FEBRUARY 1999

SecureWay Connection

THE IBM NETWORK COMPUTING SOFTWARE NEWSLETTER

iT-AUSTRIA Banks on HPR

iT-AUSTRIA reduces complexity and grows its business with IBM eNetwork software solutions

INSIDE

Located in Vienna, iT-AUSTRIA is the data processing outsourcing subsidiary of two major financial groups: the Bank Austria/Creditanstalt Group and Erste Bank & the Austrian Savings Banks. The 670-person computer staff at iT-AUSTRIA designs, maintains, and operates the systems that deliver around-the-clock online services to locations all over Austria—managing approximately 13.6 million accounts. iT-AUSTRIA provides these services to the customers and combined 38,500 employees of the two financial groups.

Beginning in 1995, the network strategy at iT-AUSTRIA was driven by three major business imperatives:

- Support aggressive business growth
- Maintain high availability of online services
- Maintain high productivity of IT staff

With the emergence of IBM networking products supporting Advanced Peer-to-Peer Networking® (APPN®) and High-Performance Routing (HPR), iT-AUSTRIA realized that these new technologies could provide the solutions it needed to support its major business imperatives. Thus, iT-Austria decided to gradually implement APPN/HPR into the network, starting with IBM eNetwork™ Software such as the Communications Server for OS/390™.

A Solid Technology Foundation

iT-AUSTRIA currently operates 12 data centers in and around Vienna, seven of which are linked with high-speed, dark-fiber connections. The data centers run IBM OS/390 on 18 production, two development, and three test systems, totaling 2,117 million instructions per second (MIPS) of central

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An e-business Solution Tailored to Your Needs

iT-AUSTRIA (featured in this issue's cover story) is the IT subsidiary for two major banks in Austria. Time Warner Cable (see page 4) provides cable television service to 12 million subscribers in the United States. Although one company helps ensure that your financial transactions go smoothly and the other helps you relax with a classic movie, these very different enterprises have something in common: both are using IBM security and networking solutions to extend the range of their businesses.

Both iT-AUSTRIA and Time Warner Cable came to IBM with special e-business requirements. iT-AUSTRIA needed a high-volume, high-availability system that would support aggressive growth. Time Warner Cable needed a wireless solution that would improve its technicians' on-time service record. Today, both companies are excelling with IBM solutions that have effectively met their requirements.

We've featured a variety of customer success stories in recent issues—in such diverse industries as manufacturing, transportation, Internet services, and government. In fact, IBM's security and networking solutions are being used throughout the insurance, utility, publishing, telecommunications, airline, health care, petroleum, law-enforcement, retail, and other industries.

We've catalogued several of these success stories for you at *http://www.software.ibm.com/network/casestudies/*. The enterprises you'll read about have found that IBM provides the right solutions for their e-business needs. Without a doubt, some of these enterprises have a great deal in common with yours.

Even though we've served thousands of customers in dozens of industries, we know that you don't want a solution that works for someone else. You want the solution that will help you seize the opportunities and meet the challenges that are unique to your business. That's why IBM offers a wide range of custom services to help you select and build the solution that's exactly right for you. For more information, visit *http://www.software.ibm.com/network/services/*.

No matter what kind of business you're in—no matter whether you compete globally or locally—IBM's solutions are powerful and flexible enough to meet your particular e-business needs. Even if they are needs that no one else has.

Larry Kunz

Larry Kunz
Editor, *SecureWay Connection*

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Volume 1, Issue 1

A Secure Network Platform from IBM

From talking with our customers and business partners, I know that many of you are embracing the concept of e-business. You're getting the message that e-business—combining the power of your information technology systems with the broad reach of the Internet—can open up a world of new opportunities and help keep your business ahead of the competition.

As your interest in e-business grows, however, many of you are also expressing a keen interest in security. Security plays a major role in e-business. Digital signatures, for example, have helped make many kinds of electronic transactions possible, and more opportunities will continue to arise as new security technologies emerge.

Security is much more than just digital signatures, of course. Security is important to you because your business, as it evolves into an e-business, has to be absolutely safe from unwanted intrusion. As soon as a computer links to the Internet or even to intranets and extranets, it becomes visible to a wide audience and vulnerable to certain risks. As a result, you need security solutions that protect your business assets while helping you grow and move ahead. You need them, and IBM is the leader in delivering them.

Security has always been tightly woven into IBM's e-business solutions, and many IBM customers are using secure e-business solutions today. For instance, Internet Operations Center (IOC), a leading Internet technology company located in Southfield, Michigan, uses IBM solutions to provide VPN and other secure network technology that helps its customers become successful, secure e-businesses. For the full story about IOC, see the last issue of *eNetwork Connection* (November 1998).

Security is one of the three pillars of a secure framework for e-business:

- ***Locate***—Development and integration tools, like our SecureWay Network Directory offering
- ***Connect***—Application server software, like our On-Demand Server, Host On-Demand, and Communications Server products
- ***Secure***—Integrated elements for securing and managing the network, like our Firewall offering and public key infrastructure (PKI) technology as well as the IBM FirstSecure Integrated Solutions

Together, these integrated pillars represent the IBM **Secure Network Platform**, which offers a complete end-to-end infrastructure for e-business networks. Our solutions are policy-based, integrated, and comprehensive—and they can protect your entire network from one end to the other. We offer centralized security management and a secure environment in which you can develop applications for rapid deployment.

The Secure Network Platform, a key element within the Application Framework for e-business, enables you to minimize the risks and take advantage of exciting new opportunities. We think IBM offers the best, most comprehensive e-business strategy in the industry, and we'll be enhancing it in the future. Keep watching us, and keep looking to IBM—the leader in e-business solutions.

Ed Harbour
IBM Director, Business Line Management, eNetwork Software

INTRODUCING THE SECURE NETWORK PLATFORM

The Secure Network Platform, a point of integration for three network functions, enables fast and easy implementation of Web-based technologies and applications, thereby connecting customers, employees, and business partners with the information and services they need. The *locate* function provides the directory structure to identify available resources—both applications and data sets—and stores information about users, their preferences, and the groups with which they are associated. The *connect* function utilizes the information stored in the directory to determine the appropriate IP connection and the type of application a user will require. The *secure* function protects the network and application from unauthorized usage, detects intruders and viruses, and directs user application access control.

