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How this document is organized

This document contains updates to the following Fabric OS manuals:

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<tr>
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<th>Page Number</th>
<th>Publication Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Gateway Administrator's Guide</td>
<td>Updates on page 1</td>
<td>March 2010</td>
</tr>
<tr>
<td>CEE Administrator's Guide</td>
<td>No Updates</td>
<td>October 2010</td>
</tr>
<tr>
<td>CEE Command Reference</td>
<td>No Updates</td>
<td>October 2010</td>
</tr>
<tr>
<td>Fabric OS Administrator's Guide</td>
<td>Updates on page 3</td>
<td>September 2010</td>
</tr>
<tr>
<td>Fabric OS Command Reference</td>
<td>Updated on page 5</td>
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</tr>
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<td>Fabric OS Encryption Administrator's Guide (LKM)</td>
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<tr>
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<td>March 2010</td>
</tr>
<tr>
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</tr>
<tr>
<td>Fabric OS Encryption Administrator's Guide (SKM)</td>
<td>No Updates</td>
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<td>No Updates</td>
<td>October 2010</td>
</tr>
<tr>
<td>Fibre Channel over IP Administrator's Guide</td>
<td>No Updates</td>
<td>March 2010</td>
</tr>
<tr>
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<td>Updates on page 13</td>
<td>March 2010</td>
</tr>
<tr>
<td>Fabric OS Troubleshooting and Diagnostics Guide</td>
<td>No updates</td>
<td>March 2010</td>
</tr>
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<td>Updates on page 15</td>
<td>March 2010</td>
</tr>
<tr>
<td>FICON Administrator's Guide</td>
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<td>No updates</td>
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<td>DCX Backbone Hardware Reference Manual</td>
<td>Updates on page 17</td>
<td>March 2010</td>
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</table>
Document feedback

Quality is our first concern at Brocade and we have made every effort to ensure the accuracy and completeness of this document. However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you. Forward your feedback to:

documentation@brocade.com

Provide the title and version number of the document and as much detail as possible about your comment, including the topic heading and page number and your suggestions for improvement.
Chapter 1

Access Gateway Administrator’s Guide

In this chapter


- Chapter 3, Managing Policies and Features in Access Gateway Mode

Chapter 3, Managing Policies and Features in Access Gateway Mode

Under the heading “Trunking in Access Gateway Mode” on page 48, add the following note at the bottom of the page.

NOTE
N_Port Trunking is not supported for HBAs connected to switches running in Access Gateway mode. This feature is only be supported for HBAs connected to switches running in Native mode.
Chapter 3, Managing Policies and Features in Access Gateway Mode
In this chapter

The updates in this chapter are for the Fabric OS Administrator’s Guide, part number: 53-1001763-02, published September 2010.

- Chapter 14, Interoperability for Merged SANs ........................................... 3
- Chapter 16, Administering Licensing ......................................................... 3
- Chapter 17, Monitoring Fabric Performance ............................................. 3
- Chapter 21, Using the FC-FC Routing Service ............................. 4

Chapter 14, Interoperability for Merged SANs

In the section “Zoning restrictions” on page 306, add the following item:

- The maximum zone database size is 1 MB and is a combination of the active configuration size and the defined configuration size. For example, if the active configuration size is 200 KB, then the size of the defined configuration cannot exceed 800 KB.

Chapter 16, Administering Licensing

In Table 78 on page 368, add the following entry:

<table>
<thead>
<tr>
<th>Feature</th>
<th>License</th>
<th>Where license should be installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trunking on an HBA</td>
<td>Server Application Optimization and ISL Trunking</td>
<td>Local switch</td>
</tr>
</tbody>
</table>

Chapter 17, Monitoring Fabric Performance

In the section “Limitations of Top Talker monitors” on page 397, add the following item:

- Fabric mode Top Talker monitors and FC-FC routing are not concurrently supported.
Chapter 21, Using the FC-FC Routing Service

In the section “Verifying the setup for FC-FC routing,” on page 466 add the following step:

6. Delete fabric mode Top Talker monitors, if they are configured.

FC-FC routing and fabric mode Top Talker monitors are not concurrently supported. See “Deleting the fabric mode Top Talker monitors” on page 396 for instructions.
Chapter 3

Fabric OS Commands Reference

In this chapter

The updates in this chapter are for the Fabric OS Command Reference, part number: 53-1001763-02, published September 2010.

