hp e3000
business servers

NS Point-to-Point
3000/iX

provides the network connection for communication between HP e3000 systems

NS Point-to-Point 3000/iX

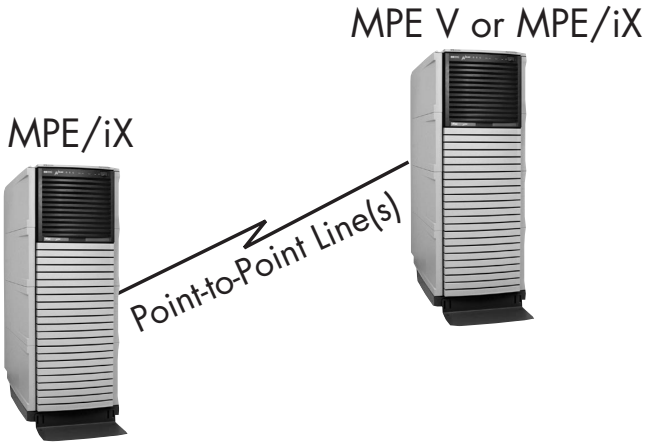
36922C—for HP e3000 A- and N-Class Servers

36922B—for HP e3000 Series 900 Systems)

The NS Point-to-Point Network Link for MPE/iX-based systems provides the network connection for an HP e3000 Series 900 computer to communicate with another HP e3000, MPE/iX- or MPE/V-based system. Customers can connect HP e3000s using NS Point-to-Point with either a leased line or switched auto-dial line. Customers with direct-connect configurations or requirements should use the LAN links.

functional description

This product can be used in conjunction with NS3000/iX Network Services Software (36920A), or it can be used as a standalone link with user-written applications by using the NetIPC intrinsics or BSD Sockets. The NS3000/iX Network Services software provides the user-level services to perform functions such as Network File Transfer, Virtual Terminal, Network File Access, and Remote Process Management. The programmatic access via the set of NetIPC intrinsics or BSD Sockets allows customers to write their own distributed applications on different nodes to exchange information in an efficient, peer-to-peer manner.



With NS Point-to-Point 3000/iX customers' networks can be connected in a way that is transparent to users and allows high connectivity between networks. For example, a transparent gateway can be configured between a point-to-point network and a LAN. Consequently, users on the point-to-point network would be able to transparently access resources on the LAN, and LAN users would be able to transparently access resources on the point-to-point network.

Under each NS Point-to-Point/iX Network Link multiple network links can be configured. This provides redundant or increased connectivity from

features

- Supports industry-standard Defense Advanced Research Projects Agency (DARPA) Internet TCP/IP protocols from the transport and network layers of the OSI Reference Model.
- Provides packet routing for transport access over multiple nodes.
- Provides gateway capability for transparent access between networks.
- Includes integrated node management software for online configuration and logging.
- Supports programmatic access so users can write distributed applications between HP e3000s. The Network InterProcess Communication (NetIPC) intrinsics or BSD Sockets provide this programmatic interface.
- Provides access to higher level services such as Virtual Terminal, Network File Transfer, Remote Process Management, Remote Database Access, and Remote File Access when used in conjunction with NS3000/iX Network Services (36920B).
- Supports LAP-B protocol, an OSI standard for full-duplex line communication.

or to the system. For increased flexibility, multiple point-to-point network interfaces may be configured. In addition, the NETCONTROL dellink and addlink commands allow an operator to manually release a link device for use by other subsystems.

Users do not need to know the network topology. This transparency means that the user simply specifies the destination node name for access to another CPU on the same network or for access to a remote CPU on a different network.

NS Point-to-Point 3000/iX Network Link (utilizing the LAP-B protocol only) is supported to work with all full duplex auto-dial modems which work with the DS Point-to-Point Modem Link or the NS Point-to-Point 3000/V Network Link in full duplex mode.

The following is a list of full duplex modems that have been verified by HP to work with the NS Point-to-Point 3000/iX Network Link utilizing the LAP-B protocol:

- AT&T 201C (Dataphone 2400)
- AT&T 209A (Dataphone 9600)
- AT&T Dataphone II 2024A
- AT&T Dataphone II 2048A
- AT&T Dataphone II 2096A
- AT&T Dataphone II 2248A

product components

hardware

A-/N-Class systems
NS Point-to-Point 3000/iX Network Link requires the PCI-bus based Advanced Communication Controller (ACC) hardware interface card (Z7340A)) for A-/N-Class systems. The ACC product is a combination of hardware, firmware protocol modules and the host driver. The HP ACC provides customers with a cost-effective, flexible network access solution that supports multiple network connections and a variety of network protocols—all on a single card.

