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Brocade Communications Systems, Inc.

April 7, 2003
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Fabric OS
V3.0.2q Patch Release Notes

Patch Release Notes contain descriptions of bug fixes from release v3.0.2a to v3.0.2q

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BUGS FIXED IN FABRIC OS 3.0.2a
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Defect ID: 10109
Priority: 1
Problem Area: Zoning
Found in Release: v3.0.2
Problem description: SID/DID CAMs are not setup properly when a HBA issues a PDISC instead of PLOGI LOGO frames do not arrive at PDISC source port

Description of Fix: Zoning task rebuids the SID/DID CAMs when a PDISC is detected.

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BUGS FIXED IN FABRIC OS 3.0.2c
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Defect ID: 10504
Priority: 1
Problem Area: QuickLoop
Found in Release: v3.0.1b
Problem description: In a configuration with two hosts attached in 2Gbit\sec QuickLoop mode, when hba sends an OPN, it does not get forwarded to the storage device, it instead is sent back to the hba, resulting in the hba being unable to access storage.

Description of Fix: Save bitmap of looplets that failed to initialize during first pass and use it to
reinitialize them at the end of pass2, if timing deems this necessary.

Defect ID: 10577
Priority: 3
Problem Area: SNMP
Found in Release: v3.0.1b
Problem description: E-port display in FA-MIB and trunking only shows Master Trunk Port.

Description of Fix: swNbTable displayed the entries for master ports only. It now displays the entries for slave ports also.

Defect ID: 10743
Priority: 1
Problem Area: QL
Found in Release: v3.0.2
Problem description: Port becomes In_Sync when switch is rebooted with

JNI FCE2-6410. This issue will only occur with the dual port HBA FCE2-6410.

Description of Fix: Under certain loop environment, firmware handles the OFFLINE scn twice by calling qlLoopletDown. It is now handle propetly.

Defect ID: 11077
Priority: 3
Problem Area: Web Tools
Found in Release: v2.4.1c
Problem description: Hyphen in the switch node name in DNS disables access to Zone admin & Name server windows in WebTools.

Description of Fix: Modified the HTTPd task to accept hyphen in the switch node name.

Defect ID: 11295
Priority: 2
Problem Area: Command
Found in Release: v3.0.2b

Description of Fix: The command nsAliasShow has been added to this patch release. This command is a duplicate of the command nsShow with the added feature of displaying the defined
configuration aliases that the device belongs to.

Defect ID: 11638
Priority: 1
Problem Are: Name Server
Found in Release: v3.0.2b
Problem Description: NS was requiring another probing to be completed before
sending RSCN.

Description of Fix: If probing has failed with NOT_SUPPORTED as the reason code, probing will
discontinue and the NS will send an RSCN once the device has been registered.

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BUGS FIXED IN FABRIC OS 3.0.2d
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Defect ID: 12129
Priority: 1
Problem Area: Frame Filtering
Found in Release: v3.0.2c
Problem description: In a 20 switch fabric VMS hosts loses path to storage targets after the storage has been rebooted.

Description of Fix: Change to process Port login of Open VMS hosts can now maintain path to storage targets after storage has been rebooted.

Defect ID: 12136
Priority: 3
Problem Area: SNMP
Found in Release:
Problem Description: CERT test suite case #1421 causes memory leak in switch. Patch by WindRiver.

Description of Fix: Issue found by WindRiver when running CERT test #1421. WindRiver fixed the issue and provided a patch to Brocade.

Defect ID: 12198
Priority: 1
Problem Area: Compatibility
Found in Release: 3.0.2
Problem Description: Frames discarded during remote copy.

Description of Fix: The root cause of this is the loop deadlock. In order to fix this
problem, the switch will periodically checks the port for a loop idle condition where frames are not
tx'd and rx'd for at least 16ms. At which point, the loop tenancy is broken by generating the CLS

Defect ID: 12018
Priority: 1
Problem Area: QL
Problem Description: Switch hangs when receiving unexpected LISM storms from device.

Description of Fix: Fixed tReceive task to handle unexpected LISM storms correctly.

