



QLogic Network Adapters

UXDiag User's Guide

Firmware Version 1.8

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1 Introduction

This document provides information on how to use QLogic's xdiag utility for manufacturing and engineering level diagnostics for the QLogic Network line of Ethernet controllers. This manual is intended for engineers, testers, and technicians at QLogic and QLogic's OEM customers and should not be distributed to end-users.

2 Operating Environment

The uxdiag utility operates in an MS-DOS environment. It includes a DOS extender (PMODE/W) that is embedded into the executable and provides access to memory above 1MB.

OS: MS-DOS 6.22

Input File List

The following files should be found in the same location of the uxdiag.exe.

- Firmware image files stored in \diagfw directory are required when running diagnostics.

3 Functions List

The following are the function list summary:

Table 3-1. Function List Summary

Function	Description
-t <grps/tests>	Disable certain tests/groups (for example: a1c2).
-T <grps/tests>	Enable certain tests/groups (for example: a1c2).
-c <card#>	Select device number tests will be running on.
-I <iteration#>	Specify how many iterations tests need to run.
-pwd <password>	Specify the password in order to update firmware.
-fbc <bc_image>	Specify the bin file for combined boot code.
-fmba <mba_image>	Specify the bin file for MBA.
-fipmi <ipmi_image>	Specify the bin file for IPMI firmware.
-fump <ump_image>	Specify the bin file for UMP firmware.
-fncsi <ncsi_image>	Specify the bin file for NCSI firmware.
-fib <ib_image>	Specify the bin file for iSCSI boot.
-fib_ipv6 <ib_image>	Specify the bin file for IPV6 iSCSI boot.
-fib_ipv4n6 <ib_image>	Specify the bin file for combo IPV4 & IPV6 iSCSI boot.
-fibc	Program iSCSI configuration block, used with -fib fib_ipv6 <ib_image> only.
-fibp	Program iSCSI configuration software, Used with -fib fib_ipv6 <ib_image> only.
-F	Force to upgrade image without checking version.
-wol <1 0>	enable(1)/disable(0) magic pkt wol.
-mba <1 0>	enable(1)/disable(0) mba.
-mfw <1 0>	enable(1)/disable(0) management firmware.

Table 3-1. Function List Summary

Function	Description
-mbas <n>	MBA/PXE speed: auto(0), 10H(1), 10F(2), 100H(3), 100F(4), 1000F(6).
-mbap <n>	MBA boot protocol: PXE(0), RPL(1), BOOTP(2), iSC-SI_Boot(3), reserved(4-6), None(7).
-mbav <1 0>	enable(1)/disable(0) MBA VLAN.
-mbavval <n>	MBA VLAN value (<65536>).
-cof	Allow tests to continue tests on failure.
-fnvm <raw_image>	Specify raw image file to program to NVM. Requires -pwd and -c or -idmatch .
-idmatch	Enable matching of VID, DID, SVID, and SSID from image file with device's IDs. Used with -fnvm <raw_image> only. This option applies to all devices.
-ver	Display information on devices and uxdiag version
-log <logfile>	log the tests' execution into the specified file
-smbus_addr <value>	Change smbus address
@filename	Xdiag parses file content and use it as command line options.
-help	Print out this screen.

t

cmd: -t

Description: Disable certain tests/groups (for example: a1c2).

Syntax: [-]t <value>

value: test number, example, A for group or a1 for individual test.

Example: (From DOS prompt)

```
c:\uxdiag -t Ab1
```

```
-run default diagnostic tests, skip group A and test b1
```

T

cmd: -T

Description: Enable certain tests/groups (for example: a1c2).

Syntax: [-]T <value>

value: test number, example, A for group or a1 for individual test.

Example: (From DOS prompt)

```
c:\uxdiag -T d3
```

```
-run default diagnostic tests, including d3 test
```

C

cmd: -c

Description: Select device number tests will be running on.

Syntax: [-]c <value>

value: device number.

Example: (From DOS prompt)

```
c:\uxdiag -c 2
```

```
-run default diagnostic on device 2
```

cmd: -I

Description: Specify how many iterations tests need to run.

Syntax: [-I] <value>

value: number of iteration(s). 0 means infinite iterations.

