A NetWare Tool Time

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Editor's Note: Laura Chappell speaks at NetWare Conferences and Exhibits, which are regional conferences hosted by NetWare Users International (NUI), North America. At each conference, Laura looks for solutions to common networking problems. Laura recently attended the Baltimore and Washington, D.C. conferences and found some useful utilities for managing NetWare networks.

Whether you are a Certified NetWare Administrator (CNA), a CNE, a network administrator, or a systems integrator, you have probably wished for a few simple utilities to help you complete tedious network management tasks. When I attended the Baltimore and Washington, D.C. NetWare Conferences and Exhibits last month, I decided to walk through the exhibit hall, looking for helpful NetWare utilities. I found them in the most obvious place—Novell's booth. This article introduces the Novell Consulting Toolkit, which is available on CD-ROM, and the Novell Consulting Toolkit Online, which is available on the World-Wide Web (WWW), and it describes some of the utilities that are available in both of these toolkits.

TWO TOOLKITS FROM NOVELL

When the Novell Consulting group helps companies design, implement, and maintain their networks, the consultants sometimes identify tasks that could be automated, thereby saving them and their customers time and effort. Because many of these consultants have programming experience, they often write utilities to simplify such tasks.

To enable you to take advantage of these utilities as well as some useful third-party utilities, the Novell Consulting group publishes the Novell Consulting Toolkit on CD-ROM approximately three times a year. In addition to utilities, this toolkit contains white papers and technical documents about Novell products such as NetWare 4.1, NetWare/IP, GroupWise, and ManageWise. You will also find competitive migration tools and valuable information about network design, implementation strategies, and troubleshooting techniques—all of which are based on the field experience of Novell's consultants. Finally, the toolkit includes the consultants' latest slide presentations, which are written for BrainShare (Novell's technical conference) and the Novell Consulting Workshops.

The Novell Consulting group also offers the Novell Consulting Toolkit Online. To access the Novell Consulting Toolkit Online, go to http://www.novell.com/toolkit. The Novell Consulting Toolkit Online includes utilities, technical documents
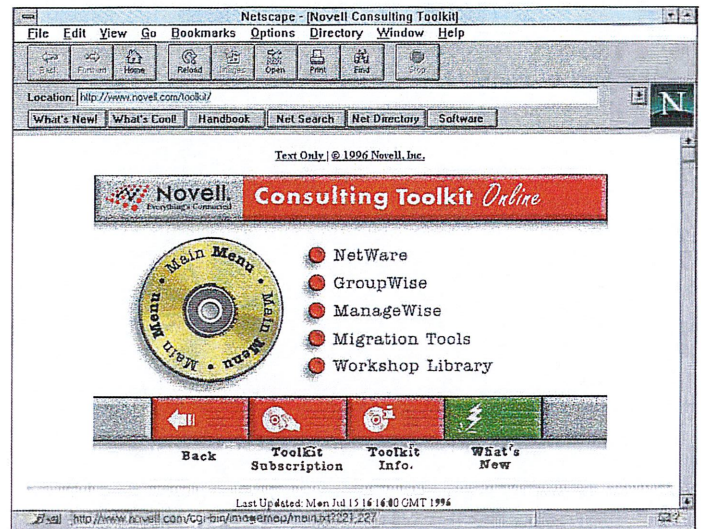
Figure 1. To access the Novell Consulting Toolkit Online, go to http://www.novell.com/toolkit.

(everything from formal white papers to simple lists of information), and slide presentations by Novell consultants. This toolkit also provides links to third-party WWW sites that contain other utilities. (See Figure 1.)

In general, the Novell Consulting Toolkit on CD-ROM and the Novell Consulting Toolkit Online provide access to the same files; however, since the Novell Consulting Toolkit Online is on the Internet, it is updated more frequently than the Novell Consulting Toolkit on CD-ROM, and it includes the latest tools.

The technical documents for the Novell Consulting Toolkit Online come in one of three formats: text formatted in Hyper-Text Markup Language (HTML), downloadable Envoy files, and links to third-party WWW sites. (If you do not have Envoy, you can download the Envoy viewer or the Envoy Netscape Plug-in from http://www.novell.com/envoy/viewers.html.)

The consultants' slide presentations are created in Corel Presentations. (If you do not have Presentations, you can download the Presentations Runtime viewer from http://www.novell.com/corp/programs/ncs/toolkit/download/show31.zip.) Some slides from third-party companies are created in Microsoft PowerPoint; however, a PowerPoint viewer is not provided.

