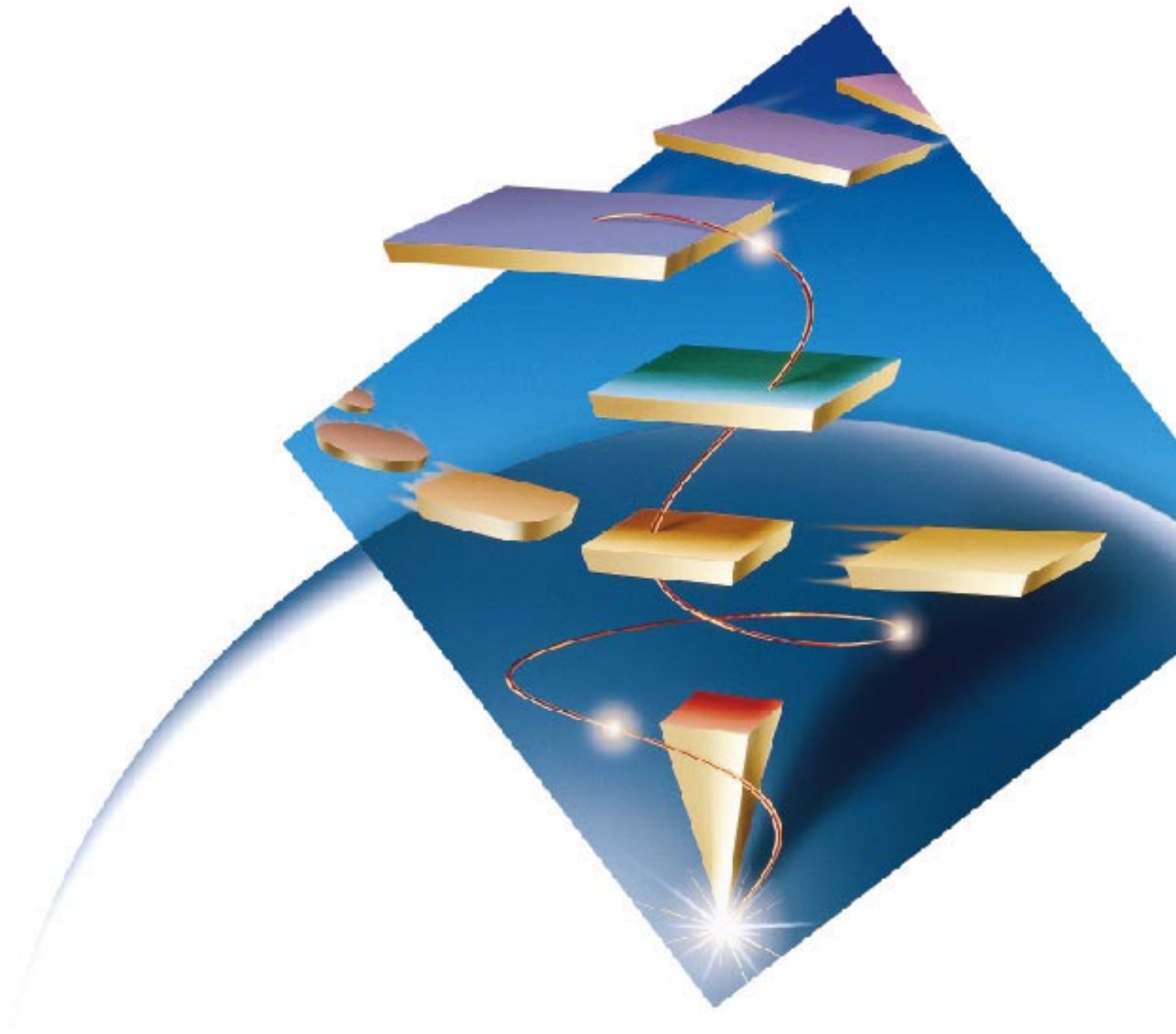




eNetwork Software solution for host access Road map



About this road map

This road map is designed to help you evaluate the IBM eNetwork Software solution for host access. Inside, the advantages and benefits of this comprehensive solution are highlighted. Included are selected step-by-step configuration scenarios for host access. Take a look and start building your e-business future with the leading networking provider in the industry.

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IBM eNetwork Software

Introduction

Today businesses are transformed into new ones just by enhancing and applying information that was previously overlooked. In the past, you could still be competitive if you had the best product. But, in this stay-up-or-go-broke time of business computing, the world no longer beats a path to the door of those who build better, faster widgets. Now, the name of the game is to build a better path to customers and business partners.

Corporate computing systems house valuable business information. A company's ability to make use of information resources is a major factor in its ability to compete in a global economy. Customer responsiveness; collaboration with customers, suppliers, and vendors; ability to control cost; and opportunities to reach new markets—all hinge on a company's access to useful information. To play the game, you must be able to provide quick and seamless access to central data repositories. Browser-based access to the host is just one step toward integrating business computing with intranets, extranets, and the Internet that can help you deliver quality products to market faster than the competition.

Along with the promise of benefits gained from the Internet technology, comes the task of effectively harnessing and leveraging the network and its capabilities. A truly advanced network communication infrastructure must deliver on certain promises:

- Platform and protocol-independent access to enterprise applications and data
- Internal networks that extend beyond the enterprise
- Seamless integration of heterogeneous environments and networks
- Departmental and workgroup networks that are connected to each other, the Internet, and the corporate intranet
- Reliable and fast access to enterprise applications for mobile users

The challenge is that all of this must be done cost-effectively, with the reliability and dependability demanded by the enterprise. IBM® can provide you with the complete solution to this challenge and, also offer a wide range of services to help you design, plan, and roll out your solution. IBM eNetwork Software solution for host access is not only a great technical solution, but it's a smart business solution.

eNetwork Software solution for host access

IBM eNetwork Software solution for host access—what is it?

The IBM eNetwork™ Software solution for host access provides all of the software necessary to enable secure access for every user, regardless of platform or network environment, to your mission-critical business systems. It enables you to tie diverse networks together for seamless communication across the enterprise. Whether you have an SNA network, TCP/IP network, or both, the IBM eNetwork Software solution for host access can be easily implemented. It also provides you with the open, standards-based networking capabilities required to build the foundation for your future e-business infrastructure. You can choose from best-of-breed Communications Suite or gateway software to provide your users, whether at the office, at home, or mobile, with access to critical applications through a familiar user interface.

To be effective, your host access solution must be secure, cost-effective, and able to leverage existing investments in information technology. The solution must be scalable to grow with your business and flexible enough to seamlessly integrate new networking technologies. You need a host access solution that includes communication clients and servers, border servers, Web-to-host emulation, multiprotocol gateways, and mobile clients and servers.

IBM eNetwork Software solution for host access offers enterprise-class universal connectivity and information access for Network Computing with a scalable range of both communication clients and communication servers. It provides IBM traditional dependability, any-to-any access, and easy implementation and usability.

The host access solution is:

- **Secure.** The host access solution provides secure intranet and extranet access to mission-critical business systems for your users—regardless of platform or network environment. Even mobile employees can have the same secure and reliable access to business applications.
- **Competitive.** Now, with host access, you'll be open for e-business. Link new customers, business partners, and business data smoothly, without implementation worries, and watch your business grow. IBM provides a complete solution for host access including a wide range of services to help you design, plan, and roll out—yes, transform—your business.
- **Flexible.** Host access lets you reach your customers or business partners, regardless of where they are or what network connectivity they need. When requirements change, you can handle changes without delay or impact to productivity and profits.

- **Cost-effective.** With the host access solution, you can continue to use existing information technology where it fits and add browser-based access as required, with the confidence your business will grow at a pace you set. Working with an infrastructure already in place, you can build a highly scalable and reliable network to meet future needs.
- **Simple.** The host access solution is so simple. Special offerings from IBM let you quickly and easily assess the cost of ownership, easing the burdens of evaluation, configuration, license administration, and pricing complexities. A total solution available at one simple price per user.

Communications Suite

IBM eNetwork Communications Suite is for customers who have diverse desktop communication requirements. Communications Suite is an ideal solution for customers who have, or are in the process of, deploying corporate intranets. Communications Suite provides the world-class applications necessary to access data on mainframe hosts and corporate intranets, as well as across the Internet. Access to this data is quick and easy with the extensive multiprotocol support delivered as an integral part of Communications Suite, and delivery of all these functions from a single vendor package gives users a single point of contact for service.

Host On-Demand

eNetwork Host On-Demand, Version 2.0, provides Java™-based host access, so users in different operating environments get the same look and feel, whether they are using network computers, traditional PCs, or advanced workstations. This consistency in look and feel reduces retraining costs when users change operating environments. Service costs are also reduced because each user has the same version of the code.

Personal Communications

The IBM Personal Communications products are IBM's response to the terminal-emulation needs of the PC marketplace. With these emulators, you get 3270, 5250, and VT emulation support tailored to the operating environment for personal computers running DOS/Windows®, Windows 95, Windows NT®, and OS/2®. The Personal Communications clients for Windows 3.1, Windows 95, and Windows NT are available separately or as part of Communications Suite.

Communications Server

IBM eNetwork Communications Server extends your reach to intranets and the Internet providing network integration and complete connectivity solutions. With Communications Server products, IBM delivers the broadest array of networking functions, scalability, and connectivity available, all based on industry standards and optimized for the platform of choice. Communications Server includes solutions for Windows NT, AIX®, OS/2, OS/390™, and Novell NetWare and is fully interoperable with IBM OS/400® networks.

Communications Server products provide powerful multifunction gateways for connecting diverse applications and network environments. With Communications Server, you have the freedom to choose applications based on your business needs, not your network protocol, because Communications Server enables workstations to communicate with other workstations and host computers, regardless of platforms and network configurations. These multiprotocol gateways are also critical for quick integration of diverse networks. For example, during business mergers, information contained in one network can be converted for use in the other network with minimal impacts to business applications.

IBM is the only company that can provide this broad range of clients and scalable servers. Choosing the host access solution from IBM allows a company to focus on the real business problems rather than using resources to research, purchase, test, and integrate parts from many vendors to build an intranet. These benefits continue after the initial installation because you have only one vendor to call for service questions. No other networking software provider can even think about providing this full range of products and services.

eNetwork Software solution for host access

IBM eNetwork Software solution for host access—what do you need?

To be competitive in today's fast-moving marketplace, you must seek new ways to quickly, securely, and cost-effectively deliver your products and services to new markets on a global scale. Paramount is the ability to support and effectively use intranets, extranets, and the Internet to deliver your company's goods, services, and information. Because the bulk of the world's business applications and data resides on host systems from IBM, integrating these information technology (IT) systems with the new technology of the Internet is vital. You must deliver connectivity and access across a variety of clients (traditional PCs, Network Computers, laptops, and hand-held computers), networking technologies (TCP/IP, SNA, SPX/IPX), operating systems (Windows, OS/2, AIX and UNIX), and network types (intranets, extranets, Internet, wireless). To build this kind of networking infrastructure requires a complete host access and network integration solution. When evaluating the host access solution, you need to be sure that it delivers the following critical features:

- Internet access to business applications and data on the host
- Access from any client machine to business applications on any host or server over any networking protocol
- Wireless or disconnected access for mobile users, to business applications and data on the host
- Seamless integration of diverse networks across the entire enterprise
- Secure access to your corporate intranet from outside business partners, customers, vendors, and suppliers
- Reliable service and support options for the entire networking infrastructure
- Standard application interfaces across any operating system to improve user productivity and reduce training costs
- A scalable infrastructure to accommodate growth and new technology within your business
- The ability to do all of the above while leveraging your existing networking investment

IBM eNetwork Software solution for host access—why do you need it?

You need a solution that extends the reach of your business to new target audiences so you remain competitive in today's global business environment. IBM eNetwork Software solution for host access enables the integration of the Internet, intranets, extranets, and your current critical business data, allowing you to provide access to external users such as customers and business partners. IBM industry-leading multiprotocol networking enables secure, reliable access throughout the extranet, letting you focus on business growth rather than worry about network complexities.

You need a solution that is simple so that you can choose client and server software that best meets your needs, regardless of platform or network environment. It provides all of the software necessary to enable secure access for every user, regardless of platform or network environment. IBM is the only company that can provide this complete solution, and also offer a wide range of services to help you design, plan, and roll it out.

You need a solution that leverages your existing IT investment so that you can keep using your current networks as you plan for the future. IBM eNetwork Software solution for host access is highly scalable and reliable, it helps you get the most out of your investment today while building for the future. Whether you currently have an SNA network, a TCP/IP network, or both, the IBM eNetwork Software solution for host access can be easily implemented, working with what you have today. It gives you the open, standards-based networking capabilities required to build the foundation for your future e-business infrastructure.

You need a solution that offers implementation flexibility so you can meet your users' many different needs, whether it's type of platform, type of network connectivity, or type of host system. You can satisfy those needs with IBM eNetwork Software solution host access products. These choices include the best-of-breed software, eNetwork Communications Suite, industry-leading emulator, eNetwork Personal Communications, the new Java™-based eNetwork Host On-Demand, which extends your host access to the Web. All provide your users with the access they need to 3270, 5250, DEC, or UNIX applications, with a familiar user interface, reducing training costs and increasing productivity. And coupled with IBM eNetwork Wireless products, this access can be extended to your mobile workforce.

You are also free to implement the IBM Communications Server as many times as you need in your environment to provide the desired level of performance and reliability. Choose either eNetwork Communications Server for Windows NT, eNetwork Communications Server for AIX, eNetwork Communications Server for OS/2 Warp, or any combination. This solution allows you to make the right choice for your environment, whether it utilizes SNA, TCP/IP, or a fully integrated global network, including the Internet, intranets, and extranets.

You need a solution that gives you lower cost of ownership that can change your bottom line. You can choose to implement the eNetwork Software solution for host access solution by purchasing individual components to suit your needs, or take advantage of special offerings from IBM that provide a total solution at one simple price per user, regardless of platform, or network environment. These special offerings can reduce the cost of ownership further by simplifying the burden of evaluation, configuration alternatives, license administration, and pricing complexities so you can concentrate on implementing the best host access solution for your business.

The IBM eNetwork Software solution for host access is the most complete answer to host access and network integration in the industry and it's available from a single vendor. Build your e-business future with the leading networking provider in the industry and take advantage of the benefits of the most comprehensive solution, with the best support, all from one company.

Host access solutions comparison

Host access requirement	IBM eNetwork Software	Microsoft Host Integration Software
Internet access to host applications and data	Yes	No*
Cross-platform Internet access to host applications and data	Yes	No
Consistent host access interface across multiple operating systems, communication protocols, and network technologies	Yes	No
Any client-to-any server connectivity	Yes	No
Seamless interconnection of existing SNA networks with IP networks, intranets, and the Internet	Yes	No
Networking technologies matched to application requirements through support of TCP/IP and SNA WANs	Yes	No
Support for the latest SNA technologies for cost-effective networking (HPR, APPN, DLUR)	Yes	No
Investment protection for existing hardware, software, and applications through cross platform support and advanced SNA technology	Yes	No
Secure mobile access over wired and wireless networks	Yes	No*

* available through third party software vendors

Host access products comparison

Communications Server

Communications Server supports multiprotocol networking, such as TCP/IP Sockets over SNA. SNA Server does not.

Communications Server supports APPN, High-Performance Routing (HPR), which enables nondisruptive traffic rerouting around network failures, and dependent LU requester (DLUR), which provides 3270 support across APPN networks. SNA Server does not.

Communications Server protects your existing IT investment across multiple operating systems. SNA Server does not.

Communications Server allows intranet and Internet access across either your TCP/IP or SNA backbone. SNA Server does not.

Host On-Demand

Host On-Demand is a pure open architecture, no proprietary flows. It runs as a normal TN3270 emulator on the client, communicating standards-based TN3270 back to the server. The OpenConnect product WebConnect uses a proprietary data flow from the browser to the server.

By not requiring a proprietary server like WebConnect, Host On-Demand has greater flexibility and scalability on a server-no middle-tier bottleneck. For example, Host On-Demand can take advantage of CS/390's multi-processor TN3270 capabilities.

Host On-Demand was built to be a true TN3270 emulator with emulator function-feel-font resize, file transfer, print screen, cut-copy-paste, keyboard remap, toolbar, and list of active sessions with the same look and feel as Personal Communications. WebConnect has no companion emulator product.

Host On-Demand has a full function API set in Java™-"Host Access Class Library". Not only does this provide ultimate programmability, but also is the same API set in Personal Communications. HACL, and future JavaBean™ objects allow for using any vendor's Java™ IDE. WebConnect requires its own proprietary development tool.

Host access products comparison

Communications Suite

Communications Suite offers a desktop communication solution on one CD-ROM, with a common look and feel for all operating systems and host environments. Extra!, Attachmate, and WallData RUMBA do not share a common look and feel among their respective operating systems.

Communications Suite offers Personal Communications, Netscape Navigator, Microsoft® Internet Explorer, TCP/IP applications, and Lotus® Notes Mail® all in one package, from one vendor. Extra! does not offer this complete solution.

Communications Suite includes support for Internet Protocol, Version 6 (IPv6), IP multicast, and Winsock 2.0, which are industry-standard technologies that maximize desktop communication. Extra! and Microsoft Windows operating systems do not support these technologies.

Communications Suite uses industry-standard technology. Extra! uses Attachmate's proprietary developer products.

Personal Communications

Personal Communications offers host access and workstation support on one CD-ROM with a common look and feel for all operating systems and host environments. Extra! and RUMBA offer multiple products which do not share a common look and feel. Mixed and matched, they do not give the same function as Personal Communications.

Personal Communications is a multiprotocol solution, working in S/390®, AS/400, and System/36™ host environments. RUMBA focuses on AS/400 and appears to be weak in the other environments.

Personal Communications supports HPR, which enables nondisruptive traffic rerouting around network failures. Extra! and Wall Data RUMBA do not support HPR.

Personal Communications doesn't require applications rewriting when migrating to a TCP/IP backbone, TCP/IP LAN, or different operating system. Extra! does, sometimes rewriting as much as 30 percent of an application.

Extend the reach of your business

SNA host access solutions

Industry analysts estimate that more than 50 percent of the world's corporations have SNA backbone networks. In many companies, applications supported by an SNA backbone are critical to the success of the business. Thus, rapid response times, high availability, and secure access to sensitive data are crucial.

The IBM eNetwork Software host access solution

eNetwork Communications Servers, Personal Communications clients, and Communications Suite provide industrial-strength access to host applications over SNA wide area networks. These eNetwork Software host access solutions incorporate the latest SNA technologies, such as Advanced Peer-to-Peer Networking® (APPN®), HPR, dependent LU requester (DLUR), and SNA data compression.

In peer-to-peer implementations, eNetwork Software solutions manage connectivity, using the APPN protocol. This APPN capability provides a robust, low-maintenance, networking backbone that scales easily. APPN lowers your network administration and maintenance costs by utilizing dynamic and simplified configuration, dynamic LU 6.2 session routing, and powerful application programming features. These solutions provide improved reliability and performance through support for HPR. DLUR extends these capabilities to dependent logical units, providing investment protection for existing SNA applications and devices. In addition, IBM eNetwork Software solution for host access supports compression of SNA data to optimize available bandwidth and improve network performance. The coupled value of the eNetwork Software clients and servers offers you the most robust, reliable, secure, manageable SNA host access solution in the industry.

eNetwork Software advantages

- Advanced SNA technologies for high availability, improved performance, and optimum bandwidth management
- Reduced network and administration costs
- Investment protection through APPN support for dependent SNA devices and applications

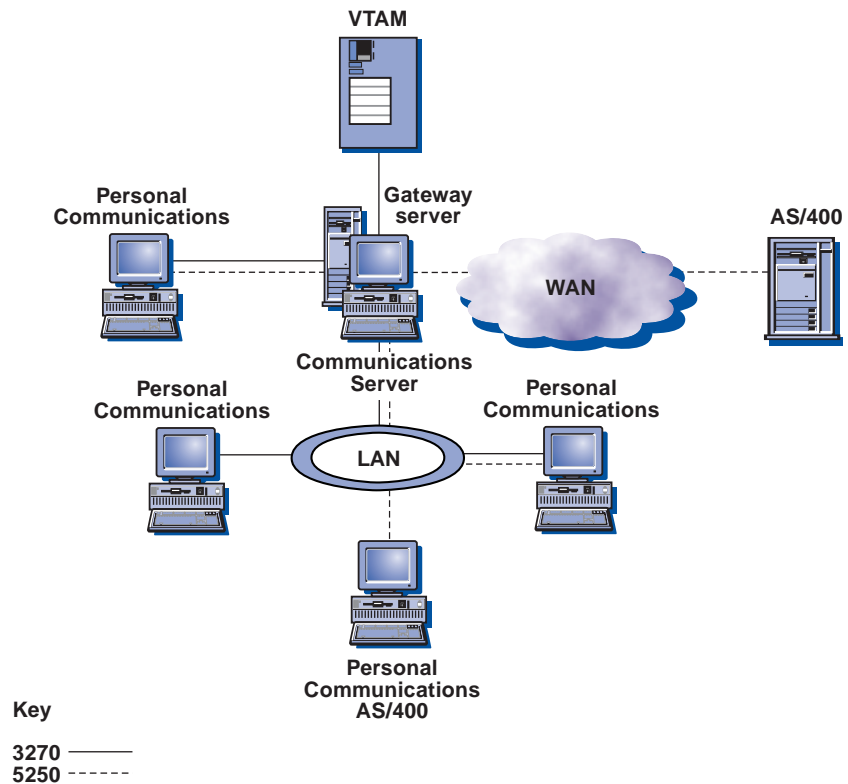
Scenario 1

3270 and 5250 emulation

In this scenario, a customer has PC workstations requiring 3270 and 5250 emulation on a LAN to access mainframe and AS/400 applications (with no APPC or APPN).

