

## Section 10. ETA Glossary

Following are glossary entries pertaining to Enterprise Architecture referenced in this document. Additional glossary definitions can be found in the ITRM Technology Management Glossary located on the VITA website:

<http://www.vita.virginia.gov/uploadedFiles/Library/PSGs/GlossaryStandard.pdf>

Some useful public glossaries can also be found at:

Wikipedia, the free encyclopedia at [http://en.wikipedia.org/wiki/Main\\_Page](http://en.wikipedia.org/wiki/Main_Page)

Loosely Coupled Glossary at <http://looselycoupled.com/glossary/azindex.html>

Whatis.com at <http://whatis.techtarget.com>

<b>10GigE</b>	10 Gigabit Ethernet Service
<b>8-, 16-, 32-, and 64-Bit Architectures</b>	A CPU is designed to carry out instructions on data that is in memory. The way it does this is significantly different for 8 bit and 64 bit architectures. The greater the number of bits, the more options there are that must be considered for how instructions are handled. Options include the complexity of the instruction set, the width of the data path, the number of registers, and the number of instructions that may execute per clock cycle. A program written for a 64-bit architecture may not be as fast as one written for a 32-bit architecture, but it may provide other advantages.
<b>802.11a card</b>	Wireless interface that provides up to 54 Mbps service using an Orthogonal Frequency Division Multiplexing (OFDM) modulation technique for signal transmission in the 5.5 GHz spectrum
<b>802.11b card</b>	Wireless interface that provides up to 11 Mbps service using Frequency Hopping Spread Spectrum (FHSS) modulation technique for signal transmission in the 2.4 GHz spectrum; also called WiFi. Interference from cordless phones and microwave ovens may be a problem.
<b>802.11g cards</b>	Wireless interface that provides up to 54 Mbps service using an Orthogonal Frequency Division Multiplexing (OFDM) modulation technique for signal transmission in the 2.4 GHz spectrum. Backwards compatibility is maintained with 802.11b. Interference from cordless phones and microwave ovens may be a problem
<b>ACMS</b>	A transaction processing monitor from Compaq that runs on the open VMS operating system.
<b>Active X</b>	Microsoft's answer to Java. Active X is a stripped down implementation of OLE designed to run over slow Internet links.
<b>ADSI</b>	Active Directory Service Interfaces (ADSI) abstract the capabilities of different directory services from different network vendors to present a single set of directory service interfaces for managing network resources
<b>Advanced Intelligent Tape (AIT)</b>	A form of magnetic tape and drive using AME developed by Sony for storing large amounts of data. An AIT can store over 50 gigabytes and transfer data at six megabytes/second (in February 1999). AIT features high-speed file access, long head and media life, the ALDC compression algorithm, and a MIC chip. (FOLDOC)
<b>Agency</b>	Any agency, institution, board, bureau, commission, council, or instrumentality of

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	<p>state government in the executive branch listed in the appropriation act. ETA requirements/standards identified in this report are applicable to all agencies including the administrative functions (does not include instructional or research functions) of institutions of higher education, unless exempted by language contained in a specific requirement/standard.</p>
<b>AMD Opteron</b>	<p>The AMD 8131 chipset, which improves connection speeds by employing two independent, high-performance PCI-X bus bridges, integrated with a high-speed HyperTransport technology tunnel. The tunnel function provides connection capability to other downstream HyperTransport technology devices, allowing greater system flexibility. (<a href="http://www.AMD.com">www.AMD.com</a>)</p>
<b>AMPS</b>	<p>Analog Mobile Phone Service or AMPS is defined in EIA/TIA-553 standards. In 2006, AMPS is still the most extensive wireless coverage available for nationwide service in the US. However, in 2002, the FCC made the drastic decision to no longer require A and B carriers to support AMPS cellular service as of March 1, 2008. Since the AMPS standard is analog technology, it suffers from an inherently inefficient use of the frequency spectrum. All AMPS carriers have converted most of their consumer base to a digital standard such as CDMA or GSM and continue to do so at a rapid pace. Digital technologies such as CDMA support multiple voice calls on the same channel, superior call quality, enhanced features such as two-way text messaging, voicemail indicator, internet, and GPS services; whereas, AMPS can only support one call per channel and a basic one-way short message service.</p> <p>AMPS cellular service operates in the 800 MHz FM band. In 1989, the Federal Communications Commission granted carriers an expansion from the current 666 channels to the now 832 (416 per carrier). The additional frequency was available in the upper 800 MHz band which also was home to UHF channels 70-83. This meant that these UHF channels could no longer be used for UHF TV transmission as these frequencies were to be used for AMPS transmission. (Adapted from Wikipedia.)</p>
<b>ANSI</b>	<p>A voluntary non-profit organization that coordinates and supports the U.S. voluntary consensus standards for industry.</p>
<b>API</b>	<p>Application Program Interface or Application Programming Interface.</p>
<b>APPC LU6.2</b>	<p>APPC allows user written programs to perform transactions in a Client-Server IBM network to access a CICS, in MVS "batch" through APPC/MVS, in VM/CMS, in AIX on the RS/6000, and on the AS/400</p>
<b>Appliance</b>	<p>Server hardware configured with server software and optimized for simple functions such as Web page serving.</p>
<b>ASCII</b>	<p>American Standard Code for Information Interchange. "Human readable text." The first 128 character codes of any of the ISO 8859 character sets is always identical to the ASCII character set</p>
<b>ASP</b>	<p>Active Server Page (Microsoft) A scripting environment for Microsoft Internet Information Server in which you can combine HTML, scripts and reusable Active X server components to create dynamic web pages.</p>
<b>Asynchronous Transfer Mode (ATM)</b>	<p>ATM (asynchronous transfer mode) is a dedicated-connection switching technology that organizes digital data into 53-byte cell units and transmits them over a physical medium using digital signal technology. Individually, a cell is processed asynchronously relative to other related cells and is queued before being multiplexed over the transmission path. Because ATM is designed to be easily implemented by hardware (rather than software), faster processing and switch</p>

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	speeds are possible. The pre-specified bit rates are either 155.520 Mbps or 622.080 Mbps. Speeds on ATM networks can reach 10 Gbps. (searchNetworking.com)
<b>ATA Disk –ATA (Advanced Technology Attachment)</b>	Is the official name that American National Standards Institute group X3T10 uses for what the computer industry calls Integrated Drive Electronics (IDE). An ATA disk is a serial drive used for data storage, which may be used in a disk array. It is cheaper than the technology typically used in RAID. Also, a type of drive controller.
<b>Athlon Chipset</b>	AMD microprocessor, delivered in mid-1999, was the first to support a 200 MHz bus. In March 2000, AMD announced the first 1 gigahertz PC microprocessor in a newer version of the Athlon. The current AMD Athlon XP 3000+ performs better than the Intel Pentium 4 3.06 GHz chip in office productivity (PWC audit).
<b>ATM/SONET</b>	Asynchronous Transfer Mode cells carried over Synchronous Optical Network packets.
<b>Authentication</b>	Authentication is the process of determining whether someone or something is, in fact, who or what it is declared to be. In private and public computer networks (including the Internet), authentication is commonly done through the use of logon passwords. Knowledge of the password is assumed to guarantee that the user is authentic. Logically, authentication precedes authorization (although they may often seem to be combined). (searchSecurity.com)
<b>B2G</b>	Business to Government. Refers to a business process involving electronic interaction of business partners.
<b>Backbone</b>	A high-speed computer network designed to interconnect lower-speed networks or clusters of dispersed user devices.
<b>Bandwidth</b>	The carrying capacity of a circuit, usually measured in bits per second for digital circuits or hertz for analog circuits.
<b>Base Image</b>	<p>This term is used in this report to indicate a starting point for a hard disk image that may be used as is or further modified to meet agency user needs with users placed in as large a group as possible based on commonality of requirements. All secretaries may have one base image and all programmers, another. The image is a copy of the configured operating system and software on the desktop, laptop or other device. Microsoft provides instructions for establishing, compressing and distributing such images:</p> <p>“Some organizations deploy a complete user system at one time, including Microsoft® Windows® software, device drivers, Microsoft Office 2003 applications, and custom settings. In this scenario, you install the entire system onto a test computer, and then you create an image of the hard disk to copy to users' computers. Installing Office with a complete user system is almost as fast as installing Office by itself. It is a particularly efficient way to configure new computers or to restore a computer to its original state. When you distribute the hard disk image to users, everything on the computer is replaced by your custom configuration, so users must back up any documents or other files they want to keep”</p>
<b>Blackberry</b>	A brand of personal digital assistant hardware; an email service; or the company that offers the hardware and service. The hardware/OS, which was originally a RIM product, is called a Blackberry and comes in a variety of form factors. Most notably, the Blackberry has a small keyboard for data input and offers standard personal information management capabilities. The Blackberry service is a live push email service, which may be controlled by a local server or a Blackberry company server.

