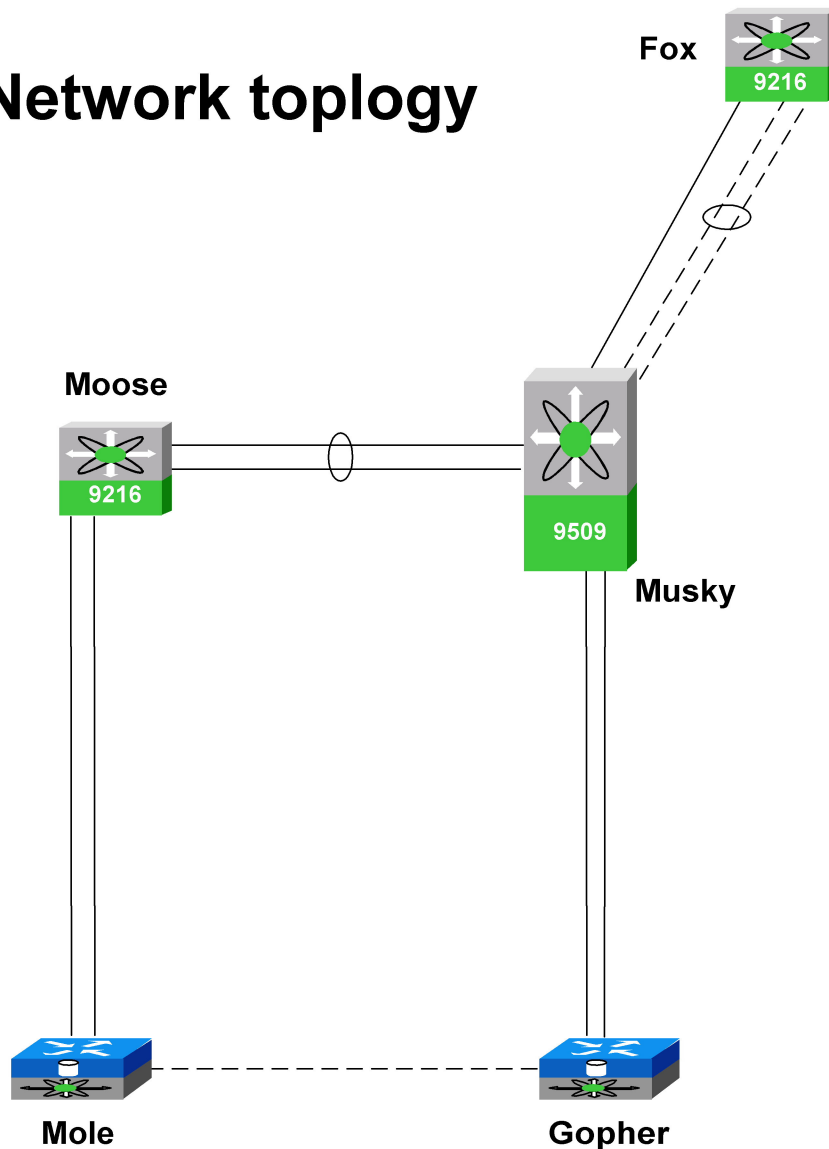


Configurations in Reference to Networkers 2004 Session OPT-3051

Network topology



These are the configuration files from the switches in our fabric. Annotations have been added to make understanding the configuration files a little easier.

Switch Moose

```
Moose-9216# sh run
```

```
Building Configuration ...
```

```
fcsp enable
```

```
enable the FCSP protocol (will require Enterprise License)
```

```
interface fc-tunnel 1
```

```
create the fc-tunnel interface
```

```
destination 10.2.3.44
```

```
matches the source IP address on the remote switch for this fc-tunnel
```

```
source 10.2.3.4
```

```
matches the destination IP address on the remote switch for this fc-tunnel
```

```
no shutdown
```

```
place the interface in operational state
```

```
vsan database
```

```
vsan 1 name "FAStT-VSAN"
```

```
vsan 4 name "iSCSI-BOOT"
```

```
vsan 20 name "LSI-VSAN"
```

```
vsan 50 name "HP_Storage"
```

```
vsan 67 name "SR2122_VSAN"
```

```
vsan 100 name "VmVSAN"
```

```
VSANs are created, given numbers, and administrative names
```

```
fabric-binding enable
```

```
security feature required for FICON. Requires Mainframe License.
```

```
interface port-channel 2
```

```
create port channel interface number 2
```

```
switchport description To 10.91.51.212
```

```
comments for administrative purposes, not required
```

```
switchport mode E
```

```
switchmode for this port channel will be E as opposed to auto
```

```
trunkmode defaults to ON so this port will attempt to operate as a TE port.
```

```
switchport trunk allowed vsan 1-3
```

```
VSANs 1 through 3 are permitted to use this TE ISL link
```

```
switchport trunk allowed vsan add 5-4093
```

```
VSANs 5 through 4093 are added to the 'allowed VSAN list' for this link
```

```
interface vsan1
```

```
ip address 10.2.3.4 255.255.255.0
```

```
no shutdown
```

```
VSAN 1 interface is given an IP address, and placed into operational mode.
```

```
interface vsan50
```

```
description Host_VSAN
```

```
ip address 192.168.1.1 255.255.255.0
```

```
no shutdown
```

```
interface cpp2/1/100
```

```
ip address 192.168.1.2 255.255.255.0
```

```
no shutdown
```

ASM module interface for VSAN 100 is given an IP address, and placed into operational mode.

```
snmp-server community public group network-operator
snmp-server community private group network-admin
snmp-server user admin network-admin auth md5 0xe702139b39b573f45cf81315aaf27c3a
    priv 0xe702139b39b573f45cf81315aaf27c3a localizedkey
snmp-server host 10.64.91.20 traps version 1 udp-port 2162
snmp-server host 10.91.51.204 traps version 1 udp-port 1163
snmp-server host 161.44.50.254 traps version 1 udp-port 2162
snmp-server host 169.254.151.126 traps version 1 udp-port 1163
snmp-server host 64.101.198.64 traps version 1 udp-port 2162
```

SNMP configuration

```
vsan database
  vsan 20 interface fc1/2
  vsan 50 interface fc1/3
  vsan 4094 interface fc1/4
  vsan 50 interface fc1/6
  vsan 50 interface fc1/7
  vsan 4094 interface fc1/9
  vsan 4 interface fc1/13
  vsan 67 interface fc1/14
  vsan 4 interface fc1/15
  vsan 20 interface fc2/9
```

Physical interfaces are put into specific VSANs

```
asm mgmt-vsan 100 module 2
```

VSAN 100 is assigned as management VSAN for the ASM module in slot 2

```
boot system bootflash:/m9200-ek9-mz.1.3.4.2.bin
boot kickstart bootflash:/m9200-ek9-kickstart-mz.1.3.4.2.bin
  images are specified to be loaded when the system powers on or is reloaded
```

```
boot asm-sfn bootflash:/m9000-ek9-asm-sfn-mz.1.3.4.2.bin module 2
  software image for the ASM module in slot 2 is specified
```

```
clock timezone PST -10 0
```

```
fc-tunnel enable
  fc-tunnel is enabled
```

```
ip default-gateway 192.168.1.1 interface cpp2/1/100
ip default-network 10.91.51.0
ip default-gateway 10.91.51.1
  ip default gateways and network are configured
```

```
ip routing
  IP routing is enabled (required for ASM and for fc-tunnel)
```

```
line vty
  exec-timeout 600
logging level aaa 6
  logging level for aaa is changed from the default of 2
```

port-security enable

port security is enabled, requires Enterprise License

qos enable

Quality of Service is enabled, requires Enterprise License

switchname Moose-9216

tacacs+ enable

tacacs+ authentication is enabled, and can be configured for authentication

username admin password 5 fbQz1oS.j2Nfc role network-admin

local user called admin is configured, and given network-admin role

zone name Duck vsan 1

zone created for VSAN 1

member pwnn 20:08:00:0b:be:77:72:42

zone member is added using devices pwnn

member pwnn 20:04:00:a0:b8:0c:64:51 lun 0003

member pwnn 20:05:00:a0:b8:0c:64:51 lun 0003

zone members are added by devices pwnn, and specific lun (lun zoning)