- New commands in Fabric OS v6.4.1 .......................... 5
- Revised commands in Fabric OS v6.4.0 ......................... 10
- Command RBAC permissions and AD types ..................... 12

New commands in Fabric OS v6.4.1

Add the following new commands to the Fabric OS Command Reference for Fabric OS v6.4.0.
bufOpMode

Changes or displays the Buffer Optimized Mode.

**SYNOPSIS**

bufopmode --set slot -f

bufopmode --reset slot

bufopmode --show slot

bufopmode --showall

**DESCRIPTION**

Use this command to display or change the buffer optimized mode on a switch. When buffer optimized mode is enabled on a slot, additional buffers are allocated on the internal ports. Use this feature, if you have slow draining devices connected to the slot and there are no long distance links on that slot. This command can provide more credit flexibility and may help with congestion. However, the full solution to traffic congestion requires the use of monitoring applications such as Fabric Watch, Bottleneck detection, and Port Fencing.

You must power off the slot before changing the buffer optimized mode. Changes take effect immediately after the slot is powered on.

Enabling buffer optimized mode removes all long distance configurations on that slot. You will be prompted if any long distance configuration is detected.

**NOTES**

The execution of this command is subject to Virtual Fabric or Admin Domain restrictions that may be in place. For details on command availability, refer to the *Fabric OS Command Reference*, Appendix A.

This command is only supported only on the Brocade FC8-16, FC8-32, and FC8-48 blades in a DCX or DCX-4S chassis.

This command is not supported on CP and core blades.

**OPERANDS**

This command has the following operands:

slot Specifies the slot number.

--set Enables buffer optimized mode on the specified slot. This command prompts for confirmation before removing any long distance configurations on that slot. Use the -f option to execute this command without confirmation.

--reset Clears buffer optimized mode on the specified slot.

--show Displays the current buffer optimized mode for the specified slot (On or Off).

--showall Displays the current buffer optimized mode for all slots.

**EXAMPLES**

To display the buffer optimized mode for all slots in a chassis:

```
switch:admin> bufopmode --showall
Slot 1: buffer optimized mode - Off
Slot 2: buffer optimized mode - Off
Slot 3: buffer optimized mode - Off
Slot 4: buffer optimized mode - Off
Slot 9: buffer optimized mode - Off
Slot 10: buffer optimized mode - Off
Slot 11: buffer optimized mode - Off
Slot 12: buffer optimized mode - On
```
To display current buffer optimized mode for a single slot:

switch:admin> bufopmode --show 12
Slot 12: buffer optimized mode - On

To enable buffer optimized mode for a given slot:

switch:admin> bufopmode --set 11
The operation is not supported when the slot is online

switch:admin> bufopmode --reset 12
The operation is not supported when the slot is online

switch:admin> slotpoweroff 11
switch:admin> slotpoweroff 12

switch:admin> bufopmode --set 12
Buffer optimized mode is turned on for slot 11

switch:admin> bufopmode --reset 12
Buffer optimized mode is turned off for slot 12

switch:admin> slotpoweron 11
switch:admin> slotpoweron 12

To display the changes:

switch:admin> bufopmode --showall
Slot 1: buffer optimized mode - Off
Slot 2: buffer optimized mode - Off
Slot 3: buffer optimized mode - Off
Slot 4: buffer optimized mode - Off
Slot 9: buffer optimized mode - Off
Slot 10: buffer optimized mode - Off
Slot 11: buffer optimized mode - On
Slot 12: buffer optimized mode - Off

SEE ALSO  slotShow, slotPowerOn, slotPowerOff
portCfgFaultDelay

Configures the fault delay for a single FC port.

SYNOPSIS

    portcfgfaultdelay --enable [slot]port mode
    portcfgfaultdelay --help

DESCRIPTION

Use this command to configure the fault delay of an FC port.

In the event that the link is noisy after a host power cycle, the switch may go into a soft fault state, which
means a delay of R_A_TOV. Setting the mode value to 1 reduces the fault delay value to 1.2 seconds.

The configuration is stored in nonvolatile memory and is persistent across switch reboots or power cycle.

Use the portCfgShow command to display user-configured fault delay settings.

