Configuración del agrupamiento de FTD en FP9300 (dentro del chasis)

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Introducción

Este documento describe cómo configurar y verificar la función de clúster en el dispositivo FPR9300.

Precaución: La información proporcionada en este documento abarca la instalación/configuración inicial del clúster. Este documento no es aplicable a un procedimiento de reemplazo de unidades (Autorización de devolución de mercancía - RMA)

Prerequisites

Requirements

No hay requisitos específicos para este documento.

Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- Dispositivo de seguridad Cisco Firepower 9300 que ejecuta 1.1(4.95)
- Firepower Threat Defense (FTD) que ejecuta 6.0.1 (compilación 1213)
- FireSIGHT Management Center (FMC) que ejecuta 6.0.1.1 (compilación 1023)

Tiempo de finalización del laboratorio: 1 hora.

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.

Antecedentes

- En el FPR9300 con el dispositivo FTD, puede configurar la agrupación en clústeres dentro del chasis en todas las versiones compatibles.
- La agrupación en clúster entre chasis se introdujo en la versión 6.2.
- El canal de puerto 48 se crea como un link de control de clúster. Para la agrupación en clúster dentro del chasis, este enlace utiliza la placa de interconexiones Firepower 9300 para las comunicaciones en clúster.
- No se soportan interfaces de datos individuales, con la excepción de una interfaz de administración.
- La interfaz de administración se asigna a todas las unidades del clúster.

Configurar

Diagrama de la red



Tarea 1. Crear las interfaces necesarias para el clúster de FTD

Requisito de tarea:

Cree un clúster, una interfaz de administración y una interfaz de datos de canal de puerto.

Solución:

Paso 1. Cree una interfaz de datos de canal de puerto.

Para crear una nueva interfaz, debe iniciar sesión en FPR9300 Chassis Manager y navegar a la pestaña **Interfaces**.

Seleccione Add Port Channel y cree una nueva interfaz de canal de puerto con estos parámetros:

| ID de canal de puerto | 5 |
|-----------------------|---------------------------|
| Тіро | Datos |
| Habilitar | Yes |
| ID de miembro | Ethernet1/3, Ethernet 1/4 |

Seleccione OK para guardar la configuración como se muestra en la imagen.

| Add Port Channel | | | | ? X |
|---------------------|---------------|-------------|------|-----|
| Port Channel ID: 5 | 🗹 Enable | | | |
| Type: Data | • | | | |
| Speed: 1gbps | ~ | | | |
| Interfaces | | | | |
| Available Interface | | Member ID | | |
| 🔍 Search | | Ethernet1/3 | 8 | |
| Ethernet1/2 | 1 | Ethernet1/4 | 8 | |
| Ethernet1/3 | | | | |
| Ethernet1/4 | | | | |
| Ethernet1/5 | | | | |
| Ethernet1/6 | Add Tabarfaca | | | |
| Ethernet1/7 | Add Interrace | | | |
| Ethernet1/8 | | | | |
| Ethernet2/1 | | | | |
| Ethernet2/2 | | | | |
| Ethernet2/3 | | | | |
| Ethernet2/4 | | | | |
| Ethernet3/1 | | | | |
| Ethernet3/2 | | | | |
| | | | | |
| | | | | |
| | | ОК | Canc | el |

Paso 2. Cree una interfaz de administración.

En la pestaña **Interfaces**, elija la interfaz, haga clic en **Edit** y configure la interfaz Management Type.

Haga clic en Aceptar para guardar la configuración como se muestra en la imagen.

| Edit Inte | rface - Ethernet1/1 | ?× |
|-----------|---------------------|----|
| Name: | Ethernet1/1 CEnable | |
| Type: | mgmt | ~ |
| Speed: | 1gbps | < |
| | OK Cano | el |

Paso 3. Cree la interfaz de link de control de clúster.

Haga clic en el botón **Add Port Channel** y cree una nueva interfaz de canal de puerto con estos parámetros y como se muestra en la imagen.

| ID de canal de puerto | 48 |
|-----------------------|---------|
| Тіро | Clúster |
| Habilitar | Yes |
| ID de miembro | - |

| Add Port Ch | annel | | | ? × |
|------------------|-------------------|---------------|-----------|--------|
| Port Channel ID: | 48 | 🗹 Enable | | |
| Type: | Cluster | • | | |
| Speed: | 1gbps 👻 | • | · • | |
| Interfaces | | _ | | |
| Av | ailable Interface | | Member ID | |
| | Search |] | | 7 |
| | Ethernet1/2 | | | |
| | Ethernet1/5 | | | |
| | Ethernet1/6 | | | |
| | Ethernet1/7 | | | |
| | Ethernet1/8 | | | |
| | Ethernet2/1 | Add Interface | | |
| | Ethernet2/2 | | | |
| | Ethernet2/3 | | | |
| | Ethernet2/4 | | | |
| | Ethernet3/1 | | | |
| | Ethernet3/2 | | | |
| | Ethernet3/3 | | | |
| | Ethernet3/4 | | | _ |
| | | | | |
| | | | | |
| | | | ок | Cancel |

Tarea 2. Crear clúster FTD

Requisito de tarea:

Cree una unidad de clúster de FTD.

Solución:

Paso 1. Navegue hasta Dispositivos lógicos y haga clic en el botón Agregar dispositivo.