this requires the Enterprise License

zone name Zone2 vsan 1

member pwnn 20:05:00:a0:b8:0c:64:51

member pwnn 21:00:00:e0:8b:04:69:3c

zone name Perch vsan 1

member pwnn 20:04:00:a0:b8:0c:64:51 lun 0000

member pwnn 20:05:00:a0:b8:0c:64:51 lun 0000

member ip-address 10.1.100.31 255.255.255.0

zone name BEED_HBA_2 vsan 1

member pwnn 21:00:00:e0:8b:04:69:3c

member pwnn 20:05:00:a0:b8:0c:64:51 lun 0000

zone name LOON_HBA vsan 1

member pwnn 20:05:00:a0:b8:0c:64:51 lun 0004

member pwnn 20:04:00:a0:b8:0c:64:51 lun 0004

member pwnn 10:00:00:e0:69:f0:41:56

zone name Racoon vsan 4

member pwnn 22:00:00:20:37:c5:2d:6d

member pwnn 22:00:00:20:37:c5:23:56

member pwnn 21:08:00:0d:ec:00:ea:42

member pwnn 22:00:00:20:37:c5:26:0a

member pwnn 22:00:00:20:37:c5:2e:2e

member pwnn 21:0b:00:0d:ec:00:ea:42

member pwnn 21:01:00:0d:ec:00:ea:42

zone name LOON vsan 4

member pwnn 21:05:00:0d:ec:00:ea:42

member pwnn 22:00:00:04:cf:75:f3:30

```

zone name ELLOUT vsan 4
  member pwwn 22:00:00:04:cf:75:21:d0
  member pwwn 21:0c:00:0d:ec:00:ea:42

zone name gopher vsan 4
  member pwwn 28:00:00:05:9b:a6:93:c0
  member pwwn 22:00:00:04:cf:75:21:d0
  member pwwn 21:00:00:04:cf:67:3e:c2

zone name BEED_HBA1 vsan 4
  member pwwn 21:00:00:e0:8b:04:2f:35
  member pwwn 21:00:00:04:cf:67:3f:3b

zone name Badger vsan 50
  member pwwn 10:00:00:00:c9:30:ba:06
  member pwwn 50:08:05:f3:00:04:96:71 lun 0000
  member pwwn 50:08:05:f3:00:04:96:71 lun 0001
  member pwwn 50:08:05:f3:00:04:96:79 lun 0000
  member pwwn 50:08:05:f3:00:04:96:79 lun 0001

zone default-zone permit vsan 2
zone default-zone permit vsan 67
zone default-zone permit vsan 100
  Devices in the default zone are permitted to see each other for these VSANs

zoneset name ZoneSet1 vsan 1
  zoneset is configured for VSAN 1
  member Duck
  member Zone2
  member Perch
  member BEED_HBA_2
  member LOON_HBA
  members (zones) are added to the zoneset

zoneset name Musky1 vsan 4
  member Racoon
  member LOON
  member ELLOUT
  member gopher
  member BEED_HBA1

zoneset name MSA1000-Zonset vsan 50
  member Badger

zoneset distribute full vsan 4
zoneset distribute full vsan 50
  upon zoneset activation, the full zone database will be distributed for VSAN 4 and 50, as opposed to the default where only the active zone database is distributed

zoneset activate name ZoneSet1 vsan 1
zoneset activate name Musky1 vsan 4
zoneset activate name LSI-Zoneset vsan 20
zoneset activate name MSA1000-Zonset vsan 50
  zonesets made active on the desired VSANs

```

```
interface fc1/1
  channel-group 2 force
  this interface is added to port-channel 2
  no shutdown

interface fc1/2
  switchport description SNIPE
  no shutdown

interface fc1/3
  no shutdown

interface fc1/4
  switchport mode E
  this interface will attach to another FC switch
  switchport trunk mode off
  trunk mode is changed to off to force this port to E versus TE mode
  switchport fcrxbbcredit 12
  the receive buffer to buffer credit is changed from the default

interface fc1/5
  channel-group 2 force
  switchport description ISL to MUSKY
  no shutdown

interface fc1/6
  switchport trunk mode auto

interface fc1/7
  no shutdown

interface fc1/8
  switchport description IBM FastT
  no shutdown

interface fc1/9

interface fc1/10

interface fc1/11

interface fc1/12
  switchport description Span for Moose
  switchport mode SD
  interface is made a SPAN destination port for attaching to an FC analyzer
  switchport speed 1000
```

port is hard coded to 1 gig to match analyzer port speed
switchport trunk mode off
no shutdown

interface fc1/13
switchport description SN5428-2
switchport mode E
switchport speed 2000
no shutdown

interface fc1/14
no shutdown

interface fc1/15
switchport speed 2000
no shutdown
switchport trunk allowed vsan 4

interface fc1/16
switchport description Span
switchport mode ST
mode is set to ST for remote SPAN capability, nothing should be physically attached to this port
rspan-tunnel interface fc-tunnel 1
RSPAN is pointed at the local end of the fc-tunnel to be routed to the remote MDS where the analyzer is attached to an SD port
no shutdown

interface fc2/1
switchport mode F
no shutdown

interface fc2/2
switchport mode F

interface fc2/3

interface fc2/4

interface fc2/5
switchport description BEED HBA 2
switchport mode F
no shutdown

interface fc2/6

```
interface fc2/7
```

```
interface fc2/8
```

```
interface fc2/9
  switchport mode F
  no shutdown
```

```
interface fc2/10
```

Interfaces without configs removed from print...

```
.
.
.
.
.
.
```

```
interface mgmt0
  ip address 10.91.51.207 255.255.255.0
  switchport speed 100
  switchport duplex full
  management interface is defined
```

```
span session 1
destination interface fc1/12
source interface fc2/1 rx
source interface fc2/1 tx
SPAN is defined to copy packets in and out of fc 2/1 out fc 1/12
```

```
span session 2
destination interface fc-tunnel 1
source interface fc1/7 rx
source interface fc1/7 tx
SPAN is defined to copy packets in and out of fc 1/7 out over the fc-tunnel
for collection by an analyzer on the remote MDS. This is RSPAN
```

Switch FOX

FOX-9216# sh run

fcip enable
enables FCIP, this required a SAN Extension over IP license

iscsi enable
enables iSCSI, no license required

iscsi interface vsan-membership
enables iscsi interface to be placed into VSANs

fcip profile 1
creates fcip profile number 1
ip address 50.1.1.2
this is the local IP address for the FCIP tunnel
tcp max-bandwidth-mbps 1000 min-available-bandwidth-mbps 15 round-trip-time-ms 1
fcip profile configuration parameters

fcip profile 2
ip address 50.1.2.2
tcp max-bandwidth-mbps 1000 min-available-bandwidth-mbps 15 round-trip-time-ms 1

fcip profile 4
ip address 10.1.67.2
tcp max-bandwidth-mbps 1000 min-available-bandwidth-mbps 15 round-trip-time-ms 1

fcsp enable
enable the FCSP protocol (will require Enterprise License)

vsan database
vsan 1 name "FAStT-VSAN"
vsan 67 name "SR2122_VSAN"
vsan 200 name "Test-VSAN200"
vsan 201 name "Transit_VSAN_for_FCIP"
VSANs are created, given numbers, and administrative names

fabric-binding enable
security feature required for FICON. Requires Mainframe License.

