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MORE THAN 24,500 TERMS DEFINED

24th Updated and Expanded Edition
Harry Newton

NEWTON's TELECOM DICTIONARY

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Stay In Touch

For suggestions, corrections, updates, special offers: please send an email to Harry@HarryNewton.com

I promise you I won't give your name to anybody. Nobody. Promise.

Harry Newton

gaff breaks out of the pole. Burning a pole results in painful chemical burns because the installer usually winds up with a chest and legs full of splinters coated with creosote, a coal tar distillate used to preserve the wooden pole. Installers are taught to "kick out," rather than hug the pole and suffer burns.

burrus diode A surface-emitting LED with a hole etched to accommodate a light-collecting fiber. Named after its inventor, Charles Burrus.

burst 1. In data communication, a sequence of signals, noise, or interface counted as a unit in accordance with some specific criterion or measure.

2. To separate continuous-form or multipart paper into discrete sheets.

3. A small reference packet of the subcarrier sine wave, typically 8 or 9 cycles, which is sent on every line of video. Since the carrier is suppressed, this phase and frequency reference is required for synchronous demodulation of the color information in the receiver.

burst isochronous Isochronous burst transmission. See Isochronous.

burst mode A way of doing data transmission in which a continuous block of data is transferred between main memory and an input/output device without interruption until the transfer has been completed.

burst switching In a packet-switched network, a switching capability in which each network switch extracts routing instructions from an incoming packet header to establish and maintain the appropriate switch connection for the duration of the packet, following which the connection is automatically released. In concept, burst switching is similar to connectionless mode transmission, but it differs from the latter in that burst switching implies an intent to establish the switch connection in near real time so that only minimum buffering is required at the node switch.

burst traffic Burst traffic is many phone calls (usually incoming telephone calls) that simultaneously arrive at a computer telephony system. Burst traffic tests are usually performed as part of a systems load and stress testing. Burst traffic tests are particularly important for computer telephony systems as usually they must perform a lot of processing to set up to handle a call. The arrival of many calls simultaneously, such as in response to a television sales offer (or when Oprah asks you to call 1-800-xxxxxxx to vote on whether OJ is guilty or innocent), can place significant strain on a computer telephony system.

burst transmission 1. A method of transmission that combines a very high data signaling rate with very short transmission times.

2. A method of operating a data network by interrupting, at intervals, the data being transmitted. The method enables communication between data terminal equipment and a data network operating at dissimilar data signaling rates.

bursty Refers to data transmitted in short, uneven spurts. Or, discontinuous signals occurring at random intervals.

bursty information Information that flows in short bursts with relatively long silent intervals between. LAN traffic is characterized as "bursty" in nature, as devices tend to transmit substantial amounts of data at irregular intervals.

bursty seconds Bursty seconds is a measure of the amount of time spent at maximum data transfer rate.

bursty traffic Communications traffic characterized by short periods of high intensity separated by fairly long intervals of little or no utilization. Data traffic and certain kinds of video traffic are inherently bursty.

bus 1. An electrical connection which allows two or more wires or lines to be connected together. Typically, all circuit cards receive the same information that is put on the bus. Only the card the information is "addressed" to will use that data. This is convenient so that a circuit card may be plugged in "anywhere on the Bus." There are two common buses inside a PC – the older ISA bus, capable of only five megabytes per second and the newer PCI bus, capable of transmitting up to 132 megabytes per second. All computers and most telephone systems use buses of some type. Computer buses are typically open. Telephone system buses are typically closed. See also Backplane and Bus Network.

2. BUS (Broadcast and Unknown Server). An ATM term. More specifically, a LAN Emulation (LANE) term. This server handles data sent by a LAN Emulation Client (LEC) to the broadcast MAC address ('FFFFFFFF'), all multicast traffic, and initial unicast frames. The BUS works in conjunction with a LES (LAN Emulation Server), which automatically registers and resolves differences between LAN MAC addresses and ATM addresses. This is accomplished by labeling each device transmission with both addresses. See also ATM and LANE.

bus and tag cables Multi-wire copper cables used by IBM from the 1960s to the early 1990s to connect a peripheral device, such as a printer or tape drive, to a local mainframe. Bus and tag cables were always used in pairs; the "bus" carried the data, and the "tag" carried the control information.

bus and tag channel A parallel channel between an IBM mainframe and at-

tached peripherals, created with bus and tag cables. See bus and tag cables.

bus card An expansion board that plugs into the computer's expansion bus. See also PCMCIA.

bus enumerator A Windows 95 term. A new type of driver required for each specific bus type, responsible for building ("enumerating") the hardware tree on a Plug and Play system.

bus extender A device that extends the physical distance of a bus and increases the number of expansion slots.

bus hog A device connected to a transmission bus which, after gaining access to the transmission medium, transmits a large number of messages regardless of whether other devices are waiting.

