BROCADE

Brocade Fabric OS v6.1.2_cee1
Release Notes v3.0

September 2, 2009

Document History

Document Title	Summary of Changes	Publication Date
Brocade Fabric OS v6.1.2_cee1 Release Notes v1.0	Initial release	April 20, 2009
Brocade Fabric OS v6.1.2_cee1 Release Notes v2.0	Removed incorrect references to DCFM 10.2.0	April 29, 2009
Brocade Fabric OS v6.1.2_cee1 Release Notes v3.0	Added information on Brocade 8000 balancing the FCoE bandwidth	September 2, 2009

Contents

Quick Look

If you are already using the most recent version of the Fabric OS v6.1.2_cee Release Notes, here are the changes between that version and this version.

- A section added on Supported Converged Network Adapters.
- At the beginning of the Other Important Notes and Recommendations section, two notes on Converged Mode added.
- In the Standards Compliance section, the version of FCoE standard changed to Revision 1.0.3.
- A Documentation Updates section added, including entries for the *Brocade Fabric OS Addendum Guide* and for the *Converged Enhanced Ethernet Command Reference*.
- The table at the end of these notes contains a list of the defects Closed with Code Change in Fabric OS v6.12_cee1.

Overview

Brocade Fabric OS v6.1.2_cee is only for use with the following new hardware platform:

- **Brocade 8000**

Fabric OS v6.1.2_cee should not be used on any other Fabric OS platforms.

The Brocade® 8000 switch is a multi-protocol, 32 port, Top-of-Rack, 1U form factor, standard rack width, Brocade Data Center Fabric (DCF™) switch.

Of the total 32 ports, 24 are 10Gig Converged Enhanced Ethernet (CEE) ports offering a line-rate, low latency, lossless and deterministic interconnect based on Brocade's 10G L2/L3 CEE, cut-through ASIC technology. The remaining 8 ports are auto-sensing 1, 2, 4, or 8 Gbit/sec Fibre Channel ports delivering Brocade's latest ASIC technology and architecture for Fibre Channel Storage Area Networks (SAN).

New Feature Descriptions

The Brocade 8000 is the first FCoE switch offering from the Brocade family of products, and offers the following new capabilities:

CEE and Ethernet (Layer 2) Capabilities

The Brocade 8000 supports Spanning Tree Protocol (STP, MSTP, RSTP), VLAN Tagging (802.1q), MAC address learning and aging, Native FCoE switching, IEEE 802.3ad Link Aggregation (LACP), 802.1Qbb Priority-based Flow Control, 4k VLANs, Priority-based Flow Control, Data Center Bridging eXchange (DCBX), and Enhanced Transmission Selection. It also supports Access Control Lists based on VLAN, source, destination address and port.

FCoE Capabilities

The Brocade 8000 supports T11 FCoE Entity and FCoE bridging, an FCoE Hardware Engine that

performs FCoE frame encapsulation and decapsulation, FCoE VF_port (Virtual F_port) and Fabric Provided MAC Address (FPMA) discovery.

Please refer to the *Fabric OS v6.1.1 Admin Guide* for details on the Fabric OS v6.1.1 capabilities.

Optionally Licensed Software

Optionally licensed features supported in Fabric OS v6.1.2_cee include:

- Brocade ISL Trunking — Provides the ability to aggregate multiple physical links into one logical link for enhanced network performance and fault tolerance. This feature is applicable only to the FC ports on the Brocade 8000.
- Brocade Advanced Performance Monitoring — Enables performance monitoring of networked storage resources. This license includes the TopTalkers feature. This feature is applicable only to the FC ports on the Brocade 8000.
- Brocade Fabric Watch — Monitors mission-critical switch operations. Fabric Watch includes Port Fencing capabilities. This feature is applicable only to the FC ports on the Brocade 8000.

Supported Switches

Fabric OS v6.1.2_cee1 supports only the Brocade 8000.

Supported Converged Network Adapters

The Brocade 8000 running Fabric OS v6.1.2_cee1 supports all Converged Network Adapters that conform to FC-BB-5 revision 1.0.3.