Example: (From DOS prompt)

```
c:\uxdiag -I 2
-run default diagnostic 2 times
```

pwd

cmd: -pwd

Description: Specify the password in order to update firmware. For field technician use only.

Syntax: [-]pwd <value>

value: password for device access.

Example: (From DOS prompt)

```
c:\uxdiag -pwd xxx -fnvm abc.bin -idmatch
```

fbc

cmd: -fbc

Description: Specify the bin file for combined boot code.

Syntax: [-]fbc <bc_image>

bc_image: boot code .bin file

Example: (From DOS prompt)

```
c:\uxdiag -c 1 -fbc bc06c194.bin
-upgrade boot code with bc06c194.bin file on device 1
```

fmmba

cmd: -fmmba

Description: Specify the bin file for MBA (Multiple Boot Agent).

Syntax: [-]fmmba <mba_image>
mba_image: mba .xxx file

Example: (From DOS prompt)
c:\uxdiag -c 1 -fmmba bxxmmba.nic
-upgrade mba with bxxmmba.nic file one device 1

fipmi

cmd: -fipmi

Description: Specify the bin file for intelligent platform management interface firmware.

Syntax: [-]fipmi <ipmi_image>
ipmi_image: ipmi bin file

Example: (From DOS prompt)
c:\uxdiag -c 1 -fipmi pt5708h1.06
-upgrade ipmi with pt5708h1.06 file on device 1

fump

cmd: -fump

Description: Specify the bin file for universal management port firmware.

Syntax: [-]fump <ump_image>
ump_image: ump bin file

Example: (From DOS prompt)
c:\uxdiag -c 1 -fump ntx2ump.bin
-upgrade ump with ntx2ump.bin file on device 1

fncsi

cmd: -fncsi

Description: Specify the bin file for NCSI firmware.

Syntax: [-]fncsi <ncsi_image>
ncsi_image: ncsi bin file

Example: (From DOS prompt)
c:\uxdiag -c 1 -fncsi ncsi.bin
-upgrade ncsi with ncsi.bin file on device 1

fib

cmd: -fib

Description: Specify the bin file for iSCSI boot.

Syntax: [-]fib <ib_image>
ib_image: iSCSI boot bin file

Example: (From DOS prompt)
c:\uxdiag -c 1 -fib iscsi.bin
-upgrade iSCSI boot with iscsi.bin on device 1

fib_ipv6

cmd: -fib_ipv6

Description: Specify the bin file for IPV6 iSCSI boot.

Syntax: [-]fib_ipv6 <ib_image>
ib_image: iSCSI boot bin file

Example: (From DOS prompt)
c:\uxdiag -c 1 -fib_ipv6 iscsi.bin
-upgrade IPV6 iSCSI boot with iscsi.bin on device 1

fib_ipv4n6

cmd: **-fib_ipv4n6**

Description: Specify the bin file for combo IPV4 & IPV6 iSCSI boot.

Syntax: **[-]fib_ipv4n6 <ib_image>**
ib_image: iSCSI boot bin file

Example: (From DOS prompt)
`c:\uxdiag -c 1 -fib_ipv4n6 iscsi.bin`
`-upgrade combo IPV4 & IPV6 iSCSI boot with iscsi.bin on device 1`

fibc

cmd: **-fibc**

Description: Program iSCSI configuration block. Must be used with **-fib|fib_ipv6 <ib_image>**.

Syntax: **[-]fib|fib_ipv6 <ib_image> -fibc**
ib_image: iSCSI boot bin file

Example: (From DOS prompt)
`c:\uxdiag -c 1 -fib iscsi.bin -fibc`
`-upgrade iSCSI configuration block on device 1`

fibp

cmd: **-fibp**

Description: Program iSCSI configuration software. Must be used with **-fib|fib_ipv6 <ib_image>**.

Syntax: **[-]fib|fib_ipv6 <ib_image> -fibp**
ib_image: iSCSI boot bin file

Example: (From DOS prompt)
`c:\uxdiag -c 1 -fib iscsi.bin -fibp`
`-upgrade iSCSI configuration software on device 1`

F

cmd: -F

Description: Force to upgrade image without checking version.