Bus Interface Unit BIU. In LANs, the device furnishing direct connection of a DTE to the LAN bus.

bus master A VME board (usually a CPU) that can contend for, seize and control the VME bus for the purpose of accessing bus resources such as voice boards or even other CPUs. See VME.

bus mastering A bus design that enables add-in boards to process independently of the CPU and access the computer's memory and peripherals on their own. Bus mastering is a way of transferring data through a bus in which the device takes over the bus and directly controls the transfer of data to the computer's memory. Bus mastering is a method of Direct Memory Access (DMA) transfer.

bus mouse A mouse that is attached to your computer's not via a serial port or a USB port but through a special card attached to the motherboard. Note that such a mouse takes up an expansion slot in a PC. Bus mice are increasingly rare.

bus network All communications devices share a common path. Typically in a bus network, a "conversation" from each device is sampled quickly and interleaved using time division multiplexing. Bus networks are very high-speed – millions of bits per second – forms of transmission and switching. They often form the major switching and transmission backbone of a modern PBX. The printed circuit cards which connect to each trunk and each line are plugged into the PBX's high-speed "backbone" – i.e. the bus network. Similarly, Broadband Switching Systems (BSSs) make use of internal buses, which run at Gbps rates.

In the LAN world, bus networks include Ethernet, which is by far the most common LAN standard. The Ethernet bus specification provides for a common electrical highway which can be shared by as many as 1,024 attached devices per physical Ethernet or Ethernet segment. The Ethernet bus runs at 10 Mbps, although throughput is typically much less. See also BUS.

bus slave A VME board (usually a subsystem or I/O board) which can only respond to VME bus accesses mapped to its address. Slaves can usually interrupt the VME bus on one of 7 levels. See VME.

bus speed 1. The speed at which the computer's CPU (central processing unit) communicates with other elements of the computer. For example, the speed at which data moves between the CPU and its various bus-attached devices, such as video controller, disk controllers, voice cards, etc. In defining bus speed, Walt Mossberg of the Wall Street Journal wrote: A "bus" is a techie term for a pathway through which bits of data travel among various components inside a PC. In recent years, computer makers have been increasing the "bus" speeds, to keep up with advances in the speeds of processors. Though these high speeds sound enticing, they have little relevance to an average computer user. As with memory speeds, faster bus speeds won't make Web surfing or word processing discernibly faster. Again, the publicizing of bus speeds is mainly a marketing trick to get unfamiliar consumers to pay more." See AGP, AT BUS and PCI.

2. The speed at which the internal bus operates in a network switch. For example, an ATM Broadband switch may provide multiple, redundant buses, each of which might operate at 20 Gbps, yielding a total rate of 160 Gbps for an 8-bus switch.

3. The speed at which a network bus operates. For instance, an Ethernet bus provides a raw transmission rate of 10 Mbps, although the rate of data throughput typically is much less.

bus topology A network topology in which nodes are connected to a single cable with terminators at each end. One form of Ethernet LANs used bus topology, joining the various PCs along one piece of coaxial cable.

bush telegraph An Australian term for the informal word-of-mouth way that news spreads in a community. It is similar to the "coconut wireless" in Hawaii.

business analytics software Software that helps businesses understand what makes their customers happy and how to keep them that way so companies can improve retention and increase sales. Business analytic applications extract the events and attributes locked away in the text fields of transactional software systems, integrating them

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Harry Newton has 38 years studying, writing, lecturing and investing in telecommunications and information technologies. He founded key telecom magazines—*LAN*, *Teleconnect*, *Call Center*, *Computer Telephony* and *Technology Investor*. He also founded the enormously successful trade shows, *Computer Telephony Conference and Exhibition (CT Expo)* and *Call Center Demo*. He sold his publishing and trade show company in September, 1997 to concentrate on writing and technology investing.



Newton has an MBA from the Harvard Business School and an Economics degree from the University of Sydney, Australia, where he was born. He wrote this dictionary to teach himself his first loves—telecom and technology. He is not an engineer, but wishes he were. He wrote this dictionary in non-technical, business language. He believes (perhaps naively) that anyone in business should be able to understand complex technical terms, even though they're not an engineer. Some of his definitions are short. Some are long. His object is to explain what the technology means, what it does, what its benefits are, and what its pitfalls are.

Most dictionaries are updated every ten years. Not this one. Newton updates this dictionary every day and issues a new, expanded, improved and updated edition every year. This edition is current as of March 2008.

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