The Secure Network Platform is available in a self-contained "thin-server" model or as an add-on module that plugs into existing LAN and Web servers, turning them into full-function secure networks. This simple access server is a modular network node that can be placed in branch offices, data centers, and campus connectivity closets, or used as an Internet gateway node. Individual units can be connected together to provide load balancing and fail-over support for high-availability requirements.

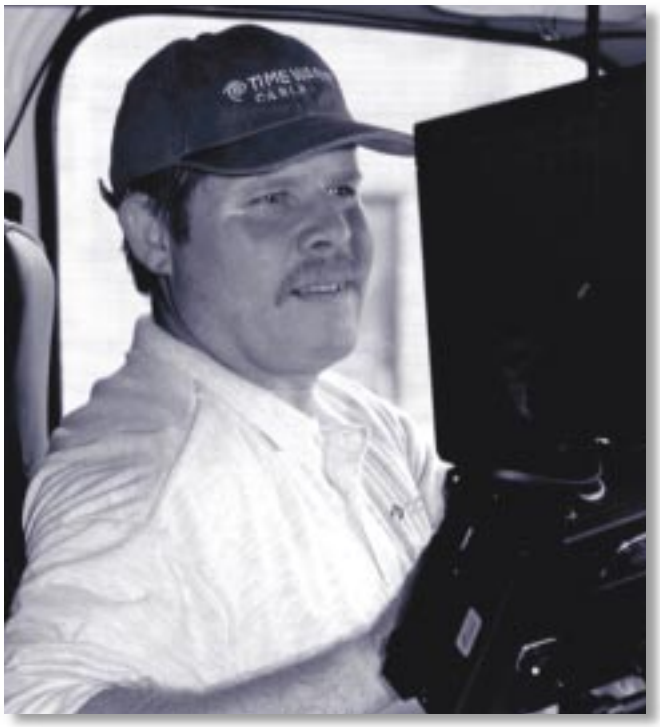
The Cable Guy Shows Up Sooner, Thanks to IBM Software

Time Warner Cable streamlines service calls and improves customer satisfaction with help from IBM eNetwork Wireless Software

Popcorn and soft drink in hand, you settle onto the sofa to watch your favorite television show when suddenly the cable goes out. A line problem, defective converter box, or some other mysterious malfunction has wiped out the picture. Whatever the cause, you want service restored—and you want it before you miss another scene.

Time Warner Cable in Raleigh, North Carolina, knows that such interruptions—though they occur only occasionally for its 80,000 customers—require fast responses. Unfortunately, the old, single radio frequency system with which Time Warner Cable service crews communicated was anything but fast. Voice traffic between dispatchers and the approximately 40 mobile repair units typically jammed the frequency. As a result, the company often experienced delays as long as 20 minutes as service technicians tried to get through to dispatchers for work orders, customer data, and other critical information. All that down time meant longer waits for already-anxious customers.

To help alleviate such problems, Time Warner decided to implement an integrated solution from IBM that enables repair crews to use eNetwork Wireless Software and ThinkPad® portable computers to keep in touch with the main office anytime, anywhere. The combination of eNetwork Wireless Software and ThinkPad computers with special modems—wallet-size black boxes, each with a small antenna, attached to the top of the screen—allows technicians to access crucial information from the cable company's existing AS/400® databases in real time. The resulting gains in performance and productivity are so dramatic that Time Warner Cable is deploying the system in three other North Carolina cities: Charlotte, Cary, and Durham.



IBM eNetwork Wireless Software has helped Time Warner cable service technicians handle customer service calls much faster than before.

EXECUTIVE SUMMARY

PROBLEM
Cable company needs a more efficient means of communication between dispatchers and mobile service technicians

SOLUTION
IBM eNetwork Wireless mobile voice and data communication

BENEFIT
Significantly improved response time to service calls

Performance and Productivity Improvements

Time Warner Cable's Raleigh-based service technicians used to start their day by driving to the cable company offices in their own vehicles to pick up work orders and maps. They would then jump into their service trucks and typically arrive at their first customer call between 8:30 and 9:00 A.M. Because the IBM system capabilities enable them to obtain the same work information remotely, technicians now keep their service trucks at home and proceed straight to customers' homes by 8:00 A.M.

A similar productivity boost occurs at the end of the day. Because they no longer need to return to the office to turn in paperwork and park their service trucks, crew members have extra time to help customers. In just a short period of time, the IBM system has produced huge, measurable benefits for Time Warner Cable and its customers:

- A company analysis found that a sample group of 12 technicians completed 2,721 more service calls over a three-month period than in the same time frame a year earlier, when the IBM system was not yet in use.
- Each technician on average resolved 14.5 service calls per day after the IBM system was put in place, compared with just 11.0 before—a 32 percent increase. According to Bob Hermann, plant manager of Time Warner Cable in Raleigh, "It's not necessarily that technicians are working harder. There just isn't as much wasted time."
- In 1996, Time Warner Cable met its goal of responding to every service call by the end of the next day in 88 percent of cases. In 1997, with the IBM system only partially rolled out, the rate improved to 92 percent. The company accomplished this without increasing personnel even though there was a slight increase in the number of service calls. Hermann estimates that the rate today is around 95 percent.
- On-time service records have improved significantly. That not only pleases customers but saves the company the $20 (U.S.) service fee discount it provides when a repairman is late.
- Technicians no longer have to carry bulky maps in their trucks because maps of the entire service area and its cable lines are now stored in a ThinkPad computer and can be recalled for viewing on a resident browser. This reduces the annual cost of map updates by at least $200 (U.S.) per vehicle.

Although Time Warner Cable had examined several alternatives—including a digital radio network—to re-engineer its communication system, it found the IBM products ideal for its needs. IBM eNetwork Wireless Software supports the leading international cellular, wireline, and wireless packet data networks. In addition, the IBM software is specifically designed to extend AS/400 5250 applications (as well as IP, 3270, or Web-based applications in the LAN, WAN, intranet, or Internet) to mobile workers.