NOTES

The execution of this command is subject to Virtual Fabric or Admin Domain restrictions that may be in
place. Refer to Chapter 1, "Using Fabric OS Commands" and Appendix A, "Command Availability" for
details.

This command is not applicable to non-FC ports.

OPERANDS

This command has the following operands:

    slot            For bladed systems only, specifies the slot number of the port to be configured,
                    followed by a slash (/).

    port            Specifies the number of the port to be configured, relative to its slot for bladed
                    systems. Use switchShow for a listing of valid ports.

    mode            Specifies the fault delay value for the port number. This operand is required. Valid
                    values are one of the following:

                    0    Sets the fault delay to R_A_TOV (default)

                    1    Sets the fault delay to 1.2 seconds.

---help

Displays the command usage.

EXAMPLES

To set the fault delay of a port to 1.2 seconds:

    switch:admin> portcfgfaultdelay 2/3 1

To display the configuration

    switch:admin> portcfgshow 2/3 1

    Area Number:              138
    Speed Level:              AUTO(HW)
    Fill Word:                0(idle-idle)
    AL_PA Offset 13:          OFF
    Trunk Port                ON
    Long Distance             OFF
    VC Link Init              OFF
    Locked_L_Port             OFF
    Locked_G_Port             OFF
    Disabled_E_Port           OFF
    ISL R_RDY Mode            OFF
    RSCN Suppressed           OFF
    Persistent Disable        OFF
    NPIV capability           ON
    QOS E_Port                AE
    Port Auto Disable:        OFF
<table>
<thead>
<tr>
<th>Mirror Port</th>
<th>OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>F_Port Buffers</td>
<td>OFF</td>
</tr>
<tr>
<td>Fault Delay</td>
<td>1(1.2sec)</td>
</tr>
</tbody>
</table>

```
switch:admin> portcfgshow

Ports of Slot 2 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
---------------+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
Speed          AN AN AN AN AN AN AN AN AN AN AN AN AN AN
Fill Word      0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
AL_PA Offset   13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
Trunk Port     ON ON ON ON ON ON ON ON ON ON ON ON ON ON ON
Long Distance  .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
VC Link Init   .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
Locked L_Port  .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
Locked G_Port  .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
Disabled E_Port .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
ISL R_RDY Mode .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
RSCN Suppressed .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
Persistent Disable .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
NPIV capability ON ON ON ON ON ON ON ON ON ON ON ON ON ON ON
EX Port        .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
Mirror Port    .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
Rate Limit     .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
Credit Recovery ON ON ON ON ON ON ON ON ON ON ON ON ON ON ON ON ON
Fport Buffers  .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
Port Auto Disable .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
Fault Delay    0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
```

(output truncated)

SEE ALSO  portCfgShow
Revised commands in Fabric OS v6.4.0

A new configurable parameter has been added to the `configure` command under Fabric Parameters:

In Table 6 on page 133 add the following row:

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Default</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edge hold time</td>
<td>Number (seconds)</td>
<td>220</td>
<td>0-500</td>
</tr>
</tbody>
</table>

The description for Edge hold time is as follows:

Configures the maximum time a frame can wait after it is received on the ingress port and before it is delivered to the egress port. If the frame waits in the egress buffer for more than the configured hold time, the switch drops the frame, replenishes sender's credit, and increments the counters `sts_tx_timeout` and `er_c3_timeout` on the TX and RX ports respectively. The frame-timeout indicates a slow draining or a congestion or bottleneck in the fabric. Decreasing hold time on the Edge switches may reduce frame drop counts in the core switches. This parameter is stored persistently in the configuration file. You can configure Edge hold time only on the default switch:

Example:

