

## TECH TRAINING

CRAMMING  
FOR THE  
EXAM  
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ONE CANDIDATES SHOULD  
LOOK HERE FOR AN OVER-  
VIEW OF TEST PREPARATION  
RESOURCES TO HELP THEM  
MAKE THE GRADE.

## BUYERS' GUIDE

TRACKING  
USERS' WEB  
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FILTERING TOOLS LET COM-  
PANIES STOP EMPLOYEES  
FROM ACCESSING OBJEC-  
TIONABLE WEB SITES. THE  
RELATED BUYERS' GUIDE  
CHART IS ON PAGE N22.

# PCWEEK Netweek

ONLINE labs.pcweek.com

DECEMBER 16, 1996



SET UP AN  
INTRANET  
IN A SNAP  
SEE PAGE **N3**

NETFRAME INTRANET SERV-  
ER AND WEB MANAGEMENT  
SOFTWARE PROVIDE QUICK  
BUT PRICY SOLUTION.

## SafeSuite spots net holes

LAB NOTE *Now supporting Windows NT, premier ISS security probe can check Web sites and firewalls*

BY MICHAEL SURKAN

Armed with Internet Security Systems Inc.'s SafeSuite 4.0, network managers can move past the reactionary plugging of security gaps after network security has been compromised and

start focusing their efforts at preventing an invasion before it happens.

A repackaging of ISS' Internet Scanner, SafeSuite 4.0 automatically scans IP networks for even more system vulnerabilities than its forebear. Version 4.0 also scans Windows NT environments, and versions to cover most flavors of Unix are also available. Modules to scan firewalls and World Wide Web sites, plus standard TCP/IP host security auditing features, are optional.

Shipping since last month, SafeSuite 4.0 pricing ranges from \$495 for the ability to scan for Web site vulnerabilities at a single IP address to \$4,995 for the full suite of modules plus the ability to scan a full Class C address range.

To prevent misuse of the product, a special encrypted key must be generated for each customer that restricts use to specified IP addresses.

### No stone unturned

Of all the security-auditing tools reviewed by PC Week Labs, those from Atlanta-based ISS are typically among the most useful; SafeSuite 4.0 was no exception.

We were quite impressed with the thoroughness of the SafeSuite audits performed on our test networks, and the new firewall and Web site scanners supplied a detailed list of problems and possible fixes for our intranet site.

In comparison, the rival shareware Satan auditing package is a joke. Competing products from Bellcore and the Qualix Group Inc. have yet to approach the same degree of functionality as SafeSuite.

We were able to specify an exhaustive audit of our test systems, indicating which services (such as SMTP or FTP) to audit. Unlike any other auditing tool we've seen, SafeSuite even included options for denial-of-service attacks, such as User Datagram Protocol bombs



THE NEW WINDOWS NT version of SafeSuite allowed us to view detailed results of network security scans.

ly 25 minutes to complete an inspection of four TCP/IP hosts—and that's without performing the denial of service attacks.

The new Windows NT version of SafeSuite used NT's set-up wizard paradigm for configuring scanning options. We found SafeSuite's new graphical Explorer-like interface easy to use in general, and useful for examining audited data in particular.

Installing the Windows NT version took only a few minutes, though we did have to manually install a

and the newly discovered SYN floods.

(Of course, denial-of-service audits should be handled cautiously, since they can bring IP hosts to their knees, and in some cases even cause system crashes.)

Network managers also should keep in mind that exhaustive audits do eat up a lot of time. After we directed it to scan for all vulnerabilities, SafeSuite took near-

special network driver through the control panel to become fully operational.

Both the Unix and Windows NT versions of SafeSuite are functionally equivalent, but the Windows NT edition is able to search for a few more NT-specific vulnerabilities, particularly those dealing with registries, that have no Unix equivalent.

See *SafeSuite*, Page N15

## An enterprise-strength cure for viral infections

FIRST LOOK *Detection, file-protection capabilities put Cheyenne's InocuLAN ahead of its competition*

BY KEN PHILLIPS

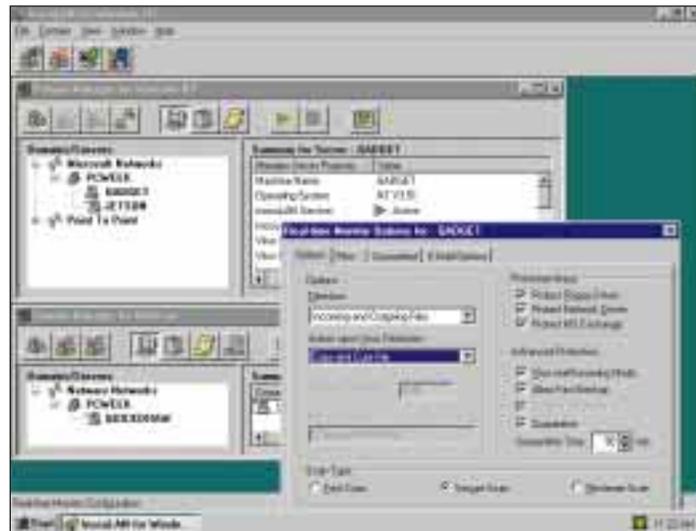
Cheyenne Software Inc.'s InocuLAN 4 for Windows NT boasts an extensive list of features that administrators of multiplatform and Internet-active enterprises will find particularly attractive. In PC Week Labs tests, we found these features impressive enough to award InocuLAN 4 our Analyst's Choice.

InocuLAN 4 for Windows NT offers an unusually wide variety of safeguards for networks, including a VirusWall that prevents clean

copies of files from being overwritten, Internet download protection and optional agents for protecting Lotus Development Corp.'s Notes and Microsoft Corp.'s Exchange E-mail.

In addition, InocuLAN 4 comes with a high level of remote configuration capability, a powerful alert system and automatic update capability.

We tested InocuLAN 4 for Windows NT, which shipped in October, and its Microsoft Exchange  
See *InocuLAN*, Page N9



CHEYENNE'S INOCULAN FOR NT makes it easy to manage remote Windows NT and NetWare servers, such as the remote Windows NT 3.51 server depicted here.

## Forewarned is forearmed

To protect confidential data from the dangers of the Internet, most companies tend to simply hurl corporate cash at firewalls, proxy servers and encryption without really knowing what security vulnerabilities exist on their network.

By pinpointing a network's major security gaps, Internet Security Systems' SafeSuite 4.0 lets network managers focus their efforts precisely at the areas of greatest potential vulnerability.

But as indispensable as we feel SafeSuite is to any large network serious about security, remember that good security is more a state of mind than a reliance on the latest gadgets on the market. All the technology in the world isn't going to save corporate secrets if contractors are given access to the crown jewels, or employees use their dogs' names for passwords.

—M.S.



INTERSIGHTS

Eamonn Sullivan

## Two New Choices Distribute Web Load

Intranets aren't the typical environment for Web server farms—those dozens of linked-together Web servers found at large Internet sites such as CNN and ESPN—but they will become common next year as Web-based applications become more important.

The last time I wrote about distributing and load-balancing Web services, in September, there were few choices: Round-robin or load-balancing Domain Naming System, Cisco's LocalDirector and HydraWeb Technologies' HydraWeb.

All those choices have limitations. The DNS-based approaches are inefficient (due to DNS caching); Cisco's hardware-based solution is expensive; and HydraWeb required client software on each of the Web servers in a cluster. Also, none of the solutions (with the possible exception of HydraWeb) is particularly well-suited to an intranet environment.

But September was an Internet year ago, and this month, two new choices are available that are much better suited for an intranet. IBM, which gained experience running mega-Web sites at events such as the 1996 Summer Olympics, will ship a

product called Network Dispatcher at the end of the month. Small startup Resonate Inc. last week introduced a similar product called Resonate Dispatch.

Both products are software-based and both take a similar approach to distributed server management. Incoming requests are handled by a server and then passed on to the least busy server in a cluster. Both make an entire cluster appear to users as one server.

But what makes these products especially useful in an intranet is that the distribution of requests can be customized somewhat by the network administrator. On IBM's product, administrators can configure the distribution algorithm to more efficiently serve a large, geographically dispersed WAN.

My employer, for example, has employees in New York, Boston, San Francisco, London and Tokyo. Using Network Dispatcher, all employees could connect to Web-based applications using the same URL, but requests would be handled by a local cluster of Web servers.

Resonate goes a step further. It allows administrators to distribute requests based on the information requested. For example, one cluster could handle requests for CGI-based or database-driven applications, while another handles all human resource applications, and a third handles information about sales performance.

Of course, both products have limitations. IBM's will be available initially only on the AIX variant of Unix, with versions for Solaris and Windows NT expected early next year. Resonate, like HydraWeb, requires software running on all machines in a cluster and is initially available only on Solaris.

