Information Technology Department
Glossary of Terms

Access Point (AP)
- a wireless access point is a networking hardware device that allows a Wi-Fi compliant device to connect to a wired network.

Active Directory (AD)
- A directory service developed by Micorsoft which is in charge of domain management by authenticating users, computers, and other periphials within a domain. AD grants a user access to computers, files, and applications through a password system.

Cache
- The temporary storage space or memory that allows fast access to data. A common use is to store information in a web browser.

Cat6
- (Category 6) A cable used in networks. Many cables are still Cat 5 with newer installations utilizing Cat6.

Cloud Computing
- Storing and accessing information and services via the internet. The servers are not operated, backuped, nor mainted by SCOE IT department. Aeries student information system and Escape are two applications that currently based in the cloud.

Cold Boot
- Powering a computer up from the off position. A cold boot runs additional internal routines that are not otherwise ran with a warm boot.

Cookies
- are text files retained on computers by browsers containing various information in regards to a specific website visit.

Content Filtering
- Technique whereby media is blocked or allowed based on analysis of its content, rather than its source or other criteria.
- It is most widely used on the internet to filter email and web access.

Connectivity Types
- DSL- digital subscriber line connection that uses the same wires as a regular telephone line.
- T1 – Often a fiber optic line, it can carry 24 digitized voice channels or can carry data at the speed of 1.5 Mbps. The term T1 & DS1 are often used interchangeably.
- DS3 – Using a coaxial cable, it is comprised of three DS1s and carries 28 DS1 level signals
- Fiber (Optics) Cabling that has a core made of strands of glass or plastic, through which light pulses are carried. Fiber has many advantages over copper in terms of transmission rate and signal integrity over distance; however, it is more expensive and more difficlut to work with

- Metro E - A metropolitan-area network that is based on Ethernet standards. It is commonly used to connect subscribers to a larger service network or the Internet.

Data Center
- Is a facility used to house computer systems and associated components, such as telecommunications and storage systems.
- It generally includes redundant or backup power supplies, redundant data communications connections, environmental controls (e.g., air conditioning, fire suppression) and security devices.

DHCP
- Dynamic Host Configuration Protocol provides a mechanism for allocating IP addresses dynamically, so that addresses can be reused when hosts no longer need them.

Directory
- A type of file that organizes other files in a hierarchical structure

DNS
- Domain Name System is an Internet service that converts names to IP addresses. A common analogy would be a system that could use either your home address or the parcel number and still locate your residence.

Domain
- A logical group of computers and electronic devices with a common set of rules and procedures administered as a unit.
- Can be looked at as neighborhoods within a community

E-Rate
- E-Rate is the commonly used name for the Schools and Libraries Program of the Universal Service Fund, which is administered by the Universal Service Administrative Company (USAC) under the direction of the Federal Communications Commission (FCC).
- The program provides discounts to assist schools and libraries to obtain affordable telecommunications and Internet access.
- It is one of four support programs funded through a Universal Service fee charged to companies that provide interstate and/or international telecommunications services.

Ethernet
- a system for connecting a number of computer systems to form a local area network, with protocols to control the passing of information and to avoid simultaneous transmission by two or more systems.

File Transfer Protocol (FTP)
- The protocol used by to send files over the Internet.
- FTP Site is a server established primarily to transfer files over the internet

Firewall
- Is a part of a computer system or network that is designed to block unauthorized access while permitting authorized communications.

- It is a device or set of devices which is configured to permit or deny computer applications based upon a set of rules and other criteria

Gateway
- A device that routes traffic between networks

Global Address List
- An electronically shared address book which contains the people and resources of a given organization which is accessed over the network using LDAP protocol.

Hard Shutdown
- Turning off a computer by pressing and holding the power button until the system turns off

Internet of Things (IoT)
- The internetworking of physical devices, vehicles, buildings, household items which have embedded electronics, software, and network connectivity that enable these objects to collect and exchange data.

Intranet
- a local or restricted communications network i.e. just within SCOE, created using World Wide Web software

IP Address
- A numerical identifier for an electronic device on a network utilizing the TCP/IP protocol in the form of a 32-bit numeric address written as four numbers separated by periods

ISP
- Internet Service Provider is a company that provides users with a connection to the Internet.
- SCOE is the ISP for the districts

K12HSN
- The K-12high speed network, funded by California, exclusively for educational facilities which has the capacity to deliver high quality online resources to support teaching and learning and promote academic achievement.

Kicking
- Re-booting a device either with a cold or warm boot

LDAP
- The Lightweight Directory Access Protocol is an industry standard application protocol for accessing and maintaining distributed directory information services over a network.
- Allows the sharing of information about users, systems, networks, services, and applications throughout the network.
- As examples, directory services may provide any organized set of records, often with a hierarchical structure, such as a corporate email directory.

Local Area Network (LAN)

- Is a computer network that covers a small geographical area, like an office or a small group of buildings, for instance SCOE, Enterprise ESD, and Pacheco ESD.
- Often have high data-transfer rates between the individual components as in the district office and school sites.
- Do not require leased communication lines

MAC Address
- Each network interface has a media access control address, or MAC address — also known as a physical address.
- This is a unique identifier designed to identify different computers on a network.
- MAC addresses are usually assigned when a manufacturer creates a network device.

