

## Glossary of Terms

**Ad Hoc Network** - A type of network architecture which each node is willing to forward data for other nodes, and so the determination of which nodes forward data is made dynamically based on the network connectivity. This is in contrast to wired networks in which routers perform the task of routing. It is also in contrast to managed (infrastructure) wireless networks, in which a special node known as an access point manages communication among other nodes.

**Animation** - A sequence of frames that, when played in order at sufficient speed, presents a smoothly moving image like a film or video. An animation can be digitized video, computer-generated graphics, or a combination.

**Aspect Ratio** - The ratio of the width of a film frame to its height. Now often 1.85 to 1, in the "studio era" it was 4 to 3 (the 1.33:1 "Academy ratio" still used for TV). Wider ratios like Panavision (2.2:1) and Cinemascope (2.55:1) are closer to what our eyes actually see, but need increasingly anamorphic lenses for photography and projection, and are difficult to translate to television. The more contemporary HDTV format has an aspect ratio 16:9.

**Audience** - Population or target group viewing an advertising campaign.

Average Frequency - Estimate of the average number of times the audience had an opportunity to see an advertisement.

**AVI** (Audio Video Interleaved) - A Microsoft format for digital audio and video playback from Windows 3.1. Somewhat cross-platform, but mostly a Windows format.

**Bandwidth** - The amount of data that is able to be sent over a network, measured in Kilobytes and Megabytes per second (Kbps and Mbps). Modern low bandwidth communications include dialup modems and ISDN, ranging from 56Kbps to 128Kbps, but actual downloading times are closer to 1/10th of this speed. High-speed cable modems, DSL, T-1, and Satellite are much faster, by factors of as little as 10 or even higher than 100.

**Beta** - A feasibility, manufacturability evaluation and demonstration that the engineering model functioned as specified. Beta releases are generally made available to a small number of lucky, trusted customers.

**Bit Rate** - The number of bits transmitted per second. In theory, a 56 Kbps modem, for example, can transmit up to 56,000 bits per second.

**Blue Chip Advertiser** - Large, national company with a solid reputation for high quality management and products. More generally, anything of very high quality.

**Captive Audience Networks** - A captive audience network is a digital advertising media network installed where your target audience is assured to remain in place for a period of time. Typical captive audience networks are installed in supermarket queues, gas station pumps, banks, and wherever people gather and wait.

**CAT 5** - A data and communications cable adopted by the Telecommunications Industry Association and ISO (International Standards Organization). This version of Category 5

uses all four pairs of wires to both send and receive. This version is formally called ANSI/TIA/EIA 568A-5 or simply Category 5e. Category 5e operates at up to 350MHz. The new Cat 6 is often times referred to Cat 5 as a generalization.

**Content** - Any files that are played back, including graphics files, sound files, video files, and script files themselves.

**Compression** - The process of reducing the size of a media file by eliminating data. Higher compression means that the compression utility (usually a software program or a combination of hardware and software) defines greater amounts of data (such as larger areas of an image) as redundant, but at certain points the human eye will register the missing information as quality loss. The trade-off is that highly compressed images can be delivered more efficiently over a network.

**CRT** - (Cathode Ray Tube) CRTs are the glass vacuum picture tubes inside televisions and computer monitors. They are based on the emission of a magnetically targeted stream of electrons from the back of the picture tube on to phosphors located on at the front. The electron hitting the phosphors causes the emission of light with a vibrancy still unrivalled by competing technologies, such as gas plasma displays and liquid crystal displays. The big drawback of CRTs is their large depth of the glass picture tube required for the projection of the stream of electrons. The big advantage of CRTs is price. TVs are less expensive than the competition.

**Demographics** - Basic descriptors used to classify respondents - such as age, sex, marital status, occupation, social grade etc

**Digital Dynamic Signage** - Digital dynamic signage is a term used to describe the emerging industry where flat panel devices such as plasma screens and liquid crystal displays are used as moving posters, electronic bulletin boards, and the like.

**Digital Editing** - Editing a portion of a movie by digitizing one or more frames and altering them electronically or combining them with other digitized images, and then printing the modified frame.

**Digital Inventory** - The total number of advertising spots added to the total number of advertising displays multiplied by the total number of loops that a media seller has to sell over a period of time, usually a month or in Ping HD-SLR's case, per game or per event.