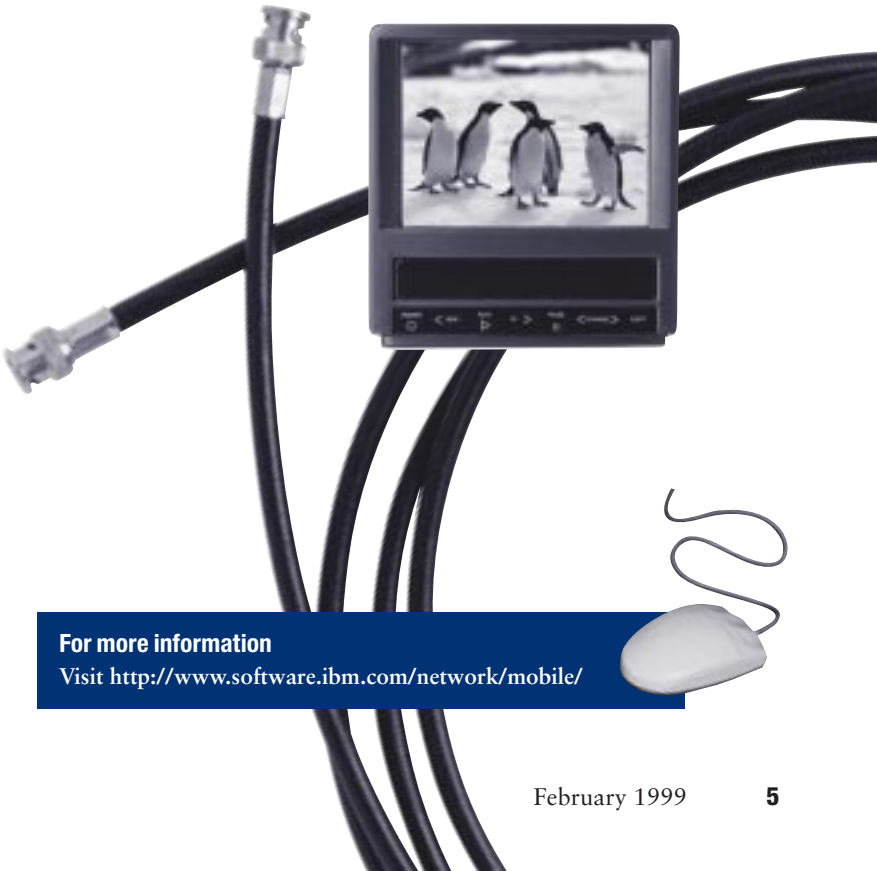
Ryan Hussey, an assistant plant manager at Time Warner Cable, says that onsite training conducted by IBM familiarized service employees with the new system. It helped because IBM eNetwork Wireless Software enables applications to work with familiar screens and commands—the same as those used in the office. Hussey notes, "Most of our people have grabbed this with both hands and run with it."

THE FUTURE IS MOBILE

Mobile and wireless experts predict that the percentage of worldwide information technology budgets allocated to supporting mobile and remote users will grow from less than five percent in 1996 to 30 percent in 2001, according to the Gartner Group®. If you're interested in increasing your company's future growth through mobile technology, you should consider the IBM eNetwork Software mobile solution. It can extend the reach of your enterprise to mobile workers, significantly increasing the timeliness and availability of information with minimal capital investment or modifications to your existing systems.

In this way, the IBM eNetwork Software mobile solution can provide a fast, cost-effective way to mobilize your workforce. For the latest mobile news, solutions, trials, or code, visit *http://www.software.ibm.com/network/mobilesolution/.*

The new system has been so successful that some Time Warner Cable sales representatives in Raleigh are now using it, and maintenance crews—who service the cable company's infrastructure while technicians respond to customer calls—might do so soon. It's even possible that the company's contract cable installers will join in one day as well. Hermann concludes, "This is truly a remarkable project that will continue to benefit our organization for years to come."



For more information
Visit http://www.software.ibm.com/network/mobile/

IBM Sets the Record Straight on HPR

IBM networking experts answer questions about HPR and its industry acceptance

Claims made by a non-IBM source in a recent article—in which network owners were advised to delay deployment of High-Performance Routing (HPR) technology—were a reaction to an IBM submission to the APPN Implementers Workshop (AIW) in September of 1998 for additional improvements to HPR. The article in question contains a number of misstatements about HPR—claiming, for example, that the Adaptive Rate-Based (ARB) congestion-control algorithm is broken, that Enterprise Extender function is not currently available, that companies cannot deploy combined HPR/subarea networks, and that insufficient testing has been done.

In fact, HPR has been generally available for over three years and is already successfully deployed in many company networks. A panel of networking experts from IBM recently addressed the issues raised in the article, and their responses follow.

Q: *Have customers successfully deployed HPR technology in production networks?*

A: A number of large IBM customers have already deployed HPR networks—iT-AUSTRIA (see cover story) and GAD, for example. Another customer spoke at the SHARE conference and at the Networking Systems Technical Conference (NSTC) more than a year ago about its positive experiences with a production HPR network.

Today, companies are migrating SNA networks towards HPR because IBM hardware and software products allow sessions to cross networks that contain a combination of subarea, APPN, and HPR nodes and links. Many configurations—including SNA Network Interconnect (SNI) configurations—enable sessions to traverse subarea networks and then directly utilize HPR nodes and links. In some networks, sessions traverse a combination of APPN, HPR, and subarea connections. And planned future enhancements to OS/390 will allow the routing of SNI traffic directly to HPR-only connections through a gateway VTAM®.

IBM customers are currently using HPR with ARB flow control in high-availability, high-performance networks. As deployment of HPR continues in networks with a wide variety of configurations, data link controls, and new technologies such as Enterprise Extender, IBM is enhancing ARB to better support these evolving environments. In fact, the design of a new algorithm has already been proposed to the AIW.

Q: *What are the facts about ARB congestion control and the proposal that was recently presented at the AIW?*

A: The specific AIW submission is called Responsive Mode ARB. This is an improved algorithm designed to work with Enterprise Extender, the IBM technology that allows HPR data to flow over an IP network. An evolutionary enhancement to HPR, Responsive Mode ARB addresses environments in which SNA and IP share bandwidth on the same backbone. It was developed by IBM with the help of Data Connection Ltd. (DCL), a leading supplier of core system software to major vendors in the networking industry.

