Replace Secure Firewall Management Center in HA Pair

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Introduction

This document describes how to replace a faulty Secure Firewall Management Center in a High Availability (HA) pair.

Prerequisites

Requirements

Cisco recommends you know this topic:

• Cisco Secure Firewall Management Center (FMC)

Components Used

The information in this document is based on these software and hardware versions:

• Cisco Secure Firewall Management Center (FMC) running version 7.2.5 (1) in HA mode

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, ensure that you understand the potential impact of any command.

Configure

Solution 1

Process for Replacing a Faulty Unit with Backup

Step 1: Assign the operational unit as active. For further details, refer to <u>Switching Peers in the Management</u> <u>Center High Availability Pair.</u>

| Firew Integral | vall Management Center son / Other Integrations / High Availability | Devices Integration | | | | 역 💰 😧 🛛 admin • 🔤 👬 SECURE |
|-----------------|---|---|--|------------------|---|--|
| Cloud Service | s Hich Availability eStreamer | Host Insuf Client | | | | Peer Manager |
| | | | | | Switch Peer Roles | Break HA II Pause Synchronization |
| | Summary | | | System Status | | |
| | Status | A Degraded- Synchronization in (No connection between high availability Management | complete Centers) | | Local Standby - Secondary (10.28.1.150) | Remote Active - Primary (10.28.1.149) |
| | Synchronization | | A Failed | Operating System | 7.2.5 | 7.2.5 |
| | Active System | (HA synchronization time : Thu Apr 11 20:31: | 28.1.149 24.2024.) | Software Version | 7.2.5.1-29 | 7.2.5.1-29 |
| | Standby System | (HA synchronization time : Thu Apr 11 20:30: | 28.1.150 | Model | Secure Firewall Management Center for VMware S | ecure Firewall Management Center for VMware |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Firev Pregra | vall Management Center tion / Other Integrations / High Availability | Devices Integration | | | | 역, 💕 🌣 🙆 admin • 👘 SECURE |
| | | | | | | Peer Manager |
| Cloud Service | s High Availability eStreamer | Host input Client | | | | |
| | | | | | Switch Peer Roles | Break HA II Pause Synchronization |
| | Summary | | | System Status | | |
| | Status | Degraded- Synchronization in (No connection between high availability Management Centers , Database is not runni availability | complete ng in high ty mode) | | Local Standby - Secondary (10.28.1.150) | Remote Active - Primary (10.28.1.149) |
| | Synchronization | | A Failed | Operating System | 7.2.5 | 7.2.5 |
| | Active System | 10 | 28.1.149 | Software Version | 7.2.5.1-29 | 7.2.5.1-29 |
| | Standby System | (HA synchronization time : The Apr 11 2031. (HA synchronization time : The Apr 11 2030. | 28.1.150 08.2024) | Model | Secure Firewalt Management Center for VMware Secure Firewalt Management Center for VMware | ecure Firewall Management Center for VMissore |
| | | | | | | _ |
| | | | | | Switching Roles | 0 |
| | | | | | | |
| | | | Warning | | Active Management Center is unavailable. Making this Managemen | nt |
| | | | | | Center active will cause split brain, | |
| | | | This operation may affect o the background. Do you wa | int to continue? | when the old active comes up. Do yo want to continue? | Du la |
| | | | | | | |
| | | | | No Yes - | Cancel | ok |

Step 2: Reimage the new unit to match the software version of the active unit. Refer to <u>Reimage a Hardware</u> <u>Model of a Cisco Secure Firewall Management Center</u> for more information.

Step 3: Restore the data backup from the failed unit to the new management center. Navigate to **System > Backup/Restore**, upload the backup file, and restore it to the new unit.