Cree el agrupamiento FTD de la siguiente manera:

| Nombre del dispositivo | FTD_cluster |
|------------------------|--|
| Plantilla | Defensa frente a amenazas Cisco Firepower |
| Versión de imagen | 6.0.1.1213 |
| Modo de dispositivo | Clúster |

Para agregar el dispositivo, haga clic en Aceptar como se muestra en la imagen.

| Add Device | | | ?× |
|----------------|--------------------------------|---|--------|
| Device Name: | FTD_cluster | | |
| Template: | Cisco Firepower Threat Defense | ~ | |
| Image Version: | 6.0.1.1213 | ~ | |
| Device Mode: | 🔵 Standalone 💿 Cluster | | |
| | | | |
| | OK | | Cancel |

Paso 2. Configure e implemente el clúster de FTD.

Después de crear un dispositivo FTD, se le redirige a la ventana Provisioning- device_name.

Haga clic en el icono del dispositivo para iniciar la configuración como se muestra en la imagen.

| 0 | verview | Interfaces | Logical Devices | Security Mod | ules Platform Settings | | | System | Tools | Help i | admin |
|----|-----------------------|--------------------------------|--------------------------------------|--------------|------------------------|---------|-----------------------|--------|-------|--------|-------|
| c | rovisionin ustered | g - FTD_clust Cisco Firepow | <mark>er</mark> er Threat Defense | 6.0.1.1213 | | | | See | | Cancel | |
| D | sta Ports | | - | | | | | | | | |
| 10 | Ethernet1/2 | | | | | | | | | | |
| 10 | thernet1/5 | | | | | | | | | | |
| 10 | thernet1/6 | | | | | | | | | | |
| 10 | [thernet]/7 | | | | | | | | | | |
| | [thernet1/8 | | | | | | | | | | |
| | [thernet2/1 | | | | | | | | | | |
| | (thernet2/2 | | | | | | FTD - 6.0.1.1213 | | | | |
| | [thernet2/3 | | | | | | Security Module 1,2,3 | | | | |
| | (thernet2/4 | | | | | | | | | | |
| | (thernet)/1 | | | | | | | | | | |
| | thernet3/3 | | | | | | | | | | |
| | Thernet3/4 | | | | | | | | | | |
| | Nort-channel3 | 5 | | | | | | | | | |
| | | | _ | | | | | | | | _ |
| | Security I | Module A | pplication | Version | Management IP | Gateway | Management Port Statu | | | | |
| 1 | Security M | iodule 1 FT | TD | 6.0.1.1213 | | | | | | | |
| a | Security M | iodule 2 P1 | TD . | 6.0.1.1213 | | | | | | | |
| a | Security M | iodule 3 P | TD | 6.0.1.1213 | | | | | | | |

Configure la ficha Información del clúster FTD con estos parámetros y como se muestra en la imagen.

| Clave de clúster | Cisco |
|----------------------------|-------------|
| Nombre del grupo de | FTD_cluster |
| Interfaz de administración | Ethernet1/1 |

| Cisco Firepower Thre | eat Defense - Configuration 📧 🗵 | | | |
|------------------------------|-------------------------------------|--|--|--|
| Cluster Information Setti | ngs Interface Information Agreement | | | |
| Security Module(SM) | | | | |
| Security Module-1,Security M | Nodule-2, Security Module-3 | | | |
| Interface Information | | | | |
| Cluster Key: | •••• | | | |
| Cluster Group Name: | FTD_cluster | | | |
| Management Interface: | Ethernet1/1 | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | OK Cancel | | | |

Configure la ficha Configuración de FTD con estos parámetros y como se muestra en la imagen.

| Clave de registro | Cisco |
|-----------------------------|----------------------------|
| Contraseña | Admin123 |
| IP del centro de | 10 62 149 73 |
| administración de Firepower | 10.02.140.75 |
| Buscar dominios | cisco.com |
| Modo Firewall | Enrutado |
| Servidores DNS | 173.38.200.100 |
| Nombre de host | kana farûk 1 1 2 ajana nam |
| completamente calificado | KSec-Ipi9k-1-1-3.cisco.com |
| Interfaz de eventos | Ninguno |
| | |

| Cisco Firepower Three Cluster Information Settings | at Defense - Configu Interface Information A | greement |
|---|---|----------|
| Registration Key: | ••••• | |
| Firepower Management Center IP: | 10.62.148.73 | |
| Search domains: | cisco.com | |
| Firewall Mode: | Routed | - |
| Fully Qualified Hostname: | 173.38.200.100 ksec-fpr9k-1-1-3.cisco.com | n |
| Eventing Interface: | None | • |
| | | _ |
| | | |
| | | |
| | | |
| | | |
| | ок | Cancel |

Configure la ficha Información de interfaz FTD con estos parámetros y como se muestra en la imagen.

| Tipo de dirección Módulo de seguridad 1 | Sólo IPv4 |
|--|-----------------|
| IP de administración | 10.62.148.67 |
| Máscara de red | 255.255.255.128 |
| Gateway | 10.62.148.1 |
| Módulo de seguridad 2 | |
| IP de administración | 10.62.148.68 |
| Máscara de red | 255.255.255.128 |
| Gateway | 10.62.148.1 |
| Módulo de seguridad 3 | |
| IP de administración | 10.62.148.69 |
| Máscara de red | 255.255.255.128 |
| Gateway | 10.62.148.1 |

| Cisco Firepower Threat Defense - Configuration | | | | |
|--|---------------------------------|--|--|--|
| Cluster Information Settings | Interface Information Agreement | | | |
| Address Type: | IPv4 only | | | |
| Security Module 1 | | | | |
| Management IP: | 10.62.148.67 | | | |
| Network Mask: | 255.255.255.128 | | | |
| Gateway: | 10.62.148.1 | | | |
| Security Module 2 | | | | |
| Management IP: | 10.62.148.68 | | | |
| Network Mask: | 255.255.255.128 | | | |
| Gateway: | 10.62.148.1 | | | |
| Security Module 3 | | | | |
| Management IP: | 10.62.148.69 | | | |
| Network Mask: | 255.255.255.128 | | | |
| Gateway: | 10.62.148.1 | | | |
| | | | | |
| | | | | |
| | OK Cancel | | | |

Acepte el Acuerdo en la pestaña Acuerdo y haga clic en Aceptar como se muestra en la imagen.

| Cisco Firepower Threat Defense - Configuration Provided the set of | |
|---|---|
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| OK Cancel | ✓ I understand and accept the agreement |
| | OK Cancel |

Paso 3. Asignar interfaces de datos a FTD.

