

Device Driver Developers' Guide

NetWare Operating System
DDFS Interface
Versions 3.1x - 4.xx

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Preface

The NetWare v4.xx and v3.1x Operating Systems offer a dynamic environment to device driver developers. The NetWare v4.xx & v3.1x driver environment allows a file server administrator to load and unload device drivers while the file server is running and fully functioning. This document provides a reference for creating device drivers, as well as additional tutorial information helpful in converting drivers written for previous versions of NetWare.

This document corresponds to NetWare Operating System versions 3.1x, and 4.xx and is intended for device driver developers.

Chapter 1 reviews some **programming guidelines** device drivers must observe when interfacing with NetWare.

Chapter 2 describes basic **NetWare v3.1x - v4.xx device driver design**, including the standard structures and routines a device driver must provide.

Chapter 3 describes the routines a device driver needs to provide that will interface with the **NetWare Loadable Module (NLM)** design.

Chapter 4 discusses the routines required to interface to the **Mass Storage Control Interface**.

Chapter 5 discusses **IOCTL (I/O Control) routines** for NetWare v3.1x & v4.xx device drivers.

Chapter 6 discusses **I/O routines** for NetWare v3.1x & v4.xx device drivers.

Chapter 7 lists and discusses each **NetWare support routine** available to device driver developers.

Appendix A provides a brief tutorial on **creating NetWare Loadable Modules (NLMs)** and lists the keywords that can appear in the definition file required by the NetWare v3.1x and v4.xx Loadable Module Linker NLMLINKP(R) (device drivers are NLMs).

Appendix B describes the built-in **debugger** of the NetWare Operating System.

Appendix C provides details of **C subroutine calling conventions** used by the OS when calling the driver- provided entry points. The conventions also apply to drivers when calling the support routines listed in Chapter 7.

Appendix D is a list of **development tools** currently available for driver developers.

Appendix E details the differences between NetWare versions 3.1x and 4.xx.

Appendix F provides details necessary for development of drivers for EISA machines.

Appendix G details the implementation of drivers supporting **16-bit host adapters using DMA/Bus Mastering** in systems with more than 16 megabytes of memory.

Appendix H provides **NetWare Ready** information.

Appendix I provides information on support for **PCI** and **PCMCIA**.

Appendix J summarizes implementation details for **CD-ROM drivers**.

Appendix K summarizes implementation details for **sequential access device drivers**.

Appendix L summarizes implementation details for the **Installation Information file**.

Appendix M provides information on **OS/2 Support**.

Table of Contents

Chapter 1: The NetWare Driver Environment	1-1
Drivers as NLMs	1-1
Loading and Unloading Drivers	1-1
Reentrance	1-2
OS Environment	1-3
Blocking Process Level	1-3
Non-Blocking Process Level	1-4
Interrupt Level	1-4
Chapter 2: Device Driver Design	2-1
Data Structures	2-1
IOConfigurationStructure	2-2
AdapterOptionStructure	2-6
CardStructure	2-7
DiskStructure	2-8
AESEventStructure	2-8
IOCTLRequestStructure	2-10
IORequestStructure	2-12
Driver Routines	2-14
The Loadable Module Interface	2-15
The Mass Storage Control Interface	2-16
IOCTL (I/O Control) Operations Interface	2-17
I/O Operations Interface	2-18
Required Device Driver Routines	2-20
Chapter 3: Loadable Module Interface	3-1
Initializing the Driver	3-1
Validating and Reserving Hardware Options	3-2
Initializing and Registering Cards and Structures	3-3
Loading Co-processor firmware	3-3
Allocating Interrupts	3-4
Scheduling an AES Timeout Event	3-5
Reporting Errors	3-5
Initialization Sequence Summary	3-7
Checking the Driver	3-9
Unloading the Driver	3-12
Removing and Deleting Devices	3-13
Preparing a Card for Deletion	3-13
Deleting a Card	3-13
Chapter 4: Mass Storage Control Interface	4-1
ScanForDevices	4-1
DeleteDevice	4-3
NetWare 4.x	4-3
NetWare 3.11	4-4
Chapter 5: Driver I/O Control (IOCTL) Functions	5-1
IOCTLPoll	5-1
IOCTL Request Return Status	5-4

Using GetIOCTL	5-7
Standard IOCTL Functions	5-10
Activate Device	5-12
Deactivate Device	5-13
Format Device	5-14
Device Verify Mode	5-15
Identify Device	5-16
Return Bad Block Info	5-17
Return Device Status	5-19
Logical Device Mount	5-22
Logical Device Dismount	5-23
Lock Device Media	5-24
Unlock Device Media	5-25
Eject Media	5-26
Return Device Info	5-27
Return Media Info	5-30
Set Device Parameters	5-33
Return Tape Device Info	5-35
Return Magazine Info	5-38
Return Magazine Media Mapping	5-39
Magazine Select Command	5-40
Magazine Deselect Command	5-41
Magazine Load	5-42
Magazine Unload	5-43
Magazine Eject	5-44
Return Changer Info	5-45
Return Changer Device Mapping	5-47
Return Changer Media Mapping	5-48
Changer Command	5-50
Custom IOCTLs	5-52
Chapter 6: I/O Operations	6-1
I/O Requests	6-1
I/O Request Return Status	6-3
Standard I/O Functions	6-6
RandomRead (00h)	6-8
RandomWrite (01h)	6-9
RandomWriteOnce (02h)	6-10
SequentialRead (03h)	6-11
SequentialWrite (04h)	6-12
ResetEndOfMediaStatus (05h)	6-13
SingleFileMark(s) (06h)	6-14
ConsecutiveFileMark(s) (07h)	6-15
SingleSetMark(s) (08h)	6-16
ConsecutiveSetMark(s) (09h)	6-17
SpaceRelativeDataBlock(s) (0Ah)	6-18
AbsoluteDataBlock (0Bh)	6-19
SequentialPartitionOperations (0Ch)	6-20
PhysicalMediaOperations (0Dh)	6-22
RandomErase (0Eh)	6-23
Reserved (0Fh - 3Fh)	6-24