Defect ID: 12027
Priority: 1
Problem Area: Zoning
Problem Description: Port zoning all 4 ports on a VMS host does not see all ports from storage device.

Description of Fix: Clear the appropriate CAMs at the same time the CAMs in the host is cleared.

BUGS FIXED IN FABRIC OS 3.0.2f

Defect ID: 12215
Priority: 1
Problem Area:
Problem Description: Requesting bloomDataShow on an invalid port causes inconsistent behavior.

Description of Fix: An error message 'Invalid Port' will be displayed if the port requested
for bloomDataShow is out of range.

Defect ID:: 12228
Priority: 2
Problem Area: Auto Negotiation
Problem Description: Changing switch speed from AU to 1GB causes an HBA to go into loopback state

Description of Fix: Changed timing between portenable and portdisable to prevent an HBA from
going into loopback state when switch speed is changed from AU to 1GB.

Defect ID: 12324

Priority: 2
Problem Area: Frame Filtering
Problem Description: BA_ACC frame to an ABTS is being dropped.

Description of Fix: BA_ACC frame is now handled properly when an ABTS is received.

Defect ID: 12367
Priority: 1
Problem Area: Interop
Problem Description: GA_NXT request times out from McData to Brocade.

Description of Fix: Brocade switch returns next device in local name server.

Defect ID: 12477
Priority:
Problem Area: Quick Loop
Problem Description: LILP Frame did not contain all phantom ALPAs in the ports zone.
This resulted in ports not seeing all devices in its zone.

Description of Fix: Phantom map now includes all phantom ALPAs in ports zone.

Defect ID: 12575
Priority: 1
Problem Area: Port Initialization
Problem Description: Host does not recognize storage after reboot.

Description of Fix: F_port setup has changed.

Defect ID: 12879, 12739
Priority: 1
Problem Area: Zoning.
Problem Description: When zoning is enabled, a cluster node cannot see it's storage device
after reboot.

Description of Fix: Cluster node can now see storage devices after reboot when
zoning is enabled.

Defect ID: 12588
Priority: 2
Problem Area: Fabric Watch
Problem Description: tThad disable configure option is only available to root user

Description of Fix: tThad disable configure option now is available at the Admin level.

Defect ID: 13023
Priority: 2
Problem Area: Web Tools
Problem Description: Buttons at the bottom of screen are not visible at 800x600 resolution,
slider bar is unusable.

Description of Fix: Buttons are now visible at 800x600 resolution and

slider bar is
fully accessible.

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BUGS FIXED IN FABRIC OS 3.0.2g
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Defect ID: 12330
Priority: 1
Problem Area: Zoning
Problem Description: HDS MSCS linkup problem

Description of Fix: Set TFR_SEARCH to force another timeout search to clear the timeout flag

Defect ID: 12350
Priority: 1
Problem Area: Extended Fabric
Problem Description: Switch reboot after adding extended fabric license causes problem with spinsilk

Description of Fix: Spinsilk does not have problem anymore with this version

Defect ID: 13043
Priority: 1
Problem Area: Fabric Watch
Problem Description: Fabric Watch Warning is returning (NULL) when the timebase is modified from default

Description of Fix: Correction was made to return the unit string to display the value "Error(s)"

Defect ID: 13044
Priority: 2
Problem Area: Port configuration
Problem Description: More than one port in a quad may be designated as a long distance port.

Description of Fix: Once a port is set as long distance port, trying to designate another port
in the same quad to long distance will generate error message

Defect ID: 13045
Priority: 2
Problem Area: Zoning
Problem Description: Zoning interface allows duplicate entries to be added to an alias

Description of Fix: Duplicate entries will be detected and not added to the list

Defect ID: 13303
Priority: 2
Problem Area: Diagnostics
Problem Description: LOGO frame was dropped at the switch

Description of Fix: Trap the LOGO frame also in PLOGI trap and forward it

Defect ID: 13304
Priority: 2
Problem Area: QuickLoop
Problem Description: Switch is dropping SCSI command frames when a Mylex controller does a failover

Description of Fix: Continue creation of additional phantoms regardless of the error. During the LISA
phase, detect the error and resolve the error condition

