

eNetwork Connection

May 1998



THE IBM NETWORKING SOFTWARE NEWSLETTER

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And More...

J.B. Hunt Transport Loads Up with IBM eNetwork Software



In 1962, Johnnie Bryan Hunt founded the J. B. Hunt Company, beginning one of the most successful and innovative transportation conglomerates in North America: J.B. Hunt Transport Services, Inc. Since that time, the Lowell, Arkansas-based company has evolved from a regional truckload carrier into a diversified transport and logistics company with more than 12,000 employees and yearly revenues of over \$1.5 billion (U.S.).

The largest publicly held truckload carrier in the United States, J.B. Hunt Transport currently has more than 7,000 tractor trucks and 20,000 containers to serve customers throughout North America. The recipient of numerous customer awards for quality and superior service, the company prides itself on setting the industry standard for value, service reliability, and quality. Achieving and maintaining this high standard of service requires J.B. Hunt Transport's IS group to find the most efficient ways to manage its far-flung network of system users.

Personal Communications for Windows NT provides robust, reliable host integration

The IS group supports several company divisions that offer a variety of specialized transportation services including: Automotive, Dedicated Contract Services, Intermodal, International, Intrastate, Logistics Service, Long Haul, Regional, and Substitute Service. According to Chris Pittman, a client engineer for the IS group, "Because we are a transportation company, we have sites scattered all over North America. With over 100 remote networks and 400 users dialing in to our corporate headquarters, we obviously have a lot of communication requirements from remote users who need to connect their PCs to our host systems. That's probably the biggest hurdle we have to overcome."

Continued on page 13

Network Computing Software Brings It All Together

e-business is all about integrating your information network with the Internet to extend the reach of your business. To that end, IBM has developed the network computing framework to help you transform your business into an e-business. The network computing framework helps you connect people to processes and information, yet is flexible enough to leverage your current IT investment and provide a firm foundation for future growth.

If you've read *eNetwork Connection* before, you know that IBM eNetwork™ Software is a key element of the network computing framework. eNetwork Software can be part of a complete e-business solution for your enterprise, working together with technologies and products such as:

- ◆ *Java™*, the cornerstone for many of IBM's e-business solutions, which offers you unprecedented flexibility in developing and deploying applications
- ◆ *WorkSpace On-Demand*, an excellent transition platform for e-business, with which you can move toward network computing and Java while protecting your current IT investment
- ◆ *Secure distributed services*, such as firewalls and Virtual Private Network (VPN) services, which provide the border and security solutions you need to manage intranets and extranets and to provide secure Internet access

So, beginning with this issue of *eNetwork Connection*, you'll see news about some other elements of the network computing framework in addition to the eNetwork Software features you're accustomed to seeing. You'll also find more stories about organizations like yours that are using IBM solutions to build their e-businesses.

Finally, you'll read more about Independent Software Vendors (ISVs) who have built upon IBM products to offer e-business solutions specific to your industry. As Mike Lawrie indicates in his "Executive Viewpoint" article on page 3, IBM is committed to open standards and freedom of choice. We're

pleased that so many ISVs have chosen to partner with us to offer you more choices and opportunities than ever before. To learn more about how IBM eNetwork Software can be a part of your e-business solution, I invite you to visit <http://www.software.ibm.com/enetwork/>. If you have ideas or suggestions about *eNetwork Connection*, you can reach me at enetwork@us.ibm.com.

Larry Kunz


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E-Business Can Give You a Strategic Advantage

If you were to ask me what's been on my mind these days, I would say e-business. IBM is working hard to give you the tools to run your business in a rapidly changing world—whether you're creating a network infrastructure, doing business on the Internet, or developing a Java application that targets a new market niche. Consider the four messages I've been taking to IBM's worldwide sales force:

- ◆ *The computer industry is going through a profound shift that will affect every institution:* small businesses, large businesses, and the private and public sector. We're moving to a world of network computing in which IBM can help you harness Internet technology so you can re-engineer your business processes, and enter and compete in new markets.
- ◆ *IBM offers a clear alternative to our competition.* We have a unique vision of where the industry is going and how technology can be harnessed and deployed to help you manage a new generation of network-enabled applications—such as electronic banking and e-business over the Internet—in heterogeneous, multiplatform environments. Our vision is all about open standards. It's about connecting any device to any server and accessing any information on the network.
- ◆ *IBM has the products, services, and solutions to begin delivering this vision.* Today, you can start deploying the e-business solution that's right for you.
- ◆ *IBM can help you.* This is all about taking everything IBM has learned during the last 30 years—things like scalability, security, and reliability—and combining these capabilities with a new set of technologies loosely defined as Internet or network computing technologies. This will enable you to extend your applications, build new applications, and leverage your current infrastructure investment to help your business grow and prosper.

The value IBM offers is straightforward, helping you answer such questions as: how do you access information from any device, regardless of where it might be located on

the network? How do you do that reliably? How do you do that securely? How do you reduce the cost of managing that environment? How do you extend the enormous investment you've made in applications and infrastructure to this new paradigm? Today, IBM provides tangible solutions in three categories:

- ◆ Java Application Services
- ◆ Network Computing Distributed Capabilities
- ◆ Network Client Management

The Java application model lets you extend existing applications, develop new ones, and run them on multiple platforms. Network Computing Distributed Capabilities let you broaden your existing infrastructure to include the Web—with the security, scalability, and availability that you have today. Directory services keep track of locations within the network, so your users don't have to. Network Client Management manages people, applications, and machines—including devices like kiosks, smart phones, pagers, and more—in a network computing environment.

Keep watching IBM. We've always provided security, reliability, and investment protection. Today, in the age of Java and the Internet, we also provide openness, reach, and flexibility. In the coming months, we'll offer you even more products and solutions for growing your business into an e-business that is open to new markets and new opportunities.

Mike

Mike Lawrie
IBM General Manager, Network Computing Software



Teaming Up for Complete Firewall Solutions

To help you build a complete network security solution, a number of independent software vendors and IBM business partners offer products that complement the IBM eNetwork Firewall, as described below.