But those limitations are a small price to pay when the Web-based apps you're running become important enough to justify the performance and reliability that only a distributed solution can provide. ☐

*When will your Web applications get important enough to justify measures found on other servers, such as RAID, clustering and fail-over systems? Contact me at [esullivan@zd.com](mailto:esullivan@zd.com).*



# Netweek

labs.pcweek.com

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## Plug-and-play intranet

LAB NOTE *Though pricey, NetFrame 9000IS offers hot-pluggable PCI cards*

BY ERIC PETERSON

As a turnkey solution for fast setup of a World Wide Web site, NetFrame Systems Inc.'s NetFrame 9000IS intranet server and accompanying RIG Web management software together help an administrator hit the ground running. However, its price tag may send some running in the other direction.

Everything you need is in there: The \$33,790 base NetFrame 9000IS consists of a single 200MHz Pentium Pro chip, 256M bytes of RAM, a 4G-byte hard drive and a 100BaseT Ethernet adapter. Bundled software includes Microsoft Corp.'s Windows NT 4.0 with Internet Information Server 2.0 and FrontPage 1.1, Excite Inc.'s Excite 1.0 search engine for Web servers, Wallop Software Inc.'s Build-It 1.0 and WebFlow Corp.'s SamePage 2.0. If purchased separately, this group would cost \$6,850.

But convenience can be costly—a similarly configured Pentium-based server with the same basic software is approximately half the cost of the NetFrame 9000IS base model. The Milpitas, Calif., company began shipping NetFrame 9000IS early this month.

The most exciting hardware feature of NetFrame 9000IS is optional. Via an FIC (Fault Isolation Canister), hot-pluggable PCI cards can be installed while

the NetFrame 9000IS is running. Each canister supports four PCI cards and costs just under \$10,000. Additional fault-tolerant options include redundant power supplies and fans.

### Setup in a snap

Web site novices will applaud the inclusion of NetFrame's own installation wizard; used in conjunction with the RIG (Ready, Intranet, Go) suite of applications, the process of getting a Web site online is rendered pretty painless.

Configuring Windows NT to work with the preinstalled Web applications, the install wizard directed us to enter IP numbers for our Web administration site, staging site and production site, along with subnet mask and default gateway addresses. After a few more mouse clicks, we had a very simple Web site built around the provided templates, and were up and running in less than 30 minutes.

In addition to the hours we saved in not having to install the bundled software, RIG's Design Center and Help Desk components save time and labor by boosting the integration of the bundled software. The Design Center library of components can be used to enhance the appearance of Web pages, while the Help

*See NetFrame, Page N17*



NETFRAME SYSTEMS INC.'s NetFrame 9000IS intranet server.

PHOTO: GARY WAGNER

### NETWEEK NAVIGATOR

#### NOTEWORTHY SITES

How the Internet really works—and how and why might its "content" be regulated? Affiliated with First Principles Consulting, this site provides an in-depth analysis on censorship, content regulation and Internet filtering. Included is a philosophical introduction and technical explanation. [www.ozemail.com.au/~firstpr/contreg/crguide.htm](http://www.ozemail.com.au/~firstpr/contreg/crguide.htm)

Censorship. Ohio University presents this page of pointers to numerous World Wide Web sites on censorship. Categories include voices for and against censorship, news-groups, case studies and global issues. [www.tcom.ohiou.edu/OU\\_Language/project-censorship.html](http://www.tcom.ohiou.edu/OU_Language/project-censorship.html)

SAMI. Part of the Science and Math Initiatives, a project of the Boulder Valley School District, in Colorado, this site contains links to Internet software and support services. Featured are papers on building and maintaining a Web site and Internet training. [www.c3.lanl.gov/~jspeck/software-resources.shtml](http://www.c3.lanl.gov/~jspeck/software-resources.shtml)

#### WEB RESOURCES

OK, you've been using Java for a while now, successfully, but it's time to really understand Java's constructs in terms of semantics and syntax.

Written by James Gosling, Bill Joy and Guy Steele, *The*

*Java Language Specification*

(\$36.53, Addison-Wesley, 850 pp., ISBN# 0-201-63451-

1) contains lexical as well as syntactic grammars for the language, plus an LALR(1) grammar. The result is the definitive word on Java, from the semantics of all types, statements and expressions to everything—exceptions, threads and binary com-

patibility—about the Java execution model.

Organized equally for quick reference or for thoughtful study, the 22-chapter book dissects its subject sequentially at the same time it stuffs the table of contents with a full chapter-and-verse guide to each iota of Java covered. Look elsewhere if you're unfamiliar with Java, but if you want to know every scintilla of Java's workings, call (800) 822-6339 for your copy, or check out the publisher's Web site at [www.aw.com](http://www.aw.com).

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### INTERNET RESOURCES

[resources.pcweek.com](http://resources.pcweek.com)

### SITE OF THE WEEK



*Silencing the Net.* Compiled by OneWorld News Service, readers will find discussions on the threat to freedom of expression online. Highlighted is an examination of current attempts to censor online communication and a recommendation of principles for setting Internet policy.

[www.oneworld.org/news/partner\\_news/hrw/hrw1.htm](http://www.oneworld.org/news/partner_news/hrw/hrw1.htm)

# InocuLAN

from Page N1

Agent, which shipped last month.

In spite of a handful of minor problems that surfaced during the tests, we found InocuLAN an excellent product for maintaining virus-free enterprise networks. Most notably, its detection methods, file-integrity protection and management capabilities are stronger than those of competitors such as Symantec Corp.'s Norton AntiVirus for Windows NT Version 2.0 (see the review in PC Week Netweek, Oct. 14, Page N1) and McAfee Associates Inc.'s NetShield for NT.

InocuLAN is also one of only a few products for which E-mail system agents are available. In addition to the Cheyenne Protection Suites available for Notes and Exchange, Cheyenne expects to ship a Novell Inc. GroupWise agent in the first quarter of 1997. McAfee offers GroupShield as protection for Lotus Notes, but agents for Exchange and GroupWise are not yet available. Trend Micro Inc. has developed InterScan E-Mail VirusWall for NT, a product that intercepts infected E-mail from the Internet at an SMTP gateway server before they reach the corporate mail system. However, this will not usually protect internal corporate E-mail and could contribute to gateway bottlenecks.

InocuLAN 4 for Windows NT costs \$995 per server, and the Notes and Exchange agents are priced at \$695 each. Cheyenne also offers a client pack for protecting Windows and Macintosh client PCs on the network. At the 250-node level, the client software costs \$17 per node.

InocuLAN 4 for Windows NT supports Windows NT Server Version 3.51 and Version 4.0 and all NT hardware platforms—Intel, Alpha, MIPS and PowerPC. InocuLAN native clients are available for Windows 3.x, Windows 95, Windows NT 3.51 and 4.0, DOS, and Macintosh computers. Server software is also available for NetWare.

## Exchanging viruses

Cheyenne's agent for Microsoft Exchange installed easily on our Exchange 4.0 server, a 90MHz Cubix Corp. Pentium PC housed in an ERS/FT-II fault-tolerant enclosure and running Windows NT Server 3.51.

The agent, which requires that a copy of InocuLAN be installed first, adds E-mail options to InocuLAN's real-time monitor that enable the software to notify the E-mail sender, recipient and/or mail-system administrator if a virus is detected in an attachment. InocuLAN offers a range of actions for handling the attachment, including automatic repair or removal. The agent also optionally inserts a note as an attachment to any infected E-mail, providing an extra virus warning that tells the recipient what ac-

tions InocuLAN has taken.

We sent an executable infected with the Maltese Amoeba, a nasty mutating virus, and the agent spotted the virus and alerted us immediately, saving us from a potentially tragic virus encounter.

Cheyenne's Lotus Notes agent does not yet have a real-time scanner, but it will be available by the end of the month, according to company officials. As might be expected, InocuLAN's agents cannot detect viruses transmitted in encrypted mail; client-side scanners will still be necessary to battle those.

Cheyenne, concerned about avoiding mail-server degradation, designed the agent to simply look over the shoulder of the Exchange server as it routes an E-mail item to the recipient. Once the mail has been distributed, the agent goes to the recipient's mailbox and scans the mail. Scans also can be run against the entire mailbox system periodically if desired.

InocuLAN includes other goodies for shielding users from Internet-borne viruses. One is integration of its real-time scanner with World Wide Web browsers to block infected downloads.

At installation time, InocuLAN volunteered to integrate with our installed browser, Microsoft Internet Explorer. (Netscape Communications Corp.'s Navigator also is supported.) Thereafter, we attempted to download via FTP an infected file, compressed within a PKZIP file to hide it even more. The result? InocuLAN once again nabbed the virus, which was then subject to a variety of removal actions.

