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by Harry Newton

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Table of Contents

HELP MAKE THIS DICTIONARY EVEN BETTER
– We offer a real reward V

119 BEST DOLLAR-SAVING TIPS
– How to save on telecom, PC, Internet, airline and investing VII

WHY IS IT SO HARD TO BUY?
– The logic of call centers, customer cares, and buying on the Internet XIX

THE NEW WORLD OF TELECOM
– How should a responsible user react? XXI

DISASTER RECOVERY PLANNING
– How to make sure your computing and telecommunications still run XXIII

RULES FOLLOWED IN THIS DICTIONARY
– How to figure our ordering of terms and our spellings XXV

ABOUT THE AUTHOR
– Harry Newton does have a life outside this dictionary XXIX

ABOUT THE CONTRIBUTING EDITOR
– Ray Horak teaches, consults and lives in Paradise XXXI

DICTIONARY
– Dictionary begins with Numbers then goes onto Letters 1

APPENDIX
– Standards Organizations and Special Telecom Interest Groups 914
– Publications, Computer and Telecom 920
– International Calling Codes 921
– Standard Plugs and Connectors 922

Polymorphism The ability of objects to handle different types of information and different requests for actions. Components are not typically polymorphic.

Polyolefin Any of the polymers and copolymers of the ethylene family of hydrocarbons.

Polypropylene A thermoplastic similar to polyethylene but stiffer and having a higher softening point (temperature) and excellent electric properties.

Polyvinylchloride PVC. A thermoplastic material composed of polymers of vinyl chloride. A tough, water and flame-retardant thermoplastic insulation material that is commonly used in the jackets of building cables when fire retardant, but not smoke retardant properties are required. Unfortunately, it burns and gives out noxious gases which kill. PVC can't be run in air return ducts, also called plenum ducts and most towns, therefore, don't allow PVC to be run in their plenum ceilings. See Plenum.

Polyvinylidene Difluoride PVDF. A fluoropolymer material that is resistant to heat and used in the jackets of plenum cable. See also Plenum Cable.

PON Passive Optical Network is a fiber optic network without active electronics, such as repeaters, a PON uses passive splitters to deliver signals to multiple terminal devices. Passive optical networking (PON) technology allows a fiber optic network to be built without the costly, active electronics found in all other types of networks. Rather, a PON network relies on inexpensive optical splitters and couplers, which are placed at each fiber "junction," or connection, throughout the network, providing a tremendous fan-out of fiber to a large number of end points. By eliminating the dependence on expensive active network elements — and the ongoing powering and maintenance costs associated with them — carriers can realize significant cost savings. (The PON is however still far more expensive than alternatives such as DSL). PON technology generally is used in the local loop to connect customer premises to an all-fiber network. A PON is a tree-like structure consisting of several branches, called Optical Distribution Networks. These run from the central office to the customer premises using a mix of passive branching components, passive optical attenuators and splices. Three active devices can be used in a PON. An Optical Line Terminal (OLT) either generates light signals on its own or takes in SONET signals from a collocated SONET crossconnect. The OLT then broadcasts this traffic to either an Optical Network Unit ONU or an Optical Network Termination, which receives the signal and converts it into an electrical signal for use in the customer premises. The speed of operation depends on whether the PON is symmetrical or asymmetrical. Symmetrical PONs operate at OC-3 speeds (155.52Mbit/sec), for asymmetrical PONs the upstream transmission is also 155.52Mbit/sec from the Optical Network Termination to the customer premises; downstream transmission can range between 155.52 to 622.08Mbit/sec. Depending on where the PON terminates, the system can be described as fiber-to-the-curb (FTTC), fiber-to-the-building (FTTB), or fiber-to-the-home (FTTH). Most PON approaches start with the specifications developed by the Full Service Access Network (FSAN) initiative. Variations on the PON theme include APON (ATM over PON) and TPON (Telephony over PON). See also APON, FSAN, and TPON.

Pond Balls Golf balls retrieved from a pond or lake.

Pony Express Out of the summer haze bursts a horse and rider, swiftly approaching a lonely sod building on the prairie. Arriving in a cloud of dust, the rider leaps from his horse and heads for a water barrel to quench his thirst. Meanwhile, a leather sack filled with mail is whisked off the tired horse and thrown over the saddle of a fresh mount. Within two minutes, the rider is gone, galloping toward the far horizon. This young man in a hurry was one of some 200 Pony Express riders who carried the mail in a giant relay between St. Joseph, Missouri, and Sacramento, California, a distance of 1,966 miles, in ten days or less. Changing horses every ten to fifteen miles at swing stations, and switching riders at home stations after a run of 75 miles or more, the riders averaged 250 miles a day. During the short time the Pony Express was in operation — from April 1860, through October, 1861 — its rider defied hostile Indians, blazing desert heat, and bone-chilling blizzards to travel a total of 650,000 miles with 34,753 pieces of mail. To save weight the letters they carried were written on tissue-thin paper as postage cost $10 an ounce, later cut to $2. The best time ever achieved was in March 1861, when Lincoln's inaugural address was carried from Missouri to California in seven days, 17 hours.