ACE SERVER: STRONG TWO-FACTOR USER AUTHENTICATION

The ACE Server™, from Security Dynamics®, helps you make sure that the users accessing your network are really who they say they are—valid network users. The ACE Server works in conjunction with Security Dynamics' patented SecurID® hard token or SoftID® software token technology and ACE Server authentication and security administration software. Together, these products provide a strong, two-factor solution for authenticating the identity of users accessing networked or stand-alone computing resources. The ACE Server is included with the IBM eNetwork Firewall on both AIX® and Windows NT™, along with two SecurID token cards. For more information, visit <http://www.securitydynamics.com>.

MIMESWEEPER: CONTENT MANAGEMENT OF FIREWALL TRAFFIC BASED ON BUSINESS NEEDS

MIMESweeper, a software product from Integralis®, protects network users from the threats buried within Internet and intranet data. It also minimizes productivity loss through inappropriate use of the Web. MIMESweeper is the only content security solution that controls and manages such threats before they reach the network and have an opportunity to compromise your business. This high-performance, server-based software solution works with the IBM eNetwork Firewall to provide transparent, automatic, browser-independent management of content through the firewall. For more information, visit <http://www.mimesweeper.com>.

STALKER: INTRUSION DETECTION AND PROTECTION

Stalker®, a product from Haystack Labs, provides intrusion detection and protection from Internet attacks. Stalker detects and responds to security threats such as system attacks, system exploitation, and other vulnerabilities. Haystack Labs has compiled the world's largest database of UNIX® vulnerabilities and attacks and converted it into a database of misuse signatures. The database is updated as new security problems arise. For more information, visit <http://www.haystack.com>.

TELEMATE.NET: EXTENSIVE REPORTING ON INTERNET/INTRANET ACCESS

TELEMATE.Net™, from TELEMATE® Software, works with the IBM eNetwork Firewall logs to provide extensive reporting on Internet and intranet access—information you can use to reduce costs and improve productivity. TELEMATE.Net has comprehensive features that help IT managers translate massive amounts of abstract Internet data into meaningful business information. By minimizing the abuse of Internet access, TELEMATE.Net can help your organization take full advantage of the benefits of the Internet. For more information, visit <http://www.telemate.com>.

Secure Multiplatform e-Business Solutions

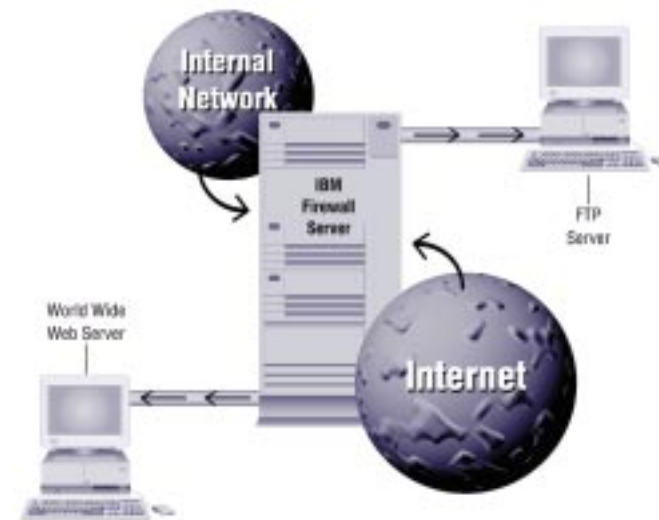
- *IBM updates its eNetwork Firewall for Windows NT and AIX to help ensure even higher network security*

IBM has released eNetwork Firewall Version 3.2 for Windows NT and AIX to provide a comprehensive firewall solution that will support your strategic e-business initiatives. As a worldwide leader in firewall technology, IBM offers the most flexible method of Internet security by providing all three leading firewall architectures—application proxies, socks circuit gateway, and filtering—in a single system. A member of the IBM SecureWay™ family of security products and services, the IBM eNetwork Firewall 3.2 for Windows NT and AIX is available in 25-user, 50-user, 250-user, or unlimited user configurations. Highlights of the new release include:

- ◆ Security Dynamics ACE Server with a 2-user license
- ◆ Strong authentication for WIN95 IPsec clients
- ◆ Secure configuration client for Windows NT, Win95, and AIX
- ◆ Java-based GUI administration
- ◆ Alerting, monitoring, and reporting utilities
- ◆ Translation into eight languages

IBM ENETWORK FIREWALL FOR WINDOWS NT

The IBM eNetwork Firewall for Windows NT is a rewrite of many of the features and functions of the AIX-based firewall. It is the first and only firewall to offer the Socks v5 security protocol standard. Socks v5 provides security support for User Datagram Protocol (UDP) applications such as RealAudio® and RealVideo®. It also provides real-time performance statistics—by both application and user ID—and outbound authentication. eNetwork Firewall for Windows NT provides a hardened operating system platform for the firewall, reducing configuration errors that can lead to security exposures and eliminating security holes and unneeded services.



IBM ENETWORK FIREWALL FOR WINDOWS NT AND AIX

IBM eNetwork Firewall for Windows NT and AIX is the first SecurID-protected firewall. As part of this product, IBM includes the Security Dynamics ACE Server software and two SecurID tokens—at no additional charge—to provide strong, two-factor user authentication. The tokens dynamically

generate one-time passcodes to improve security over traditional passwords. For example, you can use strong authentication to ensure that only authorized administrators update firewall configurations or that remote users must have authenticated access.

According to Peder Jungck of Remington Associates, Ltd., an IBM Business Partner, "The quality and capabilities provided with the IBM eNetwork Firewall are consistent with IBM's rigorous agenda to put out top products that offer complete e-business solutions. This solution offers enhanced security features, ease of use, and complete functionality."

If you want to learn more about firewall protection, IBM Education and Training now offers an IBM eNetwork Firewall for Windows NT implementation workshop (call 1-800-IBM-TEACH for details). In addition, IBM Global Services and certified IBM Business Partners offer an IBM Installation Service for Firewall.

For more information

Visit <http://www.software.ibm.com/enetwork/firewall>

Tech Talk

Porting APPC Password Expiration Management to Win32 Platforms

Have you been looking for a simple way to change passwords on MVS® and CICST™ without using a terminal emulator? Now, there's a way you can: APPC Password Expiration Management (PEM).