Another feature, called VirusWall, protects clean files from being overwritten by infected versions, all without assigning checksums or playing with rights. When we

## CORPORATE BUYERS' ADVISORY

STRENGTHS & WEAKNESSES

### InocuLAN 4 for Windows NT

Cheyenne Software Inc.  
Roslyn Heights, N.Y.  
(800) 243-9462  
www.cheyenne.com



⊕ Detects viruses in FTP and Web downloads; quarantines infected workstations and prevents clean files from being overwritten; administrator can easily update and distribute the software to all InocuLAN servers, and remotely administer NT and NetWare InocuLAN machines; offers strong alerting capabilities; easy to install and operate; integrates with optional Microsoft Exchange and Lotus Notes agents to protect those mail systems.

⊖ Repair capability exhibits weaknesses; cannot scan non-NT user workstations; cannot auto-update NetWare systems with the latest virus detection software; harbors isolated bugs.

### Norton AntiVirus for Windows NT Version 2.0

Symantec Corp.  
Cupertino, Calif. (800) 441-7234  
www.symantec.com  
Reviewed Oct. 14

⊕ Detects and eradicates viruses well; easy to install and operate; affords click-button utility to update with the latest anti-virus software.

⊖ Scheduler and alerting mechanisms are weak; cannot scan user workstations or select servers in the domain for scanning.

### THE BOTTOM LINE

Administrators of smaller NT networks who want capable anti-virus protection should consider Symantec's *Norton AntiVirus for Windows NT Version 2.0*. Cheyenne Software's *InocuLAN 4 for Windows NT* is a much stronger choice for enterprises, providing extra management and expanded detection methods and file-integrity protection.

tried to overwrite a file with a dirty version, the real-time scanner detected the imminent destruction and prevented final copy. Unfortunately, this did not work 100 percent of the time: We received one "Virus Wall Failed" message on the very first try. The message did not reappear in subsequent trials.

Administrators who regard virus threats with utmost gravity will like InocuLAN's quarantine feature. When we attempted to copy an infected file from a client PC to the server for sharing with the workgroup, InocuLAN disconnected the workstation

for a period of time and notified us via E-mail. This gives the administrator time to mount an assault on that workstation. Even if the quarantine feature is not activated, logs record the sources of infection.

### Oops, missed one ... or two

We tested InocuLAN's manual and real-time scanners against an assortment of stealth, mutating, macro, boot sector and other virus types, plus viruses concealed within ZIP files. (This list, however, is by no means a thorough compilation of the  
*See InocuLAN, Page N15*



Mark L. Van Name  
and Bill Catchings

## Looking Forward

# PDA Success Hinges on NOS Awareness

In a column that ran in early July, we stated our desire for a PDA that extended our networks into our pockets. We described what we believed the ideal PDA should do—basically, that it should let us easily and automatically synchronize its data with the

corresponding data items on our desktops and networks—and said we'd check out a few of the hot new PDAs.

We looked a few over, and we're still carrying our Filo Faxes. None of the PDAs we've seen yet does everything we think PDAs should do.

But it's not all their fault.

Oh, PDAs share the blame. They're still underpowered. Many of the features they boast aren't ready for prime time.

(Before anyone asks: Yes, we did try a late-model Newton MessagePad, and although it was definitely better than the earlier models, it still couldn't even come close to recognizing Mark's handwriting.)

Finally, most don't offer the synchronization capabilities we believe are necessary to make them an essential part of every business user's computing ensemble.

### Attitude adjustment time

An equally serious problem, though, lies in the operating systems and applications with which the PDAs must synchronize. They must become "PDA-aware," and they're nowhere close.

For PDAs to become key containers of our data, the original sources and keepers of that data—the applications and operating system—must encode the notion of personal, mobile computing in their genes. Support for PDAs (and for every other form of mobile computing, from traditional notebooks to truly wearable computers) must become a key part of the architecture of applications and operating systems.

To see how far we are from that point today, consider the synchronization capabilities of U.S. Robotics' Pilot. (We must note up front that we quite like the Pilot. It's the closest thing we've yet seen to a PDA we might carry. And both the Pilot's own synchronization software and the more capable IntelliSync add-on from Puma Technology do the basic job.)

For the apps IntelliSync supports, you can indeed sync up data between any desktop system and the Pilot. That synchronization, though, happens totally through the efforts of the Pilot and IntelliSync software; to the desktop systems' apps and OS, it's clearly an afterthought. The IntelliSync software has to launch a Dynamic Data Exchange server that, in turn, launches the appropriate applications and requests the data with which you're synchronizing the Pilot's contents.

The whole process feels awkward. The apps are still running when you're done. They have no notion of marking data for external synchronization. The OS has no serious synchronization API.

No matter how well Puma has implemented its IntelliSync software, synchronization is a kludge.

From all the hype around Windows CE, one might conclude that it will fix the problem, but it won't. The problem won't go away until both Windows 95 and NT—or OS/2 or the Mac OS or whatever OS you run—start taking synchronization seriously and make it one of the services any well-behaved application should support. □

You can reach Mark Van Name and Bill Catchings via the Internet at [mark\\_van\\_name@zd.com](mailto:mark_van_name@zd.com) and [bill\\_catchings@zd.com](mailto:bill_catchings@zd.com).

*Several respondents to a recent column report that it's more than the free price that makes Linux attractive, while others point out that the operating system isn't the most versatile version of Unix.*

## Linux fans weigh in

At my company, we use Linux on our SPARC name server, and we're about to install a firewall using Linux as well.

I would like to run our Web servers on Linux, too, but I'm not the only one who makes that decision, and my boss likes to stick to Solaris for various reasons.

The reasons that I prefer Linux above any other operating system are that it's user friendly; easy to comprehend, and therefore easier to manage; very stable; and free. It also has great support on the Internet, and bug fixes are quickly released.

Linux also gives me the feeling of being in control—no other Unix [variation] has ever given me that, and NT certainly hasn't.

I feel much the same way about Apache, compared with using a commercial product.

**Kristof Van Damme**  
Via Internet

I just wanted to thank Eamonn Sullivan for letting PC users know more about free(dom) software in his Nov. 25 Inter-sights column.

I've been a Linux enthusiast for a number of years and have taken my interest to my employer since finishing school.

Linux will only continue to prosper through the snowball effect of technical people embracing a common goal in increasing numbers.

"PC" too often means Microsoft operating system in people's minds. But the economies of Intel hardware with alternate operating systems are PCs, too—increasingly so in the future.

**James Carter**  
Via Internet

I am convinced that free software, with published source code, is the only reliable software. The bugs are there for everybody to see and fix, and there's no hand-waving. Nor, in general, is there any marketing pressure to get a new version out every year.

Because the software is free, there's no marketing hype. If it didn't work well, it wouldn't be popular.

**Michael Covington**  
Via Internet

I work for the federal government and have an extremely hard time convincing my bosses that free software is worth more than you pay for it.

One of my main arguments in favor of using free software is the continued support you get from the user community.

For our Internet, we use Linux just because we didn't go through the project approval process. For "real" projects, we use Oracle RDBMS. Most of our systems are in Version 6, and there are a few in 5. Oracle

## LETTERS

no longer supports Version 6 and if we call, they say upgrade. Converting all our systems takes a long time. In fact, I suspect that by the time we get them all to Oracle7, it will no longer be supported and we will again be forced to upgrade just to get support.

The main difference between commercial and free software is that free software is designed to provide solutions, whereas commercial software says it provides solutions but is mainly designed to make money.

You can discover your own examples anywhere you look.

**Mike Moxcey**  
Via Internet

## For the record

In Eamonn Sullivan's zeal to sing the praises of Linux over the other "free" Unix-style systems, he made a couple of misstatements.

Commercial "versions" of Linux are either a) not Linux (since Linux is solely the product maintained by Linus Torvalds) or b) Linux (since Linux is solely the product maintained by Linus Torvalds).  
*See Letters, Page N26*

## InocuLAN

from Page N9

thousands of viruses currently in existence.) Methods of virus introduction included FTP downloads, E-mail attachments flowing through the Microsoft Exchange system, infected floppy access and file sharing over the Windows NT network.

We tried a couple of dozen files infected by a dozen viruses, and InocuLAN's local scanner caught them all except for a rather esoteric Trojan called Timebomb, which these packages rarely catch. Compared with other enterprise anti-virus packages, this detection ranks among the best.

However, although the previous version of InocuLAN for Windows NT is certified by the National Computer Security Association as detecting 100 percent of the "In-The-Wild" viruses, the real-time scanner in InocuLAN 4 embarrassingly failed to sound the alarm on one of these, the floppy boot sector virus AntiCMOS. It did, however, detect another boot sector virus, Form. The manual scanner detected both. Officials at Cheyenne said they plan to correct the deficiency by the next scheduled monthly update.

Upon virus detection, we had a choice of actions to take, one of which was to repair the file if possible. Repairs can be initiated by both the manual and real-time scanners. The repair rate is usually far below the detection rate for all anti-virus products, partly because viruses often obliterate valid code.

In our tests, InocuLAN repaired less than half of the infected files, excluding ZIPs, which anti-virus packages never repair. This cure rate is about average, not particularly impressive, but not shockingly low, either. We were surprised, however, to find that although InocuLAN successfully repaired one file infected with the Yankee Doodle virus, it did not even attempt to repair the others with Yankee Doodle infections, leading us to conclude that the repair facility could be improved.