interface port-channel 3
create port channel interface number 3
switchport description To 10.91.51.212
comments for administrative purposes, not required
switchport mode E
switchmode for this port channel will be E as opposed to auto
trunkmode defaults to ON so this port will attempt to operate as a TE port.
switchport trunk allowed vsan 1
VSANs 1 is permitted to use this TE ISL link
switchport trunk allowed vsan add 201
VSANs 201 is permitted to use this TE ISL link

```

interface fcip2
    creates the fcip interface instance number 2
    channel-group 3 force
    adds this interface to port channel 3
    switchport description FCIP Link to Musky
    no shutdown
    use-profile 2
    defines which local fcip profile to use for this connection
    peer-info ipaddr 50.1.2.1
    this is the remote IP address for this fcip link, this matched the IP address configured in the fcip profile on the remote switch

interface fcip5
    switchport description FCIP Link to SR2122
    switchport trunk mode auto
    no shutdown
    switchport trunk allowed vsan 67
    defines the VSANs that will be permitted to use this link
    use-profile 4
    bport
    specifies this port a bport as opposed to the default of E port this should match the device capabilities on the other end of this link
    peer-info ipaddr 10.1.67.1
    tcp-connections 1
    default is for fcip link to use 2 TCP connections must match remote device.

interface fcip6
    channel-group 3 force
    switchport description FCIP Link to Musky
    no shutdown
    use-profile 1
    peer-info ipaddr 50.1.1.1

```

```

snmp-server user admin network-admin auth md5 0x19a267b5648280e91a643387b71beb69 priv
0x19a267b56482
80e91a643387b71beb69 localizedkey
snmp-server host 161.44.50.254 traps version 2c public udp-port 2162
snmp-server host 192.168.0.145 traps version 2c public udp-port 2162
snmp-server host 192.168.0.248 traps version 2c public udp-port 2162
snmp-server host 192.168.0.34 traps version 2c public udp-port 1163
snmp-server host 64.101.209.70 traps version 2c public udp-port 2162
SNMP configuration

```

```

vsan database
    vsan 67 interface fc1/3
    vsan 67 interface fc1/4
    vsan 200 interface fc1/15
    vsan 200 interface fc1/16
    vsan 201 interface port-channel 3
    vsan 67 interface fcip5
    Physical interfaces are put into specific VSANs

```

```

boot system bootflash:/m9200-ek9-mz.1.3.4.2.bin
boot kickstart bootflash:/m9200-ek9-kickstart-mz.1.3.4.2.bin
images are specified to be loaded when the system powers on or is reloaded

```

```
no cdp enable
    Cisco Discovery Protocol is disabled

clock timezone cst 1 0

fc-tunnel enable
    fc-tunnel is enabled

ip default-network 10.91.51.0
ip default-gateway 10.91.51.1
    ip default gateway and network is configured

ip routing
    IP routing is enabled (required for fc-tunnel)

ips core dump full
    IPS core dump set to full (use under TAC direction)

iscsi authentication none
    ISCSI authentication is disabled globally

iscsi initiator name iqn.1987-05.com.cisco:02.265c39fea684.ibm1
    static nWWN 20:06:00:0b:be:77:72:42
    static pWWN 20:05:00:0b:be:77:72:42
    static pWWN 20:0a:00:0b:be:77:72:42
    vsan 200
        ISCSI initiator is configured, assigned static WWNs, and placed into VSAN 200

iscsi initiator name iqn.1987-05.com.cisco:02.24a0e17903ba.duck1
    static nWWN 20:09:00:0b:be:77:72:42
    static pWWN 20:08:00:0b:be:77:72:42

iscsi virtual-target name t1
    pWWN 22:00:00:20:37:b9:9f:23 secondary-pwwn 21:00:00:20:37:b9:9f:23
    advertise interface GigabitEthernet2/7
    all-initiator-permit
        ISCSI target is created, fail over PWWN is configured, the target is only available to all initiators on interface gigabit Ethernet 2/7

iscsi virtual-target name t2
    pWWN 22:00:00:20:37:c5:9c:4e secondary-pwwn 21:00:00:20:37:c5:9c:4e
    advertise interface GigabitEthernet2/7
    all-initiator-permit

iscsi virtual-target name t3
    pWWN 21:00:00:20:37:b9:9f:5f secondary-pwwn 22:00:00:20:37:b9:9f:5f
    advertise interface GigabitEthernet2/8
    all-initiator-permit

iscsi virtual-target name t4
    pWWN 21:00:00:20:37:b9:9f:40 secondary-pwwn 22:00:00:20:37:b9:9f:40
    advertise interface GigabitEthernet2/8
```

```
all-initiator-permit

iscsi virtual-target name iqn.storageforduck
  pWWN 20:05:00:a0:b8:0c:64:51
  advertise interface GigabitEthernet2/1
initiator ip address 10.1.11.18 permit
  ISCSI target is created, the target is only available to initiator with IP
  address 10.1.11.18 on interface gigabit Ethernet 2/1

ivr enable
  Inter VSAN Routing is enabled (requires Enterprise License)

ivr vsan-topology database
  IVR topology is defined manually (must match exactly on all switches that will
  perform IVR) Not required on transient switches.

  autonomous-fabric-id 1 switch-wwn 20:00:00:0b:be:77:72:40 vsan-ranges 200-201
    IVR fabric is assigned, switch is added with VSANs on that switch that will
    participate in IVR

  autonomous-fabric-id 1 switch-wwn 20:00:00:0d:ec:00:ea:40 vsan-ranges 50,201
ivr vsan-topology activate
  IVR topology is activated

ivr zone name IVR_Badger
  member pwwn 10:00:00:00:c9:30:ba:06 vsan 50
  member pwwn 21:00:00:20:37:b9:9f:5f vsan 200
    IVR zone is created using pwwns and the VSAN they reside in

ivr zoneset name IVR_ZoneSet1
  member IVR_Badger
    IVR zoneset is created, with IVR zones as members

ivr zoneset activate name IVR_ZoneSet1 force
  IVR zoneset is activated

logging level aaa 6
  logging level for aaa is changed from the default of 2

port-security enable
  port security is enabled, requires Enterprise License

qos enable
  Quality of Service is enabled, requires Enterprise License

switchname FOX-9216

system cores tftp://10.91.51.200/mfrase_cores
  Core files will be sent to 10.91.51.200 and put in the mfrase_cores directory
  using TFTP

tacacs+ enable
  tacacs+ authentication is enabled, and can be configured for authentication

username admin password 5 IhCswJy3kCYXI role network-admin
  local user called admin is configured, and given network-admin role
```

```
zone name Duck vsan 1
  zone created for VSAN 1
  member pwwn 20:08:00:0b:be:77:72:42
  zone member is added using devices pwwn
  member pwwn 20:04:00:a0:b8:0c:64:51 lun 0003
  member pwwn 20:05:00:a0:b8:0c:64:51 lun 0003
  zone members are added by devices pwwn, and specific lun (lun zoning)
  this requires the Enterprise License

zone name Zone2 vsan 1
  member pwwn 20:05:00:a0:b8:0c:64:51
  member pwwn 21:00:00:e0:8b:04:69:3c

zone name Perch vsan 1
  member pwwn 20:04:00:a0:b8:0c:64:51 lun 0000
  member pwwn 20:05:00:a0:b8:0c:64:51 lun 0000
  member ip-address 10.1.100.31 255.255.255.0

zone name BEED_HBA_2 vsan 1
  member pwwn 21:00:00:e0:8b:04:69:3c
  member pwwn 20:05:00:a0:b8:0c:64:51 lun 0000

zone name LOON_HBA vsan 1
  member pwwn 20:05:00:a0:b8:0c:64:51 lun 0004
  member pwwn 20:04:00:a0:b8:0c:64:51 lun 0004
  member pwwn 10:00:00:e0:69:f0:41:56

zone name IBM_Init vsan 200
  member pwwn 21:00:00:20:37:b9:9f:23
  member pwwn 21:00:00:20:37:b9:9f:40
  member pwwn 22:00:00:20:37:b9:9f:23
  member pwwn 22:00:00:20:37:b9:9f:40
  member pwwn 20:0a:00:0b:be:77:72:42
  member pwwn 20:05:00:0b:be:77:72:42

zone default-zone permit vsan 67
  Devices in the default zone are permitted to see each other for VSAN 67

zoneset name ZoneSet1 vsan 1
  zoneset is configured for VSAN 1
  member Duck
  member Perch
  member BEED_HBA_2
  member LOON_HBA
  members (zones) are added to the zoneset

zoneset name ZoneSet1 vsan 200
  member IBM_Init

zoneset activate name ZoneSet1 vsan 1
zoneset activate name ZoneSet1 vsan 200
  zonesets made active on the desired VSANs

interface iscsi2/1
  no shutdown
  ISCSI interface must be enabled before ISCSI connections can be established
```

