Infrastructure

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In Site: Lessons from Leading Users

FedEx Freight delivers with Linux Web server migration

■ BY PHIL HOCHMUTH

MEMPHIS, TENN. — FedEx Freight recently put a new face on its Web operations, and so far the company likes what it sees.

The large-volume trucking division of FedEx recently installed 15 Red Hat Linux 7.2 and 7.3 servers running Apache Web server to act as a front end to its customer service application, used by businesses that hire Freight to deliver multitruckload shipments of goods across the country.

"We've been looking toward the Linux platform for some time" as an alternative operating system, says John Boreni, managing director of computer services.

The servers replaced a dozen Windows NT machines running Microsoft Internet Information Server as a Web server application.

The advantages of the move include improved security and lower cost of software licensing, Boreni says.

"We've observed that, out of the box, the Linux servers have [a high level] of security . . . with things like built-in firewall capabilities," he says.

Boreni also anticipates seeing reliability improvements, although he has no data yet to compare Linux and Windows.

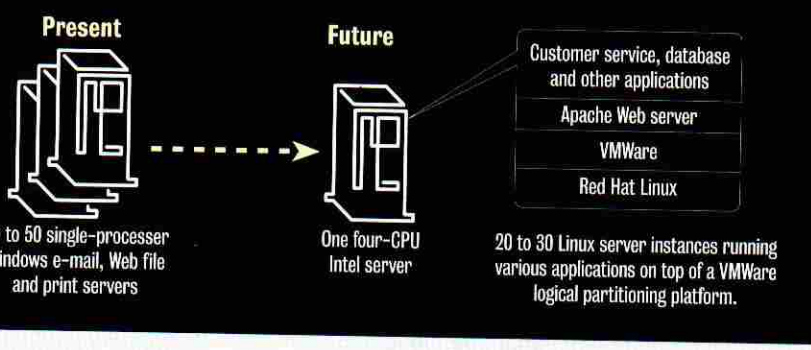
"Since we installed the Linux servers" in June, Boreni says, "we've had only two failures, and neither of them was related to the operating system."

Porting the Java-based applications used by the Web servers to make database calls to back-end systems was painless when the Linux swap was done, Boreni says. FedEx Freight loaded the Linux servers with a version of the Tomcat Java application server, which runs on top of Red Hat Linux. By installing the Tomcat application server, FedEx Freight was able to support the Java-based applications it had been running on the Windows Web servers — now replaced with Linux servers — without having to rewrite its applications.

See FedEx, page 18

The Linux crunch

FedEx Freight is looking to save money on hardware and simplify management by replacing multiple Windows servers with a multiprocessor Linux box.



Quick Takes

■ **IBM** introduced a new midrange server last week that has many of the autonomic computing features of its larger servers. The **pSeries 650,** an eight-processor server that replaces the p660, has hot-swappable tape and DVD drives. It also features ChipKill memory and bit scattering, which allows memory chips to be deallocated in possible failures and data to be reassigned to healthy memory, respectively. Another feature, processor deallocation, lets failing processors be replaced automatically with healthy processors. In addition, the pSeries 650 is capable of being logically and dynamically partitioned. One partition can be allocated per processor, and different operating systems and applications can run on each partition. The pSeries 650 starts at $30,000 and is scheduled to be available next month.
www.ibm.com

Auspex software tracks file changes

■ BY DENI CONNOR

SANTA CLARA — Network-attached storage appliance vendor Auspex Systems this week plans to introduce technology that companies can use to track changes to their files for the purpose of improving application workflow and integrity.

Dubbed CogniStor, the technology monitors NAS appliances and other servers for files that are modified, created, deleted or accessed. It notifies end users or applications of specific changes made to content and, based on a set of rules, dictates what, if any, action should be taken.

"Since we know a lot about the files our [NAS devices] handle, it is not a difficult extension to keep track of file changes, additions and deletions," says Bob Iacona, vice president of marketing.

For instance, a network manager might want to automatically scan any file being saved from a diskette drive or CD-ROM for viruses. The manager could create a rule that says, "If a file is being saved from Drive A or D, scan the file for viruses, isolate it to its own directory if a virus is detected, and notify the administrator by e-mail."

Another example would be a search engine company that has to constantly reindex its content in response to queries. It could use CogniStor to update search results when its software indicated that changes to Web pages had occurred. Or, a law firm might want to alert attorneys to documents containing certain sensitive words.

