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10GE デュアルスイッチのネットワーク構成例

10GE デュアルスイッチ

トランクポートを使用している Nexus 9000

```
vlan 101
  name HX-MGMT
vlan 102
  name HX-STORAGE
vlan 103
  name HX-vmOTION
vlan 104
  name HX-GUESTVM
vlan 105
  name HX-DHCP-CIMC
...
interface Ethernet1/35
  description M5-Edge-Node1-VIC1
  switchport mode trunk
  switchport trunk native vlan 105
  switchport trunk allowed vlan 101-105
  spanning-tree port type edge trunk

interface Ethernet1/36
  description M5-Edge-Node1-VIC2
  switchport mode trunk
  switchport trunk native vlan 105
  switchport trunk allowed vlan 101-105
  spanning-tree port type edge trunk

interface Ethernet1/37
  description M5-Edge-Node2-VIC1
  switchport mode trunk
  switchport trunk native vlan 105
```

```
switchport trunk allowed vlan 101-105
spanning-tree port type edge trunk

interface Ethernet1/38
description M5-Edge-Node2-VIC2
switchport mode trunk
switchport trunk native vlan 105
switchport trunk allowed vlan 101-105
spanning-tree port type edge trunk

interface Ethernet1/39
description M5-Edge-Node3-VIC1
switchport mode trunk
switchport trunk native vlan 105
switchport trunk allowed vlan 101-105
spanning-tree port type edge trunk

interface Ethernet1/40
description M5-Edge-Node3-VIC2
switchport mode trunk
switchport trunk native vlan 105
switchport trunk allowed vlan 101-105
spanning-tree port type edge trunk
```

トランクポートを使用している Catalyst 9300

```
vlan 101
name HX-MGMT
vlan 102
name HX-STORAGE
vlan 103
name HX-vMOTION
vlan 104
name HX-GUESTVM
vlan 105
name HX-CIMC
...
interface GigabitEthernet1/0/1
description M5-Edge-16W9-LOM1
switchport trunk allowed vlan 101-105
switchport mode trunk
spanning-tree portfast trunk

interface GigabitEthernet1/0/2
description M5-Edge-16W9-LOM2
switchport trunk allowed vlan 101-105
switchport mode trunk
spanning-tree portfast trunk

interface GigabitEthernet1/0/3
description M5-Edge-16UQ-LOM1
switchport trunk allowed vlan 101-105
switchport mode trunk
spanning-tree portfast trunk

interface GigabitEthernet1/0/4
description M5-Edge-16UQ-LOM2
switchport trunk allowed vlan 101-105
switchport mode trunk
spanning-tree portfast trunk

interface GigabitEthernet1/0/5
description M5-Edge-05G9-LOM1
switchport trunk allowed vlan 101-105
```

```
switchport mode trunk
spanning-tree portfast trunk

interface GigabitEthernet1/0/6
description M5-Edge-05G9-LOM2
switchport trunk allowed vlan 101-105
switchport mode trunk
spanning-tree portfast trunk
```

1GE シングル スイッチのネットワーク構成例

1GE シングル スイッチ

トランク ポートを使用している Nexus 5548

```
vlan 101
  name HX-MGMT
vlan 102
  name HX-STORAGE
vlan 103
  name HX-VMOTION
vlan 104
  name HX-GUESTVM
...
interface Ethernet2/11
  description HX-01-Port1
  switchport mode trunk
  switchport trunk allowed vlan 101-104
  spanning-tree port type edge trunk
  speed 1000
interface Ethernet2/12
  description HX-01-Port2
  switchport mode trunk
  switchport trunk allowed vlan 101-104
  spanning-tree port type edge trunk
  speed 1000
interface Ethernet2/13
  description HX-02-Port1
  switchport mode trunk
  switchport trunk allowed vlan 101-104
  spanning-tree port type edge trunk
  speed 1000
interface Ethernet2/14
  description HX-02-Port2
  switchport mode trunk
  switchport trunk allowed vlan 101-104
  spanning-tree port type edge trunk
  speed 1000
interface Ethernet2/15
  description HX-03-Port1
  switchport mode trunk
  switchport trunk allowed vlan 101-104
  spanning-tree port type edge trunk
  speed 1000
interface Ethernet2/16
  description HX-03-Port2
  switchport mode trunk
  switchport trunk allowed vlan 101-104
```

```
spanning-tree port type edge trunk
speed 1000
```

トランクポートを使用している Catalyst 3850-48T

```
vlan 101
  name HX-MGMT
vlan 102
  name HX-STORAGE
vlan 103
  name HX-vmOTION
vlan 104
  name HX-GUESTVM
...
interface GigabitEthernet1/0/1
  description HX-01-Port1
  switchport trunk allowed vlan 101-104
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/2
  description HX-01-Port2
  switchport trunk allowed vlan 101-104
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/3
  description HX-02-Port1
  switchport trunk allowed vlan 101-104
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/4
  description HX-02-Port2
  switchport trunk allowed vlan 101-104
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/5
  description HX-03-Port1
  switchport trunk allowed vlan 101-104
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/6
  description HX-03-Port2
  switchport trunk allowed vlan 101-104
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
```

