Review: NetWare 5.1

NetWare 5.1 appears to be a worthwhile upgrade which introduces some new features as well as consolidating previous patches. A notable addition is the bundling of IBM's WebSphere. There's also the new NetWare Management Portal, and improvements to ConsoleOne.

By David Norfolk

The latest version of NetWare, NetWare 5.1, shipped in the USA on January 10th 2000, ahead of its obvious rival, Windows 2000, which has neatly avoided having a "point zero" release number but risks having the usual characteristics of such a release. The old adage suggests that you should "never install the point zero release of anything; let braver souls bear the pain".

This used to be especially true of Novell products, when release x.0 barely worked, x.1 worked properly and x.11 was actually rather a nice product. Companies have got better at releasing workable product first time, and NetWare 5.0 wasn't too bad. However, 5.1 does consolidate a lot of cosmetic and usability patches at the very least.

Machine Requirements

Realistic installation requirements for the new NetWare include the usual server-class Pentium PC; a SYS volume of a couple of gigabytes (minimum 1.3 GB to allow for the implementation of products like WebSphere, but 900 MB will suffice for the basic operating system); a 50 MB DOS partition with 35 MB free; 128-256 MB RAM (512 MB is recommended if you're using WebSphere); and a bootable CD drive.

These extra demands on the server partly come from the need to support the new directory-enabled applications Novell is producing, such as the BorderManager cache and firewall product, and also from the need to support a much more heavyweight directory database infrastructure and its indexes.

New Features

You'll probably want to upgrade to NetWare 5.1 just for its new features. The big news is the inclusion of IBM's WebSphere Application Server 3.0 Standard Edition, and IBM WebSphere Studio 3.0 Entry edition, for building and implementing Internet applications that can take advantage of Novell's directory services and Internet services such as BorderManager.

WebSphere Standard Edition supports servlets, Java Server Pages, XML, Enterprise Java Beans, transactional processing, the Web Distributed Authoring and Versioning (WebDAV) standard for managing documents on the Web, and robust database access. Studio is the development environment for WebSphere.

Novell will also offer WebSphere Advanced Edition (with better CORBA support and NDS authentication features) as a separate product, although it has no plans to offer the Enterprise Edition of WebSphere, which can be obtained from IBM.

In fact, this release is all about building high-performance Web servers. Other new features (some sourced from third parties) include:

- Five-user versions of Oracle 8i and Oracle WebDB. This gives you a chance to explore the features of one of the more advanced Web-enabled databases. Oracle 8i is a hybrid object-relational database optimised for Web applications. In addition, it is one of the few non-Novell NetWare applications to take full advantage of the NetWare multi-threaded architecture, multitasking and input/output (I/O). It can even, allegedly, take advantage of all the CPUs in an SMP server. Oracle provides automatic authentication of users by the NetWare operating system, and you can upgrade your licence to more users with Oracle if the database proves useful.
- Novell Certificate Server - this represents Novell's current provision of PKI (Private Key Infrastructure) facilities. You'll need this to prove identity for e-commerce applications, since all the effective link security (which is so common today) doesn't help a bit if the wrong person is calling in. The Certificate server is good at issuing lots of certificates, to your entire customer base, based on their NDS entries.
- WAN Traffic Manager is a policy-based tool used to reduce WAN traffic. NDS will consult the traffic manager's policies before initiating WAN traffic over slow links or dial-up lines.
- NetWare Enterprise Web Server. This generally seems effective and scales well.
- NetWare News Server. This supports internal and external news groups, supports threaded discussion groups, and can be controlled from NDS using LDAP.
- NetWare ftp Server. This may be controlled from NDS, and offers fast file transfers as well as a secure transfer service.
- NetWare Multimedia Server. This enables streaming audio and video access, and also supports interactive two-way conferencing sessions. Clients only need RealPlayer G2 from RealNetworks Inc.
- NetWare WebSearch Server. This allows you to build a single index covering a heterogeneous enterprise network.
- Support for the use of the Internet-

enabled features of Microsoft Office 2000 including, for example, Web folders and the WebDAV standard for Internet file management. In essence, this makes it easier to publish documents from your desktop to the Internet or (probably more usefully) to an internal company intranet.