To configure Edge hold time on a disabled switch:

```
Switch:admin> configure
Configure...

Fabric parameters (yes, y, no, n): [no] yes
Domain: (1..239) [1]
R_A_TOV: (4000..120000) [10000]
E_D_TOV: (1000..5000) [2000]
WAN_TOV: (0..30000) [0]
MAX_HOPS: (7..19) [7]
Data field size: (256..2112) [2112]
Sequence Level Switching: (0..1) [0]
Disable Device Probing: (0..1) [0]
Suppress Class F Traffic: (0..1) [0]
Per-frame Route Priority: (0..1) [0]
Long Distance Fabric: (0..1) [0]
BB credit: (1..27) [16]
Disable FID Check (yes, y, no, n): [no]
Insistent Domain ID Mode (yes, y, no, n): [no]
Configure edge hold time (yes, y, no, n): [no]
Edge hold time: (100..500) [220]

Virtual Channel parameters (yes, y, no, n): [no]
F-Port login parameters (yes, y, no, n): [no]
Zoning Operation parameters (yes, y, no, n): [no]
RSCN Transmission Mode (yes, y, no, n): [no]
Arbitrated Loop parameters (yes, y, no, n): [no]
System services (yes, y, no, n): [no]
Portlog events enable (yes, y, no, n): [no]
ssl attributes (yes, y, no, n): [no]
rpcd attributes (yes, y, no, n): [no]
webtools attributes (yes, y, no, n): [no]
System (yes, y, no, n): [no]
```
To configure Edge hold time on an enabled switch:

Switch:admin> configure
Not all options will be available on an enabled switch.
To disable the switch, use the "switchDisable" command.

Configure...

Fabric parameters (yes, y, no, n): [no] yes

Configure edge hold time (yes, y, no, n): [no] yes
Edge hold time: (100..500) [220]
System services (yes, y, no, n): [no]
ssl attributes (yes, y, no, n): [no]
rpcd attributes (yes, y, no, n): [no]
webtools attributes (yes, y, no, n): [no]
System  (yes, y, no, n): [no]
Command RBAC permissions and AD types

Refer to Table 7 for the RBAC and Admin Domain availability of new Fabric OS v6.4.1 commands.

<table>
<thead>
<tr>
<th>Command Name</th>
<th>User</th>
<th>Admin</th>
<th>Operator</th>
<th>Switch Admin</th>
<th>Zone Admin</th>
<th>Fabric Admin</th>
<th>Basic Switch Admin</th>
<th>Security Admin</th>
<th>Admin Domain</th>
<th>Context</th>
<th>Switch Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>bufOpMode</td>
<td>O</td>
<td>OM</td>
<td>OM</td>
<td>OM</td>
<td>O</td>
<td>OM</td>
<td>OM</td>
<td>O</td>
<td>SwitchMember</td>
<td>VF</td>
<td>All</td>
</tr>
<tr>
<td>portCfgFaultDelay</td>
<td>O</td>
<td>OM</td>
<td>OM</td>
<td>OM</td>
<td>O</td>
<td>OM</td>
<td>OM</td>
<td>O</td>
<td>PortMember</td>
<td>VF</td>
<td>All</td>
</tr>
</tbody>
</table>
In this chapter

The updates in this chapter are for the Fabric OS Message Reference, part number: 53-1001767-01, published March 2010.

- SULB System Messages .............................................................. 13

SULB System Messages

On page 620, in the SULB System Messages chapter, correct the severity level for the message SULB-1037.

- "Severity - INFO" to be changed to "Severity - ERROR"
Chapter 1, Fabric Watch notification types

swFabricWatchTrap severity

On page 9, “SNMP traps,” a severity description for “swFabricWatch Trap severity,” is missing. For complete information about the swFabricWatch Trap severity, please refer to the following sections in the Fabric OS MIB Reference Guide, part number: 53-1001768-01:

- “Understanding SNMP basics”
- “Loading Brocade MIBs”
- Table 14: SW-MIB Traps

SNMP trap counters

The following SNMP information will be added in the next release of Fabric Watch:

- When a counter is in the “in-between” state, Fabric Watch sends an informational SNMP trap. (See “In-between buffer values” on page 16 for an explanation of the concepts of “in-between” boundaries and high and low thresholds.)
- When a counter is above the high threshold or below the low threshold, Fabric Watch sends a warning SNMP trap except for the power supply area of the environment class, CPU, and memory:
  - The severity of a Fabric Watch SNMP trap for the power supply area of the environment class will always be informational except when the counter value is below the low threshold. When the counter value of the power supply is below threshold, Fabric Watch sends a warning SNMP trap.
  - The severity of a Fabric Watch SNMP trap for CPU and memory will always be informational.
Chapter 2, Fabric Watch Thresholds

On page 15 and 16, the sections “High and low thresholds” have been changed to include the following expanded threshold categories:

- Above high threshold
- Below high threshold
- Above low threshold
- Below low threshold

**NOTE**
The *above low threshold* action applies only to the `portThConfig` command. It does not apply to the `thConfig` and `sysMonitor` commands.