BUILDING A TOOLKIT WITH USEFUL UTILITIES

The Novell Consulting Toolkit on CD-ROM and the Novell Consulting Toolkit Online contain so many utilities that we cannot possibly discuss all of them in this article. However, we can take a look at some of the most useful utilities that are included in both of these toolkits.

The CONFIG Utility

The CONFIG utility documents the server configuration of NetWare 3 and NetWare 4 servers. It creates a log file that contains the names and version numbers of all NetWare loadable modules (NLMs) running on a particular server and the contents of the following files:

- The STARTUP.NCF file
- The AUTOEXEC.NCF file
- The CONFIG.SYS file
- The AUTOEXEC.BAT file
- The NETINFO.CFG file

The CONFIG utility also lists the contents of the SYS:SYSTEM directory and the server's hard drive.

To install the CONFIG utility, you must run CONFIG.EXE, a self-extracting file that contains CONFIG.NLM. Then copy CONFIG.NLM into the SYS:SYSTEM directory, and type LOAD CONFIG at the server console. The CONFIG utility automatically creates a CONFIG.TXT file in the SYS:SYSTEM directory. (If you have run the CONFIG utility before and the CONFIG.TXT file already exists, the utility will append the new information to the existing file.)

If you are managing a large network, you can use the SNLIST utility, which is also included in the Novell Consulting Toolkit, to display the serial numbers of all of the servers on your network. You can then use this information as a checklist to ensure that you run the CONFIG utility on each of these servers.

The DELAY Utility

The DELAY utility allows you to delay the process of loading an NLM to ensure that the preceding NLM is completely loaded. For example, a network administrator I met recently uses a DELAY statement to ensure proper reentrant loading of his LAN driver files.

To install the DELAY utility, run DELAY.EXE, a self-extracting file that contains DELAY.NLM. Then include the following command in any .NCF file in which you want to delay the loading of an NLM:

        LOAD DELAY *seconds*

You must place this statement before the command that loads the NLM you want to delay, and you must replace *seconds* with the number of seconds you want the NLM to wait before loading. For example, to delay the loading of an NLM for five seconds, you would type

        LOAD DELAY 5

The NOVMEM Utility

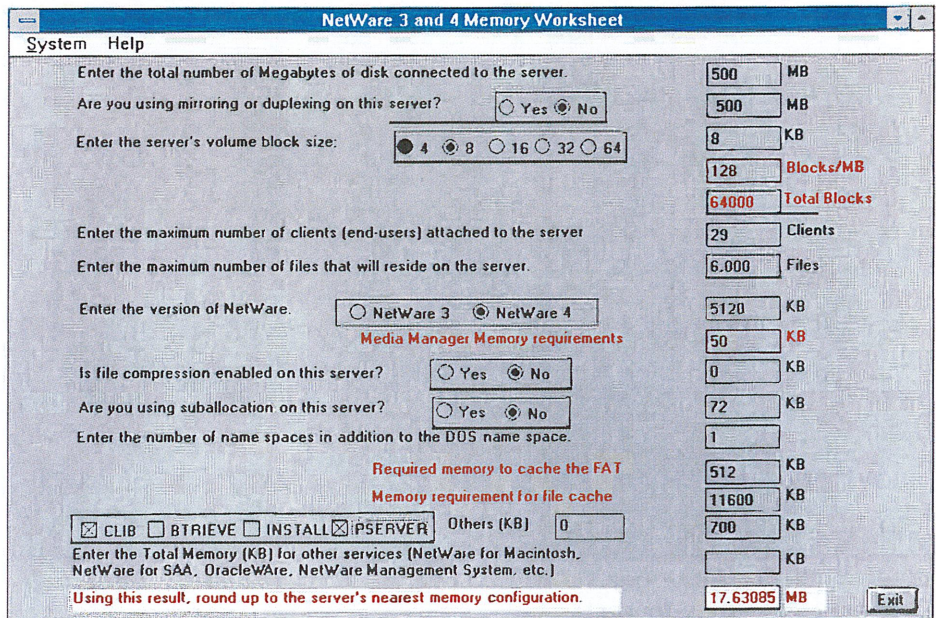You can use the Windows 3.1-based NOVMEM utility to calculate server

Figure 2. We completed this worksheet so that the NOVMEM utility could calculate the memory requirements for our NetWare 3.12 server.

memory requirements for NetWare 2, NetWare 3, and NetWare 4 servers. These calculations are based on a worksheet created by the Novell Systems Research group. (See "Server Memory: Calculating Memory Requirements for NetWare 3 and 4," *Novell Application Notes*, January 1995, pp. 123-24.)