Some people have misinterpreted the fact that the AIW did not approve the submission immediately. Historically, it is rare for new proposals to be approved by the AIW on initial submission. AIW rules require a period of time for members to have a reasonable chance to review any new submission for standardization. Proposals that are clearly trivial can get immediate approval. Since the AIW meeting in September of 1998, Responsive Mode ARB has received "Approved Direction" status—the first step on the road to standardization. This means that all AIW members agree on the requirements and on the direction for addressing them.

In addition, Responsive Mode ARB has been thoroughly and successfully tested for interoperability and

performance among Communications Server for both OS/390 and Windows NT®, the IBM 2210 Nways™ Multiprotocol Router, the 2216 Nways Multiaccess Connector, and networking software from DCL. Responsive Mode ARB is included in all of these products as part of the IBM Enterprise Extender function.

Enterprise Extender was shipped disabled with OS/390 Version 2.6 in September 1998, so that IBM could investigate and correct an anomaly discovered during final testing. Because the problem was identified and corrected, a PTF was made available on December 31, 1998—enabling full Enterprise Extender function in OS/390 2.6. Enterprise Extender is already available in the 2210 router, in the 2216 connector, and in Communications Server for Windows NT. To summarize, ARB is not "broken" either in architecture or in IBM product implementations. It is meeting its objectives very well, as is the rest of the Enterprise Extender technology.

Q: ***What testing has been done to ensure the scalability and performance of HPR in large networks?***

A: IBM has tested configurations with a large number of HPR connections, sometimes referred to as RTP connections. For the initial HPR release (VTAM Version 4.3), HPR performance was successfully tested with 1,000 RTP connections. IBM's design and performance group carefully analyzed the behavior of key scalability factors such as CPU utilization, timer support, and storage utilization. They were pleased to find that the behavior for these factors in the HPR tests was very similar to the results of earlier APPN/VTAM tests that successfully benchmarked tens of thousands of connections. The test team concluded that HPR scalability should be on par with that of APPN/VTAM, which is known to be excellent. Moreover, IBM customers are currently running single OS/390 systems that support large numbers of HPR connections in their production environments.

Thus far, HPR has been stress-tested extensively both in IBM's labs and in IBM customers' production environments, with no apparent scaling problems. Current customer experiences—as well as IBM testing and modeling—clearly demonstrate that HPR can improve performance and availability for customer networks today. The current feature set is ideally suited for most customer environments, and new features such as Responsive Mode ARB and Enterprise Extender demonstrate IBM's continued commitment to evolve HPR to additional user environments.

For more information
Visit http://www.software.ibm.com/network/library/whitepapers/white_eextender.html

Establishing Two PCOMM Links on a LAN

Have you ever needed to set up eNetwork Personal Communications (PCOMM) for emulator sessions to two different SNA hosts on a LAN? It's actually very easy. Just follow these steps to learn how.

First, create a PCOMM session for your first SNA host by using the standard PCOMM "wizard" (Configure/LAN 802.2/Configure Link). At the end of the procedure, you will be prompted to save your .ACG file, which contains all the SNA connectivity definitions. You should also save the .WS file with the emulator session definition.

Next, from the running session A, select "Run the Same" to start a second session B to the same host. After this session window is open, select "Configure /LAN 802.2/Configure Link" again to start the SNA configuration wizard. Leave the Local System definitions as they are in the first and second dialogues.

In the LAN Connection dialogue, type in a new link station name to replace the first name. For instance, you could type LINK2ND to replace LINK0000.

Next, change the LAN destination address to the address of your second host gateway.

Press "Advanced," then modify the Block ID/PU ID values to correspond to your definitions on the second host.

That's it. Just be sure to resave your .ACG file again with the updated values. And save your second .WS file with your second emulator session.

SNA and TCP/IP Enterprise Networking Is Now Available from *CyberDigest*

If you ever wanted to know more about SNA, TCP/IP, and a variety of networking strategies, there's a new way to find out all the information you've been looking for. *SNA and TCP/IP Enterprise Networking*—a new book that includes a wealth of background information, guidelines, and tutorials about networking design, implementation, and management—is now available.

If you want to learn more about *SNA and TCP/IP Enterprise Networking* or preview it online, an abridged version of the book is available for free downloading in Adobe Acrobat® PDF format at the *CyberDigest* Web site. To download the book, visit *CyberDigest* at: *http://www.browsebooks.com/Lynch/cyberbook/index.html*.

A Comprehensive Security Solution for e-business

IBM SecureWay Integrated Security Solutions give companies a complete security package to protect their enterprise

As companies continue to discover the benefits of exploiting Web technologies for e-business, they have also realized some corresponding risks. The second a computer links to the Internet or even intranets and extranets, it becomes visible to a wide audience and vulnerable to the hazards associated with broad exposure. As a result, enterprise security today is more than just a characteristic of the e-business environment—it is increasingly a key enabler of e-business.

To help companies preserve the integrity, confidentiality, and invulnerability of information and applications—especially while exploiting the power of the Internet—IBM has developed the SecureWay™ Integrated Security Solutions. This comprehensive e-business security package gives companies a single-vendor offering for all the security software, hardware, and services needed when moving their businesses to the Internet. The complete, single-vendor design improves on the piecemeal or proprietary security product approach by:

- Reducing the complexity of the security implementation
- Simplifying the implementation and enforcement of a security policy
- Minimizing the total cost of secure computing
- Promoting the rapid deployment of secure e-business applications