The recommended solution for this customer is to use Communications Server as a gateway and use:

- Personal Communications on desktops that need only 3270 emulation
- Personal Communications for AS/400 on desktops that need only 5250 emulation
- Personal Communications on desktops that need both 3270 and 5250 emulation



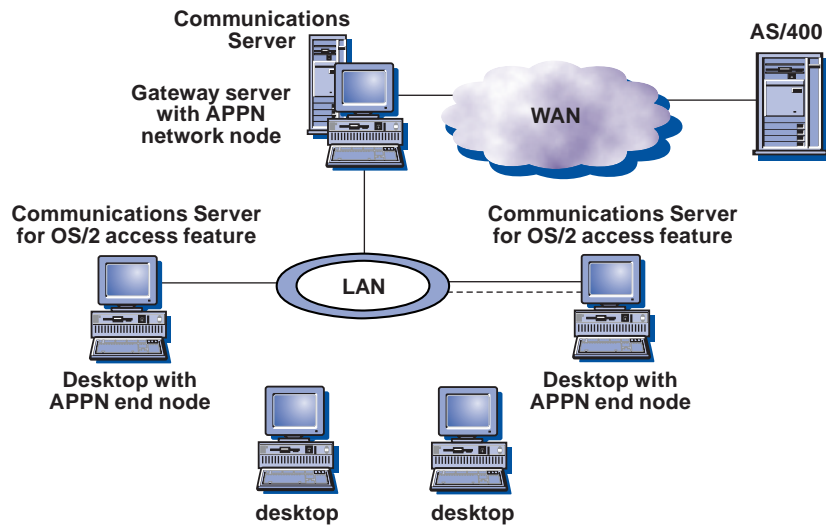
Scenario 2

32-bit APPC application on a remote LAN to an AS/400

In this scenario, a customer needs APPN connectivity from desktops to a remote AS/400. The application requiring the APPC support is a new 32-bit client/server application.

The recommended solution for this customer is to use:

- Communications Server as a gateway providing APPN
- Access feature on desktops to provide APPC because the 32-bit application requires 32-bit Application Programming Interfaces (APIs)



Key

APPN network traffic ———
5250 - - - - -

Scenario 3

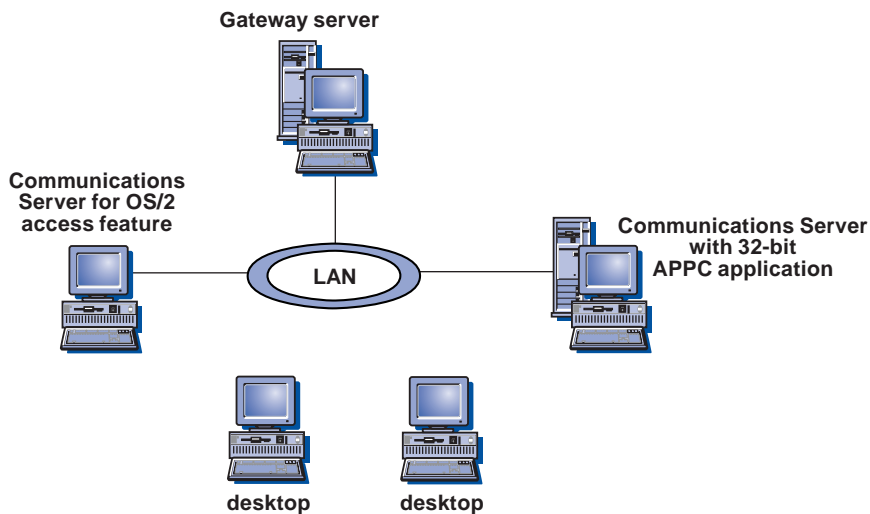
APPC application between two LAN desktops

In this scenario, the customer has developed a custom 32-bit APPC application, running on a desktop, that interacts with another 32-bit APPC application, running on a Communications Server.

The recommended solution for this customer is to use:

- Access Feature on each desktop, running the 32-bit APPC client application
- Communications Server, running the partner 32-bit APPC server application

In this scenario, a new server was installed (in place of the existing desktop system) in anticipation of the required additional computing power for the server application.



Key

APPN traffic ———

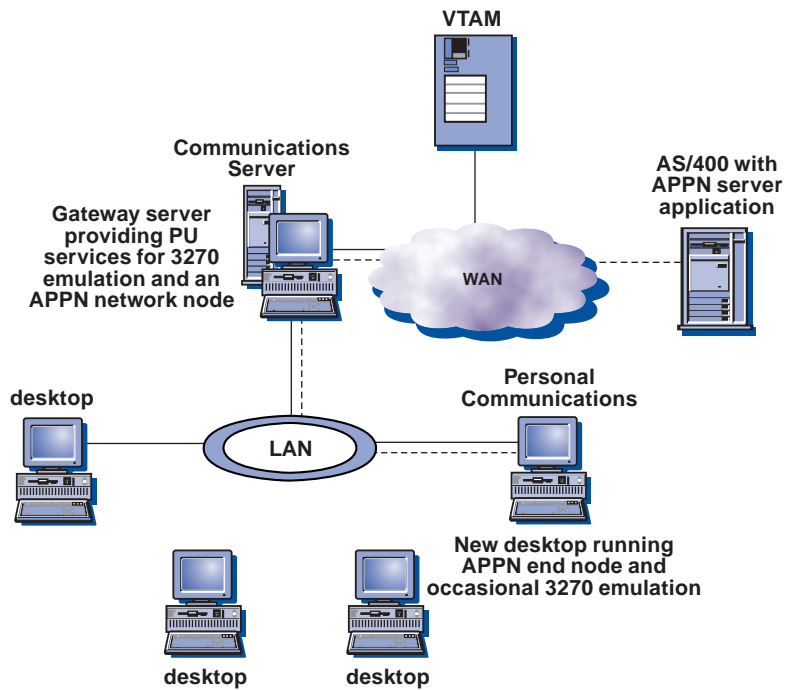
Scenario 4

New desktop with APPN and 3270 emulation requirements

In this scenario, the customer is adding a new desktop, primarily running a client for an AS/400 server application that uses APPN. Additionally, the user of this desktop occasionally needs to access a 3270 application.

The recommended solution for this customer is to use:

- Personal Communications, which includes APPN end node and 3270 emulation on the new desktop
- Communications Server



Key
 3270 traffic ———
 APPN traffic - - - - -

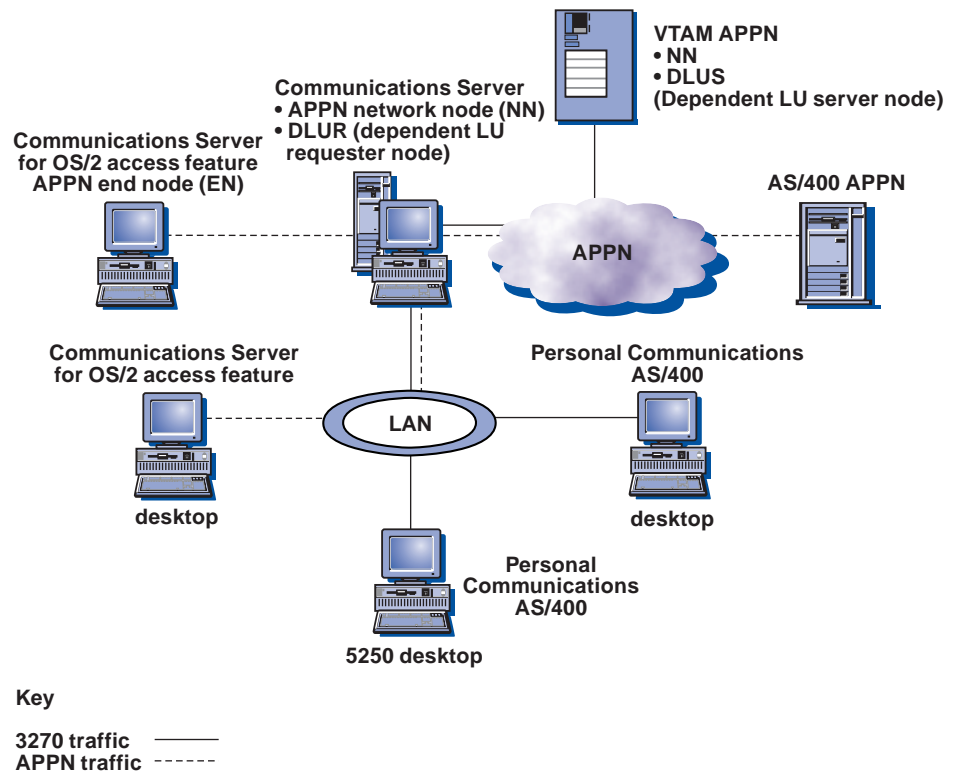
Scenario 5

APPN

In this scenario, the customer requires multiple logical protocols to flow over a single, common transport.

The recommended solution is to define and deploy Advanced Peer-to-peer Networking (APPN) to allow:

- A single consolidated network
- Network node (NN) auto-backup, rerouting of bad links over efficient links (optimized for either cost-per-bit or bandwidth)



Scenario 6

Finance industry application

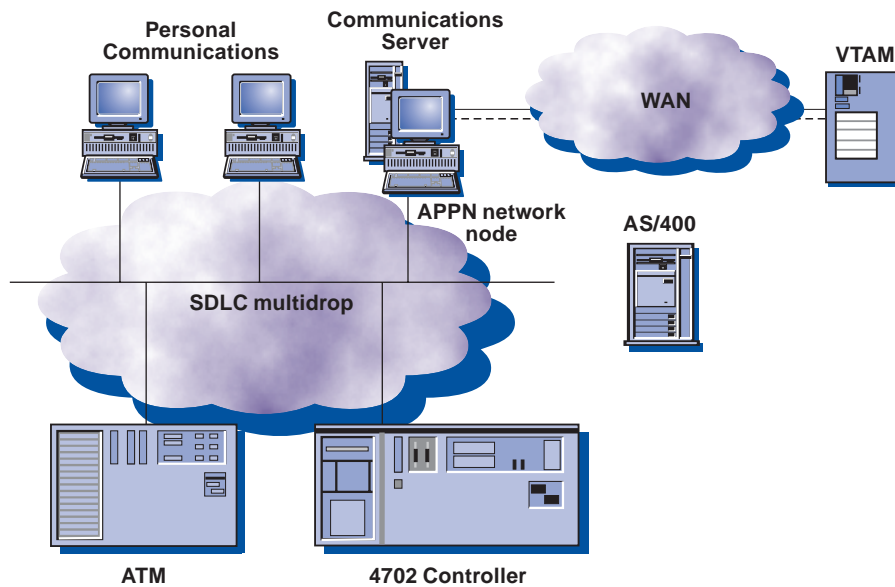
A bank is rolling out a new IT infrastructure that is positioned for growth and exploitation of new technological features that can protect its existing investment.

The recommended solution for this customer is to:

Use Communications Server as the gateway for a branch to an outside network to provide the following network support:

- 3270 gateway
- APPC gateway
- APPN network node

This solution supports today's investment and positions the customer to exploit tomorrow's new technology.



Key

3270 traffic ———
APPN traffic - - - - -

Extend the reach of your business

TCP/IP host access solutions

IBM eNetwork Software products provide access to all network resources for general-purpose clients and servers. The solution enables network computing access to diverse sources of data across multiple network types and multiple platforms. Because many new applications today are being written for TCP/IP, IBM is building on its leadership foundation to deliver enterprise-class TCP/IP networking software that is reliable, available, and scalable. For existing applications and data, the goal is to enable the same high level of access from both SNA and TCP/IP networks, so that you can choose the application that's right for your business, feeling sure the network will accommodate your application choice.

As enterprises deploy intranets, access to SNA applications over TCP/IP networks is rapidly becoming a key part of networking strategy. In support of this strategy, IBM is committed to providing the most reliable, robust, secure TCP/IP host access solution in the industry.

The IBM eNetwork Software host access solution

With eNetwork Software clients and servers, you can provide TCP/IP users easy access to 3270 applications with TN3270E server function. You can connect TCP/IP clients on OS/2, DOS, Windows, Windows 95, and Windows NT to TN3270E servers on OS/2, AIX, NetWare, and Windows NT. eNetwork Software TN3270E support is compliant with industry standard Request for Comments (RFCs) 1576, 1646, and 1647. IBM supports TN3270 in its eNetwork Communications Suite, Personal Communications, and Wireless software clients. Any other TN3270 or TN3270E client that adheres to these RFCs is also supported.

The TN3270E server enables SNA APPN connectivity to the host and TCP/IP connectivity to the clients. TCP/IP connections are mapped to SNA sessions and passed through the 3270 data stream. Because the TCP/IP connections are mapped to SNA sessions, you can take full advantage of SNA and APPN on the host side of the network, with no TCP/IP required on the host computer. The 3270 data stream coming from the TN3270 client can be transported, using dependent LU requester (DLUR).

With DLUR you get the benefit of APPN networking for older SNA devices and applications. eNetwork TN3270 support also gives you HPR from the TN3270E server all the way to the host computer, delivering nondisruptive session rerouting. eNetwork Software servers also support TN3270E IP address filtering, which gives you centralized administration of resources.

IBM is working closely with leading networking vendors to ensure interoperability of its TN3270 implementations. Combined with the multiple platform capabilities of eNetwork Software, this interoperability assures you maximum flexibility in the deployment of TCP/IP host access solutions.

eNetwork Software advantages

- Easy access from IP clients to 3270 applications and print services
- Multiplatform TN3270 server support for maximum flexibility
- Investment protection through support for SNA backbone networks, APPN, and DLUR

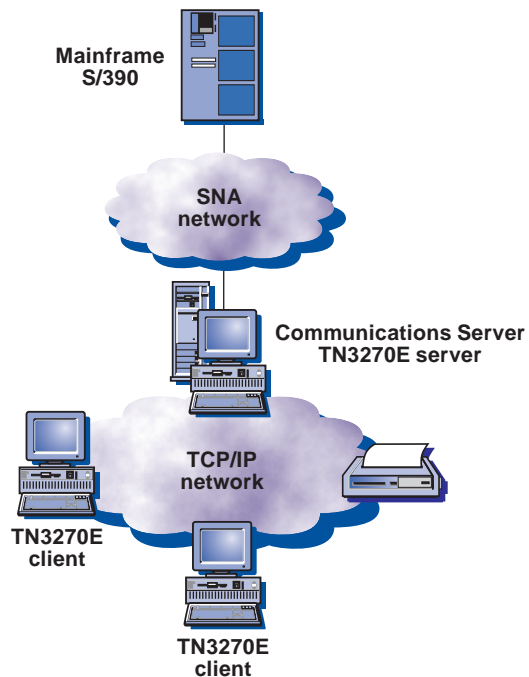
Scenario 1

TN3270E server

In this scenario, a customer with TCP/IP desktops can easily access 3270 applications with the TN3270E server. Either standard or extended Telnet 3270 clients can run interactive 3270 display application programs. With the Telnet 3270 standard extensions (TN3270E), users can print from 3270 applications to printers attached to their desktops, or in their TCP/IP network using LU1 or LU3 print sessions. Also, TN3270E clients can send both positive and negative responses and ATTN and SYSREQ keys.

TN3270E server supports both standard and extended Telnet 3270 clients. Personal Communications offers a rich set of functions for TN3270E clients.

The recommended solution for this customer is to install a Communications Server with TN3270E and Personal Communications for the client software.

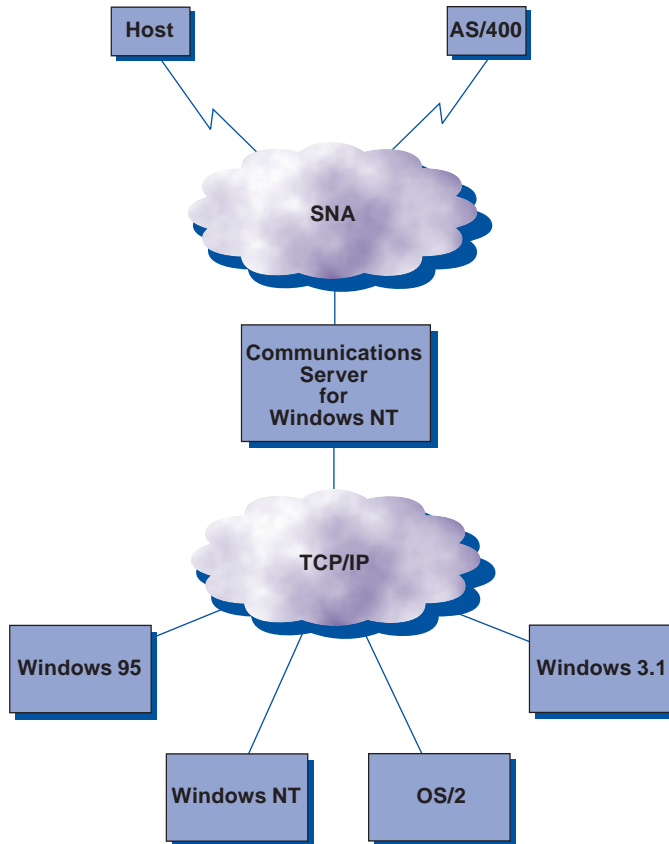


Scenario 2

Split-stack client support

In this scenario, the customer has TCP/IP-attached clients that require access to main-frame or AS/400 applications, using SNA APIs.

The recommended solution is to use Communications Server SNA API client solution that gives you the ability to run SNA applications without installing an SNA stack on each client. Because almost all SNA configuration and processing is done on the server, you can reduce DASD, memory, and processor demands on your clients. The SNA API clients provide support for CPI-C, APPC, EHNAPPC, and LUA request unit interface (RUI) APIs and are packaged with the Communications Server.



Extend the reach of your business

Internet host access solutions

To reach new market opportunities, companies are actively deploying intranets and extranets, and utilizing the Internet to expand the reach of existing and new business applications. Building an infrastructure to support e-business creates a unique set of problems:

- How can I provide consistent, reliable, secure host access to existing business applications and data over my intranet, extranets, and the Internet?
- How can I provide enterprise-wide access to host applications without incurring significant expenses for training, administration, and support and without rewriting my applications?
- How can I deliver my business applications over my intranet, extranets, and the Internet without costly changes to my existing network?

With IBM eNetwork Software you can find answers to these important questions.

The IBM eNetwork Software host access solution

The explosion in the use of the Internet has driven a business requirement to provide Internet access to the critical data and applications on host systems. Most businesses will want to provide this access through the browsers Internet-based users already have. This Web-to-host access can be based on traditional emulation for S/390, AS/400, or UNIX systems, or it can be based on publishing customized pages of information for the user. IBM provides both types of access as part of its solution for host access. Businesses may choose to use one or both forms of Web-to-host access depending on their particular requirements.

eNetwork Host On-Demand provides an easy-to-use 100 percent Pure Java™-based 3270, 5250, and VT terminal emulation with a standard Web browser. This provides a high-performance, cost-effective solution for intranet and Internet users who require access to host-based business applications from a Web browser. By incorporating Java™ technology, Host On-Demand offers you several key benefits:

- Operating system independence. Host On-Demand provides a consistent user interface across multiple client, server, and host environments. This allows you to reduce training expenses if your users change or upgrade their operating environment. In addition, the common look and feel between Host On-Demand and IBM eNetwork Personal Communications helps maintain user productivity.

- Reduced administration and support costs. The latest level of Host On-Demand software is automatically downloaded to your users each time they access it.
- User interfaces tailored to business needs. Host On-Demand includes the Host Access Class Library that allows you to customize user interfaces for existing host applications and data without rewriting the applications.

Complementing Host On-Demand is eNetwork Communications Server. This powerful communication gateway gives protocol and platform independence to network communication. Communications Server allows you to easily incorporate intranets, extranets, and the Internet as part of your existing network environment, without incurring major network changes. For example, using eNetwork Communications Server, you can seamlessly interconnect TCP/IP-based local area networks, an existing SNA-based intranet, extranets, and the Internet.

In addition, Communications Suite provides diverse desktop communication requirements. Communications Suite is made up of market leading products like Personal Communications, Lotus Notes Mail Client, FTP Software, Netscape Navigator, Microsoft, and Internet Explorer making it an unparalleled client offering. It is a valued member of the IBM eNetwork Software products that connect your workstation users to enterprise-wide information. Communications Suite offers advanced Internet and intranet infrastructure support to position your business for future technologies, secure connectivity options, and provide user friendly access no matter where it resides.

With eNetwork Software clients and servers, the Internet becomes simply an extension of your enterprise network.

eNetwork Software advantages

- Cross-platform Internet access to host applications and data
- Consistent user interface for increased productivity and reduced operating costs
- Easy, seamless interconnection of existing networks and the Internet

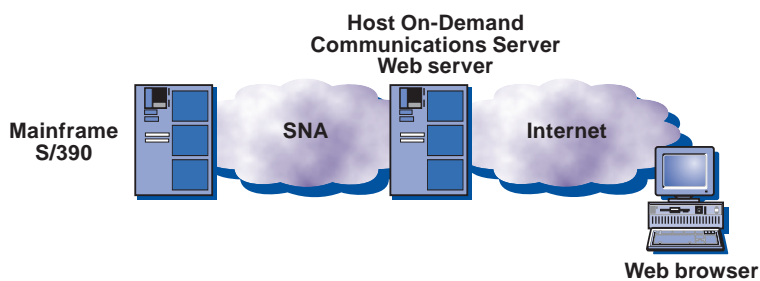
Scenario 1

Host On-Demand

In this scenario, the customer requires the power of Java™ to open the doors of your enterprise data whenever and wherever it's needed, straight from a browser. A single click launches a distinct Java™ applet to give broad access to your intranet data, with TN3270, TN5250, and VT 52/100/220 emulation in a single package.

The recommended solution for this customer is to use:

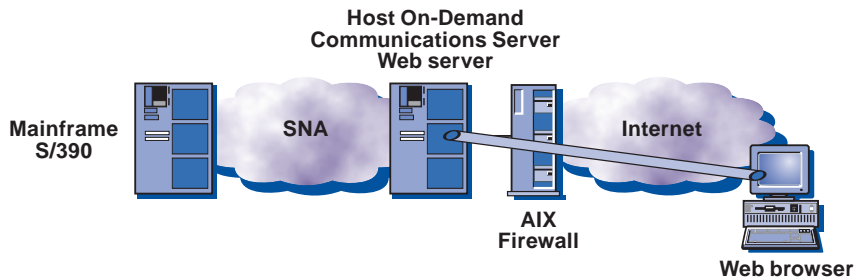
- Host On-Demand, Version 2.0
- Communications Server



Scenario 2

Host On-Demand (enhanced security)

To protect your data from the client to the server, you can implement a virtual private technology using open standard-based IPSEC. This would provide network layer security to augment the secure sockets layer (SSL) in Host On-Demand. The AIX firewall box acts as a gateway to protect your corporate intranet from Internet hackers.



