MCB-10G-2S

10 Gigabit/s Ethernet card User Guide

Contents

About this guide

This user guide contains the information you need when installing and configuring the server management board.

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product introduction**

  This chapter describes the MCB-10G-2S Ethernet card features and the new technologies it supports.

- **Chapter 2: Boot Agent configuration**

  This chapter provides instructions on setting the Broadcom NetXtreme Ethernet Boot Agent.

- **Chapter 3: Driver installation**

  This chapter provides instructions for installing the Ethernet card drivers on different operating systems.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS websites**

   The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. **Optional documentation**

   Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to help you complete a task.

Typography

Bold text	Indicates a menu or an item to select.
Italics	Used to emphasize a word or a phrase.
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key.
	Example: <Enter> means that you must press the Enter or Return key.
<Key1+Key2+Key3>	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+).
	Example: <Ctrl+Alt+Del>
`Command`	Means that you must type the command exactly as shown, then supply the required item or value enclosed in brackets.
	Example: At the DOS prompt, type the command line: `format a:`

MCB-10G-2S specifications summary

Speed & Ports	10 Gigabit/s Ethernet Dual Port
Ethernet Controller PHY	Broadcom 57840S
Connector & module type	LC Fiber Optic Supports SFP+ SR Optical module, SFP+ LR Optical module, Direct Attached Copper*
Host Interface	PCI-E Gen3 x8
Form factor	Mezzanine Card (OCP)
Support Cable Type	SMF up to 10km (LR) MMF 62.5/50um up to 300m (SR) Passive Twin-AX up to 5m (SFP+ Direct Attach)"
Features	PXE boot iSCSI boot

*   Please refer to ASUS website for Approved Vendor List (AVL).

** Specifications are subject to change without notice.

Product introduction

1

This chapter offers the MCB-10G-2S Ethernet card features and the new technologies it supports.

1.1   Welcome!

Thank you for buying an ASUS® MCB-10G-2S 10 Gigabit/s Ethernet card!

Before you start installing the Ethernet card, check the items in your package with the list below.

1.2   Package contents

Check your package for the following items.

	Standard Gift Box Pack	Standard Bulk Pack
ASUS MCB-10G-2S Ethernet card	1	1
Support CD	1	1 (per carton)
Packing Quantity	1 pc per carton	5 pcs per carton

If any of the above items is damaged or missing, contact your retailer.
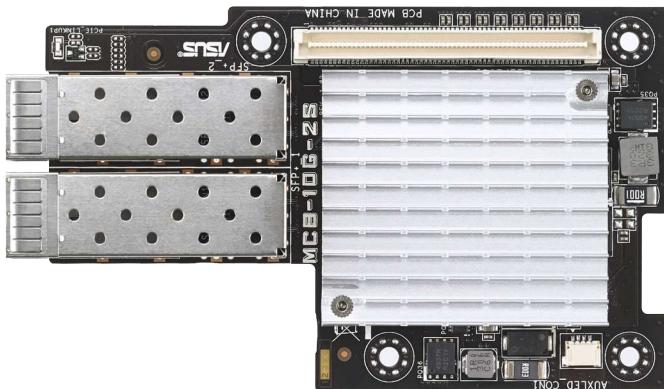
1.3   System requirements

Before you install the MCB-10G-2S Ethernet card, check if the system meets the following requirements:

• Server or workstation motherboard with an OCP slot.

• Supported operating systems are Windows® and Linux operating systems. Please refer to ASUS website for the latest updates.

1.4   Card layout
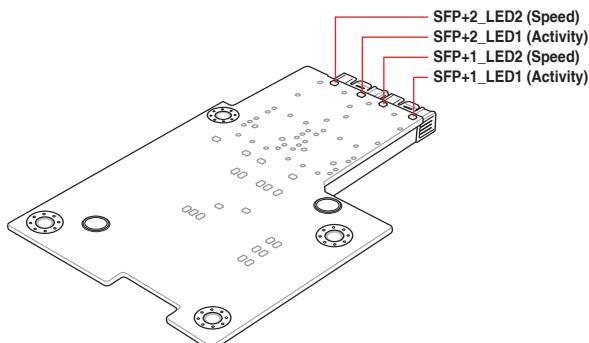
Top view

1.   LC Fiber Optic Connector 1

2.   LC Fiber Optic Connector 2

3.   PCI Express Gen3 x8 interface

SFP+ port LED indications
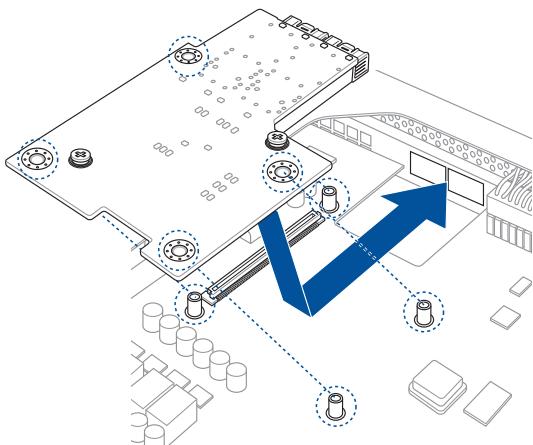
Activity / Link LED		Speed link	
Status	**Description**	**Status**	**Description**
OFF	No activity	Green	10 Gb/s link
Blinking	Data activity	Amber	1 Gb/s link