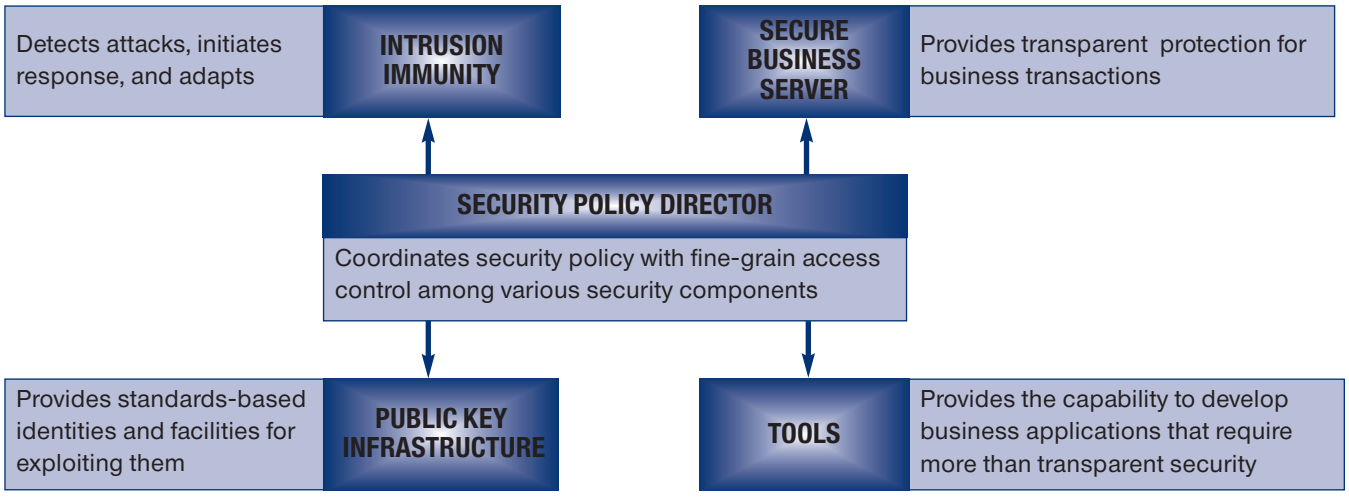
A Safer Path to e-business

The new SecureWay Integrated Security Solutions are policy-based solutions that integrate with the OS/390 and OS/400® security schemes currently protecting enterprise data and transactions. They also accommodate the standard e-business environments—intranets, extranets, and the Internet—while addressing a wide range of critical security issues that companies face:

- Securely deploying e-business applications
- Strengthening the security of existing operations
- Integrating a security solution with a legacy IT environment
- Maximizing the potential of e-business

By addressing all of these needs, SecureWay Integrated Security Solutions can save companies from having to deal with multiple proprietary protocols and policy systems, which require the continual re-evaluation of security schemes and additional investment. Instead, the SecureWay Integrated Security Solutions for e-business unify the security elements into a single, enterprise-wide scheme to provide:

- An integration point for authentication and access control across multiple platforms
- Centralized user-access policy management and enforcement
- Availability to reduce the burdens of security on the computing infrastructure



IBM SecureWay FirstSecure is a policy-based security solution designed to protect all aspects of networking via the Internet.

- Administration systems to centrally manage and coordinate security elements
- A toolkit to integrate and deploy new applications securely within an enterprise

Powerful, Flexible Security Components

The SecureWay Integrated Security Solutions include SecureWay FirstSecure™, Tivoli® User Administration, Tivoli Security Management, and Tivoli ADSM. This combination of functions covers the five high-level security requirements that serve as the conceptual base for IBM's Security Architecture 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

FirstSecure provides a framework to secure all aspects of networking via the Web and other networks. It also enables companies to build on their current investments with modular, interoperable offerings that can reduce the cost of conducting secure e-business. In addition, FirstSecure provides virus protection, access control, traffic content control, intrusion detection, encryption, digital certificates, firewalls, toolkits, as well as implementation and validation services.

Tivoli ADSM provides powerful backup and recovery capabilities. It enhances FirstSecure by addressing the factors that cause denial of service—helping ensure continuous operations for network services and providing the ability to recover lost or penetrated systems.

Tivoli User Administration and Tivoli Security Management help ensure that security mechanisms are being managed efficiently and effectively. These two solutions provide a simplified, single point of control by providing the mechanisms to manage a complex security environment. Available functions address security policy, identities, privileges, and auditing for both users and programs in the UNIX®, Windows NT, OS/390, OS/400, Novell® NetWare®, and Lotus Notes® environments.

Rapid, Secure e-business Deployment

In addition to offering its Integrated Security Solutions, IBM also provides a variety of services to help companies balance risk reduction with security costs. By effectively decreasing risk, reducing complexity, and helping lower the cost of secure computing, IBM SecureWay Integrated Security Solutions can remove many of the barriers that keep companies from fully exploiting the potential of the Internet. As a result, these solutions can help companies deploy powerful Web applications quickly and securely—setting the stage for e-business opportunities today.

IBM LAUNCHES SECUREWAY FIRSTSECURE

One of the core modules of the IBM Integrated Security Solutions is IBM SecureWay FirstSecure, which features powerful policy management capabilities. The key security functions within FirstSecure—intrusion immunity, public key infrastructure, secure business server, and toolkit—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 can optionally interact with a higher level enterprise management control point. Through notifications from and directions to the other parts of FirstSecure, 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 example, if an alert comes in, the policy director records the alert and initiates a response to handle the situation. Depending on the alert, the response could be to shut down access to a particular resource, to reroute access to a data set to obtain more information on the intruder, or to perform a virus sweep on the affected area.

For public key infrastructure, the focus is on certificate authentication, secured communications, and validation of signed policy. For the secure business server, the policy director combines access control with the gateway functions of a firewall and firewall content filters. The policy director also sends out changes to affected areas of the system.

The toolkit, which enables companies to build and deploy secure applications within their enterprise, includes APIs for policy management.

For more information about SecureWay FirstSecure, visit *http://www.software.ibm.com/security/firstsecure.*

For more information
Visit http://www.ibm.com/security

Secure Technology for Web-to-Host Integration

IBM eNetwork Personal Communications Version 4.3 can improve host emulation management and usability

As Web-to-host integration becomes the pervasive model for host access, Personal Communications (PCOMM) Version 4.3 for Windows® 95, Windows 98, and Windows NT can give you an established platform and proven tools to help make the transition easy and cost-effective. This latest version provides all the advantages of PCOMM, such as multiprotocol support, a consistent look-and-feel, easy licensing options, and an open system architecture. In addition, PCOMM 4.3 includes new industry-standard APIs, enhanced application development capabilities, and the latest security features. Such enhancements can play a vital role in providing industry-leading terminal emulation capabilities that can help transform your business into an e-business.

