

Terminal Server

Glossary

December 1989

This glossary defines terms used in the server documentation sets. It is intended as a reference for all users of server documentation.

Supersession/Update Information: This is a revised manual.

Software Version:

- DECserver 100 V2.0
- DECserver 200 V3.0
- DECserver 300 V1.0
- DECserver 500 V2.0
- Ethernet Terminal
Server V3.0
- 3270 Terminal
Option V1.0

This manual applies to software versions listed above and all subsequent maintenance releases up to the next major product releases.

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Preface

The *Terminal Server Glossary* defines terms that are used in the following:

- DECserver 100 documentation set
- DECserver 200 documentation set
- DECserver 300 documentation set
- DECserver 500 documentation set
- DECserver 510 documentation set
- DECserver 550 documentation set
- Ethernet Terminal Server documentation set

To order manuals, refer to the individual documentation sets.

Not all terms in this glossary apply to all servers. Server-specific definitions are noted only when one term has different implications for different servers. For a supplemental glossary of technical terms, refer to *The Digital Dictionary*.

Conventions Used in This Document

Bold print in definitions highlights related terms that are defined elsewhere in the glossary.

The following symbols designate server-specific references:

DS100 DECserver 100 system

DS200 DECserver 200 system

DS300 DECserver 300 system

**DS500 DECserver 500 system, which comprises the DECserver 500 software
and DECserver 500, 510, or 550 hardware**

ETS Ethernet Terminal Server

Terminal Server Glossary

access control

A process that validates connection, log-in, or file access requests to determine whether the requests can be accepted by the target software. User names and passwords provide the most common means of access control.

active converter

A device that converts **EIA-232-D** signals to **DEC423** signals. The converter is considered active because it requires an external power source to operate. *Contrast with* **passive adapter**.

active rack

An equipment rack in a **satellite equipment room** that contains active equipment (that is, equipment that requires an external power source to operate). *Contrast with* **passive rack**.

application device

A device that is under the control of an application process running on a **service node**. Such devices include printers, or **terminals** that can have keyboards.

application port

A **logical port** on a **service node** that is mapped to a **terminal server** and server port. A service node application process uses the logical port during **sessions** with an **application device** at the server port.

architectural layer

A distinct logical subdivision of an **architecture**.

architecture

A set of rules or **protocols** that governs how computer systems operate to perform a specific function.

area

In a **network**, a group of **nodes** that can run independently as a subnetwork.

ASCII

American Standard Code for Information Interchange. A set of 8-bit binary numbers representing the alphabet, punctuation, numerals, and other special symbols used in text representation and communications **protocols**.

asynchronous communications

Communications in which the time periods between character transmissions differ. Each character begins with a start bit and ends with one or more stop bits. Start and stop bits enable the receiving device to recognize the beginning and the end of each character.

asynchronous line

A physical line on which time intervals between transmitted characters can be of varying and unequal length. An asynchronous line is typically used to connect a terminal to a server.

asynchronous multiplexer

An **asynchronous communications** device that allows several users to share a single circuit. A multiplexer combines the asynchronous data streams of several users into a single stream for transmission over a single medium.

authorized groups

Those **group codes** that the server manager has authorized for use on a port (specified by the privileged port characteristic AUTHORIZED GROUP CODES). *See also* **current group codes**.

autobaud

The process by which the terminal server software automatically determines the line speed of a terminal attached to the server.

autoconnect

A feature whereby the server automatically attempts to connect a port to a service when the port becomes disconnected from a service, when the user enters a CONNECT command and the specified service is unavailable, or when the user logs in to a port that has a **preferred service** defined.

backplane

A **module** that provides data and power interconnections for other modules contained in the server.

backup host

A DECnet system that can perform all load host functions for a server whenever the **primary load host** is unavailable.

bad key error

An error detected by the 3270 Terminal Option line card. Each time a 3270 terminal responds with an invalid **scan code**, a bad key error is registered by the line card.

balanced circuit

The condition of a **virtual circuit** in which all **sessions** on the circuit are not active. Both **service node** and server have unused slot credits and can use them to exit the balanced state by starting to transmit slot data.

baluns

Adapters that adapt twisted-pair cabling to BNC connectors. On certain servers, baluns are used for the twisted-pair cabling (instead of type A **coaxial cable**) to connect IBM 3270 terminals and an IBM cluster control unit (CCU) to the **CXM04 line card**.

bandwidth

(1) The range of frequencies assigned to a **channel** or system; the difference, expressed in hertz (Hz), between the highest and lowest frequencies of the band (the higher the bandwidth, the greater the data throughput capability). (2) The capacity of a transmission medium to pass data in a specified amount of time.

baseband Ethernet network

An unmodulated single-channel **CSMA/CD** network. One station at a time can transmit information on the medium without disruption.

baseband network

A type of **network** that uses a single **channel** for communications signals. *Contrast with **broadband network**.*

blocking

The condition in a switching system in which a terminal connection request cannot be processed by a host system because the available terminal controllers or internal transmission paths are processing other requests.

boot

To load computer or server memory with sufficient information so that the computer or server can function.

boot modes

The switch-selected server modes that determine which power-up procedure is executed when the server is powered up.

boot program

A program that checks the results of the server **diagnostic self-test program** and, if no fatal errors are detected, initiates **down-line loading**.

broadband Ethernet network

A single **CSMA/CD** channel modulated to occupy a **bandwidth** channel on a broadband **Ethernet coaxial cable**.

broadband Ethernet transceiver

A device (such as Digital's **DECOM**) that transmits data to and receives data from a **tap** on a broadband **Ethernet coaxial cable**.