Expanda el área Puertos de datos y haga clic en cada interfaz que desee asignar a FTD. Después de finalizar, seleccione **Guardar** para crear un clúster FTD como se muestra en la imagen.

| C | verview Interfaces | Logical Device | Security Modules Pla | tform Settings | | | | System Tools | Help admin |
|----|---|-----------------------------|----------------------|-------------------|-------------|-----------------|----------|--------------|------------|
| P | rovisioning - FTD_clu lustered Cisco Firep | uster power Threat Defen | se 6.0.1.1213 | | | | | Save | Cancel |
| D | ata Ports | | | | | | | | |
| | Ethernet1/7 | | | | | | | | |
| IJ | Ethernet1/8 | | | | | | | | |
| IJ | Ethernet2/1 | | | | | | | | |
| ļ | Ethernet2/2 | _ | | | | | | | |
| ļ | Ethernet2/3 | _1 | | Port- channel5 | | | | | |
| ŀ | Ethernet2/4 | | | | | | | | |
| ŀ | Ethernet3/1 | -1 | | | | FTD - 6.0.1 | .1213 | | |
| lŀ | Ethernet3/2 | | | Port- | | Security Modu | ie 1,2,3 | | |
| l | Ethernet 3/4 | | | channel48 | | | | | |
| ľ | Port-channel48 | | | | | | | | |
| ľ | Port-channel5 | | | | | | | | |
| 2 | | | | | | | | | _ |
| | Security Module | Application | Version | Management IP | Gateway | Management Port | Status | | |
| 1 | Security Module 1 | FTD | 6.0.1.1213 | 10.62.148.67 | 10.62.148.1 | Ethernet1/1 | | | |
| | Cluster Interfaces: | Port-channel48 | | | | | | | |
| 1 | Security Module 2 | FTD | 6.0.1.1213 | 10.62.148.68 | 10.62.148.1 | Ethernet1/1 | | | |
| | Cluster Interfaces: | Port-channel48 | | | | | | | |
| | Security Module 3 | FTD | 6.0.1.1213 | 10.62.148.69 | 10.62.148.1 | Ethernet1/1 | | | |
| | Cluster Interfaces: | Port-channel48 | | | | | | | |

Espere unos minutos hasta que se implemente el clúster, después de lo cual se produce la

Verificación:

• Desde la GUI de FPR9300 como se muestra en la imagen.

| 0 | verview Interfac | es Logical Dev | ices Security Modu | es Platform Settings | | | | System Tools Help admin |
|---|---|--------------------------------------|--------------------|--|---|-------------------|--------|-------------------------|
| | | | | | | | | C Refresh Q Add Device |
| ۲ | FTD_cluster | Clustered | Status: ok | | | | | F. 🖉 3 💌 |
| | Security Module | Application | Version | Management IP | Gateway | Management Port | Status | |
| 8 | Security Module 1 | FTD | 6.0.1.1213 | 10.62.148.67 | 10.62.148.1 | Ethernet1/1 | online | (Enabled 🕒 🏞 |
| | Ports: Data Interface Cluster Interfa | s: Port-channel ces: Port-channel | 5 | Attributes: Cluster Operational S Firepower Manageme Cluster Role Management URL UUID | tatus : in-cluster nt IP : 10.62.148.67 : primary : https://10.62.148.73/ : b2a42bba-5da0-11e6-c | sf1e-efdb62/3esb1 | | |
| 8 | Security Module 2 | FTD | 6.0.1.1213 | 10.62.148.68 | 10.62.148.1 | Ethernet1/1 | Online | (Tradied 🕒 🥕 |
| | Ports: Data Interface Cluster Interfa | 5: Port-channel ces: Port-channel | 5 48 | Attributes: Cluster Operational S Firepower Manageme Cluster Role Management URL UUID | tatus : in-cluster nt IP : 10.62.148.68 : secondary : https://10.62.148.73/ : bt2c13764-5da0-1166-f | 1795-e46a60506c19 | | |
| 8 | Security Module 3 | FTD | 6.0.1.1213 | 10.62.148.69 | 10.62.148.1 | Ethernet1/1 | online | (testing 💿 🍌 |
| | Ports: Data Interface Cluster Interfa | s: Port-channel ces: Port-channel | 5 18 | Attributes: Cluster Operational S Frepower Manageme Cluster Role Management URL UUID | Latus : in-cluster nt IP : 10.62.148.69 : secondary : https://10.62.148.73/ : beb5ca08-5da0-11e6-t | 98d6-d505461fd340 | | |