Scenario 3:

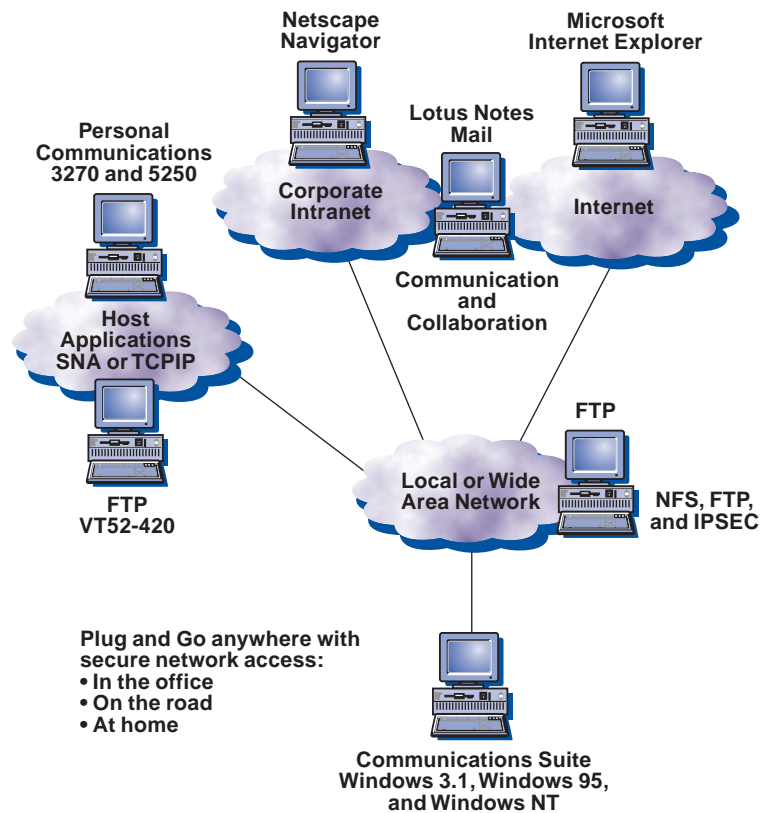
Communications Suite

In this scenario, the customer requires their clients to have access to enterprise-wide information needs, such as mainframe, AS/400, DEC, and UNIX applications, Web access, collaborate and exchange e-mail. And they need to share information with colleagues who use the latest NFS and FTP TCP/IP applications, all “plug and go” with secure network access.

The recommended solution is to install eNetwork Communications Suite on each desktop. This complete desktop communication solution provides:

- IBM Personal Communications
- Lotus Notes Mail
- FTP Software TCP/IP protocol stacks and applications
- Your choice of browsers: Netscape Navigator or Microsoft Internet Explorer
- Netscape-compatible plug-ins: FirstFloor Smart Bookmarks and Adobe Acrobat Reader

Now the clients have easy access to data on the host computer, corporate intranet, Lotus Notes®, and the Internet, all in one package.



Extend the reach of your business

Network integration solutions

Most large networks include multiple networking technologies, such as SNA, TCP/IP, IPX, and NetBIOS. Connecting and managing these diverse technologies can be complex and expensive. You need a cost-effective way to run any application over any network type with the reliability and performance required for critical business applications.

The IBM eNetwork Software host access solution

It's in your best interest to seek a network integration solution that leverages current investments while capitalizing on a large number of new network capabilities. The IBM eNetwork Software host access solution offers integrated client and server software to address your need for:

- Seamless access to your SNA applications over IP networks, without reprogramming those applications
- Access to your sockets IP applications over SNA networks
- Bridging together networks with different protocols

Using the eNetwork Software host access solution, you can choose the network and applications that best suit the needs of your business, without compromise. The result is, you can implement networks based on criteria, such as response time, security, manageability, reliability, and interoperability—not on the operating system. With eNetwork Software you get an integrated multiprotocol, multiplatform solution, which enables users to access applications and data using whatever wide area network protocol is most effective for the application.

eNetwork Software advantages

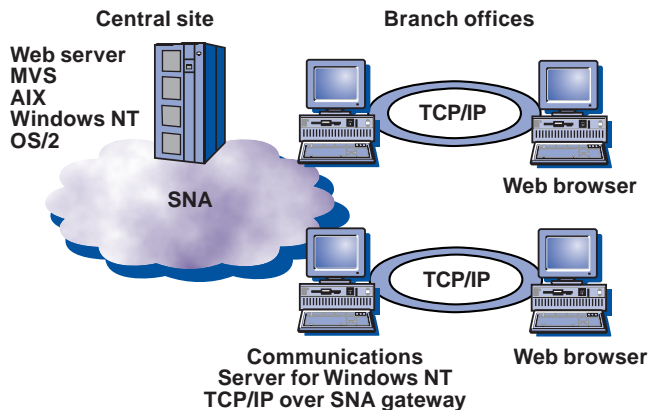
- Select applications based on business needs, not networking technology
- Optimize network technologies to application requirements
- Enable any-to-any communication

Scenario 1

TCP/IP over SNA

Intranets are a very popular way for enterprises to streamline communication internally. Here is an example of how TCP/IP over SNA technology in Communications Server can be used to build an intranet in an enterprise that has an SNA and APPN backbone. The enterprise can choose the Web server platform based on the scalability of its requirements. Communications Servers on OS/390, AIX, Windows NT, OS/2, as well as OS/400® all have integrated TCP/IP over SNA support which allows a Web server to run over SNA.

Once the Web server is established, Web browsers on branch IP LANs can easily get information from the Web server on the SNA central site through Communications Server TCP/IP over SNA gateway function. With this implementation, you can easily operate almost any TCP/IP sockets-based applications, such as FTP, Telnet, SAP R/3, SNMP, and Lotus Notes.

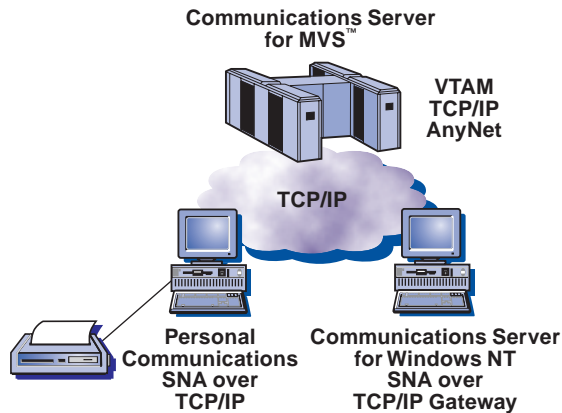


Scenario 2

SNA over TCP/IP

In this scenario, a customer with SNA applications, like APPC, printer, and 3270 emulator programs needs to communicate over a TCP/IP backbone.

The recommended solution for this customer is to install a Communications Server with an SNA gateway. With this function, existing LU6.2 APPC applications, LU2 terminal emulator applications, or LU1 and LU3 printer applications can be used across TCP/IP networks. The dependent LU SNA application support is provided by the VTAM® DLUR and Communications Server DLUR functions. Examples of SNA applications which can now run over TCP/IP networks, include CICS®, DB2®, IMS®, DCAF, and TSO. APPC and SNA applications which were primarily confined to SNA networks are able to communicate with users in a TCP/IP network, and the application does not need to be changed. With this configuration, the customer can now reduce the operational and management costs by enabling network consolidation while leveraging investments in SNA applications.

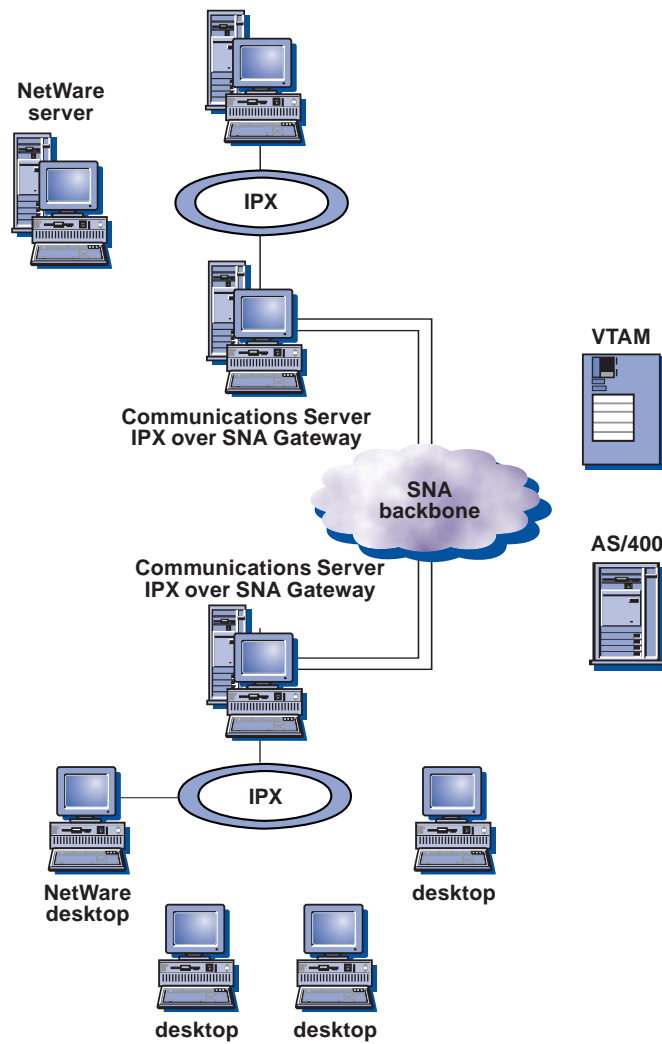


Scenario 3

IPX over SNA

In this scenario, a desktop on an IPX LAN needs to access a NetWare server on another IPX LAN, connected by an SNA backbone.

Customer can use the Communications Server IPX over SNA gateway capability on each to connect the IPX LANs across the SNA backbone.



Key
 IPX _____
 IPX over SNA _____

Extend the reach of your business

Mobile and wireless host access solutions

Companies today are extending host data access to mobile workers through the use of wireless technology. With wireless technology, you can build a competitive advantage through easy application integration, improved customer service, and reduced communication costs.

The IBM eNetwork Software host access solution

IBM eNetwork Wireless Software is setting the standard in wireless middleware by developing key technologies that allow companies to extend vital applications to their mobile workforces while protecting their existing investments in software and information technology (IT) infrastructure. Mobile workers can now access applications transparently over a variety of wireless or dial-up networks with few software modifications. By leveraging industry standards and offering easy installation and simple operation, eNetwork Wireless Software reduces the expense, complexity, and time required to implement a complete mobile solution. eNetwork Wireless Software consists of products that provide your mobile workers with access to mission-critical enterprise information, whether host- or Web-based. It offers broad network coverage and multiple language support. It provides anytime-anywhere communication facilities through eNetwork Wireless Gateway and Client, eNetwork Web Express Server and Client, and eNetwork Emulator Express Server and Client.

These products incorporate state-of-the-art technology that allow secure access to 3270 and 5250 applications over wireless and/or dial networks from LANs, WANs, intranets, and the Internet. This gives your mobile workers access to the same data and applications as though they were in the office, connected directly to the enterprise network.

An open, industry-standard TCP/IP interface is provided for simple application deployment. eNetwork Wireless solutions support leading client and server platforms so you can leverage existing IT investments. Multiple applications can be supported across a single wireless link, using a patented, cost-effective optimized data transmission capability. To ensure maximum protection for your important data, eNetwork Wireless Software solutions incorporate enterprise-level security, data encryption, and built-in authentication. No other wireless offering delivers the unique combination of features, functions, and characteristics as the eNetwork Wireless Software solution.

eNetwork Software advantages

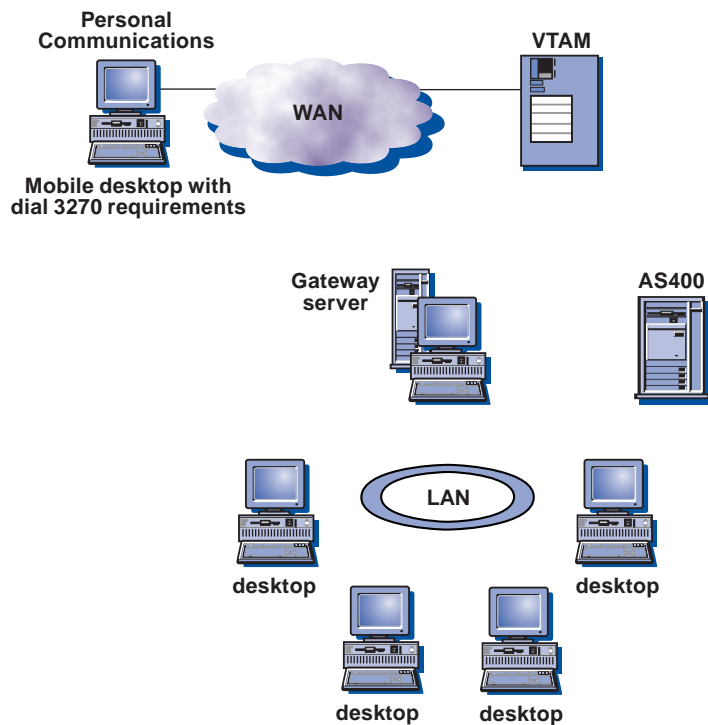
- Comprehensive, open, complete wireless solution
- Anytime, anywhere access to business information
- Patented optimization techniques for faster access and lower cost

Scenario 1

Mobile desktop with dial 3270 requirements

In this scenario, a mobile desktop needs to attach to a 3270 application, using a switched asynchronous connection.

The recommended solution, in this case, is to use Personal Communications, with its switched asynchronous support, directly to IBM Global Services Network™ Services (IGSNS), Communications Server, or a host controller.



Key

Asynchronous 3270 ———

Scenario 2

Wireless solution using Emulator Express

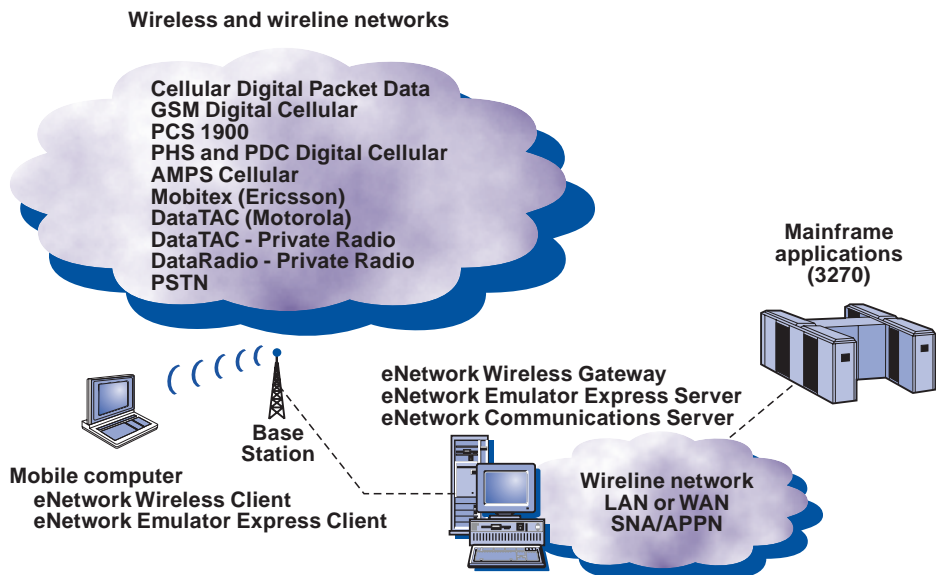
In today's marketplace, having the competitive edge in your industry is vital. Workers need enterprise connections from a home office, hotel room, or even a car to access critical host data and applications.

Workers are turning to wireless solutions to provide their connectivity, giving them the edge they need to conduct business while on the move.

eNetwork Emulator Express is specifically designed to extend the reach of host-based 3270 applications to your mobile workforce.

The eNetwork Emulator Express Client resides on the mobile device with a Telnet emulator, such as IBM eNetwork Personal Communications. The eNetwork Emulator Express Client communicates with a remote eNetwork Emulator Express Server, using a TCP protocol, which in turn communicates with a Telnet server, such as IBM eNetwork Communications Server.

eNetwork Emulator Express Software is designed to run with IBM eNetwork Wireless Gateway and Client, which supports the leading international data packet radio, analog and digital cellular, and wireline networks under a single interface.



Planning and installation

Getting started

Getting ready for the test cases using Communications Server for Windows NT

- Review the information found in the README.TXT file on the CD-ROM or in the installation source directory.
- Obtain access to the installation media (either a CD-ROM or the appropriate LAN environment).
- Use an administrator user ID with local authority when installing Communications Server for Windows NT.
- The Communications Server for Windows NT CD-ROM contains:
 - Communications Server for Windows NT product files
 - Communications Server for Windows NT documentation
 - Adobe Acrobat Reader

In addition to the product files, the following can be selectively installed from the CD-ROM, after installing Communications Server for Windows NT:

- Clients for SNA API client services
 - OS/2
 - Windows 3.1
 - Windows 95
 - Windows NT (Intel only)
- Remote administration and configuration clients (Windows NT and Windows 95)
- IBM eNetwork Host On-Demand, Version 1.0 (a Web-based emulator)
- IBM Communications Server for Windows NT (Web-based Server Administration)
- Entry-level eNetwork Personal Communications emulator

Software requirements

Communications Server for Windows NT requires either Windows NT Server, Version 3.5.1 or Windows NT Server, Version 4.0. In addition:

- When using Windows NT Server, Version 3.5.1, Service Pack 4, or higher, is required to support the SNA API clients.
- TCP/IP is required for communication with the remote administration.
- TCP/IP and/or IPX/SPX is required for communication with SNA API clients.

Remote administration clients require either Windows NT Workstation or Server, Versions 3.5.1 or 4.0. TCP/IP is required for communication with Communications Server for Windows NT (Server).

SNA API client requires either:

- OS/2 Warp, Version 3.0, or higher
- Windows 3.1.1, or higher
- Windows 95, with Service Pack 1 and the following fix:
 - Microsoft Knowledge Base article ID: Q128366
 - Creation data: 11Mar96
 - Web site for downloading fix: www.microsoft.com/windows/software/krnlupd.htm
- Windows NT Workstation or Server
- Windows NT Server 3.5.1 with Service Pack 4, or above
- Windows NT Server 4.0
- TCP/IP and/or IPX/SPX is required for communication with Communications Server for Windows NT (Server).

Host On-Demand, Version 1.0, requires any Web server capable of serving Java™ applets to be installed on the same machine as Communications Server for Windows NT.

Hardware requirements

Following are the minimum recommended hardware requirements for installing Communications Server for Windows NT:

- Intel Pentium® computer
- 100-MHz CPU
- 75 MB of disk space
- 32 MB of RAM

Notes:

- Communications Server for Windows NT requires 10 MB of disk space on the startup drive (the drive that contains the Windows NT operating system) to store temporary files used during installation. These files are deleted after Communications Server is completely installed.
- Viewing and printing the documentation directly from the CD-ROM is an alternative to installing it.
- The clients for SNA API client services will automatically be installed on the server.

Communication adapters

One or more network communication adapters (and appropriate cable) may be required. Communications Server for Windows NT is compatible with the following adapters:

IBM ISA/EISA WAN Adapters

- Multiprotocol communication adapter for SDLC over leased and switched connections
- Wide area connector for SDLC, X.25 over leased and switched connections
- Serial/parallel adapters (asynchronous port) for SDLC

IBM Micro Channel® WAN Adapters

- Multiprotocol communication adapter for SDLC over leased and switched connections
- Wide area connector for SDLC, X.25 over leased and switched connections
- Serial and parallel adapters (asynchronous port) over asynchronous connections

IBM PCI and PCMCIA WAN Adapters

- Serial and parallel adapters (asynchronous port) over asynchronous connections
- Wide area connector for SDLC, X.25 over leased and switched connections

X.25 and SDLC, using COM port and Autosync modem

SDLC, using COM port and asynchronous modem

IBM Twinaxial Adapters for AS/400

- Enhanced 5250 display station emulation adapter
- 5250 AT-BUS communication adapter
- 5250 emulation PCMCIA adapter
- System 36/38 workstation emulation adapter/A
- 5250 emulation adapter/A
- 5250 emulation PCI adapter

Non-IBM ISA/EISA and PCI WAN adapters

- Eicon Technology Corp. for frame relay over leased, switched, and ISDN connections, and X.25 over leased and switched connections (work in process)
- MicroGate Corp., DSA adapter for SDLC
- Quadron Service Corp., IP and frame relay for IBM ARTIC adapters
- Interphase Corp. (Synaptel), DLSW, SDLC, X.25, and ISDN adapters (work in progress)

Non-IBM direct-attached channel adapters

- Bus Tech, Inc., bus and tag and ESCON adapters over SNA channel connections
- Barr Systems, Inc., bus and tag adapter over SNA channel connections

Before you install

- Close other application programs you are running.
- Install Communications Server for Windows NT before installing any version of the Personal Communications product (including the entry-level emulation program). If Personal Communications is already installed on your server, remove it before installing Communications Server for Windows NT.
- If you have any version of Communications Server for Windows NT already running, stop it before starting to install.

Installing Communications Server for Windows NT

1. Insert the Communications Server for Windows NT CD-ROM into the CD-ROM drive and follow the steps displayed. Use any editor to read the README.TXT file for the latest product notes. Online help is available during the installation by clicking the **Help** button.
2. Click **Setup** to begin the installation of the Install Shield wizard. Once installed, the wizard guides you through the rest of the installation. Upon completion of the installation of the wizard, a Welcome to IBM Communications Server window appears. Click **Next** to continue.

Note: On Windows NT 4.0, the CD-ROM Installation Graphic Interface will automatically start. From the Installation window, select **Communications Server** icon and click **Install** to continue with installation.

3. Choose the drive and directory for the installation of Communications Server. The default is C:\IBMCS, which appears in the Destination Directory box. Click **Browse** to display the dialog box that allows you to change your drive or directory by typing in a new path name or choosing a directory from the provided list. Click **Next** to continue to the Select Program Folder window.
4. The Select Program Folder window shows which program folder contains the Communications Server icons. The IBM Communications Server folder is the default. To use a different folder, type the name of the desired folder in the entry box provided. When you select a new name, a new folder is created. You can also select a folder from the Existing Folders list. Click **Next** to continue.
5. The next window requests the name of one existing user ID to be initially added to the group; more user IDs can be added later using the Windows NT User Manager. This window is used to establish the IBMCSADMIN group, which allows users to be authorized to remotely configure and administer Communications Server.