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<b>Bluetooth</b>	<p>A computing and telecommunications industry specification that describes how mobile phones, computers, and personal digital assistants (PDAs) can easily interconnect with each other and with home and business phones and computers using a short-range wireless connection. Using this technology, users of cellular phones, pagers, and personal digital assistants such as the PalmPilot will be able to buy a three-in-one phone that can double as a portable phone at home or in the office, get quickly synchronized with information in a desktop or notebook computer, initiate the sending or receiving of a fax, initiate a print-out, and, in general, have all mobile and fixed computer devices be totally coordinated. Bluetooth requires that a low-cost transceiver chip be included in each device. The transceiver transmits and receives in a previously unused frequency band of 2.45 GHz that is available globally (with some variation of bandwidth in different countries). In addition to data, up to three voice channels are available. Each device has a unique 48-bit address from the IEEE 802 standard. Connections can be point-to-point or multipoint. The maximum range is 10 meters. Data can be exchanged at a rate of 1 megabit per second (up to 2 Mbps in the second generation of the technology). A frequency hop scheme allows devices to communicate even in areas with a great deal of electromagnetic interference. Built-in encryption and verification are provided. (serachMobileComputing.com)</p>
<b>Category 5e</b>	<p>Category 5e standard wiring. Also called Cat 5e.</p>
<b>CDPD</b>	<p>A wireless standard that provided two-way, 19.2 kbps packet data transmission over existing cellular telephone channels. A method proposed (1993) and developed by IBM and McCaw Cellular Communications, Inc. that was most recently owned by at&amp;t.) Replaced by Sprint PCS in 2004.</p>
<b>Chipset</b>	<p>Chipset is a group of integrated circuits designed to serve one or more related functions. It is manufactured and sold as a unit, for example, the input/output control chips of a motherboard. (Computeruser.com)</p>
<b>CICS</b>	<p>IBM mainframe application server that provides industrial-strength, online transaction management for mission-critical applications. On MVS/ESA, OS/390, VSE/ESA and z/OS. Thirty years old but repackaged to turn mainframes into Web servers.</p>
<b>CISC</b>	<p>Complex instruction set computer. A processor type in which each instruction can perform several low-level operations such as memory access, arithmetic operations or address calculations. For example, the Intel Pentium is a CISC design. (Modified from <a href="http://www.FOLDOC.org">www.FOLDOC.org</a>)</p>
<b>Cluster</b>	<ol style="list-style-type: none"><li>1) In a computer system, a cluster is a group of servers and other resources that act like a single system and enable high availability and, in some cases, load balancing and parallel processing. See clustering. [Clustering has been available since the 1980's with VAX and is called Sysplex in the IBM S/390 world.]</li><li>2) In personal computer storage technology, a cluster is the logical unit of file storage on a hard disk; it's managed by the computer's operating system. Any file stored on a hard disk takes up one or more clusters of storage. A file's clusters can be scattered among different locations on the hard disk. The clusters associated with a file are kept track of in the hard disk's file allocation table (FAT). When you read a file, the entire file is obtained for you and you aren't aware of the clusters it is stored in. (Whatis.com)</li></ol>
<b>COM</b>	<p>Component Object Model (Microsoft); also DCOM and DCOM+ for distributed systems</p>
<b>Commercial off-the-shelf</b>	<p>Commercial off-the-shelf (COTS) is a term for software or hardware products that</p>

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<b>(COTS)</b>	<p>are ready-made and available for sale to the general public. They are often used as alternatives to in-house developments or one-off government-funded developments (<b>GOTS</b>). The use of COTS is being mandated across many government and business programs, as they may offer significant savings in procurement and maintenance.</p> <p>Commercial off-the-shelf. <i>Wikipedia, The Free Encyclopedia</i>. Retrieved 18:10, January 11, 2006 from <a href="http://en.wikipedia.org">http://en.wikipedia.org</a></p>
<b>Common Internet File System (CIFS)</b>	<p>Is a proposed standard protocol that lets programs make requests for files and services on remote computers on the Internet. CIFS uses the client/server-programming model. A client program makes a request of a server program (usually in another computer) for access to a file or to pass a message to a program that runs in the server computer. The server takes the requested action and returns a response. CIFS is a public or open variation of the Server Message Block Protocol (<b>SMB</b>) developed and used by Microsoft. The SMB Protocol is widely used in today's local area networks for server file access and printing. Like the SMB protocol, CIFS runs at a higher level than and uses the Internet's TCP/IP protocol. CIFS is viewed as a complement to the existing Internet application protocols such as the File Transfer Protocol (<b>FTP</b>) and the Hypertext Transfer Protocol (<b>HTTP</b>). CIFS lets you:</p> <ul style="list-style-type: none"><li>○ Get access to files that are local to the server and read and write to them</li><li>○ Share files with other clients using special locks</li><li>○ Restore connections automatically in case of network failure</li><li>○ Use Unicode file names</li></ul> <p>In general, CIFS gives the client user better control of files than the File Transfer Protocol. It provides a potentially more direct interface to server programs than currently available through the Web browser and its use of the HTTP protocol. CIFS is an Open Group standard, X/Open CAE Specification C209, and has been proposed to the Internet Engineering Task Force (IETF) as an Internet application standard. (Whatis.com)</p>
<b>CORBA</b>	<p>Common Object Request Broker Architecture. OMG's open, vendor-independent architecture and infrastructure that computer applications use to work together over networks.</p>
<b>COTS</b>	<p>Virginia's Council on Technology Services. COTS is a stakeholder-driven body, representing the interests and needs of the enterprise as a whole, including the Executive, Legislative, and Judicial branches of state government. The purpose of the Council is to advise the Chief Information Officer of the Commonwealth on the services provided by the Virginia Information Technologies Agency (VITA) and the development and use of applications in state agencies and public institutions of higher education (<a href="http://www.vita.virginia.gov/councils/default.aspx?id=315">http://www.vita.virginia.gov/councils/default.aspx?id=315</a>).</p>
<b>CPI</b>	<p>Common Program Interface. IBM's Systems Application Architecture API.</p>
<b>CSS</b>	<p>Cascading Style Sheets. An XML protocol used to control formatting of Web pages.</p>
<b>DCE</b>	<p>Distributed Computing Environment from Open Computing Group. Includes Remote Procedure Call (RPC), the Cell and Global Directory Services (CDS and GDS), the Security Service, DCE Threads, Distributed Time Service (DTS), and Distributed File Service (DFS).</p>
<b>DCOM +</b>	<p>The Distributed Component Object Model. A set of Microsoft protocols that enable software components to communicate directly over a network.</p>
<b>Digital Linear Tape (DLT)</b>	<p>Is a form of magnetic tape and drive system used for computer data storage and archiving. A special compression algorithm, known as Digital Lempel Ziv 1 (DLZ1), facilitates storage and retrieval of data at high speeds and in large quantities. In the DLT drive, data is written on the tape in dozens of straight-line</p>

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	<p>(linear) tracks, usually 128 or 208. Some cartridges can hold 70 gigabytes (GB) of data when compression is used. A variant of DLT technology, called SuperDLT, makes it possible to store upwards of 100 GB on a single cartridge. The SuperDLT drive can transfer data at speeds of up to 10 megabytes per second (Mbps). (searchStorage.com)</p>
<b>DNS</b>	<p>Domain name system. A general-purpose, distributed, replicated, data query service chiefly used for Internet communications for translating hostnames into IP addresses.</p>
<b>Domain, Enterprise Technical Architecture</b>	<p>The Enterprise Technical Architecture (ETA) is typically divided into logical groups of related technologies and components, referred to as “domains”. The purpose of a Domain Architecture is to provide a combination of domain principles, best practices, reusable methods, products, and configurations that represent “reusable building blocks”. Thus, the Domain Architecture provides the technical components within the Enterprise Architecture that enable the business strategies and functions. Note, the Conceptual Architecture serves as the foundation for the Domain Architectures, and ensures that they are aligned and compatible with one another.<sup>1</sup></p>
<b>DS3</b>	<p>A signal with a transmission rate of 44.736 Mbps (672 voice channels) provided over T3.</p>
<b>DSSS</b>	<p>Direct Sequence Spread Spectrum. A method of providing wireless connectivity as specified in IEEE 802.11b.</p>
<b>DTD</b>	<p>Document Type Definition. An XML protocol for communicating tagging standards that will be used in an XML communication. The definition of a document type in SGML or XML, consisting of a set of mark-up tags and their interpretation.</p>
<b>EAI</b>	<p>Enterprise Application Integration. The use of technology to integrate the application programs, databases, and legacy systems involved in an organization's critical business processes.</p>
<b>EBCDIC</b>	<p>Extended Binary Coded Decimal Interchange Code. IBM's 8-bit extension of the 4-bit Binary Coded Decimal encoding of digits 0-9 (0000-1001).</p>
<b>ebXML</b>	<p>ebXML is a set of specifications that together enable a modular electronic business framework. The vision of ebXML is to enable a global electronic marketplace where enterprises of any size and in any geographical location can meet and conduct business with each other through the exchange of XML based messages. ebXML is a joint initiative of the United Nations (UN/CEFACT) and OASIS, developed with global participation for global usage</p>
<b>EIA</b>	<p>The Electronic Industries Alliance (EIA) is a non-profit organization that functions as an association of other organizations, one of which is TIA, EIA's communications arm. The EIA is certified by ANSI to develop standards. The EIA is well known for having produced certain electrical wiring and data transmission standards. Standards are just one part of the organization's mission, however. The EIA often jointly recommends standards with the Telecommunications Industry Association (TIA). An example standard put forth by both groups is EIA/TIA-232 (also known as EIA-232 and RS-232). This standard establishes how two devices communicate—for example, via the 9 and 25 pin connectors still commonly used on PCs along with USB connectors.</p>

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<sup>1</sup> COTS Enterprise Architecture Workgroup, “*Commonwealth of Virginia Enterprise Architecture – Common Requirements Vision*”, v1.1, December 5, 2000, p 26.