• Desde la CLI FPR9300

| FPR9K-1-A# FPR9K-1-A# scope ssa FPR9K-1-A /ssa # show app-instance | | | | | | |
|--|---------|-------------|-------------------|-----------------|------------|--|
| Application Name | Slot ID | Admin State | Operational State | Running Version | Startup | |
| Version Cluster Oper | State | | | | | |
| | | | | | | |
| ftd | 1 | Enabled | Online | 6.0.1.1213 | 6.0.1.1213 | |
| In Cluster | | | | | | |
| ftd | 2 | Enabled | Online | 6.0.1.1213 | 6.0.1.1213 | |
| In Cluster | | | | | | |
| ftd | 3 | Enabled | Online | 6.0.1.1213 | 6.0.1.1213 | |
| In Cluster | | | | | | |

• Desde la CLI de LINA (ASA)

firepower# show cluster info

Cluster FTD_cluster: On Interface mode: spanned This is "unit-1-1" in state MASTER ID : 0 Version : 9.6(1)Serial No.: FLM19216KK6 CCL IP : 127.2.1.1 CCL MAC : 0015.c500.016f Last join : 21:51:03 CEST Aug 8 2016 Last leave: N/A Other members in the cluster: Unit "unit-1-3" in state SLAVE ID : 1 Version : 9.6(1) Serial No.: FLM19206H7T CCL IP : 127.2.1.3 CCL MAC : 0015.c500.018f Last join : 21:51:05 CEST Aug 8 2016

Last leave: N/A Unit "unit-1-2" in state SLAVE ID : 2 Version : 9.6(1) Serial No.: FLM19206H71 : 127.2.1.2 CCL IP CCL MAC : 0015.c500.019f Last join : 21:51:30 CEST Aug 8 2016 Last leave: N/A firepower# cluster exec show cluster interface-mode cluster interface-mode spanned cluster interface-mode spanned cluster interface-mode spanned firepower# firepower# cluster exec show cluster history _____ To State From State Reason _____ 21:49:25 CEST Aug 8 2016 DISABLED DISABLED Disabled at startup 21:50:18 CEST Aug 8 2016 Enabled from CLI DISABLED ELECTION 21:51:03 CEST Aug 8 2016 ELECTION MASTER_POST_CONFIG Enabled from CLI 21:51:03 CEST Aug 8 2016 MASTER_POST_CONFIG MASTER Master post config done and waiting for ntfy _____ _____ To State From State Reason _____ 21:49:44 CEST Aug 8 2016 DISABLED DISABLED Disabled at startup 21:50:37 CEST Aug 8 2016 DISABLED ELECTION Enabled from CLI 21:50:37 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:50:41 CEST Aug 8 2016 Received cluster control message ONCALL ELECTION 21:50:41 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:50:46 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message

21:50:46 CEST Aug 8 2016 ELECTION Received cluster control message ONCALL 21:50:51 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:50:51 CEST Aug 8 2016 ELECTION Received cluster control message ONCALL 21:50:56 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:50:56 CEST Aug 8 2016 ELECTION Received cluster control message ONCALL 21:51:01 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:51:01 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:51:04 CEST Aug 8 2016 ONCALL SLAVE_COLD Received cluster control message 21:51:04 CEST Aug 8 2016 SLAVE_COLD SLAVE_APP_SYNC Client progression done 21:51:05 CEST Aug 8 2016 SLAVE CONFIG Slave application configuration sync done SLAVE_APP_SYNC 21:51:17 CEST Aug 8 2016 SLAVE_CONFIG SLAVE_BULK_SYNC Configuration replication finished 21:51:29 CEST Aug 8 2016 SLAVE_BULK_SYNC SLAVE Configuration replication finished _____ _____ To State Reason From State 21:49:24 CEST Aug 8 2016 DISABLED DISABLED Disabled at startup 21:50:16 CEST Aug 8 2016 DISABLED ELECTION Enabled from CLI 21:50:17 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:50:21 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:50:21 CEST Aug 8 2016 ELECTION Received cluster control message ONCALL 21:50:26 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:50:26 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message

21:50:31 CEST Aug 8 2016 Received cluster control message ONCALL ELECTION 21:50:31 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:50:36 CEST Aug 8 2016 Received cluster control message ONCALL ELECTION 21:50:36 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:50:41 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:50:41 CEST Aug 8 2016 ELECTION Received cluster control message ONCALL 21:50:46 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:50:46 CEST Aug 8 2016 ELECTION Received cluster control message ONCALL 21:50:51 CEST Aug 8 2016 ONCALL Received cluster control message ELECTION 21:50:51 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:50:56 CEST Aug 8 2016 ONCALL Received cluster control message ELECTION 21:50:56 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:51:01 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:51:01 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:51:06 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:51:06 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:51:12 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message 21:51:12 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:51:17 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:51:17 CEST Aug 8 2016 ELECTION ONCALL Received cluster control message 21:51:22 CEST Aug 8 2016 ONCALL ELECTION Received cluster control message

21:51:22 CEST Aug 8 2016

```
ELECTION
                 ONCALL
                                   Received cluster control message
21:51:27 CEST Aug 8 2016
                ELECTION
                                  Received cluster control message
ONCALL
21:51:27 CEST Aug 8 2016
                           Received cluster control message
ELECTION
                ONCALL
21:51:30 CEST Aug 8 2016
ONCALL
                SLAVE_COLD Received cluster control message
21:51:30 CEST Aug 8 2016
                SLAVE_APP_SYNC
SLAVE_COLD
                                  Client progression done
21:51:31 CEST Aug 8 2016
SLAVE_APP_SYNC SLAVE_CONFIG Slave application configuration sync done
21:51:43 CEST Aug 8 2016
SLAVE_CONFIG
                SLAVE_BULK_SYNC Configuration replication finished
21:51:55 CEST Aug 8 2016
SLAVE_BULK_SYNC SLAVE
                                     Configuration replication finished
```

firepower#

Tarea 3. Registrar clúster de FTD en FMC

Requisito de tarea:

Agregue los dispositivos lógicos al FMC y, a continuación, agruparlos en un clúster.

