光纤交换机常用命令

**IBM的双机双柜，两光纤交换机分别引一根光纤到另一楼光纤交换机，插上无反应，后得知需要更改交换机的domain id 默认出厂为1。需改为不同号。下面是博科的交换机命令转。**

**Brocade SAN交换机常用命令**

使用电脑连接管理网口，默认IP地址为：192.168.0.1，掩码：255.255.255.0

默认用户名：admin，默认密码password

1. switchStatusShow

查看交换机的总体健康状态

|  |
| --- |
| switch:admin> switchstatusshow  Switch Health Report  Switch Name: SWFCR  IP address: 10.33.54.176  SwitchState: MARGINAL  Duration: 863:23  Power supplies monitor MARGINAL  Temperatures monitor HEALTHY  Fans monitor HEALTHY  WWN servers monitor HEALTHY  Standby CP monitor HEALTHY  Blades monitor HEALTHY  Flash monitor HEALTHY  Marginal ports monitor HEALTHY  Faulty ports monitor HEALTHY  Missing SFPs monitor HEALTHY  All ports are healthy  switch:admin> |

2. switchShow

查看交换机基本配置信息

|  |
| --- |
| Enter the switchShow command, which displays the following information for a switch:  - switchname - The switch name.  - switchtype - The switch model and firmware version numbers.  - switchstate - The switch state: Online, Offline, Testing, or Faulty.  - switchrole - Displays the switch role: Principal, Subordinate, or Disabled.  - switchdomain - Displays the switch Domain ID.  - switchid - The embedded port D\_ID of the switch.  - switchwwn - The switch World Wide Name.  - switchbeacon - The switch beaconing state: either ON or OFF.  The switchShow command also displays the following information for ports on the specified  switch:  - Module type - The SFP type if an SFP is present.  - Port speed - The speed of the Port (1G, 2G, 4G, N1, N2, N4, or AN). The speed can be  fixed, negotiated, or auto-negotiated.  - Port state - The port status.  - Comment - About the port. This section may be blank or display the WWN for an F\_Port or  an E\_Port, the trunking state, or upstream or downstream status |

3. portShow

查看端口状态

|  |
| --- |
| switch:admin> switch:user> portshow 0  portName:  portHealth: OFFLINE  Authentication: None  portDisableReason: None  portCFlags: 0x1  portFlags: 0x4001 PRESENT U\_PORT LED  portType: 4.1  portState: 2 Offline  portPhys: 2 No\_Module  portScn: 0  port generation number: 0  portId: 010000  portIfId: 43020020  portWwn: 20:00:00:60:69:00:02:53  portWwn of device(s) connected:  Distance: normal  portSpeed: N2Gbps  LE domain: 0  Interrupts: 0 Link\_failure: 0 Frjt: 0  Unknown: 0 Loss\_of\_sync: 0 Fbsy: 0  Lli: 0 Loss\_of\_sig: 0  Proc\_rqrd: 0 Protocol\_err: 0  Timed\_out: 0 Invalid\_word: 0  Rx\_flushed: 0 Invalid\_crc: 0  Tx\_unavail: 0 Delim\_err: 0  Free\_buffer: 0 Address\_err: 0  Port part of other ADs: Yes |

4. fanShow

查看交换机散热风扇的状态

|  |
| --- |
| Enter the fanShow command:  switch:admin> fanshow  Fan 1 is OK speed is 7010 RPM  Fan 2 is OK speed is 7180 RPM  Fan 3 is OK speed is 7068 RPM  Fan 4 is OK speed is 7116 RPM  Fan 5 is OK speed is 7155 RPM  Fan 6 is OK speed is 7001 RPM  switch:admin> |

5. psShow

查看交换机的电源状态

注：如果安装FR4-18i、FC4-16IP、FC10-6、FC8-48板，需要满配4个电源

|  |
| --- |
| Enter the psShow command:  switch:admin> psshow  Power Supply #1 is OK  0335,FF2Z0007161,60-0000739-02, B,,DCJ3002-01P, B,FF2Z0007161  Power Supply #2 is faulty  0335,FF2Z0007176,60-0000739-02, B,,DCJ3002-01P, B,FF2Z0007176  switch:admin> |