**Digital Media Network** - The term digital media network can refer to anything from multiple websites, to multiple television stations being centrally owned and operated. With the reduction in cost of custom controllable player devices, a new breed of digital media network is emerging, known under many different terms. The industry appears to be settling on the term digital signage to describe these new digital media networks, where custom images are digitally delivered to sign-like devices located throughout retail environments, or the enterprise.

**Digital Signage** - An industry whereby plasma display panels (PDPs), liquid crystal displays (LCDs), computer monitors and normal televisions are used to replace and enhance traditional signs. The advantages of digital signage include the rapid ability to update content, and the ability to deliver specific messages to specific audiences in specific locations. Digital signage is helping to merge the industries of advertising

networks and point of purchase display merchandising. While some digital signage networks require the constant and costly production and distribution of digital video.

**Digital Signage Network** - A digital signage network is a series of interconnected flat panel screens or televisions that are presented similar to traditional signs, but can be controlled from a remote location to deliver dynamically changing content.

**DVD** (Digital Video Disk or Digital Versatile Disk) - An emerging medium for storing large amounts of digital data, most notably movies encoded using MPEG-2 compression (a CODEC designed especially for use with DVDs). DVDs can hold several gigabytes on a single disc. Most CDs by contrast can only hold 600 megabytes each.

**Dynamic signage** - Literally means, moving signs, and now covers two fields. The first is the novelty field of moving kinetic signage, such as billboards with moving parts. The second refers to the increasingly common use of plasma display panels (PDPs), liquid crystal displays (LCDs), or other flat screen displays as signs. These signs can display video and other moving images. Dynamic signage is an emerging field, and is still being defined. Often times, the advantage of dynamic signage is lost by the use of mind-numbing repeating loops that quickly lose audience appeal. The true advantage of dynamic signage come in always delivering content that is fresh and relevant to the target audience, which may change by location or time of day. This customized content delivery is cost-prohibitive with traditional video production and animation.

**Enclosure** - A piece of equipment which houses the components, such as a monitor or display, and in some cases a computing device and/or other option peripherals devices such as printers, keyboards, etc.

**File Format** - The structure of a file, which defines the way it is stored and used. Generally, a file-type extension to the file name identifies the format. For example, some common bitmap graphics file formats supported by Ping HD-SLR are BMP, GIF, TIF, PCX, and JPG. Common animation formats are AVI, FLI, FLC and MPG. A common audio file format is WAV.

**Flat Panel Signage** - Refers to using flat panel electronic display devices, such as plasma display panels (PDPs) or liquid crystal displays (LCDs) in place of traditional signs. Advantages include the ability to update messaging rapidly and to deliver scheduled messaging to targeted audiences.

**Frequency** - The number of times the target audience of a TV campaign has the opportunity to see the campaign, expressed over a period of time

**Full Motion** - Refers to NTSC-quality video—a video signal that is 30 fps, and at least 640x480 pixels in size.

**FTP Site** - File Transfer Protocol (FTP) is a network protocol used to transfer data from one computer to another through a network, such as the Internet.

**High Definition** - Signal transmitted with at least double the horizontal and vertical resolution of conventional (Standard, SD) broadcast material

**Impressions** - One impression is equivalent to one person viewing one 10-second spot on one occasion.

**Interlaced** - Images that are displayed progressively as they download. Interlaced images appear to come into focus gradually in contrast to images that are not interlaced, which are drawn from top down as they download.

**IP** (Internet Protocol) - The basic language of the Internet. It was developed by the government for use in connecting multiple computer networks.

**IP address** - An address in four-part numerical format that uniquely identifies a computer accessible over a TCP/IP-based LAN or the Internet.

**IP Multicast** - (Internet Protocol Multicast) IP Multicast is a networking transmission protocol allowing multiple computers to simultaneously receive the same transmission. This is faster than sending packet to each individual computer, and is an efficient way to update many remote locations simultaneously. Each player site is "tuned in" for the packets being sent by the broadcast server. The question then arises, how can each remote site deliver customized content to its localized audience? The answer is in the fact that each player knows where it is, and makes intelligent choices about what parts of the broadcast it needs, if any. IP Multicast is not limited to the Internet and terrestrial connections, but can also be broadcast over Satellite to be received by inexpensive VSAT dishes -- often already part of a company's infrastructure for their WAN. In this way, multimedia networks of unlimited sizes can be created.