The next window requests the number of user licenses purchased for this installation. Enter the number purchased and click **Next** to continue.

6. The Start Copying Files window shows your current settings for the installation of Communications Server. To change a setting, click **Back** to go backward through the previously mentioned installation screens and make the necessary changes.

7. Click **Next** to begin copying the Communications Server files to your system. Once the horizontal Progress Bar appears on the screen to indicate copying has started, do not stop the installation.

During the copying procedure, there are vertical Progress Bars at the left of the window that enable you to watch the installation's progress. The Progress Bar on the far left monitors how much data remains in each file as it is being transferred. The Progress Bar in the middle shows the percentage of the installation files that have been copied. The Progress Bar on the right shows how much disk space remains for you to use during the installation.

8. Once all product files have been copied, the Installing NT Services window appears.

9. At the end of the installation, a dialog box is displayed enabling you to install the IEEE 802.2 interface for the local area network (LAN) using the IBM LLC2 protocol interface. If you know that you will use Communications Server over a LAN adapter or if you are not sure, choose **Yes**. If you know that you will not use Communications Server over a LAN adapter, choose **No**.

If you select **Yes** to install the IBM LLC2 protocol, the install program launches a network control window with instructions for configuring IBM LLC2 to operate over your LAN adapters.

10. Once you have completed the installation, you will be prompted to shut down and restart your computer.

Installing Host On-Demand

Once you have installed Communications Server for Windows NT, you can optionally install IBM eNetwork Host On-Demand, Version 1.0, if you want to access host data through a Java™-enabled Web browser.

To install Host On-Demand, do the following:

1. From the Communications Server for Windows NT Installation window, double-click the **Host On-Demand** icon to display a welcome message on the first installation window. Click **Next** to continue with the installation.
2. Specify the directory where you want the Host On-Demand files extracted. The default directory is <**CSNT install directory**> (where **CSNT** represents Communications Server NT), but you can specify the directory of your choice. Click **Next** to continue.
3. The next installation window provides the program group into which Host On-Demand icons are to be placed. By default, the choice is the IBM Communications Server program group. Click **Next** to continue.
4. The Host On-Demand installation window is displayed to confirm the choices you have made. Click **Next** to begin the file extraction.

At the end of installation, you will be prompted for the method to use when configuring any Web servers on the system. Choose the method and click **OK**. A Web server must exist on this system and be properly configured to use this function.

Installing Web-based server administration

Once you have installed Communications Server for Windows NT, you can optionally install Web-based server administration if you want to manage your Communications Server over the Web. From your Web browser, you can start, stop, and monitor your network resources.

To install Web-based server administration, do the following:

1. From the Communications Server for Windows NT Installation window, double-click the **Web Administration** icon to display a welcome message on the first installation window. Click **Next** to continue with the installation.
2. Specify the directory where you want the Web-based server administration files extracted. The default directory is <**CSNT install directory**> (where **CSNT** represents Communications Server for Windows NT), but you can specify the directory of your choice. Click **Next** to continue.

3. The next installation window provides the program group into which Web-based Server Administration icons are to be placed. By default, the choice is the IBM Communications Server program group. Click **Next** to continue.
4. The Web-based Server Administration Installation window is displayed to confirm the choices you have made. Click **Next** to begin the file extraction.

At the end of installation, you will be prompted for the method to use when configuring any Web servers on the system. Choose the method and click **OK**. A Web server must exist on this system and be properly configured to use this function.

Uninstalling Communications Server for Windows NT

To uninstall Communications Server, do the following:

1. For Windows NT 3.5.1, click the **Uninstall** icon from the IBM Communications Server folder and follow the procedures provided.
2. For Windows NT 4.0, click the **Control Panel** icon. Click the **Add/Remove Programs** icon. In the list box provided, click your folder name, and then click the **Remove** button.
3. If you have the IBM LLC2 protocol interface installed, Help panel helps you uninstall the LLC2 protocol.
4. Shut down and restart your computer.

Accessing and installing the SNA API clients

Once you have installed Communications Server for Windows NT, you will be able to access the SNA API clients that work with the server. The SNA API clients are for the following operating systems:

- OS/2
- Windows 3.x
- Windows 95
- Windows NT

The client installation packages are located in the following directories under your Communications Server installation directory:

- Clients\WinNT
- Clients\Win95
- Clients\Win31
- Clients\OS2

To install a package on a client, the client must have access to the information in these directories (for instance, using net use, FTP, or diskette transfer).

Change to the appropriate drive; and, at the command prompt, type **install** to access the OS/2 client and **setup** to access all of the other clients.

Alternatively, install the SNA API clients directly from the CD-ROM to a client machine instead of from a server. Follow the steps provided on the Communications Server CD-ROM.

Accessing the remote administration clients

Remote administration and configuration clients (for Windows NT) can remotely administer and configure the server. To access the remote administration and configuration clients, specify the following path:

Drive letter: \IBMCS\clients\admin

Note: Do not put the remote administration and configuration clients on the same machine as your server because they are already available on that machine.

Host access scenarios

Introducing the test scenarios

These scenarios illustrate common networking problems faced by businesses today, and they show how Communications Server for Windows NT provides the solutions to those problems. Before beginning the scenarios, be sure that you have the necessary software and hardware.

Note: The network diagrams included with the scenario descriptions are generic. The actual test scenarios may only require you to configure selected portions of the illustrated networks.

Test Scenario 1

Configuring a TN3270E server

In Scenario 1, a customer's computers are connected using a TCP/IP LAN, but employees need to access critical host applications.

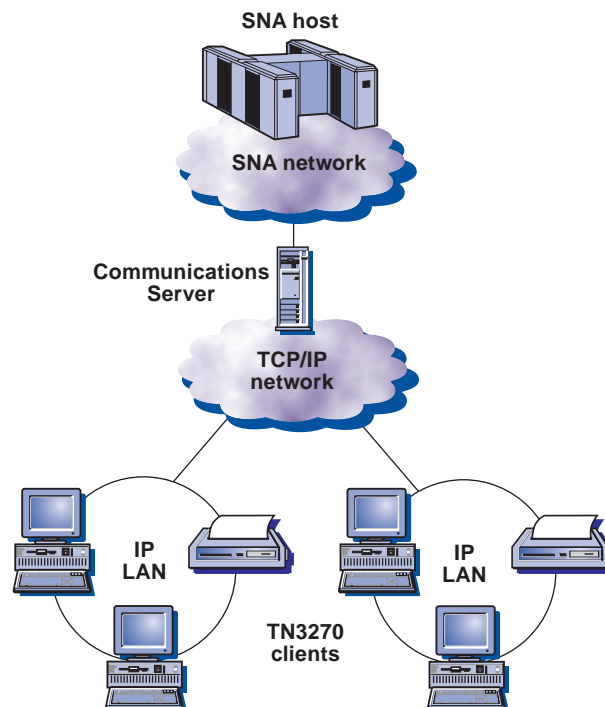
The recommended solution is to configure Communications Server for Windows NT as a TN3270E server and provide workstations with TN3270 emulation software. The TN3270E server would function as a gateway, enabling users to access the host system.

To complete this scenario, you will need to perform the following steps:

Step 1: Configure the node, devices, and gateway on the server machine.

Step 2: Configure IBM eNetwork Personal Communications for Windows NT on the client machine.

The following figure shows how the TN3270E Server host function enables you to configure your solution.



TN3270E server with wide area TCP/IP network

Scenario 1: Configuring a TN3270E server

To complete this scenario, you will need to perform the following:

Step 1: Configure the node, devices, and gateway on the server machine

1. Click **Start** on the task bar, then select:

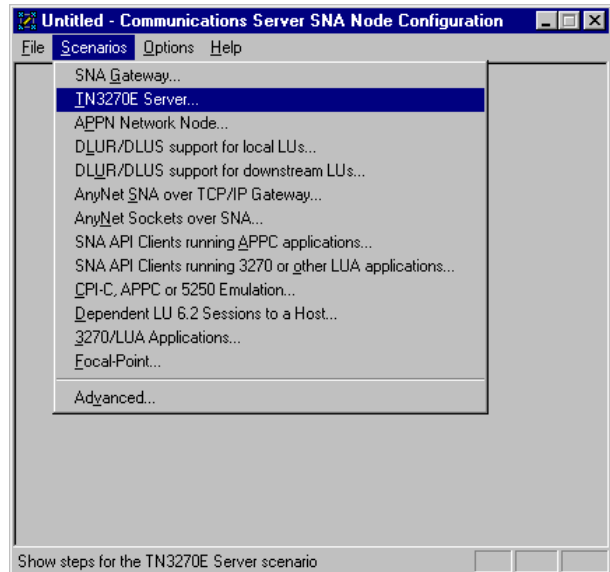
- Programs
- IBM Communications Server
- SNA Node Configuration

2. The Communications Server SNA Node Configuration window is displayed.

- Select **File**, then select **New**

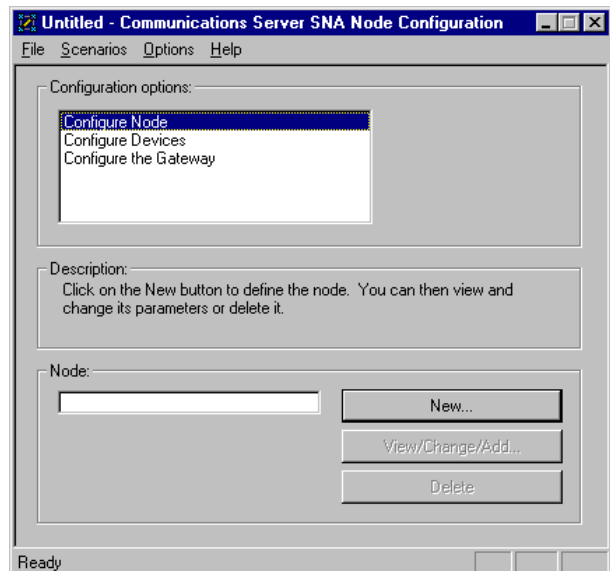


3. Select **Scenarios**, then select **TN3270E server**.



Configure the node

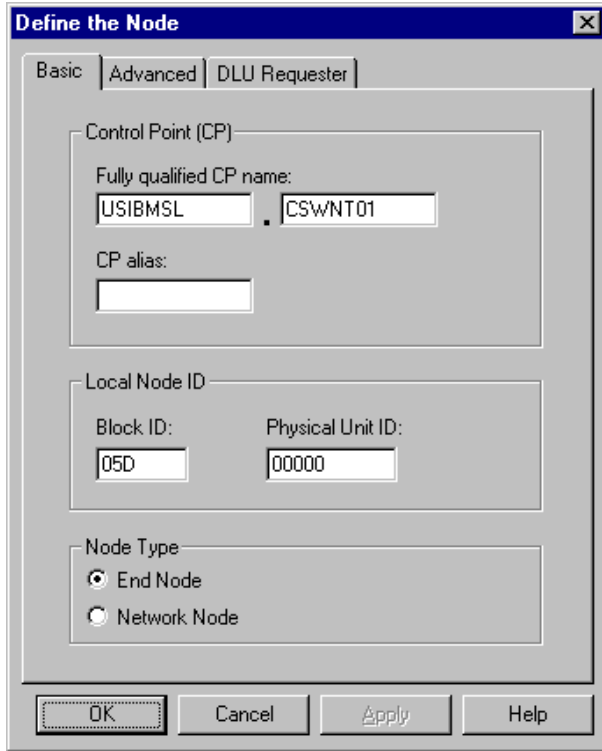
1. Highlight **Configure Node**, then select **New**.



2. The Define the Node window is displayed. Select the **Basic** tab, and provide the following information.

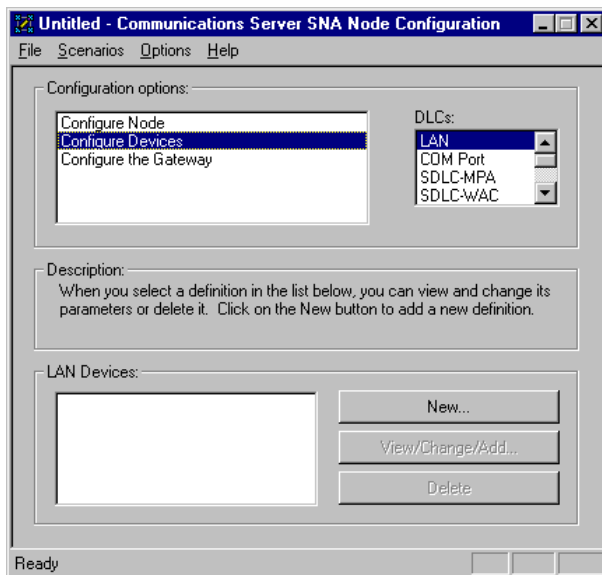
- Fully qualified CP name = **USIBMSL.CSWNT01**
- Node Type = **End Node**

3. When you are done, click **OK**.

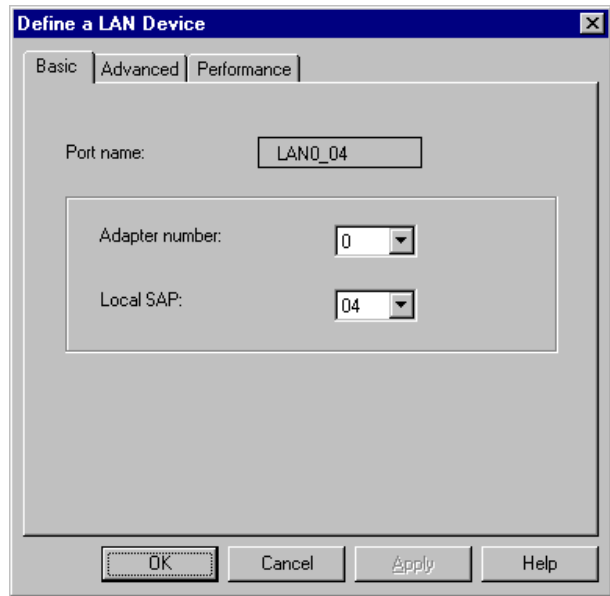


Configure Devices

1. Highlight **Configure Devices**, then select **New**.

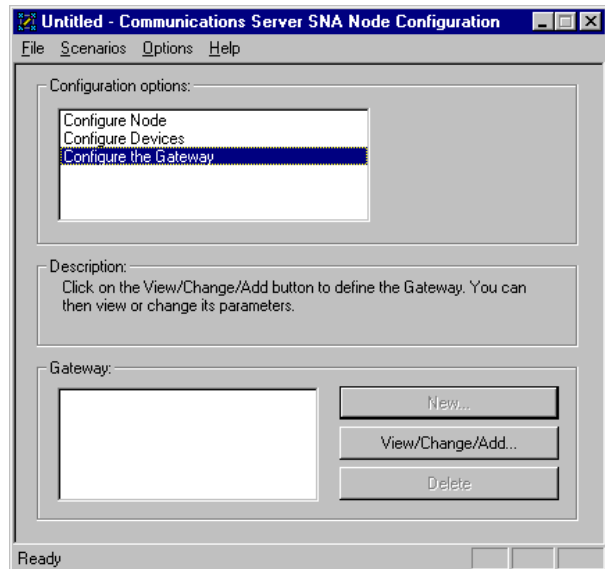


2. The Define a LAN Device window is displayed. Click **OK** to accept the default values.

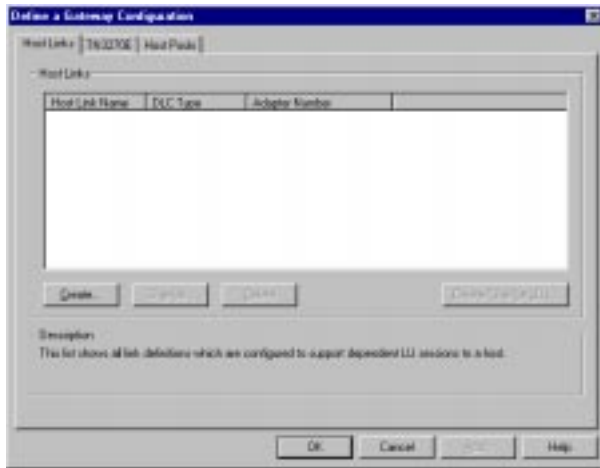


Configure the Gateway

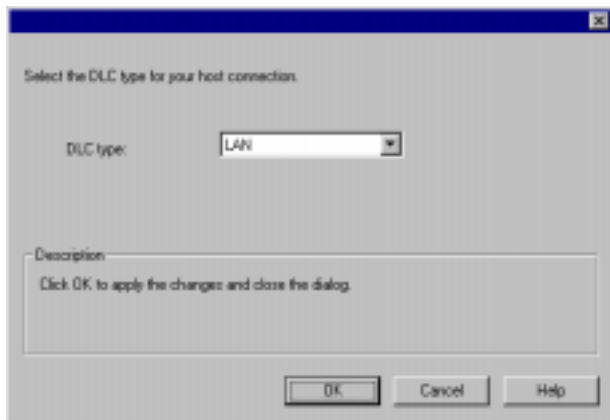
1. Highlight **Configure the Gateway**, then press **View/Change/Add....**



2. The Define a Gateway Configuration window is displayed. Select the **Host Links** tab, then press **Create** to define a new link.



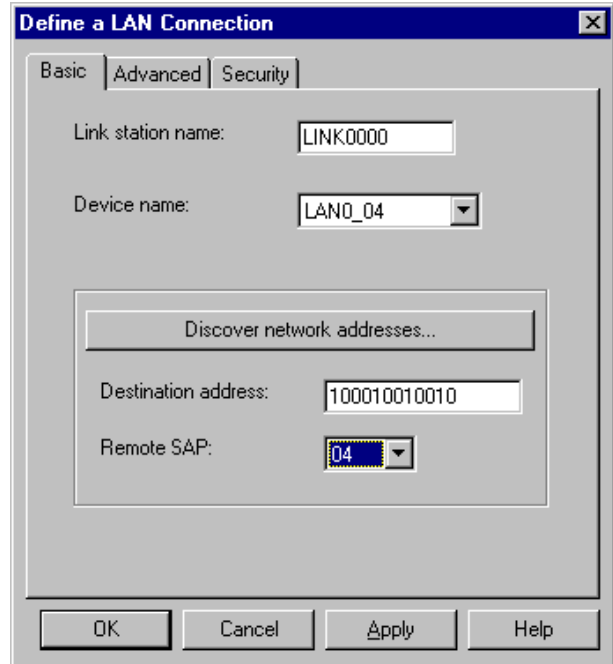
3. The Host Link Type window is displayed. Select DLC type = **LAN**, then press **OK**.



4. The Define a LAN Connection window is displayed.

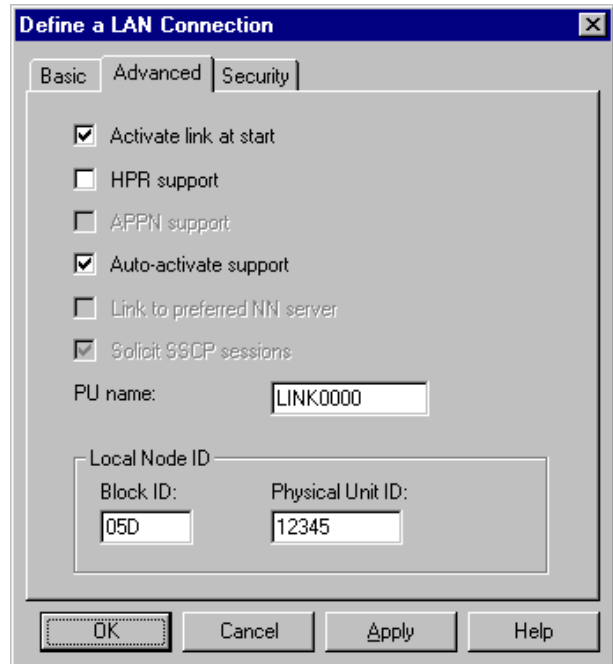
– Enter the **12 character hexadecimal address of the S/390 host**. In this example the destination address = **100010010010**.

5. When you are done, select the **Advanced** tab.

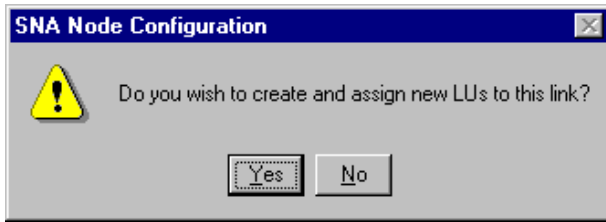


6. On the **Advanced** property page, enter the **Local Node ID**. The Local Node ID consists of two parts: the Block ID and the Physical Unit ID. In this example, the Block ID = **05D**, and the Physical Unit ID = **12345**.

– After entering the Local Node ID information, press **OK** to create the LAN connection.



7. This SNA Node Configuration window is displayed. Press **Yes** to create a new LU for this host link.



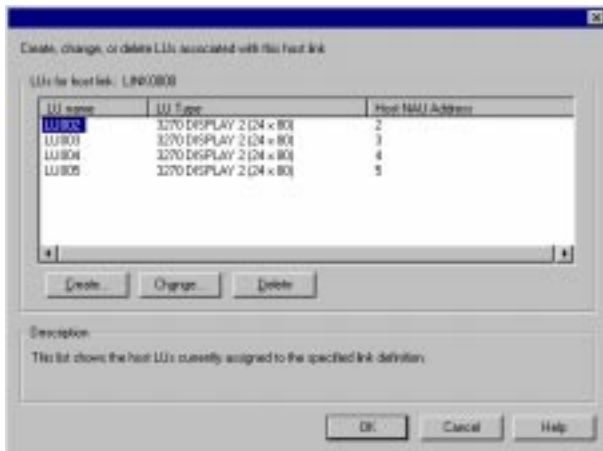
8. The Define LUs window is displayed. Enter the following information.