6. tempShow

查看交换机的环境温度

|  |
| --- |
| Enter the tempShow command:  switch:admin> tempshow  Index Status Centigrade Fahrenheit  ----------------------------------------------------  1 OK 21 70  2 OK 22 72  3 OK 29 84  4 OK 24 75  5 OK 25 77  switch:admin> |

7. errDump、errShow、errClear

查看交换机的内部消息日志

|  |
| --- |
| To display the system message log, with no page breaks  Enter the errDump command.  To display the system message log one at a time  Enter the errShow command.  To clear the system message log  Enter the errClear command. |

8. supportShow、supportSave、pdShow

收集交换机的诊断数据

|  |
| --- |
| supportShow  显示诊断信息和状态信息  supportSave  将数据打包、上传至指定的FTP服务器  The command prompts for an FTP server, packages the following files, and sends them to the specified server:  ? The output of the supportShow command  ? The contents of any trace dump files on the switch  ? System message logs (for Brocade directors, supportSave saves the system message logs  from both of the CP blades)  pdShow  显示panic dump文件的内容，帮助诊断系统panic的原因 |

9. nsShow、nsAllShow、fabricShow

检查连接到交换机的设备

|  |
| --- |
| nsShow  显示连接到交换机的所有设备  nsAllShow  显示连接到Fabric的所有设备  fabricShow  显示Fabric中的所有交换机 |

10. licenseShow、wwn

检查license文件和交换机的WWN号

11. version

检查Fabric OS的版本，将显示如下信息：

|  |
| --- |
| - Kernel: displays the version of switch kernel operating system.  - Fabric OS: displays the version of switch Fabric OS.  - Made on: displays the build date of firmware running in switch.  - Flash: displays the install date of firmware stored in nonvolatile memory.  - BootProm: displays the version of the firmware stored in the boot PROM. |

12. haShow

查看Control Blade的状态

|  |
| --- |
| swDir: admin> haShow  Local CP (Slot 6, CP1): Active  Remote CP (Slot 5, CP0): Standby  HA Enabled, Heartbeat Up, State Synchronized |

13. slotShow

查看各个Blade的状态

14. portCfgSpeed

修改端口的速率

15. portEnable或portCfgPersistentEnable

Reset端口

16. 检查WWN卡状态

下列命令如果不能正确执行，则说明WWN卡需要更换：

www，chassisShow：显示交换机的WWN号

chassisShow：显示chassis和WWN卡的状态

ipAddrShow，ipAddrSet：显示CP Blades的IP地址

historyShow、historyLastShow：显示历史日志信息

switchName：显示交换机的名字

**修改Domain ID**

1. 查看当前的Domain ID

输入命令fabricShow，输出结果中的Switch ID即包括交换机的Domain ID。

2. 先关闭交换机

输入命令swichDisable

3. 配置Domain ID

输入命令configure

|  |
| --- |
| Enter y after the Fabric Parameters prompt:  Fabric parameters (yes, y, no, n): [no] y  Enter a unique domain ID at the Domain prompt. Use a domain ID value from 1 through 239 for normal operating mode (FCSW compatible):  Domain: (1..239) [1] 3  Respond to the remaining prompts, or press Ctrl-d to accept the other settings and exit. |

4. 重新启用交换机

输入命令swichEnable

**升级Firmware**

FC10-6 Blade需要Firmware Version 5.3以上

FC4-16IP Blade、FC4-48 Port Blade需要Firmware Version 5.2以上

FR4-18i router blade需要Firmware Version 5.1以上

如果M48有主备Control Processor，且主备CP处于synchronized状态，则升级过程可在线进行，不干扰数据流量。

如果M48只有一个CP，则升级微码过程中需要reboot交换机来激活新的Firmware，数据访问会中断。

升级M48 Firmware约需15分钟

1. 保存交换机的配置信息

configUpload

2. 保存主备Control Processor Blade的supportsave

使用命令ipAddrShow，查看主备CP的IP地址

使用telent分别登录主备CP，使用命令supportSave分别收集主备CP的supportsave文件。

3. 查看supportsave中的XXX\_SUPPORTSHOW文件，查找如下字段：

|  |
| --- |
| /bin/df:  Filesystem 1k-blocks Used Available Use% Mounted on  /dev/root 120112 61128 58984 51% /  /dev/hda2 120128 72356 47772 60% /mnt |