Standards Compliance

This software conforms to the Fibre Channel Standards in a manner consistent with accepted engineering practices and procedures. In certain cases, Brocade might add proprietary supplemental functions to those specified in the standards. For a list of standards conformance, visit the following Brocade Web site: *http://www.brocade.com/sanstandards*

The Brocade 8000 conforms to the following Ethernet standards:

- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1s Multiple Spanning Tree
- IEEE 802.1w Rapid reconfiguration of Spanning Tree Protocol
- IEEE 802.3ad Link Aggregation with LACP
- IEEE 802.3ae 10G Ethernet
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1p Class of Service Prioritization and Tagging
- IEEE 802.1v VLAN Classification by Protocol and Port
- IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
- IEEE 802.3x Flow Control (Pause Frames)

The following draft versions of the Converged Enhanced Ethernet (CEE) and Fibre Channel over Ethernet (FCoE) Standards are also supported on the Brocade 8000:

- IEEE 802.1Qbb Priority-based Flow Control
- IEEE 802.1Qaz Enhanced Transmission Selection
- IEEE 802.1Qaz DCB Capability Exchange Protocol
- FC-BB-5 FCoE (Rev 1.0.3)

Technical Support

Contact your switch supplier for hardware, firmware, and software support, including product repairs and part ordering. To expedite your call, have the following information immediately available:

1. **General Information**

- Technical Support contract number, if applicable
- Switch model
- Switch operating system version
- Error numbers and messages received
- **supportSave** command output
- Detailed description of the problem, including the switch or fabric behavior immediately following the problem, and specific questions
- Description of any troubleshooting steps already performed and the results
- Serial console and Telnet session logs
- Syslog message logs

2. **Switch Serial Number**

The switch serial number is provided on the serial number label, as shown here.

The serial number label is located as follows:

Brocade 8000 — On the switch ID pull-out tab located inside the chassis on the port side on the left and also on the bottom of the chassis.

3. **World Wide Name (WWN)**

Use the **wwn** command to display the switch WWN.

If you cannot use the **wwn** command because the switch is inoperable, you can get the WWN from the same place as the serial number.

Important Notes

This section contains information that you should consider before you use this firmware release.

Firmware Upgrades and Downgrades

Firmware upgrade on the Brocade 8000 is accomplished by executing the firmwaredownload command. Please note that Hot Code Activation capability is not supported on the Brocade 8000 in the Fabric OS v6.1.2_cee release. Any firmware upgrade operation from Fabric OS v6.1.2_cee to a newer Fabric OS release will be disruptive to the traffic currently going through the Brocade 8000 platform.

Fabric OS Compatibility

The following table lists the earliest versions of Brocade software supported in this release, that is, the *earliest* supported software versions that interoperate. Brocade recommends using the *latest* software versions to get the greatest benefit from the SAN.

For a list of the effective end-of-life dates for all versions of Fabric OS, visit the following Brocade Web site:

http://www.brocade.com/support/end_of_life.jsp

Supported Products and Fabric OS Interoperability	
Brocade 200E, 4100, 48000	v6.1.0d and higher
Brocade 5000, 300, 5100, 5300	v6.1.2 and higher
Brocade 5410, *5424*[1]*, 5480*[1]	v6.1.2 and higher
Brocade DCX	v6.1.0b and higher
Brocade DCX-4S	v6.2.0c and higher
Mi10k, M6140, ED-6064, ES-3232, ES-4300, ES-4400, ES-4500, ES-4700	Not Supported
Multi-Protocol Router Interoperability	
Brocade 7500, 7500E and FR4-18i blade	v6.1.1 and higher
McDATA SANRouters 1620 and 2640	Not Supported

[1] These Brocade products and others not listed may interoperate with the Brocade 8000 although they have not been explicitly qualified.

Other Important Notes and Recommendations

The Brocade 8000 balances the FCoE bandwidth across all six port groups (each port group contains four ports). To get optimum performance for FCoE traffic it is recommended that the user distribute server CNA connections across these six port groups.