- Base LU name = **LU**
- Number of LUs = **4**

9. When you're done, click **OK** to define the range of LUs.



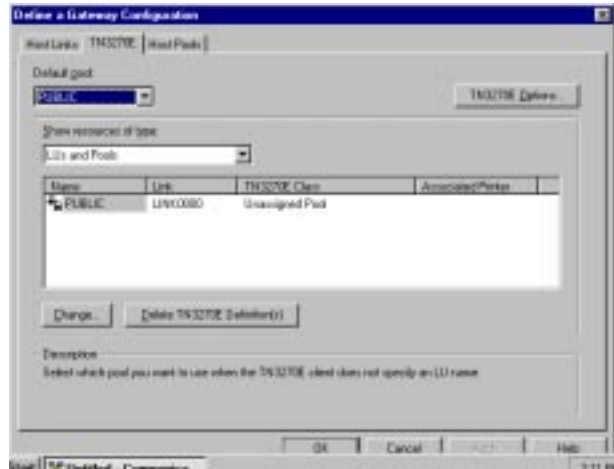
10. When the Assigned LUs window is displayed, press **OK**.



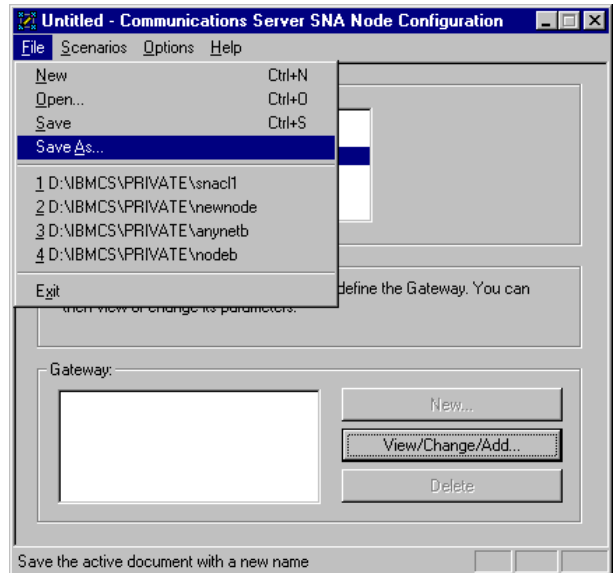
11. The Define a Gateway Configuration property sheet is displayed.

- Select the **TN3270E** tab
- Select **PUBLIC** from the Default pool dropdown list

12. Press **OK**.

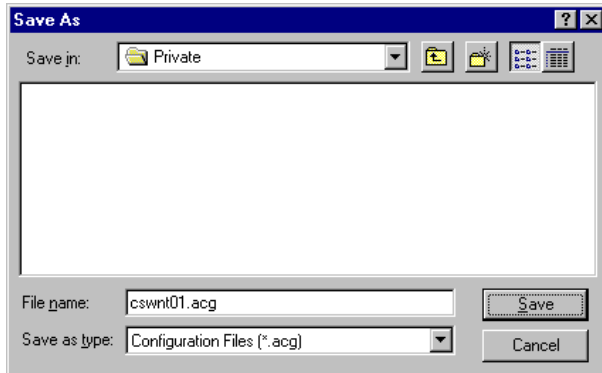


13. The Communications Server SNA Node Configuration window is displayed. Select **File**, then select **Save As....**



14. The Save As window is displayed.

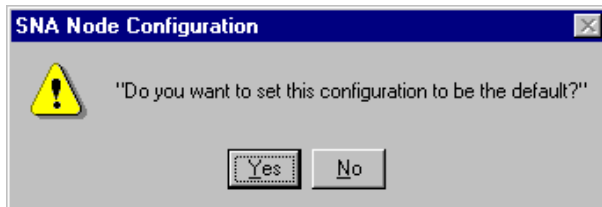
- Enter File name = **cswnt01.acg**
- Press **Save**



2. Configure as shown in the following example. When you are done, double-click **TCP/IP** in the Attachment column.



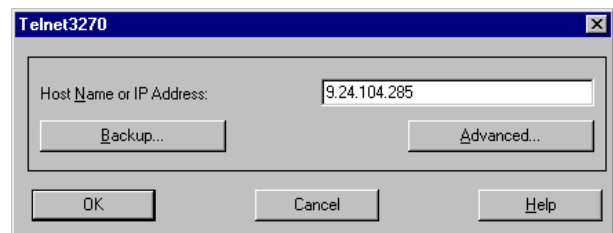
15. When this SNA Node Configuration window is displayed, select **Yes**.



3. The Telnet 3270 window is displayed.

- Enter the **IP address of the TN3270E server**. In this example, the IP address is **9.24.104.285**.

4. When you are done, click **OK**.



You have completed the TN3270E server configuration.

Next, you will want to start the node, and then verify that the link is active.

**Step 2:
Configure IBM eNetwork Personal Communications for Windows NT on the client machine**

If you have not already done so, install Personal Communications for Windows NT on a client workstation where TCP/IP is installed, configured, and attached to a TCP/IP LAN.

1. To configure, click **Start** on the task bar and then select:

- **Programs**
- **IBM Personal Communications**
- **Start or Configure Session**

You have completed the TN3270 client configuration which will enable you to connect to the TN3270E server and access an emulation screen.

Test Scenario 2

Configuring TCP/IP over SNA Gateway

In Scenario 2, a customer has TCP/IP LANs which are represented by Node A and Node E in the following figure. They would like to access each other's socket applications over an SNA network backbone.

The recommended solution is to configure AnyNet® Sockets over SNA Gateway on each of two Communications Server for Windows NT servers.

To complete this scenario, you will need to perform the following steps:

Step 1: Configure the TCP/IP address for Node A

Step 2: Configure the TCP/IP address for Node B

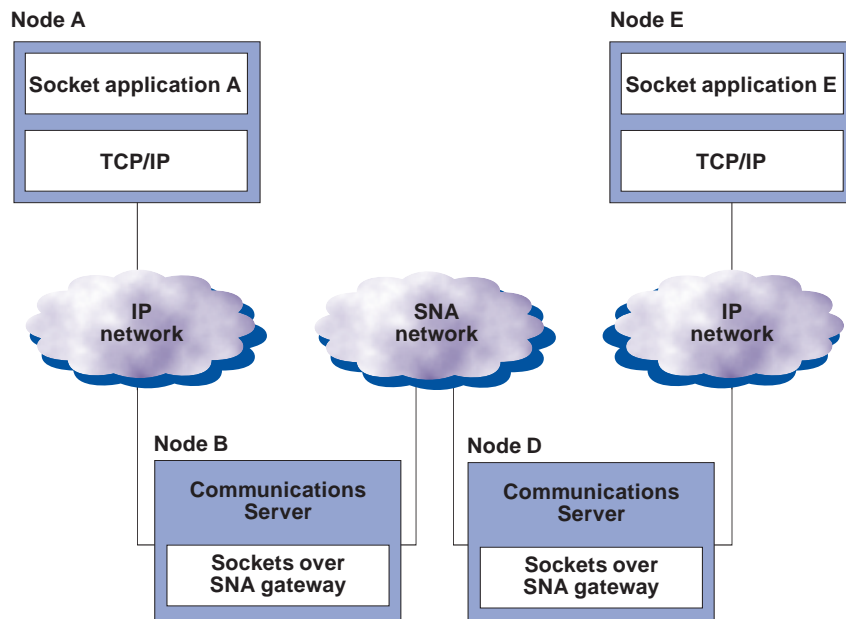
Step 3: Configure the TCP/IP address for Node D

Step 4: Configure the TCP/IP address for Node E

Step 5: Configure Communications Server for Windows NT on Node B (this includes configuring the Gateway Adapter device driver)

Step 6: Configure Communications Server for Windows NT on Node D (this includes configuring the Gateway Adapter device driver)

Step 7: PING Node E from Node A to test your configurations



Scenario 2: Configuring TCP/IP over SNA gateway

In this scenario, you will enable communication between a sockets application on Node A on a TCP/IP network and a sockets application on Node E on a TCP/IP network. Node A and Node E, connected by an SNA network, will communicate through two AnyNet® sockets over SNA gateways.

Before beginning this scenario, collect the following information that is unique to your machines:

- Local IP addresses for Nodes A, B, D, and E. (Issue `ipconfig` at the command prompt at each node to determine if you have an adapter installed, and what the native IP address is once it is configured.)
- 12-character hexadecimal LAN adapter node address (MAC address) for Node B and Node D. (Issue `net config wksta` at the command prompt.)

Note: For purposes of this example, the following values will be used:

Node A: **Microsoft TCP/IP Configuration**
IP address = 10.10.10.1
Subnet mask = 255.255.255.0
Default gateway = 10.10.10.2 (GW B)

Node B: **Microsoft TCP/IP Configuration**
IP address interface = 10.10.10.2
Subnet mask = 255.255.255.0

Node D: **Microsoft TCP/IP Configuration**
IP address interface = 30.30.30.2
Subnet mask = 255.255.255.0

Node E: **Microsoft TCP/IP Configuration**
IP address = 30.30.30.1
Subnet mask = 255.255.255.0
Default gateway = 30.30.30.2 (GW D)

Node B: **Sockets over SNA Configuration**

Local: sna0 configuration
IP address = 20.20.20.2
Subnet Mask = 255.255.255.0
LUs: IP address to LU mapping;
generate LU names
IP address = 20.20.20.2
Subnet Mask = 255.255.255.0
Netid = NETZ
Template = ITSO

Routes

Route type = Network
Destination address = 30.30.30.0
Destination mask = 255.255.255.0
Router address = 20.20.20.3
Direct connection: No

Gateway Adapter Configuration

IP address interface = 20.20.20.2
Subnet mask = 255.255.255.0
Enable IP forwarding

SNA Configuration

Node: CP name NETZ.CPB
Network Node
Devices: LAN

Connections: Destination address = Address of Gateway D SNA adapter (use `net config wksta` from command line to get this information)

Node D: **Sockets over SNA Configuration**

Local: sna0 configuration
IP address = 20.20.20.3
Subnet Mask = 255.255.255.0
LUs: IP address to LU mapping;
generate LU names
IP address = 20.20.20.3
Subnet Mask = 255.255.255.0
Netid = NETZ
Template = ITSO

Routes

Route type = Network
Destination address = 10.10.10.0
Destination mask = 255.255.255.0
Router address = 20.20.20.2
Direct connection: No

Gateway Adapter Configuration

IP address interface = 20.20.20.3
Subnet mask = 255.255.255.0
Enable IP forwarding

SNA Configuration

Node: CP name NETZ.CPD
Network Node
Devices: LAN

Connections: Destination address = Address of Gateway B SNA adapter (use *net config wksta* from command line to get this information)

Step 1: Configure the TCP/IP address for Node A

Using the values provided at the beginning of this scenario for Node A, perform the following:

To configure the TCP/IP address (and to configure native TCP/IP mode), go to Control Panel, Network applet.

1. On the Network Settings panel of the NT Network Installation program, click **Protocols**.
2. Select **TCP/IP Protocol**.
3. Click **Properties**.
4. Click the **IP Address** tab and from the Adapter pull down, select your native adapter.
5. Click the **Specify an IP Address** tab and enter the **TCP/IP address, subnet mask, and default gateway** listed for Node A.
6. Click **OK** on the TCP/IP Properties panel. Ignore the warning that one of the adapters has an empty WINS address, and click **Yes** to continue.
7. When the Network Settings Change warning is displayed, click **Yes** to restart the computer.

Step 2: Configure the TCP/IP address for Node B

Using the values provided at the beginning of this scenario for Node B, perform the following:

To configure the TCP/IP address (and to configure native TCP/IP mode), go to Control Panel, Network applet.

1. On the Network Settings panel of the NT Network Installation program, click **Protocols**.
2. Select **TCP/IP Protocol**.
3. Click **Properties**.
4. Click the **IP Address** tab and from the Adapter pull down, select your native adapter.
5. Click the **Specify an IP Address** tab and enter the **TCP/IP address, subnet mask, and default gateway** listed for Node B.
6. Click **OK** on the TCP/IP Properties panel. Ignore the warning that one of the adapters has an empty WINS address, and click **Yes** to continue.
7. When the Network Settings Change warning is displayed, click **Yes** to restart the computer.

Step 3: Configure the TCP/IP address for Node D

Using the values provided at the beginning of this scenario for Node D, perform the following:

To configure the TCP/IP address (and to configure native TCP/IP mode), go to Control Panel, Network applet.

1. On the Network Settings panel of the NT Network Installation program, click **Protocols**.
2. Select **TCP/IP Protocol**.
3. Click **Properties**.
4. Click the **IP Address** tab and from the Adapter pull down, select your native adapter.
5. Click the **Specify an IP Address** tab and enter the **TCP/IP address, subnet mask, and default gateway** listed for Node D.
6. Click **OK** on the TCP/IP Properties panel. Ignore the warning that one of the adapters has an empty WINS address, and click **Yes** to continue.
7. When the Network Settings Change warning is displayed, click **Yes** to restart the computer.

Step 4: Configure the TCP/IP address for Node E

Using the values provided at the beginning of this scenario for Node E, perform the following:

To configure the TCP/IP address (and to configure native TCP/IP mode), go to Control Panel, Network applet.

1. On the Network Settings panel of the NT Network Installation program, click **Protocols**.
2. Select **TCP/IP Protocol**.
3. Click **Properties**.
4. Click the **IP Address** tab and from the Adapter pull down, select your native adapter.
5. Click the **Specify an IP Address** tab and enter the **TCP/IP address**, **subnet mask**, and **default gateway** listed for Node E.
6. Click **OK** on the TCP/IP Properties panel. Ignore the warning that one of the adapters has an empty WINS address, and click **Yes** to continue.
7. When the Network Settings Change warning is displayed, click **Yes** to restart the computer.

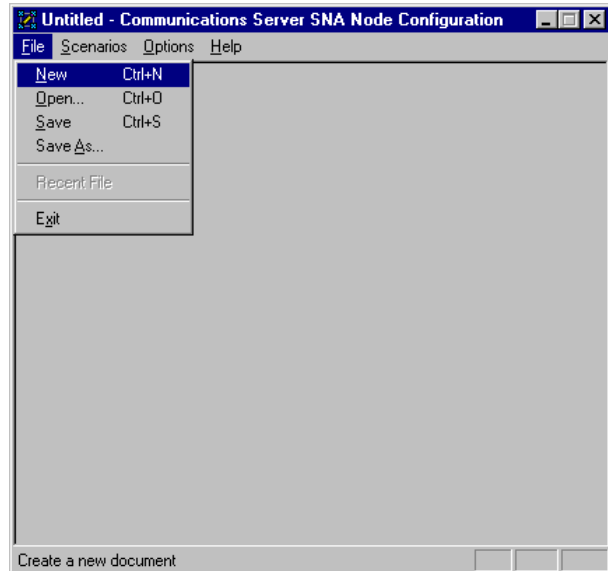
Step 5: Configure Communications Server for Windows NT on Node B (this includes configuring the Gateway Adapter device driver)

Using the values provided at the beginning of this scenario for Node B, perform the following:

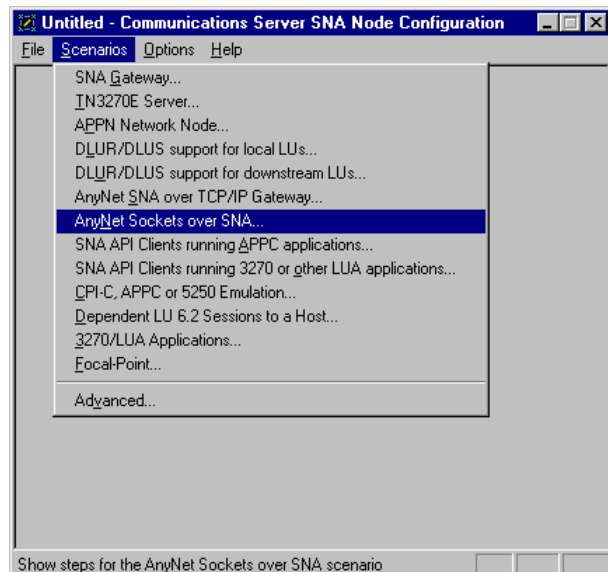
1. Click **Start** on the task bar, then select:
 - Programs
 - IBM Communications Server
 - SNA Node Configuration

2. The Communications Server SNA Node Configuration window is displayed.

Select **File**, then select **New**

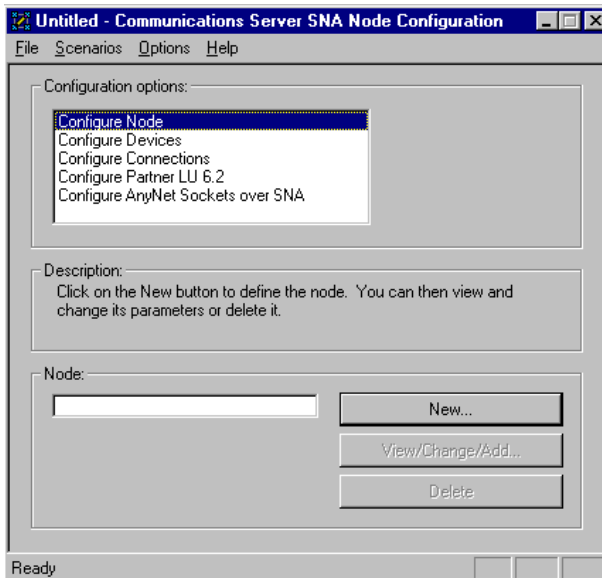


3. Select **Scenarios**, then select **AnyNet Sockets over SNA....**



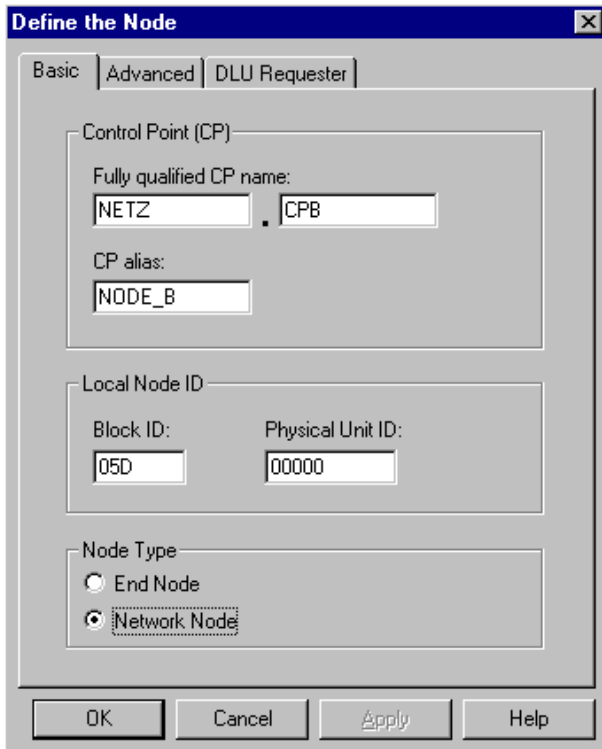
Configure the Node

1. Highlight **Configure Node**, then click **New**.



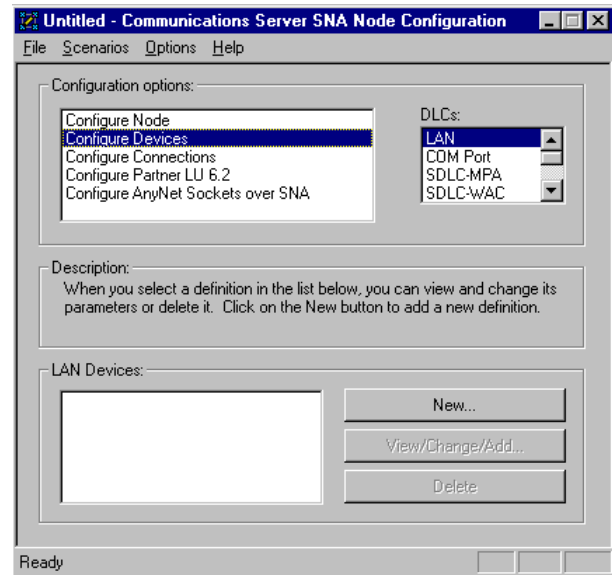
2. The Define the Node window is displayed. Select the **Basic** tab, and provide the following information.

- Fully qualified CP name = **NETZ.CPB**
- Node Type = **Network Node**
- When you are done, click **OK**

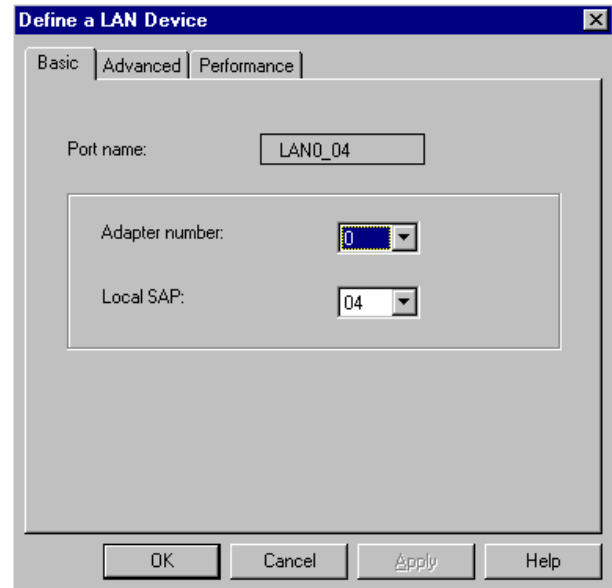


Configure Devices

1. Highlight **Configure Devices**, then select **New**.

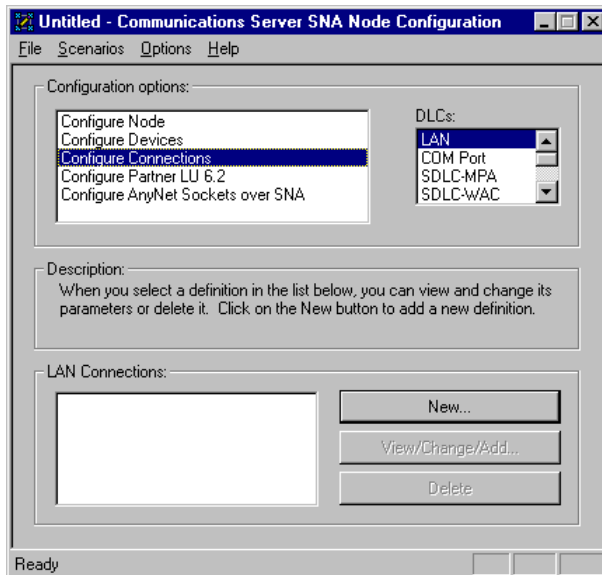


2. The Define a LAN Device window is displayed. Click **OK** to accept the default values.



Configure Connections

1. Select **Configure Connections**, then select **New**.



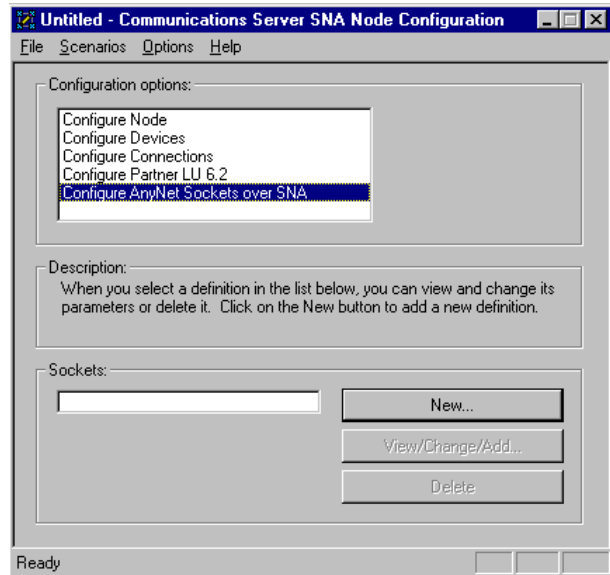
2. The Define a LAN Connection window is displayed.