on interface gigabit Ethernet 2/1

interface iscsi2/2

interface iscsi2/3

interface iscsi2/4

interface iscsi2/5

interface iscsi2/6

interface iscsi2/7
no shutdown

interface iscsi2/8
no shutdown

interface GigabitEthernet2/1
ip address 10.1.11.100 255.255.255.0
no shutdown

interface GigabitEthernet2/2
ip address 10.1.3.208 255.255.255.0
switchport description DE Lab FCIP

interface GigabitEthernet2/3
ip address 50.1.2.2 255.255.255.0
switchport description FCIP
switchport mtu 2300
Jumbo frames are configured for 2300 bytes from the default of 1500
no shutdown

interface GigabitEthernet2/4
ip address 50.1.1.2 255.255.255.0
switchport description FCIP to Musky
switchport mtu 2300
no shutdown

interface GigabitEthernet2/5
no cdp enable
ip address 10.1.67.2 255.255.255.0
switchport description Link to SR2122
no shutdown

```
interface GigabitEthernet2/6
  ip address 20.1.1.2 255.255.255.0
  switchport mtu 2300

interface GigabitEthernet2/7
  ip address 10.2.50.190 255.255.255.0
  no shutdown

interface GigabitEthernet2/8
  ip address 10.2.50.191 255.255.255.0
  no shutdown

interface fc1/1

interface fc1/2

interface fc1/3
  switchport description Mansee
  no shutdown

interface fc1/4

interface fc1/5

interface fc1/6

interface fc1/7
  switchport trunk mode off
    trunk mode is changed to off to force this port to E versus TE mode
  switchport fcrxbbcredit 12
    the receive buffer to buffer credit is changed from the default

interface fc1/8
  switchport trunk allowed vsan 1-66
    trunk is configured to transport VSANs 1 through 66 only

interface fc1/9

interface fc1/10

interface fc1/11

interface fc1/12
  switchport trunk mode auto
```

```
switchport trunk allowed vsan 1-66
```

```
interface fc1/13
```

```
interface fc1/14
```

```
interface fc1/15  
  switchport description JBOD  
  switchport trunk mode auto  
  no shutdown
```

```
interface fc1/16  
  switchport description JBOD  
  switchport trunk mode auto  
  no shutdown
```

```
interface mgmt0  
  ip address 10.91.51.208 255.255.255.0  
  switchport speed 100  
  switchport duplex full  
  management interface is defined
```

```
no system health failure-action
```

Switch Musky

```
Musky-9506# sh run
```

```
Building Configuration ...
```

```
fcip enable
    enables FCIP, this requires a SAN Extension over IP license
```

```
iscsi enable
    enables iSCSI, no license required
```

```
iscsi interface vsan-membership
    enables iscsi interface to be placed into VSANs
```

```
fcip profile 1
    creates fcip profile number 1
    ip address 50.1.2.1
        this is the local IP address for the FCIP tunnel
    tcp max-bandwidth-mbps 1000 min-available-bandwidth-mbps 15 round-trip-time-ms 1
        fcip profile configuration parameters
```

```
fcip profile 3
    ip address 50.1.1.1
    tcp max-bandwidth-mbps 1000 min-available-bandwidth-mbps 15 round-trip-time-ms 1
```

```
fcsp enable
    enable the FCSP protocol (will require Enterprise License)
```

```
interface fc-tunnel 1
    create the fc-tunnel interface
destination 10.2.3.4
    matches the source IP address on the remote switch for this fc-tunnel
source 10.2.3.44
    matches the destination IP address on the remote switch for this fc-tunnel
no shutdown
    place the interface in operational state
```

```
vsan database
    vsan 1 name "FASTT-VSAN"
    vsan 4 name "iSCSI-BOOT"
    vsan 20 name "LSI-VSAN"
    vsan 50 name "HP_Storage"
    vsan 67 name "SR2122_VSAN"
    vsan 201 name "Transit_VSAN_for_FCIP"
    VSANs are created, given numbers, and administrative names
```

```

fabric-binding enable
    security feature required for FICON. Requires Mainframe License

interface port-channel 2
    create port channel interface number 2
    switchport description To 10.91.51.207
    comments for administrative purposes, not required
    switchport mode E
    switchmode for this port channel will be E as opposed to auto
    switchport trunk mode auto
    trunkmode defaults to ON so this port will attempt to operate as a TE port
    switchport trunk allowed vsan 1-3
    switchport trunk allowed vsan add 5-4093
    VSANs 1 through 3 and 5 through 4093 are permitted to use this link

interface port-channel 3
    switchport description To 10.91.51.208
    switchport mode E
    switchport trunk mode auto
    switchport trunk allowed vsan 1
    switchport trunk allowed vsan add 201

interface vsan1
    ip address 10.2.3.44 255.255.255.0
    no shutdown
    VSAN 1 is given an IP address

interface fcip2
    creates the fcip interface instance number 2
    channel-group 3 force
    adds this interface to port channel 3
    switchport description FCIP Link to FOX
    no shutdown
    use-profile 1
    defines which local fcip profile to use for this connection
    peer-info ipaddr 50.1.2.2
    this is the remote IP address for this fcip link, this matched the IP address configured in the fcip profile on the remote switch

interface fcip3
    channel-group 3 force
    switchport description FCIP Link to FOX
    no shutdown
    use-profile 3
    peer-info ipaddr 50.1.1.2

snmp-server user admin network-admin auth md5 0x3a9562dcaee3d0bc824536363970ace1 localizedkey
snmp-server host 10.1.52.143 traps version 1 udp-port 2162
snmp-server host 10.129.129.19 traps version 1 udp-port 1163
snmp-server host 10.64.91.20 traps version 1 udp-port 2162
snmp-server host 161.44.50.254 traps version 1 udp-port 2162
snmp-server host 192.168.0.158 traps version 1 udp-port 2162
snmp-server host 192.168.0.232 traps version 1 udp-port 1164

```

```
snmp-server host 192.168.0.232 traps version 1 udp-port 2162
snmp-server host 192.168.0.248 traps version 1 udp-port 2162
snmp-server host 192.168.15.106 traps version 1 udp-port 1163
```

SNMP configuration

```
vsan database
  vsan 201 interface port-channel 3
  vsan 4 interface fc1/3
  vsan 20 interface fc1/4
  vsan 4 interface fc1/5
  vsan 4094 interface fc1/7
  vsan 50 interface fc1/9
  vsan 4094 interface fc1/10
  vsan 20 interface fc1/12
  vsan 67 interface fc1/14
  vsan 4 interface fc1/15
  vsan 4 interface fc1/16
  vsan 50 interface fc4/1
  vsan 4 interface fc4/2
  vsan 4094 interface fc4/13
```

Physical interfaces are put into specific VSANs

```
boot system bootflash:/m9500-sflek9-mz.1.3.4.2.bin sup-1
boot kickstart bootflash:/m9500-sflek9-kickstart-mz.1.3.4.2.bin sup-1
boot system bootflash:/m9500-sflek9-mz.1.3.4.2.bin sup-2
boot kickstart bootflash:/m9500-sflek9-kickstart-mz.1.3.4.2.bin sup-2
images are specified to be loaded when the system powers on or is reloaded
```

```
clock timezone CST 14 13
```

```
fc-tunnel enable
```

fc-tunnel is enabled

```
fc-tunnel tunnel-id-map 1 interface fc1/11
```

map the local physical FC interface to the fc tunnel

```
ip default-network 10.91.51.0
```

```
ip default-gateway 10.91.51.1
```

