Software Product Description

PRODUCT NAME: Vitalink® TransPATH® 335/350 Software, Version 11.2.11   SPD 35.04.05

DESCRIPTION

The TransPATH 335/350 software product is produced by Vitalink Communications Corporation and distributed and warranted under Digital Equipment Corporation's Standard Terms and Conditions.

This software is used on the VX350 and VX335 hardware platforms to control their operations as described below. The VX350 platform consists of a general purpose communications controller and certain serial interface modules. These modules are used to configure the VX350 with up to eight ports. The VX335 platform is a bounded version of the VX350 platform, with two ports which may be either V.35 or universal interface (UIC), depending on the specific VX335 model. The VX335 platform is not expandable. When this TransPATH 335/350 software runs on a VX350 platform, the combination is known as a TransPATH 350; when on a VX335 platform, the combination is a TransPATH 335. Throughout this document, the term "TransPATH" is used when no distinction between TransPATH 350 and TransPATH 335 is needed.

The software is loaded from a micro-floppy upon boot up. It provides for generating system management commands, performing system reconfiguration operations, setting up and changing TransPATH network configuration, performing management services, and handling TransPATH messages, warnings, and alarms. TransPATH software version 11.2.x provides a new user interface similar to TransLAN software version 6.10.x and 6.11.x family. Besides supporting simultaneous routing of supported protocol suites and optional bridging, this release has additional features and improvements over the previous version 11.1.

System Functionality

TransPATH performs the functions of a router and a data link layer bridge between Ethernet and IEEE 802.3 local area networks, collectively known as NI, making them all appear as one LAN by connecting them via high-speed synchronous circuits. TransPATH bridges any protocol that adheres to IEEE 802.3 or Ethernet version 2 standards and supports routing the following protocol suites: TCP/IP, Xerox® XNS®, and Novell® NetWare® IPX.

TransPATH, when performing bridge functions, operates below the OSI-specified network layer. It is not dependent on any networking protocol. This allows the TransPATH to provide a generic interconnect access point to other members of an extended LAN. This generic interconnect access point allows all network layer protocols to communicate over the same wide area network (WAN). When operating as a bridge, the TransPATH forwards Ethernet frames across synchronous communication line(s) to remote TransPATH 335, TransPATH 350, TransLAN 335, TransLAN 350, TransLAN 320, TransLAN III, or TransLAN IV bridges.

The TransPATH also provides the functions of a TCP/IP, XNS, or IPX router at the network layer. Each routed protocol suite, called a forwarder, may be activated independently or in any combination with other forwarders, including the bridging forwarder. The routing forwarders are designed with a common set of features. If a routing forwarder is activated, the protocols associated with that forwarder will be routed. If a routing forwarder is not activated but the bridging forwarder is, the associated protocol will be bridged. If a routing forwarder and the bridge forwarder are not activated, the protocol will be filtered. Forwarders are activated on the system level.

TransPATH provides a set of management services, called the Vitalink Management Program. This program provides an interactive menu-driven interface into link level services as well as functions to aid statistical analysis, diagnosis, management, control, and dynamic configuration. It allows network managers to:

- Monitor dynamically network activity at any TransPATH location

- Access performance statistics on NI and Internet communications links

- Monitor and tune TransPATH performance

- Configure and modify bridge/router operating parameters

- Detect and measure network bottlenecks and congestion

- Isolate network communications problems and correct them through bridge reconfiguration

TransPATH requires no special setup and/or system generation procedures to route and forward Ethernet /802.3 datagrams in the default configuration. The TransPATHs can be in the same facility or remotely located. When located in the same facility, they can be connected by null modem cable or by direct connection. When located remotely, they can be connected by modems interfacing to the public telephone network.

Communications

The TransPATH 335/350 software supports three types of communications ports on a TransPATH: one Ethernet port, one through eight synchronous communication ports, and two network management access ports. The Ethernet port conforms to the Ethernet version 2 and IEEE 802.3 interface standards.

TransPATH 350s have up to eight synchronous ports, which can be standard or "Turbo" CICs (Customer Interface Cards), or a DS1 interface. TransPATH 335s have only two ports, which are either Turbo V.35 or Turbo UIC. Each synchronous port can be configured at line speeds from 56 kbps through 2.048 Mbps, full-duplex. However, aggregate line speed must not exceed 3.088 Mbps, full-duplex.

