在Intersight管理模式域中配置直连存储。

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简介

本文档介绍针对Intersight管理模式(IMM)域的直接连接存储(DAS)的配置。

先决条件

要求

Cisco 建议您了解以下主题:

- UCS和IMM知识
- 存储区域网络(SAN)
- 光纤通道概念

使用的组件

本文档中的信息基于以下软件和硬件版本:

- UCS-FI-6454,固件4.2(1I)
- UCSX-210C-M6,固件4.2(1I)

✤ 注:Intersight管理模式支持的最低固件版本为4.1(3)。

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

在尝试此配置之前,请确保满足以下要求:

- 虚拟存储区域网络(VSAN)ID
- 以太网光纤通道(FCOE)VLAN ID
- 发起方和目标方的全球端口名称(WWPN)
- 逻辑单元号(LUN)ID

服务器和域配置文件配置,所需的策略和池包括:

- VSAN策略
- 端口策略
- 引导顺序策略
- SAN连接策略
- WWPN池
- 光纤通道区域策略

直接连接存储(DAS)

IMM管理的服务器能够像UCSM一样构建区域数据库。使用DAS时,无需使用光纤交换机来推动分 区。本示例使用以下拓扑:



拓扑

配置

1. UCS域配置文件

步骤1:配置VSAN策略。

• 导航到Policies > Create Policy并选择VSAN。

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|----------|---|---|---------|----------|-----|------|---------------|-----|-----|
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| ء, | Servers Chassis Chassis Fabric Interconnects HyperFlex Clusters Integrated Systems Configure Profiles Policies Policies | Filters Platform Type All UCS Server UCS Chassis HyperFlex Cluster Kubernetes Cluster | Q, VSAN | | | | | | |
| | | | Cancel | | | | | Sta | irt |

选择UCS域配置文件,然后选择VSAN

- •为策略命名并向其添加所需的VSAN。本示例使用VSAN-A 100和FCOE VLAN 1000。
- 选择Storage for VSAN Scope。

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| | Servers Chassis | | General | Policy Details | _ | | | | |
| | Fabric Interconnects HyperFlex Clusters Integrated Systems | | Policy Details | Add VSAN Name * DAS-100 | ٥ | | | | |
| ,e | Configure Profiles Templates | ^ | | VSAN Scope © Storage & Uplink © • St VSAN ID * | orage O Uplink O | 0 items found | 10 ∽ per page ເເັ | 0 of 0 > 의 AN ID | 0 |
| | Policies | | | FCoE VLAN ID * 1000 | 1 - 4093 C • | VAILABLE | | | |
| | | | | | Cancel Add | | | | |
| | | | | | | | | | |
| | | | | < Cancel | | | | Back | Create |

DAS配置需要存储VSAN。



第1.2步配置端口策略。

• 导航到Policies > Create Policy, 然后选择Port。

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|---|---|--|---------------|----------|-------------------|---------------|------------|
| | clinic Overview Operate Servers Chassis Fabric Interconnects HyperFlex Clusters Integrated Systems Configure Profiles Templates | Infrastructure Service Policies Create Filters Platform Type All UCS Server UCS Chassis HyperFlex Cluster Kubernetes Cluster | Q. Port Port | Q Search | | | <u>୭</u> ନ |
| | Pools | | Cancel | | | | Start |

创建端口策略

- - 在端口角色中,选择FC存储所需的端口,然后单击配置。



端口角色

🔎 提示:如果需要,请在此步骤中将其他接口配置为服务器端口或以太网上行链路端口。

• 选择Role as FC Storage、Admin speed和desirable VSAN。

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| (¢) (¢) | Overview Operate | Policies > Port > DAS-Port-IMM64 | 54 | | | | | | |
| | Servers Chassis | | Configure (2 Ports) | | | | | | |
| | Fabric Interconnects | | Configuration | | | | | | |
| | HyperFlex Clusters | | Selected Ports Port 1, Port 2 | | | | | | |
| | Integrated Systems | | Role FC Storage | ~ | | | | | |
| ۰, | Configure ^ | | ·g- | | | | | | |
| | Profiles | | Admin Speed | VSAN ID * | 0 | | | | |
| | Templates | | 100000 | | 1 - 4093 | | | | |
| | Policies | | | | | | | | |
| | Pools | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| | | Cancel | | | | | | | Save |

