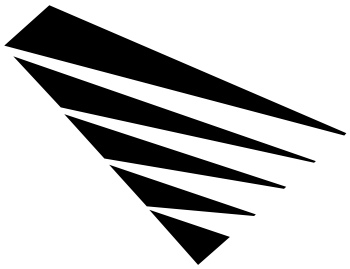

Chapter 1
Design Overview

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The building blocks of the new 32-bit DOS/Windows client are NetWare Loadable Modules (NLMs). Server NLMs and Client NLMs have identical executable file formats, using a 32-bit flat memory model.

The NLM executable format is another key to the NIOS Client's OS-independence. By using an executable file format which is independent of any OS's executable format, only one module (NIOS) need be implemented in the executable format of the host operating system (for example, in the MS-Windows environment, NIOS will be a VxD file, in DOS an .exe file, and in OS/2 a .sys file).

The OS-dependent client modules include NIOS and API mappers.

The OS-independent modules include all the core functionality modules: NetWare Transport Interface, Link Support Layer (LSL), LAN drivers, IPX, SPX, the Requester, etc.

All client modules except NIOS are dynamically loadable and unloadable, allowing the user to upgrade client software without rebooting, including the ability to dynamically load functionality as it is needed and unload it when it's not needed.

The NIOS Client components are designed to run on single-processor Intel 32-bit machines, 80386 or higher. It utilizes a Ring-0 32-bit flat memory model. Critical code paths are written in Assembly, the rest in C.

Target Platforms

This client is initially targeted for Intel-based platforms only; specifically:

- MSDOS 5.x and higher
- Novell DOS 6.x and higher
- MS Windows 3.x
- MS Windows 95
- OS/2 2.x

User Interface

This client provides three major improvements in user interface over previous NetWare client packages.

- Advanced user pop-up error and diagnostic information.
- Dynamic tuning and adjustment features.
- Robust and easy-to-use install and reconfiguration utilities.

The client allows a PC-literate user to install and configure the product without the aid of a network system administrator. It will be the first NetWare implementation to utilize the generic Novell installation package. This package allows three modes of installation:

- A windowing installation interface allows users to select network configuration parameters in a windowing environment.
- A command-line interactive installation allows users to set network parameters in a non-windowing environment.
- An unattended installation allows a system administrator to install the product on an entire network using pre-set and default parameters.