PEM sample code from IBM is now available for Windows 95 and Windows NT. You can find the sample code and executable files at ftp://ftp.networking.ibm.com/pub/appc_appn/sample_code/pemwin32.zip.

Three changes were required to compile the DLL and executable files:

1. WINDOWS.H was included in addition to WINPIC.H, which uses some TYPDEFs that are Windows-specific.
2. APPCPEN.C defined an enumeration called ERROR that collided with a constant ERROR defined in WINDOWS.H. The enumeration was renamed to PEM_ERROR and all references were modified.

3. A bug in APPCPEN.C that prevented proper operation when using CPI-C side information was fixed.

In addition, IBM recommends that you use the Communications Server for Windows NT SDK file instead of the WCPIC32.LIB file that is included with IBM Personal Communications. If you have any comments or questions about these sample files, contact Don Andrews at dwa@us.ibm.com. To get additional APPC and CPI-C programming support, you can register yourself with the IBM Solution Developer Web site at <http://www.developer.ibm.com/>. You can also check the IBM eNetwork Software information roadmap (<http://www.developer.ibm.com/library/map/enet.html>).

Follow IBM's Technology Roadmap

Do you worry about integrating your existing information systems with the latest technologies—and holding down costs at the same time? Can you respond to your business partners and customers with real-time connectivity? Do you wonder whether your systems infrastructure is robust enough to carry your business into the new millennium?

If worries about meeting today's information challenges are keeping you awake at night, you're not alone. Rapid change, high expectations, and strained resources are placing unprecedented pressures on IT professionals. More than ever, IT professionals like you need to position their organizations' networks and information technology to take advantage of new business opportunities.



Despite a decade of efforts to streamline IT operations, cut costs, and improve productivity, most organizations continue to face serious challenges to their competitiveness. Several changes to traditional IT business operations have contributed to this challenge:

- ◆ Much of the information that users need to access is now beyond the control of the businesses that need it, while

IBM's new technology roadmap can help guide you through complex networking decisions

other information is managed and made available only by proprietary software applications.

- ◆ Even if information is controlled by a business, it might exist in different types of networks as a result of new applications and technologies, recent mergers and acquisitions, or the consolidation of previously separate organizations.
- ◆ Because information is now on the critical path of a business's responsiveness to its customers, vendors, partners, and suppliers, it is usually needed much more quickly than in the past.

IBM eNetwork Software Solutions

Because of the difficulty in meeting today's information challenges, many organizations now face a variety of problems such as excessive operational and administrative costs, reduced productivity, and low user satisfaction. The issues of managing complex networks in such a dynamic marketplace are hardly one-dimensional or straightforward. As a result, potential solutions cannot be simpleminded. They must include sophisticated technologies or mixes of technologies, innovative products, and old-fashioned know-how.

From its decades of experience in solving difficult networking problems and issues, IBM has developed a roadmap to guide you through some options for addressing your networking challenges. Following is a summary of IBM's wide range of networking solutions that can help you get started. For complete details, visit <http://www.software.ibm.com/enetwork/technology/roadmap/>.

SNA Solutions on TCP/IP Networks

What are your options for taking information systems originally designed to run on SNA networks and running them over IP-based networks? While SNA networking was originally designed to provide cost-effectiveness and security for centrally managed business networks, TCP/IP was designed to exchange information between universities in flexible, loosely connected networks. Both protocols have evolved to meet a wide variety of networking requirements, but both still require network integration technologies to accommodate applications written for the other network type.

Through ongoing standards work, network integration technologies have been converging on a set of common characteristics (such as terminal emulation) while adjusting to new requirements (such as providing efficient access for mobile workers). IBM provides several options to help you integrate these protocols quickly and efficiently.

SNA Enterprise Networking Solutions

If you currently have an SNA network using subarea SNA, consider adding advanced functions for Advanced Peer-to-Peer Networking® (APPN®) and High Performance Routing (HPR). APPN gives you a more flexible network that requires less configuration. HPR maintains sessions even when part of the network goes down, dynamically rerouting sessions as long as an alternate path is available.

You can get additional benefits from upgrading to APPN/HPR if you use an S/390® parallel sysplex. You can more easily add a new processor, find network resources, perform workload balancing, and move to another processor without ending your session. You also have several more options for building intranet and Internet connections. IBM's SNA solutions can help you take advantage of your existing SNA network and applications while providing secure access to the resources you need outside your network.

TCP/IP Networking Solutions

The TCP/IP network protocol enables Internet and intranet connection, which can open up new business opportunities for your organization. TCP/IP technology and standards have been evolving to address issues of scalability, ease of use, security, quality of service, and other areas that influence the cost of ownership in the enterprise computing environment. New standards provide improved dynamic configuration, tighter security, the ability to easily connect from remote locations, and network computer connectivity.

If your core business applications have traditionally run on SNA networks, careful network planning can save you time and money if you are adding TCP/IP applications to the network or moving to an IP network altogether. IBM has the SNA and TCP/IP solutions to make this type of integration or migration much easier.

Virtual Private Network Solutions

A Virtual Private Network (VPN) is an extension of an enterprise's private intranet across a public network such as the Internet, creating a secure connection through a private "tunnel." VPNs convey information securely across the Internet, connecting remote users, branch offices, and business partners/suppliers into an extended corporate network.

IBM eNetwork VPN solutions provide cost-effective ways to link your IT assets with Web technology to build secure e-business solutions and improve communication and business processes. Using these VPNs, you can securely and cost-effectively extend the reach of your applications and data across the world.

Network Computing Solutions with S/390

Moving to network computing means that you put more function in your servers and make your client machines easier to maintain by using newer technologies such as Java. S/390 is an excellent option for your network computing server because of its powerful computing and networking functions. Capable of managing vast amounts of business data, S/390 combines high levels of security with system and network reliability. You can use it to enable data access via the Internet and to support a diverse set of requirements such as UNIX applications and Web server, groupware, and messaging services, in addition to traditional core business applications.

IBM Communications Server for OS/390™ integrates SNA and TCP/IP function with leading-edge technology to keep both your network and applications running smoothly.