IP default gateway and network is configured

```
ip routing
```

IP routing is enabled (required for fc-tunnel)

```
ips core dump partial
```

```
iscsi authentication none
```

iscsi authentication is set to none at the global level

```
iscsi initiator idle-timeout 5
```

iscsi initiators with no active sessions for 5 seconds are logged out of the fabric

```
iscsi initiator ip-address 10.1.11.19
```

ISCSI initiator is configured, assigned a static NWWN, and placed into VSAN 4

```
static nWWN 21:06:00:0d:ec:00:ea:42
```

```
vsan 4
```

```
iscsi initiator ip-address 10.1.11.23
```

ISCSI initiator is configured, assigned a static WWNs and placed into VSAN 4

```
static nWWN 21:07:00:0d:ec:00:ea:42
static pWWN 21:05:00:0d:ec:00:ea:42
vsan 4

iscsi initiator ip-address 10.1.11.15
static nWWN 21:10:00:0d:ec:00:ea:42
static pWWN 21:0f:00:0d:ec:00:ea:42
vsan 4

iscsi initiator ip-address 10.1.100.31
static nWWN 21:0a:00:0d:ec:00:ea:42
static pWWN 21:09:00:0d:ec:00:ea:42
vsan 1

iscsi initiator ip-address 10.1.200.31
static nWWN 21:04:00:0d:ec:00:ea:42
static pWWN 21:02:00:0d:ec:00:ea:42
vsan 4

iscsi initiator ip-address 10.1.11.26
static nWWN 21:0d:00:0d:ec:00:ea:42
static pWWN 21:0c:00:0d:ec:00:ea:42
vsan 4

iscsi virtual-target name iqn.racoonnetboot3
pWWN 22:00:00:20:37:c5:23:56
advertise interface GigabitEthernet3/1
all-initiator-permit

iscsi virtual-target name iqn.extrastorageforracoon
pWWN 22:00:00:20:37:c5:2d:6d
advertise interface GigabitEthernet3/1
initiator ip address 10.1.11.19 permit
ISCI target is created; the target is only available to initiator with IP
address 10.1.11.19 on interface gigabit Ethernet 3/1

iscsi virtual-target name iqn.storageforperch
pWWN 20:05:00:a0:b8:0c:64:51
advertise interface GigabitEthernet3/5
initiator ip address 10.1.100.31 permit

iscsi virtual-target name iqn.moreiscsiperch
pWWN 22:00:00:20:37:c5:2e:2e
advertise interface GigabitEthernet3/6
initiator ip address 10.1.200.31 permit

iscsi virtual-target name iqn.storageforellpout
pWWN 22:00:00:04:cf:75:21:d0
initiator ip address 10.1.11.26 permit

iscsi virtual-target name iqn.storageforloon
pWWN 22:00:00:04:cf:75:f3:30
initiator ip address 10.1.11.23 permit

ivr enable
```

Inter VSAN Routing is enabled (requires Enterprise License)

ivr vsan-topology database

IVR topology is defined manually (must match exactly on all switches that will perform IVR) Not required on transient switches

autonomous-fabric-id 1 switch-wwn 20:00:00:0b:be:77:72:40 vsan-ranges 200-201

autonomous-fabric-id 1 switch-wwn 20:00:00:0d:ec:00:ea:40 vsan-ranges 50,201

IVR fabric is assigned, switch is added with VSANs on that switch that will participate in IVR

ivr vsan-topology activate

IVR topology is activated

ivr zone name IVR_Badger

member pwwn 10:00:00:00:c9:30:ba:06 vsan 50

member pwwn 21:00:00:20:37:b9:9f:5f vsan 200

IVR zone is created using pwwns and the VSAN they reside in

ivr zoneset name IVR_ZoneSet1

member IVR_Badger

IVR zoneset is created, with IVR zones as members

ivr zoneset activate name IVR_ZoneSet1 force

IVR zoneset is activated

line vty

exec-timeout 600

logging level aaa 6

logging level for aaa is changed from the default of 2

logging logfile test1

logfile named test1 will contain log messages

logging server 10.91.51.204 2 facility user

log messages will be copied to the SYSLOG server at IP 10.91.51.204

port-security enable

port security is enabled, requires Enterprise License

power redundancy-mode combined force

power supplies will run in a combined mode as opposed to redundant, in this mode if one power supply fails, there is no backup power available

qos enable

Quality of Service is enabled, requires Enterprise License

switchname Musky-9506

system cores slot0:

tacacs+ enable

tacacs+ authentication is enabled, and can be configured for authentication

username admin password 5 xzYRV9JZFdRs. role network-admin

local user called admin is configured, and given network-admin role

zone name Duck vsan 1

zone created for VSAN 1

member pwwn 20:08:00:0b:be:77:72:42

zone member is added using devices pwwn

member pwwn 20:04:00:a0:b8:0c:64:51 lun 0003

member pwwn 20:05:00:a0:b8:0c:64:51 lun 0003

**zone members are added by devices pwwn, and specific lun (lun zoning)
this requires the Enterprise License**

zone name Zone2 vsan 1

member pwwn 20:05:00:a0:b8:0c:64:51

member pwwn 21:00:00:e0:8b:04:69:3c

zone name Perch vsan 1

member pwwn 20:04:00:a0:b8:0c:64:51 lun 0000

member pwwn 20:05:00:a0:b8:0c:64:51 lun 0000

member ip-address 10.1.100.31 255.255.255.0

zone name BEED_HBA_2 vsan 1

member pwwn 21:00:00:e0:8b:04:69:3c

member pwwn 20:05:00:a0:b8:0c:64:51 lun 0000

zone name LOON_HBA vsan 1

member pwwn 20:05:00:a0:b8:0c:64:51 lun 0004

member pwwn 20:04:00:a0:b8:0c:64:51 lun 0004

member pwwn 10:00:00:e0:69:f0:41:56

zone name Racoon vsan 4

member pwwn 22:00:00:20:37:c5:2d:6d

member pwwn 22:00:00:20:37:c5:23:56

member pwwn 21:08:00:0d:ec:00:ea:42

member pwwn 22:00:00:20:37:c5:26:0a

member pwwn 22:00:00:20:37:c5:2e:2e

member pwwn 21:0b:00:0d:ec:00:ea:42

member pwwn 21:01:00:0d:ec:00:ea:42

zone name LOON vsan 4

member pwwn 21:05:00:0d:ec:00:ea:42

member pwwn 22:00:00:04:cf:75:f3:30

zone name ELLOUT vsan 4

member pwwn 22:00:00:04:cf:75:21:d0

member pwwn 21:0c:00:0d:ec:00:ea:42

zone name gopher vsan 4

member pwwn 28:00:00:05:9b:a6:93:c0

member pwwn 22:00:00:04:cf:75:21:d0

member pwwn 21:00:00:04:cf:67:3e:c2

zone name BEED_HBA1 vsan 4

member pwwn 21:00:00:e0:8b:04:2f:35

member pwwn 21:00:00:04:cf:67:3f:3b

zone name Snipe_HBA_1 vsan 20

member pwwn 21:00:00:e0:8b:05:a2:8f

member pwwn 20:23:00:a0:b8:0b:14:da lun 0000

```

zone name Snipe_HBA_2 vsan 20
  member pwwn 21:01:00:e0:8b:25:a2:8f
  member pwwn 20:22:00:a0:b8:0b:14:da lun 0000

zone name Badger vsan 50
  member pwwn 10:00:00:00:c9:30:ba:06
  member pwwn 50:08:05:f3:00:04:96:71 lun 0000
  member pwwn 50:08:05:f3:00:04:96:71 lun 0001
  member pwwn 50:08:05:f3:00:04:96:79 lun 0000
  member pwwn 50:08:05:f3:00:04:96:79 lun 0001

zoneset name ZoneSet1 vsan 1
  zoneset is configured for VSAN 1
  member Duck
  member Zone2
  member Perch
  member BEED_HBA_2
  member LOON_HBA
  members (zones) are added to the zoneset

zoneset name Musky1 vsan 4
  member Racoon
  member LOON
  member ELLOUT
  member gopher
  member BEED_HBA1

zoneset name LSI-Zoneset vsan 20
  member Snipe_HBA_1
  member Snipe_HBA_2

zoneset name MSA1000-Zonset vsan 50
  member Badger

zoneset distribute full vsan 4

zoneset activate name ZoneSet1 vsan 1
zoneset activate name Musky1 vsan 4
zoneset activate name LSI-Zoneset vsan 20
zoneset activate name MSA1000-Zonset vsan 50
  zonesets made active on the desired VSANs

interface iscsi3/1
  switchport initiator id ip-address
  initiators will be identified by IP address as opposed to IQN name for this interface
no tcp sack-enable
  tcp selective acknowledgment is disabled for this interface.
tcp send-buffer-size 0
tcp max-bandwidth-mbps 1000 min-available-bandwidth-mbps 15 round-trip-time-ms 1
no shutdown
  ISCSI interface must be enabled before ISCSI connections can be established on interface gigabit Ethernet 3/1

interface iscsi3/2
  switchport initiator id ip-address

```

```
tcp send-buffer-size 0
tcp max-bandwidth-mbps 1000 min-available-bandwidth-mbps 15 round-trip-time-ms 1
no shutdown

interface iscsi3/3

interface iscsi3/4

interface iscsi3/5
tcp send-buffer-size 0
tcp max-bandwidth-mbps 1000 min-available-bandwidth-mbps 15 round-trip-time-ms 1
no shutdown

interface iscsi3/6
tcp send-buffer-size 0
tcp max-bandwidth-mbps 1000 min-available-bandwidth-mbps 15 round-trip-time-ms 1
no shutdown

interface iscsi3/7

interface iscsi3/8

interface GigabitEthernet3/1
ip address 10.1.11.22 255.255.255.0
IP address is assigned to the gigabit Ethernet interface.
iscsi authentication none
no authentication will be performed for ISCSI connections on this interface
switchport description iNBP
no shutdown

interface GigabitEthernet3/2
ip address 10.1.11.30 255.255.255.0
iscsi authentication none
switchport description iSCSI
no shutdown

interface GigabitEthernet3/3
ip address 50.1.2.1 255.255.255.0
switchport description FCIP
switchport mtu 2300
Jumbo frames are configured for 2300 bytes from the default of 1500
no shutdown

interface GigabitEthernet3/4
ip address 50.1.1.1 255.255.255.0
switchport description FCIP to MDS Fox
switchport mtu 2300
```

```
no shutdown

interface GigabitEthernet3/5
  ip address 10.1.100.30 255.255.255.0
  iscsi authentication none
  switchport description iSCSI Access for MS drivers
  no shutdown

interface GigabitEthernet3/6
  ip address 10.1.200.30 255.255.255.0
  iscsi authentication none
  no shutdown

interface GigabitEthernet3/7

interface GigabitEthernet3/8

interface fc1/1
  channel-group 2 force
  interface is added to port channel number 2
  no shutdown

interface fc1/2

interface fc1/3
  switchport description JBOD_A
  no shutdown

interface fc1/4
  switchport mode F
  no shutdown

interface fc1/5
  switchport speed 2000
  link speed is hard coded to 2gig as opposed to the default of AUTO
  no shutdown
  switchport trunk allowed vsan 4
  trunk is permitted to carry VSAN 4 traffic only

interface fc1/6
  switchport description IBM FastT
  no shutdown

interface fc1/7
  switchport trunk mode off
  trunk mode is changed to off to force this port to E versus TE mode
```

```
switchport fcrxbbcredit 12
    the receive buffer to buffer credit is changed from the default

interface fc1/8
    switchport trunk allowed vsan 1-66

interface fc1/9
    no shutdown

interface fc1/10

interface fc1/11
    switchport mode SD
    this interface will be the destination in a SPAN session.
    switchport speed 1000
    speed is hard coded to match the speed on the analyzer
    no shutdown

interface fc1/12
    switchport description SNIPE
    no shutdown

interface fc1/13
    switchport trunk allowed vsan 1-66

interface fc1/14
    switchport description FC Link to SR2122
    switchport mode E
    switchport trunk mode auto
    no shutdown
    switchport trunk allowed vsan 67

interface fc1/15
    no shutdown

interface fc1/16
    switchport mode E
    switchport speed 2000
    no shutdown
    switchport trunk allowed vsan 4

interface fc4/1
    switchport mode F

interface fc4/2
    switchport description BEED HBA 1
    switchport mode F
```

```
no shutdown

interface fc4/3

interface fc4/4
  switchport mode F

interface fc4/5
  channel-group 2 force
  switchport description ISL to Moose
  no shutdown

interface fc4/6

interface fc4/7

interface fc4/8

interface fc4/9
  switchport mode FL

interface fc4/10

interface fc4/11

interface fc4/12

interface fc4/13
  switchport description ISL to Bear
  switchport mode E
  switchport trunk allowed vsan 1-2

interface fc4/14
```

Interfaces without configs removed from print...

.
.
.
.
.

```
interface mgmt0
  ip address 10.91.51.212 255.255.255.0
  switchport speed 100
  switchport duplex full
  management interface is defined
```

```
span session 1
  switch port analyzer session is defined
destination interface fc1/11
  the interface where the analyzer is defined
source interface fc1/16 rx
source interface fc1/16 tx
  the source of the SPAN is defined, and the direction of the traffic you wish to collect
```

```
no system health
no system health failure-action
```

Switch Mole

```
[Mole-SN5428-2]# sh run
!
! CLUSTER
!
! cluster 5338ccc0
!
! ACCESSLIST
!
! (no accesslist(s) found)
!
! VTP DOMAIN
!
vtp domain none
  default VLAN Trunking Protocol setting
!
! VTP MODE
!
vtp mode client
  default VLAN Trunking Protocol setting
!
! VLAN
!
! (no vlan(s) found)
!
! SCSIROUTER
!
! (no scsirouter(s) found)
  no SCSI router instances are defined
!
! SYSTEM
!
hostname Mole-SN5428-2
!
! Mgmt Port
!
interface mgmt autonegotiation
  management interface will auto negotiate for speed and duplex setting
interface mgmt ip-address 10.91.51.220/255.255.255.0
  management interface is assigned an IP address and net mask
!
! HA Port
!
interface ha autonegotiation
  high availability interface will auto negotiate for speed and duplex setting
!
! FC
!
interface fcil topology ptp
  the internal initiator interface fcil is set to point to point
!
```

```

! FC
!
interface fci2 topology ptp
interface fci2 mode fcip
    the internal initiator interface fci2 is allocated to FCIP
interface fci2 devicediscoverytimer 0
!
! GE
!
interface ge1 autonegotiation autodetect
interface ge1 mtusize 1500
interface ge1 vlan enable
    interface is set to auto negotiate duplex and speed, uses default MTU
!
! GE
!
interface ge2 autonegotiation autodetect
interface ge2 mtusize 1500
interface ge2 vlan enable
!
! ROUTES
!
ip default-gateway 10.1.0.2
ip default-gateway 10.91.51.1
    IP default gateways are defined
!
! RIP
!
no ip rip enable
ip rip timers invalid 180
!
! ADMIN LOGIN
!
admin password <password>
!
! MONITOR LOGIN
!
monitor password <password>
!
! SNMP
!
clock timezone GMT
!
! SNMP
!
snmp-server community public ro
snmp-server community private rw
no snmp-server host all traps
no snmp-server sendauthtraps
no snmp-server sendfrutraps
snmp-server linkupdown mgmt
snmp-server linkupdown ge1
snmp-server linkupdown ge2
snmp-server linkupdown fc1
snmp-server linkupdown fc2
snmp-server linkupdown fc3
snmp-server linkupdown fc4