Defect ID: 13326
Priority: 1
Problem Area: Fabric Watch
Problem Description: fwConfigReload not working properly

Description of Fix: Added ALPA, end-to-end and filter class configreload

Defect ID: 13519
Priority: 0
Problem Area: Backward/Forward Compatibility
Problem Description: During core PID upgrade in a redundant fabric, if the host mistakenly sends a
PLOGI with bad D_ID, and if hardware zoning is configured, filtering logic will use the wrong port
derived from the bad D_ID

Description of Fix: Check the port attached before using it

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BUGS FIXED IN FABRIC OS 3.0.2h
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Defect ID: 11606
Priority 2
Problem Area: Web Tools
Problem Description: v3.0.2x warning message is not consistent with 2.6.0x when enabling zoning configurations.

Description of Fix:
The following warning message in FOS 2.6.0x now exists in 3.0.2g as a reminder that when enabling it is only
for the defined configuration:

"You are about to save Zoning Configuration changes. This action will only save the defined
configurations. If you have changed the Currently Enabled Config, the changes will not be in
until you re-enable it. Do you want to save zoning changes only?"

If changes have been made to the effective configuration it will nee to be re-enabled for those changes to be
effective.

Defect ID: 14220
Priority: 2
Problem Area: Zoning
Problem Description: AL_PA's are being return in the LILP that belong to Ports that are in different zone.
When two switches are QL partnered together and have two zones, the AL_PA's from the first zone

are being reported in the LILP in the second zone.

Fix: QuickLoop code was functioning as designed. Zoning code was not enforcing zoning configurations
as defined. Zone configurations are now enforced.

Defect ID: 13558
Priority: 2
Problem Area: Kernal
Problem Description: Switch is not discarding invalid frames at destination at hardware speed.

Description of Fix: Created function so invalid frames can be dropped at hardware speed.

Defect ID: 15719
Priority: 1
Problem Area: QuickLoop
Problem Description: Frame hold time was changed in 3.0.2d from 500ms to 200ms. As a result
compatibility issues with certain storage devices have occurred.

Description of Fix: Frame hold time was increased back to 500ms to ensure compatibility with storage
devices.

Defect ID: 15463,15677
Priority: 2
Problem Area: Kernel
Problem Description: Additional changes to watchdog instrumentation in 3.0.2x code base.

Description of Fix: Instrumentation added to capture task activity on the switch at time of reboot
and setTaskLogMode to capture second level instrumentation can now be run by admin to capture further
watchdog data capture. When 2nd level instrumentation is enabled switch reboot is no longer required.

Defect ID: 13820
Priority: 1
Problem Area: Name Server
Problem Description: While trying to replicate a virtual disk the storage device does not respond to
the other similar storage devices which causes a time out and aborts the operation.

Fix: Now allow RNID to be accepted.

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BUGS FIXED IN FABRIC OS 3.0.2j
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Defect ID: 12895
Please note this fix was incorporated in 3.0.2g and due to clerical errors
did not appear in the README file.
Priority: High
Problem Description: The problem occurs when getting the active zone configuration name and the
active zone database contents. Each time the switch is polled for this

information, the length of the active configuration name bytes
on the switch is no longer visible. So if the active configuration is
"myzone1", 8 bytes are
lost (7 characters plus NULL terminator) each call.

Description of Fix: Free the the bytes allocated for the Active
Configuration name.

Defect ID: 14517
Priority: High
Problem Description: With FCP device probing turned off on the switch,
Fabric controller does not
send an RSCN after a target device registers with the name server with a
RFT_ID

Description of Fix: Using a new bitmap to indicate NS to send RSCNs.

Defect ID: 14993
Priority: High
Problem Description: Switch not sending enough LIPs to transition from
AL-PA sequence to Old_Port

Description of Fix: After sending out LIP for LIP_RETRY by tFcph, the
device responded by sending out
LIP followed by IDLE in the same micro second, then LIP and LLI
interrupt was raised at almost the same time.
Software always processes LLI interrupt before LPSM interrupt, handling
IDLE with a LIP interrupt pending.
In this case the IDLE was just sent out to flush the LIP as required by
FCPH, not really a protocol to try old port.
\Ignore the IDLEs and go to loop init directly.