Host Access Solutions

With the explosion of Internet use in recent years, Web browsing has created tremendous demand for data and application access by all types of users. In addition, the portability of Java applications is a strong incentive for standardizing on Web browsers and Java for desktop applications. Because much of today's business data and applications reside in mainframes, how to deliver valuable information from host systems has been a major challenge.

The appropriate technologies to build your host access solution can vary widely depending on some key factors. You need a solution that will be accepted easily by users and will integrate well with current host access technologies. IBM offers several key host access technologies for building solutions that enable you to make host information readily available via familiar technologies for your end users and customers, introduce new technologies to improve efficiency, and provide interoperability for simplified information exchange.

Mobile Solutions

Evolving technology for mobile workers has opened up a new realm of ways to optimize the work force and maintain a competitive advantage. The IBM eNetwork Mobile Solution extends the reach of your enterprise information to mobile workers and increases the timeliness and availability of information with minimal investment. By using industry standards and providing easy installation and simple operation, the eNetwork Mobile Solution reduces the cost, complexity, and time required to implement an end-to-end mobile solution.

No matter what networking problems you face, IBM can provide you with a comprehensive set of networking solutions, a broad range of networking products, and the services to bring it all together.

For more information

Visit <http://www.software.ibm.com/enetwork/technology/roadmap/>

Simplified Host Access

IBM has released new versions of its eNetwork Communications Server software for OS/390 and AIX. In addition, IBM has also released a beta version of Communications Server for UnixWare® 7. Regardless of platform, eNetwork Communications Server software provides effective network utilization, end-to-end universal access, enterprise-class reliability, and simplified administration to help you gain a competitive edge through new Internet and e-business applications.

COMMUNICATIONS SERVER FOR OS/390

Communications Server Version 2, Release 5 for OS/390 extends the reach of the enterprise by providing high-speed enterprise access and unsurpassed Internet security for mission-critical and e-business applications. The new release is completely restructured and provides enterprise-class TCP/IP service that was previously supported only by applications written to OS/390 UNIX Systems Services sockets. eNetwork Communications Server is included with OS/390 at no additional charge.

Highlights include:

- ◆ A new high-speed Web access capability for high-demand S/390 Web serving environments
- ◆ Native ATM support for TCP/IP high-speed networking—providing 155 Mbit/sec over S/390 Open Systems Adapter-2 connections—to improve access to enterprise data
- ◆ Integration of the latest firewall technologies—providing secure access to enterprise data and applications over the Internet, intranets, and extranets—to enhance the existing security features of OS/390
- ◆ Simplified network administration and support through dynamic registration of clients to the TCP/IP domain name server and improved tracing for SNA
- ◆ Easier access to SNA 3270 applications over TCP/IP networks with the new TN3270E server, designed to support over 60,000 concurrent users on a single server

COMMUNICATIONS SERVER FOR AIX

Communications Server for AIX 5.0 continues the evolution of the industry-leading AIX SNA software. The latest version of Communications Server for AIX helps you leverage your current networking investments while integrating new Internet and e-business applications for cost-effective network computing. In addition, new and enhanced APIs enable solution providers and application developers to easily create applications for multiple operating environments while simultaneously integrating host applications and data with the Internet.

Highlights include:

- ◆ Cost-effective and industry-leading host integration,

Three new versions of eNetwork Communications Server improve host integration for a variety of platforms

including an integrated TN3270E Server, Java-based browser access to SNA 3270 applications, and frame relay connectivity

- ◆ Easier application development through new and enhanced APIs, including the conventional LU Application (LUA) interface; a powerful Node Operations Facility (NOF) API; and the eNetwork Host Access Class Library, a new object-oriented Java API that streamlines the development of platform-independent 3270 and 5250 Java applications
- ◆ Easier administration and management through the new Motif® GUI, APPN features such as Self-Defining Dependent LUs (SDDL), HPR for increased availability, and compatibility with Tivoli TME™ 10

COMMUNICATIONS SERVER FOR UNIXWARE 7

Communications Server for UnixWare 7 is a highly scalable and reliable network integration solution that enables secure host access without costly modification to your existing systems. A beta version will soon be available to a limited number of customers for testing in their unique environments. For details about the beta program, visit <http://www.software.ibm.com/enetwork/commsserver>. Communications Server for UnixWare 7 will be available in mid-1998. This new software product integrates the most widely used UNIX server for Intel® platforms with SNA host applications and data.

Highlights include:

- ◆ A graphical user interface that simplifies configuration and management to help increase the productivity of administrators and technical staff
- ◆ HPR capabilities that automatically redirect traffic around network congestion without disrupting user sessions
- ◆ The ability to serve as a high-performance TN3270E gateway and provide advanced SNA connectivity for TCP/IP users
- ◆ Advanced features such as load balancing, hot standby, comprehensive APIs, and extensive support from independent software vendors

For more information

Visit <http://www.software.ibm.com/enetwork/commsserver>

The Easiest Way to Reach Enterprise Data

eNetwork Software Host On-Demand Version 2 improves data access and reduces administration costs

In conjunction with its new OS/390 Version 2 Release 5, IBM has released eNetwork Host On-Demand Version 2 to provide 100% Pure™ Java host access on the S/390. Now, your organization can take advantage of reliable host access for large numbers of users from a single server—helping to increase user productivity and reduce overall operations costs.

As part of IBM's host integration solution for all operating platforms, Host On-Demand uses the power of Java to help you access enterprise data whenever you need it, wherever you need it, directly from your Web browser. A single click on a hyperlink launches a Java applet that lets you access intranet data with TN3270, TN5250, and VT 52/100/220 emulation. You can launch any number of sessions with multiple hosts and, because Host On-Demand launches in its own window, you can continue to access Web-based data while connected to the host.

Other usability enhancements for Host On-Demand include new features to support print screen, cut-and-paste editing, and host file transfer capabilities. In addition, the newly developed IBM eNetwork Host On-Demand Host Access Class Library API enables other programs to utilize the emulator data stream and present a customized user interface that addresses your unique business needs.