broadband network

A type of **network** that supports multiple **channels** on a single medium. Each channel occupies one of many specified frequency **bandwidths**. Broadband LANs often use cable television hardware for signal distribution. *Contrast with baseband network.*

broadcast

On a server, the ability of one **port** to send a single message to one or more ports simultaneously. On an **Ethernet LAN**, the ability of one node to transmit a single message simultaneously to all nodes on the **Ethernet**. *See also multicast.*

broadcast address

A single **multicast address** (specifically, **FF-FF-FF-FF-FF-FF**) that is used to send a message to all nodes on the **Ethernet LAN**.

bus-grant module

A special **module** that is installed in an empty **module slot** that exists between occupied module slots in order to ensure the continuity of daisy-chained bus-request and bus-grant signal lines.

cable concentrator

A passive device connecting single-channel cables to a multiple-channel cable.

carrier sense

A signal provided by the **Physical layer** of an **Ethernet LAN** to indicate that one or more nodes are currently transmitting on the **Ethernet channel**.

CCITT

The International Telegraph and Telephone Consultative Committee, the technical committee of the International Telecommunications Union (ITU). CCITT develops recommendations for telecommunications, including data communications.

CCITT V.24

The CCITT communications standard that defines interchange circuits between **data terminal equipment (DTE)** and **data communication equipment (DCE)**.

CCITT V.28

The CCITT communications standard that defines electrical characteristics for unbalanced, double-current interchange circuits.

CCU

See **IBM cluster control unit (CCU)**.

channel

A means of transmission over a packet-oriented data network. That part of a communications system that connects a message source to a message destination; the path for electrical transmission between two or more points. *See also* **virtual circuit**.

characteristic

See **DECnet characteristics** and **server characteristics**.

circuit

See **service-circuit ID** and **virtual circuit**.

circuit timer

The LAT protocol timer that determines the minimum interval at which a terminal server transmits **Virtual Circuit layer** messages.

cluster control unit

See **IBM cluster control unit (CCU)**.

coaxial cable

A concentric transmission medium (cable) consisting of a center conductor and an outer (shield) conductor.

coax-A protocol

See **type A coaxial protocol**.

Coaxial port processor loopback test

A diagnostic test offered by the **Console Commands Interface** on certain servers to test the 3270 Terminal Option line card coaxial port processor circuitry.

collision

A condition caused when multiple network transmissions overlap in the physical **channel**, corrupting data and requiring backoff and data retransmission.

collision detect

A signal provided by the **Physical layer** of the **Ethernet** to the **Data Link layer** to indicate that one or more nodes are contending with the current node's transmission.

configuration

The process of changing a database by adding, deleting, or modifying entries in the database; usually done under program control, for example, TSC or DSVCONFIG.

Configuration Assistance Program

See **System Configuration Assistance Program**

Configuration Verification Program

A firmware-based server program that automatically tests the server's hardware configuration.

connection

A logical path between an **interactive terminal** user and a **service** or between an **application port** on a **service node** and a service on a server. *See also* **session**.

connection management

The process of using a single **virtual circuit** to create, maintain, and disconnect **sessions** between a terminal server and the host node.

connection queue

The queue on a terminal server in which **connection requests** are stored.

connection request

A request for connection to a **service** or **port**, which is stored in the server connection queue. A connection request can be initiated by a **load host** or by a **CONNECT** command at a local-access server port.

console

See **local console**.

console device

See **local console**

console terminal

See **local console**

Console Commands Interface

A command set that allows interactive use of a server's **diagnostic self-test program**.

console port

For DS500 and ETS, physical port 0, which is used for running the **diagnostic self-test program** and for performing other management tasks (for example, DS500 receives the 900 series of messages at port 0). For other servers, any port assigned to receive the 900 series of messages and to which a **local console** can be connected.

contention

A condition that occurs when two or more nodes attempt to use an **Ethernet** channel at the same time.

credit

A **flow control** marker transmitted in the header information of a **data slot**. A credit permits the LAT node that receives it to send one **slot** of data to the node that transmits it. If no credits are transmitted, data flow is temporarily halted between the nodes.

CSMA/CD

Carrier-sense, multiple-access with collision detection. This is the generic term for a procedure used by **Ethernet LANs** to manage the physical link. The procedure allows multiple nodes to access the **broadcast** channel at will, avoids **contention** by means of **carrier sense** and deference, and resolves contention by means of collision detection and retransmission.

CTERM

Command **TER**Minal; a wide area network virtual terminal **protocol** that is layered on **DECnet** protocols.

current group codes

The **group codes** that a port user has selected for his or her port (specified by the port characteristic **GROUP CODES**). Current group codes are equal to or a subset of **authorized group codes**. A user can display and access only those **services** represented by the port's current group codes.

current session

The **service session** with which a **port user** is currently interacting.

customization

The process of using **SET** or **DEFINE** commands to modify the values of characteristics in the server databases. With the Keyboard Mapping utility, the process of modifying the correspondence between IBM 3270 and VT terminal keyboards, for use with the 3270 Terminal Option product.

CUT-mode terminals

See **IBM 3270 Control Unit Terminal (CUT) display**

data communication equipment (DCE)

Active computer equipment in a data path that assists in the transmission of data along the path, for example, a **modem**.

data-leads-only

An **asynchronous** data communications line that does not support **modem control** signals.

data link frame

A group of digits transmitted as a unit, over which a coding procedure is usually applied for synchronization, error control, and error detection.

