墙。例如：

```
firewall-b/sec/act# sh run | inc unit
failover lan unit secondary
firewall-b/sec/act#

firewall-b/sec/act#conf t
firewall-b/sec/act#(config)#failover lan unit primary
firewall-b/sec/act#(config)#exit
firewall-b/sec/act# sh run | inc unit
failover lan unit primary
firewall-b/pri/act#
```

b. 验证两台设备上的故障切换配置。例如：

```
firewall-b/pri/act# sh run | inc fail
failover
failover lan unit primary
failover lan interface sync Port-channel1
failover link sync Port-channel1
failover interface ip sync 10.10.13.9 255.255.255.252 standby 10.10.13.10
no failover wait-disable
firewall-b/pri/act#
```

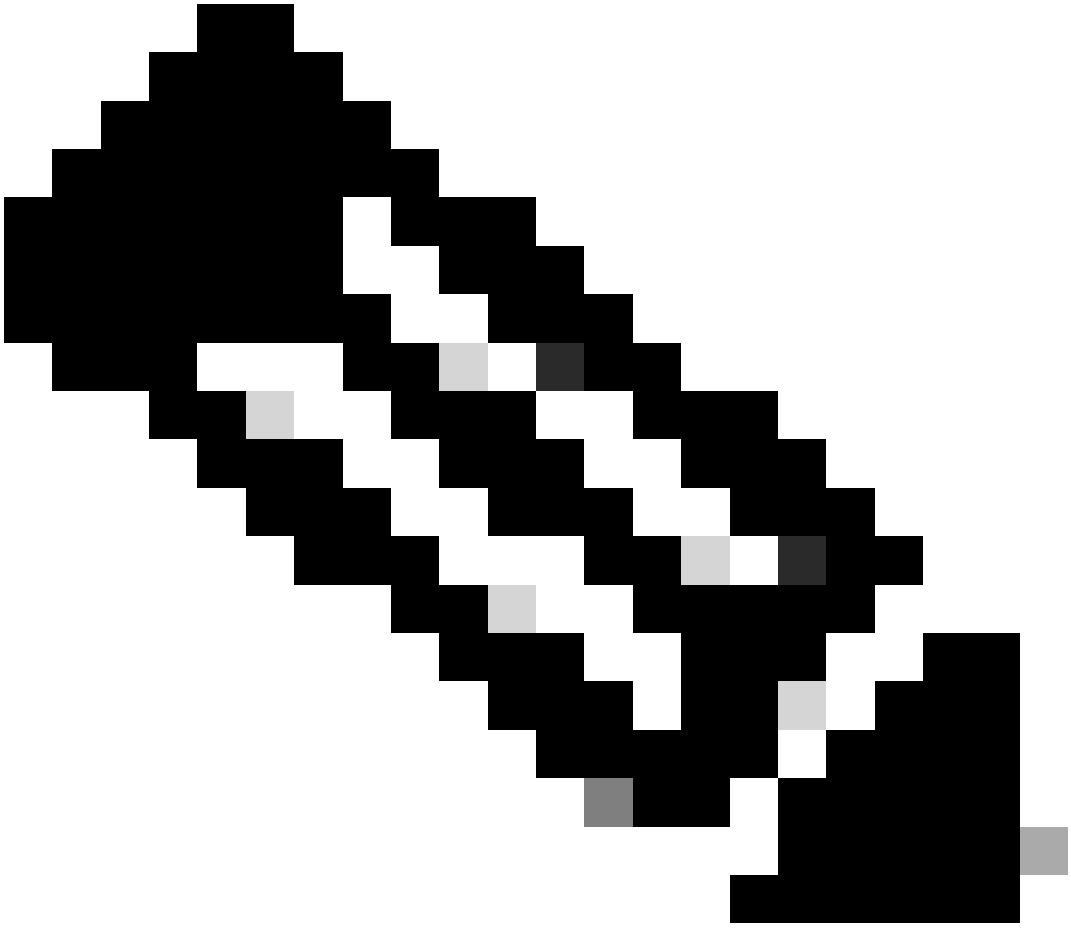
```
firewall-a/sec/stby# sh run | inc fail
no failover
failover lan unit secondary
failover lan interface sync Port-channel1
failover link sync Port-channel1
failover interface ip sync 10.10.13.9 255.255.255.252 standby 10.10.13.10
no failover wait-disable
firewall-a/sec/stby#
```