SECURE ACCESS ACROSS THE GLOBAL INTERNET

Host On-Demand extends enterprise data access across the Internet by communicating with SSL Version 3.0. Mobile users can simply access a secure Web site, be authenticated, and then establish communication with an enterprise host. If these mobile users need access to multiple hosts, Host On-Demand's redirector function maintains the secure link across the Internet and establishes sessions with other hosts.

CONSISTENT USER INTERFACE FOR MULTIPLE OPERATING ENVIRONMENTS

Host On-Demand can significantly improve productivity and reduce training costs because the Java-based user interface is the same in every operating environment, including new network computers. You can even define host access preferences that are stored on your server and returned with the Java applet each time you click for access. Global organizations can take advantage of national language versions of Host On-Demand, including versions for double-byte character sets and file transfers.

REDUCED ADMINISTRATION AND MAINTENANCE COSTS

With today's rapid rate of change in workstation software, simplified administration and maintenance alone can justify a switch to Host On-Demand. With flexible installation options, you can:

- ◆ Place Host On-Demand on a Web server for downloading
- ◆ Place Host On-Demand on the client workstation when bandwidth is constrained
- ◆ Use the new cached install option, which shortens load time and keeps clients updated with the most recent version of Host On-Demand

In addition, Host On-Demand can significantly reduce your maintenance costs. The consistency of user interfaces across operating environments and the guarantee that every user has the latest version of the Java applet greatly simplify the process of problem determination. Likewise, server maintenance is much less complex because of the easier Web-based configuration and administration.

Host On-Demand for OS/390 at a Glance

- ◆ Extends the range of Host On-Demand to the OS/390 environment
- ◆ Includes downloadable, 100% Pure Java applets that can combine a variety of data from different hosts to improve performance and scalability
- ◆ Gives users reliable access to any host in the network without increasing software requirements
- ◆ Provides fast, secure e-business capabilities across intranets, extranets, and the Internet
- ◆ Extends the availability of host information to Web-based users
- ◆ Provides an effective host integration solution that gives users a consistent and reliable interface to all their data and host applications

For more information

Visit <http://www.software.ibm.com/enetwork/ondemand>

Going Mobile

eNetwork Mobile Equalizer provides an affordable way to work in a mobile environment without sacrificing performance or productivity

system administrators, and software developers. Mobile users can work more efficiently, system administrators can manage and support mobile environments more easily, and software developers can develop applications without worrying about underlying communication and connectivity issues.

Because mobile users are frequently disconnected, they need an easy way to manage their work and synchronize data between mobile computers and a central site. They especially need a mobile computing environment that makes it easy to work with up-to-date data from a remote location without a direct connection to the enterprise. Mobile Equalizer helps address this challenge by synchronizing data to make the most current information available to mobile users.

Mobile Equalizer helps system administrators who are responsible for distributing existing applications and providing troubleshooting assistance to mobile users. These administrators can install software more easily and ensure that updates are distributed to the mobile users' laptops. System administrators can also automate user tasks by using industry-standard scripting languages. In addition, Mobile Equalizer helps software developers by simplifying the process of writing applications for the mobile environment.

eNetwork Mobile Equalizer at a Glance

- ◆ Equalize the cost-of-ownership for mobile and desktop computers
- ◆ Provide information access wherever and whenever it is needed
- ◆ Automatically keep the mobile laptop environment up-to-date with the central network
- ◆ Use store-and-forward messaging to extend existing applications for mobile users
- ◆ Maximize network utilization and minimize network cost through system automation and checkpoint restart
- ◆ Increase efficiency by leveraging the selective replication of Lotus Notes® data
- ◆ Reduce operations costs by distributing software upgrades for disconnected mobile users through Tivoli TME 10

SYNCHRONIZED DATA FOR GREATER ACCURACY

Because synchronization of laptop computers and central-office databases is critical to mobile users, Mobile Equalizer enables them to work offline when connections are unavailable. When reconnected, Mobile Equalizer selectively replicates Lotus Notes data, resynchronizes information, and enables users to select the messages sent and retrieved over the connection. A prioritized list of messages based on user criteria is available. This feature enables you to control what actions are taken when certain Lotus Notes messages are received. For instance, you can preselect criteria to control what size files are received automatically in incoming e-mail messages.

With store-and-forward messaging based on IBM's MQSeries™, Mobile Equalizer keeps mobile users confident that the data they need is accessible and accurate. By leveraging advanced features such as message selectivity, checkpoint restart, and assured delivery of data, Mobile Equalizer can save users both time and money on their dial-up connections.

Mobile Equalizer checkpoint restart helps ensure efficient delivery of data, even when a connection is interrupted and then reestablished. Data that was sent before the interruption occurred does not need to be sent again after the connection is reestablished. In addition, a user interface enables mobile users to establish the last-used connection and receive status about queues and transfer time.

SIMPLIFIED SOFTWARE DEVELOPMENT AND DISTRIBUTION

Mobile Equalizer works with Tivoli TME 10 to enable electronic software distribution and upgrades to laptop users. Using built-in functions for monitoring the system and its connectivity, system administrators can automate file distribution files and define what transpires when a connection is established—based on the connection type, speed, time of day, or other criteria. In addition to saving time, Mobile Equalizer reduces the cost of operations by sending software upgrades directly to mobile users. System administrators can standardize and assign a customized client configuration and access the Mobile Equalizer history log to generate client usage reports.

Software developers can use a toolkit—including online reference information and samples—to make existing applications accessible to mobile professionals through Mobile Equalizer. The toolkit provides information about writing an agent, developing applications and scripts, and controlling user-specific automation options. Mobile Equalizer also provides a visual client builder user interface to create and modify client configurations, including automation and customization of users' laptops.

For more information

Visit <http://www.software.ibm.com/enetwork/mobile/>

Real-Time Access to Critical Information for Law Enforcement Officers

From the safety of the patrol car, law enforcement officers can now get real-time access to critical information from local, state, and federal databases—including criminal, vehicle, and driver information as well as photos of missing children—with IBM eNetwork Law Enforcement Express. This new addition to IBM's eNetwork Wireless software family gives law enforcement agencies a complete range of the information they need in a package that is affordable and easier than ever to install, maintain, and use.

