



Commonly Used Terms and Acronyms

APSCN – Arkansas Public School Computer Network (APSCN) is managed by the Arkansas Department of Information Systems and links all Arkansas public schools with the Arkansas Department of Education (ADE) as required by Act 4 of 1992. APSCN ensures public schools can file electronic reports that provide state and local decision makers accurate, timely and comprehensive information.

ARE-ON – The Arkansas Research and Education Optical Network (ARE-ON) is a not-for-profit consortium that includes all public degree-granting institutions in Arkansas and other selected higher education organizations. ARE-ON provides a high-speed fiber optic backbone network throughout the state with 1Gb and 10Gb Ethernet connections to its members, affiliates, national research and education networks, regional optical networks, and commercial service providers.

AWIN – The Arkansas Wireless Information Network (AWIN) is a statewide, interoperable, wireless communication system for first responders and Arkansas public service entities. AWIN is a multiple site, trunked communication system based on a digital 700/800 MHz system using the Association of Public Safety Communication Officials (APCO) Project 25 standard.

Backbone – Main infrastructure of an Internet provider's network, sometimes referred to as the "core" backbone of a network.

Backhaul – The intermediate link between a local area network or point of demarcation and backbone or interconnection point that provides access to the Internet.

Bandwidth – The amount of data that can be sent in a time period, a measure of the size or capacity of a connection. Measured in Mbps: Megabits per second, one million bits per second or Gbps: Gigabits per second, one thousand megabits per second.

Broadband – Uses analog signals to divide fiber-optic cable into several channels with each channel at its own frequency. Broadband has become synonymous with high-speed Internet connectivity over time.

BTOP – The Broadband Technologies Opportunity Program (BTOP) is administered by the Department of Commerce's National Telecommunications and Information Administration (NTIA). Totaling \$4.7 billion, BTOP provides grants to support the deployment of broadband infrastructure in un-served and underserved areas, to enhance broadband capacity at public computer centers, and to encourage sustainable adoption of broadband service.

Burst Speed – The maximum speed at which a device can operate without interruption, generally only for short periods. This is in contrast to throughput, which indicates the average speed at which a device can operate under ordinary conditions.

Burstable – The ability to temporarily increase the capacity of your broadband connection for times when there is a dramatic increase in traffic. For example, Merit offers a burstable connection that has a base bandwidth level with the ability to immediately burst to higher bandwidths when need or required.

CIV Network – The Compressed Interactive Video (CIV) network is managed by the Arkansas Department of Education Distance Learning Center (ADE DLC) and allows teachers and students to see and speak to each other in real time. Currently, 235 out of 238 school districts have CIV systems connected to the state video network.

Collocation Facility – Form of data center where network providers locate network, server and storage equipment and interconnect to a variety of other network service providers.

Community Anchor Institution – Community anchor institutions (CAIs, sometimes called anchor institutions) are public and non-profit organizations that often provide essential services to the public. Universities, colleges, community colleges, K12 schools, libraries, health care facilities, social service providers, government and municipal offices are all community anchor institutions.

Conduit – Tube or duct for enclosing electric wires or fiber-optic cable, typically used in underground fiber-optic construction.

Connect Ed – ConnectEd is a bold, new federal initiative which aims to connect 99 percent of America's students to the Internet through high-speed broadband and wireless technology within 5 years. ConnectEd will reprioritize existing federal funds to increase Internet connectivity, upgrade educational technology in classrooms, and train teachers to maximize the effectiveness of education technology.

Dark Fiber – A fiber strand that is not being used by any entity and carries no Internet traffic, i.e. fiber that is not "lit" by equipment transmitting data via light.

Demarc – Physical building that houses inside plant equipment including routers, regeneration amplification, collocation space and other important networking hardware. Demarcs service one or more school buildings.

Digital Learning – Digital learning is any instructional practice that effectively uses technology to strengthen the student learning experience. Digital learning encompasses a wide spectrum of tools and practices, including online and formative assessments, increased focus and quality of teaching resources, online content and courses, applications of technology in classrooms and school buildings, adaptive software for students with special needs, etc.

Distance Learning – Education that takes place via electronic media linking instructors and students who are not together in a classroom. Students can work on their own in any off-campus location and communicate with faculty and other students via e-mail, electronic forums, videoconferencing, chat rooms, bulletin boards, instant messaging or other form of computer-based communication.

DSL – Digital Subscriber Line. DSL uses standard telephone lines to deliver high-speed Internet to homes and businesses.

Ed-Fi Dashboard – The Ed-Fi Dashboard is a Web-based application that aggregates data from existing sources and provides teachers a comprehensive way to view student demographic information, schedules, attendance and assessment history, grades, and discipline information. Ed-Fi also offers roll-up views of for each class, school and district.

Education Co-ops – Offer regional administrative support and training for Arkansas public school districts as well as direct services to students including speech therapy, video instruction and gifted and talented programming. There are 14 educational co-ops in Arkansas.

e-Link – The University of Arkansas for Medical Sciences (UAMS) is developing broadband infrastructure to serve community institutions across Arkansas. Arkansas e-Link will expand, integrate, and enhance the capabilities of two existing community-serving networks: the Arkansas Telehealth Network as overseen by Arkansas Telehealth Oversight & Management (ATOM) and the Arkansas Research and Education Optical Network (ARE-ON).

Ethernet – Ethernet is a computer network architecture consisting of various specified local-area network protocols, devices, and connection methods

Fiber (Fiber Strand) – Optical fiber is made of flexible glass that can support very high data transfer rates. An individual glass fiber, roughly the thickness of a human hair, is capable of carrying a distinct signal transmitted in the form of pulses of light. A single strand of fiber is capable of transmitting over a million simultaneous telephone calls, or nearly 80 gigabits of digital information per second (80,000,000,000 pulses of light per second), using current telecommunications equipment.

