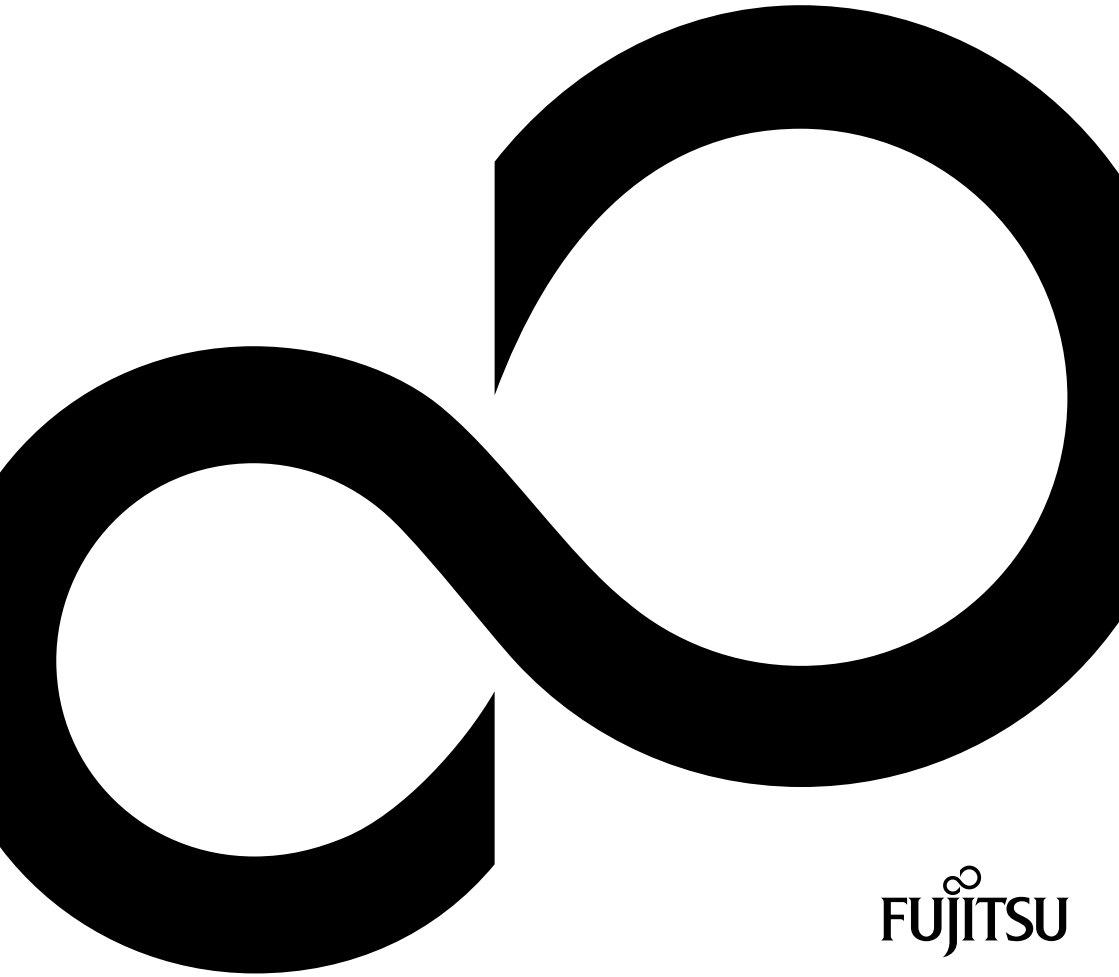
User Manual

D2907 PCI Express Gigabit Ethernet Adapter with DASH functionality



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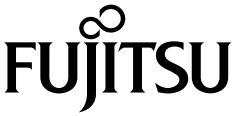

Published by
Fujitsu Technology Solutions GmbH
Mies-van-der-Rohe-Straße 8
80807 München, Germany

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http://ts.fujitsu.com/support

Order No. Fujitsu Technology Solutions: A26361-D2907-Z320-1-7619, Edition 2

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User Manual

Content

Notational conventions

The meanings of the symbols and fonts used in this manual are as follows:

indicates information which is important for your health or for preventing physical damage.

indicates additional information which is required to use the system properly.

► Text which follows this symbol describes activities that must be performed in the order shown.

↵ This symbol indicates that you must press the Enter key.

`Text in this typeface` indicates screen outputs.