Law Enforcement Express can greatly extend the reach of host- and Web-based applications to mobile patrol forces by enabling law enforcement agencies to take advantage of Internet and intranet information in real-time. Based on client/server architecture, Law Enforcement Express runs on a variety of mobile hardware platforms and features a graphical interface that is activated by the touch of a pen, keyboard, or mouse.

Law Enforcement Express also supports a text-to-voice module that automatically "speaks" vital information to officers, thereby eliminating the need to read a computer screen while driving. In addition, alphanumeric messaging can be sent and received, permitting silent communication between dispatch, other mobile units, and headquarters. If a vehicle is out of range, the system application holds the message and delivers it when the vehicle returns within range.

One of the early users of Law Enforcement Express has been the Missouri State Highway Patrol. According to Gerry Wethington, director of the Highway Patrol's Information Systems Division, "We wanted to free up our officers to do what the public wants them to do—improve public safety. Our goal was to find a solution that could help us automate patrol officer dispatching, time accounting, and field contact reports to aid the department in managing incident-based reporting. IBM eNetwork Law Enforcement Express will help us meet this goal."

To ensure the highest level of security, Law Enforcement Express encrypts all data and messages based on the Data Encryption Standard. Other security features include a two-way user identification and authentication feature. Law Enforcement Express can significantly improve accuracy and efficiency with an on-scene accident/incident reporting system that enables officers to prepare and submit reports at the scene of an accident. By using the icons and templates provided, officers can produce accident and crime scene diagrams on the spot—helping to reduce errors, lower administrative costs, and shorten report turnaround times.

Mobile computing is more than just a convenience—it's an integral part of today's business environment. As people strive to save time and be more productive—by working from home, airports, or on the road—the number of workers operating in a mobile environment continues to multiply. Because more employees are working outside the traditional office environment, they need a full range of network computing applications that move as easily as they do. As a result, organizations need to find better ways of extending new and existing applications to their mobile workforces—while protecting current investments in both software development tools and infrastructure systems.

IBM eNetwork Mobile Equalizer addresses these challenges by providing an easier and more efficient way to use network applications in a mobile environment. A cost-effective software solution, Mobile Equalizer minimizes the differences of using mobile laptops and desktop PCs. By making it easy to build, manage, and use mobile applications that have the same look-and-feel as office-based applications, Mobile Equalizer gives mobile professionals the connectivity to vital enterprise applications and information they demand.

Starting on June 26, 1998 Mobile Equalizer will be available for a limited time through an IBM beta test program. For details about how you can participate, visit <http://www.software.ibm.com/enetwork/mobile/> or send e-mail to mobile@us.ibm.com.

BENEFITS FOR A VARIETY OF USERS

Mobile Equalizer can enhance productivity, performance, and usability for a variety of users, including mobile professionals,

Making the Right Connection

There's a good reason that Amadeus has the largest reservation system in the world. It's called "empowering your agents." With nearly 176,000 customer terminals worldwide, distributed systems products in 40 countries, and 50,000 travel agencies or airline companies signed up to use Amadeus' custom central reservations product, the company has been growing exponentially since its debut in 1988.

Amadeus believes in giving travel agents the highest quality tools to complete their jobs—not only for access to Amadeus, but to all other information providers on mainframes and the Internet. This belief is what helps differentiate Amadeus from its competitors.

PCOMM PROVIDES FLEXIBILITY

When Amadeus initially planned its data processing system, the company wanted to provide 3270 access to the SNA network over X.25 lines. To do so, Amadeus evaluated three key products: Wall Data's Rumba®, Attachmate's Extra!®, and IBM's Personal Communications (PCOMM). During its research, Amadeus discovered that PCOMM required the least amount of memory on the customer's system to operate efficiently. The company also thought that PCOMM was attractively priced and that its SNA asynchronous dial-in capabilities were more usable than the competition's.

With its dial-up capability, PCOMM was ideal for the smaller agencies that did not have the work volume to justify a leased line, but still had occasional transactions. To expand its agents' access even further, Amadeus decided to install other applications from the IBM eNetwork Communications Suite. Using the Communications Suite enables the agents to access any mainframe or back-office system on such platforms as

Amadeus extends the reach of its global reservation system with Communications Suite



S/390, AS/400®, SCO® UNIX, and others. The agents can now locate and retrieve information on the Internet, then integrate it into an application right at their desktops.

This is possible because, in addition to PCOMM, Communications Suite includes Netscape Navigator™, FTP Software®, and the Lotus Notes mail client for setting up LAN-based electronic mail. Because these applications are designed and tested together, they work effectively together and help make the travel agents more productive. With just a single product package to support, network managers also benefit from the reduced administrative workload.

Amadeus believes in providing affordable, capable tools to its employees and agency customers, who can then perform their jobs more efficiently. To this end, Amadeus has chosen Communications Suite as its corporate standard for emulation software and access applications. This choice promises to pay long-term dividends to Amadeus since helping to grow its customers' businesses will only continue to extend the company's already impressive growth.

Executive Summary

Problem

Travel services company needs to provide its customer agents with 3270 access to the SNA network over X.25 lines

Solution

IBM eNetwork Personal Communications and Communications Suite

Benefit

Travel agents can access any mainframe or back-office system, locate data on the Internet, and integrate that data into an application right at their desktop

For more information

Visit <http://www.software.ibm.com/enetwork/pcomm/>
Visit <http://www.amadeus.net/>

Continued from page 1

IBM PERSONAL COMMUNICATIONS PAVES THE WAY FOR A WINDOWS NT IMPLEMENTATION

Until recently, J.B. Hunt Transport had been using IBM's OS/2® as its primary operating system and Communications Manager/2 (CM/2) for host integration. When the company decided to convert its primary desktop platform to Windows NT, it needed to find a new host integration solution. Based on its previous experience with IBM, the company selected Personal Communications (PCOMM), a key part of IBM's eNetwork Software family. PCOMM provides superior flexibility by combining 3270 and 5250 emulation with the most extensive desktop support in the industry—all in a single, easy-to-install package.