Data Link layer

The second lowest layer in the International Standards Organization (ISO) model for open systems interconnection (OSI). The Data Link layer implements a communication facility on top of the physical **channel** provided by the **Physical layer**.

data slot

One of three types of data in the slot layer of the **LAT** architecture: **Data-A** slots, **Data-B** slots, and **Attention** slots. These slots identify different classes of transmitted data between a **terminal server** and a **service node**.

data terminal equipment (DTE)

A computer or **terminal** connected to **data communication equipment (DCE)** that performs input and/or output functions.

data transfer

The act of transmitting data across communications lines from a sender to a receiver.

data transparency

During a **service session**, the server normally intercepts and interprets switch characters and **flow-control** characters. Users can enable data transparency, causing such characters to become transparent to the server. The server will not intercept them while they are being exchanged in the user's **current session**, such as during a file transfer or during a block-mode transfer (where the terminal sends a screen of data to the host application).

database

See **load host's node database** and **log-in database**, **operational database**, **permanent database**.

datagram

See **message frame**.

DCE

See **data communication equipment (DCE)**.

DEBNT

The Digital Ethernet-to-BI Network and Tape Adapter.

DEC423

See **EIA-423-A**.

DECconnect system

A Digital communications wiring strategy that uses a faceplate to provide comprehensive video, telephone, data, and network connections to offices in an area or building. Each office faceplate is wired to one or more central communications points, such as a **satellite equipment room**, a computer room, or a telecommunications room.

DECnet software

The Digital networking software that uses the **Digital Network Architecture (DNA)** on both **local area networks** and wide area networks.

DECnet characteristics

Information that DECnet software uses to identify **nodes** on the **network**. This information is in a **load host's** DECnet database and server configuration database. Every server has these DECnet characteristics: **DECnet node name**, **DECnet node address**, **service-circuit ID**, and **Ethernet address**.

DECnet databases

Two **load host** databases (permanent and operational) that contain entries for all DECnet **nodes**: the **permanent database** contains permanent entries, which are not affected by system **power up** or **power down**; the **operational database** contains temporary entries, which are copied from the permanent database on power up.

DECnet node address

A unique numeric identification required for each DECnet **node**, assigned by the network manager and recorded on the server's Identification Card. The address is in the form *aa.nnnn*, where *aa* is an optional **area number** (from 1 to 63), and *nnnn* is the node address (from 1 to 1023).

DECnet node name

A unique 1- to 6-character alphanumeric identification (including at least one alphabetic character) required for each DECnet **node**, assigned by the network manager, and recorded on the server's Identification Card.

DECOM

See **broadband Ethernet transceiver**.

dedicated service

A **service** to which a **port** is permanently assigned and to which the port is always connected at login, thus emulating a hard-wired connection.

DELNI network concentrator

See **local network interconnect**.

DELUA

The Digital Ethernet Large-Scale-Integration UNIBUS Network Adapter.

DEMPR

The Digital ThinWire Ethernet Multiport Repeater that can connect up to eight ThinWire Ethernet segments to a baseband Ethernet transceiver or to a DELNI network concentrator.

DEQNA

The Digital Ethernet Q-bus Network Adapter that connects to a standard Ethernet.

dequeue

To remove the first entry in a queue and to attempt the function for which the entry was queued.

DEREP

The Digital Ethernet Repeater. See **Ethernet repeater**.

DESQA

The Digital Ethernet Q-bus Network Adapter that can connect to a standard or ThinWire Ethernet.

DESVA

The Digital Ethernet Network Adapter for MicroVAX 2000 and VAXstation 2000.

DEUNA

The Digital Ethernet UNIBUS Network Adapter.

device

Equipment that connects to a **port** on a server; for example, **terminals**, printers, **modems**, and computers.

Device Check error

An error detected by the CXM04 line card. Each time a 3270 terminal has an internal memory error, it sends this error to the CXM04 line where it is registered.

device port

See **port**.

DFT terminal

See Distributed Function Terminal.

diagnostic self-test program

The set of firmware-based programs that tests the server hardware for failures and that controls the server during **power up**.

dial-in modem

A **modem** that receives incoming calls from **dial-out** modems connected to **remote** computer equipment.

dial-in/dial-out modem

A **modem** that can both originate calls to and receive calls from **remote** computer equipment.

dial-out modem

A **modem** that originates calls to a remote **dial-in modem**.

Digital Network Architecture (DNA)

The layers, **protocols**, and associated rules that govern the design and operation of **Digital networks**.

direct memory access (DMA)

The process whereby a device directly reads from or writes to memory by addressing physical locations in memory without intervention by the CPU.

Distributed Function Terminal (DFT)

A 3270 terminal not supported by the 3270 Terminal Option product. The terminal has its own programmed instructions to perform much of the communications processing. It uses the CCU mainly as a message switch. In contrast, the **IBM 3270 Information Display System terminal** depends on the CCU for communications processing.

DNA

See Digital Network Architecture.

down-line loading

The process of sending the **server image** from a **load host** to the server.

DTE

See data terminal equipment.

dual-purpose server

A **terminal server** with both server software and **service node** software. A dual-purpose server can operate in two ways: (1) as a service node offering services on the LAT network, (2) as a terminal server providing a means for its ports to connect to network services.

dump file

A file containing a copy of the server's running image, which is stored on the **load host** in the **server directory**. The load host creates this file when it receives an **up-line dump** from the server.

dynamic access

A manager-specified type of access that allows a **port** to alternate between **local access** and **remote access** operations.

dynamic mode

The mode in which a 3270 terminal on the 3270 Terminal Option line card can switch between **3270 mode** and **VT mode**.

EIA-232-D

A communications standard of the Electronic Industries Association (EIA) that defines the electrical and the mechanical requirements for the interconnection of **data terminal equipment (DTE)** and **data communication equipment (DCE)**. EIA-232-D supports modem control and is generally used for communication over distances of up to 15.3 meters (50 feet). This standard is a revision of **RS-232-C**. This revision to the standard was mostly a title change, with no changes to the electrical and mechanical specifications. However, some signal names were changed.