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<b>Emerging</b>	Rating category used in this document to rate integration technologies. This technology requires additional evaluation in government and university settings. This technology may be used for evaluative or pilot testing deployments or in a higher education research environment. Any use, deployment or procurement of this technology beyond higher education research environments requires an approved <i>Commonwealth Enterprise Technical Architecture Exception</i> . The results of an evaluation or pilot test deployment should be submitted to the <b>VITA Strategic Management Services: Policy, Practice and Architecture Division</b> for consideration in the next review.
<b>Enterprise</b>	As used in this document and generally when discussing Enterprise Architecture topics, the <i>enterprise</i> consist of all Commonwealth of Virginia agencies as defined by the General Assembly.
<b>ERwin</b>	A database design and optimization tool from Computer Associates.
<b>ESCON (Enterprise Systems Connection)</b>	Is a marketing name for a set of IBM and vendor products that interconnect S/390 computers with each other and with attached storage, locally attached workstations, and other devices using optical fiber technology and dynamically modifiable switches called ESCON Directors. In IBM mainframes, the local interconnection of hardware units is known as channel connection (and sometimes as local connection to distinguish it from remote or telecommunication connection). ESCON's fiber optic cabling can extend this local-to-the-mainframe network up to 60 kilometers (37.3 miles) with chained Directors. The data rate on the link itself is up to 200 Mbps (million bits per second) and somewhat less when adapted to the channel interface. Vendor enhancements may provide additional distance and higher amounts of throughput. ESCON may be used for a SAN. (search390.com)
<b>ESMR</b>	<p>Enhanced Specialized Mobile Radio (ESMR) is a wireless communication system in which numerous mobile/portable transceivers are linked in a network of repeaters. Each repeater has a range of approximately 5 to 10 miles. Operating frequencies are in the UHF (ultra-high-frequency) range, that is, between approximately 300 MHz and 3 GHz. Usually, the working band is near 900 MHz.</p> <p>ESMR can function like its fundamentally simpler cousin, SMR, but it can also offer features similar to those of a cellular telephone network. The PTT (push-to-talk), half-duplex mode can be used; in this case the operation resembles communications between old style two-way radios. Full-duplex mode can also be used, so either party can listen and talk at the same time. Interconnection with the telephone networks is commonly done. In addition to voice communication, an ESMR system can offer paging, wireless fax, and data transmission.</p> <p>ESMR systems use digital radio transmission. Spread-spectrum modes, such as frequency hopping, are common. In a well-designed ESMR system, connection is almost instantaneous, compared with the typical 15 to 20 seconds required to dial and set up a call in a public cellular network. The coverage of an ESMR system depends on the geographical distribution and needs of the users. Some systems are confined to single municipalities; others cover selected groups of metro areas; others operate over entire states or regions of a country.</p> <p>Examples of ESMR networks include Ericsson's EDACS (Enhanced Digital Access Communications System), Motorola's IDEN (Integrated Dispatch Enhanced Network), and the Sprint Nextel System. (Adapted from Whatis.com).</p>
<b>ESMTP</b>	Extended SMTP. Initially defined in RFC 1869 and extended thereafter
<b>ETA</b>	The Enterprise Architecture has business and technical components. All of the

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	technical components taken together are called the Enterprise Technical Architecture.
<b>Ethernet</b>	A local-area network (LAN) protocol that is specified in IEEE 802.3 and that uses CSMA-CD to provide 10 Mbps service over copper. Switched Ethernet provides faster service (e.g., 100 Mbps Ethernet, 10GigE). Gigabit (Gb) and 10 Gb Ethernet service are now possible. Gb Ethernet is used mainly for backbone services and wide area networking.
<b>Extensible</b>	Quality of a system that allows new features and functions to be added to it.
<b>Fabric</b>	n., A term used to reference a switching system such as a SAN system, an ATM system or a Frame Relay system. The term, fabric, is used to indicate the complex interplay of hardware and software in the switching process that may involve numerous paths. Switching fabric. adj., A member or element belonging to a defined network or switching system. A fabric element.
<b>FC-IP</b>	Fibre Channel Internet Protocol, a Fibre Channel Block wrapped in an IP packet.
<b>FHSS</b>	Frequency Hopping Spread Spectrum. A method of providing wireless connectivity as specified in IEEE 802.11.
<b>Fiber Channel Arbitrated Loop (FC-AL)</b>	<p>A fast serial bus interface standard intended to replace SCSI on high-end servers. FC-AL has a number of advantages over SCSI. It offers higher speed: the base speed is 100 megabytes per second, with 200, 400, and 800 planned. Many devices are dual ported, i.e., can be accessed through two independent ports, which doubles speed and increases fault tolerance. Cables can be as long as 30 m (coaxial) or 10 km (optical). FC-AL enables self-configuring and hot swapping and the maximum number of devices on a single port is 126. Finally, it provides software compatibility with SCSI.</p> <p>Despite all these features FC-AL is unlikely to appear on desktops anytime soon, partly because its price, partly because typical desktop computers would not take advantage of many of the advanced features. On these systems FireWire has more potential. (FOLDOC)</p>
<b>FICON (Fiber Connectivity)</b>	<p>Is a high-speed input/output (I/O) interface for mainframe computer connections to storage devices. As part of IBM's S/390 server, FICON channels increase I/O capacity through the combination of a new architecture and faster physical link rates to make them up to eight times as efficient as ESCON (Enterprise System Connection), IBM's previous fiber optic channel standard. FICON channel features include:</p> <ul style="list-style-type: none"><li>○ A mapping layer based on the ANSI standard Fibre Channel-Physical and Signaling Interface (FC-PH), which specifies the signal, cabling, and transmission speeds</li><li>○ 100 Mbps bi-directional link rates at distances of up to twenty kilometers, compared to the 3Mbps rate of ESCON channels at distances of up to three kilometers.</li><li>○ More flexibility in terms of network layout, because of the greater distances</li><li>○ Compatibility with any installed channel types on any S/390 G5 server</li><li>○ Bridge feature, which enables support of existing ESCON control units</li><li>○ Requires only one channel address</li><li>○ Support for full-duplex data transfer, which enables simultaneous reading and writing of data over a single link-multiplexing, which enables small data transfers to be transmitted with larger ones, rather than having to wait until the larger transaction is finished (searchStorage.com)</li></ul>

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<b>File Service</b>	The process of storing and retrieving files (as opposed to blocks of data).
<b>File Transfer Protocol (FTP)</b>	A client-server protocol that allows a user on one computer to transfer files to and from another computer over a TCP/IP network. Also, used to reference the client program that the user executes to transfer files. It is defined in STD 9, RFC 959. (FOLDOC)
<b>Firewall</b>	A dedicated gateway machine with special security precautions on it, used to service outside network, especially Internet, connections and dial-in lines. The idea is to protect a cluster of more loosely administered machines hidden behind it from crackers. The typical firewall is an inexpensive microprocessor-based Unix machine with no critical data, with modems and public network ports on it, but just one carefully watched connection back to the rest of the cluster. The special precautions may include threat monitoring, call-back, and even a complete iron box keyable to particular incoming IDs or activity patterns. Firewalls often run proxy gateways.
<b>FireWire</b>	A high performance serial bus (or IEEE 1394). FireWire is a 1995 Macintosh/IBM PC serial bus interface standard offering high-speed communications and isochronous real-time data services. 1394 can transfer data between a computer and its peripherals at 100, 200, or 400 Mbps, with a planned increase to 2 Gbps. Cable length is limited to 4.5 m but up to 16 cables can be daisy-chained yielding a total length of 72 m. It can daisy chain together up to 63 peripherals in a tree-like structure (as opposed to SCSI's linear structure). It allows peer-to-peer device communication, such as communication between a scanner and a printer, to take place without using system memory or the CPU. It is designed to support plug-and-play and hot swapping. Its six-wire cable is not only more convenient than SCSI cables but can supply up to 60 watts of power, allowing low-consumption devices to operate without a separate power cord. Some expensive camcorders have included this bus since autumn 1995. It is expected to be used to carry SCSI, with possible application to home automation using repeaters. (FOLDOC)
<b>Flash Memory</b>	A non-volatile memory device that retains its data after the power is removed. (www.crucial.com)
<b>Frame Relay</b>	A data communications interface that provides high speed transmission with minimum delay and efficient use of bandwidth. It does not have error detection or error control and it assumes that connections are reliable.
<b>FRASI</b>	Frame Relay to Asynchronous Transfer Mode (ATM) service internetworking
<b>GB, Gb</b>	Gigabyte, Gigabit
<b>GDS</b>	Global Directory Services, such as DNS and GDS (X.500), grew out of the computer industry's need to reference objects in distributed networks across an entire enterprise and worldwide.
<b>GIS</b>	Geographic Information System.
<b>GPRS</b>	<p>General Packet Radio Services (GPRS) is a packet-based wireless communication service that promises data rates from 56 up to 114 Kbps and continuous connection to the Internet for mobile phone and computer users. The data rates will allow users to take part in video conferences and interact with multimedia Web sites and similar applications using mobile handheld devices as well as notebook computers. GPRS is based on Global System for Mobile (GSM) communication and will complement existing services such circuit-switched cellular phone connections and the Short Message Service (SMS).</p> <p>In theory, GPRS packet-based service should cost users less than circuit-switched</p>

services since communication channels are being used on a shared-use, as-packets-are-needed basis rather than dedicated only to one user at a time. It should also be easier to make applications available to mobile users because the faster data rate means that middleware currently needed to adapt applications to the slower speed of wireless systems will no longer be needed. As GPRS becomes available, mobile users of a virtual private network (VPN) will be able to access the private network continuously rather than through a dial-up connection.