TransPATH 335/350 software version 11.2.x allows TransPATH to operate at the following throughput:

No. of Ports	VX350 with Standard CIC	VX335 or VX350 with Turbo CIC
1 port	2.048 Mbps	2.048 Mbps
2 ports	1.544 Mbps each*	2.048 Mbps each
3 to 8 ports	3.088 Mbps aggregate	3.088 Mbps aggregate
		(N/A for VX335)

* Assumes one port on each of the two standard CIC cards.

The network management ports are RS-232C type for controlling the TransPATH.

TransPATH uses either Vitalink's modified ISO 3309 or LAPB data link protocol. When using LAPB, the system detects lost or corrupted frames and retransmits them at the data link level. LAPB is supported only on systems that are configured with Turbo serial interface cards and is not compatible with other vendors' implementations.

TransPATH supports zero compression for LAT protocol or for all protocols. This feature yields more effective bandwidth by removing padding during serial link transmission.

Bridge Mode

When performing a bridging function, the TransPATH is a data link level bridge which filters and forwards IEEE 802.3 or Ethernet version 2 compatible frames received on its Ethernet and synchronous port(s). In this mode, the TransPATH is a learning bridge which monitors the source addresses of frames received on its Ethernet port and synchronous ports. Based on this information, the bridge learns which stations are located remote to each of its synchronous ports and which stations are local to its Ethernet port.

This learning feature allows the bridge to filter traffic and forward frames for a known single destination address only to the Ethernet or synchronous port through which the destination station is located. Multicast frames and frames with unknown destination addresses are forwarded through all ports except the port on which the frame was received. The learning feature also allows the bridge to discard frames received through the Ethernet port which are destined for known addresses on the local Ethernet. This filtering of local traffic provides for efficient use of the synchronous links by remote traffic.

Network Groups

TransPATH 350 supports up to eight parallel synchronous lines between any two TransLAN III, TransLAN IV, TransPATH 350, TransPATH 335, or TransLAN 320 bridges. TransPATH 335 supports only two lines. Multiple synchronous lines may be used to connect the local bridge in a star configuration with remote TransPATHs in multiple distant locations. Or, a subset of from two to eight lines may be operated in parallel between one pair of TransPATHs. Parallel lines between two TransPATHs form a network group. For the purposes of the Spanning Tree Protocol all lines in a network group are considered as one.

The parallel lines in a network group may be used to increase bandwidth and provide redundant communication links between two Ethernet sites. Traffic is split between the parallel lines by the automatic assignment of frames from each unique source address to a specific line within the network group. Each line is assigned the traffic from a number of sources proportional to its relative line speed in the network group. If one link within a network group fails, traffic is redistributed among the remaining operational lines. Individual synchronous lines that comprise a parallel network appear as one single composite link to the Spanning Tree Protocol.

Spanning Tree Protocol

TransPATH is compatible with the Spanning Tree Protocol defined in the XLIII Bridge Architectural Specification, Version 2.0C. The TransPATH 335/350 software product supports the Digital-developed LAN bridge 100

Spanning Tree Protocol, which allows the maintenance of a loop-free extended Ethernet network. This network may be formed from Vitalink TransLAN III, TransLAN IV, TransLAN/PATH 335/350, and TransLAN 320 bridges, and from Digital LAN Bridge 100, LAN Bridge 150, LAN Bridge 200, and Digital METROWAVE Bridge products. Through the Spanning Tree Protocol, the TransPATH communicates with these other bridges in the extended Ethernet network to define a hierarchical loop-free network of active communications links between bridges. The active communications links form a loop-free, spanning tree topology which emanates from a root bridge automatically selected through the protocol.

Communication links not included in the active, loop-free hierarchy are automatically placed into a backup state. If an active link in the network fails, the Spanning Tree Protocol automatically recalculates a hierarchical structure and activates appropriate backup links to restore connectivity in the network, where possible. The time required to complete this network reconfiguration is dependent upon network size and traffic loading. However, most reconfigurations will be completed within 25 to 100 seconds from the detection of a link failure.