| Firewall Management Center System / Tools / Backup/Restore / Backup Management | Overview | Analysis | Policies | Devices | Objects | Integration | | | D | eptoy Q 💕 🛛 🚳 i | admin • | SECURE |
|---|----------|----------|----------|--------------|---------|--|--------------------------|------------------|------------------|---------------------|----------|--------------|
| Backup Management Backup Profiles | | | | | | | | | | | Ren | note Storage |
| | | | | | | | | Firewall Manager | nent Backu | Managed Device Back | up Upice | d Backup |
| | | | | | | Info New backups found on system. Importing × backup information. | | | | | | |
| Firewall Management Backups | | | | | | | | | | | | |
| System Information Secure Firewall Management Center for VMware v7.2.5.1 | | | 2024-04 | -11 16:50:31 | | File Name Beckup_Active_00-2024-04-10T23-07-42.tar | VDB Version build 353 | Location | Size (ME) 250 | Yes | Yes | Yes |
| Secure Firewait Management Center for VMware v7.2.5.1 | | | 2024-04 | -11 16:22:24 | | Backup_NewUnit_00-2024-04-11120-17-36.tar | build 353 | Local | 236 | Yes | Yes | Yes |
| Restore Download Delete More Storage Location: /wr/th/backup/ (Dist Usage: 96) | | | | | | | | | | | | |

| Firewall Management Center | Overview | Analysis | Policies | Devices | Objects | Integration | Deploy | ۹ 💰 | o | 0 admin | • 🖮 sec | cur |
|----------------------------|----------|----------|----------|---------|---------|---|--------|-----|---|---------|-------------|-----|
| | | | | | | | | | | | Remote Stor | age |
| | | | | | | Info You are shout to replace or modify key where the statem will be resource and of the restore process. | | | | | | |
| | | | | | | Restore Backup | | | | | | |
| | | | | | | Backup Name Backup_Active_00-2024-04-10123-07-42.tar Replace Configuration Data | | | | | | |
| | | | | | | Restore Event Data | | | | | | |
| | | | | | | Restore Threat Intelligence Director Data | | | | | | |
| | | | | | | Carcel Feature | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

Step 4: If necessary, update the same version of geolocation database (GeoDB) updates, vulnerability database (VDB) updates, and system software updates as the active unit to ensure consistency.

Active Unit

New Unit

| cisco SECU | IRE | | RE |
|---|--|---|---|
| Firewall N | lanagement Center | Firewall M | anagement Center |
| Version 7.2.5.1 (build 2 Model Serial Number Snort Version Rule Pack Version Module Pack Version LSP Version VDB Version Rule Update Version Geolocation Update Ver OS Hostname For technical/system questi | 9) Secure Firewall Management Center for VMware None 2.9.20 (Build 5100) 3.1.21.501 (Build 26) 2655 3019 Isp-rel-20220511-1540 build 353 (2022-03-07 22:13:19) 2022-01-06-001-vrt sion Country Code: 2022-05-11-103, IP: None Cisco Firepower Extensible Operating System (FX-OS) 2.12.0 (build 519) firepower ons, email tsc@cisco.com phone: 1-800-553-2447 or | Version 7.2.5.1 (build 29) Model Serial Number Snort Version Rule Pack Version Module Pack Version LSP Version VDB Version Rule Update Version Geolocation Update Versio OS | Secure Firewall Management Center for VMware None 2.9.20 (Build 5100) 3.1.21.501 (Build 26) 2655 3019 Isp-rel-20220511-1540 build 353 (2022-03-07 22:13:19) 2022-01-06-001-vrt on Country Code: 2022-05-11-103, IP: None Cisco Firepower Extensible Operating System (FX-0 2.12.0 (build 519) firepower |

Step 5: Once updates are complete, both units can display an active status, which can lead to an HA splitbrain condition.

Step 6: Proceed to manually set the unit that has been continuously operational as active. This enables it to sync the latest configuration to the replacement unit.

| Firew Integra | vall Manager iton / Other Integr | ment Center rations / High Availabit | Overview | Analysis | Policies De | vices Objects | Integration | n | | | | | Deploy | ٩ | e o | e admir | n + inte se |
|------------------|-------------------------------------|---|-------------------|-----------|-------------------|--|--|-------------------------------|-------------------------|-------------------------|---|-----------------------------|--------------|------------------------------|----------------------|------------|-----------------|
| Cloud Service | es Realms | Identity Sources | High Availability | eStreamer | Host Input Client | t Smart Softwar | re Manager On-I | Prem | | | | | _ | | | | Peer Mana |
| | | | | | | | | hin hinh nonlinhi | life nair is in solit h | nin Male one Management | Center action by circles "Make Me Action" | E2 Moke Me Active | ø | Ireak HA | | II Pause | Synchronization |
| | 0 | | | | | | | | | | Control prime by Cricking many me Picture . | ^ | | | | | |
| | Summary | | | | | | | | | System Status | | | | | | | |
| | Status | | | | A Split Brain (D | - Management Cen Jatabase is not conf | ter is active on I figured for high a | both peers. availability) | | | Lo Split Brain - (10.25 | cal Secondary 11.150) | Split | Remot Brain - (10.28.1 | e Primary 149) | | |
| | Synchronizatio | on | | | | | | 🔺 Failed | | Operating System | 7. | 2.5 | | 7.2.5 | | | |
| | Active System | , | | | (HA sync | chronization time : 1 | 1 INU Apr 11 21:00 | 10.28.1.150 3:25 2024) | | Software Version | 7.2.5 | 1-29 | | 7.2.5.1 | -29 | | |
| | Standby Syste | em. | | | (HA sync | chronization time : 1 | 1 1w Apr 11 21:00 | 0.28.1.149 3:00 2024) | | Model | Secure Firewall Manage | ment Center for VMware | Secure Firew | Mana; VMwa | pement (re | Senter for | |