Solución:

Paso 1. Agregue dispositivos lógicos al FMC. A partir de la versión 6.3 de FMC, sólo debe registrar un dispositivo FTD (recomendado para ser el maestro). El FMC detecta automáticamente el resto de los FTD.

Inicie sesión en el FMC y navegue hasta la pestaña **Devices > Device Management** y haga clic en **Add Device**.

Agregue el primer dispositivo lógico con la configuración mencionada en la imagen.

Haga clic en Registrarse para iniciar el registro.

| Add Device | | ? X | | |
|---|----------------|-----|--|--|
| Host: | 10.62.148.67 | | | |
| Display Name: | FTD1 | | | |
| Registration Key: | cisco | | | |
| Group: | None | ~ | | |
| Access Control Policy: | FTD9300 | ~ | | |
| Smart Licensing Malware: | | | | |
| Threat: | | | | |
| URL Filtering: | | | | |
| Advanced On version 5.4 devices or earlier, the licensing options will need to be specified from licensing page. | | | | |
| | Register Cance | el | | |

La verificación es como se muestra en la imagen.

| Cisco Firepower 9000 Series SM-36 Threat Defense Cluster | | | / 8 |
|--|---|---------|-----|
| FTD1(primary) 10.62.148.67 - Cisco Firepower 9000 Series SM-36 Threat Defense - v6.0.1 - routed | Cisco Firepower 9000 Series SM-36 Thre Base, Threat, Malware, URL Filtering | FTD9300 | |
| PTD2 10.62.148.68 - Cisco Firepower 9000 Series SM-36 Threat Defense - v6.0.1 - routed | Cisco Firepower 9000 Series SM-36 Thre Base, Threat, Malware, URL Filtering | FTD9300 | ÷. |
| FTD3 10.62.148.69 - Cisco Firepower 9000 Series SM-36 Threat Defense - v6.0.1 - routed | Cisco Firepower 9000 Series SM-36 Thre Base, Threat, Malware, URL Filtering | FTD9300 | 8 |

Tarea 4. Configuración de las subinterfaces de canal de puerto en FMC

Requisito de tarea:

Configure las subinterfaces para la interfaz de datos de canal de puerto.

Solución:

Paso 1. Desde la GUI de FMC, seleccione el botón FTD_cluster Edit.

Navegue hasta la pestaña Interfaces y haga clic en la **Subinterfaz Add Interfaces >** como se muestra en la imagen.

| Overview Analysis Policies Devi | ces Objects AMP | | | Deploy 🧕 | System Help 🛪 olga 🛪 |
|--|------------------------|--------------------|------------------------------|------------|----------------------|
| Device Management NAT VPN | Platform Settings | | | | |
| FTD_cluster | | | | | Seve Cancel |
| Cisco Firepower 9000 Series SM-36 Threat Defer | se | | | | |
| Cluster Devices Routing NA | Toterfaces Inline Sets | DHCP | | | |
| 2 | | | | | Add Interfaces • |
| Interface | Logical Name | Type Security Zone | Mar Address/Artius/Standbul | TD Address | O Sub Interface |
| Thermole Part-channels | Logical Hame | EtherChannel | Hac Autress(Active) Stanuby) | ar Mooress | |
| III Part-channeld | | EtherChannel | | | |
| W Port-channelite | | enerchannel | | | |
| Ethernet1/1 | diagnostic | Physical | | | |

Configure la primera subinterfaz con estos detalles. Seleccione **Aceptar** para aplicar los cambios y como se muestra en las imágenes.

| Nombre | Dentro |
|-------------------|----------------------|
| Ficha General | |
| Interfaz | Port-channel5 |
| ID de subinterfaz | 201 |
| ID DE VLAN | 201 |
| ficha IPv4 | |
| Tipo de IP | Utilizar IP estática |
| IP Address | 192.168.75.10/24 |

| Add Sub Interface | | | ? × |
|---------------------|---------------|------------------|-----------|
| Name: Inside | Enabled | Management Only | |
| Security Zone: | ~ | - | |
| Description: | | | |
| General IPv4 IPv6 | Advanced | | |
| MTU: | 1500 | (64 - 9000) | |
| Interface *: | Port-channel5 | 🗹 Enabled | |
| Sub-Interface ID *: | 201 | (1 - 4294967295) | |
| VLAN ID: | 201 | (1 - 4094) | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | OK Cancel |

| Add Sub Interface | ? × | 2 |
|-------------------|---|---|
| Name: Inside | C Enabled Management Only | |
| Security Zone: | ~ | |
| Description: | | |
| General IPv4 IPv6 | Advanced | |
| IP Type: | Use Static IP | |
| IP Address: | eg. 1.1.1.1/255.255.255.228 or 1.1.1.1/25 | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | OK Cancel | |

Configure la segunda subinterfaz con estos detalles.

| Nombre | Fuera |
|-------------------|----------------------|
| Ficha General | |
| Interfaz | Port-channel5 |
| ID de subinterfaz | 210 |
| ID DE VLAN | 210 |
| ficha IPv4 | |
| Tipo de IP | Utilizar IP estática |
| IP Address | 192.168.76.10/24 |

Haga clic en **Aceptar** para crear la subinterfaz. Haga clic en **Guardar** y, a continuación, **Implementar** cambios en FTD_cluster como se muestra en la imagen.

