

SecureWay Connection

THE IBM NETWORK COMPUTING SOFTWARE NEWSLETTER


IBM

Memphis Schools Stop Cyber-Trespassers with the IBM Firewall

IBM Firewall provides the first line of defense for a new ATM fiber network

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TO A POWERFUL
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AND MORE...

A few years ago, the Memphis, Tennessee school district enrolled six schools in an educational reform program that combines community accountability, learning-by-doing, and judicious use of technology to improve students' academic performance. Because each participating



school needed an Internet connection, the six chosen buildings became the first in the district to venture into cyberspace, taking the central office and a large resource center along for the ride.

The Internet was uncharted territory for the district, and Memphis City Schools administrators refused to set foot into the great unknown without first erecting a barricade that would both shield students from objectionable material and protect private data on the district's enterprise network from prying eyes.

The solution they chose was the IBM SecureWay™ Firewall, a sturdy software "fence" that has stood sentry over the assets of IBM and global corporations for more

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EXECUTIVE SUMMARY

PROBLEM

School district needs an extremely secure solution for extending a diverse computing network into the classroom and district offices

SOLUTION

IBM SecureWay Firewall, available as part of the IBM SecureWay FirstSecure offering

BENEFIT

The school district now has reliable, secure access to e-mail, the Internet, distance learning, and videoconferencing—with protection from network intrusion

Person of the Century



Throughout this year, you've watched the festivities build toward a climax. As we approach the end of 1999, the newsstands—and your mailboxes—are crowded with all sorts of magazines proclaiming their choices for Person of the Year, Person of the Century, even Person of the Millennium.

Because this is the last issue of *SecureWay Connection* for 1999, perhaps you'll forgive me for following the trend and naming my own Person of the Century. I'll reveal my choice at the end of this column.

But first I'd like to start a new trend. Allow me to look toward the future and be the first to select the Person of the 21st Century. Who is the person who will make the biggest difference in our world, the world of business?

The Person of the 21st Century is your customer—the person who purchases your IT products, resources, and services. As you know, e-business is about using the power of the Internet to extend the reach of your business to new customers and extend the level of service you provide to current customers. Of course, the customer is the common denominator throughout this equation.

The most successful business people have always understood the importance of the customer. Today, as e-business expands the possibilities for your enterprise beyond what you could only imagine a few years ago, that simple truth remains. The customer is still the reason for everything we do, and that fact won't change in the coming century.

IBM SecureWay Software offers the solutions you need to succeed at e-business. And, because our product line is built on a solid foundation based upon industry standards, we intend to continue providing you with powerful enterprise-class solutions well into the new century.

So who is my choice for Person of the 20th Century? Perhaps I could pick Thomas J. Watson, who built IBM into a great company, or Lou Gerstner, who is leading IBM into the new century with renewed vigor. But my vote for Person of the 20th Century goes to you. As IBM's customer, *you* are the reason for everything *we* do.

I hope you enjoy all of the end-of-millennium celebrations, and I hope you—and your customers—continue to enjoy success throughout 2000 and beyond.

Larry Kunz
Editor, *SecureWay Connection*

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SecureWay Connection
IBM Network Technology Marketing
Department CLJA/501, P.O. Box 12195
Research Triangle Park, NC 27709 USA

Fax: 919-254-9132
Internet: secure@us.ibm.com
Managing Editor: Larry Kunz
Contributors: Dave Allison and Nelson Martel

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With FirstSecure, You're in Control

How do you envision security? Many people envision a fortress or a castle with a moat around it—a structure designed to protect whatever is inside by keeping people out.

On the other hand, trusted e-business is all about letting people in, not about keeping people out. It's about extending the reach of your enterprise's data and applications to customers and business partners. It's about making your information assets available to everyone who needs them, while securing them from those who do not.

A key element in trusted e-business is the IBM SecureWay FirstSecure Version 2 product. This new product offering (see page 4 for all the details) protects your valuable corporate assets by using standards-based, industry-leading technology to make sure that no one can access or modify data without the proper permission.

FirstSecure makes e-business possible, because it puts the right people in touch with the right information. In the past, security was about fear. But that's not what it's about in the world of e-business. Today, security is about enablement.

FirstSecure combines a number of security functions to provide the most effective integrated security solution you can buy. By addressing challenges associated with cost, complexity, and the ease of application deployment, FirstSecure gives you the maximum return on your security investment.

Finally, FirstSecure is about much more than simply protecting your enterprise's assets. Because FirstSecure provides policy-based security, it becomes a key ingredient in your overall e-business strategy. Together with our other SecureWay product offerings—offerings that enable you to *locate* resources, *connect* them, and provide *secure* access—FirstSecure helps extend your reach to customers, business partners, and new markets.

With SecureWay FirstSecure, security means being in control. And when you have control, you have the power to take your business anywhere you want to take it.