GPRS will also complement Bluetooth, a standard for replacing wired connections between devices with wireless radio connections. In addition to the Internet Protocol (IP), GPRS supports X.25, a packet-based protocol that is used mainly in Europe. GPRS is an evolutionary step toward Enhanced Data GSM Environment (EDGE) and Universal Mobile Telephone Service (UMTS). (Modified from Whatis.com)

**GSM**

- 3) *Groupe Spéciale Mobile*—the European standards group for wireless connectivity.
- 4) Digital cellular telephone standard developed by the European Telecommunications Standards Institute's (ETSI) *Groupe Spécial Mobile*. Also used in some Middle Eastern countries and parts of Australia. The frequencies allocated to the service are divided into 200-kHz blocks, each of which supports eight simultaneous users (by using a form of [TDMA](#) that lets a handset transmit a few bytes of data or digitized voice, 217 times per second).

**High-end Servers**

In this report, defined as servers with a greater than 16 processor scale-up limit and typically costing more than \$250,000.

**Host**

The term "host" is used in several contexts, in each of which it has a slightly different meaning:

- 1) In Internet protocol specifications, the term "host" means any computer that has full two-way access to other computers on the Internet. A host has a specific "local or host number" that, together with the network number, forms its unique IP address. If you use Point-to-Point Protocol to get access to your access provider, you have a unique IP address for the duration of any connection you make to the Internet and your computer is a host for that period. In this context, a "host" is a node in a network.
- 2) For companies or individuals with a Web site, a host is a computer with a Web server that serves the pages for one or more Web sites. A host can also be the company that provides that service, which is known as hosting.
- 3) In IBM and perhaps other mainframe computer environments, a host is a mainframe computer (which is now usually referred to as a "large server"). In this context, the mainframe has intelligent or "dumb" terminals (or emulation) attached to it that use it as a host provider of services. (The server/client relationship is a programming model independent of this contextual usage of "host.")
- 4) In other contexts, the term generally means a device or program that provides services to some smaller or less capable device or program. (Whatis.com)

**HSDPA**

High Speed Downlink Packet Access (HSDPA) is a UMTS packet-based broadband data service feature of the WCDMA standard. HSDPA provides an improved downlink for the UMTS data service. It improves speed and system capacity by making better use of the bandwidth. Data transmission speeds are up to 8-10 Mbps over a 5 MHz bandwidth or more than 20 Mbps for systems that use multiple transmitters and receivers (Multiple Input Multiple Output or MIMO systems (802.11n)). The high speeds of HSDPA are achieved through techniques including 16 Quadrature Amplitude Modulation, variable error coding, and incremental

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	redundancy. HSDPA use requires technology upgrades to sending and receiving devices in UMTS networks. This broadband service is provided by Cingular in limited locations in 2006.
<b>HTML</b>	HyperText Markup Language – A subset of SGML. A W3C standard for formatting Web pages.
<b>HTTP</b>	HyperText Transfer Protocol. The protocol used on the World-Wide Web for the exchange of HTML documents. It conventionally uses port 80.
<b>HTTP MPOST and HTTP POST</b>	“A SOAP request can use HTTP's POST verb. In fact, however, the protocol requires that the first request to a server is made using M-POST. M-POST is a new HTTP verb defined using the HTTP Extension Framework ( <a href="http://www.w3.org/Protocols/HTTP/ietf-http-ext">http://www.w3.org/Protocols/HTTP/ietf-http-ext</a> ). If a request made using M-POST fails, the client can try again using a standard POST request. (In this case, future requests can also use POST because the server obviously doesn't support M-POST.) M-POST allows sending HTTP headers that can't be sent via the standard POST verb, providing more flexibility for SOAP users. Firewalls can even force the use of M-POST if desired, by simply refusing all HTTP POSTs with a content type of "text/xml-SOAP".
<b>Hub</b>	A LAN wiring concentrator that connects cables from numerous network devices. An intelligent hub can monitor and report on network activity, typically using SNMP.
<b>Hypertext</b>	Hypertext is text that contains links to other text
<b>Hyper-threading</b>	<p>A term used by Intel to describe multithreading functionality in a chipset that may be turned on and off. Some argue that an enterprise should turn the capability off until they are able to determine whether it results in a performance boost or drop for the type of processing they need. The following definition is from Intel:</p> <p>Hyper-Threading Technology allows two threads (or parts of a software program) to execute simultaneously on a single Pentium 4 processor. A Hyper-Threading Technology-aware operating system such as Microsoft Windows* XP Professional "sees" two virtual processors, instead of a single physical Pentium 4 processor. By using resources that might otherwise sit idle, the Pentium 4 Processor with Hyper-Threading Technology delivers noticeable performance increases over current software in a multitasking environment, no code modifications needed.</p>
<b>I/O</b>	Input/Output
<b>IANA</b>	The central registry for various "assigned numbers": Internet Protocol parameters, such as port, protocol, and enterprise numbers; and options, codes, and types. The currently assigned values are listed in the "Assigned Numbers" document STD 2. To request a number assignment, e-mail < <a href="mailto:iana@isi.edu">iana@isi.edu</a> >.
<b>IDL</b>	Interface Definition Language defined by OMG is a language for describing the interfaces of software objects. Various Vendors have their own version of IDL (e.g., MIDL by Microsoft).
<b>IEEE</b>	Institute of Electrical and Electronics Engineers, Inc. – A standards group for communications. <a href="http://www.ieee.org">www.ieee.org</a>
<b>IETF</b>	Internet Engineering Taskforce. A standards group that works on Internet architectural issues.
<b>IPOP</b>	Internet Inter-ORB Protocol. A protocol that defines a way for Remote Procedure vendor to map messages to the TCP network communication protocol.

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<b>IMAP</b>	Internet Message Access Protocol. It permits a "client" email program to access remote message stores as if they were local.
<b>IMS</b>	The IP Multimedia Subsystem (IMS) is a next-generation network for carriers from the 3GPP that uses the IP protocol as its foundation. IMS supports data, video, SIP-based voice over IP (VoIP) and non-SIP packetized voice, such as H.323 and MGCP. IMS was designed to integrate with the PSTN and provide traditional telephony services such as 800 numbers, caller ID and local number portability. (Adapted from PCMag.com).
<b>InfiniBand (IB)</b>	InfiniBand is a switched fabric communications link primarily used in high-performance computing. Its features include quality of service and failover, and it is designed to be scalable. The InfiniBand architecture specification defines a connection between processor nodes and high performance I/O nodes such as storage devices. It is a superset of the Virtual Interface Architecture. (Wikipedia.org)
<b>Infrared</b>	Electromagnetic waves in the frequency range just below visible light corresponding to radiated heat.
<b>Integrated Services Digital Network (ISDN)</b>	A set of communications standards allowing a single wire or optical fiber to carry voice, digital network services and video
<b>Intel XEON</b>	The Intel® Xeon™ processor MP family is designed specifically for mid-tier servers performing key business functions such as collaboration, application serving, enterprise resource planning, and business intelligence. The Intel Xeon processor MP features <a href="#">Hyper-Threading</a> technology, Integrated Three-Level cache architecture and Intel® NetBurst™ microarchitecture. The Intel® Xeon™ Processor is designed for dual-processor server and workstation platforms. It does not have the three-level cache.
<b>Interface Repository</b>	Interface Repository. The interface repository is part of object-oriented integration. It contains the definitions of all the services that objects can provide. The definitions form the contract by which a client can invoke requests upon a server object.
<b>International Telecommunication Union (ITU)</b>	An intergovernmental organization through which public and private organizations develop telecommunications.
<b>Internet</b>	<ol style="list-style-type: none"><li>1) A wide area network connecting disparate networks world wide.</li><li>2) An international network of millions of web sites that uses TCP/IP.</li></ol>
<b>Internet Engineering Task Force (IETF)</b>	A large, open, international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. IETF is generally recognized as the standards organization for the Internet.
<b>Internet Protocol (IP)</b>	a communications protocol, which routes packets of data from one address on the Internet to another. IPv4 routes each packet based on a 32-bit destination address called an IP address (e.g., 123.122.211.111).
<b>Internetworking</b>	A term used by Cisco, BBN, and other providers of network products and services as a comprehensive term for all the concepts, technologies, and generic devices that allow people and their computers to communicate across different kinds of networks. (searchNetworking.com)
<b>IP</b>	Internet Protocol. A network addressing protocol. Two versions are defined: IPv4 and IPv6.

