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NEWTON'S TELECOM DICTIONARY

OVER 21,000 TERMS

The Official Dictionary
of Telecommunications,
Networking and the Internet

17th Updated and Expanded Edition
by Harry Newton

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Published by CMP Books
An imprint of CMP Media Inc.
Converging Communications Group
12 West 21 Street
New York, NY 10010

For individual or quantity orders
CMP Books
6600 Silacci Way Gilroy, CA 95020
Tel: 1-800-500-6875 or 1-408-848-5296
Fax: 408-848-5784
Email: cmp@rushorder.com
Web: www.cmpbooks.com
Distributed to the book trade in the U.S. and Canada by
Publishers Group West
1700 Fourth St., Berkeley, CA 94710
Phone: 510-528-1444
ISBN Number 1-57820-069-5

February 2001

Seventeenth Edition

Matt Kelsey, Publisher
Christine Kern, Manager
Ray Horak, Managing Editor
Omar Mirabel, Cover Artist
Danel Roldan, Inside Layout Artist

Manufactured in the United States of America
Von Hoffmann Graphics
Owensville, MO 65066

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A gentleman called James Keil who wrote his master's thesis at the University of Boulder, Interdisciplinary Telecommunications Program, on TMN compliant equipment, says that a "quick and dirty definition of TMN" would be "A network management standard which seeks to provide IT, business and network service management in a multi-domain environments (i.e. VPN, RBOC, Cellular providers)." Mr. Keil also says TMN fully implemented can retrieve resources from disparate networks like SNMP, through the use of managed objects or ANSI.1. TMN has much more functionality than SNMP. See also TINA.

TMP Test Management Protocol: As an ATM term, it is a protocol which is used in the test coordination procedures for a particular test suite.

TMR Trunked Mobile Radio. Another name for SMR (Specialized Mobile Radio). See SMR.

TMRS Traffic Measurement and Recording System.

TMS 1. Time Multiplexed Switch. In the AT&T SESS switch CM, the TM provides switch paths between switching modules and passes control messages to and from the message switch, and functions as the hub for clock distribution to the switching modules.

2. TOPS Message Switch.

3. Trouble Management System.

4. Transmission Measuring Set.

TMSI Temporary Mobile Station Identifier A mobile station identifier (MSID) sent over the air interface and is assigned dynamically by the network to the mobile station.

TMU Terminal MakeUp. Refers to the electrical configuration (resistance including bridged tap) of the terminal. It is a function of the linear distance (usually measured in feet) from the Central Office and copper cable gauge (or gauges) and bridge tap.

TMUX Transmultiplexer.

TN 1. Telephone Number.

2. Twisted Nematic. Most used display technology for calculators, watches and measuring equipment. TN uses liquid crystals sandwiched between two plates of glass with integrated transparent electrodes which can be made transparent and non-transparent by applying an electric current to them. See LCD.

TN3270 Delivery of a 3270 data stream via Telnet, provided as part of the TCP/IP protocol suite.

TNC 1. A small connector used on coaxial cable, commonly used for cellular antennas, and some data and test equipment.

2. Node Connectivity Table.

TNL Terminal Net Loss.

TNPP A protocol used to send paging messages from terminal to terminal on LANs and WANs over a wire circuit.

TNS 1. Transit Network Selection. As an ATM term, it is a signaling element that identifies a public carrier to which a connection setup should be routed.

2. Transient Network Signaling

3. Network Status Table.

TNSS Non-Synchronous test line provides for rapid testing of ringing, tripping and supervisory functions of toll completing trunks. This test line provides an operation test which is not as complete as the Synchronous test but which can be made more rapidly.

TNT Network I/O Device Table.

TO Transmit Only.

TOA/NPI Type Of Address/Numbering Plan Identifier.

TOC Technical Operating Center.

TOD Time Of Day.

Todd The king of stockbrokers, but the peasant of tennis players.

TOF Time Out Factor: As an ATM term, it is an ABR service parameter, TOF controls the maximum time permitted between sending forward RM-cells before a rate decrease is required. It is signaled as TOFF where $TOF = TOFF + 1$. TOFF is a power of 2 in the range: 1/8 to 4,096.

TOFF Time Out Factor: See TOF.

Toggle 1. A flip-flop switch that changes for every input pulse.