TransPATH 335/350 software version 11.2.x allows segmentation of a network into smaller groups of systems, called domains. Each domain contains its own root and has its own topology. This feature can help to improve the stability of a large network because any failure (either data link or bridge) in one of the domains will not affect the topology of other domains. Domain segmentation can be used to allow both 802.1 Spanning Tree Protocol and Digital's Spanning Tree Protocol to coexist on the same network. Each domain can operate its own version of the Spanning Tree Protocol.

Filtering and Traffic Control Features

The TransPATH 335/350 software product provides several user-selectable features to control the forwarding of frames through the TransPATH. These features include:

- Traffic Analysis and Control Extensions (TACE) — Provides for the counting, forwarding, or discarding of frames based upon customer specified criteria of source address, Ethernet version 2 type field (specifies protocol type, such as DECnet, LAT, TCP/IP, etc.), or frame format type (Ethernet V2 or IEEE 802.3). Frames can also be directed to specific synchronous ports based on these criteria. When used in conjunction with the Class of Service feature, the TACE feature provides for the assignment of different transmit priorities based on the above criteria.

- Multicast Filtering — Provides for the discarding or forwarding of Ethernet V2 multicast frames by type, or for the discarding or forwarding of specific multicast addresses.

- Type Deflections — Provides for the assignment of specific Ethernet V2 protocol types to specific synchronous links. This feature is most typically used to segregate traffic of different protocols among parallel lines in one network group. For example, the feature could be used to reserve one line in a network group for LAT traffic only.

TransPATH has a set of routing filters to provide full control over traffic. TransPATH filters enable discard of traffic based on source and destination address.

The TransPATH filters can either be input in the filtration menus, or input using the FILTER command at the Vitalink Management command prompt. The FILTER command allows TCP/IP filters to be changed during operation with no interruption to production traffic. All filters input until the TransPATH system is rebooted. A filter can be permanently added by adding it to the TransPATH filtration menus and rebooting the system.

TransPATH Routing Feature Overview

TransPATH supports three types of address resolution protocols (ARP):

- ARP

- Proxy ARP

- Proximate ARP

In IEEE 802.3 without SNAP there is no IEEE assigned SAP for ARP, so 802.3 utilizes either an RFC 826 or RFC 1042 ARP. In the TransPATH, the ARP type of IEEE 802.3 is automatically determined.

Translation Between Different Link Layer Protocols

TransPATH offers the flexibility of translation between five different link layer protocols. The protocols cover Ethernet (RFC 893 and 894), IEEE 802.3, and IEEE 802.3 with SNAP (co-modified by RFC 1042).

Flexibility in Subnet Addressing

Subnetting is always a network-specific choice; whether or not more host numbers or subnet numbers for a particular network are needed.

To facilitate subnet implementation, TransPATH lets users subnet down to the bit level without having limits to using a full octet per subnet, and can also subnet Class C addresses when needed.

Routing Information Protocol (RIP) Support

To communicate with foreign routers, TransPATH utilizes RFC 1058 RIP, the most commonly used routing protocol. TransPATH will automatically detect that there are routers using RIP in the local area network and react accordingly.

Best Path Routing

The TransPATH uses a proprietary Interior Gateway Protocol (IGP) between the TransPATH systems, which enables true best path routing on the WAN. This IGP, based on "shortest path first," takes into account any TransPATH paths that may exist on the network and makes the best decision on which path to use.

Split Path Routing

To utilize all of the available bandwidth, TransPATH has a Split Path Routing feature which load balances the traffic over equally costed paths.

Bullet Proof Addressing

Bullet Proof Addressing allows partial address, subnets, and different numerical bases to be entered on all TransPATH commands. Addresses can be input in hex, dotted decimal, or combinations of the two. The TransPATH software will read the input, analyze the network, and determine the best match for the typed input. This feature reduces typing, especially when users are troubleshooting a network problem.

Path Selection with Loose Source Routing

TransPATH software implements loose source routing, which is input as a filter from the command prompt or can be permanently added to the TransPATH filters. Loose source routing enables specification of a specific path for subnets and hosts dependent on specified criteria.