Syntax: [-]F

Example: (From DOS prompt)
`c:\uxdiag -c 1 -F -fbc <bc_images>`
`-force upgrade/downgrade boot code on device 1`

wol

cmd: -wol

Description: enable(1)/disable(0) magic pkt wol

Syntax: [-]wol <1/0>
1: enable, 0: disable

Example: (From DOS prompt)
`c:\uxdiag -c 2 -wol 1`
`-enable WOL on device 2`

mba

cmd: -mba

Description: enable(1)/disable(0) mba

Syntax: [-]mba <1/0>
1: enable, 0: disable

Example: (From DOS prompt)
`c:\uxdiag -c 2 -mba 1`
`-enable mba on device 2`

mfw

cmd: -mfw

Description: enable(1)/disable(0) management firmware

Syntax: [-]mfw <1/0>
1: enable, 0: disable

Example: (From DOS prompt)
c:\uxdiag -c 2 -mfw 1
-enable management firmware on device 2

mbas

cmd: -mbas <n>

Description: Set MBA/PXE speed: auto(0), 10H(1), 10F(2), 100H(3), 100F(4), 1000F(6)

Syntax: [-]mbas <n>
0: auto, 1:10H, 2:10F, 3:100H, 4:100F, 6:1000F

Example: (From DOS prompt)
c:\uxdiag -c 1 -mbas 0
-set pxe speed to auto on device 1

mbap

cmd: -mbap <n>

Description: Set MBA boot protocol: PXE(0), RPL(1), BOOTP(2), iSCSI_Boot(3), reserved(4-6), None(7).

Syntax: [-]mbap <n>
0: PXE, 1:RPL, 2:BootP, 3:iSCSI Boot, 7: None

Example: (From DOS prompt)
c:\uxdiag -c 1 -mbap 0
-set protocol to pxe on device 1

mbav

cmd: -mbav <1|0>

Description: enable(1)/disable(0) MBA VLAN

Syntax: [-]mbav <1|0>
0:enable, 1:disable

Example: (From DOS prompt)
c:\uxdiag -c 1 -mbav 1
-enable mba vlan on device 1

mbavval

cmd: -mbavval <n>

Description: Set MBA VLAN (<65536)

Syntax: [-]mbavval <n>

Example: (From DOS prompt)
c:\uxdiag -c 1 -mbavval 100
-set mba vlan to 100

cof

cmd: -cof

Description: Allow tests to continue tests on failure.

Syntax: [-]cof

Example: (From DOS prompt)
c:\uxdiag -cof
-run all diagnostic tests regardless if failure occurs

fnvm

cmd: -fnvm

Description: Specify raw image file to program to NVM. Requires **-pwd** and **-c** or **-idmatch**. For field technician use only.

Syntax: [-]fnvm <raw_image>

Example: (From DOS prompt)
c:\uxdiag -fnvm abc.bin -idmatch -pwd xxx
-update NVM with abc.bin file

idmatch

cmd: -idmatch

Description: Enable matching of view identifier, DID, SVID, and SSID from image file with device's IDs. Used with **-fnvm <raw_image>** only. This option applies to all devices. For field technician use only.

Syntax: [-]idmatch

Example: (From DOS prompt)
c:\uxdiag -fnvm abc.bin -idmatch -pwd xxx
- update NVM with abc.bin file if VID, DID, SVID, and SSID in abc.bin
match what are on the device

ver

cmd: -ver

Description: Display information on devices and uxdiag version.

Syntax: [-]ver

Example: (From DOS prompt)
c:\uxdiag -ver
- Display information on devices and uxdiag version

log

cmd: -log

Description: Log the tests' execution into the specified file.

Syntax: [-]log <logfile>
logfile: txt

Example: (From DOS prompt)
c:\uxdiag -log out.txt
- capture test log to out.txt file

smbus_addr

cmd: -smbus_addr

Description: Change **smbus** addresses on all devices that are in the system or specified by -c.

Syntax: [-]smbus <value>

Example: (From DOS prompt)
c:\uxdiag -smbus 0xfc
- change smbus address on all devices

filename

cmd: @filename

Description: A file that contains xdiag command line options.

Syntax: [@]help

Example: (From DOS prompt)
c:\uxdiag @filename

help

cmd: `-help`

Description: Display commands syntax on screen.

Syntax: `[-]help`

Example: (From DOS prompt)
`c:\uxdiag -help`
- Display commands syntax on screen



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