`Text in this bold typeface` indicates the entries you make via the keyboard.

Text in italics indicates commands or menu items.

"Quotation marks" indicate names of chapters or terms.

Overview

The D2907 is a complete low profile PCI Express Gigabit Ethernet Adapter with DASH functionality (in the following text called NIC) utilizing the BCM5761 LAN Controller.

The NIC is available with ATX I/O connector bracket and/or low profile bracket.

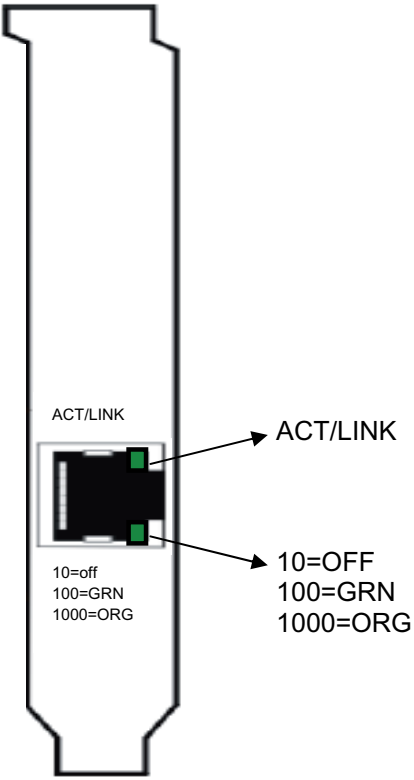
LAN Controller	Broadcom BCM5761
LAN interface	10/100/1000 Base-T - IEEE 802.3 compliant
Host interface	x1 PCIexpress 1.1 bus interface USB interface required only for DASH
Performance	48 Kbyte receive and 8KByte transmit buffer TCP, IP, and UDP checksum Offload Microsoft® Large Send Offload Receive Side Scaling (RSS)
Manageability	ACPI Wake on LAN by interesting packets DASH 1.1 functionality
Special feature	PXE support
Memory for LAN Controller	8MBit SPI FLASH
Connector	RJ45 connector
Driver Support	Windows® XP® Windows Vista® Windows® 7 Linux
Form factor	PCI Express low profile Card 66.0 x 62.5 mm

Dash functionality is given on selected systems only. Which system supports fully DASH functionality can be found in product datasheet.

Approvals and standards

CE certification	According to EU Directives 2004/108/EC (EMC) and 2006/95/EC (Product safety)
Product safety	IEC 60950-1, EN 650950-1, UL 60950-1, CSA C22.2 No. 60950-1
Electromagn. compatibility	EN55022/B, FCC class B, EN55024
Environmental compatibility	RoHS (Restriction of hazardous substances)
	WEEE (Waste electrical and electronical equipment)