At first glimpse it appears that Auspex's storage technology doesn't operate much differently than that of snapshot back-up products that save changed files to media whenever an administrator specifies.

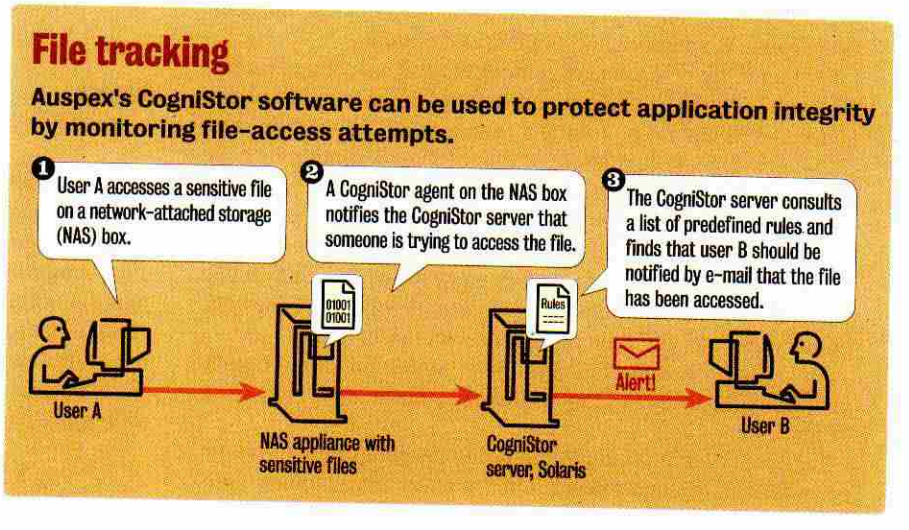
But Blair Hicks, systems administrator with LIDP Consulting Services in Woodridge, Ill., explains the difference.

"We were using a snapshot utility every hour on the Auspex server to recover files

See Auspex, page 18

File tracking

Auspex's CogniStor software can be used to protect application integrity by monitoring file-access attempts.



Zone Labs fights viruses with Integrity

Company upgrades virus containment software, teams with Cisco.

■ BY TIM GREENE

LAS VEGAS — Zone Labs is announcing upgrades to its security software this week designed to make it easier for companies to limit the spread of viruses and worms on their networks.

Version 2.0 of Zone's Integrity software being introduced at Comdex this week lets businesses restrict individual desktops to access only select segments of corporate networks, making it easier to confine damage done by attacks.

An Integrity 2.0 server sets policies centrally, and software agents that function as personal firewalls on each desktop enforce the policies. These policies range from what IP addresses each machine can access to what applications are allowed on the network.

With the network access of each desktop defined by Integrity, threats can be confined more easily, which is not the case when individual workstations have unfettered rights to any network machine, says Lawrence Pingree, global network security architect for PeopleSoft. "If we can put an agent on desktops to restrict what you can do, it's a huge, huge advantage," he says.

COMDEX FALL 2002

The Code Red and Nimda worms wrought havoc with PeopleSoft's network for several days last year because the internal network was "pretty wide open. If you connected to the wire, you could connect to anything," Pingree says. Had Integrity 2.0 been in place, it could have kept the worms in limited areas of the network, where they could be dealt with quickly, he says.

Integrity 2.0 also includes a reference-scan tool that makes sure desktops have a standard configuration of applications. Version 2.0 also includes a program-grouping feature for managing applications and application components to make it simpler to track all the software elements an application uses.

Pingree says PeopleSoft is evaluating Integrity and software from competitors Tiny Software and Symantec.

Also, Zone Labs and Cisco have cooperated to make sure corporate remote access users can't activate VPN tunnels unless their firewall is turned on.

The companies are announcing at Comdex that Zone's Integrity policy management console works with Cisco's 3000 VPN concentrator so remote access PCs don't become a weak spot attackers can exploit to gain entry to corporate networks.

"Cisco's firewall [that comes with the VPN client] is basic. With Integrity, we can ensure certain policies exist on the laptop before it connects to the VPN," Pingree says.