**ISP** (Internet Service Provider) - A company that allows users to dial in to the Internet usually through a modem. Other services ISPs often support include web hosting, the ability for users to maintain their own websites, and email.

**JPEG** (Joint Photographic Experts Group) - Refers to an image file format popular for delivery over the Web because of its relatively high quality and low file size. Before uploading JPEGs to the Web, users can determine the amount of compression assigned to them-usually on a scale from 1 to 10. Recommended file type for photographic images.

**LAN** - (local area network) A network of computers sharing a single server or servers in a single location, typically in an office or building. See also WAN.

**LCD** - (Liquid Crystal Display) LCDs are thin displays used for TV, computer monitors, wristwatches, digital thermometers, microwaves, digital signage, and countless other technologies -- possibly the most common and diverse electronic flat screen technology in use today. LCDs contain two thin transparent surfaces (usually glass), with grooves full of a liquid crystal substance. Thin film transistors (TFTs) on the surface material apply an electric current to the liquid crystals. This current will polarize the crystals, making them twist. This twisting blocks light. When off, the liquid crystals go into random alignment and let light pass through.

**Location Based Advertising** - The placement of advertisements near an actionable location. In other words, location based advertising deals with strategically placing messaging near where buyer behavior can be most immediately influenced, and converted into a sale. This most often applies in retail settings, such as shopping malls.

**Loop** - (1) A sequence of events that repeats. (2) A setting determining the number of times a sound or animation should repeat when it runs.

**LED** - (light emitting diode) Diodes are electronic components that let electricity pass in only one direction. Light emitting diodes are diodes that emit visible light when electricity is applied, similar to a light bulb. When many LEDs are side-by-side, they can create pictures, such as the scrolling red LED signs found everywhere. LED displays are often confused with LCDs (liquid crystal displays), but they are different technologies.

**Media Engine** - A device that stores and plays media in a number of multimedia formats including MP3, MPEG-4, QuickTime, Windows Media.

**Media Rate Card** - A document containing prices and descriptions for the various ad placement options available from a media outlet based on factors such as frequency, media inventory location and impressions.

**Mesh Network** - A way to route data, voice and instructions between nodes. It allows for continuous connections and reconfiguration around broken or blocked paths by "hopping" from node to node until the destination is reached. A mesh network whose nodes are all connected to each other is a fully connected network. Mesh networks differ from other networks in that the component parts can all connect to each other via multiple hops, and they generally are not mobile. Mesh networks can be seen as one type of ad hoc network.

**Multimedia Signs** - Multimedia signs are a growing trend in the signage industry, where televisions or flat panel display devices such as plasma screens or liquid crystal displays, are turned into updatable signage. Advantages of multimedia signs include the ability to deliver messaging to targeted audiences depending on schedule or environmental conditions. For example, advertise umbrellas when it's raining.

**Narrowcasting** - Narrowcasting in public places is a growing trend in advertising. The concept means delivering highly targeted and customized messages to audiences in public locations at scheduled times. Usually, this is accomplished with a networked multimedia system allowing rapid production, customization, distribution, and playback to multiple locations on display devices such as televisions, plasma display panels, and liquid crystal displays.

**Network Operator** - A company that manages and maintains a large computer network. network operator often refers to an advertising network operator, which is a company owning and operating a large number of remote location-based multimedia players delivering targeted messaging to high traffic locales.

**Out-of-Home Advertising (OOHA)** - refers to that portion of advertising delivered in locations other than the home. Primary examples include billboards, movie theaters, and gas stations.

**Out-of-Home Media Networks** - Out-of-Home Media Networks are like private television channels run by companies, organizations, and advertisers without having to have a complete television studio. For example, a growing number of companies are finding it viable to install small pilot programs where they push rapidly produced content, such as news, weather, and stock quotes, mixing in advertising. As the pilots prove

successful in driving consumer behavior, the network can be expanded from dozens of screens, to hundreds or thousands, located throughout a country or region. Such out-of-home media networks are sometimes also referred to as location-based media, or location-based advertising, because they appeal to the target audience at or close to the point of purchase, such as shopping malls, retail chains, or franchise operations.