LED-Displays

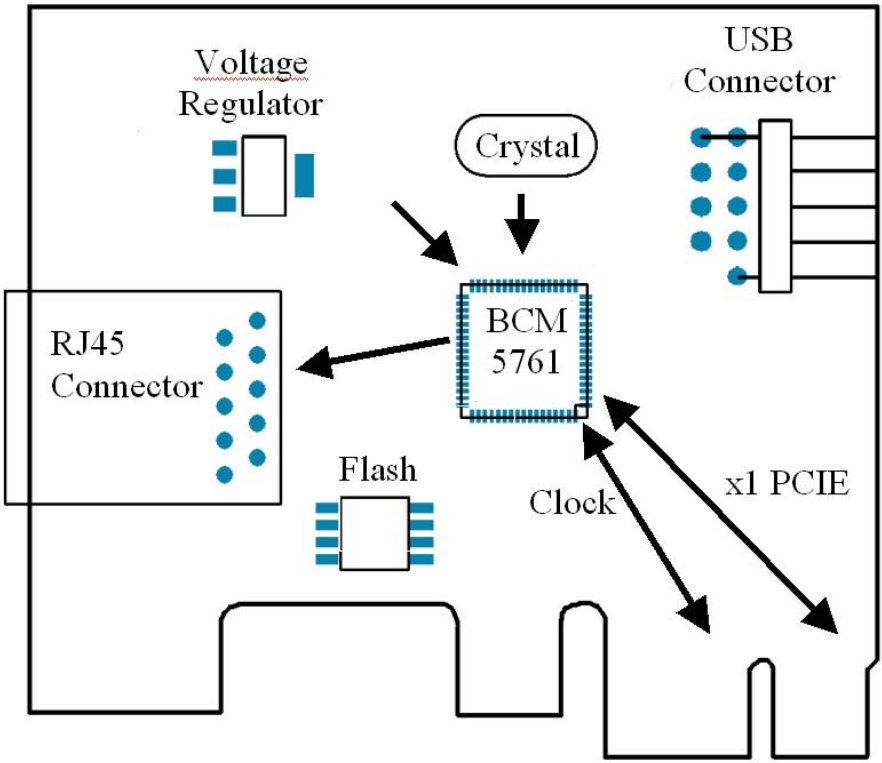


LED-signaling	ACT/LINK	Link	green LED
		Activity	green LED is flashing
	Speed	10 Mb link	LED off
		100 Mb link	green LED
		1000 Mb link	orange LED

Description

Main part of the D2907 NIC is the BCM5761 LAN Controller. The firmware, PXE Code and MAC Address required for the Controller are stored in the SPI Flash.

The BCM5761 uses a 25 MHz Crystal as reference for the generation of the LAN Signals, which are transmitted through the transformer module integrated in the RJ45 Connector. For the operation of the PCI Express Interface is a 100 MHz Clock required, which is provided over the PCI Express Slot.



Power consumption

The D2907 NIC requires the following supply voltages provided over the PCI Express Slot.

Source	Voltage	Maximal variation	Typical current	Operating Condition
Supply Voltage	+ 3,3 V Main	+/- 5 %	0,60A	Working
	+ 12 V Main	+/- 5 %	0,01A	Working
	+ 3,3V AUX	+/- 5 %	0,20 A	Standby (100 Mbit/s Link)
			0,07 A	Standby (10 Mbit/s Link)

DASH Platform requirements

Dash functionality is given on selected systems only. Which system supports fully DASH functionality can be found in product datasheet.

For the full DASH functionality always use the newest BIOS version.

USB Cable and Headers required for DASH

The D2907 NIC with DASH functionality is delivered with a double female-ended 10-pin USB cable. One end must be connected to an identical header on the system board labeled with DASH, and the other end of this cable connects to the male USB header on the NIC.

The USB cable is critical for the DASH 1.1 functionality Data transfer for USB-redirection. This is a feature that allows the contents of a USB device to be directed over a network connection to another system. The data transferred over the network can be transmitted or received through the USB cable.

Manageability Feature Enabling

DASH features within system BIOS is enabled per default.

Manageability features such as DASH are disabled by default on the PCI Express Gigabit Ethernet Adapter with DASH functionality.

DASH Enabling

DASH can be enabled in one of two methods:

- Broadcom Manageability Configuration and Control application (BMCC)
- Broadcom Advanced Control Suite (BACS)

BACS and BMCC are not pre-installed in the system pre-installation.

Enable DASH with BMCC

► Download the BMCC from *www.ts.fujitsu.com*.

► Open a Command box as Administrator.

► Go to the directory where the Broadcom application is stored.

► Run bmcc enable.

Enable DASH with BACS

► Download the BACS from *www.ts.fujitsu.com*.

► Open a Command box as Administrator.

► Go to the directory where BACS is stored.

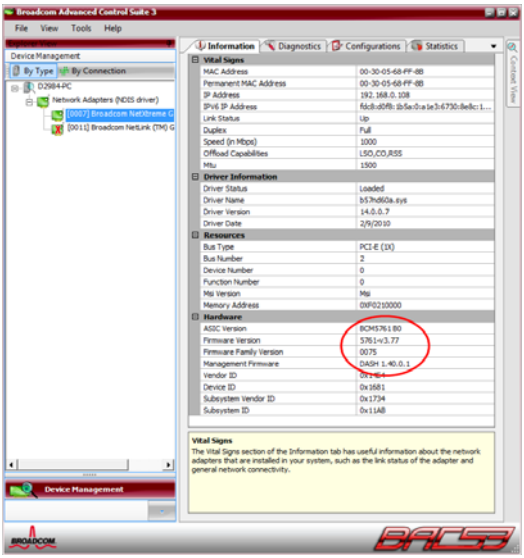
► Run setup.

► During the installation select the features OOB Management, CIM Provider and Management Agent.