- Select the **Basic** tab
- Issue the net config wksta command at the command prompt to obtain the **12-character hexadecimal destination address** requested. In this example, it is **400050000000**.
- When you are done, click **OK**



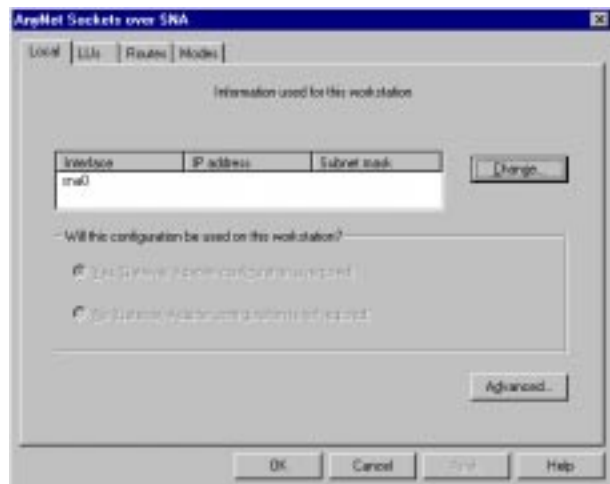
Configure AnyNet Sockets over SNA

1. Select **Configure AnyNet Sockets over SNA**, then click **New**.



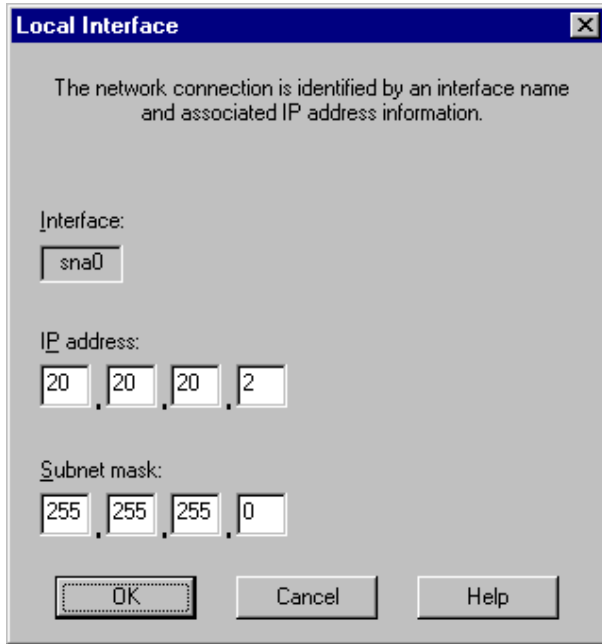
2. The AnyNet Sockets over SNA window is displayed.

- Select the **Local** tab
- Click **Change**

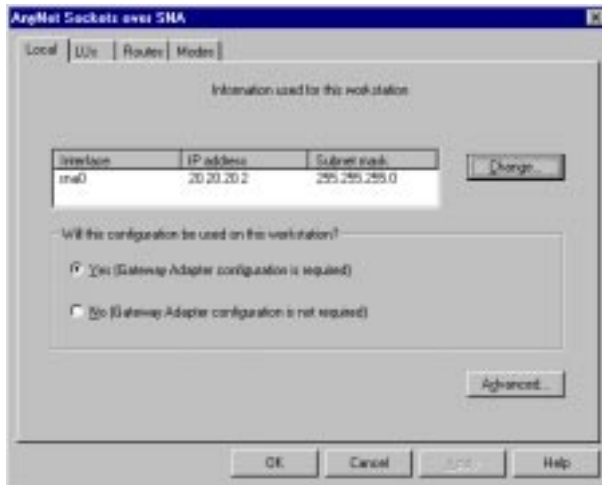


3. The Local Interface window is displayed.

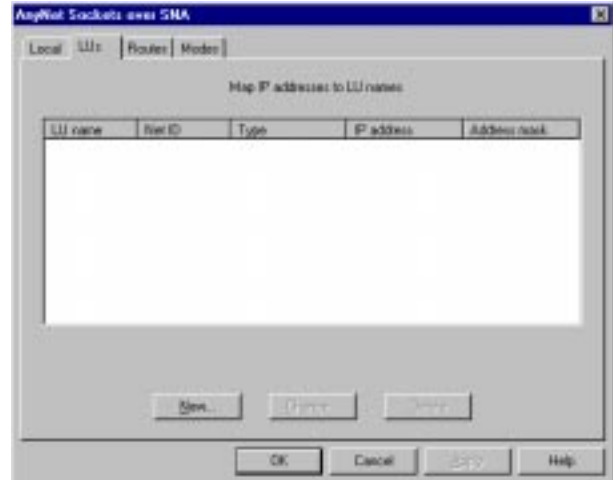
- Specify the IP address (**20.20.20.2**) and subnet mask (**255.255.255.0**)
- When you are done, click OK



4. When you return to the AnyNet Sockets over SNA window, ensure that **Yes** is selected for Gateway Adapter Configuration is required. When you are done, select the **LUs** tab.

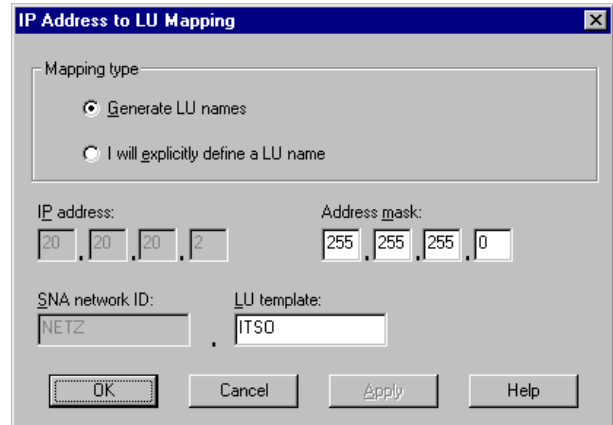


5. The LUs tab is displayed. Click **New...**

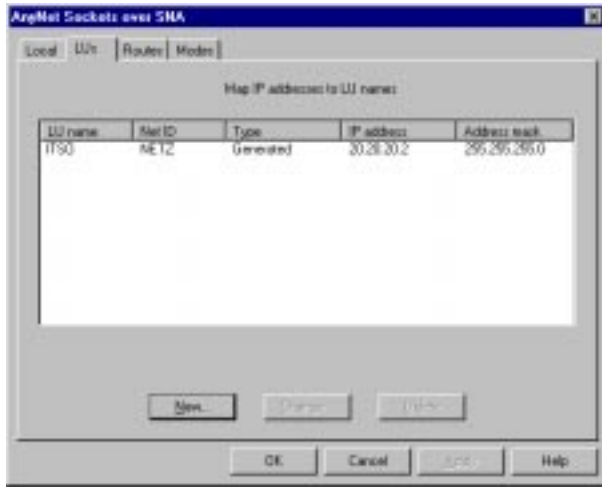


6. The IP Address to LU Mapping window is displayed.

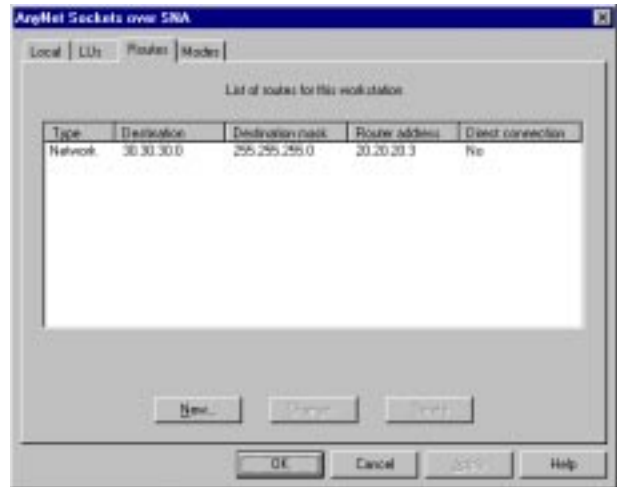
- Leave **Generate LU names** selected
- Enter the following information for this example:
 - IP address = **20.20.20.2**
 - Address mask = **255.255.255.0**
 - SNA network ID = **NETZ** (Default)
 - LU Template = **ITSO**
- When you are done, click **OK**



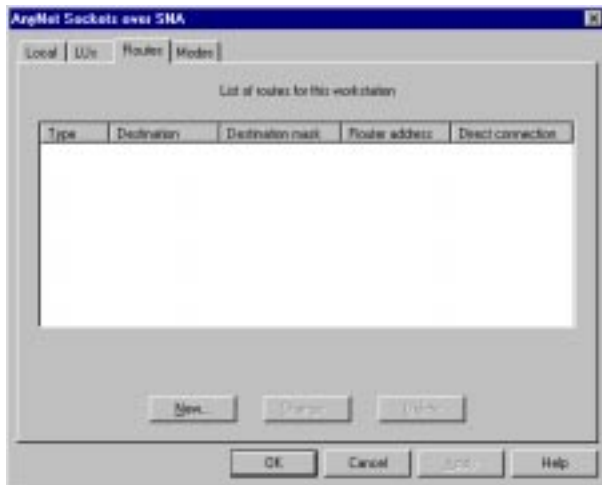
7. When you return to the AnyNet Sockets over SNA property sheet, select the **Routes** tab.



10. When you return to the AnyNet Sockets over SNA window, click **OK**.



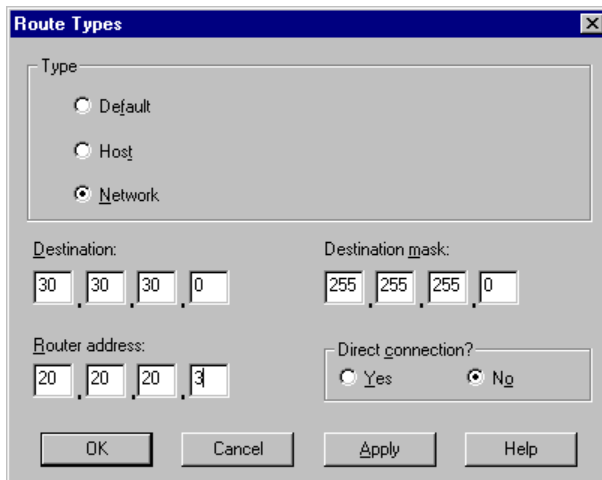
8. The Routes property page is displayed. Select **New....**



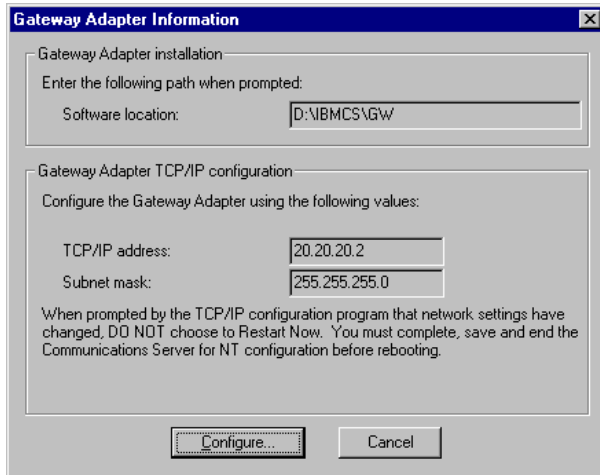
11. The Communications Server SNA Configuration Help window is displayed. Be sure to follow the instructions on this Help window before proceeding.



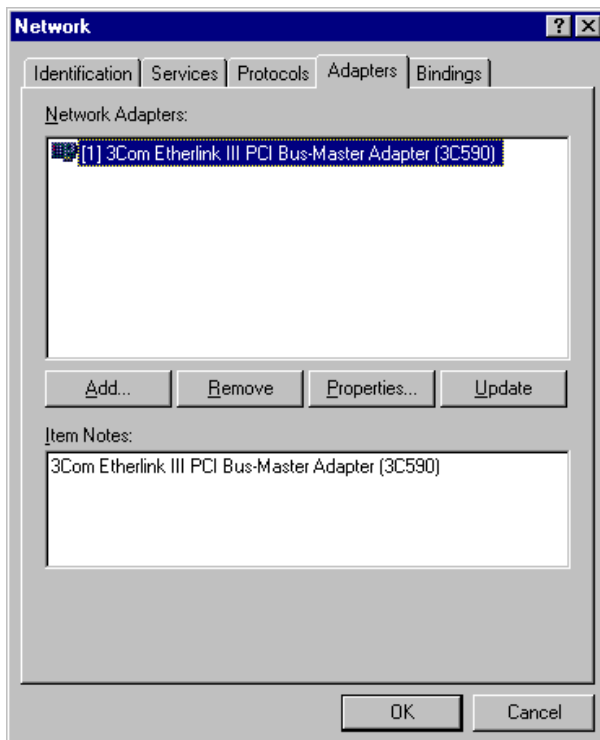
9. The Route Types window is displayed. Select **Network**, then enter the values listed for Node B. When you are done, click **OK**.



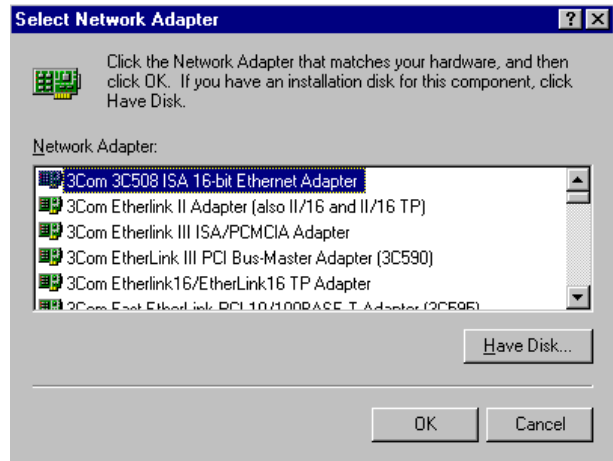
12. On the Gateway Adapter Information screen, write down the Software Location, TCP/IP address, and subnet mask information (you will need this later), then click **Configure....**



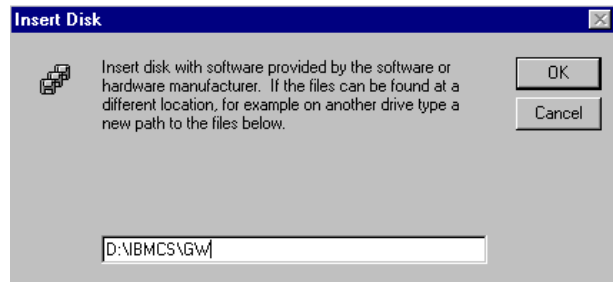
13. On the Network panel, select the **Adapters** tab, then click **Add....**



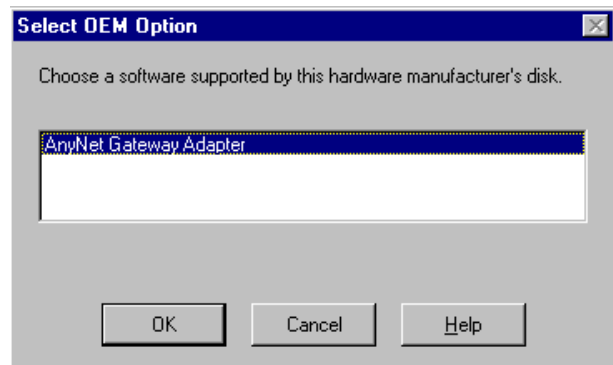
14. The Select Network Adapter panel is displayed. Click **Have Disk....**



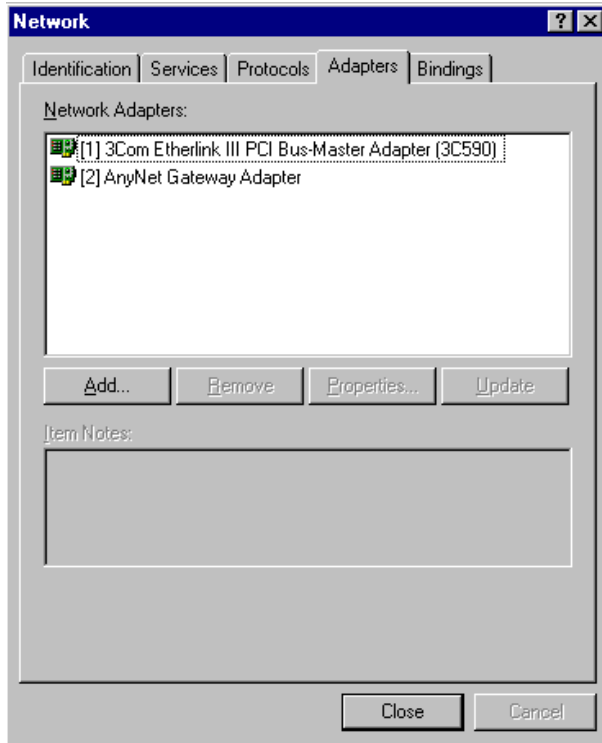
15. The Insert Disk window is displayed. Enter **D:\IBMCS\GW**, then click **OK**.



16. The Select OEM Option panel is displayed. Select **AnyNet Gateway Adapter** and click **OK**.



- The Network panel is displayed, indicating the AnyNet Gateway Adapter is installed.



Next, configure the Gateway Adapter device driver.

The following describes the configuration sequence for Microsoft TCP/IP (this is the same information that appears on the Communications Server SNA Configuration Help panel).

- From the Network panel, click **Close**. TCP/IP Configuration will be invoked.
- Click the **IP Address** tab and from the Adapter pull down, select **AnyNet Gateway Adapter**.
- Click the **Specify an IP Address** tab and enter the TCP/IP address and subnet mask that were displayed in the Gateway Adapter Information panel. No other fields should be entered on the IP Address panel.
- Click the **Routing** tab, and then click **Enable IP Forwarding** so that IP forwarding is enabled.
- Click the **WINS Address** tab and, from the Adapter pull down, select **AnyNet Gateway Adapter**.

- Deselect the **Enable DNS for Windows Resolution** option. No other fields should be selected or filled in on this panel.

Note: The DNS Configuration panel may contain data pertinent to other adapters. These fields should not be modified.

- Click **OK** on the TCP/IP Properties panel. Ignore the warning that one of the adapters has an empty WINS address, and click **Yes** to continue.
- When the Network Settings Change warning is displayed, click **No** so that the computer is not restarted.
- Click **OK** on the Gateway Adapter Information panel and save your configuration. Restart the computer for the adapter changes to take effect.

Step 6: Configure Communications Server for Windows NT on Node D (this includes configuring the Gateway Adapter device driver)

- To configure Node D:
 - Repeat the procedure followed when configuring Node B but do not Configure Connections.
 - Substitute the appropriate values provided at the beginning of this scenario.

- You have completed the AnyNet Sockets over SNA Gateway configuration.
- After configuring and rebooting Nodes A, B, D, and E, start Communications Server for Windows NT on Nodes B and D using the configurations that you previously saved.
- Next, you will want to start the node, and then verify that the link is active.

Step 7: PING Node E from Node A to test your configurations

Enter the following from the command line:

```
ping 30.30.30.1
```

Test Scenario 3

Configuring SNA-API clients running APPC applications with Personal Communications

In Scenario 3, Windows NT clients want to connect to a AS/400 host, using a 5250 emulator over APPC without installing an SNA communication stack on their machines.

The recommended solution is to configure:

- Communications Server for Windows NT server to support SNA API clients and their applications
- SNA API client to communicate with Communications Server
- A 5250 emulator

By doing this, employees will be able to run the 5250 emulator while using the SNA stack on the Communications Server node to manage the session. Communications Server establishes and manages a session as if the origin were the local node, but forwards the application data to the SNA API client instead of to its own application APIs.

To complete this scenario, you need to perform the following steps:

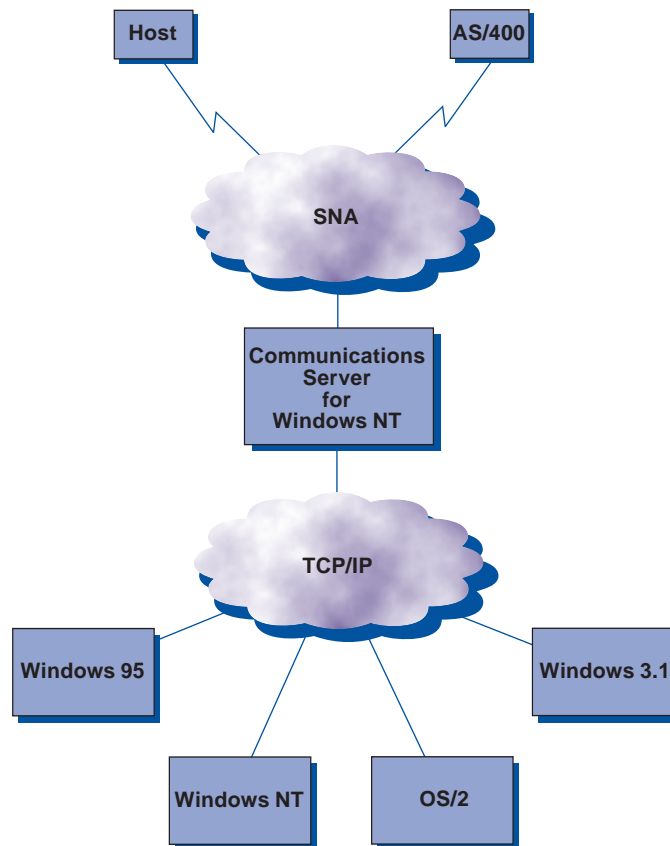
Step 1: Configure Communications Server (on the server machine)

Step 2: Define a user ID and password (on the server machine)

Step 3: Configure Communications Server SNA client (on the client machine)

Step 4: Configure eNetwork Personal Communications for Windows NT (on the client machine) to begin a 5250 session

The following figure illustrates how Communications Server for Windows NT supports SNA API clients on Windows 95, Windows NT, Windows 3.x, and OS/2.