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<b>IP address</b>	An identifier for a computer or device on a TCP/IP network. Networks using the TCP/IP protocol to route messages based on the IP address of the destination. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be zero to 255. For example, 1.160.10.240 could be an IP address. Within an isolated network, you can assign IP addresses at random as long as each one is unique. However, connecting a private network to the Internet requires using registered IP addresses (called Internet addresses) to avoid duplicates.
<b>IPv4</b>	Four octet 32 bit IP address in the form 255.255.255.255
<b>IPv6</b>	Sixteen octet 128 bit IP address. For a discussion and comparison with IPv4 see NCS <a href="http://en.wikipedia.org/wiki/Ipv6">http://en.wikipedia.org/wiki/Ipv6</a> .
<b>IrDA</b>	Infrared Data Association – is an industry-sponsored organization set up in 1993 to create international standards for the hardware and software used in infrared communication links. An IrDA port is an infrared port. In this special form of radio transmission, a focused ray of light in the infrared frequency spectrum, measured in terahertz, or trillions of hertz (cycles per second), is modulated with information and sent from a transmitter to a receiver over a relatively short distance. Infrared radiation (IR) is the same technology used to control a TV set with a remote control. Infrared data communication is playing an important role in wireless data communication due to the popularity of laptop computers, personal digital assistants (PDAs), digital cameras, mobile telephones, pagers, and other devices. Infrared communication involves a transceiver (a combination transmitter and receiver) in both devices that communicate. IR can be also be used for somewhat longer interconnections and is a possibility for interconnections within local area networks. The maximum effective distance is somewhat less than 1.5 miles and the maximum projected bandwidth is 16 megabits per second. Since IR is line-of-sight light transmission, it is sensitive to fog and other atmospheric conditions. (searchMobileComputing.com)
<b>iSCSI</b>	Internet Small Computer System Interface – a protocol for transmitting a SCSI block wrapped in an IP packet.
<b>ISO</b>	International Standards Organization.
<b>IT</b>	Information Technology
<b>ITIB</b>	Information Technology Investment Board – created by the General Assembly to perform “agency head” roles for the Virginia Information Technologies Agency.
<b>ITRM</b>	Information Technology Resource Management – identifier used to indicate official IT policies, standards, and guidelines permitted by the Virginia General Assembly for the control and management of IT resources in the Commonwealth.
<b>J2EE</b>	Java 2 Enterprise Edition. The distributed version of Sun’s Java platform with Enterprise JavaBeans™ (EJB™), JavaServer Pages™ (JSP™) and Java Servlet API component technologies.
<b>Java</b>	Portable language from Sun designed to run on any machine with a Java Virtual Machine interpreter.
<b>Jaz Drive</b>	Iomega Corporation's drive, which takes removable one or two gigabyte disk cartridges that contain conventional hard disks.
<b>JDAP</b>	Java Directory Access Protocol --an implementation of the Lightweight Directory Access Protocol.
<b>JDBC</b>	Java Database Connectivity is a standard SQL database access interface. It comes

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	with an ODBC bridge.
<b>LDAP</b>	Lightweight Directory Access Protocol. A protocol for accessing on-line directory services. LDAP was defined by the IETF to encourage adoption of X.500 directories. The Directory Access Protocol (DAP) was seen as too complex for simple Internet clients to use. LDAP defines a relatively simple protocol for updating and searching directories running over TCP/IP.
<b>Linear Tape Open (LTO)</b>	An open standard for a backup tape system, which provides formats for both fast data access and high storage capacity, developed jointly by Hewlett-Packard, IBM, and Seagate. IBM released the first LTO products in August, 2000. Like existing tape systems, LTO uses a linear multi-channel bi-directional format. LTO adds to existing technologies timing-based servo (a device that automates a process of error correction for a mechanism), hardware data compression, enhanced track layouts, and efficient error correction code. LTO was developed in two different formats - one for fast data access and another for greater storage capacity. The Accelis format uses 8mm-wide tape on a two-reel cartridge that loads at the mid-point of the tape to provide fast data access, specifically for read-intensive applications, such as online searches and retrieval functions. The Ultrium format uses a single reel of half-inch wide tape to maximize storage capacity, specifically for write-intensive applications, such as archival and backup functions. Early products using the Accelis format offer a 25 gigabyte capacity for uncompressed data, while Ultrium based-products offer a 100 gigabyte capacity. Both formats provide transfer rates of 10 - 20 Mbps. While these figures are not unheard of in other technologies, LTO specifications include plans for expected increases that will double current rates with each of the next three generations of products.
<b>Linux</b>	a Unix-like operating system that was designed to provide personal computer users a free or very low-cost operating system comparable to traditional and usually more expensive Unix systems. Linux has a reputation as a very efficient and fast-performing system. Linux's kernel (the central part of the operating system) was developed by Linus Torvalds at the University of Helsinki in Finland. To complete the operating system, Torvalds and other team members made use of system components developed by members of the Free Software Foundation for the GNU Project. Linux is a remarkably complete operating system, including a graphical user interface, an X Window System, TCP/IP, the Emacs editor, and other components usually found in a comprehensive Unix system. Although copyrights are held by various creators of Linux's components, Linux is distributed using the Free Software Foundation's copyleft stipulations that mean any modified version that is redistributed must in turn be freely available. (searchEnterpriseLinux.com)
<b>Load Balancing</b>	Load balancing means that requests from clients are distributed across available servers to achieve better utilization of computing resources. In general, load balancing can be based on network traffic, CPU load, relative power of the server, size of the server's request queue, a simple round robin method, or other mechanisms.
<b>Local Area Network (LAN)</b>	A private computer network generally on a user's premises and operated within a limited geographical area.
<b>Loosely Coupled</b>	Architectures based on publish/subscribe communications can provide a lightweight and resilient foundation for applications that do not require tight coordination.
<b>MagStar</b>	A family of IBM proprietary tape equipment and products.
<b>MAN</b>	A Metropolitan Area Network (MAN) is a network that interconnects users with computer resources in a geographic area or region larger than that covered by even a large local area network (LAN) but smaller than the area covered by a wide area

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	<p>network (WAN). The term is applied to the interconnection of networks in a city into a single larger network (which may then also offer efficient connection to a wide area network). It is also used to mean the interconnection of several local area networks by bridging them with backbone lines. The latter usage is also sometimes referred to as a campus network. (Adapted from Whatis.com).</p>
<b>MAPI</b>	<p>Messaging Application Programming Interface. A protocol used to write components that connect to different mail servers, provide access to custom address books and provide rich storage facilities.</p>
<b>MDC</b>	<p>Meta Data Coalition</p>
<b>Metadata (also Meta data)</b>	<p>Data about data that makes the process of finding and using data easier.</p>
<b>Metropolitan Area Network (MAN)</b>	<p>See MAN.</p>
<b>Midrange to Low-end Servers</b>	<p>In this report, servers costing \$50, 000 or less are typical midrange to low-end servers. These servers would usually have one to four processors, but could have as many as 8 or 16 processors. When the midrange computer is a scaled-down version of a high-end server, it may cost substantially more.</p>
<b>MIME</b>	<p>Multipurpose Internet Mail Extensions. An official Internet standard that specifies how messages must be formatted so that they can be exchanged between different email systems.</p>
<b>Mirroring</b>	<p>Writing the same data in two locations.</p>
<b>Mobile</b>	<p>The ability to move around, it also refers to anything that can be moved around (or transported) and still functioning properly. It usually describes handheld devices, such as PDAs and cell phones (that is, mobile phones), but it can also refer to notebooks or other portable devices. (netlingo.com)</p>
<b>Mobitex</b>	<p>Mobitex is an open, international standard. It is a packet-switched, narrowband, data only technology suited for applications like interactive messaging, e-mails, telemetry, telematics/positioning, alarms and form-based applications. <a href="http://www.mobitex.com/">http://www.mobitex.com/</a>.</p>
<b>MOM</b>	<p>Message Oriented Middleware delivers messages from one software module to another. Modules do not have to execute on the same machine. Analogous to the US Mail. The mail is typically delivered when you're at work; you pick it up at your convenience.</p>
<b>Monolithic Application</b>	<p>An application that is entirely installed on one machine.</p>
<b>Mozilla</b>	<p>Mozilla was the original code name for the product that came to be known as Netscape Navigator, and later, Netscape Communicator. Later, it came to be the name of Netscape Communications Corporation's dinosaur-like mascot. Netscape Communications Corporation holds trademarks on the names Netscape, Navigator, and Communicator; it has not yet been decided what, if any, restrictions Netscape will place on the use of those names. Now, they use the name "Mozilla" as the principal trademark representing the Foundation and the official releases of internet client software developed through our open source project. This organization produced Firefox, Bugzilla, Camino (Mac browser), Thunderbird (email), Mozilla Suite, and is also working on a Calendaring solution. (adapted from Mozilla.org)</p>
<b>MPLS</b>	<p>Multiprotocol Label Switching (MPLS) is a communications technology for</p>