**In-between buffer values**
The *below high threshold* is the term used to configure “in between” buffer values, as shown below. In this example, the high threshold value is 5 and the buffer value is 1. Therefore, the “in-between” boundary value is 4. Enter the `portThConfig` command using the following parameters.

```
portthconfig -set port -area crc -highth -value 4 -trigger below -action raslog
```

**Above high threshold**

Above action = 5

```
BUFFER = 1
```

**Low action**

**Below high threshold**

**In-between**

**Above low threshold**

Above action

```
BUFFER
```

**Low action**

**Below low threshold**

**Chapter 4, Fabric Watch Activation**

On page 30 “snmpConfig -set” should appear as “snmpConfig --set”.
Chapter 6

DCX Backbone Hardware Reference Manual

In this chapter

The updates in this chapter are for the DCX Backbone Hardware Reference Manual, part number: 53-10000685-12, published March 2010.

- Appendix D, Port Numbering Template

Appendix D, Port Numbering Template

In two illustrations the port numbers have been reversed in the tables under each figure.

For Figure 42 for the FC8-32 port blade on page 133, the table under the illustration should read as follows.

1  Blade Power LED  3  FC ports 16-31 (bottom to top)
2  Blade Status LED  4  FC ports 0-15 (bottom to top)

For Figure 43 for the FC8-48 port blade on page 134, the table under the illustration should read as follows.

1  Blade Power LED  3  FC ports 24-47 (bottom to top)
2  Blade Status LED  4  FC ports 0-23 (bottom to top)
Appendix D, Port Numbering Template

- Chapter 3, Brocade 5100 Operation .......................... 19

## Chapter 3, Brocade 5100 Operation

For Table 1 on page 19, replace the first row, with the LED Name Power Supply Status (right) with the following row.

<table>
<thead>
<tr>
<th>LED Name</th>
<th>LED Color</th>
<th>Status of Hardware</th>
<th>Recommended Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>No light</td>
<td>Primary power cord is disconnected or is not actively powered, or power supply has failed.</td>
<td>Verify the power supply is on and seated and the power cord is connected to a functioning power source.</td>
</tr>
<tr>
<td>Status</td>
<td>Steady green</td>
<td>Power supply is operating normally.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Flashing green</td>
<td>A power supply and fan assembly fault has occurred for one of the following reasons:</td>
<td>Take one of the following actions:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The power supply or fan in the assembly has failed.</td>
<td>• Replace the FRU.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The FRU was disabled by a user.</td>
<td>• Verify that the power supply/fan assembly FRU has been enabled.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The FRU power switch has been turned off or the unit has been unplugged.</td>
<td>• Check the power switch and plug.</td>
<td></td>
</tr>
<tr>
<td>LED Name</td>
<td>LED Color</td>
<td>Status of Hardware</td>
<td>Recommended Action</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Port Status</td>
<td>No light</td>
<td>No signal or light carrier (media or cable) detected.</td>
<td>Check transceiver and cable.</td>
</tr>
<tr>
<td>Slow flashing green</td>
<td>(flashing in two-second intervals)</td>
<td>Port is online but segmented because of a loopback cable or incompatible switch connection.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Fast flashing green</td>
<td>(flashing in half-second intervals)</td>
<td>Port is online and an internal loopback diagnostic test is running.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Flickering green</td>
<td>(steady with random flashes)</td>
<td>Port is online and frames are flowing through the port.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td></td>
<td>Port is online (connected to external device) but has no traffic.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Slow flashing amber</td>
<td>(flashing in two-second intervals)</td>
<td>Port is disabled (because of diagnostics or the <code>portDisable</code> command).</td>
<td>Verify the diagnostic tests are not running. Reenable the port using the <code>portEnable</code> command.</td>
</tr>
<tr>
<td>Fast flashing amber</td>
<td>(flashing in half-second intervals)</td>
<td>Port is faulty.</td>
<td>Check the management interface and the error log for details on the cause of status. Contact Technical Support if required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>(for more than five seconds)</td>
<td>Port is receiving light or signal carrier at 4 Gbps; but is not yet online.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>