```

```
snmp-server linkupdown fc5
snmp-server linkupdown fc6
snmp-server linkupdown fc7
snmp-server linkupdown fc8
snmp-server location "<empty>"
```

SNMP configuration

```
!
! TELNET
!
telnet enable
no session-timeout
    telnet is enabled to the management port, and no timeout is in effect
!
! SSH
!
ssh enable
    SSH is enabled to the management port
!
! HA
!
! ha configuration standalone
!
! LOGGING ROUTE FACILITY
!
logging level notice from all to all
logging level info from all to logfile
!
! RESTRICT
!
restrict mgmt ftp
no restrict mgmt telnet
no restrict mgmt http
no restrict mgmt snmp
restrict mgmt ssl
no restrict mgmt ssh
    management port can not be used for FTP, SSL,
    management port can be used for telnet, HTTP, SNMP, and SSH
!
restrict ha ftp
restrict ha telnet
no restrict ha http
restrict ha snmp
restrict ha ssl
restrict ha ssh
    high availability port can only be used for http
!
restrict ge1 ftp
restrict ge1 telnet
restrict ge1 http
restrict ge1 snmp
restrict ge1 ssl
restrict ge1 ssh
    interface GE1 can not be used for any protocol except ISCSI or FCIP (if configured)
!
restrict ge2 ftp
```

```

restrict ge2 telnet
restrict ge2 http
restrict ge2 snmp
restrict ge2 ssl
restrict ge2 ssh
    interface GE2 can not be used for any protocol except ISCSI or FCIP (if configured)
!
!
! CDP
!
cdp enable
cdp timer 60
cdp interface mgmt enable
cdp interface ge1 enable
cdp interface ge2 enable
    CDP is enabled on management, GE1 and GE2 ports
!
! SLP
!
no slp enable
    Service Location Protocol is not enabled
!
! FC SWITCH
!
fcswitch ratov 10000
fcswitch edtov 2000
fcswitch dstov 5000
fcswitch fstov 1000
    FC fabric timers are defined
fcswitch zoning default None
    devices in the default zone may not communication with each other
    if this was set to 'All' as opposed to 'None' they could communicate with each other
fcswitch zoning autosave enable
    zoning changes automatically saved
fcswitch zoning merge SW2
    fabric zoning is set to SW2 mode, this is standards based
fcswitch domainid 2 force
    domain ID is set to 2
no fcswitch domainid lock enable
    the domain ID is not locked, and may change if there is a RCF
fcswitch interop-credit 12
    FC interfaces all have a BB credit of 12, this must match other FC switches to
    enable any E ports to come up
!
! FC PORTS
!
interface fc1 enable
interface fc1 ms-enable enable
no interface fc1 al-fairness enable
interface fc1 fan-enable enable
interface fc1 ext-credit 0
interface fc1 mfs-bundle enable timeout 10
interface fc1 linkspeed auto
interface fc1 type gl-port
    default port type of generic loop capable, as opposed to E, F or FL
    port should automatically negotiate to E, F or FL
interface fc1 rscn enable
!

```

```
interface fc2 enable
interface fc2 ms-enable enable
no interface fc2 al-fairness enable
interface fc2 fan-enable enable
interface fc2 ext-credit 0
interface fc2 mfs-bundle enable timeout 10
interface fc2 linkspeed auto
interface fc2 type gl-port
interface fc2 rscn enable
!
interface fc3 enable
interface fc3 ms-enable enable
no interface fc3 al-fairness enable
interface fc3 fan-enable enable
interface fc3 ext-credit 0
interface fc3 mfs-bundle enable timeout 10
interface fc3 linkspeed auto
interface fc3 type gl-port
interface fc3 rscn enable
!
interface fc4 enable
interface fc4 ms-enable enable
no interface fc4 al-fairness enable
interface fc4 fan-enable enable
interface fc4 ext-credit 0
interface fc4 mfs-bundle enable timeout 10
interface fc4 linkspeed auto
interface fc4 type gl-port
interface fc4 rscn enable
!
interface fc5 enable
interface fc5 ms-enable enable
no interface fc5 al-fairness enable
interface fc5 fan-enable enable
interface fc5 ext-credit 0
interface fc5 mfs-bundle enable timeout 10
interface fc5 linkspeed auto
interface fc5 type gl-port
interface fc5 rscn enable
!
interface fc6 enable
interface fc6 ms-enable enable
no interface fc6 al-fairness enable
interface fc6 fan-enable enable
interface fc6 ext-credit 0
interface fc6 mfs-bundle enable timeout 10
interface fc6 linkspeed auto
interface fc6 type gl-port
interface fc6 rscn enable
!
interface fc7 enable
interface fc7 ms-enable enable
no interface fc7 al-fairness enable
interface fc7 fan-enable enable
interface fc7 ext-credit 0
interface fc7 mfs-bundle enable timeout 10
interface fc7 linkspeed auto
```

```
interface fc7 type gl-port
interface fc7 rscn enable
!
interface fc8 enable
interface fc8 ms-enable enable
no interface fc8 al-fairness enable
interface fc8 fan-enable enable
interface fc8 ext-credit 0
interface fc8 mfs-bundle enable timeout 10
interface fc8 linkspeed auto
interface fc8 type gl-port
interface fc8 rscn enable
!
! FCIP
!
fcip fcip1
    FCIP instance 1 is started
fcip fcip1 description "FCIP tfor SAN"
    administrative comments
fcip fcip1 networkIF ge1 100.1.1.1/0xffffffff00
    local GE interface for FCIP is GE1, and the local IP address is assigned
fcip fcip1 deviceIF fc11
    local internal initiator port is configure for this FCIP instance
fcip fcip1 destination fcip tcpclient 100.1.1.2
    remote IP added, and this end defined as client, remote side should be tcpserver
!
! AAA
!
aaa new-model
```

Switch Gopher

```
[Gopher-SN5428-2]# sh run
!
! CLUSTER
!
! cluster 9ba693c0
!
! ACCESSLIST
!
! (no accesslist(s) found)
!
! VTP DOMAIN
!
vtp domain none
  default VLAN Trunking Protocol setting
!
! VTP MODE
!
vtp mode client
  default VLAN Trunking Protocol setting
!
! VLAN
!
! (no vlan(s) found)
!
! SCSIROUTER
!
scsirouter BUCK
  scsi router named buck is configured
scsirouter BUCK authentication "none"
scsirouter BUCK username "none"
scsirouter BUCK password "none"
  scsi will not use any authentication for connecting clients
scsirouter BUCK ping idletimer 30
scsirouter BUCK ping replytimer 5
scsirouter BUCK cdbretrycount 6
scsirouter BUCK slp enable
  Service Locaion Protocol is enabled, we are a client
scsirouter BUCK primary "none"
  when 5428s are clustered, this scsi router has no primary node
scsirouter BUCK reserveproxy enable passthru yes
scsirouter BUCK failover primary none
scsirouter BUCK failover secondary none
  this scsi router has no preferred failover path when in a cluster
scsirouter BUCK lun reset no
scsirouter BUCK serverIf gel 192.168.1.1/255.255.255.0
  interface GE1 is assigned an IP address for this scsirouter
scsirouter BUCK target buck-lun wwpn "22000004cf7521d0"
  scsi target buck-lun is created. All luns found on the pwnn will be available
scsirouter BUCK target buck-lun enable
scsirouter BUCK target buck-lun accesslist "any" rw
```

```

scsirouter BUCK target buck-lun accesslist "any" ro
    no IP access list in place, any initiator my use this target
scsirouter BUCK target buck-lun maxcmdqueuedepth "0"
scsirouter BUCK target buck-lun crc "prefer-off"
scsirouter BUCK target buck-lun profile high
scsirouter BUCK target newtarget wwpn "21000004cf673ec2"
    scsi target named newtarget is created and mapped to a
scsirouter BUCK target newtarget enable
scsirouter BUCK target newtarget accesslist "any" rw
scsirouter BUCK target newtarget accesslist "any" ro
scsirouter BUCK target newtarget maxcmdqueuedepth "0"
scsirouter BUCK target newtarget profile high

!
! SYSTEM
!
hostname Gopher-SN5428-2
!
! Mgmt Port
!
interface mgmt autonegotiation
    management interface will auto negotiate for speed and duplex setting
interface mgmt ip-address 10.91.51.221/255.255.255.0
    management interface is assigned an IP address and net mask
!
! HA Port
!
interface ha autonegotiation
    high availability interface will auto negotiate for speed and duplex setting
interface ha ip-address 10.1.50.1/255.255.255.0
    ha interface is assigned an IP address
!
! FC
!
interface fcil topology ptp
    the internal initiator interface fcil is set to point to point
interface fcil mode scsirouter
    the internal initiator interface fcil is allocated to scsirouter
interface fcil devicediscoverytimer 0
!
! FC
!
interface fci2 topology ptp
    the internal initiator interface fci2 is set to point to point
!
! GE
!
interface ge1 autonegotiation autodetect
interface ge1 mtusize 1500
interface ge1 vlan enable
    interface is set to auto negotiate duplex and speed, uses default MTU
!
! GE
!
interface ge2 autonegotiation autodetect
interface ge2 mtusize 1500
interface ge2 vlan enable
!