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	<p>speeding up wide-area network traffic flow and making it easier to manage. This technology is typically a backbone technology provided by a carrier. MPLS involves setting up a specific path for a given sequence of packets, identified by a label put in each packet, thus saving the time needed for a router to look up the address to the next node for packet forwarding. MPLS is called multiprotocol because it works with the Internet Protocol (IP), Asynchronous Transport Mode (ATM), and frame relay network protocols. With reference to the standard model for a network (the Open Systems Interconnection, or OSI model), MPLS allows most packets to be forwarded at the layer 2 (switching) level rather than at the layer 3 (routing) level. In addition to moving traffic faster overall, MPLS makes it easy to manage a network for quality of service (QoS). (Adapted from Whatis.com).</p>
<b>MTA</b>	<p>Message Transfer Agent. The internal component of an e-mail delivery system, responsible for mail collection from and distribution to MUAs, and relay of mail between e-mail post offices. Also called e-mail server.</p>
<b>MUA</b>	<p>Mail User Agent. Primary entry and exit point for an e-mail system. Also called an e-mail client.</p>
<b>Multi-threading</b>	<p>Sharing a single CPU between multiple tasks (or "threads") in a way designed to minimize the time required to switch threads.</p>
<b>Naming Service</b>	<p>Naming service refers to the ability of application programs to locate application components offered by other applications in a distributed environment. Typical naming service should support registration of services in the naming service and their subsequent location through the naming service.</p>
<b>NDS</b>	<p>Netware Directory Services. A hierarchical, class-based directory structure for accessing network resources.</p>
<b>Network</b>	<ol style="list-style-type: none"><li>1) A configuration of data processing devices and software connected for information interchange.</li><li>2) A group of two or more computer systems linked together.</li></ol>
<b>Nonvolatile Memory</b>	<p>A memory that retains information if power is removed and then reapplied. SRAM or static random access memory and flash memory are examples of nonvolatile memory (<a href="http://www.crucial.com">www.crucial.com</a>)</p>
<b>N-tier</b>	<p>Describes a method of dividing an application into three or more physical or logical tiers to provide for ease of maintenance and flexibility. Any architecture that utilizes a 3-tier architecture, which componentizes one or more of the logical tiers is said to be n-tier. Typically this componentization occurs in the business rule tier, however this is not a requirement. An n-tiered application is designed to integrate a diverse collection of reusable, component based services into a unified system. The layers may operate in multiple configurations, using any number of physical systems. This architecture provides a flexible and scalable solution for meeting the State's current and future requirements.</p>
<b>Obsolescent</b>	<p>Rating category used in this document to rate integration technologies. This technology may be waning in use and support, and/or has been evaluated and found not to meet current Commonwealth Technical Architecture needs. Agencies shall not make any procurements or additional deployments of this technology. Agencies currently using this technology should plan for its immediate replacement with "strategic" technology to avoid substantial risk. The migration or replacement plan should be included as part of the Agency's IT Strategic Plan.</p>
<b>ODBC</b>	<p>Open Data Base Connectivity. ODBC is based on Call-Level Interface and was defined by the SQL Access Group. Microsoft was one member of the group and</p>

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	was the first company to release a commercial product based on its work (under Microsoft Windows) but ODBC is not a Microsoft standard.
<b>OLE</b>	Object Linking and Embedding. The software capability that enables the creation of a compound document that contains one or more objects from one or more applications. Objects can be linked or embedded in the compound document. Changes to linked objects are reflected in the source and vice versa. Embedding objects breaks all links.
<b>OLED Displays</b>	Organic Light-Emitting Diode – Monochrome and color displays with no backlights and thus more power efficient. A display technology, pioneered and patented by Kodak, based on the use of organic polymer material as the semiconductor material in light-emitting diodes (LEDs). A polymer can be a natural or synthetic substance and macro or micro in size. Examples of organic polymers include proteins and DNA. OLED displays are used in cellular phones, digital video cameras, digital versatile disc (DVD) players, personal digital assistants (PDAs), notebooks, car stereos, and televisions. OLED displays are thinner and weigh less because they do not require backlighting. OLED displays also have a wide viewing angle up to 160 degrees even in bright light, and they use only two to ten volts to operate. New technologies that build on the OLED include FOLED (flexible organic light-emitting display), which promises to make highly portable, roll-up displays possible within the next few years.
<b>OLE-DB</b>	Microsoft's interface to data. OLE-DB is an open specification designed to build on the success of ODBC by providing an open standard for accessing all kinds of data.
<b>OMG</b>	Object Management Group. A consortium aimed at setting standards in object-oriented programming.
<b>ONC+ RPC</b>	Open Network Computing (Sun) Remote Procedure Call. A remote procedure call or function call protocol developed by Sun.
<b>Open Group</b>	The Open Group is a standards development and product approval consortium. "The Open Group's Mission is to offer all organizations concerned with open information infrastructures a forum where we can share knowledge, integrate open initiatives, and certify approved products and processes in a manner in which they continue to trust our impartiality."
<b>Open Standards</b>	Standards that are available for all vendors to use in product development.
<b>Operational Data Store</b>	According to Bill Inmon, an operational data store (ODS) is a subject-oriented, integrated, volatile, current-valued, detailed-only collection of data in support of an organization's need for up-to-the-second, operational, integrated, collective information. (Wikipedia.com)
<b>ORB</b>	Object Request Broker. A software tool that enables the location of and access to objects in a distributed system.
<b>ORCA</b>	<u>O</u> nline <u>R</u> evue and <u>C</u> omment <u>A</u> pplication is a web based application managed by VITA to allow public comment and review of proposed policies, standards, and guidelines. ORCA may be accessed through the Commonwealth Project Management Web page or by pointing your Web browser to the URL <a href="http://apps.vita.virginia.gov/publicORCA">http://apps.vita.virginia.gov/publicORCA</a> .
<b>OSI Reference Model</b>	Open System Interconnect seven layer model. A model of network architecture and a suite of protocols (a protocol stack) to implement it, developed by ISO in 1978 as a framework for international standards in heterogeneous computer network architecture. The OSI architecture is split between seven layers, from lowest to highest: 1 physical layer, 2 data link layer, 3 network layer, 4 transport layer, 5

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	session layer, 6 presentation layer, 7 application layer. Each layer uses the layer immediately below it and provides a service to the layer above. In some implementations, a layer may itself be composed of sub-layers.
<b>Packet</b>	A collection of payload data and transport information that is transmitted as a bundle across a network connection.
<b>PAN</b>	A Personal Area Network (PAN) or Wireless Personal Area Network (WPAN) is the set of transmission technologies used by a person for interconnecting devices they use in a home, in a workplace, in the car, in the gym, or in a mobile setting. Typically, a wireless personal area network uses one or more technologies that permit communication within about 10 meters - in other words, a very short range. One such technology is Bluetooth, which is the basis for IEEE 802.15. A PAN could interconnect all the ordinary computing and communications devices that many people have on their desk or carry with them today - or it could serve a more specialized purpose such as allowing the surgeon and other team members to communicate during an operation. (Adapted from Whatis.com).
<b>PBX</b>	Private Branch Exchange – a premises voice switch.
<b>PC Card</b>	PCMCIA device or slot.
<b>PCI</b>	Peripheral Component Interconnect – A standard for connecting peripherals to a personal computer or components within a computer, designed by Intel and released in 1993. PCI is supported by most major manufacturers. The technology is usually called a bus but is in fact a bridge.
<b>PCI Express (PCI X)</b>	Developed by the PCI-SIG industry group to extend the PCI bus to meet the present and future computing and communications interconnect requirements, PCI Express is suitable for both chip-to-chip and add-in card implementations. The packetized protocol and layered architecture of the standard enables attachment to copper, optical, or emerging physical signaling media.
<b>PCMCIA</b>	Personal Computer Memory Card International Association – A PC Card. An international trade association and the standards they have developed for devices, such as modems and external hard disk drives that can be plugged into notebook computers. A PCMCIA card is about the size of a credit card.
<b>PCS</b>	Sprint’s Personal Communications Services. It operates in the 1.9 MHz band. It is not a cellular service. (600mhz, 900mhz)
<b>PDA</b>	Personal Digital Assistant – A small hand-held computer typically providing calendar, contacts, and note-taking applications but may include other applications, for example a web browser and media player. Small keyboards and pen-based input systems are most commonly used for user input.
<b>PKI</b>	Public Key Infrastructure. A way to distribute security and encryption keys.
<b>POA</b>	Portable Object Adapter standard. An adapter that is written using IDL.
<b>POP3</b>	Post Office Protocol version 3. The most common protocol used by MUAs to retrieve mail from a central message store (messaging server). Most commercial Internet Mail post office products include a POP3 server. IMAP is typically a better choice than POP3 for unified messaging.
<b>Productivity Software</b>	Software typically used by business professionals such as word processing, spreadsheets, presentation slides, web browsers, and plug ins. Also includes lesser used software such as personal database software, flowcharting, project management.

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<b>Protocol</b>	A set of rules. For example, network protocols are rules that enable connectivity and communication.
<b>Protocol Stack</b>	A software subsystem that manages the flow of data on a communications channel according to the rules of a particular protocol, for example the TCP/IP protocol. Called a “stack” because it is typically designed as a hierarchy of layers, each supporting the one above and using the one below.
<b>PSTN</b>	The Public Switched Telephone Network (PSTN) is the worldwide voice communications system.
<b>Publish &amp; Subscribe</b>	<ol style="list-style-type: none"><li>1) To provide a source of information that users select from and then receive on a regular basis or when certain events occur. The service can be public or private, free or paid, and information can be provided via e-mail and the Web or by means of proprietary applications. For example, a stock trading application lets you select particular stocks, and those quotes are sent to you on either on a regular schedule or when there is a change in price.</li><li>2) Software or protocols that enable publishing and subscribing.</li></ol>
<b>Push Email</b>	Email service that sends new email to a device when it is received rather than waiting for the user to request store and forward email.
<b>QoS</b>	Quality of Service - The performance of a network service such as throughput, delay, and priority. Some protocols allow packets or streams to include QoS requirements (e.g., ATM).
<b>Quality of Service</b>	<ol style="list-style-type: none"><li>1) Reliable message delivery (no messages are lost in case of system failure).</li><li>2) Guaranteed message delivery (messages are delivered within a defined time limit, even in the case of network or system unavailability).</li><li>3) Assured message delivery (messages are delivered at most once).</li></ol>
<b>RAC (Real Application Cluster)</b>	A component of the Oracle 9i database product that allows a database to be installed across multiple servers. According to Oracle, RAC's shared disk method of clustering databases: increases scalability because servers can easily be added or subtracted to meet current needs, lowers costs because companies don't have to buy high-end servers, and improves availability because if one server fails, another can assume its workload. RAC's shared disk architecture is an unusual approach to database clustering. Most competing database products (such as Microsoft's SQL Server and IBM's DB2 for Windows and Unix environments) use the alternative, which is known as "shared nothing" architecture. Shared nothing architecture partitions data and only gives each server access to its own disk subsystem, while shared disk architecture gives all servers access to the entire database. This adds failover capacity to the database, because all servers have access to the whole database. Proponents claim that this capacity increases 9i's reliability and availability significantly. British Telecom, for example, reported that deploying the product enabled them to cut their failover time from a typical 20 minutes to between 10-60 seconds.
<b>RAID</b>	Redundant Array of Independent Disks – A method of organizing small format disk devices to drastically increase I/O bandwidth and improve data availability.
<b>Recommended Practices</b>	Are activities which are normally considered leading edge or exceptional models for others to follow. They have been proven to be successful and sustainable and can be readily adopted by agencies. They may or may not be considered the ultimate “best practice” by all readers but for this place and time they are recommended practices and should be used and implemented wherever possible.
<b>Repository</b>	A repository is a collection of resources that can be accessed to retrieve