Automatic Prioritization

TransPATH gives priority to TELNET and login traffic, and any IP traffic with the low delay bit enabled in the Type of Service field of the IP header. This feature improves users' interactive session.

Virtual Terminal Access to TransPATH

The TransPATH includes the TELNET protocol for diagnostic and testing purposes. A terminal on a UNIX® host can establish a TELNET connection to a TransPATH system and perform any of the functions that normally would be performed on a TransPATH console. A terminal on the TransPATH system can establish a TELNET connection to any UNIX host to run LAN diagnostics, test for system health, or for use as a traffic generator in a test bed.

TransPATH 335/350 software version 11.2.x also enhances the TCP/IP routing by supporting Exterior Gateway Protocol (EGP) 2, legitimate routing neighbor validation, TCP/UDP Port Filtering, and Security Option support. These new features allow TransPATH to better integrate into high-security environments.

Xerox XNS Protocol Support

TransPATH's XNS forwarder examines Ethernet packets for packet type 0600. On the Ethernet networks, the Subnet Access Protocol (SNAP) Service Access Protocol (SAP) is supported. The 3Com® VT protocol functions properly when bridged or routed.

Novell NetWare/IPX Protocol Support

TransPATH's IPX forwarder examines Ethernet packets for packet type 8137. TransPATH supports Novell's Service Advertising Protocol, which distributes information about shared resources throughout the network.

Network Management

Vitalink Management Program

The TransPATH 335/350 software product includes network management features that provide for the monitoring of TransPATH traffic, performance and error conditions, and the configuration and modification of TransPATH software operating parameters. It also includes loopback features which may be invoked to test synchronous links by generating loopback messages through any synchronous port for loopback by the distant bridge.

The following types of error statistics concerning the synchronous links are stored by the TransPATH and are available through the network management features: abort errors, CRC errors, CTS errors, DCD errors, receiver overrun errors, transmitter underrun errors.

The following types of Ethernet error statistics are available: controller reset errors, late collision errors, carrier loss errors, CRC errors, missed packet errors, framing errors, receive buffer errors, and transmit buffer errors.

TransPATH has the ability to identify the busiest WAN users at any location and/or across a WAN link. This helps the network administrator to identify the most active devices on the network and therefore to manage the WAN more closely. The administrator may use the single-destination traffic damping feature to prevent a user from using the network above a settable limit. The administrator may also maximize the stability and performance of a WAN by specifying a maximum level of multicast traffic to be forwarded from the Ethernet to the WAN.

The Auxiliary RS-232 port can support a second management terminal or a dial-in modem for remote terminal access or a printer. This capability is only available if the dial backup feature is not enabled. With this feature both a console and a modem can be attached to the system at the same time, allowing concurrent local and remote dial-in access to the system. This feature also allows a dedicated printer for uninterrupted logging of messages.

Simple Network Management Protocol (SNMP) Support

TransPATH supports all MIB I and MIB II objects and functionality except for the IP Route Table's ability to accept "sets." TransPATH's SNMP conforms to the management-related RFCs 1155, 1156, 1157, and 1158. This gives the network administrator increased multivendor management capabilities from a single management platform.

Dial

Dial Link Backups for All Network Groups

A dial link can provide backup for all network groups (except the LAN port group) by associating each network group with one of eight dial entries. When one of the eight network groups suffers failure and/or congestion, TransPATH automatically uses the appropriate dial entry.

Assignable Backup Priorities for Primary Link Congestion or Failure

Each network group can be assigned a priority — low, medium, or high — to control the use of the dial link when more than one network group experiences congestion and/or failure. Network groups with the same priority contend for the backup link on a first-come-first-served basis, with failed links taking priority over congested links regardless of priority settings.

Two Alternate Dial Phone Numbers

For extra reliability, each dial entry can be configured with one main phone number plus two alternate phone numbers which are dialed if the main number is unavailable.

Activation of Dial via DTR Signal

To support modems that can be programmed to dial a certain number in the event that DTR is raised, version 11.2.x can be configured to raise the DTR signal (in the Dial Variables screen) whenever the dial link is needed. (The usual way Vitalink systems command a DSU/CSU to dial a certain number is via an external RS-232 control cable, using the Hayes® command set.)