| High Availability eStreamer Host Input Client Smart Software Manager O | n-Prem | | | |
|--|---|--|--|---|
| | This high availability pair is in split | brain. Make one Management Cer | nter active by clicking 'Make Me Active'. X | Break HA |
| | | System Status | | |
| ▲ Split Brain - Management Center is active (Database is not configured for hig (HA synchronization time : Thu Apr 11 21 (HA synchronization time : Thu Apr 11 21) | In both peers, th availability) | Operating System Software Version Model ritical processes running in peer will be active and the andry. The active peer will policies present on the to continue? | Local Spitt Brain - Secondary (10.28.1.150) 7.2.5 7.2.5.1-23 Secure Firewall Management Center for VMware Make Me Active Do you want to make this Management Center active and peer standby? | Remote Split Brain - Primar (10.28.1.149) 7.2.5 7.2.5.1-29 Secure Firewall Managemen VMware |

Step 7: Upon successful synchronization, which can take some time, navigate to the web interface of the active unit. Then alter roles, positioning the new unit as the active appliance.

Solution 2

Process for Replacing a Faulty Unit Without Backup

Step 1: Assign the operational unit as active. For further details, refer to <u>Switching Peers in the Management</u> <u>Center High Availability Pair.</u>

| Firewall Management Center Integration / Other Integrations / High Availability | Devices Integration | | | 역 📽 🌣 🔕 admin + 👘 SECURE |
|--|---|------------------|--|---|
| Cloud Services High Availability eStreamer | Host Input Client | | | Peer Manager |
| | | | Switch Peer Ro | es Ø Break HA II Pause Synchronization |
| Summary | | System Status | | |
| Status | Degraded - Synchronization incomplete (No connection between high availability Management Centers , Database is not running in high availability mode) | | Local Standby - Primary (10.28.1.149) | Remote Active - Secondary (10.28.1.150) |
| Synchronization | A Failed | Operating System | 725 | 7.2.5 |
| Active System | 10.28.1.150 | Software Version | 7.2.5.1-29 | 7.2.5.1-29 |
| Standby System | (PA synchronization time : ITU AP 11 21:36.43 AUA) (PA synchronization time : Thu Apr 11 21:56.42 2004) | Model | Secure Firewall Management Center for VMware | Secure Finewall Management Center for VMware |
| | Warning This operation may affect critical processes ruthe background. Do you want to continue? | | Switching Roles Active Management Center is unavailable. Making this Management Center active will cause split brain, | |
| | | | when the old active comes up. Do you want to continue? | |

Step 2: Reimage the new unit to match the software version of the active unit. REfer to <u>Reimage a Hardware</u> <u>Model of a Cisco Secure Firewall Management Center</u> for more information.

Step 3: If necessary, update the same version of geolocation database (GeoDB) updates, vulnerability database (VDB) updates, and system software updates as the active unit to ensure consistency.