EIA-422-A

A communications standard of the Electronic Industries Association (EIA) that specifies the electrical characteristics of a balanced voltage digital interface circuit (see **balanced circuit**). It can be used to specify the interchange of serial binary signals between **data terminal equipment (DTE)** and **data communication equipment (DCE)** or between digital equipment connected by point-to-point circuits. EIA-422-A supports **data-leads-only** and is generally used for communicating over distances of up to 1219.2 meters (4000 feet). Formerly called **RS-422-A**.

EIA-423-A

An enhanced version of **RS-423-A**. EIA-423-A uses line driver and receiver chips that have better filtering and tighter level tolerances than those specified by **RS-423-A**. Additionally, EIA-423-A devices include transient suppressors for electrical overstress (EOS) and electrostatic discharge (ESD) protection. When interconnecting EIA-423-A and **EIA-232-D** interfaces, EOS and ESD protection is required to protect the EIA-423-A line receivers from the higher voltages produced by the EIA-232-D line drivers.

emulation mode

Configuration mode for ports on the 3270 Terminal Option (CXM04) line card. This mode is configured by using TSC or TSM. The port can be configured in one of three modes: **dynamic mode**, **VT mode**, or **3270 mode**. When a port is configured to **dynamic mode**, 3270 terminals connected to the card can switch between **3270 mode** and **VT mode**. The other two modes do not allow switching.

Etherjack junction box

A wall-mounted box that houses a **transceiver cable** interconnection point.

Ethernet

A **local area network** that uses **coaxial cable** as a passive communications medium in a **CSMA/CD** system to interconnect different types of computers, server products, and office equipment at a local site. No switching logic or central computer is needed to establish or to control communications. Both standard and ThinWire Ethernet is available. Standard Ethernet is recommended for communications between floors and buildings. ThinWire Ethernet is recommended for communications between workstations, personal computers, and low-end systems in local work areas on a floor.

Ethernet address

A unique combination of six pairs of hexadecimal digits separated by hyphens that identifies a specific **node** on an **Ethernet**. *Contrast with DECnet node address.*

Ethernet citizenship test

The part of the **diagnostic self-test program** that verifies server compliance with the **Ethernet protocol**.

Ethernet Communications Server

A dedicated special-purpose network subsystem that promotes **resource sharing** among many host systems within a **local area network**.

Ethernet connector

See Ethernet port.

Ethernet controller module

The hardware component of an Ethernet node that implements the **CSMA/CD** procedure that allows the node to communicate over the Ethernet.

Ethernet interface test

The part of the **diagnostic self-test program** that verifies whether the **Ethernet controller module** is functioning properly.

Ethernet loopback test

A **loopback test** that involves at least two Ethernet nodes and possibly a third assistant node. *See also* **internal loopback test** and **external loopback test**.

Ethernet port

The connector on the server for the Ethernet **transceiver cable**.

Ethernet protocol

The set of rules that governs the structure of **data transfer** on an Ethernet LAN; the **protocol** determines the format of messages on the Ethernet.

Ethernet repeater

A device (called a **DEREP**) that joins two **segments** of an Ethernet and re-inforces signals sent over the segments. The repeaters can be separated by up to 1100 meters (3609 feet) of cable.

external loopback test

An **asynchronous port loopback test** during which data signals are looped externally through either a standard or a **staggered loopback connector** that is attached to the port cable interface or to the port cable; an extension of the **internal loopback test**.

failover

A failure-recovery function provided by terminal servers. Failover occurs automatically when a user's current **service session** is disrupted by the failure of the **service node**. Automatic failover attempts to connect the user to the same **service** on an alternative service node. Automatic failover is attempted only if the service being used is offered by two or more service nodes (as with a VAXcluster service).

field replaceable unit (FRU)

A part of a given product that can be replaced in the field. Typically denotes a **module** or subassembly that can easily be removed from a product.

firmware

See **server firmware**.

flow control

The set of rules used by a communications **protocol** to ensure that server ports and port **devices** do not overrun and that a sending network **node** (or transmitting process) does not overrun a receiving node (or receiving process) with more data than the receiving node or process can accept.

frame

See **message frame**.

FRU

See field replaceable unit.

group codes

The group codes that are enabled on a service or a port. Each service and port can have a list of group codes. Each group code is identified by a number from 0 to 255. Group codes are used to logically divide networks. A server port can access a service node if it has at least one group code in common with the service nodes' group codes. Server managers enable group codes corresponding to the services they want port users to access. A port user can connect to services and can display information about services that have at least one group code in common with the port's group codes. *See also authorized group codes, current group codes, server group codes, and service group codes.*

hardware installation

A three-step process that includes placing the server hardware in the desired location, connecting its cables, and testing its operation (*see diagnostic self-test program*).

heartbeat

A signal generated by certain Ethernet transceivers. The signal is used to verify that the collision detection circuitry is operational.

host

See load host. Contrast with service node.

host-initiated request

A connection request from a service node to a server asking that the server initiate a session between a service node application (for example, a print queue) and a server port device (for example, a printer). Host-initiated requests reflect the fact that service node software cannot establish sessions; only servers establish sessions.

hot-key sequence

A sequence of keys you press on an IBM 3270 terminal (connected to a server with the 3270 Terminal Option card) to switch between **3270 mode** and **VT mode**.

IBM cluster control unit (CCU)

A processor that controls functions for attached I/O devices, such as terminals. The CCU depends on an IBM host and the communication controller to which it is attached for many of the network functions.

IBM passthrough mode

See 3270 mode.

IBM 3270 Control Unit Terminal (CUT) display

IBM 3270 display terminals that connect to an **IBM cluster control unit (CCU)** and depend on that unit for their intelligence. These terminals are supported by Digital's 3270 Terminal Option product.