TCP/IP-attached SNA API clients

Scenario 3: Configuring SNA-API clients running APPC applications with Personal Communications

Step 1: Configure Communications Server (on the server machine)

1. Click **Start** on the task bar, then select:

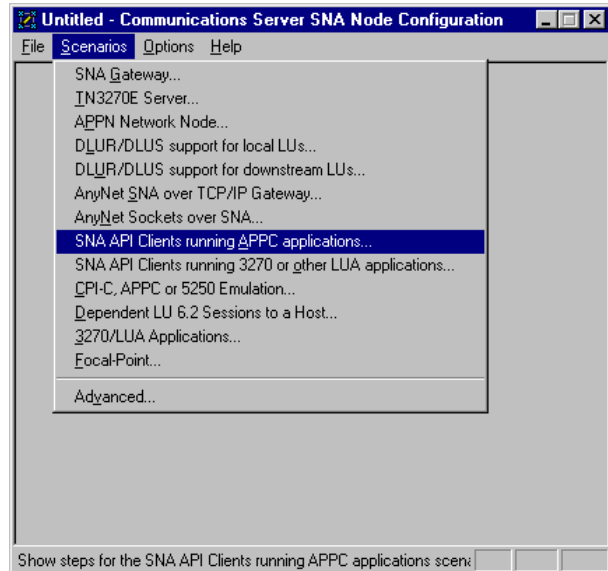
- Programs
- IBM Communications Server
- SNA Node Configuration

2. The Communications Server SNA Node Configuration window is displayed.

- Select **File**, then select **New**

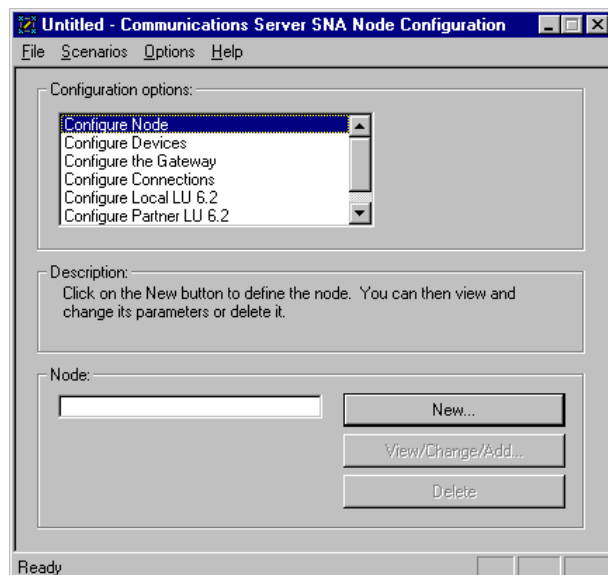


3. Select **Scenarios**, then select **SNA API Clients running APPC applications...**



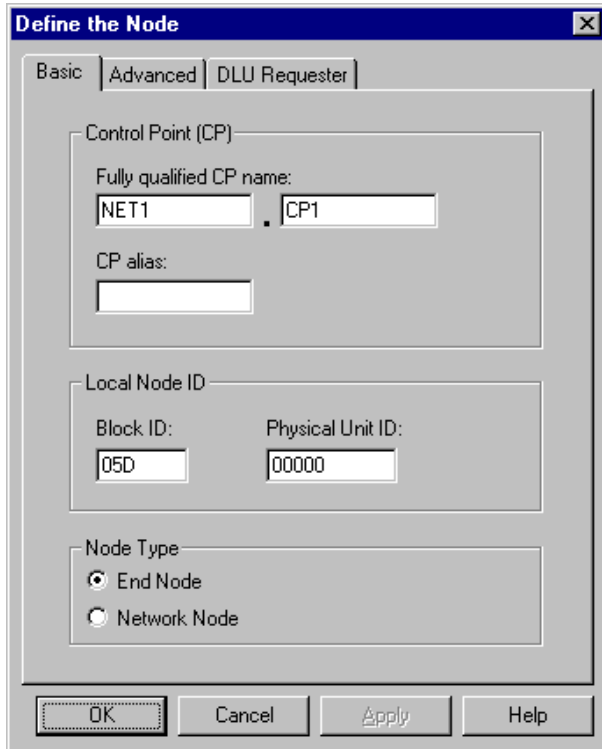
Configure the Node

1. Highlight **Configure Node**, then click **New**.



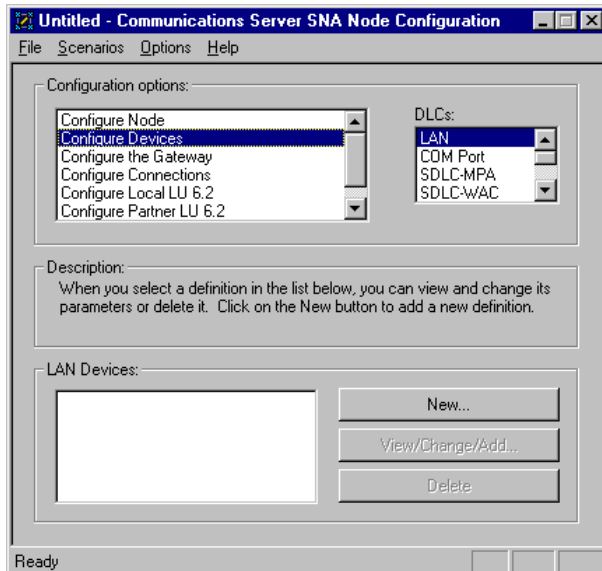
2. The Define the Node window is displayed. Select the **Basic** tab, and provide the following information.

- Fully qualified CP name = **NET1.CP1**
- Node Type = **End Node**
- When you are done, click **OK**

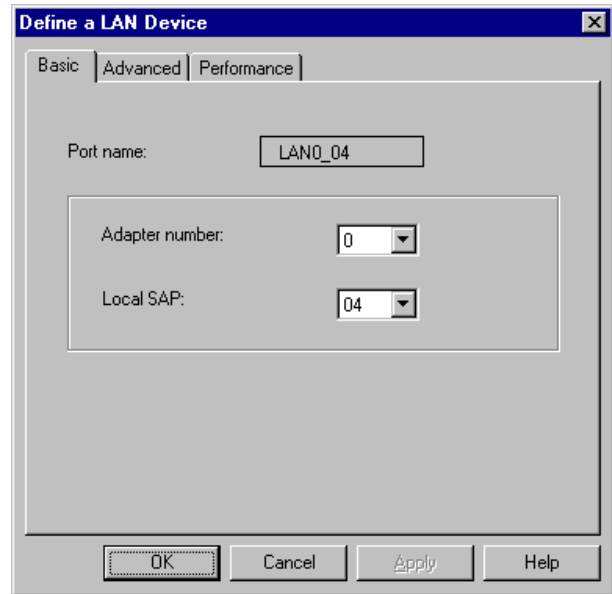


Configure Devices

1. Highlight **Configure Devices**, then click **New**.

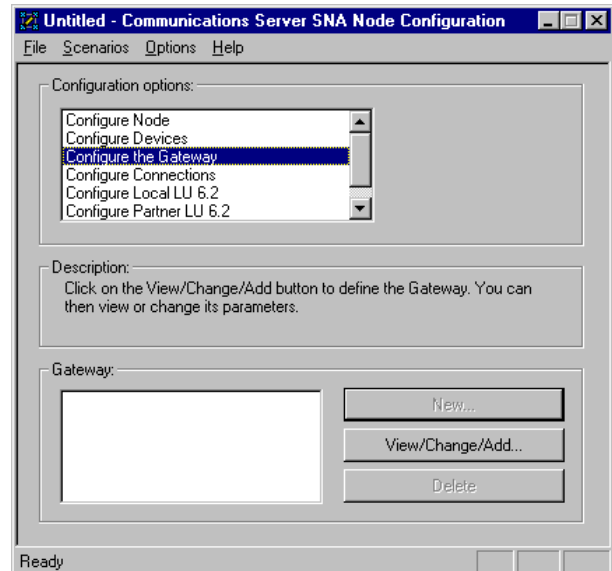


2. The Define a LAN Device window is displayed. Click **OK** to accept the default values.



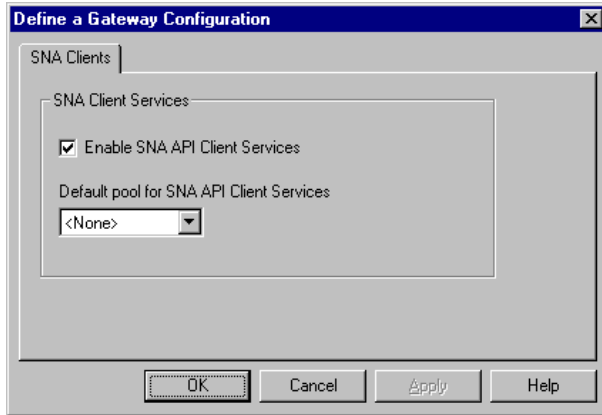
Configure the Gateway

1. Select **Configure the Gateway**, then select **View/Change/Add...**



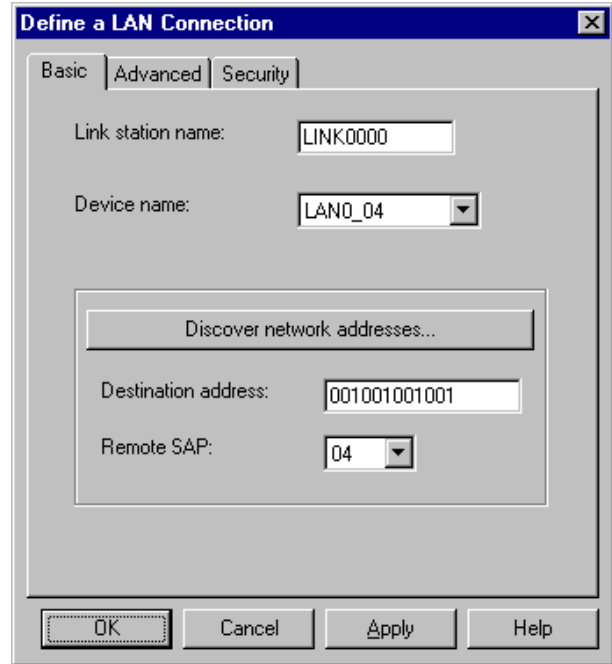
2. The Define a Gateway Configuration window is displayed.

- Ensure that **Enable SNA API Client Services** is checked
- Click **OK**



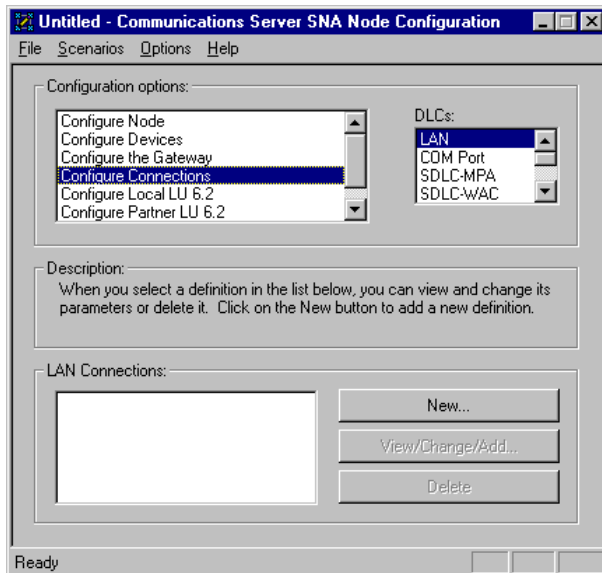
2. The Define a LAN Connection window is displayed.

- Select the **Basic** tab
- Enter the **12 character hexadecimal address of the AS/400 host**. In this example the destination address = **001001001001**.
- Click **OK**

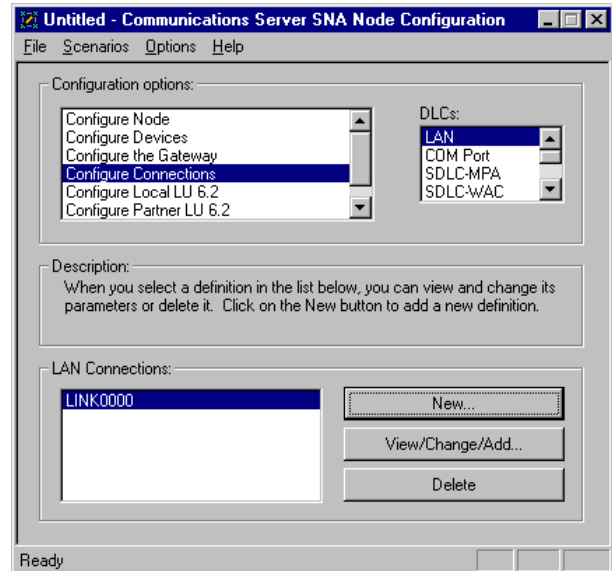


Configure Connections

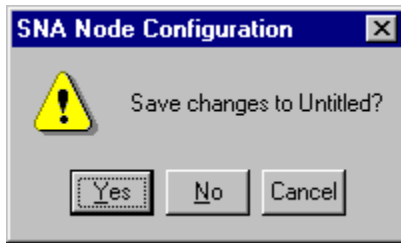
1. Select **Configure Connections**, then click **New**.



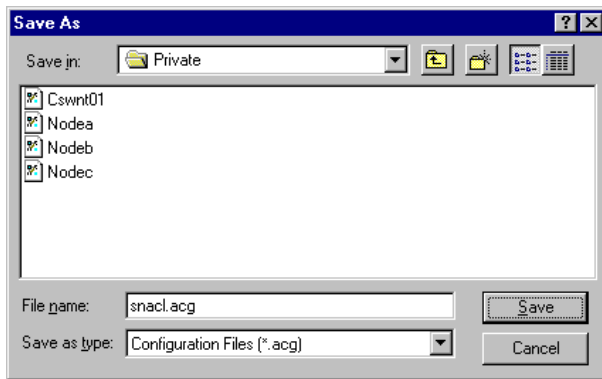
3. The Communications Server SNA Node Configuration window is displayed. Click the **X** in the upper right corner of the window.



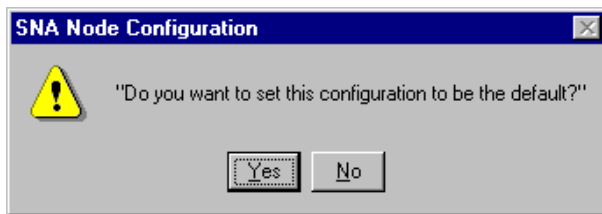
4. The following window is displayed. Select **Yes** to save the changes.



5. The Save As window is displayed. Save the file as **snacl.acg**.



6. When the following window is displayed, select **Yes** for this configuration to be the default.



7. Now that you have completed the SNA API Clients Running APPC Applications configuration, you will want to start the node and then verify that the link is active.

Step 2: Define a user ID and password (on the server machine)

You can restrict which SNA API clients can connect with the Communications Server by defining user IDs and passwords under the user group IBMCSAPI. Only clients using a user ID under this group will be allowed access to Communications Server.

To define a user ID (username) and password and the IBMCSAPI user group, do the following:

- Invoke the User Manager for Domains application for Windows NT under Start, Programs, Administrative Tools (Common).
- From the User pull down, select **New User...** Specify **Username** and **Password** (the username and password specified are case-sensitive). Click **Add**, then click **Groups**. Select **IBMCSAPI** from the groups list, then click **OK**.
- Click **close** to exit.

Step 3: Configure Communications Server SNA client (on the client machine)

First, configure the user ID and password you defined in Step 2 to give the SNA API client access to Communications Server. To perform this configuration, do the following:

1. On the client machine select:

- **Programs**
- **IBM Communications Server SNA Client**
- **Configuration**

2. The Configuration File (*.ini) - Communications Server for NT SNA Client Configuration window is displayed.

- Highlight **Configure Global Data**, then select **New...**



3. The Define Global Data window is displayed.

- Enter the **User ID** and **Password** exactly as you defined them on the server machine in Step 2 (they are case-sensitive)
- When you are done, click **OK**



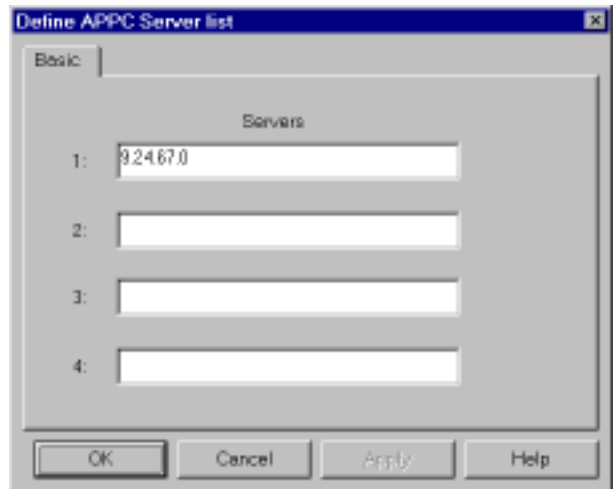
5. To perform this configuration, do the following: On the Configuration File (*.ini) - Communications Server for NT SNA Client Configuration window:
 - Highlight **Configure APPC Server List**, then select **New...**



4. Next, configure the APPC server list. When configuring the server location, specify either the TCP/IP host name or address of the Communications Server machine. This will direct the SNA API client to that machine when requesting services from Communications Server.

6. The Define APPC Server list window is displayed.

- Specify either the **TCP/IP host name** or **address of the Communications Server machine**



This completes the configuration aspect of the SNA API client. Be sure to save your configuration before exiting the client configuration utility.

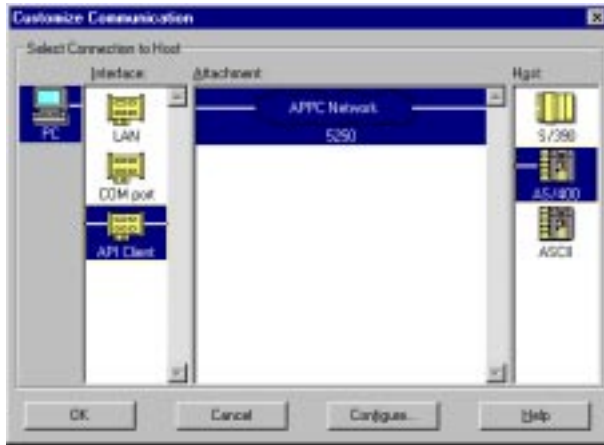
Step 4: Configure Personal Communications for Windows NT (on the client machine) to begin a 5250 session

If you have not already done so, install Personal Communications for Windows NT.

1. To configure, click **Start** on the task bar and then select:

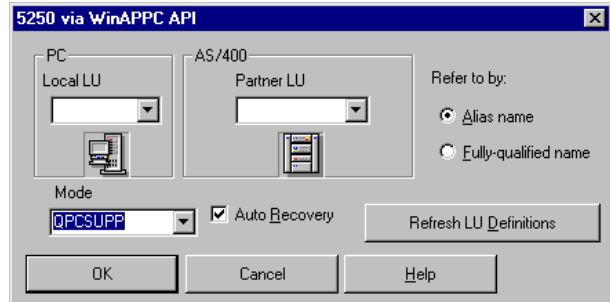
- Programs
- IBM Personal Communications
- Start or Configure Session

2. The Customize Communications window is displayed. Configure as shown. When you are done, click **Configure...**



3. When the Customize Communications - 5250 Host window is displayed, click **Configure Link...**. The following window is displayed.

- Enter the **AS/400 Partner LU alias** or **Fully-qualified name**
- When you are done, click **OK**



4. The configuration is completed, and you are ready to log on to the AS/400 host.

Test Scenario 4

Configuring SNA-API clients, running 3270 or other LUA applications with Personal Communications

In Scenario 4, Windows NT clients want to connect to the S/390® host, using a 3270 emulator over LUA without installing an SNA communication stack on each of their machines.

The recommended solution is to configure:

- Communications Server for Windows NT server to support SNA API clients and their applications
- SNA API client to communicate with Communications Server
- A 3270 emulator

By doing this, employees will be able to run a 3270 emulator, while using the SNA stack on the Communications Server node to manage the session. Communications Server establishes and manages a session as though the origin were the local node, but forwards the application data to the SNA API client instead of to its own application APIs.

To complete this scenario, you will need to perform the following steps:

Step 1: Configure Communications Server (on the server machine)

Step 2: Define a user ID and password (on the server machine)

Step 3: Configure Communications Server SNA client (on the client machine)

Step 4: Configure Personal Communications for Windows NT (on the client machine) to begin a 3270 session

The figure accompanying Scenario 3 illustrates how Communications Server for Windows NT supports SNA API clients on Windows 95, Windows NT, Windows 3.x, and OS/2.