Verificación:

| Overview Analysis Policies Devices Objects AMP | | Deploy 🧕 System Help 🔹 olga 🔹 |
|--|--|-------------------------------|
| Device Management NAT VPN Platform Settings | | |
| FTD_cluster | | Save Save |
| Cisco Firepower 9000 Series SM-36 Threat Defense | | |
| Cluster Devices Routing NAT Interfaces Inline Sets | DHCP | |
| 2 | | Add Interfaces • |
| Interface Logical Name | Type Security Zone Mac Address(Active/Standby) | IP Address |
| Port-channel5 | EtherChannel | 1 |
| Port-channel48 | EtherChannel | ٩, |
| Ethernet1/1 diagnostic | Physical | 1 |
| Port-channel5.201 Inside | SubInterface | 192.168.75.10/24(Static) |
| Port-channel5.210 Outside | SubInterface | 192.168.76.10/24(Static) |

Tarea 5. Verificar conectividad básica

Requisito de tarea:

Cree una captura y verifique la conectividad entre dos VM.

Solución:

Paso 1. Cree capturas en todas las unidades de clúster.

Navegue hasta la CLI de LINA (ASA) de la unidad principal y cree capturas para las interfaces interna y externa.

firepower# firepower# cluster exec capture capi interface inside match icmp any any firepower# firepower# cluster exec capture capo interface outside match icmp any any firepower# Verificación: firepower# cluster exec show capture capture capi type raw-data interface Inside [Capturing - 0 bytes] match icmp any any capture capo type raw-data interface Outside [Capturing - 0 bytes] match icmp any any

match icmp any any capture capo type raw-data interface Outside [Capturing - 0 bytes] match icmp any any

Paso 2. Realice la prueba de ping de VM1 a VM2.

Realice la prueba con 4 paquetes. Verifique el resultado de la captura después de la prueba:

firepower# cluster exec show capture capture capi type raw-data interface Inside [Capturing - 0 bytes] match icmp any any capture capo type raw-data interface Outside [Capturing - 0 bytes] match icmp any any capture capi type raw-data interface Inside [Capturing - 752 bytes] match icmp any any capture capo type raw-data interface Outside [Capturing - 752 bytes] match icmp any any capture capi type raw-data interface Inside [Capturing - 0 bytes] match icmp any any capture capo type raw-data interface Outside [Capturing - 0 bytes] match icmp any any

firepower#

Ejecute el comando para verificar la salida de captura en la unidad específica:

firepower# cluster exec unit unit-1-3 show capture capi

8 packets captured

| 1: | 12:58:36.162253 | 802.1Q | vlan#201 | Р0 | 192.168.75.100 | > | 192.168.76. | 100: | icmp: | echo | |
|--------|-----------------|--------|----------|----|----------------|---|-------------|------|-------|------|-------|
| reques | st | | | | | | | | | | |
| 2: | 12:58:36.162955 | 802.1Q | vlan#201 | PO | 192.168.76.100 | > | 192.168.75. | 100: | icmp: | echo | reply |
| 3: | 12:58:37.173834 | 802.1Q | vlan#201 | PO | 192.168.75.100 | > | 192.168.76. | 100: | icmp: | echo | |
| reques | st | | | | | | | | | | |
| 4: | 12:58:37.174368 | 802.1Q | vlan#201 | P0 | 192.168.76.100 | > | 192.168.75. | 100: | icmp: | echo | reply |
| 5: | 12:58:38.187642 | 802.1Q | vlan#201 | PO | 192.168.75.100 | > | 192.168.76. | 100: | icmp: | echo | |
| reques | st | | | | | | | | | | |
| 6: | 12:58:38.188115 | 802.1Q | vlan#201 | P0 | 192.168.76.100 | > | 192.168.75. | 100: | icmp: | echo | reply |
| 7: | 12:58:39.201832 | 802.1Q | vlan#201 | PO | 192.168.75.100 | > | 192.168.76. | 100: | icmp: | echo | |
| reques | st | | | | | | | | | | |
| 8: | 12:58:39.202321 | 802.1Q | vlan#201 | P0 | 192.168.76.100 | > | 192.168.75. | 100: | icmp: | echo | reply |
| 8 pacl | kets shown | | | | | | | | | | |

firepower# cluster exec unit unit-1-3 show capture capo

8 packets captured

| 1: | 12:58:36.162543 | 802.1Q | vlan#210 | Р0 | 192.168.75.100 |) > | 192.168.76.100: | icmp: | echo | |
|--------|--|--------|----------|----|----------------|-----|-----------------|-------|------|-------|
| reques | st | | | | | | | | | |
| 2: | 12:58:36.162894 | 802.1Q | vlan#210 | PO | 192.168.76.100 |) > | 192.168.75.100: | icmp: | echo | reply |
| 3: | 12:58:37.174002 | 802.1Q | vlan#210 | PO | 192.168.75.100 |) > | 192.168.76.100: | icmp: | echo | |
| reques | st | | | | | | | | | |
| 4: | 12:58:37.174307 | 802.1Q | vlan#210 | PO | 192.168.76.100 |) > | 192.168.75.100: | icmp: | echo | reply |
| 5: | 12:58:38.187764 | 802.1Q | vlan#210 | PO | 192.168.75.100 |) > | 192.168.76.100: | icmp: | echo | |
| reques | st | | | | | | | | | |
| 6: | 12:58:38.188085 | 802.1Q | vlan#210 | PO | 192.168.76.100 |) > | 192.168.75.100: | icmp: | echo | reply |
| 7: | 12:58:39.201954 | 802.1Q | vlan#210 | PO | 192.168.75.100 |) > | 192.168.76.100: | icmp: | echo | |
| reques | st | | | | | | | | | |
| 8: | 12:58:39.202290 | 802.1Q | vlan#210 | PO | 192.168.76.100 |) > | 192.168.75.100: | icmp: | echo | reply |
| 8 pacl | kets shown | | | | | | | | | |
| firepo | irepower# | | | | | | | | | |
| Desp | espués de finalizar esta tarea, elimine las capturas con el siguiente comando: | | | | | | | | | |