2. Any simple two-position switch.

TOH Transport Overhead. A SONET term describing an element of signaling and control. TOH includes Section Overhead (SOH) and Line Overhead (LOH).

TOK Test Okay.

Token 1. In networking, a unique combination of bits used to confer transmit privileges to a computer on a local area network. It also carries important information for routing messages over the network, such as source and destination addresses, access control informa-

tion, route control information, and date checking information. When a LAN-attached computer receives a token, it has been given permission to transmit. On a token ring network, the token is 24 bits long. See Token Passing and Token Ring.

2. Here is a Rolm definition: The floating master message which coordinates use of the CBX control packet network among the nodes connected to it.

Token Bus A local network access mechanism and topology in which all phones or workstations attached to the bus listen for a broadcast token or supervisory frame. That token confers on them the right to communicate over the share channel, the token bus. An example of a Token-Bus is IEEE 802.4. See Token Passing.

Token Latency The time it takes for a token to be passed around the local area network ring.

Token Passing A method whereby each device on a local area network receives and passes the right to use the single channel on the LAN. The key to remember is that a token passing, or token ring LAN has only one channel. It's a high-speed channel. It can move a lot of data. But it can only move one "conversation" at a time. The Token acts like a traffic cop. It confers the privilege to send a transmission. Tokens are special bit patterns or packets, usually several bits in length, which circulate from node to node when there is no message traffic. Possession of the token gives exclusive access to the network for transmission of a message. The token is generated by one device on the network. If that device is turned off or fails, another device will assume the token creation task. When the package of token and message reaches its destination, the computer copies the message. The package is then put back on the network where it continues to circulate until it returns to the source computer. The source computer then releases the token for the next computer in the sequence.

With token passing it is possible to give some computers more access to the token than others. Usually one device on the network is designated the token manager. It generates the tokens. If that device is turned off or fails, another device will assume management of the token. There is a complicated sequence of events that result in the generation of a token and that deal with the eventuality of token loss or destruction. The logic for this process is built into token ring cards that fit inside computers. In some manufacturers' products, the logic is slightly different and can cause incompatibilities. See Token, Token Ring and Token Ring Packet.

Token Ring A ring type of local area network (LAN) in which a supervisory frame, or token, must be received by an attached terminal or workstation before that terminal or workstation can start transmitting. The workstation with the token then transmits and uses the entire bandwidth of whatever communications media the token ring network is using. A token ring is a baseband network. Token ring is the technique used by IBM, Arcnet, and others. A token ring LAN can be wired as a circle or a star, with all workstations wired to a central wiring center, or to multiple wiring centers. The most common wiring scheme is called a star-wired ring. In this configuration, each computer is wired directly to a device called a Multi-station Access Unit (MAU). These are usually grouped together in a wiring closet for convenience. The MAU is wired in such a way as to create a ring between the computers. If one of the computers is turned off or breaks or its cable to the MAU is broken, the MAU automatically recreates the ring without that computer. This gives token ring networks great flexibility, reliability, and ease of configuration and maintenance.

Despite the wiring, a token ring LAN always works logically as a circle, with the token passing around the circle from one workstation to another. The advantage of token ring LANs is that media faults (broken cable) can be fixed easily. It's easy to isolate them. Token rings are typically installed in centralized closets, with loops snaking to served workstations. Some other LANs require your going up in the ceiling or into walls and finding coax taps. All the work on a token ring can be done on one or several panels. These panels allow you to isolate workstations, and thus isolate faults.

Token Ring LANs can operate at transmission rates of either 4M bits per second or 16M bits per second. The number of computers that can be connected to a single Token Ring LAN is limited to 256. The typical installation is usually less than 100. Large installations connect multiple token ring LANs with bridges. The theoretical limit of Ethernet, measured in 64 byte packets, is 14,800 packets per second (PPS). By comparison, Token Ring is 30,000 and FDDI is 170,000. See FDDHI and FDDI TERMS. Help on this definition courtesy Tad Witkowitz of Crosscomm, Marlboro, MA, Tim Becker, Lanquest Group, Santa Clara, CA and Elaine Jones, VP Marketing, Coral Network Corporation, Marlborough, MA. See also Bridge, IBM Token Ring, MAU, Token Passing, Token Ring, Token Ring Card and Token Ring Packet.

Token Ring Card Name given to the circuit board inserted into a computer device