PCOMM, which J.B. Hunt Transport found very easy to install on its Windows NT machines, gives the company the same capabilities it enjoyed with CM/2 but also extends those capabilities to the Windows NT environment. PCOMM also addresses the difficulty of running multiprotocol networks to support business applications that need access to corporate or application data. J.B. Hunt Transport currently runs two different protocols for host access. Dial-in access is done through AnyNet® SNA over TCP/IP, a feature of PCOMM that enables emulator and client/server SNA applications to communicate across a TCP/IP network. Networked users are directly connected to the host through IEEE® 802.2.

With PCOMM, users see the same consistent interface, whether at home, on the road, or in the office. In addition, PCOMM provides data compression, data encryption, and dynamic link recovery to enhance the performance, security, and availability of business applications and data.

Executive Summary

Problem

Large transportation company needs a flexible host integration solution to connect networked and remote users running Windows NT

Solution

IBM eNetwork Software host integration solution featuring Personal Communications (PCOMM) for Windows NT

Benefit

Remote users now have reliable remote access to the host, and system administrators save time and resources with automated configuration

AUTOMATED CONFIGURATION SAVES TIME AND MONEY

Pittman says that the company decided on the PCOMM solution based primarily on the service and support it has received from IBM in the past. Already, J.B. Hunt Transport has upgraded from PCOMM 4.1 to 4.2, with the greatest benefit being remote management. Pittman states, "We now have an automated process to edit the desktop configuration files in the field, which is a lot easier than having to step users through all the changes. There has been a huge benefit in time savings for our IS staff. We also avoid the cost and time it takes to ship a PC back to headquarters just to customize it."

"One of the best features of PCOMM 4.2 is the silent installation, which makes it much easier to perform the installation and remote configurations," he adds. "We now have PCOMM 4.2 running on approximately 800 to 900 machines."

During the installation, J.B. Hunt Transport discovered a few additional requirements that it hadn't realized before, but IBM quickly addressed the company's needs. "That is a huge advantage of going with IBM," Pittman explains. "Whenever we have had a problem, IBM has responded with a timely solution. The project has gone extremely well, and we haven't had any major installation issues. For such a large rollout, it has been very painless."

FLEXIBILITY PROVIDES A SOLUTION FOR THE LONG HAUL

PCOMM is now providing the primary channel through which desktop users access data residing in J.B. Hunt Transport's key DB2® information database. Pittman states, "Although we use PCOMM to provide 5250 emulation for our AS/400 servers and 3270 emulation for our S/390 servers, PCOMM is much more than just an emulator solution. It enables us to access all of our databases and applications much easier."

In the near future, the company plans to expand the use of its existing applications through PCOMM. J.B. Hunt Transport is currently developing new Java applications that will give the company a distinct competitive advantage. PCOMM makes it easier to integrate these innovative applications into the company's existing network. Pittman concludes, "I would definitely recommend PCOMM to other companies. The versatility and manageability have made it a great solution for us. But probably the number one factor in the project's success has been IBM's outstanding service and support, which we haven't always received from other vendors. As a total package, I don't think you can beat this solution."

For more information

Visit <http://www.software.ibm.com/enetwork/pcomm>
Visit <http://www.jbhunt.com/>

IBM Partners with First Virtual for Video Networking

Video networking has become an increasingly strategic application for education, government, and business. Today, one of the leading providers of products that offer business and broadcast quality video solutions over the campus intranet is First Virtual® Corporation. By utilizing the "Quality of Service" of ATM technology in the backbone and supporting both ATM and Ethernet at the edge of the network, First Virtual implements video with unmatched quality at an affordable cost.

Recently, First Virtual began a business partnership with IBM that capitalizes on First Virtual's expertise in the complex world of video and IBM's strengths in workgroup and infrastructure networking products. As a result, users can now get the industry's most powerful video offering in the three key areas of video networking:

- ◆ **Videoconferencing**—Hold real-time interactive video meetings via local or wide area networks
- ◆ **Video on demand**—Record, store, and replay video in any format
- ◆ **Video broadcast**—Distribute live video broadcasts via a local or wide area network

In addition, First Virtual has licensed IBM's industry-leading Nways™ product line and now offers a complete suite of video solutions from business quality H.320 to broadcast quality MPEG-2, all integrated into an easy-to-use Web browser interface.

TIME AND COST SAVINGS

By using First Virtual's video solutions over an IBM ATM backbone network, you can significantly reduce travel expenses while greatly enhancing the execution of a business transaction through a visual "telepresence." For example, you can involve company experts and executives instantly to help address critical business situations via high-quality business video. Especially in organizations with large travel costs, the effective use of video can increase effectiveness, efficiency, and profitability.

Because First Virtual's video networking solutions integrate video directly onto a data network, you can eliminate the need to deploy a separate video network. Moreover, you can now implement video solutions at much lower costs than installing separate ISDN or TV networks.

For more information

Visit <http://www.networking.ibm.com/fvc/fvcprod.html>
Visit <http://www.fvc.com/>

One Easy Answer for Universal Information Access

IBM has recently updated its eNetwork Communications Suite (Version 1.1) to help improve information access throughout the enterprise. Communications Suite provides easy access to Lotus Notes, the Internet, and all of your corporate intranets and host data. With a variety of productivity-enhancing tools in a single powerful package, Communications Suite can help ensure reliable, instant access to your information no matter where it resides.

Communications Suite combines the power of the IBM Personal Communications (PCOMM) client communications products, Lotus Notes Mail®, FTP Software's 32-bit TCP/IP applications, Web browsers from Netscape and Microsoft®, and Netscape Navigator compatible plug-ins. The software package is supported on Windows™ Version 3.1, Windows 95, and Windows NT 4.0. For Windows 95 and Windows NT, Communications Suite 1.1 has been updated with the latest releases of the following components:

- ◆ IBM Personal Communications AS/400 and 3270 Version 4.2
- ◆ Lotus Notes Mail Version 4.6
- ◆ Netscape Navigator Version 4.0
- ◆ Microsoft Internet Explorer Version 4.0

In addition, you can perform remote installation from a central server with Tivoli/Courier.® To take a product tour of Communications Suite 1.1, visit <http://www.networking.ibm.com/ecs/ecsdwn.htm>.