Scenario 4: Configuring SNA-API clients running 3270 or other LUA applications

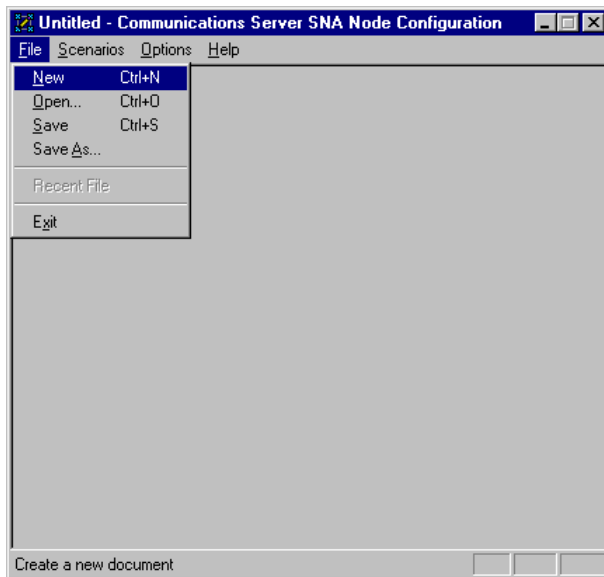
Configure Communications Server (on the server machine)

1. Click **Start** on the task bar, then select:

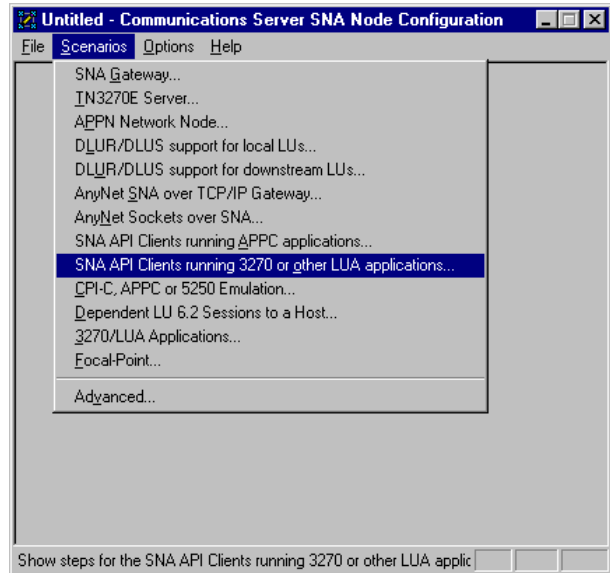
- Programs
- IBM Communications Server
- SNA Node Configuration

2. The Communication Server SNA Node Configuration window is displayed.

- Select **File**, then select **New**

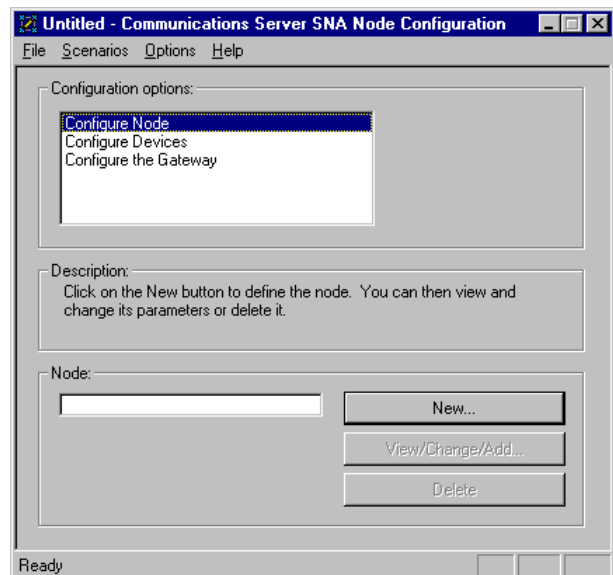


3. Select **Scenarios**, then select **SNA API Clients running 3270 or other LUA applications...**



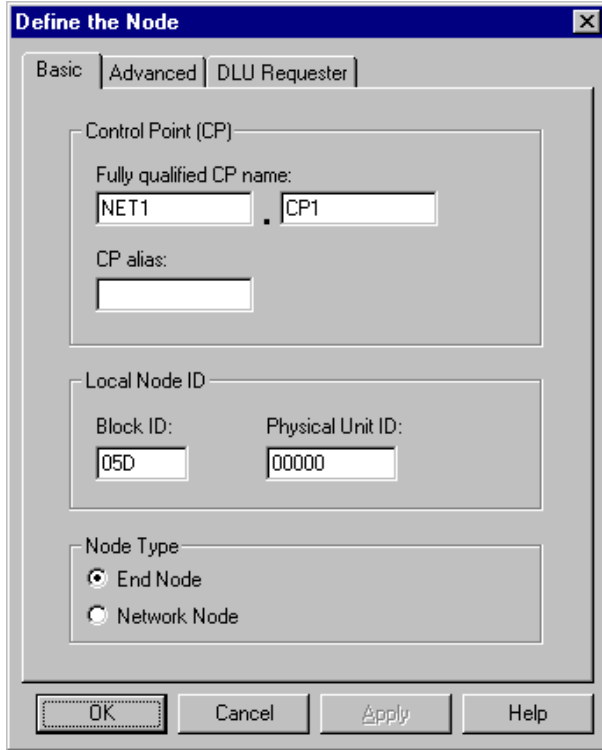
Configure the Node

1. Highlight **Configure Node**, then click **New**.



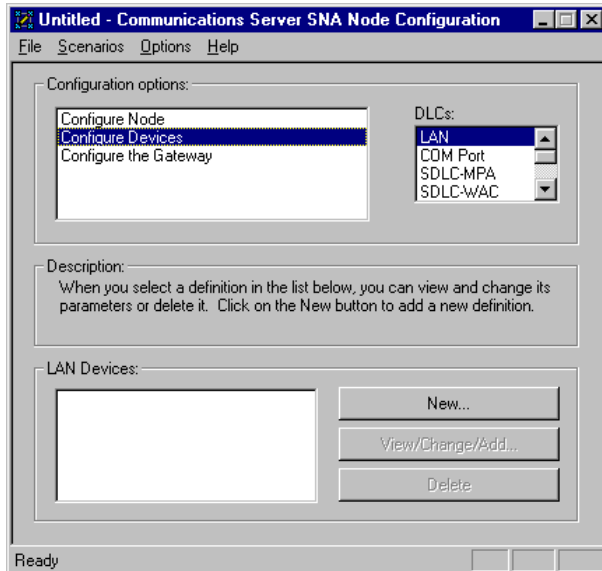
2. The Define the Node window is displayed. Select the **Basic** tab, and provide the following information.

- Fully qualified CP name=**NET1.CP1**
- Node Type=**End Node**
- When you are done, click **OK**

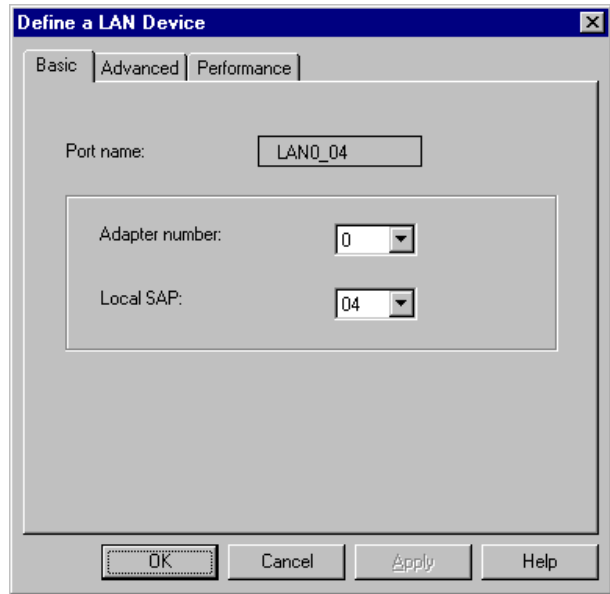


Configure Devices

1. Highlight **Configure Devices**, then click **New**.

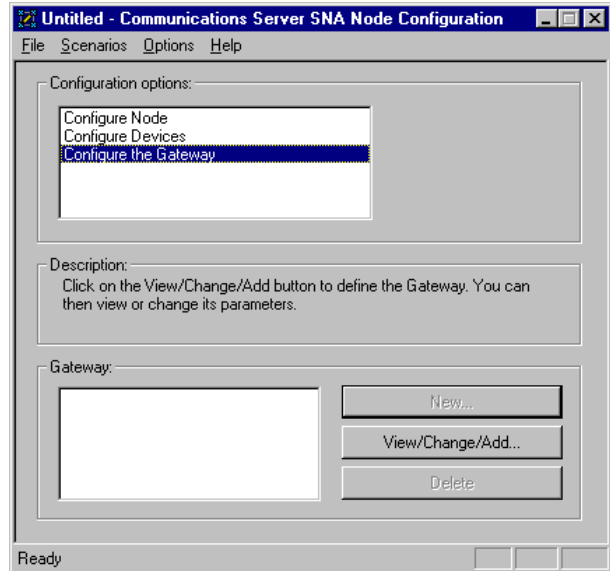


2. The Define a LAN Device window is displayed. Click **OK** to accept the default values.



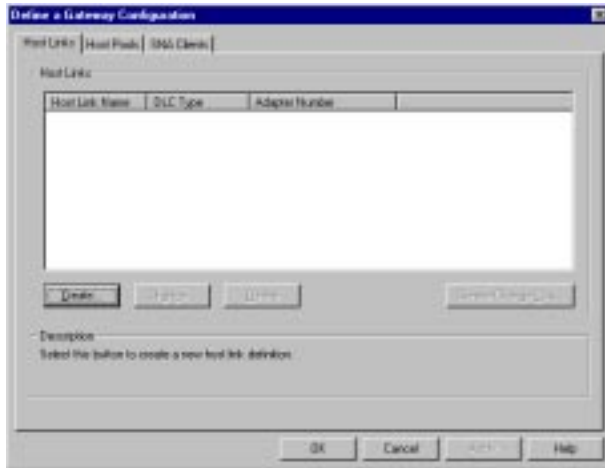
Configure the gateway

1. Select **Configure the Gateway**, then select **View/Change/Add...**

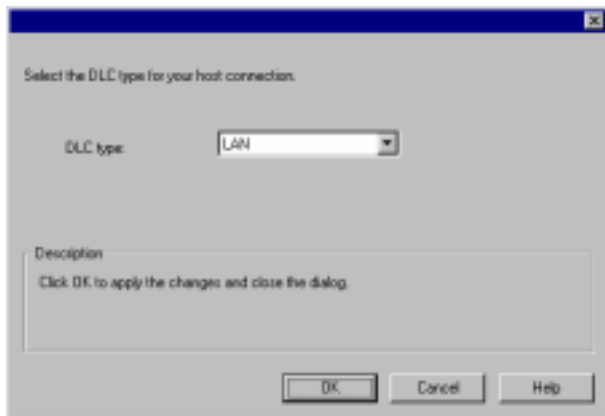


2. The Define a Gateway Configuration window is displayed.

- Select the **Host Links** tab
- Click **Create**



3. When the following window is displayed, click **OK** to accept the default DLC type.



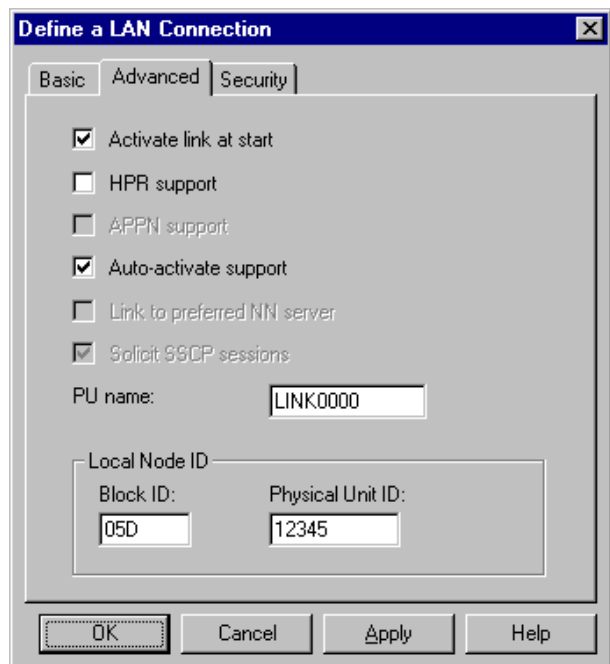
4. The Define a LAN Connection window is displayed.

- Enter the **12-character hexadecimal address of the S/390 host**. In this example the destination address= **001001001001**.
- When you are done, select the **Advanced** tab

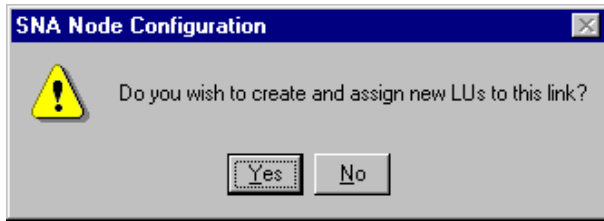


5. On the **Advanced** property page, enter the **Local Node ID**. The Local Node ID consists of two parts: the Block ID and the Physical Unit ID. In this example, the Block ID = **05D**, and the Physical Unit ID = **12345**

- After entering the Local Node ID information, press **OK**

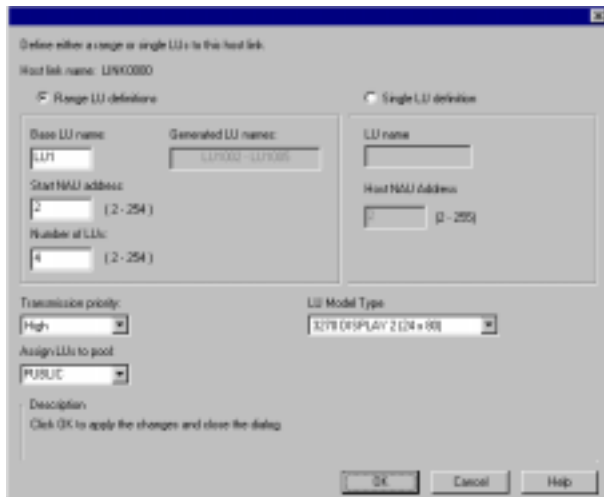


6. The following window is displayed. Click **Yes** to create and assign new LUs to this link.

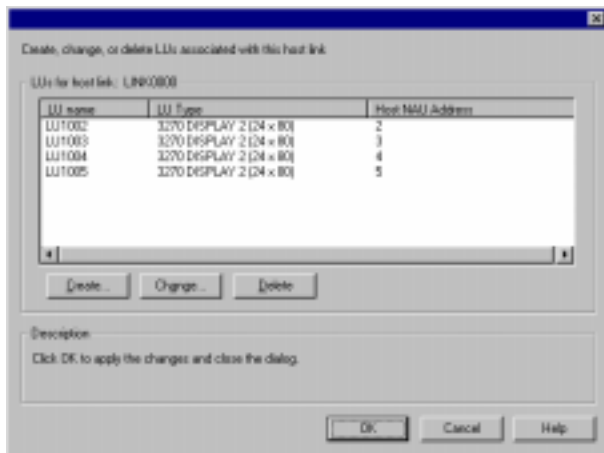


7. The following window is displayed. Enter the following information.

- Base LU name = **LU1**
- Number of LUs= **4**
- When you are done, click **OK**

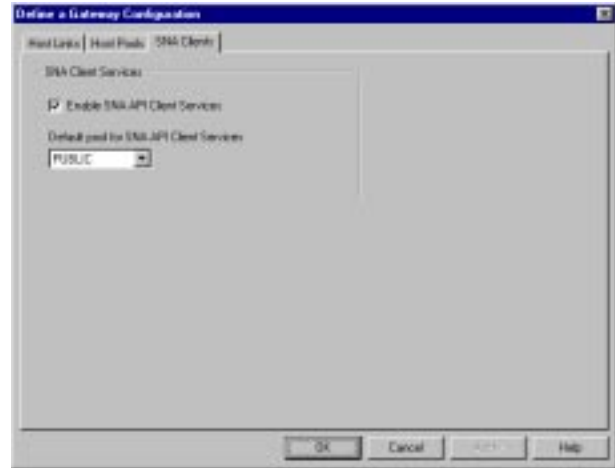


8. The following window is displayed, indicating the host LUs currently assigned to the specified link definition. Click **OK** to accept the values and continue.



9. When the Define a Gateway Configuration property sheet is displayed, select the **SNA Clients** tab.

- The SNA Clients page is displayed, indicating that the SNA API Client Services is supported
- Specify the **PUBLIC** pool as the default pool for SNA API Client Services
- When you are done, click **OK**



Now that you have completed the SNA API Clients Running 3270 or other LUA Applications configuration, you will want to start the node, and then verify that the link is active.

Step2: Define a user ID and password (on the server machine)

You can restrict which SNA API clients can connect with the Communications Server by defining user IDs and passwords under the user group IBMCSAPI. Only clients using a user ID under this group will be allowed access to Communications Server.

To define a user ID (username) and password and the IBMCSAPI user group, do the following:

1. Invoke the User Manager for Domains application for Windows NT under Start, Programs, Administrative Tools (Common).
2. From the User pull down, select **New User....** Specify **Username** and **Password** (the username and password specified are case-sensitive). Click **Add**, then click **Groups**. Select **IBMCSAPI** from the groups list, then click **OK**.
3. Click **Close** to exit.

Step 3: Configure Communications Server SNA client (on the client machine)

First, configure the user ID and password you defined in Step 2 to give the SNA API client access to Communications Server. To perform this configuration, do the following:

1. On the machine select:
 - Programs
 - IBM Communications Server SNA Client
 - Configuration
2. The Configuration File (*.ini) - COMMUNICATIONS SERVER FOR NT SNA Client Configuration window is displayed.
 - Highlight **Configure Global Data**, then select **New...**



3. The Define Global Data window is displayed.
 - Enter the **User ID** and **Password** exactly as you defined then on the server machine in Step 2 (they are case-sensitive)
 - When you are done, click **OK**.



4. Next, configure the LUA sessions, When creating the LUA definition, give a meaningful LUA session name by which this definition will be known.
5. Specify the TCP/IP host name or address of the Communications Server machine. Also, specify whether the session should use a dedicated LU or an LU from the default pool. If you specify that a dedicated LU be used, you must provide the LU name as configured in Communications Server. The easiest configuration is to specify that an available LU be chosen from the default pool, which was configured as the PUBLIC pool on Communications Server. If the definition requires you to specify a pool name, use PUBLIC.

To perform this configuration, do the following:

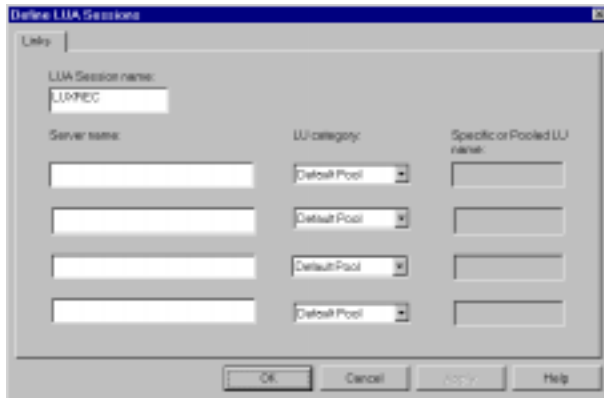
1. On the Configuration File (*.ini) - Communications Server for NT SNA Client Configuration window:

- Highlight **Configure LUA Sessions**, then select **New...**



2. The Define LUA Sessions window is displayed.

- Specify the **LUA Session Name** (**LUXREC**, in this example)
- Specify the **TCP/IP host name or address of the Communications Server machine**
- Accept the Default pool
- When you are done, click **OK**



This completes the configuration aspect of the SNA API client. Be sure to save your configuration before exiting the client configuration utility.

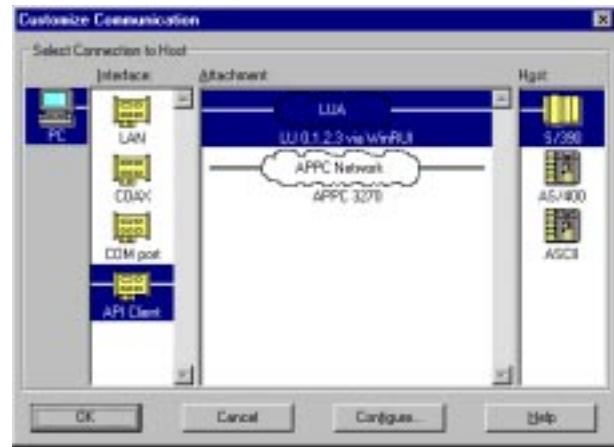
Step 4: Configure Personal Communications for Window NT (on the client machine) to begin a 3270 session

If you have not already done so, install Personal Communications for Windows NT.

1. To configure, click **Start** on the task bar and then select:

- **Programs**
- **IBM Personal Communications**
- **Start or Configure Session**

2. The Customize Communication window is displayed. Configure as shown. When you are done, click **Configure...**



3. The Customize Communication-3270 Host window is displayed. Click **Configure Link...**

4. The LUA3270 via WinRUI API window is displayed. Enter the **LU or Profile Name**. This is the LUA session name used when you created the LUA session in Step 3 on the client. In this example, we specified **LUXREC**.



5. When you are done, click **OK**. The PERSONAL COMMUNICATIONS configuration is complete, and you are ready to log on to the S/390 host.

Test Scenario 5

Accessing and using IBM eNetwork Host On-Demand

In Scenario 5, a customer has about 50 employees in its Phoenix branch office who use Netscape Navigator, a Java™-enabled Web browser, to access the Internet. These employees, who are on a TCP/IP LAN, must access VM in the company's corporate headquarters in Dallas.

The recommended solution is to provide VM access through the Internet using Host On-Demand.

By doing this, the customer does not have to install a 3270 terminal emulation program on each employee's desktop. Rather, employees with Java™-enabled Web browsers can seamlessly access 3270 SNA applications.

Scenario 5: Accessing and using Host On-Demand

You will need to perform these steps to complete Scenario 5.

1. Be sure you have installed the following required software:

Server software requirements:

- Lotus Go Server
- IBM Internet Connection Server (ICS) for Windows NT, for Windows NT, or Lotus Domino™ Server, Microsoft Internet Information Server (IIS). The Web server must be running on the same machine where Communications Server for Windows NT and Host On-Demand are running.

Client software requirements:

- Netscape Navigator 3.0, or higher, Web browser
- Microsoft Internet Explorer 3.0, or higher, Web browser
- Any other browser that is Java™-enabled

2. If you haven't already done so, perform the following:

- Configure and start Communications Server for Windows NT and IBM Internet Connection Server (or its equivalent) on a remote server
- Configure a TN3270E server
- Provide user access to a remote host

3. Open the Java™-enabled Web browser.

4. Specify the Web site (using either the IP address or hostname), the appropriate Host On-Demand subdirectory, and the file access:

http://9.39.67.233/hod/he3270en.htm

5. The following is displayed in the Netscape Navigator browser window.



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