Figure 2 shows the NetWare 3 and 4 memory worksheet that we completed for a NetWare 3.12 server that has a 500 MB disk drive and a maximum of 29 users. The PSERVER.NLM is also loaded on this server. The NOVMEM utility calculated that the server needs just over 17 MB RAM.

The NOVMEM utility can also calculate memory requirements for NetWare 2 servers. (See Figure 3 on p. 60.) The information required is minimal—value-added process (VAP) support, mode, and disk space requirements.

To install the NOVMEM utility, run the NOVMEM.EXE file (version 3.21) on any Windows 3.1x workstation.

The SMEM Utility

The DOS-based SMEM utility provides the same functionality as the NOVMEM utility. Like NOVMEM, SMEM's calculations are based on the memory worksheet created by the Novell Systems Research group. However, the SMEM utility calculates memory requirements only for NetWare 3 and NetWare 4 servers.

To use the SMEM utility, you must run the SMEM.EXE file (dated 8/12/95) on any DOS-based workstation.

The NTSWD Utility

The NTSWD utility is a Windows 3.1x-based diagnostics tool that retrieves and displays detailed information about currently loaded programs, Dynamic Link Libraries (DLLs), virtual drivers (VxDs), and NLMs. As shown in Figure 4, this utility provides details such as file time, date, and version number. (See p. 60.)

To use the NTSWD utility, run the NTSWD.EXE file (version 1.04) on any Windows 3.1x workstation.

The NWSHELL Utility

The NWSHELL utility provides limited DOS client functionality at the server console. For example, it allows you to use the following commands:

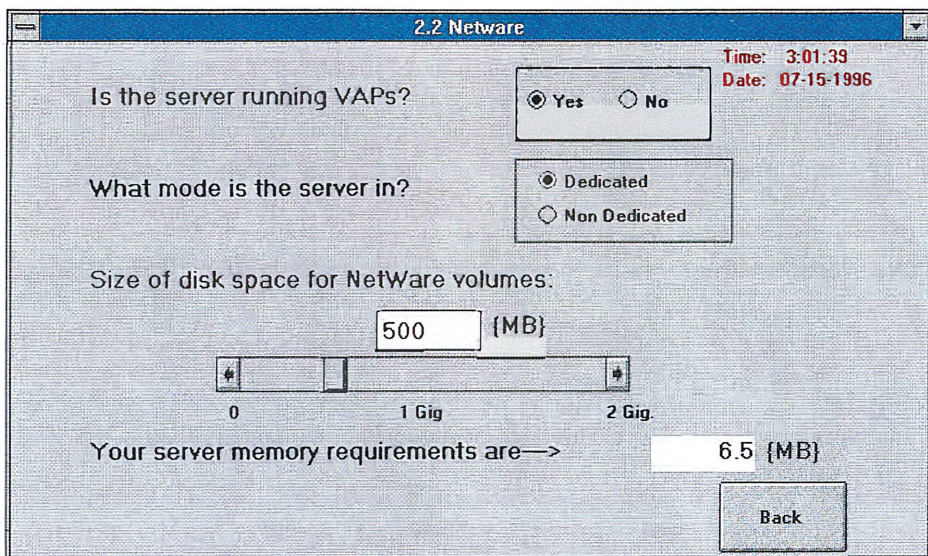|	
CD/CHDIR	Change directory
CLS	Clear NWSHELL screen
DEL/ERASE	Delete a file
FLAG	Change or display file attributes
COPY	Copy a file (NetWare/ DOS volumes)
DF	Display volume information (blocks/sectors)
DIR	Display directory contents
EXIT	Terminate NWSHELL
HELP	Display help screen
HELP [*topic*]	Display help on any topic

Figure 3. *We completed a similar worksheet so that the* NOVMEM *utility could calculate the memory requirements for our NetWare 2.2 server.*

LOGIN	Log in to a local or remote NetWare 2 or 3 server
LOGOUT	Log out from a server
MAP	Map a device to a local or remote location
MD/MKDIR	Make a directory
MSG	Send messages from the server console
REN	Rename or move a file or a directory
RD/REMDIR	Remove a directory
TYPE	Display a file's contents
USERLIST	Display users who are logged in to the server
VER	Display the version of NWSHELL that is running
WHOAMI	List servers to which NWSHELL is logged in

The NWSHELL utility works with NetWare 2 and NetWare 3 servers. It also works with NetWare 4 servers on which bindery emulation is enabled.