### Master of its domain

We installed InocuLAN uneventfully on our Windows NT 4.0 server, again a Cubix Pentium PC. From this NT 4.0 server, we remotely installed InocuLAN on our Windows NT 3.51 server; such remote installation capabilities will save administrators

#### SELF-SERVICE

Managers can program InocuLAN to automatically download the latest monthly updates from Cheyenne Software via FTP or bulletin-board service access.

from having to travel to each server. In addition, we installed InocuLAN for NetWare on a NetWare 4.1 server for testing the domain manager functionality.

InocuLAN let us manage and schedule scans on the remote Windows NT and NetWare servers and Windows NT clients on which InocuLAN was installed. However, we could not manage other client machines in the same way. From our NT 4.0 server, we successfully started and stopped the InocuLAN service on the remote NT 3.51 server, configured its alert systems, and set its scanning options.

Alerting capabilities are a strength of InocuLAN, which can send alarms via pager, Microsoft Mail/Exchange, broadcast, SNMP trap and printed trouble ticket. The alert system integrates with Cheyenne's ARCserve backup software, as does the InocuLAN scanner. Thus, virus scans can be performed during backup. InocuLAN's scheduling feature is another triumph, affording flexible configuration.

Finally, automatic updating is important

for any anti-virus product, and InocuLAN has this under control. Administrators can program InocuLAN to automatically download the latest monthly updates from Cheyenne Software via FTP or bulletin-board service access. In addition, the software automatically distributes the updates to other servers and their client PCs. However, NetWare servers cannot update NT machines, and vice versa, so mixed environments will require two automatic downloads.

Product documentation, available as Windows Help and Adobe Systems Inc. Acrobat files, is adequate. However, the included virus database was useful only as a list of virus names; practical data on the viruses' effects and removal will not be available until next release, unless obtained from Cheyenne's Web site. □

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## SafeSuite

from Page N1

### A plan of attack

Viewing the HTML audit report from a Web browser, we found that our four hosts had more than 40 potential security holes. A summary explained the number and severity of the problems, while hypertext links brought us to detailed descriptions and suggested solutions.

SafeSuite detected the use of default accounts and passwords on such services as Telnet and FTP. It also ferreted out security holes on our Windows NT 3.51 Server (which was running Microsoft Corp.'s Internet Information Server 1.0) that allowed remote users to illegally run BAT and CMD files.

The report even suggested we update our Sun Microsystems Inc. SPARCstation running SunOS with new patches that fix NFS problems.

Aside from a few improvements to the IP hosts' vulnerability scans (like the new denial of service SYN floods), the biggest changes to SafeSuite from its previous incarnation are Web site and firewall vulnerability probing.

A number of new features look for problems with such popular Web site servers as NetScape Communication Corp.'s Enterprise Server, Open Market Inc.'s Apache and Microsoft's Internet Information Server. Problems specific to firewalls from large vendors such as Trusted Information Systems Inc., Raptor Systems Inc. and Check-

point Software Technologies Ltd. also can be checked.

For that matter, SafeSuite is widely used by security product manufacturers themselves for quality assurance testing. □

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#### CORPORATE BUYERS' ADVISORY

STRENGTHS & WEAKNESSES THE BOTTOM LINE

##### SafeSuite 4.0

Internet Security Systems  
Atlanta (770) 395-0150  
[www.iss.net](http://www.iss.net)



Creates report of network security vulnerabilities; new version works under Windows NT; produces simple HTML reports that can be viewed from a Web browser; ability to spot firewall and Web site flaws is greatly improved.

Installation of the NT version is a two-step process, requiring a special driver to be manually installed; new templates must be created to auto-scan for IP hosts in the NT version.

Although it doesn't wield a magic wand that secures a TCP/IP network, **SafeSuite 4.0's** detailed reports of automatically detected vulnerabilities, and suggested solutions, is the next best thing. No other competing products even come close to SafeSuite's functionality and depth of analysis. Any enterprise managers serious about network security should have this product (or hire consultants that do).



Mark Tebbe  
Net  
Effects

# 1997 Promises Even More Segmentation

Looking back on 1996, it's been a wild year. Looking into 1997, I'm excited by the new technologies, but also am disappointed thinking about what the year will be like vs. what it could have been.

In the Internet market this time last

year, that "sleeping giant" in Redmond claimed to have just been awoken. Java was intriguing, but clearly not a corporate solution. And Larry Ellison was high on the pulpit preaching to the potential masses about the value of Network Computers.

In this year alone, all these areas have

seen amazing development. Microsoft has proven that it was more than Windows that has made it the market force it rightly is. After an impressive 180-degree turn in strategy, it embraced the Web and released Web extensions to some key products as well as some major Internet-related products. In the process, it became Netscape's worse nightmare.

Java was transformed from an intriguing technology into a serious corporate solution. With the addition of development tools, support tools and new related technologies, Java went mainstream and moved from bouncing Web images to a true cross-platform business solution. In doing so, it gave Microsoft reason to worry about retaining its corporate market stronghold.

And 1996 proved to be a vindicating year to Ellison's previously solo pitch about the merits of thin clients, light workstations and connected devices. Many corporations began to see the true cost of their PCs and the merits of lighter cross-platform devices. Once buyers recognized the potential benefits of NCs, vendors saw the value of jumping on the bandwagon. With Wyse, Intel, Microsoft, HP, Compaq, Sun and IBM now on board with Oracle and offering (or promising to offer) lighter client machines, corporations have begun thinking how to use these new devices to complement their current PC environments.

## Murky waters ahead

Despite these developments, we will see that clear and nondangerous choices don't exist, and we'll soon realize that this Web-related market is even more segmented than the PC market has ever been. The real victims of this realization will be the corporate IS professionals.

Finally recognizing the threat from Netscape, Microsoft pulled a remarkable coup and is now clearly back in control.

Java has been dispersed into camps already. With Microsoft, Sun and Netscape going down slightly different paths, the resulting Java features will be different enough that corporate developers will need to pick a camp to work with.

And NCs won't realize their full potential because the key non-PC vendors—IBM, Oracle, Sun and Wyse—don't have consistent products. Each is slightly different enough that corporate strategists will need to choose a vendor before they even play the game. This is a problem that the Microsoft-dominated Intel processor marketplace never needed to face.

However, don't read this as total gloom. I think the developments we have seen this year will allow the next few years to be some of the most exciting in recent history. I, for one, look forward to the excitement. □

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## NetFrame

from Page N3

Desk is a customized how-to database.

PC Week Labs tests using Ziff-Davis Benchmark Operation's WebBench 1.0 showed that the base NetFrame 9000IS can accommodate about 425 requests per second—significantly less than the approximately 1,000 requests per second handled by a similarly configured, but much less expensive, Pentium Pro system.

We weren't able to determine the cause of NetFrame's lower performance, although NetFrame officials suggested that the problem centered around how the server implements its Web site management software.

Specifically, NetFrame modifies the NT registry's Server Site Include default extension used by IIS 2.0 from .STM to .HTM. This causes IIS to treat all pages as possibly containing "includes." When a request is made, IIS "reads" a page and looks for other includes before responding to a request. This trade-off causes Web site management to take precedence over performance, as a number of Web authoring and management tools don't understand .STM extensions.

Of course, raw static hit rates aren't the only factors in real-world performance; we think NetFrame 9000IS is best suited for use in larger interactive sites that require more disk I/O and processing functions.

Moving away from the proprietary hardware of NetFrame's earlier 8560IS, the 9000IS incorporates industry-standard hardware in an innovative arrangement.

To provide maximum I/O throughput, NetFrame 9000IS' "triple-peer" PCI bus design dedicates one PCI bus to such system services as BIOS, video, keyboard and mouse controllers, and real-time clock.

Fully configured, the 9000IS server supports four 200MHz Pentium Pro CPUs, 2G bytes of RAM, 16 PCI cards and more than 1 terabyte of storage. □

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## CORPORATE BUYERS' ADVISORY

## STRENGTHS &amp; WEAKNESSES

## NetFrame 9000IS

NetFrame Systems Inc.  
Milpitas, Calif. (408) 474-1000  
[www.netframe.com](http://www.netframe.com)

➕ Installation wizard and Web site application suite ease and speed the process of establishing an intranet; bundles just the right set of top-notch Web-management software; option allows PCI cards to be added without downing the server; scalable server can support up to four Pentium Pro CPUs.

➖ Hardware and various fault-tolerant options are quite expensive.

## THE BOTTOM LINE

Harried administrators who need to set up a full-blown intranet in short order, and who don't care what it costs, should take a long look at the NetFrame 9000IS package.

# Can you ace the CNE test?

PROFESSIONAL TRAINING *Exam preparation tools can help potential CNEs make the grade*

BY CONNIE SLOANE BROWN

There's no question that network engineering is the wave of the future in terms of technology and job opportunities.