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	information. Repositories often consist of several databases tied together by a common search engine.
<b>Requirements (ETA)</b>	Strategic components of the Commonwealth’s Enterprise Technical Architecture “Technical Component Standard” tables. Strategic components are acceptable components for current deployments and must be implemented and used for all future deployments. Also, the numbered policies and standards of the Enterprise Technical Architecture are requirements.
<b>Reusable Component</b>	A sub-object derived from an object or a class of objects by taking advantage of inheritance properties. The derived object inherits the instance variables and methods of the super class but may add new instance variables and methods.
<b>RMI</b>	Remote Method Invocation. A J2EE RPC.
<b>Router</b>	<ol style="list-style-type: none"><li>1) An attaching device that connects two LAN segments, which use similar or different architectures, at the reference model network layer.</li><li>2) (IRM) The combination of hardware and software that links LANs and WANs together.</li></ol>
<b>RPC</b>	Remote Procedure Call. An external form of communication that allows a client to invoke a procedure in a server.
<b>SAN</b>	A Storage Area Network (SAN) is a storage model typically characterized by a use of switching and transmission facilities that are separate from the local area network where the server of data to be stored and retrieved resides. The network communications for a SAN may include fibre channel, iSCSI, Ethernet or other technologies. The SAN also includes the storage management, storage device and storage access technologies.
<b>Scalability</b>	The ability to expand as higher and higher volumes occur due to high volume operations with a parallel engine.
<b>Scale-out server solution</b>	From an application standpoint (e.g., email), the scale-out solution increases resources to the application by adding servers to the cluster of real or virtual servers. The addition of servers increases the number of operating systems supporting the solution.
<b>Scale-up server solution</b>	<ol style="list-style-type: none"><li>1) From an application perspective, a scale-up solution is one that permits the adding of more resources to the application by adding resources from within a single platform and without increasing the number of operating systems used in supporting the application.</li><li>2) For the consolidation of multiple applications, the scale-up solutions will provide the ability to add resources to more than one application from within the platform without increasing the number of operating systems used in supporting the application.</li></ol>
<b>SCSI</b>	Small Computer System Interface
<b>SDLC</b>	<ol style="list-style-type: none"><li>1) Synchronous Data Link Control. An IBM/SNA communications protocol. HDLC, high level data link control was derived using SDLC. SDLC manages synchronous (i.e., uses timing bit), code-transparent, bit-serial communication which can be duplex or half-duplex; switched or non-switched; point-to-point, multipoint, or loop.</li><li>2) Systems development life cycle</li></ol>
<b>SDLT</b>	Super Digital Linear Tape – A variant of DLT technology, called SuperDLT, makes it possible to store upwards of 100 GB on a single cartridge. The SuperDLT drive

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	can transfer data at speeds of up to 10 megabytes per second (Mbps). (searchStorage.com)
<b>Security Service</b>	Compared to monolithic environments, distributed systems create new challenges for the implementation of security. Integrated systems must provide authentication, auditing, authorization, and encryption services that allow a client to conduct a secure communication with a server.
<b>Segment</b>	<ol style="list-style-type: none"><li>1) vt. to isolate traffic on a LAN;</li><li>2) n., the LAN devices and media isolated</li></ol>
<b>Serial ATA device</b>	Serial Advanced Technology Attachment – A standard for connecting hard drives into computer systems that is based on serial signaling technology, unlike current IDE (Integrated Drive Electronics) hard drives that use parallel signaling. SATA has several practical advantages over the parallel signaling (also called Parallel ATA or PATA) that has been used in hard drives since the 1980s. SATA cables are more flexible, thinner, and less massive than the ribbon cables required for conventional PATA hard drives. SATA cables can be considerably longer than PATA ribbon cables, allowing the designer more latitude in the physical layout of a system. Because there are fewer conductors (only 7 in SATA as compared with 40 in PATA), crosstalk and electromagnetic interference (EMI) are less likely to be troublesome. The signal voltage is much lower as well (250 mV for SATA as compared with 5 V for PATA). SATA creates a point-to-point connection between devices. Transfer rates for SATA begin at 150MBps. One of the main design advantages of Serial ATA is that the thinner serial cables facilitate more efficient airflow inside a form factor and also allow for smaller chassis designs. In contrast, IDE cables used in parallel ATA systems are bulkier than Serial ATA cables and can only extend to 40cm long, while Serial ATA cables can extend up to one meter. (Whatis.com modified)
<b>Service- Oriented Architecture</b>	SOA is an architectural approach that presents a set of reusable software components that align with the agency’s business goals and the Commonwealth’s strategic objectives. The services are highly cohesive, loosely coupled, discoverable software components that are decoupled from hardware and network dependencies and that encapsulate the complexities of the underlying implementation.
<b>Service-Component Reference Model (SRM)</b>	Service component-based framework that can provide—independent of business function—a “leverage-able” foundation for reuse of applications, application capabilities, components, and business services.
<b>SGML</b>	Standard Generalized markup Language. HTML and XML are subsets of SGML.
<b>Simple Network Management Protocol (SNMP)</b>	A set of network communication specifications that cover all the basics of network management. It is a simple and expandable protocol designed to give the capability to remotely manage a computer network by polling, setting terminal values, and monitoring network events. It is comprised of three elements, an MIB, a manager, and the agents. The manager is located on the host computer on the network. Its role is to poll the agents and request information concerning the networks status. Agents run off each network node and collect network and terminal information as specified in the MIB.
<b>SIP</b>	Session Initiation Protocol (SIP) is a signaling protocol developed by the IETF. The SIP protocol has not yet been ratified as a standard. SIP is primarily used for voice over IP (VoIP) calls but also may be used for other communications including video, instant messaging, and gaming. SIP is a text-based protocol that is based on HTTP and MIME. SIP is used as one part of a protocol stack that is intended to provide seamless, continuous, end-to-end communications similar to what is provided by the PSTN. SIP is responsible for

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	setting up and taking down the connection. SIP also provides services such as dialing a number, causing a phone to ring, and providing ring back tones or busy signals. SIP is included as part of the IMS subsystem.
<b>SMB</b>	Server Message Block – Message protocol used by DOS and Windows to share files, directories and devices. (webopedia.com)
<b>SMTP</b>	Simple Mail Transfer Protocol. Documented in <a href="#">RFC 821</a> , SMTP is Internet's standard host-to-host mail transport protocol.
<b>SNA</b>	IBM's Systems Networking Architecture provides a structure for transferring data between IBM and a variety of other computing platforms.
<b>SNMP</b>	Simple Network Management Protocol. The Internet standard protocol, defined in STD 15, <a href="#">RFC 1157</a> , developed to manage nodes on an IP network.
<b>SOAP</b>	Simple Access Object Protocol. A minimal set of conventions for invoking code using XML over HTTP
<b>Sockets</b>	Virtual connections between processes. They can be of two types, stream (bi-directional) or datagram (fixed length destination-addressed messages). The socket library function creates a communications end-point or socket and returns a file descriptor with which to access that socket. The socket has associated with it a socket address, consisting of a port number and the local host's network address.
<b>SONET</b>	Synchronous Optical Network – A standard format for transporting a wide range of digital telecommunications services over optical fiber. SONET is characterized by standard line rates, optical interfaces, and signal formats.
<b>SQL</b>	Structured Query language. An industry-standard language for creating, updating, and querying relational database management systems.
<b>STDL</b>	Structured Transaction Definition Language. A high-level language for developing portable and modular transaction processing applications in a multi-vendor environment.
<b>Store and Forward</b>	A term used in message processing where a message is saved and then delivered.
<b>Strategic</b>	Rating category used in this document to rate integration technologies. This technology is considered a strategic component of the Commonwealth's Enterprise Technical Architecture. It is acceptable for current deployments and must be used for all future deployments.
<b>Switch</b>	Network device that filters, forwards, and floods frames based on the destination address of each frame. The switch operates at the data link layer of the OSI model. A fabric switch may have significant management and security functionality in addition to switching protocol choices. (modified Cisco definition)
<b>Synchronous</b>	This term has two distinct meanings in networking: 1.) a network communication, which requires a reply for completion or 2.) a type of network transmission that uses start bits and stop bits to establish precise clocking.
<b>Synchronous Optical Network (SONET)</b>	SONET is the ANSI standard for synchronous data transmission on optical media. The international equivalent of SONET is synchronous digital hierarchy (SDH). Together, they ensure standards so that digital networks can interconnect internationally and that existing conventional transmission systems can take advantage of optical media through tributary attachments
<b>T1</b>	An AT&T term for a digital carrier facility used to transmit a DS1 formatted digital signal at 1.544 megabits per second or a 24 analog line equivalent. T1 transmission