As a key communications client component of the IBM Host Integration Solution for LAN, WAN, and remote access/connectivity, PCOMM 4.3 provides access to applications and data residing on a wide range of small to midrange servers—including Windows NT, OS/400, UNIX, HP™, and Sun®—or enterprise servers such as IBM S/390®.

Improved Development and Management

To help streamline customization and development, PCOMM's new API set enhances traditional EHLLAPI by improving performance and adding industry-standard 32-bit EHLLAPI APIs and WinHLLAPI APIs. Building on PCOMM's leadership in object-oriented programming, the Host Access Class Library (HACL) API—a cross-platform API used for creating graphical user interfaces for existing host applications without requiring changes to those applications—now provides a Java™ programming interface. This technology can make Web-to-host integration much easier and more efficient—while reducing rework and ensuring that your existing applications remain fully functional. In addition, PCOMM includes the same Host Access Beans for Java that are part of Host On-Demand Version 3.

The addition of ActiveX™ Controls and enhancements in VBScript functionality enable you to capitalize on your experience in the Visual Basic® environment and extend your applications to Web-based technologies. With these enhancements, PCOMM 4.3 provides the most comprehensive solution set for component-based customization available today.

PCOMM 4.3 ENHANCEMENTS AT A GLANCE

- **Host Access Beans for Java**—Enable component-based application development that seamlessly integrates into IBM eNetwork Host On-Demand, IBM's solution for Java-based terminal emulation, browser access to host information, and e-business application program support
- **ActiveX Controls**—Created from the function of Host Access Beans for Java, these controls give Visual Basic developers the flexibility of native ActiveX controls plus the benefits of JavaBeans™ technology
- **A Java interface for HACL**—Allows developers to use the popular Java language to program for this industry-leading, object-oriented programming interface
- **Support for the new Euro sign**—Ensures reliable support for the new Euro currency symbol
- **Secure Socket Layer (SSL) 3.0 support**—Provides SSL secure data access in a variety of environments
- **Support for VT340 text and Regis- and Sixel-compliant graphical applications**—Increases application usability and improves productivity for end users and developers
- **Support for Tivoli TME 10**—Enables remote installation and administration of SNA nodes, along with several other management benefits

To simplify network management and administration, PCOMM 4.3 includes the most powerful feature set available in any communications platform. Advanced Tivoli support expands management capabilities to enable open, standards-based networking. Other management enhancements enable users to send problem resolution information to IBM via the Internet.

With all of these advanced enhancements, PCOMM 4.3 can provide a secure, feature-rich platform that helps you concentrate on running your business today and deploy new technologies in the future as soon as you are ready.

For more information
Visit http://www.software.ibm.com/network/pcomm/

A Cross-Platform Directory Server

IBM makes eNetwork LDAP Directory Version 2.1 available on the Web

The advent of e-business has driven the need for easy-to-use, standards-based protocols, communication, and interfaces that can help companies improve access to information residing on the Internet. To succeed, these companies must be able to centrally store, locate, and manage enterprise network and user information in a scalable, secure repository across multiple platforms. IBM first addressed this need with the eNetwork Directory and Security Integration Solution, which uses the eNetwork LDAP Directory as the underlying component to store user, configuration, and security information with great scalability.

Now, IBM has made the eNetwork LDAP Directory Version 2.1 for Windows NT and Sun Solaris® available via a no-charge download from the Web at *http://www.software.ibm.com/network/directory/downloads/enhancements/ldap/*. The new LDAP Directory version—which uses IBM DB2® Universal Database 5.2 as its data storage facility—gives companies a cross-platform directory server that can be the single point of integration for all their e-business solutions. Capable of scaling to tens of million of entries on a single server, the LDAP Directory is ideal for large enterprise networks that require faster information access and management on the Internet.

In addition, IBM plans to integrate its individual middleware products (WebSphere™, Suites for Windows NT, and Tivoli) with LDAP Directory 2.1 throughout 1999. This integration includes new versions of both the IBM Suite and the IBM Enterprise Suite for Windows NT and IBM's WebSphere Application Servers, an integrated product line for building, managing, and deploying Web applications for e-business.

Tivoli Systems plans to release a Technology Preview of the LDAP Connection with Tivoli User Administration 3.6. The Tivoli LDAP Connection provides a method for managing user accounts on any system accessible via LDAP. It can be used for e-mail system integration, integration of native LDAP directories such as IBM's eNetwork LDAP Directory and Netscape Directory Server, and integration of existing directory servers that have an LDAP front-end to access data.

IBM BUSINESS PARTNERS WHO USE IBM ENETWORK LDAP DIRECTORY

The following business partners have joined with IBM to provide applications that will access network-based information more efficiently by using the eNetwork LDAP Directory:

Allot Communications (*www.allot.com*) provides network tools and management applications for managing and enforcing policy-based networks.

DASCOM (*www.dascom.com*) develops scalable intranet authorization solutions that manage access to information on enterprise networks.

enCommerce, Inc. (*www.encommerce.com*) provides enterprise-class Web access management software and services that can dramatically reduce the time and cost of deploying secure content on the Web.

Netegrity, Inc. (*www.netegrity.com*) provides software products and services—including the first directory-enabled access control system—for conducting business on the Web.

Persistent Systems Private Limited (*www.pspl.co.in*) enables database application development over LDAP by offering products and services for enterprise-wide integration of LDAP directories and RDBMS engines.

Security Dynamics (*www.securitydynamics.com*) provides solutions for securing access and protecting information, focusing on user identification and authentication as well as data encryption.

Triangulum Software (*www.triangulum.com*) develops software that gives DCE-based users a wide range of alternatives to the native DCE Cell Directory Services.

For more information
Visit http://www.software.ibm.com/network/directory

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processing power and 8.64 terabytes of disk storage.

The iT-AUSTRIA network includes 391 concentrators that provide data center access to about 5,000 defined SNA physical units (PUs) and 120,000 defined SNA logical units (LUs). Approximately 3,250 PUs and 106,000 LUs are active during peak time.

In 1997, iT-AUSTRIA's production systems processed an average of 9.63 million transactions per day. According to Josef Killmeyer, iT-AUSTRIA team leader in charge of Network Design, Implementation, and Support, "IBM's earlier subarea networking technology had served us very well over the years, but we came to the conclusion that we could no longer afford the time and effort required to manually code and maintain static network definitions during the week, and then apply the changes on weekends." He continues, "We were, therefore, very attracted to IBM APPN/HPR technology, which introduced—among other features—a truly dynamic way of setting up highly reliable network routes at a fraction of the effort required in the past."