Series 900 systems
NS Point-to-Point 3000/iX Network Link requires hardware interface card (A5563A) and 5-meter cable for connection to the user's modem for the Series 900 systems. Users with direct connect configurations or requirements should use HP LAN Links. The hardware interface is the Programmable Serial Interface (PSI) card. The PSI microprocessor utilizes all of the communication data link protocol, thus relieving the HP3000 of that task. The PSI architecture accommodates line speeds from 1200 bps to 64 Kbps.

software

NS Point-to-Point 3000/iX Network Link provides the OSI level 2 Standard, LAP-B Protocol. LAP-B provides full-duplex transmission, thereby eliminating line turn-around time (36922C) for A-/N-Class systems and (36922B) for Series 900 sytstems.

product requirements

- An HP e3000 Series 900 running a supported release of MPE/iX
- A single-high slot
- At least 16 MB (24 or more are recommended) of memory. See your HP System Engineer to help determine your requirements.
- Leased line or switched auto-dial line
- Full-duplex modems

migration from DS Point-to-Point and NS Point-to-Point 3000/V

The NS Links and Services are HP's new generation of communication products providing enhanced capabilities over that of the DS Links and Services. Customers with DS products currently installed are encouraged to migrate their networks to the NS product line. When planning this migration, both services and link products need to be considered.

User applications written using DS services will run with little modification under NS3000/iX Network Services. Customers need to be aware that program-to-program communication (PTOP) is not supported in the MPE/iX environment. Customers whose applications use PTOP are strongly encouraged to move to the newer, more efficient NetIPC or BSD

functional specifications

The following modem support is provided with NS Point-to-Point 3000/iX Network Link:

Mode of Operation	DS/V Pt-to-Pt	NS/V Pt-to-Pt		NS/iX Pt-to-Pt
		BISYNC	LAP-B	
Half-Duplex	Yes	Yes	No	No
Full-Duplex	Yes	No	Yes	Yes

Sockets environment for MPE/iX user applications. The NS Point-to-Point 3000/iX Link can be added to networks that currently include DS link products. In order for DS nodes to communicate with NS/iX nodes, the DS node will have to go through an intermediate NS/V node. Customers are urged to migrate their DS nodes to NS/V nodes to eliminate networking confusion and to enhance performance.

The NS Point-to-Point 3000/iX Network Link product conforms to layers 1 through 4 of the OSI seven-layer model. The DS Link product predates the OSI model and, therefore, has a different architecture from the NS Link product. As a consequence of these architectural differences, DS/3000 Point-to-Point and NS Point-to-Point 3000/iX cannot communicate with each other.

It is recommended that users establish a migration plan with an HP Network Consultant or Datacomm Specialist.

installation and configuration policy

The customer is responsible for loading the NS Point-to-Point 3000/iX Network Link software onto the system. Hewlett-Packard will install the Advanced Communication Card (ACC or PCI WAN Sync MUX) or Programmable Serial Interface (PSI) and provide connection to the customer's communication line (provided the line is available at installation), and will perform minimum configuration of the NS Point-to-Point 3000/iX Network Link in order to verify minimum product functionality. These activities are included in the product purchase price.

customer responsibility

Prior to having HP personnel onsite to install the PSI and perform minimum configuration of the NS Point-to-Point 3000/iX Network Link, the customer is responsible for the following:

- Providing HP with the information necessary to complete the Network Implementation and Support Plan (NISP) including:
  - System configurations
  - Logical network map identifying relevant traffic flow
  - Physical network map identifying relevant network hardware components
- Installing and verifying modems and phone lines for communication between HP e3000 systems using the NS Point-to-Point 3000/iX Network Link
- Obtaining a valid IP address prior to the configuration of the NS Point-to-Point 3000/iX Network Link
- Updating the HP e3000 system to the proper release level and installing the NS Point-to-Point 3000/iX Network Link software using AUTOINST. Refer to the "HP3000 MPE/iX Installation and Update Manual" (36123-90001)
- Verifying that all of the necessary software modules have been successfully installed by AUTOINST and are at the correct version levels using the NMMAINT.PUB.SYS utility
- Performing full system backups (as necessary) and ensuring that the HP e3000 system and personnel with HP e3000 system management knowledge and networking knowledge are available when HP is onsite to complete the installation and minimum configuration of the NS Point-to-Point 3000/iX Network Link