确认Flash存储器的使用率不超过90%。否则需联系二线Support。

4. 清除交换机中当前保存的error report信息

errClear

5. 检查当前各个CP Blades的Firmware版本

firmwareShow

6. 检查主备CP状态，是否处于同步状态

haShow：查看主备CP是否处于Synchronized状态

如果主备CP不处于同步状态，则使用命令haSyncStart同步主备CP。

|  |
| --- |
| switch:admin> hashow  Local CP (Slot 5, CP0): Active, Warm Recovered  Remote CP (Slot 6, CP1): Standby, Healthy  HA enabled, Heartbeat Up, HA State synchronized |

7. 升级Firmware

如果SAN交换机支持HA，则使用命令firmwareDownload，同时升级主备Control Blade。

如果SAN交换机不支持HA，则使用命令firmwareDownload -s，分别升级每个Control Blade。

8. 检查Firmware升级是否完成

firmwareDownloadStatus

9. 再次检查当前各个CP Blades的Firmware版本

firmwareShow

**激活软件License**

1. 查看当前已经激活的License

licenseShow

|  |
| --- |
| swDir:admin> licenseShow  AAbbccDDeeFFeeGG:  Web license  Zoning license  Extended Fabric license  Fabric Watch license  Performance Monitor license  Trunking license  Security license |

2. 获取和激活License时需要提供64位的Chasis ID，查看Chasis ID：

licenseIdShow

3. 激活新的License

licenseAdd “key”

4. 删除旧的License

licenseRemove “key”

删除License后需要reboot交换机，或者switchDisable/switchEnable重启交换机，以使需要删除的License失效。

**备份交换机的配置信息**

1. 使用configUpload命令，将配置文件保存在自己的电脑上

注：configUpload无法保存用户的密码信息。

2. 使用Telnet命令查看配置信息，并做Session Log

configShow

ipaddrShow

licenseShow

switchShow

3. 保存SupportSave文件

supportSave

**安装/更换Port Blade**

1. 查看当前Port Blade的状态

switchShow

2. 查看需要更换的Port Blade的备件号

chassisShow

包含有Port Blade的备件号、序列号和状态。

3. 确认需要更换的Port Blade上已经没有数据流量

查看Port Blade状态LED，确保所有的Port Speed和Port Status状态灯处于OFF状态。

4. 安装/更换完毕后检查

nsShow

nsAllShow

fabricShow

**更换M48 CP(Control Processor) Blade**

估计用时30分钟

注意事项：

1. 在拿到新CP Blade备件，可以开始物理更换前，不要将故障CP Blade取出，以免影响散热。

2. Acitve状态的CP Blade将自动把配置信息镜像到Standby状态的CP Blade上。必须在线更换CP Blade，才能实现配置信息的自动同步。

3. 新换上的CP Blade将继承旧CP Blade的IP地址和主机名。

4. 确保两个CP Blade处于同一FOS版本。

更换前的检查：

1. 查看CP Blade上的Status LED是否为黄色，Power LED是否点亮。

2. 使用slotShow命令查看CP Blade是否处于Enabled状态。

3. 使用hsShow命令是否报错。

4. 使用errShow命令查看错误日志。

备份配置信息：

1. 切换健康的CP Blade为当前Active状态的CP Blade。

使用命令haFailover，实现CP Blade间的手动切换。

使用命令haShow，确认当前Active状态的CP Blade为健康的CP Blade。

等待CP Blade上的Status LED熄灭，表明HA Failover已经完成。

2. 使用firmwareShow命令检查Firmware版本

3. 使用haDisable命令，暂时取消Failover功能。

4. 使用configUpload命令保存配置信息。

|  |
| --- |
| swDir:admin> configUpload  Protocol (scp or ftp) [ftp]: ftp  Server Name or IP Address [host]: 123.456.78.90  User Name [None]: user  File Name [config.txt]: config.txt  Password: xxxxxxxx  upload complete |