SFP+2_LED2 (Speed)
SFP+2_LED1 (Activity)
SFP+1_LED2 (Speed)
SFP+1_LED1 (Activity)
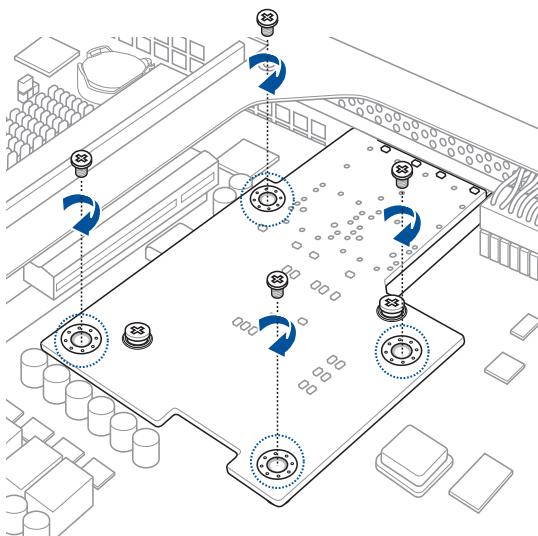
1.5 Installing the MCB-10G-2S Ethernet card

To install a MCB-10G-2S Ethernet card:

1. Prepare the Mezannine card.

2. Align and insert the screw holes of the MCB-10G-2S Ethernet card into stand screws then insert the ports of the MCB-10G-2S card into the port slots on the server chassis as shown.

3. Secure the MCB-10G-2S Ethernet card with the four (4) bundled screws.

Boot Agent Configuration

2

This chapter provides instructions on setting the Broadcom
NetXtreme Ethernet Boot Agent.
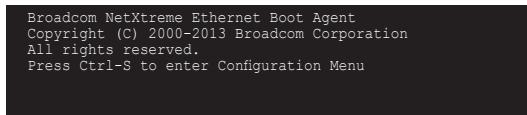
2.1 Broadcom NetXtreme Ethernet Boot Agent
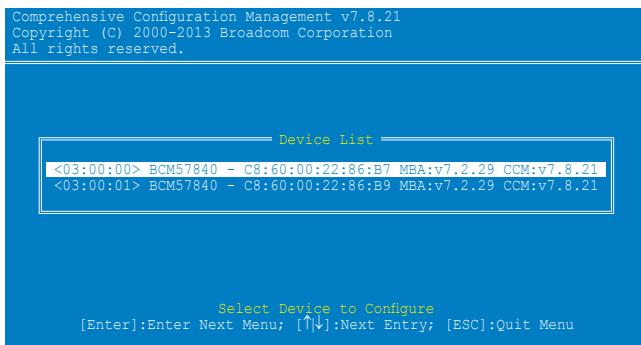
The Broadcom NetXtreme Ethernet Boot Agent provides hardware-based Ethernet card configurations.

To start the Broadcom NetXtreme Ethernet Boot Agent and access the main screen:
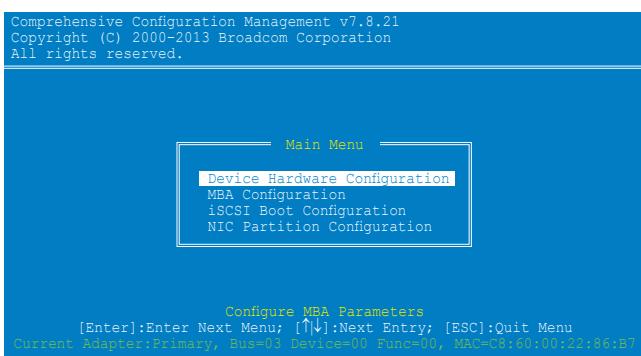
1. Turn on the system.

2. During POST, press <Ctrl+S> when the following screen appears.

```
Broadcom NetXtreme Ethernet Boot Agent
Copyright (C) 2000-2013 Broadcom Corporation
All rights reserved.
Press Ctrl-S to enter Configuration Menu
```
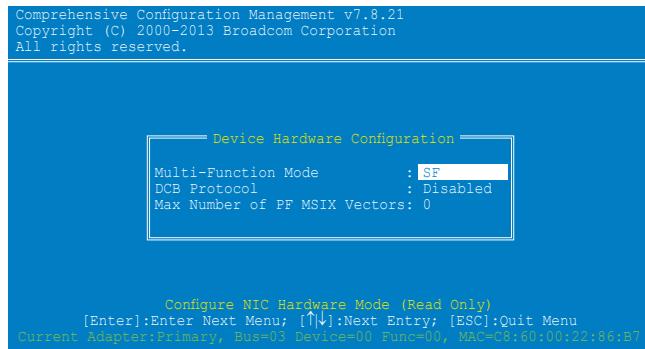
3. From the **Device List** screen, use the up/down arrow key to select an Ethernet device to configure then press <Enter>.

```
Comprehensive Configuration Management v7.8.21
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All rights reserved.




                        ═════════ Device List ═════════
    <03:00:00> BCM57840 - C8:60:00:22:86:B7 MBA:v7.2.29 CCM:v7.8.21
    <03:00:01> BCM57840 - C8:60:00:22:86:B9 MBA:v7.2.29 CCM:v7.8.21




                      Select Device to Configure
         [Enter]:Enter Next Menu; [↑↓]:Next Entry; [ESC]:Quit Menu
```