Defect ID: 15061 (secondary of 14827)
Priority: Critical
Problem Description: Switch lockup due to shell task running
indefinitely in the case of telnet/shell out of sync.

Description of Fix: Add taskdelays so that shelltask doesn't run
indefinitely.

Defect ID: 15422
Priority: High
Problem Description: Switch does not prompt for a Reboot after
configuration change.

Description of Fix: Remove the reboot requiremnt of the configuration
parameter "Enable Close on Open". Setting
takes effect as soon as switchEnable.

Defect ID: 15577
Priority: Medium
Problem Description: PRLI being dropped

Description of Fix: Always reset the port before excluding zoning in
it.

Defect ID: 15757
Priority: Medium
Problem Description: If user specifies telnet session timeout value at
say 5 minutes and then
telnets to a switch BUT does not login, the session will NOT timeout.

Additional users will see that the switch is "IN USE...."

Description of Fix: Add the timeout mechanism in the portion of code prior to telnet login. Then telnet will
also timeout before login.

Defect ID: 15799
Priority: Medium
Problem Description: lbit was cleared in ALPAmap incorrectly

Description of Fix: Setting the lbit in the ALPAmap in LIFA phase

Defect ID: 16113
Priority: Low
Problem Description: Need to add Fabric Watch E-mail notification

Description of Fix: Added E-mail notification.

Defect ID: 16154
Priority: High
Problem Description: Device sent LINIT(CD,00), but the switch sends a LIP(F7,F7) when it should
have sent a LIP(CD,00)

Description of Fix: Pass the arg2 as the third parameter and value of 1 as 4th parameter when
calling bloomStartLoop() in bloom_ioctl.c. 4th parameter allows F8 in byte3. Add a condition to check if the
reason of calling bloopStartLoop is caused by LINIT. If it is, uses passed value of byte3 and byte4 to do the lip.

Defect ID: 16850
Priority: High
Problem Description: RJT was being used to setup CAMS which caused RJTs to be dropped.

Description of Fix: Not using RJT for setting up CAMs

Defect ID: 16865
Priority: High
Problem Description: Auto-negotiation failure with CPQ switch.

Description of Fix: After auto-negotiate complete, FC_AL_RESET was done twice. Both FC_AL_RESET are not necessary.
Will do FC_AL_RESET in the following three situations: 1. Gain SYnc 2. Change Speed 3. FIFO hits some problem During
auto-nego, after entering NEGOTIATE_COMPLETE, we have already been in sync for more tan 271 ms in NEGOTIATE_FOLLOW state.

Defect ID: 16903
Priority: High
Problem Description: Fabric Manager accesses the page FabricInfo2.html while the fabric is being re-configured.

Description of Fix: Serialize accesses to the domain database to prevent intermittent values while information in
the database is being computed.

Defect ID: 17313
Priority: High
Problem Description: The ls_port_name field in the ADISC accept payload

was not consistent with the values returned in
the PLOGI and PDISC accept payloads when the ADISC was sent to a well-known address (e.g., Management Server). Brocade
switch returns a different WWN in the ADISC Accept than the one it returns in the PLOGI Accept for the Management Server.
The PLOGI and PDISC handlers take into account whether the ELS is addressed to a well-known address (e.g., Management Server) or to some other port address. The ADISC handler did not.

Description of Fix: Changing the ADISC ELS handler:
Get the d_id field from the inbound ADISC ELS:
Make the port name field in the ADISC accept response consistent with the PLOGI and PDISC responses (i.e., pick the
appropriate port name based on the d_id field in the ADISC ELS).

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 BUGS FIXED IN FABRIC OS 3.0.2k
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Defect ID: 18058
Priority: Critcal
Problem Description: If a host is rebooted with an Emulex LP952 HBA and the topology
setting is (2) auto-sensing then the HBA will be logged in as G-port.

Description of Fix: Changed loop initialization process back to previous specification.