IBM 3270 Information Display System terminal

An IBM terminal that includes a display screen and keyboard, and which uses the 3270 data stream.

Image

image file

See server image.

Initialization

The process of running the server's **diagnostic self-test program** and, optionally, **down-line loading** the server with the **server image**.

Installation

See hardware installation, software installation, system installation, and verification.

Interactive terminal

A device that is under the control of the **terminal user** and is connected to a **server port**.

Internal loopback test

An **asynchronous port loopback test** during which data is looped internally to the module. All module circuitry is tested except port drivers and receivers. *Contrast with external loopback test.*

IRMA 2 card

An IRMA 2 card is a 3278/3279 emulation card manufactured by Digital Communications Associates, Inc.

keepalive timer

A timer that defines the interval between idle run **messages** sent by the server to **service nodes** on inactive **virtual circuits**. Acknowledgment of these messages by the service nodes allows the server to monitor the status of all circuits continually without consuming excessive **Ethernet bandwidth**(*see balanced circuit*).

keyboard mapping

With the 3270 Terminal Option product, keyboard mapping refers to the correspondences between IBM 3270 keyboard keys and VT220 keys. Pressing a specific IBM 3270 keyboard key generates a specific VT220 keyboard ASCII or escape sequence character.

Keyboard Mapping utility

A utility for server managers, accessible through the Terminal Server Manager or the Terminal Server Configurator. Server managers use the utility to customize keyboard tables in the 3270 Terminal Option software (one set of tables per server). The tables define the correspondences between IBM 3270 keyboard keys and VT keyboard keys.

LAN

See **local area network**.

LAT

See **local area transport (LAT) architecture**.

LAT Control Program (LCP)

A control program that allows network and system managers to monitor and to control the LAT protocol on **service node** operating systems.

LATplus/VMS software

Software that enables nodes running VMS V5.0 to V5.2 software to perform enhanced LAT functions such as printer support.

LCP

See **LAT Control Program (LCP)**.

line cards

The **multiplexer** modules in the server that contain the device ports.

load file

The server system image file that is stored on the **load host** in the **server directory**. When the load host receives a request for a **down-line load**, it sends the data in this file.

load host

A **node** on the same Ethernet as the server that can **down-line load** the **server image** to the server and that can receive **up-line dumps** of server memory.

load host's node database

A database that contains information about terminal servers and that allows the load host to perform **down-line load** and **up-line dump** operations. This database is made up of three databases on the load host: the DECnet operational database, the DECnet permanent database, and the **server configuration database** (DSVCONFIG.DAT or TSM\$CONFIG.DAT).

local

(1) Pertaining to equipment or commands originating at or residing at a direct (hard-wired) connection. (2) Refers to a **terminal server** that a user is using on an interactive port **device**. *Contrast with remote*.

local access

A manager-specified type of access that allows only interactive use of a **port** with local access; users must connect directly to the port or connect through a **dial-in modem**. *Contrast with remote access.*

local area network (LAN)

A **network** in which communications are limited to a moderately sized geographic area such as an office building, a warehouse, or a campus.

local area transport (LAT) architecture

A networking model that includes the **LAT protocol** and that defines **connections** between terminal servers and **service nodes**. The LAT protocol is layered on the **Ethernet protocol**.

local console

A **terminal** that is connected to the server's **console port**.

local console mode

For DS500, the environment in which the server manager executes the **diagnostic self-test program** at the **local console port**.

local console port

See console port.

local mode

The environment in which a user interacts directly with the server by entering server commands at the server prompt. *Contrast with service mode.*

local network interconnect

A device (called a **DELNI network concentrator**) that can interconnect up to eight network nodes to a single **Ethernet transceiver**.

local service

A **LAT service** offered by the server that the user is logged in to.

logical port

A software-assigned designation for a **port** that might or might not be associated with a physical port (that is, a hardware connector for a device).

log-in database

For DS500 and ETS, a database that resides on the server in dynamic memory and that contains current operational values for port characteristics that are saved between logins.

loopback connector

A special piece of hardware that, when plugged into a server port, loops signals back to that port for test purposes.

loopback test

A test that requires a sending process to transmit a data message sequence to a receiving process and back again for a specified number of times without generating an error. *See also* **internal loopback test** and **external loopback test**.

Maintenance Operation Protocol (MOP)

A maintenance protocol specified in the **Digital Network Architecture (DNA)** that is used to implement the **Remote Console Facility** and to perform **down-line loads**, **up-line dumps**, and **loopback tests**.

master

An addressable process on a LAT node that provides communications attachment points for **virtual circuits**. The master initiates and controls activity over LAT virtual circuits.

master mode

The mode usually associated with the terminal server that initiates communications and controls connections with host nodes. *Contrast with* **slave mode**.

message

The unit of information transmitted by the LAT Virtual Circuit layer to start, run, or stop **virtual circuits**. A message is contained in one frame assembled by the **Data Link layer**.

message frame

The basic **Ethernet** network message unit transmitted by the **Data Link layer**, which is made up of a preamble and a data stream. The data stream includes the destination node address, the source node address, the **protocol type**, the message data, and an error detection code.

MMJ connector

A modified modular jack (MMJ) that can accept an **MMP connector** to support a single **data-leads-only channel**.

MMP connector

A modified modular plug (MMP) used for a six-conductor Digital office cable connection to an **MMJ connector**.

modem

MOdulator/DEModulator. A device that converts computer signals to signals that can be sent over a telephone line and which converts signals sent over a telephone line to computer signals.

modem control

A system of electrical signals used to control the physical connection and disconnection of **modem-type devices**.

module

(1) A circuit board. (2) A separate unit or part of a computer program.

module slot

An opening in the server designed for inserting a **module** so that it connects to the server **backplane**.