3. From the **Main Menu,** use the up/down arrow key to select an item and press <Enter>.

```
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                         ═════════ Main Menu ═════════
             Device Hardware Configuration
             MBA Configuration
             iSCSI Boot Configuration
             NIC Partition Configuration



                       Configure MBA Parameters
         [Enter]:Enter Next Menu; [↑↓]:Next Entry; [ESC]:Quit Menu
    Current Adapter:Primary, Bus=03 Device=00 Func=00, MAC=C8:60:00:22:86:B7
```

### 2.1.1 Device Hardware Configuration Menu

```
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                    ┌──── Device Hardware Configuration ────┐
                    │                                       │
                    │ Multi-Function Mode      : SF         │
                    │ DCB Protocol             : Disabled   │
                    │ Max Number of PF MSIX Vectors: 0      │
                    │                                       │
                    │                                       │
                    └───────────────────────────────────────┘



                  Configure NIC Hardware Mode (Read Only)
          [Enter]:Enter Next Menu; [↑↓]:Next Entry; [ESC]:Quit Menu
   Current Adapter:Primary, Bus=03 Device=00 Func=00, MAC=C8:60:00:22:86:B7
```

DCB Protocol [Disabled]

Configuration options: [Disabled] [Enabled]

2.1.2 MBA Configuration Menu

```
Comprehensive Configuration Management v7.8.21
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                    ┌─────── MBA Configuration Menu ───────┐
                    │ Option ROM            : Enabled       │
                    │ Boot Protocol         : Preboot Execution Environment (PXE)
                    │ Boot Strap Type       : Auto          │
                    │ Hide Setup Prompt     : Disabled      │
                    │ Setup Key Stroke      : Ctrl-S        │
                    │ Banner Message Timeout : 10 Seconds   │
                    │ Link Speed            : 10Gbps        │
                    │ Pre-boot Wake On LAN  : Disabled      │
                    │ VLAN Mode             : Disabled      │
                    │ VLAN ID               : 1             │
                    │ Boot Retry Count      : 0             │
                    └───────────────────────────────────────┘
                        Enable/Disable Option ROM
     [←┼→][Enter][Space]:Toggle Value; [↑↓]:Next Entry; [ESC]:Quit Menu
   Current Adapter:Primary, Bus=03 Device=00 Func=00, MAC=C8:60:00:22:86:B7
```

Option ROM [Enabled]

Configuration options: [Enabled] [Disabled]

Boot Protocol [Preboot Execution Environment (PXE)]

Configuration options: [Preboot Execution Environment (PXE)]
[Bootstrap Protocol (BOOTP)] [iSCSI] [FCoE] [None]

Boot Strap Type [Auto]
Configuration options: [Auto] [BBS] [Int18h] [Int19h]

Hide Setup Prompt [Disabled]
Configuration options: [Disabled] [Enabled]

Setup Key Stroke [Ctrl-S]
Configuration options: [Ctrl-S] [Ctrl-B]

Banner Message Timeout [10 Seconds]
Configuration options: [1 Second] – [14 Seconds]

Link Speed [10Gbps]
Configuration options: [10Gbps] [1Gbps]

Pre-boot Wake On LAN [Enabled]
Configuration options: [Enabled] [Disabled]

**VLAN Mode [Disabled]**
Configuration options: [Disabled] [Enabled]
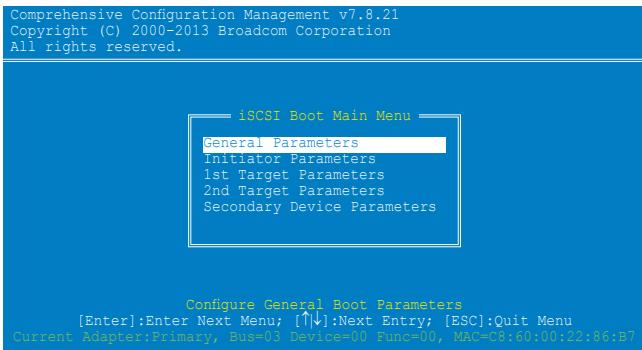
VLAN ID [1]
Configuration options: [0] – [4094]

Boot Retry Count [0]
Configuration options: [0] – [7]

2.1.3   iSCSI Boot Configuration

```
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                        ━ iSCSI Boot Main Menu ━

                    General Parameters
                    Initiator Parameters
                    1st Target Parameters
                    2nd Target Parameters
                    Secondary Device Parameters




                    Configure General Boot Parameters
        [Enter]:Enter Next Menu; [↑↓]:Next Entry; [ESC]:Quit Menu
Current Adapter:Primary, Bus=03 Device=00 Func=00, MAC=C8:60:00:22:86:B7
```

General Parameters

TCP/IP Parameters via DHCP [Enabled]

This option applies to IPv4.

[Enabled]   The iSCSI boot host software acquires the IP address from the DHCP server.

[Disabled]   The iSCSI boot host software acquires the static IP address.

iSCSI Parameters via DHCP [Enabled]

[Enabled]   The iSCSI boot host software acquires its iSCSI target parameters from the DHCP server.

[Disabled]   The iSCSI boot host software acquires its iSCSI target parameters via the static IP address, which is entered through the iSCSI Initiator Parameters Configuration screen.