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 BUGS FIXED IN FABRIC OS 3.0.2m
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Defect ID: 18058
Priority: Critical
Problem Description: Emulex LP952 logged in as G-port

Description of Fix: Back out the change for defect 14993.

Defect ID: 18066
Priority: Low
Problem Description: X-axis out of scale in measuring port perf

Description of Fix: Cosmetic change to add a note in the graph with explanation.

Defect ID: 17759
Priority: High
Problem Description: Echo frames are not returned from the switch

Description of Fix: Setup hard loop-back zone group when FLOGI arrives without the knowledge of zoning/filtering logic.
This background zone group will be removed when the port goes offline.
This is done only for F-ports.

Defect ID: 18731 (Secondary of 18044)
Priority: Critical
Problem Desciption: Port faults causing large number of unknown interrupts because INT_NO_LOOPINIT mask is enabled but
never cleared due to an incorrect state at time of processing. Port shows in-sync.

Description of fix: Clear the INT_NO_LOOPINIT interrupt mask in

loomStartLoop().

Defect ID: 19253 (Secondary of 16664)
Priority: Medium
Problem Description: When a ping storm is in progress, the fabricShow command displays the message: "Fspf is calculating route, please do it later.."

Description of Fix: Added receive frame rate throttling code to ethernet driver. The ethernet driver now does a 1 tick delay on every 10th received frame so th during high rates of received ethernet frames, tNettask will not completely monopolize the CPU.

Defect ID: 19254 (Secondary of 16668)
Priority: Medium
Problem Description: When a ping storm is initiated on a switch, the FSPF queue is exceeded and the switch displays CRITICAL MQ-QWRITE errors.

Description of Fix: Added receive frame rate throttling code to ethernet driver. The ethernet driver now does a 1 tick delay on every 10th received frame so th during high rates of received ethernet frames, tNettask will not completely monopolize the CPU.

Defect ID: 19915
Priority: High
Problem Description: Continuous RSCNs recieved from switch when multiple target ports are brought online configured into the same zone.

Description of Fix: Do not overwrite the registered COS in the FLOGI database when handling UPD_AREA message.

BUGS FIXED IN FABRIC OS 3.0.2n

Defect ID: 13571 (Secondary of 12507)
Priority: Medium
Problem Description: Port status display inconsistent between different versions of FOS.

Description of Fix: Changed port status display to be consistent versions of FOS.

Defect ID: 19557
Priority: High
Problem Description: During LISM state, the loop port does not listen to LIP for 2s resulting in a long time for a storage port to come up and lost target.

Description of Fix: Change the timeout for LISM to 100ms. If LISM times out after 100ms retry LIP.

Defect ID: 19607
Priority: High
Problem Description: In a QL environment, the switch passed a LIP FF or F8 as F7.

Description of Fix: Allow correct LIPs to pass through from switch to switch.

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 BUGS FIXED IN FABRIC OS 3.0.2p
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Defect ID: 18455
Priority: Medium
Problem description: OPN (B5, D9) primitive signal not forwarded to target and sent back to initiator

Description of Fix: Added support for some older HBA's which only support loop initialization up to LISA phase,
and not LIRP and LILP phase.

Defect ID: 19117
Priority: Medium
Problem description: Due to RX buffer underflow, switch rejects a frame from HBA as "Invalid D_ID”

Description of Fix: Detect and Reset/restart loop on port.

Defect ID: 20001
Priority: High
Problem description: Excessive LLI state changes can trigger the portFault() algorithm.

Description of Fix: A port level interrupt disable scheme is introduced to prevent a single faulted port from
impacting the normal operations of other ports

Defect ID: 20795
Priority: High
Problem description: Excessive LLI interrupts cause some abnormal behavior of our driver code, and hence affects
how our port driver code behaves.

Description of Fix: As per defect # 20001, a port level interrupt disable scheme has been introduced to prevent
a single faulted port from impacting the normal operations of other ports.

Defect ID: 20987
Priority: High
Problem description: Switch reboot "Panic: INCONSISTENT - pt 0, FIFO under/overflow buf_error=0140000"
caused by RX buffer overflow.

Description of Fix: Detect and Reset/restart loop on port.