Dial Backup Automatically Disconnects when Primary Link Recovers

If a dialed backup link is established and the primary link recovers from failure or congestion, the backup link will automatically disconnect. The disconnect occurs immediately for failure recovery or after a user-specified time-out period for congestion recovery. This automatic disconnect eliminates the need to manually disconnect the dialed backup link.

Performance and Network Configuration

Performance measurements of the TransPATH throughput are dependent on many network and traffic factors, including frame sizes, utilization rates on local Ethernet segments, source-destination address distributions, the number of synchronous lines per bridge, and the number of TransPATH software features invoked. The TransPATH software product provides performance up to the following level when transmitting minimum size (64 bytes) Ethernet frames over a single synchronous line with full duplex traffic, and with a local Ethernet utilization of 40 percent or less:

- Filtering Rate = 14,880 frames/sec

- Forwarding Rate = 5,000 frames/sec (Bridging)

- Forwarding Rate = 3,000 frames/sec (Routing)

- Forwarding Rate = 3,000 frames/sec (Bridging and Routing)

Configuration Guidelines

Digital warrants and supports the TransPATH software product within the following extended Ethernet configuration guidelines, which are intended to assure adequate performance of the extended network.

- The minimum synchronous line speed between TransLAN/PATH bridges is 56 kbps.

- No satellite links may be used between TransLAN /PATH bridges.

- A maximum of seven local and/or remote bridges may be configured in series between any two communicating end stations.   Each TransLAN/PATH bridge or LAN Bridge 100, LAN Bridge 150, LAN Bridge 200, or METROWAVE Bridge in the spanning tree path between stations counts as one bridge toward the maximum configuration limit of seven bridges.

- When using 56-kbps or 64-kbps lines between TransLAN/PATH bridges for remote LAT access, a maximum of two synchronous communication lines may be included in the spanning tree path between the DECserver and remote host.

- When using TransPATH for remote LAT access, 1 to 2 kbps of synchronous line bandwidth must be planned for each remote terminal operating simultaneously over the bridge link. For example, if a 56 kbps link between TransLAN/PATH bridges is dedicated to LAT traffic, then a maximum of 28 to 56 terminals may simultaneously connect to remote hosts over the bridge link. If the link is being shared with other protocol traffic, such as DECnet, then fewer terminals can be supported.

- Local area VAXclusters may not be operated across TransLAN/PATH bridges.

- Personal Computing Systems Architecture (PCSA) PATHWORKS services may be restricted across the TransPATH. Refer to the respective PATHWORKS Software Product Descriptions for more information.

- In bridge networks containing TransLAN/PATH bridges and Digital LAN Bridge 100, LAN Bridge 150, LAN Bridge 200, or METROWAVE Bridge products, the LAN Bridge 100, LAN Bridge 150, LAN Bridge 200, or METROWAVE Bridge must be configured as the spanning tree root.

- The minimum software version of all TransPATH bridges in the network is 11.1.4.   All TransPATH bridges must be using the same software version.

- The minimum software version of all TransLAN 335 /350 bridges in the network is 10.4.1. All TransLAN bridges must be using the same software version.

- The minimum software version of all TransLAN III bridges in the network is 6.10.1. All TransLAN III bridges must be using the same software version.

- The minimum software version of all TransLAN IV bridges in the network is 9.2.4. All TransLAN IV bridges must be using the same software version.

- The minimum software version of all TransLAN 320 bridges in the network is 20.2.1. All TransLAN 320 bridges must be using the same software version.

In addition to the configuration requirements described above, Digital recommends that the following configuration guidelines are also followed to assure reliable Extended LAN performance:

- When using 56-kbps or 64-kbps line(s) between TransLAN/PATH bridges for remote LAT access, Digital recommends that the line(s) be dedicated solely to LAT traffic through the TACE or protocol Type Deflection feature of the bridges. Other parallel line(s) between the bridges should be added to carry non-LAT traffic. Any 56-kbps or 64-kbps lines between TransLAN IV bridges that do not provide the TACE or Type Deflection features should not be used to carry LAT traffic. Higher speed lines between the TransLAN IV bridges are recommended.

- Digital recommends that local load hosts be used to downline load DECserver and MicroServer software.