第1.3步配置交换机控制策略

在UCS域中,FC交换模式可以是终端主机或交换机。交换模式允许交换矩阵互联直接连接到存储设备。光纤通道交换机模式在没有SAN的型号中非常有用(例如,直接连接到存储的单个Cisco UCS系统)。交换机控制策略为IMM域配置FC交换模式。

• 导航到Policies > Create Policy, 然后选择Switch Control。

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| () () | Overview Operate | ^ | ← Policies Create | | | | | | | |
| | Servers Chassis Fabric Interconnects HyperFlex Clusters | | Platform Type | Q Switch | | | | | | |
| ۵, | Integrated Systems Configure Profiles Templates Policies | ^ | UCS Server UCS Domain UCS Chassis HyperFlex Cluster Kubernetes Cluster | | | | | | | |
| | Pools | | | | | | | | | |
| | | | | Cancel | | | | | Star | rt |

交换机控制策略

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| (e) (0) | Overview Operate | ^ | Policies > Switch Control | | | | | | | |
| ,c | Servers Chassis Fabric Interconnects HyperFlex Clusters Integrated Systems Configure Profiles Templates Policies | ^ | General Policy Details | I | General Add a name, description and tag for the policy. Organization * default | | | | | |
| | Pools | | | K | Cancel | | | | Nez | xt |

交换机控制策略名称

•选择FC交换模式,然后点击创建。

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|------------|--|----------------------------------|--|------------------------------------|--------------------|---------------|--------|
| (Ø) (Ø) | Overview Operate | Policies > Switch Control Create | | | | | |
| | Servers Chassis Fabric Interconnects | General Policy Details | Policy Details Add policy details • This policy is applicable only for UCS D | pmains | | | |
| | HyperFlex Clusters | | Switching Mode | FC © | | | |
| | Profiles Templates | | End Host Switch VLAN Port Count Enable VLAN Port Count Optimization | End Host Switch | | | |
| | Policies | | MAC Address Table Aging Time Default Custom This patient sets the default MAC addres | Never | the End Hert mode | | |
| | | | Link Control Global Settings | ss aging time to 14500 seconds for | the End Host mode. | | |
| | | < | 2 - 0 Cancel | | | Back | Create |

FC交换模式

第1.4步编辑或创建域配置文件

• 现在可以将策略添加到域配置文件中。转至Profiles选项卡> UCS Domain Profiles > Edit

Domain profile(如果配置文件已存在)或Create域配置文件,然后Add the required policies to your Domain Profile。

2.服务器配置文件

第2.1步创建服务器配置文件。

- 导航到Policies选项卡> Create UCS Server Profile。
- 输入Name并选择Target Platform。

第2.2步创建San连接策略

- 将现有San连接策略附加到配置文件或创建一个新策略
- 输入策略的名称。
- •选择WWNN pool并添加所需的VHBA。

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|-----|--|---------|---|---|------|---------------------------|--------------------------------|-------------------------------|-------------|--|-----------|---|
| :0: | Overview | | Policies > SAN Connectivity > DAS-SAN-Co | nn | | | | | | | | |
| © | Operate Servers Chassis Fabric Interconnects HyperFlex Clusters Urtualization Integrated Systems Analyze Explorer Configure Profiles | A New A | General Policy Details | Policy Details Add policy details Manual vHBAs Placement WWNN Pool Static WWNN Pool * © Selected Pool WWNN_POOL × 1 | Auto | VHBAs Placement | n more at Help Center | | | | | |
| | Templates Policies Pools | | | Add vHBA Add vHBA Name VHBA0 VHBA1 Auto | ÷ | Switch ID F A C B 1 | C Export 2 item PCI Order : | is found 50 Pin Group - | 0 v per pag | Graphic vHBJ e E E 1 of 1 2 WWPN Pool UCSX-A-WWPN UCSX_WWPN_B E E 1 c | As Editor | |
| | | | < | Cancel | | | | | В | ack Save Save | & Deplo | У |