The NWSHELL utility is much more powerful than just a shell program for the server console. Programmers can use this utility to test programs directly from the server console and to load programs from remote servers. You should be aware, however, that allowing DOS commands to be entered at the server console presents a security risk. To prevent an unauthorized user from entering DOS commands at the server console, place the server in a secure area, and lock the server console.

To install the NWSHELL utility, use the PKUNZIP utility to decompress

the NWSHELL.ZIP file (dated 7/94). Then create an NWSHELL directory in SYS:SYSTEM, and copy the NWSHELL.NLM and NWSHELL.TXT files to that directory. (For more information about the NWSHELL utility, read this text file, which is included in the NWSHELL.ZIP file.)

Type LOAD NWSHELL *username* at the server console to launch the NWSHELL utility into the DOS client environment. If you do not specify a username, the NWSHELL utility will automatically attempt to log in as the Supervisor or ADMIN user.

Note. The current version of the NWSHELL utility requires CLIB 3.11b or later.

CONCLUSION

If you have been looking for some new NetWare utilities to help you automate management tasks, the Novell Consulting Toolkit on CD-ROM and Novell Consulting Toolkit Online may have what you are looking for. However, there is one caveat: Although Novell's consultants regularly use the utilities included in both toolkits, these utilities are not considered official Novell code, and unless otherwise specified, they are not supported by Novell. One exception is the competitive migration tools, which undergo a more rigorous development process. As a result, Novell does support the competitive migration tools. (A future article will discuss these tools in more detail.)

For more information about the Novell Consulting Toolkit Online or to download the utilities mentioned in this article, go to http://www.novell.com/toolkit. You can also get more information and a CD-ROM order form by calling Novell's FaxBack system at 1-800-NetWare or 1-801-429-5588. (Choose option one, then option two, then option one, and request documents 1373 and 1374.) A subscription to the Novell Consulting Toolkit on CD-ROM costs U.S. $300 per year.

Laura Chappell researches, writes, and lectures on NetWare protocol performance, troubleshooting, and optimization. She is the coauthor of Novell's Guide to NetWare LAN Analysis *and* Novell's Guide to Multiprotocol Internetworking. *You can contact Laura on the Internet at info@imagitech.com.*

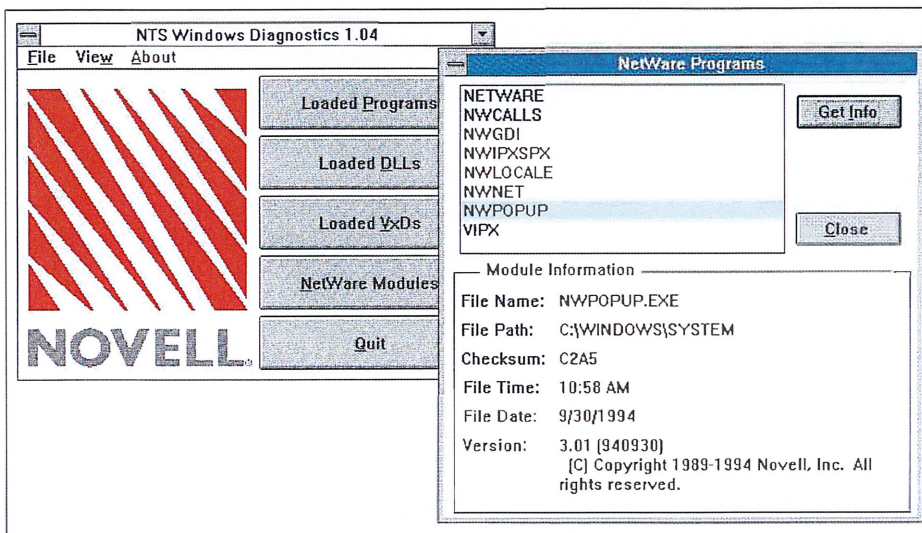*Special thanks to Jim Breitinger for providing additional information about the Novell Consulting Toolkit.* •

Figure 4. *The NTSWD utility provides detailed information about NetWare programs.*