Careers in this field continue to escalate and can be extremely lucrative. Entry-level positions start at \$32,000 and can go as high as \$100,000 for qualified and experienced network engineers.

College graduates are adding to their degrees various certifications in the technical field and, in some cases, replacing their four-year degree with a network engineering certification.

Novell Inc.'s NetWare owns 63 percent of the network operating system market share, and Microsoft Corp.'s Windows NT Server trails at 24 percent, according to International Data Corp. research. As a result, some of the most popular professional designations include Novell's CNE (Certified Novell Engineer) and Microsoft's Microsoft Certified Product Specialists, among others.

Psychology major Lisa Jenson, of Virginia Beach, Va., realized after she graduated from college there were few jobs available using her degree, while those jobs that were available paid low salaries. Her frustrations led her to research other careers.

Jenson decided to pursue a CNE career after she worked with someone who was certified as a CNE, CNI (Certified Novell

Instructor) and Certified Novell Administrator.

She plans to enroll in an accelerated training course at an NAEC (Novell Authorized Education Center) to begin the certification process. She'll start with the CNE core courses, in which she must pass all seven CNE course exams, and then go on to obtain her CNI, which requires her to complete the Instructor Performance Evaluation and take the CNI exam.

Jenson is like thousands of individuals who will pursue a career in IS. Whether they are college graduates, fresh out of high school, career changers or ex-military personnel making the transition into civilian jobs, the fact remains that regardless of the training method they receive, all candidates must pass the CNE course exams at an Authorized Prometric Testing Center to become certified.

## Home schooling

Instructor-led courses at an NAEC or an NEAP (Novell Education Academic Partner) are definitely the best way, short of real-world work experience, to learn about the networking industry. The total investment for the complete CNE program is approximately \$7,500 for six-week accelerated courses at an NAEC or about \$5,700 for semester courses from an NEAP,

which take between six and nine months.

But if time and money are a factor, prospective candidates may elect to purchase self-study materials and spend anywhere from \$600 to \$2,000. None of these course prices include the \$85 fee for each exam, which indicates that becoming a CNE could be a very expensive process.

Passing the CNE course exams can be tough. A recent survey given to NAEC students, CNEs and CNIs found that the highest percentage of students who took a CNE

course exam repeated an exam at least once, while more than 20 percent have repeated a test more than twice.

The CNE course exam series consists of two types of tests: adaptive and conventional. These computerized tests are timed for completion in 30 minutes to 90 minutes, depending on the number of items or questions.

Both tests are primarily multiple choice. Depending on the type taken, there may be as few as 15 questions or as many as 100 to answer.

The adaptive tests consist of questions that have been extracted from conventional tests. For each question that is answered correctly, the test moves on to asking questions in different areas. For each incorrect

See CNE, Page N19

## CERTIFICATION COSTS

The total cost for the CNE program is about \$7,500 for six-week accelerated courses at an NAEC or about \$5,700 for semester courses from an NEAP.

## CNE Test Preparation Tools

PRODUCT	CONTENT	REQUIREMENTS	EASE OF USE/COMPREHENSIVENESS	STRENGTHS	WEAKNESSES	LIST PRICE
<b>CNE SELF STUDY COURSE</b> Forefront Direct Clearwater, Fla. (800) 653-4933 www.ffg.com	CD-ROM and user's guide	Windows 3.1 or better, 2M bytes of RAM, 1M-byte hard drive, CD-ROM	This is a self-contained course on the user's computer. The fully interactive CD-ROM offers a NetWare Simulator for performing exercises as well as practice questions and answers.	Complete course of instruction on one CD; gives users who don't have access to a server simulated situations to practice with.	Assumes a lot of knowledge on the part of the user; terms were presented without being defined; graphics are hard to view for long periods; expensive.	\$1,499
<b>NOVELL CNE STUDY GUIDE</b> Novell Press IDG Books Worldwide Inc. Indianapolis (800) 762-2974 www.idgbook.com	book and CD-ROM	Windows 3.1 or better, 2M bytes of RAM, 52M-byte hard drive, CD-ROM, sound card	This is a very informative book outlining and describing all the features of NetWare 4.1. Clarke tests provide a multimedia testing environment with graphic examples and multiple choice tests.	Authorized by Novell; contains a cross-reference between the course objectives and the material in the text; Clarke tests allow users to test their comprehension of material; DS standard lets users practice NDS design without destroying an NDS tree on a server; excellent price.	This material would be hard to use without access to a server and workstation; added cost for Cyber State University service that lets users access servers and server simulators over phone lines.	\$89.99
<b>NETWARE INTERACTIVE SIMULATOR</b> PC Age Inc. Fairfield, N.J. (201) 882-5370 www.pcage.com	CD-ROM	Windows 3.1 or Windows 95, 6M bytes of RAM, 1M- to 2M-byte hard drive, CD-ROM	This CD-ROM provides a fairly accurate simulation of the NetWare Administrator software used to administer a NetWare 4.1 network. It presents different scenarios and tasks the student may face as an administrator.	This is a good package for those students who lack access to servers and workstations to study and practice with.	Software expects certain precise actions from users and produces a message telling them what key or icon should have been used to perform an action; doesn't allow some of the common shortcuts used in NetWare Administrator; expensive.	\$795
<b>CNE TESTING GUIDE SERIES</b> Piscas Press Publishing Co. Virginia Beach, Va. (757) 486-7602 ppcco@aol.com	book	None	Each guide corresponds to a particular Novell course and presents a multitude of questions, answers, summaries, signposting and sample tests.	Inexpensive; each volume is aimed squarely at a single exam, allowing users to concentrate on that exam; lets users see the type of questions that may appear on the actual certification exam.	Lacks computerized tests; users must purchase individual books for each required exam.	\$19.95
<b>BIG RED SELF TEST</b> Self Test Software Inc. Roswell, Ga. (800) 244-7330 www.stsware.com	disk	Windows 3.1 or better; 4M bytes of RAM; 6.5M-byte hard drive for starter pack, 14M-byte hard drive for full pack	This software provides a series of tests that are very similar to the type of test the student will take for certification. Each set of tests on the disk is broken down by the corresponding units from the Novell NetWare authorized courses.	Shareware version available; provides a large number of questions, including graphical and fill-in-the-blank types; allows users to select the amount of time to spend completing a test.	Not suitable for stand-alone study; no way to review past performance in any area unless the test question and results were printed out during the last session.	\$84 for CNE 4.1 starter pack, \$133 for CNE 4.1 full pack
<b>NETWARE 4 CNE VIDEOS</b> ViaGrafix Pryor, Okla. (800) 842-4723 www.viagrafix.com	13 VHS video tapes with disks that include the company's catalog and order forms	VHS VCR	These tapes provide lectures from instructors who present the NetWare information in an easy-to-understand format.	Good course for those users who don't have access to classroom training; each tape has built-in pauses to allow the student to practice what was covered; reasonably priced.	Students need access to a server and workstation in order to practice the information presented, and this can be quite expensive.	\$599 for 3.1 and 4.1
<b>CNE STUDY GUIDE</b> CNE Challenge Interactive Bundle Wave Technologies International Inc. St. Louis (800) 828-2050 www.wavetech.com	two books, two disks, one CD-ROM	Windows 3.1 or better, 2M bytes of RAM, 5M-byte hard drive; CD-ROM	The books provide a concise reference for study and the software provides timed tests much like the certification exams. The software also keeps track of users' scores and lets them choose the number of questions, amount of time allowed to complete the test, and whether to randomly or sequentially generate tests from the list of questions.	Perfect for use as a supplement to formal training; book's prose is presented in short, concise groups like study notes; tests are designed to acclimate users to taking timed tests; fairly priced resource.	Floppy disks were defective; as the title suggests, this is a study guide—not enough material for these books to serve as a stand-alone course of study.	\$199

## CNE

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answer, the test continues to question the student in that particular area. Conventional tests consist of 50 to 100 questions covering all areas of study.

### Cramming for the exam

So how does one prepare for the exams? There are many study aids on the market in several different formats, such as books, software, CBT (computer-based training) and videotapes.

Future CNEs should consider their own study habits to choose the form of study material that's right for them. This could make the difference between passing or repeating the exams.

Remember that regardless of how knowledgeable someone is about network engineering, the candidate needs to pass the test before he or she can be called a CNE. □

*Product evaluation was performed by Jerry Smith, a CNE candidate and technical instructor at a Novell Authorized Education Center. Connie Sloane Brown is a career consultant and free-lance writer based in Virginia Beach, Va. This article is an excerpt from her upcoming book, "How to Hook a Big Job with a Little Fishing Pole." She can be contacted at sloane3959@aol.com or at (800) 486-7624.*

# Web monitoring and filtering programs promote productivity

BY KRISTINA B. SULLIVAN

**O**K, so the names can be a little embarrassing: Net Nanny from Trove Investment Corp. and Cybersitter from Solid Oak Software Inc., for example.