- Halcyon InstantASP is an open deployment framework for Microsoft's Active Server technology that allows you to deploy Active Server Pages on any Java servlet-enabled Web Server or Application Server. Essentially, it increases the compatibility of non-Microsoft platforms with Windows NT.

Admin Advances

Of particular interest to network administrators will be improvements in speed and usability for ConsoleOne and, even better, the new NetWare Management Portal for managing NetWare 5.1 servers (and partial management of 4.x and 5.0 servers) from a browser.

To use this you simply type in your server's IP address at the browser and authenticate to NDS. You are then presented with a powerful management utility - and a much nicer user interface than Novell usually manages. It even includes a traffic-light style indicator for server health.

However, ConsoleOne is apparently still strategic for NetWare, and is getting faster. Administrators may also appreciate a new ACU (Automatic Client Upgrade) utility, run from the network login script, to check whether you need a client upgrade and to manage the process if you do.

What's Inside

Under the hood, the most important feature of NetWare 5.1 is probably the latest version of Novell's Directory Services, Version 8, or (as we should now call it) NDS eDirectory. This has been available for NetWare 5.0 from the Novell Web site for some time, but it now ships in the box.

It is a serious upgrade to NDS; a new Network Deployment Manager helps you work out whether you have the pre-requisites to migrate your old NDS to NDS version 7 or 8, and helps you decide which version to use. NDS eDirectory is designed for scalability up to billions of users, implements native LDAP and now uses an indexed database engine (so catalogues aren't needed, although the new search functions will work with the previous technology).

One disappointment is that NetWare 5.1 doesn't do more with NSS (Novell Storage Services). It's still extremely useful for CDs (as it was in 5.0), and the concept of a 64-bit journalling file system which can abstract the physical details of storage from the logical view seen by users is still brilliant. However, in practise NSS doesn't support many of the useful features of Novell's current file system - the NSS management utilities aren't particularly intuitive and some NSS features are a bit flaky.

NSS volumes in NetWare 5.1 do not support data migration, data duplexing, disk mirroring, disk striping, file compression, transaction tracking (needed for NDS, so SYS cannot be an NSS volume), File Transfer Protocol (ftp), VREPAIR, Network File System (NFS), or file name locks. However, Novell still seems committed to getting NSS right eventually: see *Life Without Drive Mappings* at **www.novell.com/products/nss/dfs-brainshare.pdf** for an idea where this is all going.

Novell has already started on NetWare 5.1 Application Compatibility Testing. There are two stages to this: first "NetWare 5.1-ready", which is vendor self-verified, and "tested, approved and directory-enabled", which involves testing by a Novell Authorised Testing Centre (NATC).

Training Requirements

Finally, the issue of training. Is 5.1 a big enough upgrade to need a new training programme for staff? Probably not, if staff are already up to speed on NetWare 5. However, if staff will need to spend some time learning about WebSphere and the other new features, and are going to use any of the new features in production, formal training would be a good idea. If you are considering becoming dependent on an Enterprise Directory Service take a very serious look at the new CDE (Certified Directory Engineer) training.

Note that the NetWare 4.11 To NetWare 5 Update course (course 529, which NetWare 4 CNEs have to pass an examination in before August 2000 in order to keep their CNE status), has changed. The NetWare 4.11 To 5.1 Upgrade course now lasts five days instead of three, and should be available soon. Apparently the new course will teach some of the material previously covered only as background reading, and CNIs (Certified Novell Instructors) have to retake the exam before they can teach the course, which usually implies rather more than a cosmetic update to NetWare.

It is probably worth waiting until the new course comes out, despite the extra time and cost involved, because the version of NetWare 5 used for the current course 529 has fallen some way behind the version of NetWare 5 you're currently running, if you've applied the service packs.

Conclusion

NetWare 5.1 is a worthwhile upgrade. It introduces IBM's WebSphere to NetWare, as well as tidying up most of the issues with the "point zero" release, and it probably represents NetWare's last chance to make it as an application server.

It appears to be well up to this job, and may even be given a chance to prove it, as its main competition, from Windows 2000, is effectively in the "point zero" release stage.

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