EXECUTIVE SUMMARY

PROBLEM
Data processing company needs higher capacity and performance in its network to handle enormous business growth in a 24x7 environment

SOLUTION
IBM Advanced Peer-to-Peer Networking with High-Performance Routing

BENEFIT
Excellent network capacity, reliability, and performance enable flexible growth in a cost-effective manner

A Full Migration to APPN and HPR

All of iT-AUSTRIA's OS/390 host systems have now been fully migrated to APPN and HPR, with five network nodes and 18 end nodes connected using both IBM multipath channel (MPC) and cross-system coupling facility (XCF) technologies. There is also one extended border node connecting two of the data centers over high-speed ESCON® channel links.

"We can see HPR in action with over 600 Rapid Transport Protocol (RTP) pipes operational at peak time," Killmeyer says. iT-AUSTRIA has also started rolling out 10 IBM 2216 Nways Multiaccess Connectors running Nways Multiprotocol Access Services (MAS) Version 3.1 to replace IBM 3172 Nways Interconnect Controllers and IBM 3745 Communications Controllers. This design enables a single platform to connect SNA traffic to the Communications Server for OS/390 and its application systems. Killmeyer explains, "The IBM 2216 connectors were very easy to install: replacing an IBM 3172 with an IBM 2216, including hardware removal and installation and configuration, takes at most one hour. We are very happy and very satisfied with the capacity and performance of our new IBM 2216 connectors."

Noting the many benefits resulting from iT-AUSTRIA's successful implementation of APPN/HPR, Killmeyer regards migration design as key to ensuring a smooth transition, stating, "It is important to design the migration phases (from subarea to APPN/HPR) in the correct sequence. If this is done, then the migration will be straightforward."

A Wide Range of Dynamic Results

With rapidly growing business volumes, iT-AUSTRIA had needed to provide host capacity on demand very

quickly. "Because APPN/HPR makes it so easy to define configurations, we now have both the flexibility and scalability to add, split, or merge any number of application-owning VTAM systems as end nodes, which makes it really easy to support the group's business growth," states Killmeyer. To maintain high availability of online service, HPR now sets up RTP pipes dynamically and on a Class-of-Service basis in a way that guarantees optimal routes. "If a connectivity outage occurs somewhere along a given route, then HPR will automatically and dynamically create an alternate optimal route so that end users will not experience any session outage," Killmeyer adds.

Higher capacity, resilience, and performance are provided through features such as MPC, which allocates multiple read/write subchannels within a single channel connection between APPN/HPR nodes. In addition, the Communications Server for OS/390 feature known as multiple dynamic switched major nodes performs dynamic load balancing of session traffic. This feature also enhances productivity by enabling switched devices (PUs and LUs) to be created dynamically at system startup and to be updated in-flight. As a result, iT-AUSTRIA no longer needs to take down the systems during weekends to apply configuration changes.

Killmeyer states, "Today, we can apply these changes anytime, safely, and with a simple command." In addition, multiple dynamic switched major nodes have helped consolidate and simplify operational scenarios by using the same configuration design for production, backup, and disaster recovery. By combining the use of OS/390 Syscloning, XCF, and APPN/HPR features, iT-AUSTRIA can now add new APPN/HPR end nodes without any subsequent systems programming effort.

A Flexible Plan for the Future

iT-AUSTRIA has already implemented IBM Parallel Sysplex and geoplex, and has planned the following updates:

- The Communications Server for OS/390 generic resources facility, currently running on some production systems, will gradually be propagated to other systems.
- Dependent-LU requester (DLUR), currently under test, will be a first stage towards the planned adoption of multinode persistent sessions. When implemented, DLUR will add between 20 and 40 network nodes to iT-AUSTRIA's current APPN/HPR configuration.
- The IBM 2216 will be implemented as a multiprotocol platform for both SNA and IP traffic using the IBM MPC+ technology to connect to the Communications Server for OS/390 and its application systems.
- MPC+ and XCF will be implemented between all OS/390 systems. MPC+ is already operational on 30 percent of the network.

A Successful Relationship with IBM

The networking team at iT-AUSTRIA has developed an excellent working partnership with IBM over the last few years. In addition to the local support team in Austria, iT-AUSTRIA has also worked closely with the IBM staff in Raleigh, North Carolina, who design and develop the Communications Server for OS/390 product, and with the IBM Installation Support Centre (ISC) at Hursley in the United Kingdom, which provides Product Introduction Programmes for IBM European customers.

"We found the whole IBM team very committed to listening to our technical ideas and business requirements," says Killmeyer. "As a result, the Communications Server for OS/390 designers agreed to enhance their product with support for multiple dynamic switched major nodes and its feature of in-flight updates."

For more information

Visit http://www.software.ibm.com/network/commserver/

EXTEND YOUR DESKTOP MANAGEMENT CAPABILITIES

With IBM eNetwork Host On-Demand 3.01, you can now use eNetwork On-Demand Server to manage Host On-Demand within your overall desktop environment. On-Demand Server is a multiplatform server solution for advanced, centralized deployment and management of Java-based software in a network computing environment.

Host On-Demand Specially Developed for eNetwork On-Demand Server (included with Host On-Demand Version 3) provides all the functions of Host On-Demand while leveraging the On-Demand Server services to:

- Define users and groups and control access to Host On-Demand
- Monitor Host On-Demand license usage across the network
- Record log and trace events
- Enable users to launch Host On-Demand from a Web-enabled desktop

In addition to On-Demand Server support, Host On-Demand 3.01 provides usage counting support. Administrators can keep a count of concurrent Host On-Demand users and determine the highest number of concurrent users in a given time period. Host On-Demand 3.01 also includes support for the silent installation of the Host On-Demand server on Windows NT.