MOP

See **Maintenance Operation Protocol (MOP)**.

multicast

Pertaining to a feature of the **Ethernet** and **LAT protocols** that provides special **multicast addresses** whereby a message sent to one address can be transmitted to a number of nodes affiliated with that address.

multicast address

A single physical address used by one or more **nodes** on an **Ethernet**. A message sent to this address is transmitted to all affiliated nodes.

multicast message

A **message frame** whose destination address is a **multicast address**.

multicast timer

A **LAT service node** characteristic that determines the time interval between each **multicast message**.

name

A unique string of **ASCII characters** that identifies an entity within the **LAT architecture**. *See also* **DECnet node name**, **server name**, and **port name**.

NCP

See **Network Control Program (NCP)**.

network

A configuration of two or more computers linked to share information and **resources**. The computers can be either general purpose computers or dedicated computers, such as **terminal servers**.

Network Control Program (NCP)

The **DECnet** command interface used to configure, control, monitor, and test **DECnet** networks.

node

A **network** component consisting of a computer system and the associated network software.



non-LAT host

A computer that depends on its physical connection to a terminal server in order to be offered as a **LAT service**. The server provides the **service node** software for the non-LAT host and offers the system as a service at a server port.

nonprivileged status

The default status for all interactive server ports. Users at nonprivileged ports can use a subset of the privileged command set to: change some **local** port characteristics; display information about the server, its ports, and service nodes; and execute commands required to connect to services. However, nonprivileged users cannot access commands that change the state of the server or other ports.

No Poll Acknowledge error

If the 3270 Terminal Option hardware fails to receive a poll acknowledge command from the **IBM cluster control unit (CCU)** when expected, the line card registers a No Poll Acknowledge error in its device error counters.

octet

A group of 8 bits. In the Ethernet protocol, all fields are measured in octets instead of bytes.



on-line help

On-line documentation that describes command syntaxes, including keywords, ranges, and defaults.

operational database

A database containing values that determine the current (volatile) operating conditions of the server (*contrast with permanent database*).

out-of-band data

High-priority data that is passed to the receiving process out of sequence and ahead of other data; an attention slot is an example of out-of-band data on a terminal server.

output port

A server port that transmits data but does not receive data.

packet

See **message frame**.

passive adapter

A connecting device that joins dissimilar connectors and, in some cases, makes dissimilar signal requirements compatible. The adapter is considered passive because it does not require an external power source to operate. *Contrast with active converter*.

passive rack

An equipment rack in a **satellite equipment room** that contains passive equipment. Passive equipment does not require an external power source to operate.

Passthrough loopback test

A diagnostic test offered by the **Console Commands Interface** on servers supporting the 3270 Terminal Option product to test the 3270 Terminal Option hardware. See **passthrough switch**.

passthrough switch

A switch on the 3270 Terminal Option line card that provides a connection identical in characteristics to a hard wire connection between the **IBM cluster control unit (CCU)** and 3270 terminals in 3270 mode. If power is removed from the line card, the switch automatically switches to the passthrough position.

patch panel

A board with temporary electrical connections and movable wires that facilitate rewiring.

peer-to-peer communications

A **LAT architecture** feature whereby each terminal server component layer has a corresponding service node component layer.

permanent database

A database containing permanent values that define the basic operating conditions of a server, which are preserved across loads. Modifications to this database change the permanent operating conditions of the server. Nonsecure users can temporarily modify these values in the **operational database**.

Physical layer

The lowest layer in the International Standards Organization (ISO) model for open systems interconnection (OSI). The Physical layer is implemented by the physical **channel** using a specified medium. The Physical layer transmits **message frames** and insulates the **Data Link layer** from medium-dependent physical characteristics, such as baseband, broadband, or fiber-optic technologies.

POR

See **power on reset**.

port

A physical access point on the server to which a **device** can connect. Ports can have logical names.



port device

See device.

port name

A port characteristic that identifies a port as a **LAT resource** on the network as well as a resource on the **local server**. The port name appears in displays for **SHOW PORTS CHARACTERISTICS**, **SHOW PORTS COUNTERS**, and **SHOW PORTS STATUS**.

power down

To remove power from the server either by unplugging it, or, if the server has an **ON/OFF** switch, by setting the switch to **OFF**.

power on reset

Status information sent by a 3270 type terminal to its cluster control unit when the terminal is powered on. The control unit uses this information to identify various attributes of the terminal.

power up

To apply power to the server by plugging it into a live outlet and, on servers having an **ON/OFF** switch, by setting the switch to **ON**. The server responds by running the diagnostic tests and requesting a **down-line load**.



preferred service

A predefined **service** to which the server attempts to connect a specific port whenever a user at that port issues a **CONNECT** command without a **service name**.

privileged status

A port status that can be set by the server manager (or by any user knowing the privileged password). Users at privileged ports can execute all server commands, including commands that modify the server, its ports, and its services.

protocol

A set of rules within an **architecture** that governs the flow of data between information processing equipment; a set of conventions between communicating processes regarding the format and content of messages to be exchanged.

queuing

The process of putting **connection requests** for a service into a waiting list (queue) when the service is currently in use. Requests are **dequeued** and processed in the order in which they were entered into the queue (first-in/first-out).



rating

See service rating.

RCF

See Remote Console Facility.

release notes

A server distribution text file that the software installer copies to the **server directory** on the **load host** and then prints. The release notes can include any of the following: special instructions for installation, information specific to the current release of the product, and any information omitted from the printed documentation.

remote

Pertaining to equipment located elsewhere on the LAN or to commands executed at another system on the LAN. For example, a **remote terminal server** is a server to which a user can connect over a LAN or over telephone lines. *Contrast with local.*

remote access

A manager-specified type of access that allows only **remote connections** to a port, for example, connections to printers, **applications devices**, and **non-LAT host systems** using a **dial-out modem**. *Contrast with local access.*

remote console

A **terminal** that is using the **Remote Console Facility** at a **remote DECnet node**.

