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NetworkWorld

Whither the wireless dream?



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The network portal: www.nwfusion.com

Life after Cisco

BY JEFF CARUSO

Leaving Cisco isn't an easy choice, though the company has gotten too big for some.

As the data network industry's most powerful player, Cisco has a name that conjures up fear, love, hate — and above all, respect.

By most accounts, you could do a lot worse than work for the San Jose firm, which has made more than a few employees wealthy beyond their dreams. Still, some of the people who helped raise Cisco to its current height have recently decided to leave their relatively comfortable jobs for the chance to build new companies from scratch. Why would anyone take such a gamble?

"I loved being at Cisco when it was a \$300 million company, and you could see changes and make things happen," says Nick Francis, who used to run the IBM business unit at Cisco. "But Cisco changed around me."

The fact is, in some ways Cisco is a victim of its own success. It went from plucky young router vendor to industry behemoth in just a few years — from \$69 million in revenue when it went public in 1990 to \$9.2 billion in the last four quarters. The kind of people who

See **Cisco**, page 64

AT&T WorldNet mops up its dial-up mess

The ISP's upgrades should cure dropped lines and congestion problems.

BY DENISE PAPPALARDO

AT&T WorldNet is embarking on a multimillion dollar upgrade to prevent its network from being overrun by a fast-growing customer base and exploding Internet access traffic.

AT&T's ISP arm acknowledges that it was blindsided by a sudden increase in customers, 100,000 of whom jumped on the network in January after the ISP began offering unlimited usage for \$21.95 per month.

And not only are more peo-

ple using the network — they're staying on longer because they have unlimited access.

The result has been an increase in busy signals, slow

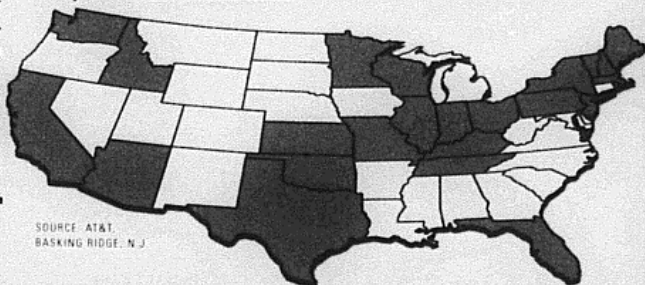
connections and dropped lines, say WorldNet dial-up customers.

WorldNet is responding by upgrading dial-up points of presence in 59 cities across 24

See **AT&T**, page 65

Not prepared for the demand

AT&T WorldNet is upgrading its heavily stressed dial-up Internet access POPs in 24 states (shown in green). See page 65 for a complete list of affected cities.



SOURCE: AT&T, BASKING RIDGE, N.J.

Analysis tools get in tune with switched nets

BY JEFF CARUSO

Protocol analyzers are about to work much better in switched networks.

Network Associates will expand its Sniffer product line to monitor switches so net administrators can get traffic statistics across a switch's ports, detect configuration problems in virtual LANs, and track problems between switches and desktop machines. Network Associates is expected to lay out its full

Novell house divided over NDS for NT giveaway

BY CHRISTINE BURNS

To be free or not to be free? That is the question Novell's brain trust is mulling as it considers the future of its directory for Windows NT networks.

Novell executives want to get Novell Directory Services (NDS) for NT...

More inside: Novell to revamp desktop and server management wares. Page 14.

Online

A paper comparing NDS and Active Directory

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THIS WEEK
ONLINE



Wireless when? Read our feature about the state of wireless services, on page 41, then head online. Todd Dagres, general partner at Battery Ventures, is online all week to argue that wireline services are here to stay. **DocFinder: 2023**

Are you getting a fair deal? We've got just what the doctor ordered — a career checkup. This week the Career Doctor, Shaun Kelly, will discuss how to demand a higher salary, better benefits and more opportunity. Share your work woes with him. **DocFinder: 2032**

Keeping Current. Can America Online single-handedly prop up the market for digital subscriber line services? Fred McClimans says the company's agreements with Bell Atlantic and SBC Communications indicate it can. **DocFinder: 2040.**



NDS vs. Active Directory. Read our front-page story, then come online for a paper that compares the Novell and Microsoft offerings. **DocFinder: 2035**

The reality of XML. Extensible Markup Language (XML) was once touted as the savior for search engines. But XML has fallen from grace. Major search players, such as Northern Light, AltaVista and Excite, told Network World Fusion that XML can bring more headaches than relief. **DocFinder: 2039**

Winning the name game. Check out our review of Domain Name System (DNS) and Dynamic Host Configuration Protocol (DHCP) products on page 49. Then add to your knowledge with a directory of DNS resources, a link to the IETF's DHCP Working Group and technical papers from Network Telesystems. **DocFinder: 2021**

How to get onto Network World Fusion

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NetworkWorld

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FEATURES

Whither the wireless dream?

Venture capital firms continue to pour money into wireless start-ups, but the investments aren't likely to yield

John Gilbert of Rudin Management hopes that wireless takes off.