Bob Madey
Director, Security Business Line
IBM Network Computing Software Division



IBM SecureWay Wireless Gateway Version 5.1

IBM SecureWay Wireless Gateway Version 5.1 (formerly eNetwork™ Wireless Gateway) is the latest release of IBM's wireless middleware solution. The Wireless Gateway and client extend IP connectivity across a diverse set of wireless and wireline networks, enabling TCP/IP applications to seamlessly access enterprise networks. As a result, this solution simplifies the management and implementation of applications in the mobile environment, while providing remote users with real-time access to corporate data.

Wireless Gateway 5.1 features include:

- Satellite network support for users in areas with poor land-based network coverage
- Windows® CE clients to securely connect handheld devices with corporate networks
- Point-to-Point Protocol (PPP) client support to connect standard clients that are not SecureWay Wireless clients
- New client architecture to configure modems and connections through standard operating system features
- RS/6000® symmetric multiprocessing (SMP) support to improve scalability
- SecureWay Wireless Gatekeeper, a graphical administration utility that remotely manages multiple Wireless Gateways

For more information, visit www.ibm.com/software/network/mobile/.



IBM SecureWay FirstSecure V2 Enhances e-business Protection

IBM's centrally managed security software integrates new functions to provide even higher levels of security

IBM has enhanced its powerful SecureWay FirstSecure e-business security software, an integrated set of security components that enable companies to easily identify and authorize user access from a central point. In early 1999, IBM introduced FirstSecure as the vision of how it plans to combine existing IBM products and technologies—along with those from other security vendors—to help companies securely deploy e-business applications and strengthen the security of existing applications. Now, FirstSecure Version 2 advances this open framework to centrally integrate additional FirstSecure components around the Policy Director.

A Comprehensive Security Solution

IBM SecureWay Software is a comprehensive family of products that provide a secure network platform for running e-business applications in multiplatform environments. SecureWay Software is designed to help e-businesses locate resources—such as people, information, and applications—in the network; connect customers, partners, and employees to those resources across diverse systems; and address the concern of how to secure applications, communications, data, and transactions.

The core security product of SecureWay Software is FirstSecure, the industry's first end-to-end security solution for e-business. With the introduction of FirstSecure, IBM was one of the first vendors to provide a centrally managed, permissions-based security system that combines strong authorization and authentication of users. With policy definition and enforcement, FirstSecure helps companies protect, detect, and direct network traffic for a more secure e-business environment. As a result,



companies can significantly reduce the cost and complexity of implementing IT security in large enterprises.

The key security functions within FirstSecure—intrusion immunity, Public Key Infrastructure (PKI), secure business server, and toolbox—are organized around a Policy Director that defines, administers, and serves security policy while acting as an access control manager for Web applications and resources. In addition to controlling the security activities among the other FirstSecure components, the Policy Director enables comprehensive policy-based responses to events such as intrusions, firewall alerts, and anti-virus detection.

FirstSecure's intrusion immunity capabilities focus on detecting and reacting to security problems. Intrusion immunity integrates with the Policy Director by accepting or requesting component policy and sending security alerts and events. For PKI, the focus is on certificate authentication, secured communications, and validation

of signed policy. The toolbox, which enables companies to build and deploy secure applications within their enterprise, includes APIs for policy management. FirstSecure runs on AIX® and Windows NT®.

Version 2 Enhancements for Improved Security

With the new Version 2 enhancements available today, FirstSecure provides an even better—and more highly integrated—security solution for safeguarding business information. To help companies overcome their ever-increasing security concerns, FirstSecure uniquely addresses the entire company infrastructure by protecting Web-based activities and client/server and host environments. Because FirstSecure is a comprehensive solution based on industry standards, it also enables maximum interoperability with other products.

Key enhancements to FirstSecure Version 2 include:

- **A standards-based Internet infrastructure**—Enhancements to the SecureWay Policy Director integrate support for the Lightweight Directory Access Protocol (LDAP) and the PKI X.509 standard, simplifying centralized administration and enhancing portability.
- **An intrusion detection offering**—Tivoli® Cross-Site for Security detects, logs, and responds to unauthorized activities in real time, enhancing the reliability and availability of applications and the network.
- **A PKI offering**—With the inclusion of SecureWay Trust Authority, FirstSecure now supports PKI, which issues and manages digital certificates for two-way

THE CUSTOMER'S VIEWPOINT

FirstSecure provides a comprehensive framework to help companies secure all aspects of networking via the Web and other networks, while helping them build on their current investments with modular, interoperable offerings that help minimize the total cost of conducting secure e-business. FirstSecure provides virus protection, access control, traffic content control, intrusion detection, encryption, digital certificates, firewalls, toolboxes, and implementation services.

IKONSM Office Solutions, Inc., one of the world's leading office technology companies, relies on FirstSecure to protect its Web-enabled network. The company also resells FirstSecure to its customers.

"In order to win in today's marketplace, we're going to have to prove that the Internet is a secure place to work," says Steve Harber, brand manager, IKON Technology Services. "And that's why we've teamed with IBM and the FirstSecure product line. FirstSecure—the name says it all—it's a security blanket."

IBM INTEGRATED SECURITY OFFERINGS AT A GLANCE

SecureWay FirstSecure is a key component of the IBM integrated security offerings that are designed to meet the critical requirements of security, availability, and manageability for e-business.