Brocade recommends that Converged Mode be enabled on all interfaces connected to CNAs.

When operating in Converged Mode tagged traffic on the native VLAN of the switch interface is processed normally. The host should be configured not to send VLAN tagged traffic on the switch's native VLAN.

The Converged Network Adapter (CNA) may lose connectivity to the Brocade 8000 if the CNA interface is toggled repeatedly over time. This issue is related to the CNA and rebooting the CNA until it restores connectivity.

Although the Brocade 8000 supports the configuration of multiple CEE maps, it is recommended to use only one CEE map on all interfaces connected to CNAs. Additionally CEE maps are not recommended for use for non-FCoE traffic. QoS commands are recommended for interfaces carrying non-FCoE traffic.

It is recommended that Spanning Tree Protocol and its variants be disabled on CEE interfaces that are connected to a server.

The Fabric Provided MAC Address (FPMA) and the Fibre Channel Identifier (FCID) assigned to a VN_Port cannot be associated with any single front-end CEE port on which the FLOGI was received.

LLDP neighbor information may be released before the timer expires when DCBX is enabled on a CEE interface. This occurs only when the CEE interface state changes from active to any other state. When the DCBX is not enabled, the neighbor information is not released until the timer expires, irrespective of the interface state.

Web Tools:

It is recommended that when managing the FCoE login groups on the Brocade 8000 the CLI should be used. Web Tools does not support this feature in FOS v6.1.2_cee.

User should not attempt to use Traffic Isolation Zones via Web Tools as it is an unsupported feature and may result in unexpected switch behavior.

Unsupported Features

Please note that the following Fabric OS features are not supported by Fabric OS v6.1.2_cee on the Brocade 8000 platform:

- Adaptive Networking – Ingress Rate Limiting and QoS (SID/SID based prioritization)
- Traffic Isolation Zones
- Integrated Routing
- Extended Fabrics
- FICON
- Hot Code Load
- Administrative Domains

Warning:

Please note that users must not attempt to configure any unsupported feature. Trying to configure or use an unsupported feature may result in unpredictable behavior.

Documentation Updates

This section provides information on last-minute additions and corrections to the documentation. The most recent Fabric OS v6.1.2_cee documentation manuals are available on the Brocade Partner Network: *http://partner.brocade.com/*

Brocade Fabric OS Documentation Addendum (Publication Number 53-1001216-01)

The help description for the **fcoeLoginGroup** command and associated man page contains a syntax error. The -**allowall** parameter was mistakenly hyphenated (-**allow-all**).

- On page 14, correct the **fcoelogingroup** example as follows:

  switch:admin> **fcoelogingroup −−create login_def_allowall -self –allowall**

- On page 15, correct the syntax for **fcoeLoginGroup** as follows:

  fcoelogingroup −−create *lgname* **-self** |-**switch** *swwn* [-**allowall** | *member*; *member*;…]

- On page 15, in the operand section, replace "-**allow-all**" with "-**allowall**"

The help description for the **fcoeLoginCfg** command and associated man page contains a syntax error. The -**nonexisting** parameter was mistakenly hyphenated (-**non-existing**).

- On page 13, correct the syntax for **fcoeLoginCfg** as follows:

  fcoelogincfg −−purge -conflicting [-**nonexisting**]

  fcoelogincfg −−purge -nonexisting [-conflicting]

- In the operand section on page 13, replace "-**non-existing**" with "-**nonexisting**"

- In the example section on page 14, correct the second-to-last example as follows:

  To perform a clean-up of the effective configuration:
  switch:admin> **fcoelogincfg −−purge -conflicting -nonexisting**
  switch:admin>

In Chapter 5, "*Web Tools Administrator's Guide*", make the following changes:

- On page 87, in the bulleted item for LLDP Profile, remove the statement "If no value is present, it indicates that LLDP is not implemented".
- On pages 91 and 93, references to the Trunking tab can be removed. There are no changes to the Trunking tab specific to CEE.
- On page 98, in QoS Configuration, Adding a CEE Map, step 6, the allowable range for the Precedence value should be 1 to 100, not 0 to 100.
- On page 101, under Configuring global LLDP characteristics, a description of the LLDP check box should be added. The check box is used to enable and disable LLDP.
- On page 102, step 10 of Configuring global LLDP characteristics, should include TLV descriptions, as in step 11 on page 103.
- On page 103, remove step 10. FCOE priority bits were removed from LLDP profiles.
- On page 105, Step 4 of Enabling and disabling a CEE interface, should read "Enable or disable the interface using the Edit Configuration button".
- On page 106, in step 6 of Configuring CEE Interfaces, the default value for Interface Mode should be None, in step 7 the default value for L2 Mode should be Access, and in step 11, the range for COS values is 1 to 7.
- On page 107, step 1 of Configuring a link aggregation group should read "Select the CEE Interfaces tab on the Switch Administration panel".
- On page 108, in step 6 of Configuring a link aggregation group, the default value for Interface Mode should be None.
- On page 110, the VLAN Configuration dialog box should show an FCoE check box below the Bridge ID. The FC0E check box is used to enable and disable FCoE for VLANs.
- On page 113, step 2 of Displaying FCoE trunk information should read "To view information for a specific trunk, select the trunk in the FCoE Trunk Configuration and Management table and click View Details."
- On page 116 and 120, in step 3, "An Advanced tab and an Error Detail tab are added to FCoE Statistics next to Basic Mode." should read "An Advanced tab and an Error Detail tab are added to FCoE Statistics next to the Basic tab."
- On page 116 and 120, "Clear Counters to refresh data" should read "Use the Clear Counters button to clear the counters in port statistics."

In Chapter 5, "*Web Tools Administrator's Guide*", make the following additions for converged mode:

- On pages 87 and 106, add Converged as an option for L2 Mode. The L2 Mode value options are Access, Trunk, or Converged. Access mode allows only one VLAN and allows only untagged frames. Trunk allows more than one VLAN association and allows tagged frames. A Converged mode interface can be native (Access, untagged frames) in one VLAN, and non-native (Trunk, tagged frames) in another VLAN.
- On page 110, the VLAN Configuration dialog box should show a Native check box below the Bridge ID. This check box is used to add a converged interface.

Converged Enhanced Ethernet Command Reference (Publication Number 53-1001217-01)

The “switchport mode” command has been extended and “switchport converged” introduced in this patch.

switchport mode

Sets the mode of the Layer 2 interface.

Synopsis

switchport mode {**access** | **trunk** | **converged**}

Operands

access	Sets the Layer 2 interface as access.
trunk	Sets the Layer 2 interface as trunk.
converged	Sets the layer 2 interface as converged.

Defaults

There are no defaults for this command.

Command Modes

Interface Configuration Mode

Description

Use this command to set the mode of the Layer 2 interface.

Usage Guidelines

There are no usage guidelines for this command.

Examples

To set the mode of the interface to access:

```
switch(conf-if-te-0/19)#switchport mode access
```

To set the mode of the interface to trunk:

```
switch(conf-if-te-0/19)#switchport mode trunk
```

To set the mode of the interface to converged:

```
switch(conf-if-te-0/19)#switchport mode converged
```

See Also

show vlan brief, **show interface switchport**, **switchport trunk**

switchport converged

Adds or removes native and tagged VLANs on a Layer 2 interface.

Synopsis

switchport converged {**vlan** *vlan_id* | **allowed vlan** {**add** *vlan_id* | **all** | **except** *vlan_id* | **none** | **remove** *vlan_id*} }

no switchport converged

Operands

vlan *vlan_id* Sets the default native VLAN for the Layer 2 interface.

allowed vlan Sets the VLANs that will transmit and receive through the Layer 2 interface.

add *vlan_id* Adds a VLAN to transmit and receive through the Layer2 interface. The range of valid values is 2-3583.

all Allows all VLANs to transmit and receive through the Layer 2 interface.

except *vlan_id* Allows all VLANs except the VLAN ID to transmit and receive through the Layer 2 interface. The range of valid values is 2-3583.

none Allows no VLANs to transmit and receive through the Layer 2 interface.

remove *vlan_id* Removes a VLAN that transmits and receives through the Layer 2 interface. The range of valid values is 2-3583.