INSTALLATION

Digital recommends that TransPATH hardware and software installation services be purchased with the products. These services provide for installation of the hardware and software by an experienced Digital specialist.

Customer Responsibilities

Before installation of the software, the customer must:

- Install and demonstrate as operational the necessary synchronous communication line(s).

- Obtain, install, and demonstrate as operational any modems and other equipment and facilities necessary to interface with Digital's communication equipment.

- Make available for a reasonable period of time, as mutually agreed by Digital and the customer, all hardware, communication facilities, and terminals that are to be used during installation. An asynchronous terminal and RS-232C cable must be provided by the customer for use by the Digital specialist as a console connected to the TransPATH Console port.

HARDWARE REQUIREMENTS

One of the following hardware units is required to run the TransPATH 335/350 software product. The hardware units are distinguished by the number of synchronous communications ports and by the type of synchronous communications interface.

DETLB-BA*	VX350, one-port, V.35, 120/240V
DETLB-BC*	VX350, four-port, V.35, 120/240V

DETLB-BE*   VX350, eight-port, V.35, 120/240V

DETLB-BG*   VX350, four-port, RS449/422, (V.36), 120/240V

DETLB-BI*   VX350, eight-port, RS449/422 (V.36), 120/240V

DETLB-BK*   VX350, one-port DS1, 120/240V

DETLB-BM*   VX350, two-port DS1, 120/240V

DETLB-BP   VX350, two-port UIC, 120/240V

DETLB-BT   VX350, four-port UIC, 120/240V

DETLB-BW   VX350, four-port CCITT V.35, 120/240V

DETLB-EA   VX335, two-port CCITT V.35, 120/240V

DETLB-EB   VX335, two-port UIC, 120/240V

Note: * = No longer sold by Digital.

Since the TransPATH is installed as part of a local Ethernet network, a valid Ethernet configuration is a prerequisite. A transceiver and transceiver cable are required to connect the TransPATH to the local Ethernet segment. An H4000 or H4005 or DESTA transceiver, or a DELNI is required as the transceiver.

A modem cable is required to connect each configured synchronous communications port to a Digital modem device operating within the line speed constraints specified in this Software Product Description. The BC55D modem cable is required for each configured RS449 /422 port. A DETLX-C* modem cable is required for each configured V.35-type port. A DETLX-G* cable is required for each configured DS1 port.

Note: * Denotes the cable length.

The UIC card contains two or four ports with the interface type determined by the cable attached. The cables and associated interface are:

DETLX-JA — V.35 DTE
DETLX-JB — V.35 DCE
DETLX-JC — V.36 (RS449/422) DTE
DETLX-JD — V.36 (RS449/422) DCE
DETLX-JE — V.35E DTE (for France)
DETLX-JG — X24/X21 DTE

Other Hardware Requirements

As part of Digital's set of software product services, remote diagnostic support of the TransPATH may be available from a Digital Support Center. To receive this remote diagnostic service, a Bell 212A compatible modem must be connected to the Console or Auxiliary port of the TransPATH bridge. A DF242 modem and BC22M modem cable are recommended. The customer must maintain a dial-in communications line to the modem.

OPTIONAL HARDWARE

The DETLX-BA line card module may be installed on the following DETLB variants to provide an additional four V.35-type synchronous ports:

DETLB-BA   DETLB-BC   DETLB-BG   DETLB-BK

The DETLX-BB line card module may be installed on the following DETLB variants to provide an additional four RS449/422 synchronous ports:

DETLB-BA   DETLB-BC   DETLB-BG   DETLB-BK

The DETLX-BC line card module may be installed on the following DETLB variants to provide one additional DS1 port:

DETLB-BA   DETLB-BC   DETLB-BG   DETLB-BK

The DETLX-BD line card module may be installed on the following DETLB variants to provide two additional UIC ports:

DETLB-BP   DETLB-BT   DETLB-BW

The DETLX-BF line card module may be installed on the following DETLB variants to provide four additional UIC ports:

DETLB-BP   DETLB-BT   DETLB-BW

The DETLX-BG line card module may be installed on the following DETLB variants to provide four additional CCITT V.35 ports:

DETLB-BP   DETLB-BT   DETLB-BW

Note: Turbo and standard CIC cards cannot be mixed in the same unit. Only one card module may be added to any DETLB variant.