In addition to FirstSecure, the IBM integrated security offerings include Tivoli User Administration, Tivoli Security Management, and Tivoli Storage Management (formerly ADSM). These offerings, along with comprehensive FirstSecure Implementation Services, address a full range of security requirements for e-business:

- **Authorization**—Protection that admits only legitimate user access to systems, data, applications, or networks
- **Accountability**—The facility to determine who performed any given action and which actions occurred during a specific time interval
- **Assurance**—The ability to demonstrate and periodically validate that the claimed level of security protection is being enforced
- **Availability**—The capability to keep systems, data, networks, and applications usable
- **Administration**—The means to define, maintain, monitor, and modify policy information

By reducing risk, simplifying complexity, and lowering costs, these comprehensive security solutions provide the critical elements that enable a company's successful e-business transformation.

authentication and non-repudiation. This enhancement creates a trusted and open e-business framework for critical internal and external applications.

- **A more powerful SecureWay Boundary Server**—This feature provides more comprehensive monitoring of network perimeter security to detect unauthorized access.
- **An improved SecureWay Toolbox**—The updated toolbox enables the development of secure e-business applications that are integrated with FirstSecure, including Trust Authority certificates and Policy Director queries for authorization decisions.
- **An expanded implementation service**—More comprehensive service capabilities help companies leverage FirstSecure's enhancements more effectively. 🖱

For more information

Visit www.ibm.com/software/security/firstsecure





Netstal's Machines Take the Heat Thanks to OS/2

Plastic injection molding equipment relies on IBM OS/2 Warp 4 to facilitate 24x7 operation



An operator standing at the console of a plastic injection molding machine made by the Swiss manufacturer Netstal™ Maschinen AG generally needs information as precise as that displayed in an airplane cockpit. How hot is the plastic? How fast is it being injected? Is the pressure sufficient to keep the polymer in place?

Since 1998, that kind of information has been presented through an operator interface powered by IBM OS/2 Warp® 4. During a scrupulous evaluation in which it was evaluated against Windows and two lesser-known platforms, OS/2 Warp emerged the winner on every count—most notably its ironclad anti-crash record that is imperative in the 24x7 environments where most Netstal machines function.

Manufacturing Environments Require Continuous Availability

Nestled in the mountains of Switzerland near Zurich, Netstal has been making plastic injection molding machines since shortly after World War II. It sells

models ranging in price from \$160,000 to \$1.8 million (U.S.) and in size from a modest eight feet to a 50-ton behemoth that fills a room. Netstal machines are used to produce packaging, medical and mechanical components, plastic bottles, and computer media. In fact, the company owns 40 percent of the world market for machines that manufacture CDs and CD-ROMs.

The operator console is both the order-giver and the report-producer for a given Netstal machine. It is the place where the machine operator does the programming for all the numerical controls that dictate the parameters of a job—from the temperature required to melt the plastic to the flow rate, cooling time, and acceptable dimensions of the parts produced. Because the console is also what operators consult to see the status of a job, the operating system behind the console must perform without fail all day, every day.

OS/2 Warp Surpasses the Competition

Before OS/2® became the company's platform of choice, Netstal's operator interface was driven by a real-time Intel® operating system that was part of the console's hardware. Unfortunately, the Intel system had no graphic support. As a result, Netstal managers went shopping for a new platform with a graphical user interface that could streamline programming tasks and enable operators to grasp machine conditions at a glance.

EXECUTIVE SUMMARY

PROBLEM

Leading manufacturer needs an operating system that can provide continuous availability for its molding machines

SOLUTION

IBM OS/2 Warp 4

BENEFIT

The cost-effective solution has eliminated machine crashes and downtime while simplifying maintenance and upgrades

Because stability is so important to Netstal's applications, it was one of the key criteria the company considered when selecting a new operating system. It was also the requirement that eliminated Windows 3.11 and Windows NT, the Microsoft® systems available when Netstal began the search in 1993.

"We tested standard Windows applications on PCs, and they never managed to run for 24 hours without crashing," notes Rudolf Probst, team leader of GUI development for Netstal. "Our customers typically need to operate their machines 24 hours a day, seven days a week, so that was not acceptable."

OS/2 Warp Combines Superior Function with Affordability

Netstal considered another platform with the ruggedness to withstand the industrial environment, but dismissed it for financial as well as functionality reasons. In fact, the license fee for that operating system was more than 10 times higher per machine than the license price for OS/2 Warp 4. The platform also lacked the TCP/IP connectivity that Netstal wanted for remote troubleshooting purposes.

That left only a DOS-based system that featured a GUI extension. That platform, too, passed the stability test, but Netstal was troubled by the fact that the product was not supported by a large company. Netstal was also concerned about the availability of developer support—another item that topped Netstal's list of requirements.

"For OS/2, we had a direct connection with the developers in Austin, so we could send an e-mail and get a question answered in one day," Probst reports. "Microsoft, on the other hand, told us we would have to go to the nearest reseller to get our questions about Windows answered, and we didn't feel comfortable with that."