Remote Console Facility (RCF)

A **load host** function that allows **remote connections** to the server's management port to issue server commands.

remote management port

The port on a server to which the **remote console** is connected. For DS500 and ETS, the logical remote management port is always associated with physical port 0.

remote management session

The process of issuing a series of management commands (either server commands or NCP commands) at a **remote console**.

remote printer queue

A **queue** on a **service node**. The queue holds **connection requests** made from the **service node** requesting use of a printer (remote printer) on a server. *See host-initiated request.*

resource

A device or software application on the LAT network that performs certain functions that can be named as **service** and that can be accessed by terminal servers or service nodes; for example, a computer or a printer.

response time

The time it takes the system to answer a query from a terminal; the time elapsed from when a user enters a character at a terminal keyboard to when the character is echoed (displayed).

retransmit limit

The number of times a **LAT virtual circuit message** is retransmitted to a **service node** when the server has received no acknowledgment message.

RS-232-C

See EIA-232-D.

RS-422-A

See EIA-422-A.

RS-423-A

See EIA-423-A.

satellite equipment room (SER)

A location in a **DECconnect system**, such as a room or a cabinet, where device cables from a local group of offices connect to respective voice, video, and/or data communications **networks**.

scan codes

Numeric codes that result when a user presses keys on an IBM 3270 terminal keyboard. A server with a 3270 Terminal Option card (CXM04) receives these scan codes, and the 3270 Terminal Option software maps them to **tokens** which, in turn, are mapped to Digital standard ASCII and escape sequence characters. These Digital characters are the output.

Keyboard tables in the 3270 Terminal Option software control the mapping. A privileged user can customize the "user-modifiable" tables for certain individual servers, by using TSC or TSM.

secure port

A **port** set up by the server manager so that the port user has access limited to a subset of the complete nonprivileged user command set.

secure user

User of a **secure port**. A secure user can use all the commands needed for connecting to a **service** but cannot change all the **port** characteristics that users of nonsecure ports can change. Also, a secure user can access only limited display information and cannot use many **local mode** commands available to other nonprivileged users, such as the **broadcast** command.

secure status

A restrictive status that the server manager can impose on a **port** to limit the execution of commands on that port to a subset of the nonprivileged command set.

segment

In a **local area network** using a bus topology, electrically continuous pieces of bus made of the same transmission media. Segments can be connected to each other with devices such as repeaters (**DEREPs**).

SER

See satellite equipment room.

server characteristics

Information in the server's databases that defines the server's operational parameters, such as **port characteristics**, **server characteristics**, and **service characteristics**. Each characteristic has a default value that can be changed.

server configuration database

See load host's node database.

server databases

See log-in database, operational database, and permanent database.

server directory

A disk directory on a **load host** that contains the server's image and other related files.

server firmware

Server software that permanently resides in read-only memory on server **modules**.

server group codes

An itemization of **group codes** that includes any group code currently enabled on any port on the server (excluding the **console port**). These group codes are included in the display produced by the **SHOW/LIST SERVER SUMMARY** command.

server image

A file in the **server directory** on the **load host** that contains executable code and, for DS500 and ETS, the server's permanent characteristics.

server name

- (1) A **server characteristic** assigning to the server a unique name that identifies the server to other **LAT** nodes on the **LAN**. To avoid confusion, Digital Equipment Corporation suggests that this characteristic be set to match the **DECnet node name** assigned to the server.
- (2) A field displayed locally in some **SHOW/LIST SERVER** displays.

server node

See terminal server.

server port

See port.

service

A network **resource** offered by a **LAT service node**.

service announcement

A **LAT protocol message**, which contains a brief description of a **service node** and its **service**, that is **multicast** on the network by the service node to announce its availability.

service-circuit ID

A **load host** characteristic that identifies which **Ethernet controller** on that load host is used to access a specific server for maintenance functions.

service group codes

Those **group codes** that are enabled for all **local services** offered by the server (specified by the **server characteristic SERVICE GROUPS**). *See also group codes.*

service mode

The server environment in which user input is passed directly to the **service** in the user's **current session** and is not interpreted by the server. *Contrast with local mode.*

service name

A name assigned to a **service** by the server manager or by the **service node** system manager. Users specify this name in a **CONNECT** command when establishing a **service connection**.

service node

A **LAT node** that provides a **service** to the terminal servers on the LAN. A terminal server can also be a service node.

service rating

A value assigned to a **service** by the **service node** to indicate its relative capability to accept new **sessions**. The rating is a scale from 0 to 255, where 255 is the greatest capacity. Server software uses this rating to choose a service node when a user attempts to connect to a service that is offered by multiple service nodes.

service session session

A **connection** between a **terminal server user** and a **service**. The connection allows a **terminal server user** or **device** using a **shared virtual circuit** to exchange data with the **service node**.

session management

A facility provided by some terminal servers that uses **TD/SMP** to communicate with certain server **devices** so that the device can process simultaneous, independent, multiple **terminal sessions**. On the device, the data exchange of multiple sessions can be processed simultaneously regardless of which session is current.

slave

An addressable process that provides the passive side of the communications attachment point for a **LAT virtual circuit**. The slave responds to requests from the **master**.

slave mode

The mode associated with **service nodes**, which respond to requests from terminal servers. *Contrast with master mode.*

slot

A variable length field in the **Virtual Circuit layer run message**. The field contains data about one **connection** (or **session**) between a terminal server port and a **service node**. This information includes the slot identification, the type of slot, the slot length, and the user data.

slot layer

A layer in the **LAT architecture** that establishes and maintains **sessions** between terminal server ports and **service nodes**.

software image

See server image.

software installation

A three-step process that includes copying the server distribution files from the distribution media to the **load host**, configuring the load host's node database, and verifying the load host installation and the server system installation.