Measurements of Space
- Bit – single binary digit (1 or 0)
- Byte - 8 bits
- Kilobytes (KB) – 1,024 bytes
- Megabyte (MB) – 1,024 Kilobytes. Referred to as a meg.
- Gigabyte (GB) – 1,024 Megabytes. Referred to as a gig.
- Terabyte (TB) – 1,024 Gigabytes
- Petabyte (PB) – 1,024 Terabytes
- Exabyte (EB) – 1,024 Petabytes

Measurements of Speed
- Megabit per second (Mbps) - Data transfer rate of approximately 1,000,000 (106) bits per second over a network connection.
- Megabyte per second (MBps) - Data transfer rate of approximately 1,000,000 (106) bytes per second over a network connection.
- Megahertz (Mhz) - One million cycles per second. This is a common measurement of the speed of a processing chip.
- Kilobits per second (Kbps) - Data transfer rate of approximately 1,000 bits per second over a network connection.
- Kilobytes per second (KBps) –Data transfer rate of approximately 1,000 bytes per second over a network connection.

Network Interface Card (NIC)
- is a card that typically goes into a computer or device and connects to the network medium (Ethernet or wireless) which in turn is connected to other computers on the network.

Network Infrastructure
- Communications in data centers are most often based on networks running theTCP/IP protocol suite, which is a set of multi-layered procedures, each layer solving a set of problems involving the transmission of data.
- Data centers contain a set of routers and switches that transport traffic between the servers and to the outside world.
- Some of the servers at the data center are used for running the basic Internet and intranet services needed by internal users in the organization. Common servers are e-mail, proxy, and DNS servers.

- o Proxy servers are essentially the gatekeeper to data to ensure the requestor is authorized to receive the information that they have requested.
  - o DNS servers provide a user-friendly address for computers, very similar to our home address and the parcel number of our lot kept within the county records.
- Network security elements are also usually deployed: firewalls, VPN gateways, and intrusion detection systems.
- Also common are monitoring systems for the network and some of the applications. Additional off site monitoring systems are also typical, in case of a failure of communications inside the data center.

Network Operations Center (NOC)
- Is a central location from which to exercise control over a computer network.
- It is responsible for monitoring the network for conditions that may require special attention to avoid impact on the network's performance.

Node
- Endpoint of a network connection or a junction common to two or more lines in a network.
- SCOE is the northern California node site for the K12HSN.

Packet
- One piece of data along with a destination address used in a packet switching network.

Peripheral
- Any device in a computer system that is not essential to the operation of the computer. Printers and scanners are just two examples.

Pixel
- Picture Element is the smallest part of a graphic image. Many pixels close together make up the image on the computer monitor.

Plug and Play (PnP)
- Describes the ability of a computer to automatically configure the devices that connect to it, for example printers. .

Point-to-Point
- A one-to-one connection.

Post Office Protocol (POP)
- Protocol used by e-mail clients on a network to retrieve e-mail from the mail server.

Port
- An interface on the computer or device where a device is connected.

POTS
- Plain Old Telephone Service

PPM

- Pages Per Minute

Printer Driver
- A program that feeds data to a printer with the correct control commands for that certain printer

Print Server
- A computer, currently Print2, that manages one or more printers for computers on a network.

Protocol
- A set of rules by which computers communicate. A protocol is much like the syntax of a language rather than the language itself.

QoS
- Quality of Service is a term applied to networks that allows service providers (SCOE for the districts) to guarantee their customers a specific throughput level on the network

Raspberry Pie
- A credit card-sized computer that can be used in electronics projects. SCOE utilizes them in monitoring devices and digital technology.

Responsive Web Design (RWD)
- SCOE upgraded website to incorporate RWD.
- RWD allows a website to resize and/or reposition itself when viewed on different size devices

Root Directory
- The uppermost directory in a file system

Router
- A network device whose software and hardware are customized to the tasks of routing and forwarding information, similar to the USPS.

Switches
- A network device that connects various portions of local area computer networks together. Users are familiar with plugging their computer into the wall using a network cable. On the other side of the wall, all of the cables are plugged into the switch and then switch is in turn plugged into routers.

URL
- A uniform resource locator, or URL, is also known as a web address. The current URL is displayed in your web browser's address bar.
- For example, http://www.shastacoe.org/article is an URL that tells your computer to use the hypertext transfer protocol HTTP to connect to the server at shastacoe.org and ask for the file named article in the root directory.

Virtual Private Network (VPN)

- A network that allows the internet to be used like it is connected to a private network, as opposed to a public one, and so can improve security

Virtual Server
- A server, one physical box that shares its resources amongst multiple applications rather than being a dedicated server running only one application.
- The 1:N relationship allows for one server to be effectively used rather than several being only partially used.

Warm Boot
- Restarting a computer that is already turned on without first turning it off.

Wide Area Network (WAN)
- Is a computer network that covers a broad area, for instance Shasta County, whose communications links cross numerous metropolitan areas, i.e. Redding, Anderson, Dunsmuir, and Fall River.
- Used to connect independent LANs together so that, if desired, they may communicate with each other.
- Require leased communication lines from LAN to central point (SCOE NOC) then out to the wide world web (WWW) or cloud. AT&T, Frontier and Charter are providers for the Shasta County district customers.