更换CP Blade

1. 将CP Blade上的电源开关拨至Down位置，切断CP Blade的电源。

2. 拔下CP Blade。

3. 插入新的CP Blade。

4. 将CP Blade上的电源开关拨至Up位置，给CP Blade供电。

更换后的验证：

1. 等待两个CP Blade上的Status LED都熄灭。

2. 使用命令haEnable启用HA Failover功能。

3. 使用命令haShow检查HA状态，确认“HA Enabled Heartbeat Up” and “HA-state in sync”。

4. 使用命令slotShow检查所有的CP Blade都处于Enabled状态。

|  |
| --- |
| swDir:admin> slotShow  Slot Blade Type ID Status ---------------------------------  1 SW BLADE 17 ENABLED  2 SW BLADE 17 ENABLED  3 SW BLADE 17 ENABLED  4 SW BLADE 17 ENABLED  5 CP BLADE 16 ENABLED  6 CP BLADE 16 ENABLED  7 SW BLADE 17 ENABLED  8 SW BLADE 17 ENABLED  9 SW BLADE 17 ENABLED  10 SW BLADE 17 ENABLED  swDir:admin> |

5. 使用命令firmwareShow命令，检查FW版本是否一致

|  |
| --- |
| swDir:admin> firmwareShow  Local CP (Slot 6, CP1): Active  Primary partition: v5.0.1  Secondary Partition: v5.0.1  Remote CP (Slot 5, CP0): Standby  Primary partition: v5.0.1  Secondary Partition: v5.0.1  Note: If Local CP and Remote CP have different versions of firmware, please retry firmwaredownload command.  swDir:admin> |

6. 使用firmwareDownload -s命令，只升级单独某个CP Blade的微码。

7. 使用firmwareDownloadStatus命令，验证微码安装是否成功。

**ZONE配置**

1. 概念

zone configuration：

为一组zone的集合。一个zone可以同时属于不同的zone configuration之中。当一个zone configuration生效时，属于该zone configuration的所有zone都生效。

创建zone配置基本步骤：

创建alias -> 创建zone -> 创建zone configuration -> cfgSave -> cfgEnable

2. 常用命令

configUpload：备份zone configuration

configDownload：恢复zone configuration

3. 创建别名

（1）aliCreate

（2）cfgSave

|  |
| --- |
| switch:admin> alicreate "array1", "2,32; 2,33; 2,34; 4,4"  switch:admin> alicreate "array2", "21:00:00:20:37:0c:66:23; 4,3"  switch:admin> alicreate "loop1", "4,6"  switch:admin> cfgsave  You are about to save the Defined zoning configuration. This  action will only save the changes on the Defined configuration.  Any changes made on the Effective configuration will not  take effect until it is re-enabled.  Do you want to save Defined zoning configuration only? (yes, y, no, n): [no] y |

4. 向别名中增加成员

（1）aliAdd

（2）cfgSave

|  |
| --- |
| switch:admin> aliadd "array1", "1,2"  switch:admin> aliadd "array2", "21:00:00:20:37:0c:72:51"  switch:admin> aliadd "loop1", "5,6"  switch:admin> cfgsave  You are about to save the Defined zoning configuration. This  action will only save the changes on the Defined configuration.  Any changes made on the Effective configuration will not  take effect until it is re-enabled.  Do you want to save Defined zoning configuration only? (yes, y, no, n): [no] y |