CHAP Authentication [Disabled]

[Enabled]   Allows the iSCSI boot host software to use CHAP authentication when connecting to the iSCSI target. Enter the CHAP ID and CHAP Secret in the Initiator Parameters configuration screen.

[Disabled]   Does not allow the iSCSI boot host software to use CHAP authentication when connecting to the iSCSI target.

Boot to iSCSI Target [Enabled]

[Enabled]   The iSCSI boot host software immediately attempts to boot from the iSCSI target after successfully connecting to it.

[Disabled]   The iSCSI boot host software does not attempt to boot from the iSCSI target after successfully connecting to it. The control will then return to the system BIOS so that the next boot device may be used.

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[One Time Disabled] On the first system boot, the iSCSI boot host software does not attempt to boot from the iSCSI target. On subsequent system reboots, the iSCSI boot host software will attempt to boot from the iSCSI target. This option is useful when doing a remote install of the OS to an iSCSI target.

- When using iSCSI boot, set Boot to iSCSI Target to [Disabled] or [One Time Disabled].
- When using iSCSI boot to install Windows Server 2008 OS, refer to http://support.microsoft.com/kb/974072/EN-US to complete the process.

DHCP Vendor ID [BRCM ISAN]

Controls how the iSCSI boot host software interprets the Vendor Class ID field used in the DHCP server. If DHCP is disabled, this value does not need to be specified. Enter a new value in 0 to 32 characters.

Link Up Delay Time [0]

Decides how many seconds the iSCSI boot host software waits after an Ethernet link is established before sending any data over the network. The valid values are 0 to 255.

Use TCP Timestamp [Disabled]

Enables or disables the TCP Timestamp option.
Configuration options: [Disabled] [Enabled]

Target as First HDD [Disabled]

When enabled, the iSCSI target drive appears as the first hard drive in the system.
Configuration options: [Disabled] [Enabled]

LUN Busy Retry Count [0]

Specifies the number of connection retries the iSCSI Boot initiator will attempt if the iSCSI target LUN is busy. Configuration options: [0] – [60]

IP Version [IPv4]

Switches between the IPv4 or IPv6 protocol.
Configuration options: [IPv4] [IPv6]

Modifying this parameter erases all IP-related values.

Initiator Parameters

Key in the necessary parameters.

```
CComprehensive Configuration Management v7.8.21
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┌──────────────────── Initiator Parameters ────────────────────┐
│                                                               │
│   IP Address     : 0.0.0.0                                    │
│   Subnet Mask    : 0.0.0.0                                    │
│   Default Gateway : 0.0.0.0                                   │
│   Primary DNS    : 0.0.0.0                                    │
│   Secondary DNS  : 0.0.0.0                                    │
│   iSCSI Name     : iqn.1995-05.com.broadcom.iscsiboot         │
│   CHAP ID        :                                            │
│   CHAP Secret    :                                            │
│                                                               │
└───────────────────────────────────────────────────────────────┘



                  Configure Initiator IP address
        [Enter]:Enter Next Menu; [↑↓]:Next Entry; [ESC]:Quit Menu
Current Adapter:Primary, Bus=03 Device=00 Func=00, MAC=C8:60:00:22:86:B7
```

1st / 2nd Target Parameters

Key in the necessary parameters.

```
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┌──────────────────── 1st Target Parameters ────────────────────┐
│                                                               │
│   Connect     : Disabled                                      │
│   IP Address  : 0.0.0.0                                       │
│   ICP Port    : 3260                                          │
│   Boot LUN    : 0                                             │
│   iSCSI Name  :                                               │
│   CHAP ID     :                                               │
│   CHAP Secret :                                               │
│                                                               │
└───────────────────────────────────────────────────────────────┘



                 Enable/Disable Target Establishment
    [←─┼─→][Enter][Space]:Toggle Value; [↑↓]:Next Entry; [ESC]:Quit Menu
Current Adapter:Primary, Bus=03 Device=00 Func=00, MAC=C8:60:00:22:86:B7
```

The iSCSI Name varies depending on the iSCSI target in use.

Secondary Device Parameters

Key in the necessary parameters.
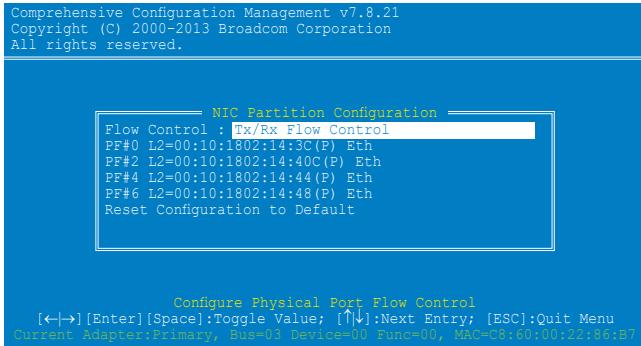
```
Comprehensive Configuration Management v7.8.21
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┌──────────────── Secondary Device Parameters ────────────────┐
│                                                             │
│   Secondary Device         : 00:00:00:00:00:00             │
│   Use Independent Target Portal : Disabled                 │
│   Use Independent Target Name   : Disabled                 │
│   Configure Secondary Device    : Invoke                   │
│                                                             │
└─────────────────────────────────────────────────────────────┘




                  Select Secondary Device
        [Enter]:Enter New Value; [↑↓]:Next Entry; [ESC]:Quit Menu
Current Adapter:Primary, Bus=03 Device=00 Func=00, MAC=C8:60:00:22:86:B7
```