To learn more or to view a Host On-Demand brochure online, visit *http://www.software.ibm.com/network/hostondemand/news/1999/pa_0122.html.*

The Industry Goes Virtual

The IBM-hosted VPN cross-industry workshop draws widespread interest from key industry vendors

IBM recently hosted a cross-industry Virtual Private Network (VPN) interoperability workshop in Binghamton, New York, drawing more than 50 vendors and making it one of the most popular VPN events to date. The workshop was a key step in widely recognizing the benefits of VPN solutions and promoting VPN technology throughout the industry.

VPNs Provide Secure Private Connections Across Public Networks

A VPN is an extension of an enterprise's private intranet across a public network such as the Internet. VPNs securely convey information across the Internet, connecting remote users, branch offices, and business partners/suppliers into an extended corporate network. By replacing leased lines to remote sites with VPNs, companies can significantly reduce their WAN and remote dial-up costs. In this way, VPNs give companies a secure and cost-effective way to extend the reach of their applications and data around the world.

The key to maximizing the value of a VPN is the ability to evolve it as business needs change and to easily upgrade to future TCP/IP technology. Today, the technology to implement VPNs is just becoming standardized, and VPN solutions based on Internet Engineering Task Force (IETF) standards will go a long way toward supporting the full range of VPN scenarios, with more interoperability and expansion capabilities.

Industry Standards Are the Key

In addition to providing a hands-on experience with VPNs, much of the VPN workshop focused on standardization issues. With the support of the California ISDN User's Group, the VPN workshop tested the interoperability levels of IPSecurity, Internet Key Exchange (IKE), and Layer 2 Tunneling Protocol (L2TP). MCI WorldCom™ Advanced Networks provided the setup and support of the workshop network, including the Internet connectivity.

Armando Fratezi, IBM VPN Workshop Coordinator, states, "Our every expectation was exceeded with the participation in this workshop. This week, more than 50 companies—representing more than 60 products and spanning eight countries and three continents—shared in the success of the VPN Interoperability workshop."

Representatives from several standards groups also attended the workshop and were unanimous in their praise of the event. According to Jeff Schiller, IETF Security Co-Area Director, "The IPSEC working group has worked long and hard to make this standard provide real security on the Internet. The IETF is very pleased with this progress. The vendors are to be congratulated."

Bob Moskowitz, International Computer Security Association Senior Technical Director, focusing on the IPSecurity interoperability initiatives, adds, "This workshop illustrates the focus on interoperable network security by the increased number of vendors and the enthusiasm shown in the room. We made a great deal of VPN technological advancements during the week, which will significantly benefit the Automotive Network Exchange and other business VPNs."

For more information

Visit http://www.software.ibm.com/network/technology/vpn/

Upcoming Events

Internet World Asia
Singapore
March 3-5, 1999
http://events.internet.com/

Graphic Communications Association (GCA) XTECH '99
San Jose, CA
March 7-11, 1999
http://www.gca.org/conf/xtech99/xtecindx.htm

COMMON
San Francisco, CA
March 7-12, 1999
http://www.common.org

CeBIT™
Hannover, Germany
March 18-24, 1999
http://www.messe.de/cb99/

Gartner Spring Symposium/ITxpo '99
San Diego, CA
March 22-24, 1999
http://gartner12.gartnerweb.com/public/static/events/main.html

COMDEX®/China '99
Beijing
March 23-26, 1999
http://www.comdex.com

NetWorld + Interop® Singapore
Singapore
April 5-9, 1999
http://www.interop.com

Mobile Data Solutions (MDSI) User Group
Vancouver, Canada
April 11-14, 1999
http://www.mdsi-advantex.com/04ev/0400.html

Spring Internet World
Los Angeles, CA
April 12-16, 1999
http://events.internet.com/

COMDEX/Spring '99
Chicago, IL
April 19-22, 1999
http://www.comdex.com

GCA SGML/XML Europe '99
Granada, Spain
April 26-May 1, 1999
http://www.gca.org/conf/xml/xml_what.htm

Gartner Internet and Electronic Commerce Conference
New York, NY
April 27-29, 1999
http://gartner12.gartnerweb.com/public/static/events/iec6/iec6.html

GUIDE SHARE Europe
OS/390 and Storage Systems Technical Conference
Madrid, Spain
May 3-7 1999
http://www.gse.org/confrenc.htm

NetWorld + Interop
Las Vegas, NV
May 10-14, 1999
http://www.interop.com

Internet World Berlin
Berlin, Germany
May 18-20, 1999
http://events.internet.com/

NetWorld + Interop Tokyo
Tokyo, Japan
June 2-4, 1999
http://www.interop.com

JavaOne
San Francisco, CA
June 15-18, 1999
http://java.sun.com/javaone/

Interactive Enterprise '99
New Orleans, LA
June 8-10, 1999
http://www.training.ibm.com/ibmedu/conf.htm/ie/

PC Expo
New York, NY
June 22-24, 1999
http://www.pcexpo.com/

Networking Solutions Technical Conference
Orlando, FL
August 16-20, 1999
http://www.training.ibm.com/ibmedu/conf.htm/nstc/

SHARE Technical Conference
Chicago, IL
August 22-27, 1999
http://www.share.org

NetWorld + Interop
Atlanta, GA
September 13-17, 1999
http://www.interop.com

Fall Internet World
New York, NY
October 4-8, 1999
http://events.internet.com/

COMDEX/Fall '99
Las Vegas, NV
November 15-19, 1999
http://www.comdex.com

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 enetwork@us.ibm.com.*

A NEW LOOK

SecureWay Connection— for Secure e-business Solutions

You might have noticed that this newsletter looks a lot like *eNetwork Connection*. We gave *eNetwork Connection* a new name because we understand that a total e-business solution encompasses more than networking. The new name—*SecureWay Connection*—reflects our commitment to covering everything you need to enable a secure e-business.

As the new name suggests, we will include a variety of articles about security topics and solutions as they relate to the world of e-business. Rest assured, however, that we will also continue to bring you the same networking information you received from *eNetwork Connection*—information about complete solutions for performing host integration, integrating your mobile workforce, Web publishing, and more.

Along with the new name, we have also updated our look and made some additional changes to make *SecureWay Connection* a valuable resource for you. These changes are designed to help you get the useful, up-to-date information you need to stay one step ahead of the crowd.

If you have any questions or comments about these changes or have any suggestions for us, please feel free to contact me at *enetwork@us.ibm.com*.

Larry Kunz
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