Appendix

Sample Network Configuration 10GE Dual Switch

10GE Dual Switch

Nexus 9000 using trunk ports

```
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
```

Catalyst 9300 using trunk ports

```
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
```

Sample Network Configuration 1GE Single Switch

1GE Single Switch

Nexus 5548 using trunk ports

```
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
```

Catalyst 3850-48T using trunk ports

```
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
```

Sample Network Configuration 1GE Dual Switch

1GE Dual Switch

Nexus 5548 using trunk ports

This configuration uses DHCP with in-band management using native `vlan 105`. This switch connects to both 1GE LOMs and uses `dhcp relay`.

```
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
```

Repeat the same configuration on switch #2. Eliminate the `dhcp relay` and `interface Vlan 105` commands.

Catalyst 3850-48T using trunk ports

This configuration uses statically-assigned CIMC IPs on `vlan 105`. All `vlans` are allowed on all trunk interfaces. For security purposes, we recommend restricting the VLANs to those required for a HyperFlex deployment by adding the `switchport trunk allowed vlan` statement into all your port configurations.

```
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
```

Repeat the same configuration on switch #2.

Sample Network Configuration 10/25GE 2-Node 2-Room

10/25GE 2-Node 2-Room

Catalyst 9000 with QoS

This configuration uses quality of service to mark and prioritize HyperFlex storage traffic using the 10 or 25 Gigabit Ethernet Stacked Switches Per Room Topology

```
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
```

Repeat the same configuration on switch stack #2.

Appendix