The Pony Express was organized by stagecoach operator William Hepburn Russell, who had been convinced by a group of prominent Californians that an overland mail route to their state was feasible. Russell's business partners opposed the venture because it was not protected by a U.S. mail contract. (They had competition and de-regulation even in those days.) But Russell went ahead, building stations and purchasing 500 top quality Indian horses. In advertising for riders, he hinted at the hazardous nature of the job by asking for "small, daring young men, preferably orphans." The riders received board and keep and were paid $100 to $150 a month. Their average age was 19, but one rider, David Jay, was 13, and William F. Cody, who became famous as "Buffalo Bill," was 15. In a further effort to save weight, a rider usually carried only a pistol and a knife. He was expected to out-run the Indians, not out-fight them.

The Pony Express days of glory ended abruptly in 1861 following completion of the transcontinental telegraph. Russell's firm lost more than $200,000 in the venture, but the daring of the Pony Express riders caught the imagination of every American, and their exploits became an important part of the legend and lore of the nation. The above history copyright 1979 by Panarizon Publishing Corp.

Ponzi Scheme A type of scam named after Charles Ponzi, who ran such a scheme in 1919-1920. A Ponzi is somewhat like a pyramid scheme, as money owed early "investors" are paid by revenues collected from those who come later. Typically the scheme works as follows. The Ponzi scheme perpetrator advertises a 50% per year return on monies invested with him. Some monies flow in. At end of a quarter, the perpetrator pays his investors a dividend or return (or whatever he calls it) of 12.5%. Word goes out that he's paid out a handsome dividend. Soon more money flows in. He pays out more dividends. More money flows in. One day not enough money flows in. He can't pay the promised dividends. The whole thing starts to crumble. People start demanding their money back... A Ponzi scheme does not involve any manufacturing of goods, or selling of goods or services.

Pool A collection of things available to all for the asking or the dialing. A modem pool is a collection of modems typically attached to a PBX. Dial a special extension and you can use the modem, which answers that extension (or one of the extensions in the hunt group) to make a data call. Pooling is sharing. The purpose of having a "pool" is to avoid buying everybody one of whatever it is you're pooling. Actually, "pooling" is a fancy word for something we've been doing in the telephone business for the past 100 years — sharing. We started sharing lines, then sharing switches, then sharing voice mail devices, now we're sharing equipment, like modems.

Pooling Point A physical place where local and long distance carriers join their networks in order to swap bandwidth. See Bandwidth Broker.

Pooling Point Administrator See Bandwidth Broker.

POP 1. Point Of Presence. The IXC equivalent of a local phone company's central office. The POP is a long distance carrier's office in your local community (defined as your LATA). A POP is the place your long distance carrier, called an IntereXchange Carrier (IXC), terminates your long distance lines just before those lines are connected to your local phone company's lines or to your own direct hookup. Each IXC can have multiple POPs within one LATA. All long distance phone connections go through the POPs.

2. Point Of Presence at which ISPs (Internet Service Providers) exchange traffic and routes at Layer 2 (Link Layer) of the OSI model.

3. Short for "population." One "pop" equals one person. In the cellular industry, systems are valued financially based on the population of the market served.

4. Post Office Protocol. An e-mail server protocol used in the Internet. You use POP to get your mail and download it to your PC, using SMTP (Simple Mail Transfer Protocol). POP3 is the current version, as defined in RFC 1725. POP is increasingly being replaced by IMAP.

POP3 Post Office Protocol version 3 is pronounced "pop three." Think of POP3 as the place in the sky where your incoming email from all your friends is stored, waiting for you to come by and pick it up. All you have to do is to "knock" on your POP3 door, identify yourself and pick up your mail. Conceptually it's not much different from physically picking up mail at your local post office. POP3 is actually a protocol widely used on the Internet or other IP-based networks to retrieve electronic mail from a (typically distant) email server. You use POP3 to get your mail from the server it is sitting on and to download it to your PC. Most email software (sometimes called email clients) use the POP3 protocol. POP3 can be characterized as a store-and-forward mail protocol. It runs on a client/server basis, with your email client workstation (i.e your PC) running against an email server, both of which include POP3 software. POP3 generally makes use of SMTP (Simple Mail Transport Protocol), which is an extension of TCP/IP intended specifically for email transfer. Unlike the earlier POP2 protocol, however, POP3 does not require SMTP and, therefore, is characterized as being independent of the transport layer. POP3 is run by most Internet service providers and ISPs (Internet Service Providers). When accessing a network-based email server, you generally will access a POP3 server to download email. When uploading email, you access an SMTP server, which merely forwards your mail through the Internet after translating the email addresses into IP addresses after consulting with a DNS (Domain Name Server) server.

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