ASUS MCB-10G-2S

2.1.4 NIC Partition Configuration Menu

```
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                    ──── NIC Partition Configuration ────
                  Flow Control : Tx/Rx Flow Control
                  PF#0 L2=00:10:1802:14:3C(P) Eth
                  PF#2 L2=00:10:1802:14:40C(P) Eth
                  PF#4 L2=00:10:1802:14:44(P) Eth
                  PF#6 L2=00:10:1802:14:48(P) Eth
                  Reset Configuration to Default




                    Configure Physical Port Flow Control
      [←─|─→][Enter][Space]:Toggle Value; [↑|↓]:Next Entry; [ESC]:Quit Menu
   Current Adapter:Primary, Bus=03 Device=00 Func=00, MAC=C8:60:00:22:86:B7
```

Flow Control [Tx/Rx Flow Control]

Configuration options: [Tx/Rx Flow Control] [Disabled] [Tx: Send Pause on Rx
Overflow] [Rx: Throttle Tx on Pause Received]

PF#0/2/4/6

Press an item to configure its NIC Partition parameters.

Reset Configuration to Default

Select this item and press <Enter> to reset NIC Partition of all ports on this card to the
factory default settings.

Driver installation

3

This chapter provides instructions for installing the Ethernet card drivers on different operating systems.

3.1 Windows® Server OS Driver Installation
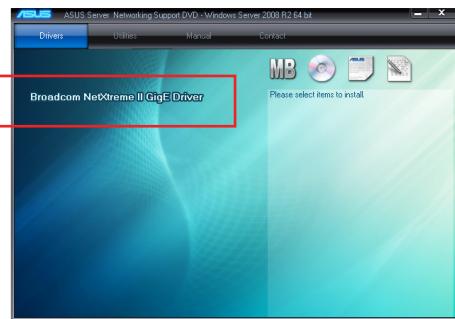
To update the Ethernet card driver for Windows® Server OS:

1.	Restart the computer, and then log on with **Administrator** privileges.

2.	Insert the Support CD to the optical drive. The Support CD automatically displays the **Drivers** menu if Autorun is enabled in your computer.

> •	If Windows® automatically detects the LAN controllers and displays a New Hardware Found window, click **Cancel** to close this window.
>
> •	If Autorun is NOT enabled in your computer, browse the contents of the Support CD to locate the file **Setup.exe**. Double-click **Setup.exe** to run the CD.

3.	Click **Broadcom NetXreme II GigE Driver**.
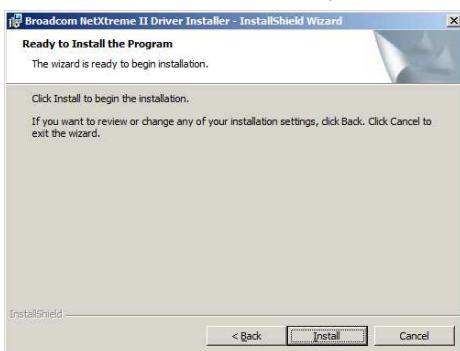
4.	Click **Next** when the **Broadcom NetXreme II Driver Installer–InstallShield Wizard** window appears.

5. Toggle **I accept the terms in the license agreement** and click **Next** to continue.
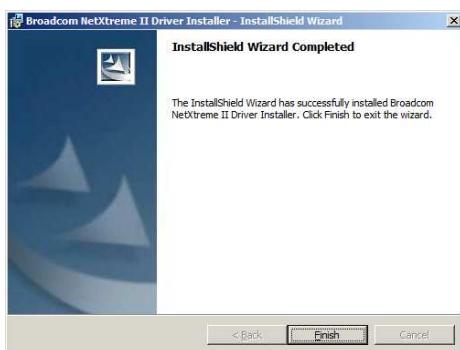
6. Follow the screen instructions to complete the installation.

7. If the **Windows Security** window appears during the driver installation, click **Install this driver software anyway** to continue.

8.   Click **Finish** to exit the installation wizard.

9.   Restart the system.
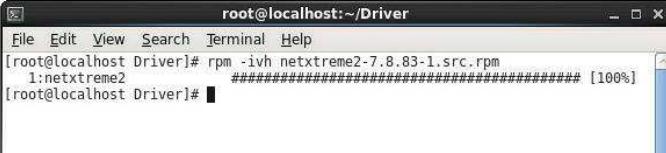
3.2 Linux OS Driver Installation

To install the Ethernet card driver for Linux OS:

1. Within the Linux Terminal, install the source RPM package:

   `rpm -ivh netxtreme2-<version>.src.rpm`

   For Red Hat Linux:

   ```
   root@localhost:~/Driver                                    _ □ ×
   File  Edit  View  Search  Terminal  Help
   [root@localhost Driver]# rpm -ivh netxtreme2-7.8.83-1.src.rpm
       1:netxtreme2          ################################### [100%]
   [root@localhost Driver]#
   ```