8. 在新的主防火墙上启用故障切换。例如：

```
firewall-a/sec/stby#conf t
firewall-a/sec/stby#(config)#failover
firewall-a/sec/stby#(config)#exit
firewall-a/sec/stby#

firewall-a/sec/stby# sh run | inc fail
failover
firewall-a/sec/stby#
```

9. 等待活动配置同步到新设备并验证正确的故障转移状态。例如：

```
firewall-b/pri/act#
Beginning configuration replication: Sending to mate.
End Configuration Replication to mate
firewall-b/pri/act#
firewall-a/sec/stby#
Beginning configuration replication from mate.
End configuration replication from mate.
firewall-a/sec/stby#
```



注意：请注意，主防火墙(firewall-b)将配置发送到辅助防火墙(firewall-a)。请勿在现在的主用/主用防火墙(firewall-b)上写入内存。

10. 重新加载现在的主用/主用防火墙(firewall-b)，使其作为辅助/备用防火墙进行备份。

```
firewall-b/pri/act#reload
```

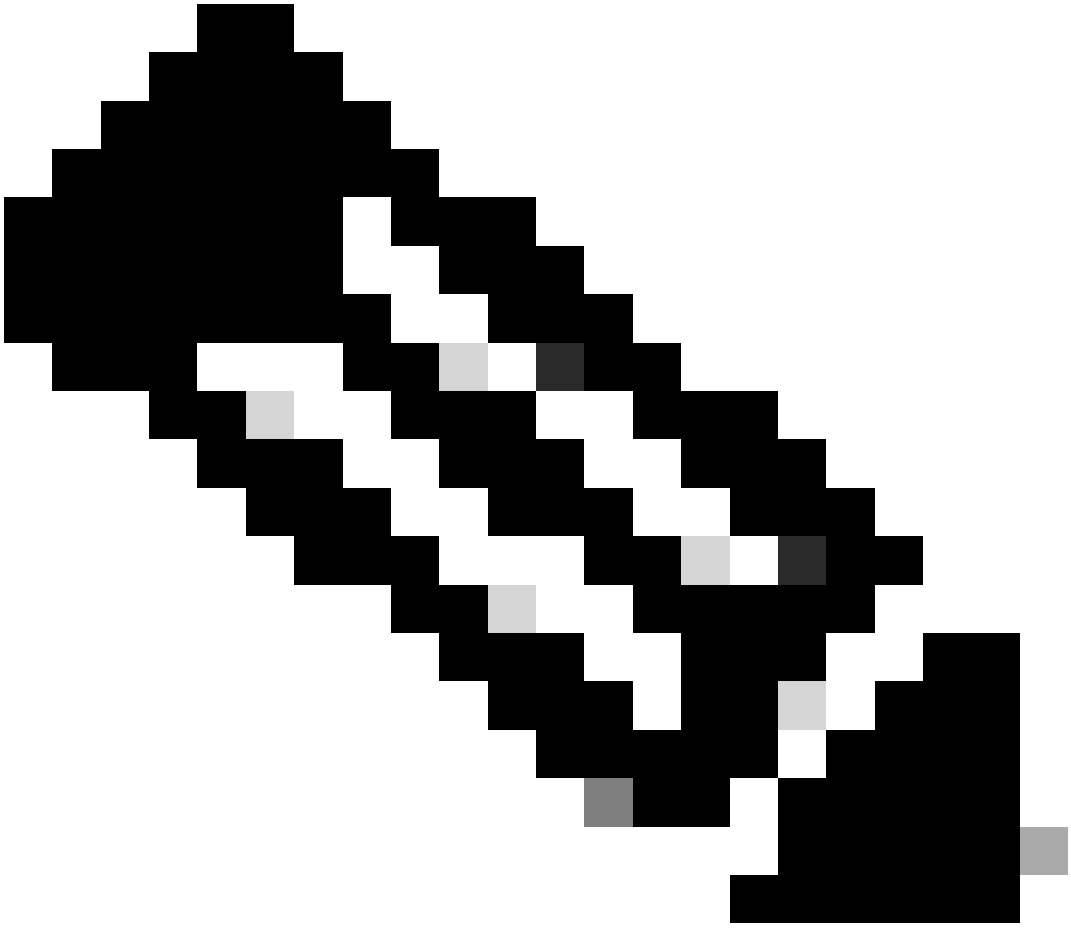
11. 在您执行“firewall-b reload”命令（等待15秒）之后，立即切换到新的主防火墙(firewall-a)，并输入failover lan unit primary命令，然后输入write memory。

```
firewall-a/sec/act#conf t
firewall-a/sec/act#(config)#failover lan unit primary
firewall-a/sec/act#(config)#exit
firewall-a/sec/act# sh run | inc unit
```

```
failover lan unit primary
firewall-a/pri/act# write memory
Building configuration...
Cryptochecksum: ad317407 935a773c 6c5fb66a c5edc342

64509 bytes copied in 9.290 secs (7167 bytes/sec)
[OK]
firewall-a/pri/act# show start | inc unit
failover lan unit primary
firewall-a/pri/act#
```