San连接策略

第2.3步配置VHBA设置

• 使用所需的配置(例如Name、WWPN)和其他适配器策略编辑VHBA。

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| :¢: | Overview | | Policies > SAN Connectivity > DAS-SAN-Conn Edit | | | | | | | |
| 0 | Operate Servers | ^ | Edit vHBA | | | | | | | |
| | Chassis | | | General | | | | | | |
| | Fabric Interconnects | | | Name * VHBA0 | vHBA Type fc-initiator | ~ 0 | | | | |
| | HyperFlex Clusters | | | | | | | | | |
| | Virtualization | | | | | | | | | |
| | Integrated Systems | | | Pin Group Name 🗸 💿 | | | | | | |
| 0 | Analyze | ^ | | WWPN | | | | | | |
| | Explorer New | u v | | | | | | | | |
| .0 | Configure | ^ | | Pool Static | | | | | | |
| | Profiles | | | WWPN Pool * O | | | | | | |
| | Templates | | | Selected Pool UCSX-A-WWPN × @ 0 | | | | | | |
| | Policies | | | Placement | | | | | | |
| | Pools | | | | | | | | | |
| | | | | Simple Advanced | | | | | | |
| | | | | When Simple Placement is selected, the Slot ID an vHBAs are deployed on the first VIC. The Slot ID di MLOM, and thereafter it keeps incrementing by 1, : | d PCI Link are automatically determined by the syste etermines the first VIC. Slot ID numbering begins with starting from 1. | m., | | | | |

```
VHBA设置
```

• 继续选择VHBA的策略,然后单击FC Zone select Policy(s), Create a new或Select Existing FC Zone policy from the list

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| .¢. | Overview | | Policies > SAN Connectivity > DAS-SAN-Conn Edit | | | | | | |
| 0 | Operate | ^ | | MLOM, and thereafter it keeps incrementing by 1, starting from | n 1. | | | | |
| | Servers | | | | | | | | |
| | Chassis | | | A vo | | | | | |
| | Fabric Interconnects | | | | | | | | |
| | HyperFlex Clusters | | | PCI Order | | | | | |
| | Virtualization | | | | | | | | |
| | Integrated Systems | | | Persistent LUN Bindings | | | | | |
| O, | Analyze | ^ | | Persistent LUN Bindinas | | | | | |
| | Explorer | New | | | | | | | |
| .0 | Configure | ^ | | Fibre Channel Network * © Selected Policy MX_SAN_A × © | | | | | |
| | Profiles | | | | | | | | |
| | Templates | | | Fibre Channel QoS * 0 Selected Policy FC_QOS X @ / | | | | | |
| | Policies | | | | | | | | |
| | Pools | | | Fibre Channel Adapter * O | | | | | |
| | | | | Selected Policy FC-ADAPTER × @ | | | | | |
| | | | | FC Zone © | | | | | |
| | | | | Select Policy(s) 🗇 | | | | | |
| | | | | | | | | | _ |
| | | | Cancel | | | | | | Update |

选择FC区域策略

第2.4步创建FC区域策略

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| :0: | Overview | | Policies > SAN Connectivity > DAS-SAN-Co | onn > Edit | | | | | | |
| 0 | Operate Servers Chassis Fabric Interconnects HyperFlex Clusters Virtualization Integrated Systems Analyze | ~ | Ceneral Policy Details | Ceneral Add a name, description and tag for the policy. Organization * default v Name * PCZone-A Set Tags | | | | | | |
| • | Configure Profiles Templates Policies Pools | Ŷ | | Cescription | | | | | | |
| | | | < | Cancel | | | | | Ne | ĸt |

FC区域

•选择单个发起方 — 单个目标或单个发起方多个目标,然后点击"添加目标"

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| * | Overview | | Policies > SAN Connectivity > DAS-SAN-Co | nn > Edit | | | | | | | |
| 0. | Operate Servers Chassis HyperFlex Clusters HyperFlex Clusters Integrated Systems Analyze Configure Profiles Pools | | Ceneral Ceneral Policy Detain | Policy Details Add policy details PC Target Zoning Type © Single initiator Single Target Mame WWPN | 2 VSAN | items found ID Switch ID | <u>50 v</u> pe | page m C | 1 of 1 🔁 | | |
| | | | < | Cancel | | | | | Back | Create | |

FC区域目标

• 使用对应的WWPN、交换矩阵ID和VSAN配置目标。

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|----|---|------------------------------|---|---|---|--------------------------------|---|
| ×. | Overview | | Policies > SAN Connectivity > DAS-SAN-Co | onn > Edit | | | |
| 0 | Operate Operate Servers Chassis Fabric Interconnect Virtualization Integrated Systems Configure Configure Configure Templates Pools | | Oran cara Control Con | Adopolicy Details Adopolicy details PC Target Zoning Type © Single Instance Single Target Add Target Name CTO Primary CTO Secondary Selected 1 of 2 | Single Initiator Multiple Target None Edit Target Name ¹ CTD Primary WXPR1 ⁺ Sociol ce 90 cd 93 df 05 Switch ID 0 A 0 VSAN ID ¹ 10 1 - 4003 Cancel | 2 Ren VSAN ID 100 100 | s found 50 v per page 0 € 1 of 1 2 0 Switch ID A A D € 1 of 1 2 0 |
| | | | < | Cancel | | | Back Create |
| | | | | | | | |