5. 删除别名中的成员

（1）aliRemove

（2）cfgSave

|  |
| --- |
| switch:admin> aliremove "array1", "1,2"  switch:admin> aliremove "array2", "21:00:00:20:37:0c:72:51"  switch:admin> aliremove "loop1", "4,6"  switch:admin> cfgsave  You are about to save the Defined zoning configuration. This  action will only save the changes on the Defined configuration.  Any changes made on the Effective configuration will not  take effect until it is re-enabled.  Do you want to save Defined zoning configuration only? (yes, y, no, n): [no] y |

6. 删除别名

switch:admin> alidelete "array1"

switch:admin> cfgsave

7. 查看定义配置中的别名

switch:admin> alishow "arr\*"

alias: array1 21:00:00:20:37:0c:76:8c

alias: array2 21:00:00:20:37:0c:66:23

8. 创建zone

switch:admin> zonecreate "greenzone", "2,32; 2,33; 2,34; 4,4"

switch:admin> zonecreate "redzone", "21:00:00:20:37:0c:66:23; 4,3"

switch:admin> zonecreate "broadcast", "1,2; 2,33; 2,34"

switch:admin> cfgsave

9. 向zone中增加设备

switch:admin> zoneadd "greenzone", "1,2"

switch:admin> zoneadd "redzone", "21:00:00:20:37:0c:72:51"

switch:admin> zoneadd "broadcast", "1,3"

switch:admin> cfgsave

10. 从zone中删除设备

switch:admin> zoneremove "greenzone", "1,2"

switch:admin> zoneremove "redzone", "21:00:00:20:37:0c:72:51"

switch:admin> zoneremove "broadcast", "2,34"

switch:admin> cfgsave

11. 删除一个zone

switch:admin> zonedelete "redzone"

switch:admin> cfgsave

12. 查看当前定义配置中的zone

以下命令查看所有以字母A、B、C开头的zone

switch:admin> zoneshow "[A-C]\*"

zone: Blue\_zone 1,1; array1; 1,2; array2

zone: Bobs\_zone 4,5; 4,6; 4,7; 4,8; 4,9

13. 创建zone配置

switch:admin> cfgcreate "NEW\_cfg", "redzone; bluezone; greenzone"

switch:admin> cfgsave

14. 向zone配置成员中加入zone

switch:admin> cfgadd "newcfg", "bluezone"

switch:admin> cfgsave

15. 从zone配置成员中删除zone

switch:admin> cfgremove "NEW\_cfg", "redzone"

switch:admin> cfgsave

16. 删除zone配置

switch:admin> cfgdelete "testcfg"

switch:admin> cfgsave

17. 撤销对zone配置的修改

命令cfgTransAbort将撤销所有未保存的修改，及恢复到上次执行cfgSave时的状态。

18. 查看zone配置信息

cfgShow不带任何参数：显示处于defined和effective状态的所有zone配置信息

switch:admin> cfgshow

Defined configuration:

cfg: USA1 Blue\_zone

cfg: USA\_cfg Red\_zone; Blue\_zone

zone: Blue\_zone

1,1; array1; 1,2; array2

zone: Red\_zone

1,0; loop1

alias: array1 21:00:00:20:37:0c:76:8c; 21:00:00:20:37:0c:71:02

alias: array2 21:00:00:20:37:0c:76:22; 21:00:00:20:37:0c:76:28

alias: loop1 21:00:00:20:37:0c:76:85; 21:00:00:20:37:0c:71:df

Effective configuration:

cfg: USA\_cfg

zone: Blue\_zone

1,1

21:00:00:20:37:0c:76:8c

21:00:00:20:37:0c:71:02

1,2

21:00:00:20:37:0c:76:22

21:00:00:20:37:0c:76:28

zone: Red\_zone

1,0

21:00:00:20:37:0c:76:85

21:00:00:20:37:0c:71:df

19. 保存zone配置

switch:admin> cfgenable "USA\_cfg"

You are about to enable a new zoning configuration.

This action will replace the old zoning configuration with the

current configuration selected.

Do you want to enable 'USA\_cfg' configuration (yes, y, no, n): [no] y

zone config "USA\_cfg" is in effect

Updating flash ...