But companies such as Lockheed Martin Corp., Time Warner Cable and Bell Mobility Inc. are finding Internet monitoring and filtering software to be one way to keep employees from wasting time on the World Wide Web.

Unlike software metering tools, which can block access to Netscape Communications Corp.'s Navigator or other browsers, Internet monitoring and filtering software restricts users from accessing specified URLs.

For example, WebSense, from Net Partners Internet Solutions Inc., in San Diego, blocks 45,000 URLs in 28 categories. Other packages, such as SurfWatch from Spyglass Inc., also can be used to establish a list of the only URLs that users can access.

Internet filtering tools such as Microsystems Software Inc.'s Cyber Patrol help companies contend with three main problems caused by Internet usage, said Susan Getgood, director of marketing for Microsystems, in Framingham, Mass. These include lost productivity from time spent surfing for non-business-related activities, liability of offensive material coming into the site that may be considered sexual harassment and increased network vulnerability from providing services such as FTP access to many employees.

Productivity and security are the two main reasons AVL Scientific Corp., a developer of blood analyzers, implemented Webtrack from Webster Network Strategies Inc. "We can see where our users are going and who tried to go to blocked sites," said Dax Sharpe, network specialist with AVL Scientific, in Roswell, Ga. If a user attempts to access a block address, "a window comes up and says 'forbidden by rule, reason: sex, humor, entertainment,' or whatever the category," he said.

At Ray's Food Service Inc., a wholesale food supplier in Clackamas, Ore., Internet filtering with Purview Internet Manager from Purview Technologies Inc. is used to prevent sexual harassment. "We are keeping out undesirable Web pages like pornography. ... We received complaints from a couple of users of seeing things on another person's terminal that were offensive," said Mark Blum, systems administrator.

## Don't try this at home

While several Internet monitoring and filtering products such as Net Nanny and Cybersitter are aimed at the home market, many are uncovering a huge interest

## INTERNET Products keep employees out of non-work-related sites

from the corporate sector. SurfWatch, for one, was targeted at meeting parents' and schools' concerns over children's Internet surfing but found an unaddressed demand from corporate users.

"At the same time that we were targeting parental concerns about sex on the Internet, corporations

starting buying this product from us as they set up their Internet policies," said Jay Friedland, vice president of strategic marketing for Spyglass, in Los Altos, Calif. Spyglass last

month began shipping for the corporate market SurfWatch ProServer, a product designed to filter an Internet gateway.

Increased bandwidth is one benefit to blocking Internet access via a server-based filtering tool such as SurfWatch ProServer, said Friedland. "Boeing [Aerospace] found that 10 percent of its Internet access was to sexually explicit material. By blocking access, you never go beyond the proxy server and get a bandwidth increase," he said.

In addition to preventing access to URLs that fit a non-work-related category defined by SurfWatch, the product includes a pattern-

matching technology. "If you are running the SurfWatch client or ProServer and you go to Lycos and type in the word 'sex,' it will block the search before it occurs," said Friedland.

Similarly, Microsystems recently released a corporate version of its Cyber Patrol Internet filtering package to address a growing interest from the business community.



CYBER PATROL CORPORATE keeps users in check.

Cyber Patrol Corporate allows systems administrators to set access controls by time of day to permit Web surfing as a leisure activity. For example, employees may be able to surf after 5 p.m. or during their lunch hours.

Administrators can customize Cyber Patrol's list of blocked sites and users can add their own list of objectionable sites.

Ten different user profiles can be established using Cyber Patrol and assigned to each user in a corporate network.

## New rules for businesses

Within the corporate sector, the types of sites to be blocked go beyond those typically required by the home market. "We've increased our category list to 27 different business-oriented things that customers have requested, such as chat, dating, sports, investing, games, general news, religion and politics," said Candace DeLeonardis, product manager for Webster Network Strategies, in Naples, Fla. Webtrack counts Lockheed Martin and Time Warner Cable among its users.

DeLeonardis sees such filtering and monitoring capabilities becoming integrated into firewall products similar to what Webtrack's parent company, Secure Computing Corp., has done with its SideWinder firewall. "That's where we can get a lot of coverage," she said.

Developers of Internet filtering and monitoring software continually update their lists of potentially offensive or inappropriate URLs. "We update the list at least weekly," said Mark Kanter, director of marketing for Solid Oak Software, in Santa Barbara, Calif. Cybersitter

See *Productivity*, Page N22

# Productivity from Page N21

also can be used to prevent personal information such as names, addresses, phone numbers and credit card numbers from being received over the Internet.

Vendors stress that the use of Internet filtering and monitoring should be accompanied by a corporate usage policy. "There are instances where people have said that this is like Big Brother, but if you state in the policy that the entity reserves the right to monitor and restrict access, you've laid the groundwork," said Scott Smith, vice president of marketing for Purview Technologies, in Sewickley, Pa. □

*Contributing Editor Kristina B. Sullivan can be contacted at kristina\_sullivan@zd.com.*

# The many ways of controlling employees' Net usage

Companies that want to control how their employees use the Internet have several choices that range from simple solutions based on existing products to full-featured applications designed to do the job.

One simple option is to use a proxy server. Most good ones such as Netscape Communications Corp.'s Proxy Server 2.0 allow administrators to block out specific Internet sites. They even let them use wildcards to block out URLs that contain certain words. Proxy servers also provide fairly good logging features for finding out where users are going on the Internet. But this approach is not very flexible, and constantly updating the list of restricted URLs can be a real chore.

Another approach made possible by tools such as Microsoft Corp.'s Internet Explorer Administration Kit lets administrators build password-protected controls directly into the browser. While this ensures that those using the company-supplied browser will be blocked

from certain sites, users can easily defeat it by installing another browser that is freely available on the Internet. Updating the restricted lists also is an onerous task.

Companies that need a flexible and easily administered way to keep an iron fist on their employees may find that surf monitoring tools provide the best solution. These products allow companies to have different access policies based on time of day, are easily updated and provide good user tracking tools.

Some of these products, such as Microsystems Software Inc.'s Cyber Patrol Corporate, work like a proxy server by intercepting user requests and determining if the action is allowed. SurfControl by JSB Ltd. uses a client application and tight integration with NetWare to let administrators not only control Web access, but also control other Internet activities such as FTP transfers and Telnet connections. However, this approach forces companies to use NetWare to provide Internet access to employees.

—Jim Rapoza

**TECH VIEW**

## BUYERS' GUIDE Internet Surf Monitoring and Filtering Tools

COMPANY	PRODUCT	SHIP DATE	OPERATING SYSTEMS SUPPORTED	POINT OF INSTALLATION	WEB BROWSERS SUPPORTED	FILTERING AND SEARCH RESTRICTIONS	FILTER LIST UPDATES	TIME OF FAILED LOG; DATE OF FAILED LOG; URL OF FAILED LOG	PICS RATING SYSTEM	TWO-WAY SCREENING	ADMINISTRATOR OVERRIDE	ADMINISTRATOR CUSTOMIZATION	BLOCKS CHAT LINES	BLOCKS NEW SITES	INTERNET MAIL	PRICE; WARRANTY; FREE CUSTOMER SUPPORT
JSB LTD. SURF CONTROL DIVISION Scotts Valley, Calif. (415) 326-6049 www.surfcontrol.com	SurfControl 1.0	10/96	NetWare 3.12/4.x on server; Windows 3.x, Windows 95, Windows NT on client	server and workstation	any browser	application, IP address, keyword, port number, time of day, URL, user, word groups, workgroup, workstation	none	yes; yes; yes		•	•	•	•	•	•	\$5,000 for 50 concurrent users; 90 days; none
MICROSYSTEMS SOFTWARE INC. Framingham, Mass. (800) 828-2608 www.cyberpatrol.com	Cyber Patrol Corporate 1.0	12/96	Windows 3.1, Windows 95, Windows NT	server and workstation	all 16- and 32-bit browsers	category, keyword, time of day, URL, user, word groups, workgroup	automatically	yes; yes; yes	•		•	•	•	•		\$20 per user for 100 users; 90 days; 30 days
NETPARTNERS INTERNET SOLUTIONS San Diego (619) 505-3020 www.netpart.com/	Web-Sense 2.1	7/96	Windows NT	server	any browser	category, IP address, keyword, time of day, URL, user, word group	automatically	yes; yes; yes	•		•		•	•		\$1,495 for 100 users; 30 days; 30 days
PEARL SOFTWARE INC. Chester Springs, Pa. (800) 732-7596 www.pond.com/~pearlsft	Cyber-Snoop 2.0	12/96	Windows 95, Windows NT	server and workstation	all Winsock-compatible browsers	category, E-mail address, FTP site, keyword, URL, user, word groups, workgroup	manually	yes; yes; yes		•	•	•	•	•	•	\$29.95 for one user; one year; lifetime
PURVIEW TECHNOLOGIES INC. Sewickley, Pa. (412) 741-5227 www.purview.com	Purview Internet Manager 2.5	11/96	Windows 95, Windows NT	server	any browser	user, workgroup	none	yes; yes; yes			•	•		•		\$2,100 for 25 users; 30 days; 60 days
SAFESURF Van Nuys, Calif. (800) 720-3638 www.safesurf.com/	SafeSurf Internet Filtering Solution 1.0	10/96	Unix	server	any browser	category, keyword, URL, word groups, workgroup	automatically	yes; yes; yes	•	•	•	•	•	•		\$900 setup and \$200 per month for 250 users; lifetime; lifetime
SPYGLASS INC. Naperville, Ill. (800) 458-6600 www.surfwatch.com	Surf-Watch ProServer 1.0	9/96	Macintosh, Unix, Windows 3.11, Windows 95, Windows NT	server or client	any browser	category, keyword, URL, user, word groups, workgroup	automatically	yes; yes; yes	•	•	•	•	•	•		\$1,495 for 250 users with one year of updates, \$495 for 250 users as Microsoft Proxy Server plug-in with one year of updates; one year; one year
WEBSTER NETWORK STRATEGIES INC. Naples, Fla. (800) 967-0066 www.webster.com	WebTrack	6/95	Unix, Windows NT	server	any browser	category, keyword, time of day, URL, user, word groups	automatically	yes; yes; yes	•	•	•	•	•	•		\$3,000 for 50 users, \$5,000 for 250 users, \$7,000 for unlimited users; 90 days; one year