Combined with OS/2 Warp Server, OS/2 Warp 4 provides a full range of functions for the enterprise, small and medium businesses, and connected users. In addition, OS/2 Warp Server provides an application server foundation with integrated file and print sharing, backup and recovery connections, systems management, and Internet access. OS/2 also integrates one of the best TCP/IP stacks available, an important element in meeting growing network-centric computing demands.

Graphical Interface Simplifies Operations

In late 1993, Netstal selected OS/2 and began the process of porting all eight executable files in its application to the new platform. These executable files

ranged from the autoprogramming used to start a Netstal machine to the functions that govern communication with the host computer and with the machine itself. The Netstal team also started redesigning the application to prepare for the transition from pure text information to a graphical user interface.

Using the Presentation Manager® feature of OS/2, Netstal completely overhauled the look-and-feel of its operator interface to enable key data to be represented in easy-to-understand chart and graph formats. Instead of the raw numbers previously used to report the different variables that must be tracked during the plastic injection process, for example, set points are now plotted on a graph. One line shows the variables as programmed and another shows the machine's actual performance for easy comparison.

Remote Connectivity Enhances Service Capabilities

Netstal's new GUI has proved to be a boon for its customers, and so has OS/2's TCP/IP connectivity. Customers who are having difficulty performing a particular operation can now ask a member of Netstal's troubleshooting team to connect remotely, diagnose the problem, and prescribe a solution. In addition, Netstal customers with multiple plants now have the power to monitor all the machines in their enterprise from a single administrator console via TCP/IP.

In the near future, Netstal expects to take advantage of OS/2's Unicode support to offer operator interfaces to non-European customers in their native languages. By providing a universal 16-bit encoding for the scripts of the world's principal languages, Unicode will enable Netstal to deliver its systems in any language while having to maintain and inventory only one version of OS/2.

"We moved to OS/2 for its GUI capabilities, but we have discovered that it is state-of-the-art in every other way as well," Probst states. "We shipped almost 500 machines with OS/2 in the first year, and none of those customers has ever reported a crash or a black screen. That alone shows that we made the right decision." Probst adds, "We expect to sell at least 800 machines this year, and every one of them will have an OS/2 operating system. It is now our standard." 🖱️

For more information

Visit www.ibm.com/software/os/warp

Visit www.netstal.com





Java for e-business

IBM Application Framework integrates support for Enterprise JavaBeans components

The Enterprise JavaBeans™ specification provides a powerful development tool that can greatly improve the efficiency of developing multitier, distributed, scalable, and object-oriented Java™ applications. Because the Enterprise JavaBeans specification provides the framework for creating reusable business logic components without regard to system infrastructure or deployment location, developers can concentrate on solving business problems instead of worrying about re-inventing the server infrastructure for every new project.

As a result, developers can use this framework to create components that represent specific, well-defined functions. The interfaces to these components can then be used by other developers, who can combine multiple components to create complete, operating system-independent applications.

Today, Enterprise JavaBeans components are an increasingly important part of the common programming model. In fact, Enterprise JavaBeans components are supported throughout the IBM Application Framework for e-business family of Web server and middleware products—giving developers the tools to quickly build and deploy dependable Web applications that can easily be updated. Read on to learn how the following IBM products support Enterprise JavaBeans components.

Component Broker Connector

Component Broker Connector (CBCConnector) and the supporting Component Broker Toolkit (CBToolkit) are innovative new middleware and application development technologies from IBM. Component Broker—an enterprise solution for distributed object computing—provides a scalable, manageable runtime environment for developing and deploying distributed component-based solutions.

Component Broker will support Enterprise JavaBeans components with no changes to the source code. In fact, because Java code is “write once, run anywhere,” existing Enterprise JavaBeans components do not even need to be recompiled. They will receive the same quality of service as components written directly to the Component Broker APIs.

TXSeries

TXSeries™ is the IBM transactional middleware solution for UNIX® and Windows NT platforms. It enables developers to build integrated, cross-enterprise, mission-critical,

and transactional applications. TXSeries offers a choice of two industry-leading transaction monitors and multiple programming models—including CICS®, Encina®, and CORBA™-based solutions—for developing, deploying, and managing applications.

The portability of Enterprise JavaBeans components and the commonality of development tools help accelerate the application development cycle, enabling developers to more fully realize the benefits of their existing applications in order to exploit new business opportunities.