1GE デュアルスイッチのネットワーク構成例

1GE デュアルスイッチ

トランクポートを使用している Nexus 5548

この設定では、ネイティブ vlan 105 を使用しているインバンド管理とともに DHCP を使用します。このスイッチは両方の 1GE LOM に接続して、dhcp relay を使用します。

```
ip dhcp relay
...
interface Vlan105
 ip address 10.1.2.1/24
 ip dhcp relay address 10.1.1.2
 no shutdown
vlan 101
 name HX-MGMT
vlan 102
 name HX-STORAGE
vlan 103
 name HX-VMOTION
vlan 104
 name HX-GUESTVM
vlan 105
 name HX-DHCP-CIMC
...
interface Ethernet2/11
 description HX-01-Port1
 switchport mode trunk
 switchport trunk native vlan 105
 switchport trunk allowed vlan 101-105
 spanning-tree port type edge trunk
 speed 1000
interface Ethernet2/12
 description HX-01-Port2
 switchport mode trunk
 switchport trunk native vlan 105
 switchport trunk allowed vlan 101-105
 spanning-tree port type edge trunk
 speed 1000
interface Ethernet2/13
 description HX-02-Port1
 switchport mode trunk
 switchport trunk native vlan 105
 switchport trunk allowed vlan 101-105
 spanning-tree port type edge trunk
 speed 1000
interface Ethernet2/14
 description HX-02-Port2
 switchport mode trunk
 switchport trunk native vlan 105
 switchport trunk allowed vlan 101-105
 spanning-tree port type edge trunk
 speed 1000
interface Ethernet2/15
 description HX-03-Port1
 switchport mode trunk
 switchport trunk native vlan 105
 switchport trunk allowed vlan 101-105
 spanning-tree port type edge trunk
 speed 1000
interface Ethernet2/16
 description HX-03-Port2
 switchport mode trunk
 switchport trunk native vlan 105
 switchport trunk allowed vlan 101-105
 spanning-tree port type edge trunk
 speed 1000
```

スイッチ #2 で同じ設定を繰り返します。dhcp relay コマンドと interface Vlan 105 コマンドは削除します。

トランク ポートを使用している Catalyst 3850-48T

この構成では、vlan 105 に静的に割り当てられている CIMC IP を使用します。すべてのトランク インターフェイスですべての vlans が許可されます。セキュリティ上の理由から、すべてのポート設定に switchport trunk allowed vlan ステートメントを追加し、VLAN を HyperFlex の展開に必要なものに限定することを推奨します。

```
vlan 101
  name HX-MGMT
vlan 102
  name HX-STORAGE
vlan 103
  name HX-vMOTION
vlan 104
  name HX-GUESTVM
vlan 105
  name HX-CIMC
...
interface GigabitEthernet1/0/1
  description HX-01-Port1
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/2
  description HX-01-Port2
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/3
  description HX-02-Port1
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/4
  description HX-02-Port2
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/5
  description HX-03-Port1
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
interface GigabitEthernet1/0/6
  description HX-03-Port2
  switchport mode trunk
  speed 1000
  spanning-tree portfast trunk
```

スイッチ #2 で同じ設定を繰り返します。

10/25GE 2 ノード 2 ルームのネットワーク設定例

10/25GE 2 ノード 2 ルーム

QoS の設定された Catalyst 9000

この設定では、Quality of Service を使用して、ルーム トポロジごとに 10 または 25 ギガビットイーサネット スタック スイッチを使用し、HyperFlex ストレージトラフィックにマーキングし、優先順位を付けます。

```
qos queue-softmax-multiplier 1200
qos queue-stats-frame-count
...
class-map match-all Storage_PQ
match dscp ef
class-map match-all Storage_Mark
match access-group name Storage
...
policy-map Storage_Mark
class Storage_Mark
  set dscp ef
class class-default
policy-map Storage_Queue
class Storage_PQ
  priority level 1 percent 80 //Adjust this value based on traffic mix. This guarantees
  80% bandwidth for storage when needed.
  queue-buffers ratio 80
class class-default
  bandwidth remaining percent 100
  queue-buffers ratio 20
...
interface Port-channel98
switchport trunk allowed vlan 101,102,103,104,105
switchport mode trunk
!
interface GigabitEthernet1/0/3
description SERVER1-Dedicated-CIMC
switchport access vlan 145
switchport mode access
spanning-tree portfast
!
interface TenGigabitEthernet1/1/1
description SERVER1-VIC-1
switchport trunk allowed vlan 101,102,103,104,105
switchport mode trunk
spanning-tree portfast trunk
service-policy input Storage_Mark
service-policy output Storage_Queue
!
interface TenGigabitEthernet2/1/1
description SERVER1-VIC-2
switchport trunk allowed vlan 101,102,103,104,105
switchport mode trunk
spanning-tree portfast trunk
service-policy input Storage_Mark
service-policy output Storage_Queue
!
interface TenGigabitEthernet1/1/8
description cross-connect-01
switchport trunk allowed vlan 101,102,103,104,105
switchport mode trunk
channel-group 98 mode on
service-policy input Storage_Mark
service-policy output Storage_Queue
!
interface TenGigabitEthernet2/1/8
description cross-connect-02
switchport trunk allowed vlan 101,102,103,104,105
```

```
switchport mode trunk
channel-group 98 mode on
service-policy input Storage_Mark
service-policy output Storage_Queue
!
...
ip access-list extended Storage
10 permit ip 169.254.1.0 0.0.0.255 169.254.1.0 0.0.0.255
```

スイッチ スタック #2 で同じ設定を繰り返します。