Defect ID: 21137
Priority: High
Problem description: IO operations against disk in loop is not consistent.

Description of Fix: Add a new mode argument to control fairness ON or OFF. Added half duplex option to
“portcfglport” command.

Defect ID: 21187
Priority: High
Problem description: Switch port becomes No_Sync after a storage reset.

Description of Fix: Recover from speed negotiation state machine lockup rather than try to close the timing window.

Defect ID: 23056
Priority: Low
Problem description: Text changes to portcfglport output and help page additional information for the Half Duplex
addition to the command "portcfglport"

Description of Fix: Changed text of command output and added information to the help page for “portcfglport” command.

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 BUGS FIXED IN FABRIC OS 3.0.2q
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Defect ID: 20987
Priority: Medium
Problem description: Switch reboot with "Panic: INCONSISTENT - pt 0, FIFO under/overflow buf_error=0140000"

Description of Fix: When cmeme rx overrun occurs, the code finds which port has this error then:
1. Check the error port type, if it is an FL port, restart the loop on the port.
2. Check if it is another type of port, link reset on the port.

Defect ID: 21187
Priority: High
Problem description: Switch port becomes No_Sync after a storage reset

Description of Fix: Detect lockup of the speed negotiation state machine and recover, rather than try to close
the timing window.

Defect ID: 22058
Priority: Medium
Problem description: On two consecutive reads of the same register, the information returned was combined resulting
in a value being read that exceeded the capacity of the register.

Description of Fix: Guard access of registers with interrupt safe mode so that each access of these
registers will be followed by a flush of the bus.

Defect ID: 22628
Priority: High
Problem description: MQWRITE error on nscam_q caused by a corrupted linked list in the timer task. If a timer interrupt
happened when the list was being updated, the list would get corrupted

Description of Fix: Added protection to the accessed list.

Defect ID: 22723
Priority: Medium
Problem description: The example used in the portCfgLport help page is

incorrect and confusing

Description of Fix: Changed the text to show the correct usage.

Defect ID: 23883
Priority: High
Problem description: Semaphore blocking occurs when a Terminal server flow control is set to on. Flow control enabled on
a terminal server connected to the serial port of a switch can cause the switch to hang and telnet and serial ports
to become inaccessible.

Description of Fix: Add shellFlowControlDisable and shellFlowControlEnable commands to allow the administrator
to disable/enable flow control. shellControlDisable is the default state.

The following new commands were added to the 3.0.2q patch. Help files are as follows:

NAME
     shellFlowControlDisable - Disables XON/XOFF flow control to the shell task.

SYNOPSIS
     shellFlowControlDisable

AVAILABILITY
     admin

DESCRIPTION
     This command allows an administrator to disable XON/XOFF flow control
     to the shell task. Disabling XON/XOFF flow control is the recommended
     behavior for the switch and is the default state. Flow control will be
     disabled for both serial port and telnet access into the command shell.

     This command is persistent across reboots. Once disabled, even in the event
     of a power cycle, the switch will boot up with XON/XOFF flow control DISABLED.

LIMITATIONS
     None.

OPERANDS
     None.

EXAMPLE
     sw5:admin> shellFlowControlDisable

     Committing configuration...done.

SEE ALSO
     shellFlowControlEnable

NAME
     shellFlowControlEnable - Enables XON/XOFF flow control to the shell task.

SYNOPSIS
     shellFlowControlEnable

AVAILABILITY
     admin

DESCRIPTION
     This command allows an administrator to enable XON/XOFF flow control
     to the shell task. Disabling XON/XOFF flow control is the recommended
     behavior for the switch and is the default state. If it becomes necessary
     to enable XON/XOFF flow control, it may be done with this command. Flow control
     will be enabled for both serial port and telnet access into the command
     shell.

     This command is persistent across reboots. Once enabled, even in the event of a
     power cycle, the switch will boot up with XON/XOFF flow control ENABLED.

LIMITATIONS
     None.

OPERANDS
     None.

EXAMPLE
     sw5:admin> shellFlowControlEnable

     Committing configuration...done.

SEE ALSO
     shellFlowControlDisable