CICS Transaction Server for OS/390

The CICS TP monitor provides the high-scale enterprise application platform for mission-critical business applications across Fortune 2000 companies and their international peers. CICS provides a comprehensive range of Java support on both client and server platforms, including:

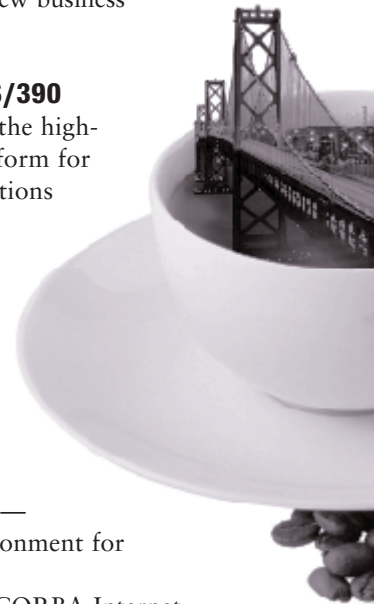
- **CICS Java Gateway**—enables Java applets/servlets to invoke CICS server applications
- **CICS Java Foundation Classes**—provides a programming environment for Java applications
- **CICS ORB support**—enables CORBA Internet Intra-ORB Protocol (IIOP) connectivity from clients to servers
- **CICS EJB support**—includes future support for the Enterprise JavaBeans component model on the server

DB2 Universal Database

DB2® Universal Database™ will continue to build on its existing Java technology to support Enterprise JavaBeans components. In keeping with IBM's overall commitment to Java technology as an industry-standard, cross-platform technology for application development and deployment, the DB2 Universal Database will eventually be an Enterprise JavaBeans server.

IMS

IBM is expanding IMS™ into the world of Java programming with both existing and future offerings. New enhancements include class libraries and JavaBeans




components to access IMS. In addition, IMS will leverage the latest technologies, such as the Enterprise JavaBeans server environment, by providing support for Enterprise JavaBeans components.

MQSeries

MQSeries® messaging software makes it easier and simpler to develop and integrate a new generation of e-business applications. MQSeries already provides interfaces to enable both client- and server-side Java programming. These interfaces will be enhanced to integrate them with the Enterprise JavaBeans programming model. This design will enable an Enterprise JavaBeans developer to access the full power of MQSeries and its applications from within an Enterprise JavaBeans server environment.

Component Framework: San Francisco



San Francisco™ is the industry's first attempt to use Java components to build multiplatform, customizable enterprise applications from ready-built frameworks. The San Francisco project provides Java building blocks for business processes such as general ledger, sales order processing, inventory management, and product distribution. In addition, San Francisco provides software developers with application foundations to help them focus on target markets and customers.

The San Francisco components—which can easily be imported into development tools from IBM and other vendors—provide the

framework to rapidly develop Java-based business applications.

These components will conform to the Enterprise JavaBeans specification.

Development Tools: IBM VisualAge for Java and IBM VisualAge Generator

IBM VisualAge® for Java enables teams of developers to create Java applications for the enterprise and deploy them on a variety of IBM and non-IBM server platforms. VisualAge for Java already supports the distribution of applications via JavaBeans components. The VisualAge for Java Enterprise Access Builders extend host-based data, transactions, and applications to help developers create distributed e-business applications. As the Enterprise JavaBeans specification evolves, VisualAge for Java will support the standard.

A ROADMAP TO E-BUSINESS SUCCESS

e-business is more than just a buzzword for the future—it is an opportunity that is growing by the day. However, e-business requires the development of applications for the multivendor, multiplatform environments associated with the Internet. Today, the IBM Application Framework for e-business can provide a highly effective way to integrate your enterprise into this cross-platform world. For instance, the framework is an entire approach for using and creating e-business applications that are:

- **Standards-based.** IBM believes in open standards (Java, XML, AIX, CORBA, and TCP/IP) instead of proprietary ones, and a cross-platform approach (Windows NT, Linux®, UNIX, OS/400®, and OS/390™).
- **Server-centric.** The framework centralizes development so you do not spend all your time upgrading and deploying applications.
- **Scalable.** To keep up with the explosion of e-business in the last few years, the framework has a built-in plan for growth.
- **Able to use existing systems.** The framework leverages what you already have to accelerate the development and deployment of new applications.
- **Sellable.** The market is ready for more e-business applications, and the framework helps you develop the types of solutions your customers will want to buy.

To make all this happen, the framework includes development tools and components; application servers and integration software; and secure network and management software. For more information about the IBM Application Framework for e-business, visit www.ibm.com/software/ebusiness.

IBM VisualAge Generator is an extremely powerful high-end application development solution that runs in a variety of environments. Using VisualAge Generator, developers can define, test, and generate GUI clients, server programs, and single-system applications. In this way, VisualAge Generator meets the needs of today's enterprises that are implementing second-generation client/server applications for online transaction processing environments.

Be sure to watch for future announcements from IBM about additional solutions that leverage the benefits of Enterprise JavaBeans components as the specification continues to evolve. 🖱️

For more information

Visit www.ibm.com/developer/java





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than a decade. Shortly after its installation in Memphis, the IBM Firewall barred entry to a pornographic site in Denmark that was knocking on the school district's door, and it has regularly thwarted access by other unauthorized users ever since.

The IBM SecureWay Firewall enables secure e-business by controlling all communications to and from the Internet. Unlike most other firewalls, the IBM Firewall contains all three critical firewall architectures—filtering, proxy, and circuit level gateway—to provide high levels of security and flexibility. In addition, the IBM Firewall:

- Proactively scans the network to detect potential security exposures and disables unsafe applications
- Includes VPN support based on the IPSec standard, as well as the Security Dynamics ACE Server®
- Provides real-time performance statistics and log monitoring

IBM Firewall Provides the First Line of Defense

Today, with the school district in the midst of a major infrastructure upgrade that will enable all of its schools to access the Internet via a new ATM fiber network, the IBM

Firewall has become the district's first line of defense against outside interlopers.