   For SuSE Linux:
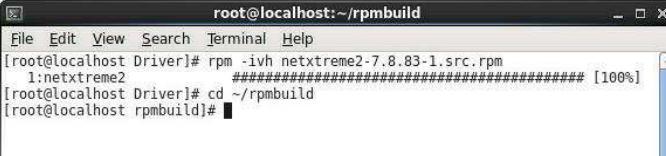
   ```
   Terminal                                                   _ □ ×
   File  Edit  View  Terminal  Help
   Directory: /Driver
   Thu May 20 10:05:39 EDT 2010
   linux:/Driver # rpm -ivh netxtreme2-7.0.35-1.src.rpm
       1:netxtreme2          ################################### [100%]
   linux:/Driver #
   ```

2. CD to the RPM path and build the binary driver for your kernel:

   `cd /usr/src/{redhat,OpenLinux,turbo,packages,rpm ..}`

   (For RHEL 6.0 and above, `cd ~/rpmbuild`)

   For Red Hat Linux:

   ```
   root@localhost:~/rpmbuild                                  _ □ ×
   File  Edit  View  Search  Terminal  Help
   [root@localhost Driver]# rpm -ivh netxtreme2-7.8.83-1.src.rpm
       1:netxtreme2          ################################### [100%]
   [root@localhost Driver]# cd ~/rpmbuild
   [root@localhost rpmbuild]#
   ```

   For SuSE Linux:

   ```
   Terminal                                                   _ □ ×
   File  Edit  View  Terminal  Help
   Directory: /root/Desktop
   Thu May 20 10:41:14 EDT 2010
   linux:~/Desktop # cd /usr/src
   linux:/usr/src # ls
   linux  linux-2.6.32.12-0.7  linux-2.6.32.12-0.7-obj  linux-obj  packages
   linux:/usr/src # cd packages
   linux:/usr/src/packages # ls
   BUILD  RPMS  SOURCES  SPECS  SRPMS
   linux:/usr/src/packages #
   ```

```
rpm -bb SPECS/netxtreme2.spec
```

or

(For RPM version 4.x.x)

```
rpmbuild -bb SPECS/netxtreme2.spec
```

Note that the RPM path is different for different Linux distributions.
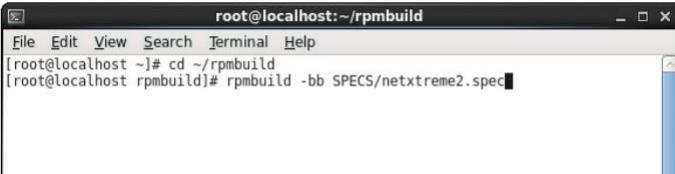
The driver will be compiled for the running kernel by default. To build the driver for a kernel different than the running one, specify the kernel by defining it in KVER:

```
rpmbuild -bb SPECS/netxtreme2.spec --define "KVER <kernel
version>"
```

<kernel version> in the form of **2.x.y-z** is the version of another kernel that is installed on the system.
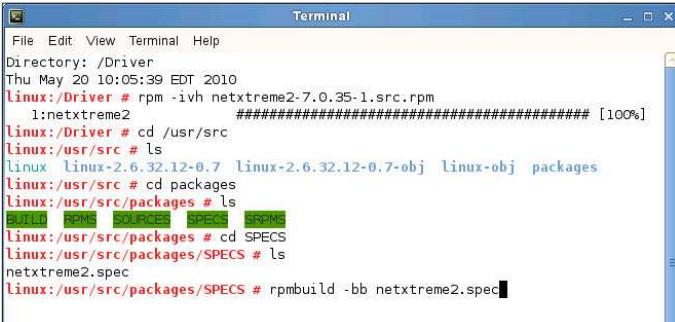
3.   Install the newly built package (driver and main page):

For Red Hat Linux:

For SuSE Linux:

```
rpm -ivh RPMS/<arch>/netxtreme2-<version>.<arch>.rpm
```

where <arch> is the machine architecture such as i386:

For Red Hat Linux:

```
root@localhost:~/rpmbuild/RPMS/x86_64                    _ □ ×
File  Edit  View  Search  Terminal  Help
Requires(preun): /bin/sh
Requires(postun): /bin/sh
Checking for unpackaged file(s): /usr/lib/rpm/check-files /root/rpmbuild/BUILDRO
OT/netxtreme2-7.0.35-1.x86_64
Wrote: /root/rpmbuild/RPMS/x86_64/netxtreme2-7.0.35-1.x86_64.rpm
Executing(%clean): /bin/sh -e /var/tmp/rpm-tmp.2hBGAW
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd netxtreme2-7.0.35
+ rm -rf /root/rpmbuild/BUILDROOT/netxtreme2-7.0.35-1.x86_64 /root/rpmbuild/BUIL
D/file.list.netxtreme2
+ exit 0
[root@localhost SPECS]# cd ~/rpmbuild
[root@localhost rpmbuild]# ls
BUILD  BUILDROOT  RPMS  SOURCES  SPECS  SRPMS
[root@localhost rpmbuild]# cd RPMS
[root@localhost RPMS]# ls
x86_64
[root@localhost RPMS]# cd X86_64
bash: cd: X86_64: No such file or directory
[root@localhost RPMS]# cd x86_64
[root@localhost x86_64]# ls
netxtreme2-7.0.35-1.x86_64.rpm
[root@localhost x86_64]# rpm -ivh netxtreme2-7.0.35-1.x86_65.rpm
```



```
root@localhost:~/rpmbuild/RPMS/x86_64                    _ □ ×
File  Edit  View  Search  Terminal  Help
Executing(%clean): /bin/sh -e /var/tmp/rpm-tmp.2hBGAW
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd netxtreme2-7.0.35
+ rm -rf /root/rpmbuild/BUILDROOT/netxtreme2-7.0.35-1.x86_64 /root/rpmbuild/BUIL
D/file.list.netxtreme2
+ exit 0
[root@localhost SPECS]# cd ~/rpmbuild
[root@localhost rpmbuild]# ls
BUILD  BUILDROOT  RPMS  SOURCES  SPECS  SRPMS
[root@localhost rpmbuild]# cd RPMS
[root@localhost RPMS]# ls
x86_64
[root@localhost RPMS]# cd X86_64
bash: cd: X86_64: No such file or directory
[root@localhost RPMS]# cd x86_64
[root@localhost x86_64]# ls
netxtreme2-7.0.35-1.x86_64.rpm
[root@localhost x86_64]# rpm -ivh netxtreme2-7.0.35-1.x86_65.rpm
error: open of netxtreme2-7.0.35-1.x86_65.rpm failed: No such file or directory
[root@localhost x86_64]# rpm -ivh netxtreme2-7.0.35-1.x86_64.rpm
Preparing...                ########################################### [100%]
   1:netxtreme2             ########################################### [100%]
[root@localhost x86_64]#
```