This chart is representative, not all-inclusive. All information is provided by the vendors. Only Internet surf-monitoring and filtering tools for corporate use were considered.

—Chart compiled by Kevin Walters

# PICS: Rating the Net without Uncle Sam

BY KRISTINA B. SULLIVAN

Several flavors of the PICS rating system have evolved to help the Internet in its quest to avoid government regulation.

PICS (Platform for Internet Content Selection) provides for the voluntary rating of World Wide Web site content by either

the Web page publisher or a third-party rating group. Such PICS ratings are detected by a PICS-compliant browser (for example, Microsoft Corp.'s Internet Explorer) or filtering software. Available PICS-compliant rating systems include ARC (Ararat Software's Commercial Rating System), Net Shep-

herd CRC (Collaboratively Rated Content), SafeSurf Internet Rating System and VCR (Voluntary Content Rating).

ARC works with Ararat's InWebstigator browser to allow users to set up a rating system. As InWebstigator opens a Web site, the pages that violate the chosen rating values are

highlighted with a special icon. More details on ARC are available at [www.ararat.com](http://www.ararat.com).

Net Shepherd Inc. is aiming to establish a PICS-compliant rating bureau with its Net Shepherd CRC scale. CRC lets users access ratings set by Net Shepherd as well as give their own ratings to sites. These ratings are combined at Net Shepherd's rating bureau, which compares the rating to others provided in a somewhat democratic rating poll.

Its ratings are "similar to movie ratings: They go from general to child to preteen to adult to objectionable," said Terry Henderson, a marketing representative at Net Shepherd, in Calgary, Alberta.

While tens of thousands of sites are rated, Henderson plans to have millions rated by April 1997. Net Shepherd is at [www.netshepherd.com](http://www.netshepherd.com).

Recreational Software Advisory Council is an independent, nonprofit organization with a content ratings system used in the computer software game market and on the Internet. RSAC allows a Webmaster to define the level of sex, nudity, violence and offensive language used on a site. The RSAC Web Server then converts this information into HTML advisory tags attached to the Web site. RSAC is at [www.rsac.org](http://www.rsac.org).

The SafeSurf parent organization operates yet another rating system, the SafeSurf Internet Rating System. SafeSurf has attracted thousands of voluntary self-ratings by Web page publishers through a form on its Web site. The group operates a PICS rating service server to give filtering companies, Internet service providers, search engines and special-interest groups their own Internet rating service. SafeSurf is at [www.safesurf.com](http://www.safesurf.com).

Solid Oak Software Inc. also has established its own VCR system, which its Cybersitter filtering software supports. With VCR, Web publishers can insert a single line of code in their documents to rate it as "adult" for viewers older than 18 years or "mature" for those older than 13.

The PICS-compliant system is designed for "adult page publishers to rate their sites," said Mark Kanter, director of marketing for Solid Oak, in Santa Barbara, Calif. Solid Oak is at [www.solidoak.com](http://www.solidoak.com).

It remains to be seen how many of these schemes will catch on. Vendors continue to debate the merit of such voluntary rating systems, which are very far away from achieving widespread deployment.

"Over time, PICS will become more important, but it needs critical mass," said Jay Friedland, vice president of strategic marketing for Spyglass Inc., of Los Altos, Calif., which markets SurfWatch. With PICS, Web sites can rate themselves or a third-party group can establish a ratings list. "It's unclear if a third party will emerge that can successfully provide such ratings," Friedland said.

By including SurfWatch in the retail version of Internet Explorer Starter Kit, Microsoft now includes support for the PICS content-rating system, and Netscape Communications Corp. is expected to follow suit for Navigator. □

## TIME WILL TELL

It still remains to be seen how many of these voluntary rating systems will catch on.

## Letters

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valds, the original author) or b) actual distributions of Torvalds' system with additional products hanging off the back end.

Either way, all code developed using Linux sources is effectively placed into the public domain (through the GNU

public virus), thereby making the marketing of truly "commercial" systems legally suspicious.

Linux was not the first free operating system to deal effectively with the SYN-attack problem. NetBSD found and fixed this problem nearly a year ago, long before it became a common way to bring down Linux systems attached to the Internet. Likewise, NetBSD systems have

not been susceptible to the "Ping of Death" for more than six months.

NetBSD, FreeBSD and OpenBSD are other free versions of Unix. Originally developed at the University of California, BSD systems have been the basis for real operating systems like SunOS. BSDI is a commercial entity that provides support (similar to the Cygnus support method).

Implying Linux is the only game in town is a disservice to your readership. Mentioning the other "free" systems from time to time might help folks realize they don't have to be victims of another fledgling monopoly.

Of the claim that Linux is the "most versatile operating system": NetBSD has been supporting at least 13 different hardware systems for more than three years (including all of the systems that Linux supports, as well as the Macintosh, the Amiga, the Atari, the Japanese PC532 and the VAX), yet Sullivan failed to acknowledge that.

Symmetric multiprocessing is still in development. Maintaining machine independence for all of these disparate systems and supporting symmetric multiprocessing has been a challenge for our developers, but is available in recent versions of OpenBSD.

In addition, all of the BSD systems have native OS support for their original operating systems (to include any Unix variant, ELF support, COFF support, etc.) as well as full, native Linux executable support.

Until Linux supports all of these hardware platforms and supports native BSD executable formats, simple Java-native executable support is not enough to give Linux the title of "the most versatile version of Unix."

**David Burgess**  
Via Internet

In his Nov. 25 Intersights column, Eamonn Sullivan states that Linux is the most versatile version of Unix because it has been ported to three platforms.

OpenBSD is currently available on 15 different platforms and is being ported to another three at the moment. It also has a list of another two platforms that "should be" supported but aren't at the moment.

NetBSD currently supports 16 platforms. Actually, OpenBSD might support 16 too but just hasn't gotten around to updating the Web page I was looking at yet.

**Tim Vanderhoek**  
Via Internet

I use Linux myself, but I don't agree with all of Eamonn Sullivan's statements about the operating system in his Nov. 25 Intersights column.

If a company is going to put up a server, they want to have another company to blame if it is not working. That's why many companies use NT instead of Linux. If it doesn't work, they can blame Microsoft.

Then Microsoft will have to find a solution for the customer. You can't get the same service with Linux.

Many people don't even know that Linux exists, and if they do, they think it is a very unprofessional operating system. Linux needs advertising.

So I don't think Linux will be the most popular operating system over the Internet, but I surely do hope that it will be.

**Morten Lund**  
via Internet

# NET NOTES

## Service providers grasp global reach

**TELECOMMUNICATIONS INTEROPERABILITY** A group of telecommunications services providers (together responsible for more than 90 percent of all data traffic) recently demonstrated the interconnection of any user of Novell Inc.'s Novell Directory Services or Lotus Development Corp.'s Lotus Notes Public Network applications around the world.

At present, only users on the same network or served by the same service provider can be interconnected without incurring additional costs for dedicated connections.

Interconnectivity was achieved using the Multimedia Services Affiliate Forum's proposed interoperability specifications that allow exchange of data, voice, image, text and video across public networks, intranets and the Internet.



One demo showed how an NDS user linked via one network services provider was able to access the network resources of other providers across three continents, so that several other users could dive into the same directory, making it a commonly accessible worldwide resource. Moving closer to achieving global digital dial tone for secure E-mail exchange, the group also demonstrated how service providers across four continents were able to successfully transport and replicate a Lotus Notes/Domino collaborative workflow document across various networks and the Internet.