According to Betty Stanley, network and technical services manager for the school district, "We see the IBM Firewall as the best measure we can take to protect our students and our enterprise data, which ranges from student grades and test scores to personnel records." She adds, "The IBM Firewall was easy to implement, has proved to be very stable, and is a strategic piece of our present and future infrastructure."

The Co-NECT Connection Accelerates the Technology Upgrade

With nearly 180 schools, 20 alternative learning centers, and 120,000 students, Memphis City Schools is the 19th largest school district in the country, and it has recently made impressive gains in its struggle against the special challenges that face every urban school system. Under the leadership of Superintendent Gerry House, the district has implemented a variety of comprehensive school reform models that have led to measurable increases in student achievement over the past few years.





One of the first reform models adopted was the Co-NECT system, a New American Schools initiative that fully integrates technology into the curriculum to enrich and extend teaching and learning. This reform model required an Internet connection both to equip teachers and administrators with e-mail and to link them to a Web-based source of tools, templates, and curriculum ideas provided by the program.

With Co-NECT as the catalyst, the district decided to wire 100 workstations at the district's Teaching and Learning Academy and nearly 500 workstations at the administration center for research and e-mail purposes. The district's T1 connection went live in 1996, and the IBM Firewall immediately went to work.

The School District Survives a Few Close Calls

Initially after the installation, Buddy Morton, the school district's Webmaster, checked the log created by the firewall every morning to determine whether any would-be visitors had been turned away. When he discovered the attempted intrusion by the Scandinavian pornographic site, he breathed a sigh of relief that the software had done its job and e-mailed a cease-and-desist request.

No would-be X-rated trespassers have been detected since then, but there have been occasional individuals whose requests for entry have been denied. Although those

requests might have been innocent contacts, they have given Morton unsettling visions of the incident in the movie *War Games* in which the protagonist hacks into the school computer to change his and his girlfriend's grades.

"Without a firewall," Morton explains, "we run the risk that someone will try to alter their own grades, change the grades or salaries of someone they don't like, pry into special education files or disciplinary records, 'spam' our employees via e-mail, or even reroute a student from a legitimate Web site to a URL with inappropriate material. Those are risks that we cannot afford to take."

Security Stems from District-Wide Protection

Addressing these complex security needs, the district's new ATM fiber network will extend the protection of the IBM Firewall to every school in the district. Partially funded by the federal government's E-Rate program that provides technology assistance to the country's neediest schools, the new system is designed to improve connectivity throughout the school district and beyond. The system will consolidate a 9.6 multidrop network that connects each school to the administrative applications in the district's SNA-based mainframe. It will also connect an enterprise T1 link that took the first workstations in the district onto the information superhighway and an ISDN network that was installed in a number of schools by the Tennessee Department of Education.

The plan is to fully integrate the district's diverse data networks, including Internet, e-mail, and enterprise server access. In addition, a new voice, data, and video network has been designed to bring telephones to every classroom, permit video-based distance learning, and enable administrators in different buildings to communicate via videoconference. The eventual goal is to have six network drops in every classroom and ten drops in every library.

"We had grave concerns when we first moved onto the Internet about what our students would be exposed to and what we could do to limit that," Stanley explains. "Even with our Acceptable Use Policy and URL blocking system, we know it is difficult to have 100 percent control over what our students try to access when they surf the Internet from inside the district. But the IBM Firewall does protect students from unsolicited access from the outside world. It keeps hackers at bay, and we believe that is an essential requirement for any school environment." 🖱

For more information

Visit www.ibm.com/software/security/firewall





A Better Connection for e-business

Sterling Commerce now supports IBM SecureWay Communications Server software with CONNECT:Direct

IBM Business Partner Sterling Commerce® has recently updated CONNECT:Direct®—a high-performance file exchange solution for business-critical data—to provide integrated support for IBM SecureWay Communications Server for Windows NT. Offering a full range of e-commerce solutions to over 45,000 customers worldwide, Sterling Commerce helps businesses leverage multiple technologies to enable, manage, and service a variety of e-commerce business communities and systems. These e-commerce solutions range from the secure movement and management of business information over Internet protocols, to the Web enablement of existing systems, to the management of Web-based communities.

Sterling Commerce's extended portfolio of products addresses extranet management, business process integration, community management, communications infrastructure, and outsourcing. In particular, CONNECT:Direct provides a secure, reliable method for managing the exchange of data between mission-critical applications running on diverse operating environments—automating the movement of data from application to application regardless of the underlying operating system.

CONNECT:Direct Helps Bridge TCP/IP and SNA Environments

Working with IBM SecureWay Communications Server for Windows NT, CONNECT:Direct can now exchange data with IBM high-end servers that use the SNA protocol. This approach gives businesses a way to connect



legacy applications residing in the mainframe environment with the more open TCP/IP protocol. The support of SNA via IBM SecureWay Communications Server gives CONNECT:Direct an easy way to extend the advantages of TCP/IP to the SNA environment. As a result, businesses no longer need to dramatically transform their existing environments in order to take advantage of the Internet and e-business practices.