Operational Unit

Replacement



Step 4: Use the web interface of the active management center to break HA. When prompted, select the option to **Manage registered devices from this console**.

| Firev Integra | vall Management Center son / Other Integrations / High Availabili | y Overview Analysis Policies Devices Object | ts Integration | | | Deploy Q 💕 Ŏ 🔞 admin • 📩 🖏 SECUR | RE |
|------------------|--|---|---|---|--|---|----|
| | | | | | | Peer Manager | |
| Cloud Service | s Realms Identity Sources | High Availability eStreamer Host Input Client Smart Softw | vare Manager On-Prem | | | | |
| | | | | | Switch Peer Rok | s Break HA II Pause Synchronization | |
| | Summary | | | System Status | | | |
| | Status | Orgraded No connection between high availability Management Centers , t | - Synchronization incomplete latabase is not configured for high availability) | | Local Active - Primary (10.28.1.149) | Remote Standby - Secondary (10.28.1.150) | |
| | Synchronization | | A Failed | Operating System | 7.2.5 | 7.2.5 | |
| | Active System | | 10.28.1.149 | Software Version | 7.2.5.1-29 | 7.2.5.1-29 | |
| | Standby System | (HA synchronization time (HA synchronization time | Break HA | 0 | Secure Firewall Management Center for VMware | Secure Firewall Management Center for VMware | |
| | | | How do you want to manage. Manage registered de Manager registered de Stop managing registered Att devices will be unregistered | devices after breaking high availability? vices from this console. Were from per console. If from per console. If from per console. | | | |

Step 5: Reconfigure the management center HA by configuring the operational management center as the primary and the replacement unit as the secondary. For detailed instructions, see <u>Establishing Management</u> <u>Center High Availability</u>.



Note: When HA is re-established, the latest configuration from the primary management center synchronizes with the secondary management center. Both Classic and Smart Licenses are designed to integrate smoothly.

Verification

Use this section in order to confirm that your configuration works properly.

Once the synchronization is completed, the expected output is Status Healthy and Synchronization OK.

| Firev Integra | vall Management Center Overview dion / Other Integrations / High Availability | Analysis Policies Devices Objects Integration | | | Deploy 🔍 💕 🏠 👩 admin 🖲 | ester SECURE |
|------------------|--|---|------------------|--|---|--------------|
| | | | | | | Peer Manager |
| Cloud Service | is Realms Identity Sources High Availability | eStreamer Host Input Client Smart Software Manager On-Prem | | | | |
| | | | | Switch Peer Role | es 🖗 Break HA 🛛 🔢 Pause Syn | chronization |
| | Summary | | System Status | | | |
| | Status | Ø Healthy | | Local | Remote | |
| | Synchronization | © OK | | Active - Primary (10.28.1.149) | (10.28.1.150) | |
| | Active System | 10.28.1.149 | Operating System | 7.2.5 | 7.2.5 | |
| | Sector of Sector | (HA synchronization time : Thu Apr 11 20:11:21 2024) | Software Version | 7.2.5.1-29 | 7.2.5.1-29 | |
| | Standby System | 10.28.1.150 (HA synchronization time : Thu Apr 11 20:10:03 2024) | Model | Secure Firewall Management Center for VMware | Secure Firewall Management Center for VMware | |

Because this process can take sometime, the Primary and Secondary units are still synchronizing. During this period, make sure to check that your devices are correctly listed on both the Primary and Secondary units.

Additionally, verification via the CLI can be performed. This is achieved by connecting to the CLI, switching to expert mode, elevating privileges, and running these scripts:

<#root> fmc1:/Volume/home/admin# troubleshoot_HADC.pl **** Troubleshooting Utility ************* Show HA Info Of FMC 1 2 Execute Sybase DBPing Show Arbiter Status 3 Check Peer Connectivity 4 Print Messages of AQ Task 5 Show FMC HA Operations History (ASC order) 6 7 Dump To File: FMC HA Operations History (ASC order) Last Successful Periodic Sync Time (When it completed) 8 9 Print HA Status Messages Compare active and standby device list 10 Check manager status of standby missing devices 11 12 Check critical PM processes details 13 Help 0 Exit <#root> fmc1:/Volume/home/admin# troubleshoot_HADC.pl 1 Show HA Info Of FMC 2 Execute Sybase DBPing 3 Show Arbiter Status 4 Check Peer Connectivity 5 Print Messages of AQ Task 6 Show FMC HA Operations History (ASC order) 7 Dump To File: FMC HA Operations History (ASC order) 8 Help

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For more detailed information, please see <u>Verify Firepower Mode</u>, Instance, High Availability, and <u>Scalability Configuration</u>.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.

Related Information

- <u>Cisco Secure Firewall Management Center Administration Guide, 7.4. High Availability</u>
- <u>Cisco Technical Support & Downloads</u>