firepower# cluster exec no capture capi firepower# cluster exec no capture capo Paso 3. Descargue un archivo de VM2 a VM1. VM1 se preconfiguró como servidor FTP, VM2 como cliente FTP. Cree nuevas capturas con lo siguiente: firepower# cluster exec capture capi interface inside match ip host 192.168.75.100 host 192.168.76.100

Descargue el archivo de VM2 a VM1, con el uso del cliente FTP.

Verifique el resultado show conn:

TCP Outside 192.168.76.100:49175 Inside 192.168.75.100:21, idle 0:00:32, bytes 665, flags UIOEN UDP cluster 255.255.255.255.255:49495 NP Identity Ifc 127.2.1.1:49495, idle 0:00:00, bytes 17858058, flags -TCP cluster 127.2.1.3:10844 NP Identity Ifc 127.2.1.1:38296, idle 0:00:33, bytes 5496, flags UI

TCP cluster 127.2.1.3:59588 NP Identity Ifc 127.2.1.1:10850, idle 0:00:33, bytes 132, flags UO

TCP Outside 192.168.76.100:49175 Inside 192.168.75.100:21, idle 0:00:34, bytes 0, flags y
TCP cluster 127.2.1.1:10851 NP Identity Ifc 127.2.1.3:48493, idle 0:00:52, bytes 224, flags UI
.......
TCP cluster 127.2.1.1:64070 NP Identity Ifc 127.2.1.3:10847, idle 0:00:11, bytes 806, flags U0

TCP cluster 127.2.1.1:10851 NP Identity Ifc 127.2.1.2:64136, idle 0:00:53, bytes 224, flags UI

Mostrar salida de captura:

Captura de clúster desde la interfaz de usuario del administrador de chasis

En la siguiente imagen puede ver un clúster de 3 unidades en FPR9300 con 2 canales de puerto (8 y 48). Los dispositivos lógicos son ASA, pero en el caso de FTD será el mismo concepto.Lo importante para recordar es que aunque hay **3 unidades de clúster**, desde el punto de vista de la captura sólo hay **un dispositivo lógico**:

| Ov | erview | Interfaces | Logical Devices | Security Mo | dules Platform Sett | ings | | Sys | tem Tools Help admin |
|-----|-------------------|--|---------------------------------|-------------|--|--|-----------------|----------|----------------------|
| Log | ical Devi | ice List | | | | | | d | Refresh 🕜 Add Device |
| | ASA | C | lustered | Status:ok | | | | | F. 2 E • |
| | Securit | y Module | Application | Version | Management IP | Gateway | Management Port | Status | |
| - | Security | / Module 1 | ASA | 9.6.2.7 | 0.0.0.0 | 0.0.0.0 | Ethernet1/1 | 🕜 online | 🕶 💱 |
| | Port Da Clu | s: ta Interfaces: ister Interfaces: | Port-channel8 Port-channel48 | , | Attributes: Cluster Operational Statu Management IP VIRTUAL Cluster Role Management URL Management IP | s: in-cluster : 10.111.8.206 : master : https://10.111.8.206/ : 10.111.8.193 | | | |
| • | Security | / Module 2 | ASA | 9.6.2.7 | 0.0.0.0 | 0.0.0.0 | Ethernet1/1 | 衝 online | 💌 🎉 🌧 |
| | Port Da Clu | s: ta Interfaces: ıster Interfaces: | Port-channel8 Port-channel48 | , | Attributes: Cluster Operational Statu Management IP VIRTUAL Cluster Role Management URL Management IP | s: in-cluster : 10.111.8.206 : slave : https://10.111.8.206/ : 10.111.8.189 | | | |
| Ξ | Security | Module 3 | ASA | 9.6.2.7 | 0.0.0.0 | 0.0.0.0 | Ethernet1/1 | 🕜 online | 🕶 🎉 🥕 |
| | Port Da Clu | s: ta Interfaces: ister Interfaces: | Port-channel8 Port-channel48 | , | Attributes: Cluster Operational Statu Management IP VIRTUAL Cluster Role Management URL Management IP | s: in-cluster : 10.111.8.206 : slave : https://10.111.8.206/ : 10.111.8.190 | | | |

| Overview Interf | ces Logical Devices | Security Modules | Platform Settings | | System Tools Help ad | min |
|--|---------------------|---------------------------------------|-------------------|--|-----------------------------|-------|
| | | | | | Packet Capt | ure |
| | | | Save and Run | Save | Cancel | |
| ASA Ethernet1/1 Ethernet1/8 (Portchannel48) Ethernet1/6 (Portchannel48) Ethernet1/6 (Portchannel48) Ethernet1/4 (Portchannel48) Ethernet1/3 (Portchannel48) Ethernet1/2 (Portchannel48) Ethernet1/2 (Portchannel48) | | Ethernet1/9, Eth Ethernet1/12, Eth | Save and Run | Save Session Name* Selected Interfaces Buffer Size Snap length: Store Packets Capture Filter | Cancel | Bytes |
| Ethernet2/1 (Portchannel8) | | | | | | |

Tarea 6. Eliminar un dispositivo esclavo del clúster

Requisito de tarea:

Inicie sesión en el FMC y elimine la unidad Slave del clúster.