For SuSE Linux:

```
ildroot
Checking for unpacked file(s): /usr/lib/rpm/check-files /var/tmp/netxtreme2-bu
ildroot
warning: Could not canonicalize hostname: linux
Wrote: /usr/src/packages/RPMS/i586/netxtreme2-7.0.35-1.i586.rpm
Executing(%clean): /bin/sh -e /var/tmp/rpm-tmp.26682
+ umask 022
+ cd /usr/src/packages/BUILD
+ cd netxtreme2-7.0.35
+ rm -rf /var/tmp/netxtreme2-buildroot /usr/src/packages/BUILD/file.list.netxtre
me2
+ rm -rf filelists
linux:/usr/src/packages/SPECS # ls
netxtreme2.spec
linux:/usr/src/packages/SPECS # cd..
linux:/usr/src/packages # ls
BUILD  RPMS  SOURCES  SPECS  SRPMS
linux:/usr/src/packages # cd RPMS
linux:/usr/src/packages/RPMS # ls
athlon  geode  i386  i486  i586  i686  noarch
linux:/usr/src/packages/RPMS # cd i586
linux:/usr/src/packages/RPMS/i586 # ls
netxtreme2-7.0.35-1.i586.rpm
linux:/usr/src/packages/RPMS/i586 #
```

```
ildroot
Checking for unpacked file(s): /usr/lib/rpm/check-files /var/tmp/netxtreme2-bu
ildroot
warning: Could not canonicalize hostname: linux
Wrote: /usr/src/packages/RPMS/i586/netxtreme2-7.0.35-1.i586.rpm
Executing(%clean): /bin/sh -e /var/tmp/rpm-tmp.26682
+ umask 022
+ cd /usr/src/packages/BUILD
+ cd netxtreme2-7.0.35
+ rm -rf /var/tmp/netxtreme2-buildroot /usr/src/packages/BUILD/file.list.netxtre
me2
+ rm -rf filelists
linux:/usr/src/packages/SPECS # ls
netxtreme2.spec
linux:/usr/src/packages/SPECS # cd..
linux:/usr/src/packages # ls
BUILD  RPMS  SOURCES  SPECS  SRPMS
linux:/usr/src/packages # cd RPMS
linux:/usr/src/packages/RPMS # ls
athlon  geode  i386  i486  i586  i686  noarch
linux:/usr/src/packages/RPMS # cd i586
linux:/usr/src/packages/RPMS/i586 # ls
netxtreme2-7.0.35-1.i586.rpm
linux:/usr/src/packages/RPMS/i586 # rpm -ivh netxtreme2-7.0.35-1.i586.rpm
```

```
rpm -ivh RPMS/i386/netxtreme2-<version>.i386.rpm
```

Note that the --force option may be needed on some Linux distributions if conflicts are reported.

The drivers will be installed in the following path:

2.4.x kernels:

/lib/modules/<kernel_version>/kernel/drivers/net/bnx2.o

/lib/modules/<kernel_version>/kernel/drivers/net/bnx2x.o

2.6.0 kernels:

/lib/modules/<kernel_version>/kernel/drivers/net/bnx2.ko

/lib/modules/<kernel_version>/kernel/drivers/net/bnx2x.ko

2.6.16 and newer kernels:

/lib/modules/<kernel_version>/kernel/drivers/net/bnx2.ko

/lib/modules/<kernel_version>/kernel/drivers/net/bnx2x.ko

/lib/modules/<kernel_version>/kernel/drivers/net/cnic.ko

Newer RHEL and SLES distros:

/lib/modules/<kernel_version>/updates/bnx2.ko

/lib/modules/<kernel_version>/updates/cnic.ko

/lib/modules/<kernel_version>/updates/bnx2x.ko

/lib/modules/<kernel_version>/updates/bnx2i.ko

/lib/modules/<kernel_version>/updates/bnx2fc.ko

4. Unload existing driver if necessary:

   `rmmod bnx2`

   `rmmod bnx2x`

   If the cnic driver is loaded, it should also be unloaded along with dependent drivers:

   `rmmod bnx2fc`

   `rmmod bnx2i`

   `rmmod cnic`

5. Load the bnx2 driver for the BCM5706/BCM5708/5709/5716 devices:

   `insmod bnx2.o`

   or

   `insmod bnx2.ko` (on 2.6.x kernels)

   or

   `modprobe bnx2`

   To load the bnx2x driver for the BCM57710/BCM57711/BCM57711E/BCM57712 devices:

   `insmod bnx2x.o`

   or

   `insmod bnx2x.ko` (on 2.6.x kernels)

   or

   `modprobe bnx2x`

   To load the cnic driver:

   `insmod cnic.ko`

   or

   `modprobe cnic`

   To load the bnx2i driver:

   `insmod bnx2i.ko`

   or

   `modprobe bnx2i`

   To load the bnx2fc driver for BCM57712 device:

```
insmod bnx2fc.ko
```

or

```
modprobe bnx2fc
```

```
service bnx2fcd start
```

Note that the inbox kernel may have an older version of bnx2, bnx2x and cnic driver. It is important for FCoE offload user to unload these inbox versions before attempting to load bnx2fc driver. You can do either of these two options:

a) Reboot the server.

b) If already loaded, unload inbox bnx2, bnx2x, cnic drivers, and load the newly installed version from netxtreme2-foce package using '`modprobe <DRV-NAME>`'

- Driver upgrade (`rpm -Uvh`) is not supported.

- On SLES 11, change "allow_unsupported_modules" parameter value of **/etc/ modprobe.d/unsupport-modules'** from 0 to 1, until bnx2fc driver is inbox. Failing to do so will not load bnx2fc.

6. To configure the network protocol and address, refer to various Linux documentations.

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Online support	http://support.asus.com/techserv/techserv.aspx

* EUR 0.14/minute from a German fixed landline; EUR 0.42/minute from a mobile phone.

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2. 1077(a)

FC

Responsible Party Name: Asus Computer International

Address: 800 Corporate Way, Fremont, CA 94539.

Phone/Fax No: (510)739-3777/(510)608-4555

hereby declares that the product

Product Name : 10G LAN CARD

Model Number : MCB-10G-2S

Conforms to the following specifications:

☒ FCC Part 15, Subpart B, Unintentional Radiators

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Representative Person's Name : __Steve Chang / President__

Signature :

Date : __Jun. 06, 2014__

Ver. 140331

EC Declaration of Conformity

ASUS IN SEARCH OF INCREDIBLE

We, the undersigned,

Manufacturer:	ASUSTeK COMPUTER INC.
Address:	4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN
Authorized representative in Europe:	ASUS COMPUTER GmbH
Address, City:	HARKORT STR. 21-23, 40880 RATINGEN
Country:	GERMANY

declare the following apparatus:

Product name :	**10G LAN CARD**
Model name :	**MCB-10G-2S**

conform with the essential requirements of the following directives:

☒2004/108/EC-EMC Directive

☒ EN 55022:2010+AC:2011	☒ EN 55024:2010
☒ EN 61000-3-2:2006+A2:2009	☒ EN 61000-3-3:2008
☐ EN 55013:2001+A1:2003+A2:2006	☐ EN 55020:2007+A11:2011

☐1999/5/EC-R&TTE Directive

☐ EN 300 328 V1.7.1(2006-10)	☐ EN 301 489-1 V1.9.2(2011-09)
☐ EN 300 440-1 V1.6.1(2010-08)	☐ EN 301 489-3 V1.4.1(2002-08)
☐ EN 300 440-2 V1.4.1(2010-08)	☐ EN 301 489-4 V1.4.1(2009-05)
☐ EN 301 511 V9.0.2(2003-03)	☐ EN 301 489-7 V1.3.1(2005-11)
☐ EN 301 908-1 V5.2.1(2011-05)	☐ EN 301 489-9 V1.4.1(2007-11)
☐ EN 301 908-2 V5.2.1(2011-07)	☐ EN 301 489-17 V2.2.1(2012-09)
☐ EN 301 893 V1.6.1(2011-11)	☐ EN 301 489-24 V1.5.1(2010-09)
☐ EN 302 544-2 V1.1.1(2009-01)	☐ EN 302 326-2 V1.2.2(2007-06)
☐ EN 302 623 V1.1.1(2009-01)	☐ EN 302 326-3 V1.3.1(2007-09)
☐ EN 50360:2001	☐ EN 301 357-2 V1.4.1(2008-11)
☐ EN 62479:2010	☐ EN 302 291-1 V1.1.1(2005-07)
☐ EN 50385:2002	☐ EN 302 291-2 V1.1.1(2005-07)
☐ EN 62311:2008	

☐2006/95/EC-LVD Directive

☐ EN 60950-1 / A12:2011	☐ EN 60065:2002 / A12:2011

☐2009/125/EC-ErP Directive

☐ Regulation (EC) No. 1275/2008	☐ Regulation (EC) No. 278/2009
☐ Regulation (EC) No. 642/2009	☐ Regulation (EC) No. 617/2013

☒2011/65/EU-RoHS Directive Ver. 140331

☒CE marking

CE

(EC conformity marking)

Position : **CEO**

Name : __Jerry   Shen__

Declaration Date: 06/06/2014
Year to begin affixing CE marking: 2014

Signature : _____