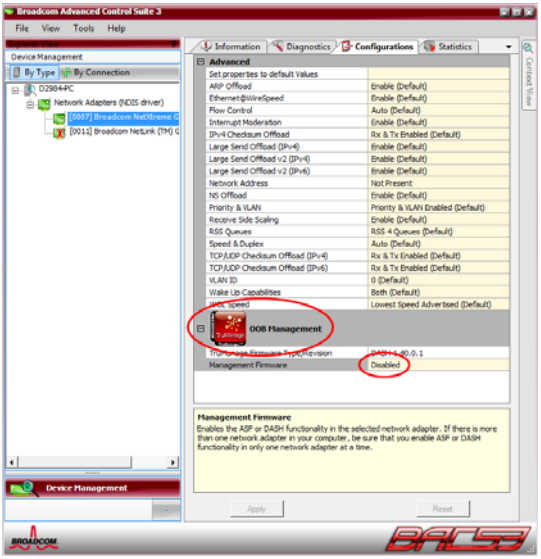
These features are needed to enable the OOB Management Menu and provide the WMI interface for management agents.

- ► Execute BACS.
- ► Choose the PCI Express Gigabit Ethernet Adapter with DASH functionality.

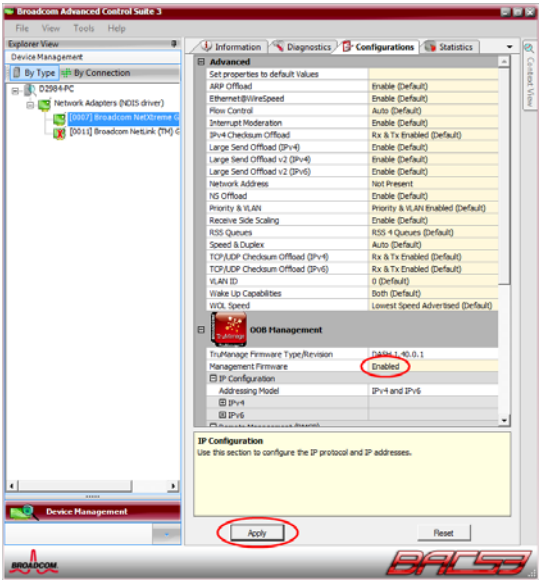
Note that all network adapters will be displayed by BACS. The PCI Express Gigabit Ethernet Adapter with DASH functionality can be identified through the Information tab. Look for the ASIC and Firmware of 5761.



- ► Go to the Configuration tab.
- ► Expand the OOB Management list to determine if DASH is enabled or disabled. By default DASH is disabled.



► Enable DASH and click the *Apply* button.



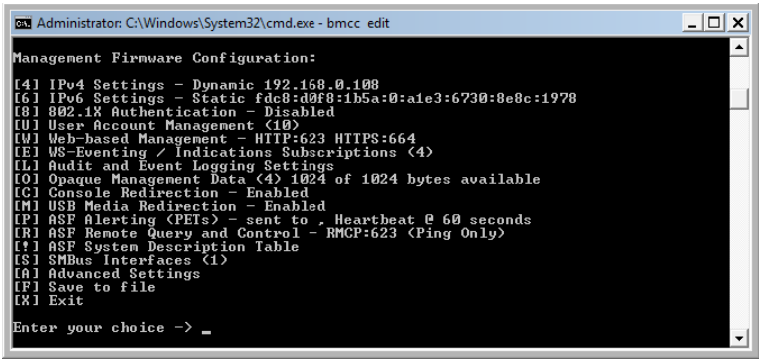
Set Up Administrator Account for DASH

Setting up an Administrator account for DASH requires the use of the BMCC application from *www.ts.fujitsu.com*.

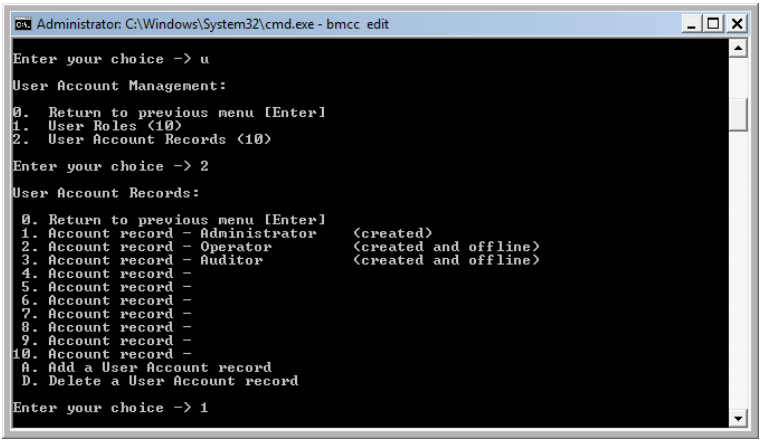
Open a Command box as Administrator.