Integrity 2.0 ships next month and costs $65 per agent license, with a minimum of 25 licenses. There is no charge for the server. Current customers with maintenance contracts get the upgrade to Version 2.0 as part of that agreement. Current customers with maintenance contracts get the upgrade to Version 2.0 as part of that agreement. ■

Site: Lessons from Leading Users

FedEx

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Boreni adds that the move to Linux would have been more complex, and possibly cost-prohibitive, if it had been necessary to convert his applications from Windows to Linux.

"Java made that an easy transition," he says, considering the applications run exactly the same on any platform with Java application server support.

While migrating the Web servers to Linux was part of a strategic decision that Boreni and other IT executives at FedEx Freight outlined, Linux had proliferated in the company's network over the past few years. Boreni says Linux has been used on a spot basis for file servers, DNS services and as information kiosks.

The knowledge base of Linux among his staff was tapped for the Web server project, as Boreni and his staff decided to install the Linux servers in-house on "a few extra servers," rather than purchase new pre-installed Linux machines from a vendor, such as IBM, Dell or Hewlett-Packard.

"We've had some people who have been interested in Linux," Boreni says, and "our staff has had some training in Linux. The [server software] installation itself is pretty straightforward." In the future, though, he says he would purchase prebuilt Linux servers from a vendor to save time on larger server deployments.

"Today, we have about 5% of our Intel servers on Linux," Boreni says. "I'd expect in six to 12 months to have that number in the 15% to 20% range."

One area of Linux expansion at FedEx Freight includes a server consolidation project Boreni and his team are planning (see graphic, page 17). The company intends to consolidate 40 to 50 servers — including file, print and other applications — onto 20 to 25 "virtual" Linux server instances running on one four-processor Intel box.

FedEx Freight is using software from VMWare to break down the Intel box into logical partitions, or Lpars, as in the mainframe world, on which separate operating systems can be run.

"We expect to achieve some pretty significant cost reduction, mainly on the hardware side," Boreni says.

Staff Writer Denise Dubie contributed to this story.

Sun, Check Point join forces

High-speed firewall/VPN gear based on Sun server hardware.

■ BY TIM GREENE

Sun this week is scheduled to introduce a bundle of its server hardware with Check Point Software technology to create firewall/VPN appliances that, at the high end, are suitable for protecting data centers.

Dubbed the Sun LX50 VPN-Firewall Appliance Secured by Check Point Software, the gear comes with either one or two processors to offer a range of throughput up to a 2G bit/sec firewall or 640M bit/sec VPN encryption, fast enough to filter and encrypt traffic in and out of corporate data centers.

The high-end box will compete with the Nokia IP740, a custom hardware appliance that boasts 2G bit/sec firewall throughput and sports Check Point VPN-1/Firewall-1 software. Nokia's box is listed at more than $20,000, which is in the range of the high-end Sun appliance. A low-end LX 50 comes with one Pentium III processor and the high-end system comes with two.

The box has two open slots that can be fitted with four-port 10/100M bit/sec Ethernet cards, dual-port Gigabit Ethernet cards or VPN accelerator cards. It is a general-purpose Sun server with a Linux operating system hardened by stripping off support for services that are unnecessary to firewall and VPN functions.

Sun and Check Point have collaborated before, first in February with Sun's iForce Perimeter Security bundle, which included Sun hardware and Check Point software, as well as antivirus and intrusion-detection tools from other security vendors. When Sun announced the LX 50 server in August, it said it was working with Check Point and others to optimize the platform for their software. Check Point also has ported its premium Performance Pack software to run on Sun's Solaris operating system.

Prices of the hardware ranges from $3,300 to $5,700 depending on the configuration, plus the Check Point software that ranges from $1,000 to $25,000. The bundle is available next month. ■

Auspex

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if we needed to," says Hicks, whose company consults for the life insurance industry and has 100 programmers constantly making changes to software code. "CogniStor runs on a separate server and tracks files whenever they change. When the snapshot software ran, it caused the Auspex server to be unresponsive for 20 to 30 seconds — this caused our developers some concern."

Auspex will make its CogniStor software available in several ways. The company will license the software directly for $2,500 per server to users and to vendors for incorporation in their applications. The software runs on a Solaris server separate from a NAS appliance or a file server running Windows NT/2000 or NetWare.

Auspex also will include the technology in its IntelliSnap and IntelliScan products, which are scheduled for introduction next month. IntelliSnap is versioning software that can restore copies of any file from any point in time. IntelliScan alerts virus-detection packages to scan new or changed files immediately.

Auspex: www.auspex.com

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