Enabling the exchange of data from outside sources through an open system gateway, businesses can also retain the control and integrity they are accustomed to




IBM SECUREWAY COMMUNICATIONS SERVER FOR WINDOWS NT AT A GLANCE

IBM SecureWay Communications Server for Windows NT (CS for Windows NT) is designed to meet the challenge of dynamic business environments by providing Internet and intranet solutions that enable companies to take advantage of network computing advances—such as information access, electronic commerce, and collaboration. A Web-to-host solution designed to address the unique characteristics of the Internet, CS for Windows NT provides enhanced AS/400® integration, improved system availability with load balancing and hot standby features, enhanced security support, and simplified configuration and management.

With CS for Windows NT, applications are chosen based on business need—not on network type. As a result, CS for Windows NT provides true networking for interconnecting people and applications, even when platforms and network configurations are diverse.

with their legacy systems. For instance, with the versatile communications support for both TCP/IP and SNA within CONNECT:Direct, data can first be transferred from outside sources using the Internet (TCP/IP) and then automatically transferred to legacy systems via SNA. All of this is accomplished automatically through predefined processes within CONNECT:Direct.

IBM and Sterling Commerce Present e-commerce Seminar

To explain the benefits of these leading-edge software offerings and to help raise awareness of real-world e-commerce success stories, IBM and Sterling Commerce recently sponsored a multi-city seminar highlighting trends in e-commerce. The half-day seminar was designed to educate IS management on the benefits of e-commerce, and featured Tom Oleson, research director at International Data Corporation (IDC™). Oleson presented the components of e-commerce, market trends, and examples of the returns being realized by companies that have implemented successful e-commerce strategies. In addition, representatives from IBM and Sterling Commerce discussed methods currently being used by companies to extend key business processes to e-commerce communities. 



For more information

Visit www.sterlingcommerce.com
Visit www.ibm.com/software/network/commsserver

Q: *How do I install the SecurID® client on the IBM Firewall?*

A: The SecurID client is built into the Firewall, so you do not need to install it separately. However, you do need to copy the `sdconf.rec` file from the ACE Server into the `/var/ace` directory. For more information, refer to the *Security Dynamics ACE/Server Installation Guide*.

Q: *How do I configure the IBM Firewall for MTU negotiation between different LAN types?*

A: If you deploy different types of LANs, you might need to configure a rule for Maximum Transmission Unit (MTU) negotiation on your firewall. IBM has screened subnet firewall architecture with an external network (representing the Internet), a perimeter network (a “DMZ”), and an internal network (intranet).

The perimeter network is Ethernet, and the internal network is Token Ring. Maximum sizes of data fields in Ethernet and Token-Ring packets differ, with Token-Ring maximum size data fields being larger.

When a DB2 or SAP™ client (or a Tivoli-managed node) running on a Windows NT server in the perimeter (Ethernet) network requests data from the corresponding server in the internal (Token-Ring) network, the request might not be successful. This is because Windows NT servers do not allow fragmentation. Instead, you must configure the firewall adapter interface to the perimeter network for MTU negotiation between that interface and the Windows NT server(s) in the perimeter network.

For a list of links to other IBM technical support sites, visit www.ibm.com/support/tcp/links.html.

You can access some other useful non-IBM support sites at www.ibm.com/support/tcp/summer99/hotsites.html.

A Powerful Networking Pact

Cisco and IBM enter into a new technology, networking, and strategic services alliance

IBM and Cisco® Systems, Inc. recently formed a strategic global alliance designed to help both companies provide more powerful and flexible combinations of networking solutions, technologies, and services to businesses and service providers worldwide. Read on to learn about the details of the alliance.

Q: What has been announced?

A: IBM and Cisco Systems have announced a \$2 billion (U.S.) technology agreement, a strategic alliance with IBM Global Services, and the acquisition by Cisco of portions of IBM's networking intellectual property.

Q: Why are IBM and Cisco forming this alliance now?

A: By leveraging each company's core strengths, this alliance will enable IBM and Cisco to develop and deliver solutions that greatly enhance network and systems performance. Companies that are becoming e-businesses demand higher levels of security, availability, and application performance. IBM and Cisco will collaborate in areas such as business policy management to develop powerful infrastructures that speed the deployment of e-business capabilities and provide these higher levels of service.

One of the primary goals of this partnership is to provide companies with greater flexibility in developing mid- to long-term networking strategies through an expanded product portfolio. In addition, the partnership is designed to help companies quickly and easily implement next-generation networks through a combination of new services.

Q: What exactly does this announcement include?

A: The announcement includes three main areas:

1. An agreement by Cisco to purchase \$2 billion (U.S.) in IBM technology over the next five years. This is consistent with IBM's increased focus on supplying technology to the communications industry.