Communications Suite 1.1 at a Glance

- ◆ Delivers full-function host access with IBM Personal Communications
- ◆ Provides highly acclaimed client/server messaging with Lotus Notes Mail
- ◆ Includes industry-leading TCP/IP capability from FTP Software, Inc.
- ◆ Offers a choice of Web browsers: Netscape Navigator or Microsoft Internet Explorer
- ◆ Includes Netscape Navigator-compatible plug-ins, such as First Floor™ Smart Bookmarks™ and Adobe Acrobat® Reader
- ◆ Provides a single package with a single installation interface

For more information

Visit <http://www.networking.ibm.com/ecs/ecshome.htm>

IT and the Web: A Winning Combination

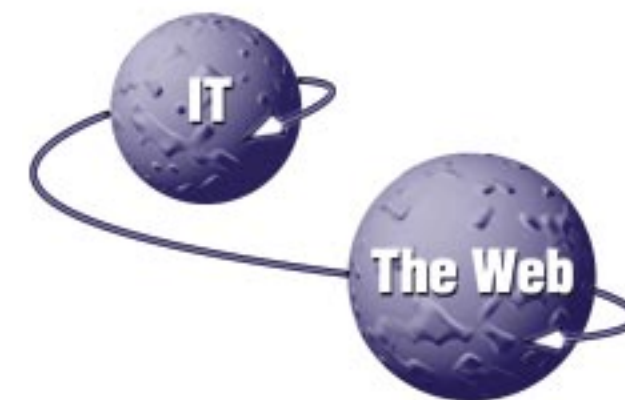
IBM network computing software bridges enterprise IT environments and the Web to provide a strategic path for e-business

All around the globe, an increasing number of organizations are transforming their traditional IT environments into more flexible systems that can provide universal access for anyone, anywhere, at any time. The forces driving this transformation are a somewhat recent trend, however, because organizations are just now fully realizing the strategic benefits of exceptional data access.

For instance, IT in the 1970s was primarily driven by development and storage requirements. The goals of the enterprise were aimed at the operations level, and characteristics of the IT environment included restricted user access, proprietary vertical enterprise applications, and host-based transaction processing.

In the 1980s, IT was driven by processing requirements, the goals of which focused on improving personal efficiency. Characteristics of this time frame included wider access between interconnected worlds, the proliferation of graphical shrink-wrapped applications, and the advent of client/server personal computing.

In the 1990s, IT has been driven primarily by the need for increased access, with an emphasis placed on strategic planning. Characteristics of IT in the 1990s have included universal access for anyone, anywhere, at any time; platform-independent, component-based applications; and Web-based network computing.



NETWORK COMPUTING FRAMEWORK PAVES THE WAY FOR E-BUSINESS

Today, organizations are searching for even more ways to transform the way people work, interact, and learn. At the heart of this transformation is IBM eNetwork Software, a key part of IBM's network computing software strategy. IBM's vision focuses on a networked world where e-business solutions will leverage the best of the past, present, and future by bridging traditional enterprise IT environments and the Web.

The Web provides global access in an open standards world filled with heterogeneous, multiplatform systems. By fusing the Web with IT, IBM eNetwork Software is already enabling universal access and global market expansion. Compared to other vendors' solutions which are limited by proprietary access, IBM's approach provides the openness and the availability of universal access to give your organization an opportunity for growth.

Today, IBM network computing software is an integral part of the Network Computing Framework, providing the industry's most flexible architecture for developing end-to-end e-business solutions. These solutions are based on industry standards and include key transformation technologies, including Java application services, network computing distributed capabilities, and network client management services.

IBM has the experience to help you speed time to delivery and reduce the costs of developing and maintaining e-business applications. Java application technology is already being used in IBM's Host On-Demand (see page 9) to give users the same interface regardless of what protocol they use to connect to a host system. Mobile computing technology, such as IBM eNetwork Mobile Equalizer (see page 10) is already making life easier for mobile professionals—and helping law enforcement agencies make the world a safer place. Host integration technologies, such as IBM eNetwork Personal Communications (see page 1), are helping companies like J.B. Hunt Transport gain a competitive advantage. Regardless of your unique requirements, IBM has the products and services to help you get started on your own e-business solutions today.

For more information

Visit <http://www.software.ibm.com/ebusiness/ncf/index.html>

Upcoming Events

NetWorld + Interop®

Las Vegas, NV

MAY 4-8, 1998

<http://www.interop.com>

IBM Technical Interchange

Orlando, FL

MAY 5-8, 1998

<http://www.software.ibm.com/events/ti>

NetWorld + Interop Tokyo

Tokyo

JUNE 1-5, 1998

<http://www.interop.com>

Networks Expo

Boston, MA

JUNE 2-4, 1998

<http://www.networksexpo.com/main.html>

PC Expo

New York, NY

JUNE 16-18, 1998

<http://www.pcxpo.com>

APPN Implementers' Workshop (AIW 17)

San Jose, CA

JULY, 1998

<http://www.networking.ibm.com/app/aiwhome.htm>

COMDEX® Canada '98

Toronto

JULY 8-10, 1998

<http://www.comdex.com>

Internet World Summer

Chicago, IL

JULY 13-18, 1998

<http://events.internet.com/>

SHARE Technical Conference

Washington, DC

AUGUST 16-21, 1998

<http://www.share.org>

Windows NT Intranet Solutions

San Francisco, CA

SEPTEMBER 8-10, 1998

Networking Systems Technical Conference

Las Vegas, NV

SEPTEMBER 21-25, 1998

<http://www.training.ibm.com/ibmedu/conf.htm/nstc/>

COMDEX Asia

Singapore

SEPTEMBER 23-25, 1998

<http://www.comdex.com>

COMMON

Anaheim, CA

OCTOBER 4-9, 1998

<http://www.common.org>

Internet World Fall

New York, NY

OCTOBER 5-9, 1998

<http://events.internet.com/>

NetWorld + Interop

Atlanta, GA

OCTOBER 21-23, 1998

<http://www.interop.com>

Internet World Italy/SMAU '98

Milan

OCTOBER 22-26, 1998

<http://www.smau.it>

APPN Implementers' Workshop (AIW 18)

Raleigh, NC

NOVEMBER, 1998

<http://www.networking.ibm.com/app/aiwhome.htm>

This is a list of selected conferences and trade shows of potential interest to eNetwork 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.



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