For more information, stop by MSAF's World Wide Web page at [www.msaf.org](http://www.msaf.org).

## CNE program expands to cover Unix

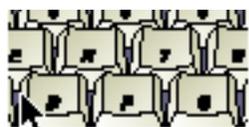
**NETWORK OPERATING SYSTEMS** Novell Inc. has announced the addition of SCO ACE to its Master CNE Client/Network Solutions program. The offspring of this marriage between SCO's ACE program and Novell's Master Certified Novell Engineer education is a multivendor, cross-certification training package.

Under the new program, candidates undergo training for certification on Novell's IntranetWare, NDS and either SCO OpenServer or SCO UnixWare; next, those on the SCO ACE track may take a condensed training program from an SCO Authorized Education Center to become an SCO ACE.

For more details on the SCO ACE certification track of Novell's Master CNE program, go to [www.sco.com/Training/ace/acenotes.html](http://www.sco.com/Training/ace/acenotes.html).

## Ergo, it's economical—Nor something like that

**ERGONOMIC COMPUTING** Network managers deluged with demands for, among other things, keyboards that can prevent repetitive stress injuries may want to head to Chicago to attend the National



Ergonomics Exposition & Conference slated to run at the Rosemont Convention Center on April 1-3.

Along with a passel of exhibits, there will be such technical sessions as "The Ergonomics of Laptop Computing" and "Ergonomics and Labor Law: OSHA, ADA and Other Considerations."

Call (800) 969-6636 or (212) 486-6186 for more information.

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# NETWORKED

Network administrators may download a free copy of Microsoft Corp.'s Microsoft Proxy Server 1.0, an add-on for Windows NT Server that provides secure Internet access to networked desktops. Microsoft Proxy Server installs easily and is fully integrated with the Windows NT Server network operating system, according to company officials.

Highlights of the release include features that automatically cache and update frequently visited World Wide Web sites to conserve network bandwidth and improve response time.

Administrators can easily manage Internet access according to user or by service, port or domain. Microsoft Proxy Server integrates with the IPX/SPX and TCP/IP protocols.

Go to [www.microsoft.com/proxy/](http://www.microsoft.com/proxy/) to download a 60-day evaluation copy at no charge. Connect time charges may apply.

Proxy Server will be available for an introductory price of \$995 per server this month. —Kevin Walters

## Top 20 File Downloads

Listed are the top 20 files downloaded from Novell's FTP server as of Dec. 2. Download links can be found on the Web page [support.novell.com/cgi-bin/top20bin.cgi](http://support.novell.com/cgi-bin/top20bin.cgi).

DATE POSTED	FILE NAME	DESCRIPTION
10/16/96	95enu_n2.exe	Client 32 for Windows 95 2.11
11/27/96	patlst.txt	OS, NLM & File Updates
11/11/96	312pta.exe	NetWare 3.12 OS patches
11/25/96	nptr95.exe	Readme for nptr95.exe
11/22/96	vlm121_1.exe	VLM client kit for DOS/MS Windows 1.21
10/21/96	libup9.exe	CLIB and DSAPI update kit
11/21/96	vlm121_2.exe	VLM client kit for DOS/MS Windows 1.21
7/10/96	cdup4.exe	Latest CDROM.NLM and supporting files
11/21/96	vlm121_3.exe	VLM client kit for DOS/MS Windows 1.21
11/21/96	vlm121_5.exe	VLM client kit for DOS/MS Windows 1.21
11/21/96	vlm121_6.exe	VLM client kit for DOS/MS Windows 1.21
11/21/96	vlm121_4.exe	VLM client kit for DOS/MS Windows 1.21
2/28/96	method.exe	Novell GroupWare Prof Guide
10/21/96	landr9.exe	Readme for landr9.exe
11/6/96	ntenu_n1.exe	IntranetWare Client for Windows NT (network)
8/19/96	410pt6.exe	NetWare 4.10 OS patches
2/5/96	c3295n_1.exe	NetWare Client 32 for Win95 (network install)
3/19/96	design.exe	GroupWise Design Methodology
11/8/96	411sp1b.exe	Readme for 411sp1.exe
10/21/96	dwenu_n2.exe	Client32 for DOS/Win 2.11

## NetWare Minimum OS and NLM Update List

Listed are the minimum NetWare Core OS updates from Novell as of Dec. 2. Novell Technical Support recommends applying all of these file updates as a baseline. A complete listing of all categories can be found at [support.novell.com/search/patlst.htm](http://support.novell.com/search/patlst.htm).

NetWare 4.10	NetWare 3.12
410pt6.exe	312pta.exe
41nds9.exe	cdup4.exe
cdup4.exe	landr9.exe
ins224.exe	libup9.exe
landr9.exe	mon176.exe
libup9.exe	smsup5.exe
smsup5.exe	strtl5.exe
strtl5.exe	vrpup1.exe
srvmn1.exe	nam312.exe
nam41a.exe	

## RE:SOURCES RE:SOURCES RE:SOURCES RE:SOURCES

### GET IT IN WRITING

**Open Systems Standardization: A Business Approach**, by Carl F. Cargill (\$45, Prentice Hall PTR, 345 pp.), explores the evolving nature of technology standardization so that IT administrators can make better choices about future directions and products.

Section 1 of this three-part book outlines the history and theoretical applications of standards, offering a philosophical look at standardization and regulation, be it voluntary or mandatory, and the march toward consensus. Section 2 covers the basics of standardization in terms of application and achievement, while Section 3 presents an overview of the major IT-oriented standards organizations across the world, including charter, intent, coverage, procedures, major committees and predicted longevity. Among useful appendices is one packed with the URLs and geographic addresses of the major standards bodies.

If you're trying to make sense of the acronymic standards world, call (800) 947-7700 and ask for ISBN# 0-13-268319-9.

—Sara Humphry



### NET EVENTS

#### FEBRUARY

**Feb. 3-6**  
**ComNet Conference and Expo**, Washington Convention Center, Washington. (800) 545-3976 or [www.mha.com/comnet/](http://www.mha.com/comnet/).

**Feb. 4-5**  
**Document Solutions 97**, Moscone Convention Center, San Francisco. Industry sponsor: AIIM (Association for Information and Image Management). (301) 587-8202 or [www.aiim.org](http://www.aiim.org).

**Feb. 17-19**  
**DCI's Internet Expo**, San Jose Convention Center, San Jose, Calif. (508) 470-3880 or [www.DClexpo.com](http://www.DClexpo.com).

**Feb. 22-26**  
**Web Design & Development (Web 97)**, Moscone Convention Center, San Francisco. (800) 441-8826 or [web97@mfi.com](http://web97@mfi.com).

**Feb. 25-27**  
**DCI Data Warehousing Conference**, Orange County Convention Center, Orlando, Fla. (508) 470-3880 or [www.DClexpo.com](http://www.DClexpo.com).

#### MARCH

**March 1-5**  
**ACM97: The Next 50 Years of Computing**, San Jose Convention Center, San Jose, Calif. Industry sponsor: The Association for

Computing Machinery. (212) 626-0500 or [ACM97info@ACM.org](mailto:ACM97info@ACM.org).

**March 2-5**  
**Business Process and Workflow 97**, Walt Disney World Dolphin, Orlando, Fla. Industry sponsors: TAWPI (The Association for Work Process Improvement) and Workflow Management Coalition, among others. (800) 874-9980 or [www.gigaweb.com](http://www.gigaweb.com).

**March 25-27**  
**DCI Client/Server Application Packages Conference**, in conjunction with DCI Year 2000 Issues & Answers Conference and Expo, Phoenix Civic Plaza, Phoenix. (508) 470-3880 or [www.DClexpo.com](http://www.DClexpo.com).

**March 26-27**  
**Inter/Intranet Application Development Conference and Exposition (IAD 97)**, New York Hilton, New York. (508) 652-1100 or [www.spgnet.com](http://www.spgnet.com).

#### APRIL

**April 8-10**  
**DCI Data Warehousing Conference**, San Jose Convention Center, San Jose, Calif. (508) 470-3880 or [www.DClexpo.com](http://www.DClexpo.com).

**April 22-24**  
**Field & Sales Force Automation Conference & Exposition**, McCormick Place, Chicago. (508) 470-3880 or [www.DClexpo.com](http://www.DClexpo.com).

Network editors welcome your feedback, comments and story ideas. We can be reached at the following telephone numbers or online services. PC Week's toll-free number is (800) 451-1032. Linda Bridges, senior executive editor of Network, (617) 393-3910, Internet: [linda\\_bridges@zd.com](mailto:linda_bridges@zd.com); Amy Schurr, associate editor of Network, (617) 393-3886, Internet: [amy\\_schurr@zd.com](mailto:amy_schurr@zd.com); John Taschek, West Coast managing technical director, (415) 513-8124, Internet: [john\\_taschek@zd.com](mailto:john_taschek@zd.com).