SOFTWARE REQUIREMENTS

Refer to the *ORDERING INFORMATION* section.

ORDERING INFORMATION

The DETLB-B* hardware listed above must be ordered one for one with the TransPATH license, media, and documentation kit.

The hardware and software have been packaged together under one number for ease of ordering:

Order Number	Description
DETLB-TP	Two-port, Turbo UIC, 120/240V with software license, media, and documentation kit.
DETLB-TT	Four-port Turbo UIC, 120/240V with software license, media and documentation kit.
DETLB-TU	Eight-port Turbo UIC, 120/240V with software license, media, and documentation kit.
DETLB-TW	Four-port Turbo CCITT V.35, 120/240V with software license, media, and documentation kit.
DETLB-TX	Eight-port Turbo CCITT V.35, 120/240V with software license, media, and documentation kit.
DETLB-GA	Two-port, V.35-type, 120/240V with software license, media, and documentation kit.
DETLB-GB	Two-port, UIC-type, 120/240V with software license, media, and documentation kit.
DETLB-UA	TransLAN 350 to TransPATH 350 upgrade kit.

Software Media and Documentation Update:

TransPATH 350: QA-YP6A9-HW

TransPATH 335: QA-GV2AA-HW

SOFTWARE LICENSING

A separate license is required for each DETLB TransPATH hardware unit. The software may be copied, in its entirety, only for use on the original hardware unit. The software configuration file may be copied to other TransPATH units during the installation or reconfiguration of the other units.

This software is furnished under the licensing provisions of Digital Equipment Corporation's Standard Terms and Conditions. For more information about Digital's licensing terms and policies, contact your local Digital office.

SOFTWARE PRODUCT SERVICES

Under Digital's Vendor Application Services (VAS), all Vitalink Communications software products selected for coverage by Digital are serviced and supported in the same way as Digital products. This extension of Digital's expertise bolsters Digital's commitment to providing customers with a single source of support.

Standard Software Product Services are available, including System Support Service (SSS) and Media and Documentation Distribution Service (MDDS). The components of these services include the following:

• Telephone assistance (24 x 7)

• Critical on-site software support

• Right-to-use new version

• Software media and documentation updates

Software Product Services

For TransPATH 350:

System Support Service (SSS): QT-YP6A9-A9

System Node Service (SNS): QT-YP6A9-N9

Media and Documentation Distribution Service (MDDS):

   QT-YP6A9-EW

For TransPATH 335:

System Support Service (SSS): QT-GV2A9-A9

System Node Service (SNS): QT-GV2A9-N9

Media and Documentation Distribution Service (MDDS):

   QT-GV2AA-EW

The above information is valid at time of release. Please contact your local Digital office for the most up-to-date information.

SOFTWARE WARRANTY

Warranty for this software product is provided by Digital with the purchase of a license for the product. The software product is warranted to conform to the Software Product Description (SPD). This means that Digital will remedy any nonconformance when it is reported to Digital by the customer during the warranty period.

The warranty period is one year. It begins when the software is installed or thirty days after delivery to the end user, whichever occurs first, and expires 360 days later. All warranty related support for this software will end 180 days after release of the subsequent version.

Warranty is provided in the country of purchase in accordance with the provisions of Digital's Standard Terms and Conditions. Digital will provide the following services if the customer encounters a problem caused when using licensed software under normal conditions as defined by the SPD:

a. If Digital also determines the problem to be a defect in the Software Product, Digital will provide remedial service on site if necessary (1) to apply a temporary correction or make a reasonable attempt to develop an emergency bypass if the software is inoperable, and (2) assist the customer in preparing a Software Performance Report (SPR).

b. If customer diagnosis indicates the problem is caused by a defect in the Software Product, the customer may submit an SPR to Digital.

Digital will respond to a problem reported in an SPR that is caused by a defect in the current, unaltered release of the Software Product. The response will provide temporary corrections, useful emergency bypasses and/or notice of the availability of corrected code.

Telephone support may be available from the Digital Telephone Support Center. Please contact your local Digital office for information on the provision of telephone support as part of the warranty.

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