Standard Ethernet

See Ethernet.

start slot

A **slot** used by the **slot layer** to request the beginning of a session on a **virtual circuit**, between a master node and a slave node.



stop slot

A **slot** used by the **slot layer** to terminate a session on a **virtual circuit**.

System Configuration Assistance Program

A firmware-based server program that is used interactively to test the server's hardware configuration.

system enclosure

The server hardware chassis assembly that contains the power supply, the hardware circuitry, and the fan(s).

system exerciser

The part of the **diagnostic self-test program** that tests server operation under simulated load conditions.


system image

See server image.

system installation

A two-step process that includes **hardware installation** and **software installation**.

system kernel



The minimum server hardware that is required for server operation. The server system kernel consists of the central processing unit, ROM, RAM, the bus **backplane**, and the **Ethernet controller module**.

System kernel test

The part of the **diagnostic self-test program** that verifies the operation of the **system kernel**.

tap

In a **local area network**, an electrical connection between a **transceiver** and the network cable.


TD/SMP

Terminal Device/Session Management Protocol. An **asynchronous** coded syntax used by the server and certain terminals to manage independent multiple **terminal sessions** simultaneously over a single physical circuit. *See session management.*

terminal

An interactive input/output device having a keyboard and a printer or video screen, which is used to interact with a server or a computer.

terminal reconnect



Each time a 3270 terminal is connected to a **CXM04 line card**, the line card registers the connection as a terminal reconnect in its device error counters. Powering the terminal on also registers a connection.

terminal server

A dedicated communications system that provides **LAT connections** between its **ports** and **LAT systems**. A terminal server establishes **virtual circuits** for **sessions** between its **port devices** and **service nodes**.

Terminal Server Configurator (TSC)

For DS500 and ETS, a utility residing in the **server directory** on the **load host** that is used to customize the server's **permanent database**. **Customization** redefines the values to be **down-line loaded** to the server's **operational database**.

Terminal Server Manager (TSM)

Optional software that runs on a **VMS host system** and that allows a manager to monitor and control multiple terminal servers from one location. The terminal servers must be connected to the same **Ethernet local area network** as the manager's **VMS host system**.

terminal session

A single **session** on a terminal server **port** that is operating under **session management** control. The server allows one **LAT service session** for each terminal session.

ThinWire Ethernet local area networks

Networks composed of one or more **ThinWire cable segments**. **ThinWire Ethernet networks** are also called **IEEE 802.3 "10base2" networks**, where 10 refers to the speed of the network (10 Megabits per second) and 2 refers to the maximum length allowed for a single segment (185 meters, or approximately 2 X 100 meters). Typically, **ThinWire networks** are used to provide communications between workstations, personal computers, minicomputers, servers, and printers within a department or a single building.

ThinWire Ethernet cable

A flexible, high performance **coaxial cable** that provides full **Ethernet functionality** and 10 megabits per second (Mbps) performance.

tokens

In 3270 Terminal Option software, code names given to **VT220 keys**. **Scan codes** generated from pressing 3270 terminal keys are mapped to tokens, and the tokens are mapped to the corresponding **VT220 key**.

transceiver

A piece of hardware that provides an electrical connection to a network cable for a network node. *See also* tap.

transceiver cable

A cable that connects the server **Ethernet controller module** to the **transceiver**.

TSC

See **Terminal Server Configurator (TSC)**.

TSM

See **Terminal Server Manager (TSM)**.

type A coaxial protocol

Standard protocol for coaxial communications. The means by which IBM 3270 terminals and the **IBM cluster control unit (CCU)** communicate.

up-line dumping

The process of sending a copy of the server's memory to a responding **load host**, usually following a fatal error. The data is dumped into the unique server **dump file** in the **server directory**.

verification

A two-step process to check **load host** installation and system installation; steps include **down-line loading** the **server image** to the server and testing a few server commands from a terminal attached to the server.

virtual circuit

A logical communications path between a server and a **service node**. A virtual circuit provides a bidirectional, sequential, timer-based, error-free stream of data.

Virtual Circuit layer

A layer of the **LAT architecture** that provides a reliable transport mechanism between terminal servers and **service nodes**.

VT mode

The mode in which a 3270 terminal can access the server and LAN resources. The terminal appears to services on the LAN as a VT220 terminal.

3270 Information Display System terminal

See **IBM 3270 Information Display System terminal**.

3270 mode

With the 3270 Terminal Option card on a server, the mode in which a 3270 terminal accesses the IBM CCU. Also called IBM passthrough mode.

3270 Terminal Option card

A line card that connects **IBM 3270 Information Display System terminals** to certain servers, allowing the terminals to access **local area network** resources as well as a connected **IBM cluster control unit**.

3270 Terminal Option control screen

A display screen accessible on IBM 3270 terminals connected to Digital's 3270 Terminal Option cards on servers. The screen displays information about the terminal, the **VT mode** session, and the **3270 mode** session.

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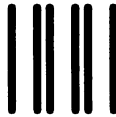
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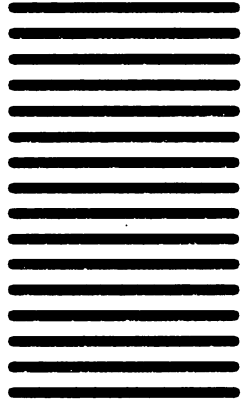
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