DIGITAL POWERLINE SHORTS OUT IN U.S.: Hurdles stall the deployment of a technology for carrying corporate data over electric power lines, although there is hope for a small business and consumer rollout. Page 47.

REVIEW: The key to managing IP addresses is having DNS and DHCP tools that work well together. Page 49.

REVIEW: The scaled-down Unicenter component for

Gearhead — inside the network machine . Mark Gibbs

IP SECURITY: KEEPING YOUR BUSINESS PRIVATE

Without secure communications, much of the commercial potential of the Internet will never be realized because, whether you like it or not, there are people out there who want to know what you are doing. Some may just be curious, while others may want to harm you or your business in some way.

In response to this, we've seen the emergence of all sorts of protocols designed to enhance the security of Internet communications. For example, Secure HTTP is sophisticated and capable of providing fine-grained access control, but it is too complex for network administrators.

Today, the majority of secure Web traffic is protected by Secure Sockets Layer (SSL). SSL can be used with other protocols, such as File Transfer Protocol (FTP). While SSL works well, it applies only to data transmitted at the socket level. And worst of all, SSL requires the client and the server to be SSL-aware.

A more generic solution to secure data exchange is being defined by another protocol, IP Security (IPSec). IPSec is quite ambitious. It defines encryption, authentication and key



management to create, in effect, a virtual private network (VPN) session for every connection. In the structure of the Open Systems Interconnection model, IPSec operates at the network layer and doesn't require that applications be IPSec-aware, so all communications are secured.

Grossly simplifying, you could sum up IPSec's operation as two computers exchanging X.509 certificates for authentication and then creating an encrypted tunnel for data transfer.

The difference between regular IP packets and IPSec packets is the addition of an extension header and the encryption of the payload data. There are two parts to the IPSec extension header: the Authentication Header and the Encapsulating Security Payload

(ESP) header.

The Authentication Header defines which parameters will be used for authenticating the originator of data, checks integrity and protects the session from protocol replay. Protocol replay is a technique for breaking into systems by recording and replaying an exchange of data.

The ESP header specifies encryption methods and offers limited traffic flow confidentiality. It partially hides the details of how many packets of what size are flowing in which direction. This is important, as traffic flow information can be used to break encryption schemes. It also specifies the encryption and authentication keys and the time frame for which the keys are valid.

These two headers combined are called the Security Association, which describes what are referred to as the "transformations" to be applied to the payload datagram.

A Security Association may be static, containing data that is never changed by the transformation; or dynamic, containing data that is maintained by the transformation and changed whenever a datagram is handled. For example,

serial number-based replay prevention and sophisticated encryption systems that change over the course of multiple transactions involve dynamic data.

In either case, to begin a secure session both computers need to determine how they are going to "talk" to each other.

The protocol used to set up the connections is the Internet Key Exchange, yet another Internet Engineering Task Force protocol working its way toward finalization.

If you're getting the idea that this is complicated, you're right. This is why moving IPSec to a standard will take time. And IPSec has processing and management overhead, so it will have to be deployed with care.

IPSec is the best solution on the horizon. It will become the secure communications standard.

See the IETF documents RFC 2401 "Security Architecture for the Internet Protocol" at www.ietf.org/rfc/rfc2401.txt and RFC 2411 "IP Security Document Roadmap" at www.ietf.org/rfc/rfc2411.txt.

Communicate securely to gearhead@gibbs.com.



week) or take the survey yourself at:

DocFinder: 2029

The doctor is in

Shaun Kelly, our very own kindly Career Doctor (any resemblance to Marcus Welby is purely coincidental) holds office hours this week to answer your pressing career questions.

You can post them publicly or send them to him confidentially via e-mail. Certification remains a big topic.

Plus, download a digest of his answers to questions from his last session.

DocFinder: 2032

Antispam

Last week, *Network World* columnist James Kobielus blasted the "cyber-McCarthyism" of a group that maintains a blacklist of ISPs it

says condone spam. Some readers beg to differ. What do you think? Read their comments (plus Kobielus' column, if you missed it) and then add yours.

DocFinder: 2028

X marks the spot

Remember all the attention Java used to get? Now the Extensible Markup Language (XML) gets all the ink (well, what's left over from Linux, at any rate). But what do you do with it? A number of tools are beginning to emerge that make XML more than just another three-letter acronym in search of some venture funding.

One such product from Vervet Logic is XML Pro 1.2, a graphical development tool that helps Web designers make the transition from HTML to XML. It features XML validation, wizards to help create XML elements

and attributes, and a document-tree outline view. Plus its validation engine lets you do your DTDs (Data Type Definitions) in your BVDs.

XML Pro 1.2 supports the XML 1.0 specification and runs on 32-bit Windows platforms.

Download an evaluation copy of XML Pro and other XML editing tools from our Download area at:

DocFinder: 2030

Too little, too late?

This week, "Wired Windows" excoriates Oracle for its directory strategy. What do you think? If directories are the future of networking (are they?), has Oracle blown it?

Read the column and discuss it or just browse a library of directory-related articles and links from *Network World* and elsewhere on the Internet.

DocFinder: 2031