

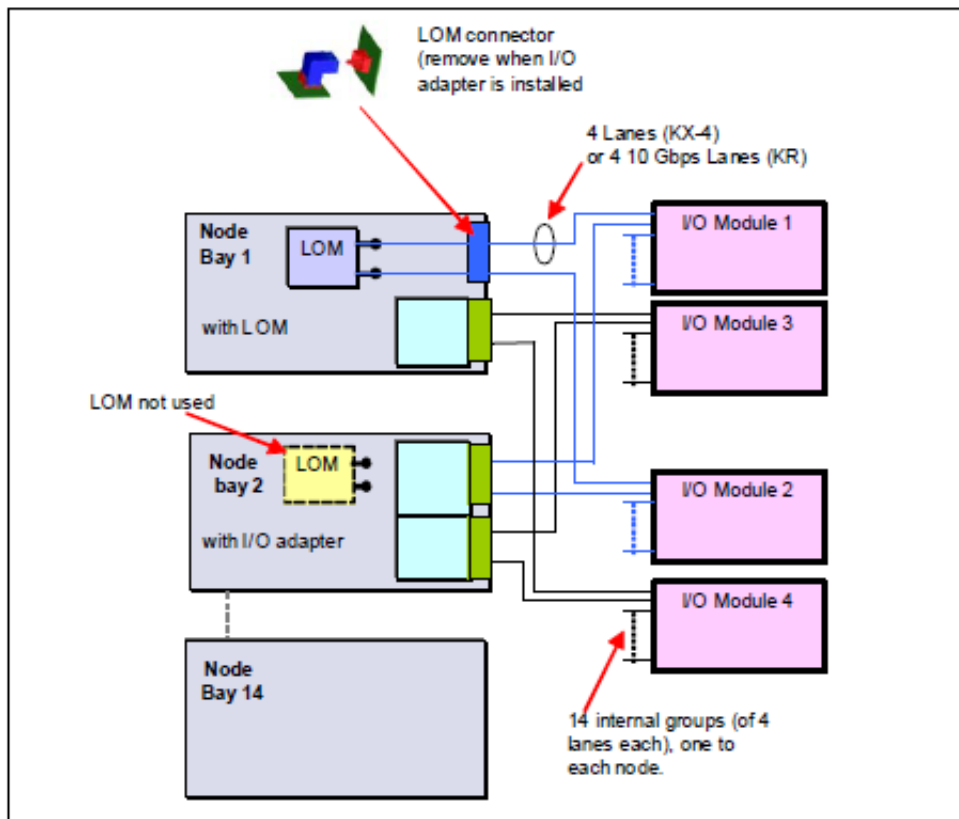
Configuring the IBM Flex System FC5022 16Gb SAN Scalable switch

Prerequisites:

- One IBM Flex System Enterprise Chassis with the Chassis Management Module (CMM) configured, network I/O module, compute node, Mezzanine adapter.
- An Ethernet network is already configured, if needed.
- A Fibre Channel SAN is already configured, if needed.

Steps:

1. Install the switch in the chassis and I/O cards in the Nodes.
Ensure the I/O card is in the correct location for the desired switch bay. Refer to the chassis documentation or location of physical bays.



2. The FC5022 SAN Switch has 28 internal ports and 20 external ports. The switch has the capability of having 2 16Gb links per Mezzanine adapter. The 28 internal ports map to the node bays as follows:
 - Internal ports 1 through 14 map to node bays 1 through 14 on the 1st port,
 - Internal ports 15 through 28 map to node bays 1 through 14 on the 2nd port.
 - External ports are numbers 0 and 29 to 47, top to bottom.