Solución:

Paso 1. Inicie sesión en el FMC y navegue hasta Device > Device Management.

Haga clic en el icono de la papelera junto a la unidad Esclavo como se muestra en la imagen.

| Cisco Firepower 9000 Series SM-36 Threat Defense Cluster | | | J 6 |
|--|---|---------|-----|
| FTD1(primary) 10.62.148.67 - Cisco Firepower 9000 Series SM-36 Threat Defense - v6.0.1 - routed | Cisco Firepower 9000 Series SM-36 Thre Base, Threat, Malware, URL Filtering | FTD9300 | ~ |
| FTD2 10.62.148.68 - Cisco Firepower 9000 Series SM-36 Threat Defense - v6.0.1 - routed | Cisco Firepower 9000 Series SM-36 Thre Base, Threat, Malware, URL Filtering | FTD9300 | 6 |
| FTD3 10.62.148.69 - Cisco Firepower 9000 Series SM-36 Threat Defense - v6.0.1 - routed | Cisco Firepower 9000 Series SM-36 Thre Base, Threat, Malware, URL Filtering | FTD9300 | 8 |

Aparecerá la ventana de confirmación. Seleccione **Yes** para confirmar como se muestra en la imagen.



Verificación:

• Desde el FMC como se muestra en la imagen.

| - 6 | EFD_cluster Cisco Firepower 9000 Series SM-36 Threat Defense Cluster | / 6 | 9 |
|-----|--|---|---|
| | FTD1(primary) 10.62.148.67 - Cisco Firepower 9000 Series SM-36 Threat Defense - v6.0.1 - routed Cisco Firepower | 2000 Series SM-36 Thre Base, Threat, Malware, URL Filtering FTD9300 | |
| | FTD3 10.62.148.69 - Cisco Firepower 9000 Series SM-36 Threat Defense - v6.0.1 - routed Cisco Firepower | 2000 Series SM-36 Thre Base, Threat, Malware, URL Filtering FTD9300 | |

• Desde la CLI de FXOS.

| FPR9K-1-A# scope s | sa | | | | | | | | |
|---|----------|-------------|-------------------|----------------|------------|--|--|--|--|
| 'PR9K-1-A /ssa # show app-instance | | | | | | | | | |
| Application Name | Slot ID | Admin State | Operational State | Running Versic | on Startup | | | | |
| Version Cluster Op | er State | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| ftd | 1 | Enabled | Online | 6.0.1.1213 | 6.0.1.1213 | | | | |
| In Cluster | | | | | | | | | |
| ftd | 2 | Enabled | Online | 6.0.1.1213 | 6.0.1.1213 | | | | |
| In Cluster | | | | | | | | | |
| ftd | 3 | Enabled | Online | 6.0.1.1213 | 6.0.1.1213 | | | | |
| In Cluster | | | | | | | | | |

• Desde la CLI de LINA (ASA).

firepower# show cluster info

```
Cluster FTD_cluster: On
   Interface mode: spanned
   This is "unit-1-1" in state MASTER
       ID
                : 0
       Version : 9.6(1)
       Serial No.: FLM19216KK6
       CCL IP : 127.2.1.1
       CCL MAC : 0015.c500.016f
       Last join : 21:51:03 CEST Aug 8 2016
       Last leave: N/A
Other members in the cluster:
   Unit "unit-1-3" in state SLAVE
       ID
                : 1
       Version : 9.6(1)
       Serial No.: FLM19206H7T
       CCL IP
                : 127.2.1.3
       CCL MAC : 0015.c500.018f
       Last join : 21:51:05 CEST Aug 8 2016
       Last leave: N/A
   Unit "unit-1-2" in state SLAVE
                : 2
       ΤD
       Version : 9.6(1)
       Serial No.: FLM19206H71
       CCL IP : 127.2.1.2
       CCL MAC : 0015.c500.019f
```

```
Last join : 21:51:30 CEST Aug 8 2016
Last leave: N/A
firepower#
```

Nota: El dispositivo no estaba registrado en el FMC pero sigue siendo un miembro de clúster en el FPR9300.

Verificación

Utilize esta sección para confirmar que su configuración funcione correctamente.

La verificación se completa y abarca en tareas individuales.

Troubleshoot

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

Información Relacionada

 Todas las versiones de la guía de configuración de Cisco Firepower Management Center se pueden encontrar aquí:

https://www.cisco.com/c/en/us/td/docs/security/firepower/roadmap/firepower-roadmap.html#id_47280.

• Todas las versiones de las guías de configuración de la CLI y el administrador de chasis FXOS se pueden encontrar aquí:

https://www.cisco.com/c/en/us/td/docs/security/firepower/fxos/roadmap/fxos-roadmap.html#pgfld-121950.

 Cisco Global Technical Assistance Center (TAC) recomienda encarecidamente esta guía visual para obtener información detallada sobre las tecnologías de seguridad de última generación Cisco Firepower, incluidas las mencionadas en este artículo:

http://www.ciscopress.com/title/9781587144806.

 Para todas las notas técnicas de configuración y resolución de problemas que pertenecen a tecnologías Firepower.

https://www.cisco.com/c/en/us/support/security/defense-center/tsd-products-support-serieshome.html.

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