FC区域目标配置

第三步:从SAN启动(可选)

如果服务器从SAN引导,请将目标添加到引导策略

第3.1步配置引导选项

添加San引导和虚拟媒体选项

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|---|---|--|--|----------|---------|----------------|------------------|-------------|---------------|----|
| * | Overview | Edit UCS Server Profile (IMM-DAS) | y (DAS-Boot) | | | | | | | |
| 0 | Operate Servers Chassis Fabric Interconnects HyperFlex Clusters Virtualization Integrated Systems Analyze Analyze Configure A | General General Policy Details | y (DAS-BOOT) Policy Details Add policy details Configured Boot Mode Unified Extensible Firmware interface (UEF) Legacy Unified Extensible Firmware interface (UEF) Legacy MitTP Boot Social Boot Legacy Legac | | ∀ лграя | torms UCS 54 | ver (Standatone) | UCS Server | (F)-Attached) | E. |
| Î | Profiles Policies Poois | | Local COD Local Disk NVMe PCH Storage PXE Boot SAN Boot SO Card UEFI Shell USB Virtual Media | | | | Back Sm | • Save | & Deploy | |

第3.2步配置SAN引导选项

输入目标的WWPN及其相应的VHBA名称。

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| :¢: | Overview | Edit UCS Server Profile (IMM-DAS) | cy (DAS-Boot) | | | | | |
| 0 | Operate ^ Servers Chassis Fabric Interconnects HyperFlex Clusters | General Policy Details | Unified Extensible Firmware Interface (UEFI) Legal Enable Secure Boot Add Boot Device + Virtual Media (KVM) | acy | | Enabled 🗐 | ~ ` | ~ |
| O, | Virtualization Integrated Systems Analyze ^ Explorer New | | SAN Boot (VHBA0-Primary) Device Name * VHBA0-Primary | 0 UN | | C Enabled 🛛 🗊 | ^) () 0 0 - 255 | • |
| ,e | Configure ^ Profiles Templates | | Interface Name * VHBAD Bootloader Name | Target WWI 56:e9:ce:90 Bootloade | PN * ed:93:ff:05 rr Description | | 0 | |
| | Palicies Paols | ¢ | Bootloader Path | 0 | | Back Save Save | a Depic | y |

SAN引导选项

♦ 注意:接口名称必须与之前给VHBA的名称匹配。

第3.3步根据需要添加目标并检验订单

| | tit Hervigt | 🔉 intrastructure benetes 🗸 | | Q teach | 8 48 0 00 00 8 |
|----|----------------------|----------------------------|--|---------|---|
| | Overview | Edit Boot Order Polic | y (DAS-Boot) | | |
| * | Operate | | Anti-periog-antaria Configured Boot Mode: 0 Configured Boot Mode: 0 | 7 ж. | Rature 923-brow Devicered <u>923-brow Pl-Monted</u> |
| 0. | Analyze Explorer | | Virtual Media (1998) Setti Sun (1988) Primary) | | C tuber 0 A Y |
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| | Policies Polic | | batic bace (in-batic bacardary) | | C turne (🕆 🗠 🗸 |
| | | | Cancel | | Back Tore Street Deploy |

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引导选项
```

故障排除

验证FC端口是否配置正确

```
FI-A # connect nxos
FI-A (nxos) # show interface fc 1/1
FI-A (nxos) # show running-config interface fc 1/1
```

验证交换矩阵互联上的启动器列表

FI-A (nxos) # show flogi database vsan <vsan id>

验证特定服务器配置文件中的VHBA配置

FI-A (nxos) # show run interface | grep prev 1 next 10 <Server Profile's Name>

关于此翻译

思科采用人工翻译与机器翻译相结合的方式将此文档翻译成不同语言,希望全球的用户都能通过各 自的语言得到支持性的内容。

请注意:即使是最好的机器翻译,其准确度也不及专业翻译人员的水平。

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