12. 等待firewall-b完全启动，然后作为辅助/备用设备加入故障转移对。例如：

```
firewall-a/pri/act#
Beginning configuration replication: Sending to mate.
End Configuration Replication to mate
firewall-a/pri/act#
firewall-b/sec/stby#
Beginning configuration replication from mate.
End configuration replication from mate.
firewall-b/sec/stby#
```



注意：请注意，主防火墙(firewall-a)将配置发送到辅助防火墙(firewall-b)。

13. 保存配置，在主用/主用上写入内存，并验证新的辅助/备用上的写入内存。例如：

```
firewall-a/pri/act#write memory
Building configuration...
Cryptochecksum: ad317407 935a773c 6c5fb66a c5edc342

64509 bytes copied in 9.290 secs (7167 bytes/sec)
[OK]
firewall-a/pri/act#

firewall-b/sec/stby#
May 24 2023 15:16:21 firewall-b : %ASA-5-111001: Begin configuration: console writing to memory
May 24 2023 15:16:22 firewall-b : %ASA-5-111004: console end configuration: OK
May 24 2023 15:16:22 firewall-b : %ASA-5-111008: User 'failover' executed the 'write memory' command.
May 24 2023 15:16:22 firewall-b : %ASA-5-111010: User 'failover', running 'N/A' from IP x.x.x.x , executed 'write memory'
firewall-b/sec/stby#
```

14. 验证故障转移对在两个防火墙上均处于up/up活动状态。例如：

```
firewall-a/pri/act# show failover
Failover On
Failover unit Primary
Failover LAN Interface: sync Port-channel1 (up)
Reconnect timeout 0:00:00
Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds
Interface Policy 1
Monitored Interfaces 0 of 1292 maximum
MAC Address Move Notification Interval not set
Version: Ours 9.12(4)56, Mate 9.12(4)56
Serial Number: Ours JADSERIAL1, Mate JADSERIAL2
Last Failover at: 19:54:29 GMT May 23 2023
   This host: Primary - Active
      Active time: 71564 (sec)
      slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
        Interface inside (10.0.0.1): Normal (Not-Monitored)
        Interface outside (10.1.1.1): Normal (Not-Monitored)
        Interface management (10.2.2.1): Normal (Not-Monitored)
   Other host: Secondary - Standby Ready
      Active time: 0 (sec)
      slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
        Interface inside (10.0.0.2): Normal (Not-Monitored)
        Interface outside (10.1.1.2): Normal (Not-Monitored)
        Interface management (10.2.2.2): Normal (Not-Monitored)

firewall-b/sec/stby# show failover
Failover On
Failover unit Secondary
Failover LAN Interface: sync Port-channel1 (up)
Reconnect timeout 0:00:00
Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds
Interface Policy 1
Monitored Interfaces 0 of 1292 maximum
MAC Address Move Notification Interval not set
Version: Ours 9.12(4)56, Mate 9.12(4)56
Serial Number: Ours JADSERIAL2, Mate JADSERIAL1
Last Failover at: 20:51:27 GMT May 23 2023
   This host: Secondary - Standby Ready
      Active time: 0 (sec)
      slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
        Interface inside (10.0.0.2): Normal (Not-Monitored)
        Interface outside (10.1.1.2): Normal (Not-Monitored)
        Interface management (10.2.2.2): Normal (Not-Monitored)
   Other host: Primary - Active
      Active time: 71635 (sec)
      slot 0: FPR-2110 hw/sw rev (49.46/9.12(4)56) status (Up Sys)
        Interface inside (10.0.0.1: Normal (Not-Monitored)
        Interface outide (10.1.1.1): Normal (Not-Monitored)
        Interface management (10.2.2.1): Normal (Not-Monitored)
```

关于此翻译
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