**PDP** - (Plasma Display Panels) PDPs, also known as gas plasma displays or plasma screens, are flat screen display devices that are used for television, computer monitors, and dynamic signage. They consist of two layers of glass surrounding cells of xenon and neon gas. Surrounding electrodes switch the cells on and off, causing them to emit light and create the picture. This emitted light makes PDPs have an appealing vibrancy that competes with Cathode Ray Tubes (CRTs), the technology of traditional televisions.

**Pixel** - A single unit of screen information: one of the colored "dots" that make up a video image. Depending on the display mode, a pixel may require 8 bits/1 byte of information (for 256, or VGA, color mode), 16 bits/2 bytes (for "high color" mode) or 24 bits/3 bytes (for "true color" mode).

**Plasma** - Just as solids, liquids and gases are states of matter, plasma is a state of matter. Specifically, plasma is ionized gas. That is, gas that has been given an electrical charge by being stripped of electrons. Such ionized gas is the most abundant observable form of matter in the universe, being a main ingredient in stars and nebulas. And as if we're not already seeing enough of the stuff, it's also what goes inside those flat panel displays called "plasmas" that are popping up all around us. Why? Because when you apply an electromagnetic field to plasma, it glows, making for a nice, vibrant TV screen, computer monitor, or digital signage.

**Plasma Display Panels (PDP)**- Plasma display panels are components in the current generation of flat panel televisions, computer monitors, and digital signage. They consist of a material called "plasma", which is an electrically charged noble gas (usually argon, xenon, or neon) sandwiched in millions of compartments between 2 panes of transistor-covered glass. An electrical charge is applied to the gas to make it glow red, green, or blue. This is similar both to how neon signs work (the application of an electrical charge to a noble gas), and how cathode ray tube (CRT) works, in illuminating cells red, green or blue to create an image.

**PNG** (Portable Network Graphics) - An image file format designed for the Web due to its high compression susceptibility.

**P.O.P.** - (point of purchase) The term point of purchase usually refers to the industry concerned with customer behavior at the location of the purchase decision. POP is considered one of the most important aspects of advertising and merchandising. It is believed that the most critical time to influence buyer behavior is when they have money in hand.

**Proof of Performance** - Most advertisers want proof that the ads they have bought have actually run during the day and time of an event. Ping HD-SLR collects data logs from each Media Engine to produce Proof of Performance reports to supply to advertisers.

**QuickTime** - A digital audio and video file-format and architecture developed by Apple Computer, Inc.. Can be viewed on most computing platforms.

**Real Time** - A transmission that occurs right away, without any perceptible delay.

**Resolution** - The number of pixels in a given space, usually measured as dots per inch (DPI). Also, the number of dots per inch used by an output device.

**RSS Feed** (Rich Site Summary) – A format for delivering regularly changing web content. Many news-related sites, weblogs and other online publishers syndicate their content as an RSS Feed. RSS Feeds are normally displayed as a “ticker” at the bottom portion of the screen.

**Server** - A computer that serves centralized information, either to a local group or the Internet.

**Streaming Media** - Video or audio transmitted over a network that users can begin to play immediately instead of waiting for the entire file to download. Typically a few seconds of data is sent ahead and buffered in case of network transmission delays. (Although some data is buffered to the hard drive, it is written to temporary storage and is gone once viewing is complete.) RealMedia, QuickTime and Windows Media are the most common streaming formats.

**TCP/IP** - Transmission Control Protocol/Internet Protocol, a set of rules that establish the method with which data is transmitted over the Internet between two computers.

**Upload** - To move a digital file (such as a media file) from a local system to a server where it is stored for others to access or later retrieval. For example, web pages must be "uploaded" to a web server for them to be viewed on the world wide web.

**WAN** - (wide area network) A network of computers sharing servers in multiple locations, such as the different offices of a large company. See also LAN.

**Widescreen** (aka Letterbox) - Technically, a particularly wide aspect ratio used for some films, but commonly used to describe content (such as appears on many DVDs) that displays at wider aspect ratios than are normally in use, such as on standard televisions.

**Wi-Fi** - (Wireless Fidelity) A local area network (LAN) that communicates via radio waves on the 802.11 standard instead of wires. “Wireless network”.