The 12 port and the 24 port license auto-enables ports 0 and 29. The rest of the available licenses are POD (port on demand). POD automatically assigns a license when a device logs in to a port. The licenses can be moved if desired, refer to the IBM Flex System FC5022 16Gb SAN Scalable Switch User's Guide at the following link for details:

In the information center (Internet):

<http://publib.boulder.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.networkdevices.doc/00d2311.pdf>

From the installed documentation on the IBM Flex System Management Console, navigate to: IBM Flex System information--> Network devices--> Network switches--> IBM Flex System FC5022 16Gb SAN Scalable Switch--> IBM Flex System FC5022 16Gb SAN Scalable Switch User's Guide

3. Log in to the CMM GUI or CLI and ensure that the switch ports are set to enabled. If the ports are set to disabled, both internal and external switch ports are disabled.

To enable the switch ports, log in to CMM CLI using SSH and type the following:

```
env -T system:switch[x] where x is the switch slot
ifconfig -ep enabled
```

4. Ensure that your switch operating mode is correct for the SAN you are connected to. See the following table for SAN interoperability information.

Table 6-2 SAN module feature comparison and interoperability

	FC5022 16Gb Switch	FC3171 8Gb SAN Switch	FC5022 16Gb Switch in Brocade Access Gateway mode	FC3171 8Gb SAN Pass-thru (and FC3171 8Gb SAN Switch in pass-thru mode)
Basic FC connectivity				
FC-SW-2 interoperability	Yes	Yes	Not applicable	Not applicable
Zoning	Yes	Yes	Not applicable	Not applicable
Maximum number of Domain IDs	239	239	Not applicable	Not applicable
Advanced FC connectivity				
Port Aggregation	Yes	No	Not applicable	Not applicable
Advanced fabric security	Yes	Yes	Not applicable	Not applicable
Interoperability (existing fabric)				
Brocade fabric interoperability	Yes	No	Yes	Yes
QLogic fabric interoperability	No	No	No	No
Cisco fabric interoperability	No	No	No	Yes

Follow these steps to change from a SAN Switch to a Access-Gateway mode (this change is disruptive):

- Use SSH to access IP address of the switch. Log in as admin/password
- Type *switchdisable*
- Type *ag -modeenable*. The switch reboots into AG mode.

To convert back to SAN Switch mode

- Type *switchenable*
 - Type *ag --modedisable*
5. Plug an appropriate small form-factor pluggable (SFP) into the switch. To determine which small form-factor pluggable plus (SFP+) modules and cables are required to connect the switch to other fabric or storage devices, see the following link:
<http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>
 6. Plug a fiber cable from the switch into the storage or SAN depending on the desired configuration.
Refer to your storage documentation to determine the best fiber cabling schemes.
 7. If you are using the FC5022 SAN Switch in Access-Gateway mode, ensure that the F-port to N-port port mapping is correct. The default mapping assumes that all external ports are connected. If this isn't the case the port mapping will need to be modified.

Refer to the “Fabric OS Native and Access Gateway modes” section of the the IBM Flex System FC5022 16Gb SAN Scalable Switch User's Guide at the following link for mapping information.

In the information center (Internet):

<http://publib.boulder.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.networkdevices.doc/00d2311.pdf>

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8. Retrieve the adapter world wide names (WWNs) from the CMM (select Chassis Management, then select Reports, then Unique Ids).
9. The best practice is single initiator zoning (initiator WWN to storage WWN), applicable to SAN Switch only. Ensure that both switches 3 and 4 are zoned correctly. For information on how to configure zoning, refer to the *Fabric OS Administrator's Guide* at the following link:

<http://ibm.brocadeassist.com/public/FabricOSv7xRelease.html>

To locate the software documentation from this website:

- Select the documentation tab at the top of the page.
 - Select **Fabric Operating Systems (FOS)** from the Product Manuals field.
 - Select **Fabric Operating Systems (FOS) 7.0** from the list.
10. Refer to your storage documentation to map a logical unit number (LUN) to the adapter WWN and any other configuration needed for the storage device being used.
 11. Perform OS deployment.

If boot from SAN is being performed, refer to the Boot from SAN section of the [IBM Flex System Products and Technology](#) Redbook.

Ensure that the unified extensible firmware interface (UEFI)/BIOS of your host bus adapter (HBA) is enabled and that the adapter boot order is set correctly for SAN boot. Refer to your HBA User Guide for how to configure.