The customer is also responsible for completing the configuration in order to fully integrate the NS Point-to-Point 3000/iX Network Link into the existing customer network after HP has completed the minimum configuration of the NS Point-to-Point 3000/iX Network Link.

hp responsibility

Following the installation of the software component of the NS Point-to-Point 3000/iX Network Link, HP is responsible for the following:

- Installing, verifying, and connecting the Advanced Communication Controller or Programmable Serial Interface (PSI) card for the NS Point-to-Point 3000/iX Network Link to the customer's modem.
- Confirming that all of the necessary software modules have been installed and are at the correct version level.
- Configuring the NS Point-to-Point 3000/iX Network Link to a minimum default configuration necessary to verify the software and hardware functionality. This includes configuring the link and Network Interface (NI) in the network configuration file (NMCONFIG) using the NMMGR utility and cross-validating the PSI related configuration with the system configuration.

- Verifying the NS Point-to-Point 3000/iX Network Link configuration by issuing the NETCONTROL (and NSCONTROL, if applicable) start command for the NS Point-to-Point 3000/iX Network Link, NI, and ensuring that a connection can be established with another HP e3000 system using this new NS Point-to-Point 3000/iX Network Link.

These steps complete HP's portion of the installation and minimum configuration of the NS Point-to-Point 3000/iX Network Link.

additional implementation assistance

For implementation needs that go beyond installation, the customer can either provide self-support, or can purchase additional services from HP. These services include Network Startup and HP ConsultLine. In addition, the customer can also purchase service from HP on a time-and-materials basis.

Network Startup includes implementation scheduling and coordination assistance, network configuration and verification testing, and network documentation.

ordering information

The NS Point-to-Point 3000/iX Link may be used as a standalone product with intrinsic access, or with NS3000/iX Network Services (36920B).

Hardware link for A-/N-Class systems:
- Z7340A—HP ACC Card (PCI 8 port)
- 0D1—Factory Integration
- Required to run 36922C software. Additional ACC card cables and accessories may be required.

Hardware link for Series 900 systems:
- A5563A—SNA Link Interface Card
- 010—RS-232-C Synchronous Modem Connection
- 020—V35 Synchronous Modem Connection
- 025—Autodial Connection
- 0D1—Factory Integration
- Required to run 36922B software.

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license, software and documentation

- 36922C (for A-/N-Class systems) and 36922B (for Series 900)—NS Point-to-Point 3000/iX License, Software and Documentation
- 310—Tier 1 License (also applies to 315, 320 Tier 2, 3 systems)
- 330—Tier 4 License (also applies to 335 Tier 5 systems)
- 340—Tier 6 License (also applies to 350 Tier 7 systems)
- 0CD—Upgrade credit Tier 1
- 0CF—Upgrade credit Tier 4
- Requires Z7340A (for A-/N-Class) or A5563A (for Series 900).

In order to receive the upgrade credit, customers must select the upgrade credit option that pertains to their current processor/tier-based option in addition to the new tier-based option on the same order.

Customers must also order the MPE media product (51543B) MPE/iX 6.0 Express 1 or later. This is required to receive software for this product.

for more information on hp e3000 business servers, contact any of our worldwide sales offices or hp channel partners (in the u.s. 1-800-637-7740) or visit our hp e3000 business servers website at www.hp.com/go/e3000

support products

HP offers a spectrum of support service products to help plan, implement, operate, and manage your multivendor network throughout the network lifecycle.

documentation

- 36922-61005—NS 3000/iX Operations and Maintenance Reference Manual
- 36923-61000—NS 3000/iX Error Message Reference Manual
- 36922-90040 (for 36922C) or 36922-90034 (for 36922B) NS 3000/iX NMMGR Screen Reference Manual
- 36920-61005—NetIPC 3000/iX Programmer's Reference Manual
- 32022-61005—Using the Node Management Services (NMS) Utilities
- 36922-90041 (for 36922C) or 36922-90033 (for 36922B)—HP e3000/iX Network Planning and Configuration Guide

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