```

```
! ROUTES
!
ip default-gateway 10.1.0.2
ip default-gateway 10.91.51.1
    IP default gateways are defined
!
! RIP
!
no ip rip enable
ip rip timers invalid 180
!
! ADMIN LOGIN
!
admin password <password>
!
! MONITOR LOGIN
!
monitor password <password>
!
! SNMP
!
ntp peer 10.10.253.101
    network time protocol server is defined
clock timezone US/Central
    local timezone is configured
!
! SNMP
!
snmp-server community public ro
snmp-server community private rw
no snmp-server host all traps
no snmp-server sendauthtraps
no snmp-server sendfrutraps
snmp-server linkupdown mgmt
snmp-server linkupdown ha
snmp-server linkupdown ge1
snmp-server linkupdown ge2
snmp-server linkupdown fc1
snmp-server linkupdown fc2
snmp-server linkupdown fc3
snmp-server linkupdown fc4
snmp-server linkupdown fc5
snmp-server linkupdown fc6
snmp-server linkupdown fc7
snmp-server linkupdown fc8
snmp-server location "<empty>"
    SNMP configuration
!
! DNS
!
ip name-server 10.10.0.20 10.10.0.30
    domain name server is configured
!
! TELNET
!
telnet enable
no session-timeout
```

```
telnet is enabled to the management port, and no timeout is in effect
!
! SSH
!
ssh enable
    SSH is enabled to the management port
!
! HA
!
! ha configuration clustered
!
! LOGGING ROUTE FACILITY
!
logging level notice from all to all
logging level info from all to logfile
!
! RESTRICT
!
restrict mgmt ftp
no restrict mgmt telnet
no restrict mgmt http
no restrict mgmt snmp
restrict mgmt ssl
no restrict mgmt ssh
    management port can not be used for FTP, SSL,
    management port can be used for telnet, HTTP, SNMP, and SSH
!
restrict ha ftp
restrict ha telnet
no restrict ha http
restrict ha snmp
restrict ha ssl
restrict ha ssh
    high availability port can only be used for http
!
restrict ge1 ftp
no restrict ge1 telnet
no restrict ge1 http
    interface GE is open for telnet and http access
restrict ge1 snmp
restrict ge1 ssl
restrict ge1 ssh
!
restrict ge2 ftp
no restrict ge2 telnet
    interface GE2 is open for telnet access
restrict ge2 http
restrict ge2 snmp
restrict ge2 ssl
restrict ge2 ssh
!
!
! CDP
!
cdp enable
cdp timer 60
cdp interface mgmt enable
```

```

cdp interface ha enable
cdp interface ge1 enable
cdp interface ge2 enable
    CDP is enabled on management, HA, GE1 and GE2 ports
!
! SLP
!
no slp enable
    Service Location Protocol is not enabled
!
! FC SWITCH
!
fcswitch ratov 10000
fcswitch edtov 2000
fcswitch dstov 5000
fcswitch fstov 5000
    FC fabric timers are defined
fcswitch zoning default All
    devices in the default zone may communication with each other, if this was set to
    'None' as opposed to 'All' they could not communicate with each other
no fcswitch zoning autosave enable
    zoning changes automatically saved
fcswitch zoning merge SW2
    fabric zoning is set to SW2 mode, this is standards based
fcswitch domainid 1 force
    domain ID is set to 1
no fcswitch domainid lock enable
    the domain ID is not locked, and may change if there is a RCF
!
! FC PORTS
!
interface fc1 enable
no interface fc1 ms-enable enable
no interface fc1 al-fairness enable
interface fc1 fan-enable enable
interface fc1 ext-credit 0
interface fc1 mfs-bundle enable timeout 10
interface fc1 linkspeed 2gb
    port is hard coded for 2 gigabytes
interface fc1 type gl-port
    default port type of generic loop capable, as opposed to E, F or FL
    port should automatically negotiate to E, F or FL
interface fc1 rscn enable
!
interface fc2 enable
no interface fc2 ms-enable enable
no interface fc2 al-fairness enable
interface fc2 fan-enable enable
interface fc2 ext-credit 0
interface fc2 mfs-bundle enable timeout 10
interface fc2 linkspeed 2gb
interface fc2 type gl-port
interface fc2 rscn enable
!
no interface fc3 enable
no interface fc3 ms-enable enable
no interface fc3 al-fairness enable
interface fc3 fan-enable enable

```

```
interface fc3 ext-credit 0
interface fc3 mfs-bundle enable timeout 10
interface fc3 linkspeed auto
interface fc3 type gl-port
interface fc3 rscn enable
!
no interface fc4 enable
no interface fc4 ms-enable enable
no interface fc4 al-fairness enable
interface fc4 fan-enable enable
interface fc4 ext-credit 0
interface fc4 mfs-bundle enable timeout 10
interface fc4 linkspeed auto
interface fc4 type gl-port
interface fc4 rscn enable
!
no interface fc5 enable
no interface fc5 ms-enable enable
no interface fc5 al-fairness enable
interface fc5 fan-enable enable
interface fc5 ext-credit 0
interface fc5 mfs-bundle enable timeout 10
interface fc5 linkspeed auto
interface fc5 type gl-port
interface fc5 rscn enable
!
no interface fc6 enable
no interface fc6 ms-enable enable
no interface fc6 al-fairness enable
interface fc6 fan-enable enable
interface fc6 ext-credit 0
interface fc6 mfs-bundle enable timeout 10
interface fc6 linkspeed auto
interface fc6 type gl-port
interface fc6 rscn enable
!
interface fc7 enable
no interface fc7 ms-enable enable
no interface fc7 al-fairness enable
interface fc7 fan-enable enable
interface fc7 ext-credit 0
interface fc7 mfs-bundle enable timeout 10
interface fc7 linkspeed auto
interface fc7 type gl-port
interface fc7 rscn enable
!
interface fc8 enable
interface fc8 ms-enable enable
no interface fc8 al-fairness enable
interface fc8 fan-enable enable
interface fc8 ext-credit 0
interface fc8 mfs-bundle enable timeout 10
interface fc8 linkspeed auto
interface fc8 type gl-port
interface fc8 rscn enable
!
! FCIP
```

```
!  
fcip fcip2  
    FCIP instance 1 is started  
fcip fcip2 description "FCIP for SAN"  
    administrative comments  
fcip fcip2 networkIF ge2 100.1.1.2/0xffffffff00  
    local GE interface for FCIP is GE2, and the local IP address is assigned  
fcip fcip2 deviceIF fci2  
    local internal initiator port is configure for this FCIP instance  
fcip fcip2 destination fcip tcpserver 100.1.1.1  
    remote IP added, and this end defined as server, remote side should be tcpclient  
!  
! AAA  
!  
aaa new-model
```