2. The acquisition by Cisco of routing and switching intellectual property from IBM's Networking Hardware Division. IBM will continue to offer and support SNA solutions, Token-Ring solutions, and Ethernet adapters. IBM will also continue to sell router and switch products to existing customers, and will continue to support and maintain those products as usual. IBM's Networking Hardware Division will gradually phase out new development and marketing of router and switch products. However, it will

work closely with Cisco to develop network evolution scenarios that will enable current IBM customers to add Cisco products to existing networks. To facilitate a smooth transition, Cisco and IBM will establish a joint project office and create interoperability labs for testing.

3. A strategic alliance between IBM Global Services and Cisco. The two companies will offer a full spectrum of services and jointly developed solutions for companies' e-business and networking needs. Cisco customers worldwide will also have greater ability to use IBM Global Services to support their Cisco products.



Q: Does this mean that IBM is exiting the networking hardware business?

A: No. IBM will continue to offer and support its SNA and Token-Ring solutions, and Ethernet adapters through worldwide sales and distribution channels. IBM will also continue to sell routing and switching products to customers currently rolling them out, and will provide ongoing support to those customers for the full length of existing contracts. 🖱️

For more information

Visit www.ibm.com/networking
Visit www.cisco.com



Upcoming Events

Computer Security Conference & Exhibition

Washington, DC
November 15-17, 1999
www.gocsi.com

COMDEX®/Fall '99

Las Vegas, NV
November 15-19, 1999
www.comdex.com

NetWorld + Interop® Sydney

Sydney, Australia
November 15-19, 1999
www.interop.com.au

Java Business

New York, NY
December 7-9, 1999
www.zdstudios.com/jbc/newyork99



e-business Conference and Expo

New York, NY
December 14-16, 1999
www.ebusinessexpo.com

RSA Data Security Conference

San Jose, CA
January 16-20, 2000
www.rsa.com/rsa2000

ComNet

Washington, DC
January 25-27, 2000
www.comnetexpo.com

LinuxWorld

New York, NY
February 1-4, 2000
www.linuxworldexpo.com

Internet World Canada

Toronto
February 7-10, 2000
events.internet.com/canada2000

CeBIT™

Hannover, Germany
February 24-March 1, 2000
www.cebit.de

Internet & Electronic Commerce Conference & Exposition (IEC)

New York, NY
February 29-March 2, 2000
www.iec-expo.com

SHARE Technical Conference

Anaheim, CA
March 5-10, 2000
www.share.org

COMMON

San Diego, CA
March 12-17, 2000
www.common.org

Software Development 2000 West

San Jose, CA
March 19-24, 2000
www.sdexpo.com

Spring Internet World

Los Angeles, CA
April 3-7, 2000
events.internet.com

Entrust SecureSummit 2000

Dallas, TX
May 1-4, 2000
securesummit2000.entrust.com

NetWorld + Interop

Las Vegas, NV
May 8-12, 2000
www.interop.com



JavaOne

San Francisco, CA
June 5-8, 2000
java.sun.com/javaone



NetWorld + Interop Tokyo

Tokyo, Japan
June 5-9, 2000
www.sbforums.co.jp/ni2000

e-business Conference and Expo

San Jose, CA
June 13-15, 2000
www.ebusinessexpo.com

SHARE Technical Conference

Boston, MA
July 23-28, 2000
www.share.org

NetWorld + Interop Singapore

Singapore
August 14-18, 2000
www.interop.com.sg

Networking Solutions Technical Conference (NSTC)

New Orleans, LA
September 11-15, 2000
www.ibm.com/services/learning/conf/nstc2000

NetWorld + Interop

Atlanta, GA
September 25-29, 2000
www.interop.com

COMMON

Baltimore, MD
October 22-27, 2000
www.common.org

This is a list of selected conferences and trade shows of potential interest to SecureWay Connection readers. The information listed here is subject to change, and IBM makes no claims as to the value of these events. To list an event that is not shown here, send e-mail to secure@us.ibm.com.

IBM Bolsters Its SecureWay Offerings

DASCOM acquisition includes advanced access control technology

To strengthen its leadership position in e-business and security solutions, IBM has acquired DASCOM™, Inc., an industry leader in Web-based and enterprise security technology. The acquisition will enable IBM to leverage DASCOM's access control technology portfolio and expertise in Internet and intranet security.

Having pioneered the concept of access control and centralized authorization services for network applications, DASCOM technologies are already helping companies safely connect their systems to the Web while securing both internal and external transactions. Combining this innovative technology with IBM's leading-edge SecureWay product line will ultimately provide even more flexible and powerful security solutions to help companies protect their electronic assets as they move to develop closer online relationships with their customers.

Technology from DASCOM's flagship product for enterprise and Web-based access control and authorization—IntraVerse™—is now available as part of IBM SecureWay Policy Director and SecureWay FirstSecure, an integrated security solution for e-business. DASCOM will operate as a wholly owned subsidiary of IBM.

For More Information

Visit www.ibm.com/software/security



SecureWay Connection

IBM Network Technology Marketing
Department CLJA/501, P.O. Box 12195
Research Triangle Park, NC 27709 USA



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