Use the following steps to create an Administrator account:

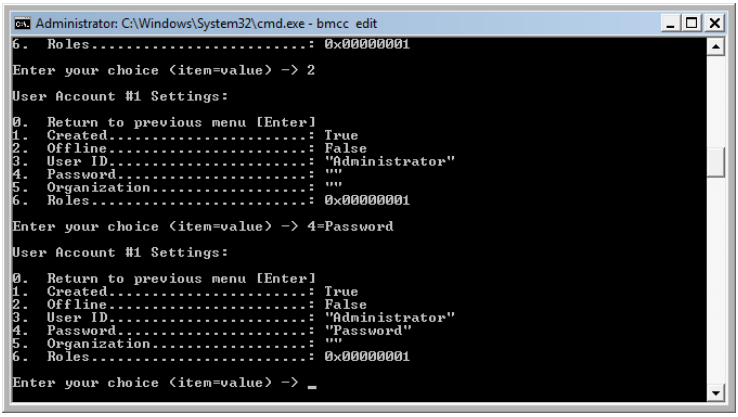
- ► Go to the directory where the application is installed.
- ► Run bmcc edit. This will execute the Manageability Configuration and Control application and will bring up a list of Management Firmware Configuration options.



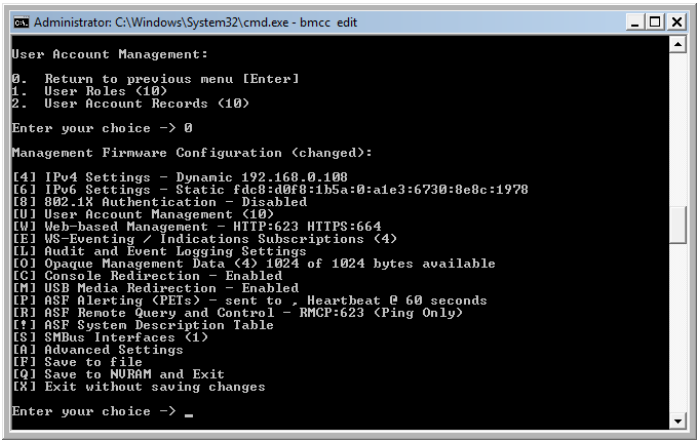
- ► Enter **U** for User Account Management.
- ► Enter **2** for User Accounts.
- ► Enter **1** for Administrator Account.



- ► Enter **2** to change Offline from True to False.
- ► Enter **4=xxx** where **xxx** is the password to set a password. The password by default is blank.



- Enter **0** twice to get back to the main page.
- Enter **Q** to *Save* and *Exit*.



After saving to NVRAM and exiting, the Administrator account along with the password has been created.

Manageabilty Feature Disabling

According to the explanations and precautions mentioned above:

Disable DASH with BMCC

- ► Open a Command box as Administrator.
- ► Go to the directory where the Broadcom application is stored.
- ► Run bmcc disable.

Disable DASH with BACS

- ► Execute BACs.
- ► Choose the PCI Express Gigabit Ethernet Adapter with DASH functionality.
- ► Go to the Configuration tab.
- ► Expand the OOB Management list.
- ► Disable DASH and click *Apply*.

Disable DASH support in the BIOS

- ► Within BIOS Setup in “DASH Configuration” menu, set “DASH support” to “Disable”.

i When DASH support is set to disabled in the BIOS DASH Configuration Menu, a later enabling with software e.g. agents is not possible anymore. A DASH controller which has been enabled by software or agents will be disabled during every boot.

Abbreviations

ACPI	Advanced Configuration and Power Interface
CPU	Central Processing Unit
DASH	Desktop and mobile Architecture for System Hardware
FIFO	First-In First-Out
LAN	Local Area Network
NIC	Networking Interface Card
PCI-Bus	Peripheral Component Interconnect Bus
PXE	Preboot eXecution Environment
RAM	Random Access Memory
SMBus	System Management Bus
SPI	Serial Peripheral Interface
WOL	Wake on LAN