IOPoll	6-25
Timeout Routine	6-29
Interrupt Service Routine	6-31
Required ISR Functional Flow	6-31
Disabling Interrupts & Routine Duration	6-33
Shared Interrupts	6-34
Read After Write Verification	6-37
HotFix	6-38
Sequential Device Support Considerations	6-39
Streaming	6-39
Early Warning, End of Media, and Error handling	6-40
Media Error Handling	6-40
Chapter 7: NetWare Driver Support Routines	7-1
Definitions	7-2
AddDiskDevice	7-3
AddDiskSystem	7-8
AlertDevice	7-10
Alloc	7-12
AllocateResourceTag	7-13
AllocBufferBelow16Meg	7-15
AllocSemiPermMemory	7-16
CAdjustRealModeInterruptMask	7-17
CancelNoSleepAESProcessEvent	7-18
CancelSleepAESProcessEvent	7-19
CCheckHardwareInterrupt	7-20
CDisableHardwareInterrupt	7-21
CDoEndOfInterrupt	7-22
CEnableHardwareInterrupt	7-23
CheckDiskCard	7-24
CheckDiskDevice	7-25
ClearHardwareInterrupt	7-26
CPSemaphore	7-27
CRescheduleLast	7-28
CUnAdjustRealModeInterruptMask	7-29
CVSemaphore	7-30
CYieldIfNeeded	7-31
CYieldWithDelay	7-32
DelayMyself	7-33
DeleteDiskDevice	7-34
DeleteDiskSystem	7-35
DeRegisterHardwareOptions	7-36
DoRealModeInterrupt	7-37
EnterDebugger	7-39
Free	7-40
FreeBufferBelow16Meg	7-41
FreeSemiPermMemory	7-42
GetCurrentTime	7-43
GetHardwareBusType	7-44
GetIOCTL	7-45
GetReadAfterWriteVerifyStatus	7-49

GetRealModeWorkSpace	7-50
GetRequest	7-52
GetSectorsPerCacheBuffer	7-55
MapAbsoluteAddressToCodeOffset	7-56
MapAbsoluteAddressToDataOffset	7-57
MapCodeOffsetToAbsoluteAddress	7-58
MapDataOffsetToAbsoluteAddress	7-59
NetWareAlert	7-60
OutputToScreen	7-63
ParseDriverParameters	7-64
PutIOCTL	7-69
PutRequest	7-73
QueueSystemAlert	7-76
ReadPhysicalMemory	7-78
RegisterForEventNotification	7-79
RegisterHardwareOptions	7-84
RemoveDiskDevice	7-85
ScheduleNoSleepAESProcessEvent	7-86
ScheduleSleepAESProcessEvent	7-87
SetHardwareInterrupt	7-88
UnRegisterEventNotification	7-90
Support Routine Call Compatibility Summary	7-91
Appendix A: Creating Loadable Modules	A-1
Appendix B: The NetWare Debugger	B-1
Debugger Features	B-1
Debugger Basics	B-2
Entering The Debugger	B-2
Debugger Commands	B-3
Help Commands	B-3
Debugger Command Summary	B-18
Debugger Limitations	B-19
Appendix C: Subroutine Calling Conventions	C-1
Appendix D: Development Tools	D-1
Appendix E: Version Differences	E-1
Prior Version Compatibility	E-1
New Routines Available With Version 4.xx	E-1
Upgrading Version 3.1x Drivers to 4.xx	E-2
Appendix F: Hardware Configuration Information	F-1
Obtaining ISA Configuration Information	F-1
Obtaining EISA Configuration Information	F-1
Getting the Real Mode Workspace	F-1
Locking the Memory	F-2
Making a Real Mode BIOS Call	F-2
Error Checking	F-4

Unlocking the Memory	F-5
Appendix G: 16-bit Host Adapter Support	G-1
Potential Problems	G-1
Procedure	G-2
After Loading the Server	G-2
Driver Initialization	G-2
Driver Scan For Devices	G-3
Driver Active I/O Operation	G-3
Driver Unload	G-4
Appendix H: NetWare Ready Support	H-1
Notice of Discontinuance	H-1
Appendix I: PCI and PCMCIA Support	I-1
Appendix J: NetWare CD-ROM Support	J-1
Appendix K: Sequential Access Device Drivers (Tapes)	K-1
Appendix L: Installation Information File	L-1
Appendix M: OS/2 Drivers	M-1
Index	Index-1