Defaults

The default native VLAN for a converged interface is 1.

Command Modes

Interface Configuration Mode

Description

Use this command to add or remove native and tagged VLANs on a Layer 2 interface.

Usage Guidelines

There are no usage guidelines for this command.

Examples

To set the native VLAN of 200 on an interface:

```
switch(conf-if-te-0/19)#switchport converged vlan 200
```

To set the tagged VLAN on an interface to 100:

```
switch(conf-if-te-0/19)#switchport converged allowed vlan add 100
```

To remove the tagged VLAN 100 from the interface:

```
switch(conf-if-te-0/19)#switchport converged allowed vlan remove 100
```

See Also

show vlan brief, **show interface switchport**, **switchport mode**

Defects

Closed with Code Change Defects in Fabric OS v6.1.2_cee1

This section lists defects Closed with Code Change in Fabric OS v6.1.2_cee1. When available, workarounds are listed.

Defect ID:	DEFECT000245871	**Technical Severity:**	High
Summary:	VLAN is removed from the interface in the "running-config" of the current active configuration.		
Symptom:	Switch does not respond to FCoE FLOGI.		
Probability:	High	**Feature:**	CEE-Protocol
Reported In Release:	FOS6.1.3_cee	**Function:**	NSM

Defect ID:	DEFECT000246009	**Technical Severity:**	Medium
Summary:	Pause Flow Control (PFC) does not honor FCoE priority 0 or 1.		
Symptom:	IO read fails with FCoE priority of 0 or 1.		
Probability:	Medium	**Feature:**	CEE-Protocol
Reported In Release:	FOS6.1.3_cee	**Function:**	QOS

Defect ID:	DEFECT000246346	**Technical Severity:**	Medium
Summary:	During stress testing, after multiple VLAN configuration changes, logins from the CNA are unsuccessful.		
Symptom:	Multiple VLAN configuration changes result in FLOGI being ignored.		
Probability:	Medium	**Feature:**	CEE-FCOE
Reported In Release:	FOS6.1.3_cee	**Function:**	FCOE Daemon

Closed with Code Change

Defect ID:	DEFECT000246419	**Technical Severity:**	High
Summary:	In an atypical test configuration, system reboot observed on one of two Brocade 8000s configured as point-to-point FC connections.		
Symptom:	After an fcoelogingroup was created on the first switch, the fcoelogingroup was not observed on the second switch. Following the fcoelogincfg –disable command, the second system rebooted. After proper reconfiguration, this reboot is not reproducible.		
Probability:	Low	**Feature:**	CEE-FCOE
Reported In Release:	FOS6.1.2_cee	**Function:**	FCOE Daemon

Defect ID:	DEFECT000247599	**Technical Severity:**	Medium
Summary:	SNMP: Brocade 8000 does not return correct index value.		
Symptom:	Switch displays incorrect index value of atTable, iptable, and ipNetToMediatable of MIB-2.		
Probability:	High	**Feature:**	CEE-MANAGEABILITY
Reported In Release:	FOS6.1.2_cee	**Function:**	SNMP INTERFACE

Defect ID:	DEFECT000247675	**Technical Severity:**	High
Summary:	Brocade 8000 should advertise FCoE APP TLV irrespective of PFC DesiredCfg of Peer.		
Symptom:	CNA does not log in to the switch.		
Probability:	High	**Feature:**	CEE-LAYER2
Reported In Release:	FOS6.1.3_cee	**Function:**	LLDP

Defect ID:	DEFECT000248644	**Technical Severity:**	Medium
Summary:	Web Tools Switch Admin: QoS: User defined priority group 0-7 does not show up in the drop down for priority group id.		
Symptom:	User cannot map user defined priority group to a Class of Services (CoS).		
Workaround:	Use CLI to map user defined priority group to a CoS.		
Probability:	High	**Feature:**	WebMgmt
Reported In Release:	FOS6.1.2_cee	**Function:**	Switch Admin