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	uses a bipolar Return To Zero alternate mark inversion line coding schemes.
<b>TCP</b>	Transmission Control Protocol. An <a href="#">OSI</a> layer 4 protocol
<b>TCP/IP</b>	1) Transmission Control Protocol over Internet Protocol. 2) The TCP/IP Suite of protocols.
<b>TDMA</b>	Time Division Multiple Access
<b>Technical Architecture</b>	In enterprise architecture, business and technical computing specifications are considered. The technical architecture includes specification for only technical dimensions or components. In Virginia's enterprise architecture, the technical domains include: integration, security, platform, networking and telecommunications, application, database, enterprise systems management, and information architecture.
<b>TIA</b>	Telecommunications Industry Association. A standards body. An association that sets standards for communications cabling.
<b>Token Ring</b>	An IEEE 802.5 standard for media access. Conflicts in the transmission of messages are avoided by the granting of "tokens" which give permission to send.
<b>Topic</b>	A topic is simply a logical subdivision of the domain. All components relevant to the Commonwealth's Technical Architecture are included within one if the identified topics.
<b>TP</b>	Transaction Processing
<b>Transitional</b>	Rating category used in this document to rate integration technologies. This technology is not consistent with the Commonwealth's Enterprise Technical Architecture strategic direction. Agencies may use this technology only as a transitional strategy for moving to a strategic technology. Agencies currently using this technology should migrate to a strategic technology as soon as practical. A migration or replacement plan should be included as part of the Agency's IT Strategic Plan. New deployments or procurements of this technology require an approved <i>Commonwealth Enterprise Technical Architecture Exception</i> .
<b>Utility Service</b>	In this report, the term is used to connote a function or activity typically provided by an IT unit, which may be separated from IT work requiring business knowledge, and which may be provided by a central enterprise service (in-sourced) or by an external business (outsourced). An example would be web site hosting. You can provide hosting and WC3 accessibility levels without knowing the business of the agency or understanding the content of the website.
<b>VIM</b>	Vendor Independent Messaging was a standard API for applications to integrate with e-mail on Windows 3.x, proposed by Lotus, Borland, IBM & Novell in the early 1990s. Its main competitor was Microsoft's MAPI, which was the eventual winner of the MAPI v. VIM war. (Wikipedia)
<b>Virtual Machine</b>	A software emulation of a physical computing environment. This could be a virtual PC or a virtual server. A virtual machine may be a fixed or variable configuration of a set of host computing environment resources plus OS and/or application software.
<b>Virtual Server</b>	See virtual machine. Not to be confused with a virtual Web server within this document.
<b>Virtual Storage</b>	The storage space that may be regarded as addressable main storage by the user of a computer system in which virtual addresses are mapped into real addresses. The size of virtual storage is limited by the addressing scheme of the computer system and by the amount of auxiliary storage available, not by the actual number of main

storage locations. ([www.ibm.com](http://www.ibm.com))

**Virtual Tape**

Virtual tape is the use of a special storage device that manages less-frequently needed data so that it appears to be stored entirely on tape cartridges when some parts of it may actually be located in faster, hard disk storage. The programming for a virtual tape system is sometimes called a virtual tape server (VTS). Virtual tape can be used with a hierarchical storage management (HSM) system in which data is moved as it falls through various usage thresholds to slower but less costly forms of storage media. Virtual tape may also be used as part of a storage area network (SAN) where less-frequently used or archived data can be managed by a single virtual tape server for a number of networked computers. A virtual tape system offloads from the main computer the processing involved in deciding whether data should be available in the faster disk cache or written onto a tape cartridge. The virtual tape system also can manage data so that more of the space on a tape cartridge is actually used. ([searchStorage.com](http://searchStorage.com)) IBM and Storage Technology are well-established vendors of virtual tape systems. Sutmyn Storage sells a product that provides a virtual interface to existing IBM and other systems.

**VITA**

The Virginia Information Technologies Agency. An agency of Virginia state government that is the Commonwealth's new consolidated, centralized information technology organization. VITA's responsibilities fall into three primary categories: Operation of the IT infrastructure, Governance of IT investments, and Procurement of technology.

**VoIP**

Voice over Internet Protocol (VoIP) is a service that permits voice connections and the transmission of voice conversations using IP packets that are sent over public and private cabled infrastructure. A set of equipment and protocols is required to accomplish quality voice communications using VoIP. A major advantage of VoIP and Internet telephony is that it avoids the tolls charged by ordinary telephone service.

VoIP derives from the VoIP Forum, an effort by major equipment providers, including Cisco, VocalTec, 3Com, and Netspeak to promote the use of ITU-T H.323, the standard for sending voice (audio) and video using IP on the public Internet and within an intranet. The Forum also promotes the user of directory service standards so that users can locate other users and the use of touch-tone signals for automatic call distribution and voice mail.

Using VoIP, an enterprise positions a "VoIP device" at a gateway. The gateway receives packetized voice transmissions from users within the company and then routes them to other parts of its intranet (local area or wide area network) or, using a T-carrier system or E-carrier interface, sends them over the public switched telephone network.

**VoWLAN**

Voice over Wireless LAN is an implementation of Voice over IP using wireless rather than wired infrastructure.

**VPN**

A virtual private network (VPN) is a network that uses a public telecommunication infrastructure, such as the Internet, to provide remote offices or individual users with secure access to their organization's network via layer two tunneling protocols (L2TP).

**VPN**

A Virtual Private Network (VPN) is a communications service that affords various levels of privacy over public or private infrastructure. Secure VPNs may use cryptographic tunneling protocols to preventing snooping, sender authentication to preventing identity spoofing, and message integrity (preventing message alteration) to achieve the privacy intended.

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	<p>Trusted VPNs do not use cryptographic tunneling. Instead, they rely on the security of a single provider's network to protect the traffic. Multi-protocol label switching (MPLS), layer 2 forwarding, and layer 2 tunneling are commonly used to build trusted VPNs.</p>
<b>WAFS</b>	<p>Wide Area File Services – A storage tool for improving central data access speeds over WANs and the Internet.</p>
<b>WAN</b>	<p>Wide Area Network</p> <ol style="list-style-type: none"><li>1) A network that provides communication services to a geographic area larger than that served by a local area network or a metropolitan area network, and that may use or provide public communication facilities. A WAN typically consists of multiple LANs that are linked together.</li><li>2) A data communications network designed to serve an area of hundreds or thousands of miles; for example, public and private packet-switching networks, and national telephone networks.</li><li>3) A computer network that links multiple workstations and other devices across a large geographical area.</li></ol>
<b>WCDMA</b>	<p>Wide-band Code-Division Multiple Access (WCDMA) is a 3G technology that increases data transmission rates in GSM systems by using the CDMA air interface instead of TDMA. WCDMA is based on CDMA and is the technology used in UMTS. WCDMA was adopted as a standard by the ITU under the name "IMT-2000 direct spread". (Adapted from Wi-Fi Planet.)</p>
<b>Web services</b>	<p>A standardized way of integrating Web-based applications using open standard interfaces over an Internet protocol backbone. Used for businesses to communicate with each other and with clients, Web services allow organizations to communicate data without intimate knowledge of each other's IT systems behind the firewall.</p>
<b>Wide Area Network (WAN)</b>	<p>See WAN</p>
<b>Wi-Fi</b>	<p>Wireless Fidelity – a protocol specified in 802.11b from the Institute of Electrical and Electronics Engineers (IEEE), which is part of a series of wireless specifications together with 802.11, 802.11a, and 802.11g. WiFi refers to an over-the-air connection with a wireless client and a base station or between two wireless clients.</p>
<b>WiMAX</b>	<p>WiMAX is an acronym for Worldwide Interoperability for Microwave Access. WiMAX is a logo used by the WiMAX Forum for certifying product compatibility with the IEEE 802.16 standard. The 802.16 working group of IEEE specializes in point-to-multipoint broadband wireless access. IEEE 802.16 or WiMAX is a standard for wireless technology that provides high-throughput broadband connections over long distances. WiMAX can be used for a number of applications, including "last mile" broadband connections, hotspots and cellular backhaul, and high-speed enterprise connectivity for business. (Adapted from Whatis.com).</p>
<b>WLAN</b>	<p>Wireless Local Area Network</p>
<b>X.400</b>	<p>International Telegraph and Telephone Consultative Committee (CCITT), now known as the ITU Telecommunication Standardization Sector, completed the first release of the X.400 message handling system standard. The standard provided for the exchange of messages in a store-and-forward manner without regard to the user's location or computer system.</p>

<b>X.500</b>	An ISO OSI Directory Service with an information model, a namespace, a functional model, an authentication framework, and a distributed operation model. X.500 directory protocol is used for communication between a Directory User Agent and a Directory System Agent. To allow heterogeneous networks to share directory information, the ITU proposed a common structure called X.500. However, its complexity and lack of seamless Internet support led to the development of Lightweight Directory Access Protocol (LDAP), which has continued to evolve under the aegis of the IETF. Despite its name, LDAP is too closely linked to X.500 to be "lightweight".
<b>XML</b>	Extensible Markup Language
<b>XSL</b>	Extensible Stylesheet Language