Fiber Optic Cable - A cable containing a bundle of fiber strands.

Fiber Optics – Optical fiber (or "fiber optic") refers to the medium and the technology associated with the transmission of information as light pulses along a glass or plastic strand or fiber. Optical fiber carries much more information than conventional copper wire and is in general not subject to electromagnetic interference and the need to retransmit signals. The capacity is limited only by the equipment on each end of the fiber. Half of the 2009 Nobel Prize in Physics was awarded to Charles K. Kao, who pioneered the use of fiber optics.

Gbps – Gigabits per second, one thousand megabits per second. 1,000,000,000 bits per second. REACH-3MC will create a backbone with a 10 Gbps core backbone and 1 Gbps laterals.

Hub/Hut (aka Network Access Points or Carrier Hotel) – Places where large network providers meet to exchange network traffic. Typically, an ISP or network provider will access Tier 1 global providers and their networks via hubs, though they also serve as meet points for like networks.

Interconnection – The linkage, by wire, radio, satellite or other means, of two or more existing telecommunications carriers or operators with one another for the purpose of allowing or enabling the subscribers of one carrier or operator to access or reach the subscribers of the other carriers or operators. Networks feature Interconnection Points with other networks, including Tier 1 Internet providers that allow users to access websites all over the world.

ISP – An Internet Service Provider (ISP) provides access to the Internet for end-users. ISPs operate networks that connect end-users to the Tier 1 Internet, allowing them to access resources worldwide. ISPs function as on-ramps to the Internet.

Kahn Academy – The Khan Academy is a non-profit educational website created in 2006 by educator Salman Khan, a graduate of MIT and Harvard Business School. The stated mission is to provide "a free world-class education for anyone anywhere".

LAN– A Local Area Network (LAN) is connects network devices over a relatively short distance. A networked office building, school, or home usually contains a single LAN, though sometimes one building will contain a few small LANs (perhaps one per room), and occasionally a LAN will span a group of nearby buildings. In addition to operating in a limited space, LANs are also typically owned, controlled, and managed by a single person or organization. They also tend to use certain connectivity technologies, primarily Ethernet and Token Ring.

Last Mile – The connection between a customer and telephone or cable company or Internet Service Provider (ISP). Last Mile providers serve end-users via direct connections to homes and businesses. The ARRA Broadband Stimulus has designated two categories of infrastructure: Last Mile and Middle Mile.

Make-Ready – Everything that needs to be done to make a facility ready to receive the fiber-optic cable or similar preparations necessary to build fiber along a given route. This could include: permitting, masonry, electrical work, moving existing cabling to make room for new attachments.

MAN– A Metropolitan Area Network (MAN) is a network spanning a physical area larger than a LAN but smaller than a WAN, such as a city. A MAN is typically owned and operated by a single entity such as a government body or large corporation.

Mbps – Megabits per second, one million bits per second. 1,000,000 bits per second.

Middle Mile – Middle Mile refers to an infrastructure project that feeds Last Mile infrastructure, often supplying bandwidth and a connection to a comprehensive backbone, demarc, Tier 1 Internet point of presence or hub.

PARCC – The Partnership for Assessment of Readiness for college and Careers (PARCC) is a 22-state consortium working to develop next-generation K-12 assessments in English and math.

Point of Presence (PoP) – An Internet point of presence is an access point to a carrier's network or the Tier 1 Internet. It is a physical location that houses servers, routers and other technical equipment. It may be housed in either part of the facilities of a telecommunications provider that the ISP rents or a location separate from the telecommunications provider. ISPs typically have multiple POPs, sometimes numbering in the thousands. POPs are also located at NAPs, IXPs and collocation centers.

Right of Way (ROW) – The privilege of someone to pass over land belonging to someone else. In the context of fiber construction, ROWs need to be obtained to build fiber on public roads—both local municipalities and Michigan Department of Transportation.

Router – A router is a device or, in some cases, software in a computer, that determines the next network point to which a packet should be forwarded toward its destination. The router decides which way to send each information packet based on its current understanding of the state of the networks it is connected to.

SETDA – The State Education Technology Director's Association (SETDA) was formed in 2001 as a non-profit organization representing U.S. state and territorial educational technology leaders. SETDA increases the capacity of state and national leaders to improve education through technology policy and practice recommendations.

Sheath – Similar to conduit, the sheath is an outer casing that encloses multiple strands of electric wire or fiber-optic cable.

Slack Loop – Excess fiber between coil-line equipment. The slack loop provides additional fiber along the path to be used for fiber repairs, splices, etc.

STEM Works – STEM Works is an initiative of Governor Beebe's Workforce Cabinet that seeks to transform science, technology and math education in Arkansas by promoting rigorous project- and problem-based STEM courses in secondary schools and training a new cadre of STEM teachers through Arkansas universities.

Switch – A network device that filters and forwards a piece of a message (also called packets) between network segments.

TESS – The Arkansas Teacher Excellence and Support System (TESS) is a Web-based system that supports high quality classroom instruction and high quality instructional leadership by Provide an linking

teacher evaluation with curricular standards, professional development activities, targeted support and more.

Tier 1 Internet – With the advent of broadband as a telecommunications resource, the first model of the Internet that emerged involved a number of Tier 1 Internet providers connecting to one another and forming a central trunk or superhighway that allowed a user to access any site anywhere on the globe. ISPs functioned as commercial on-ramps to the superhighway and charged users for access and bandwidth. Today, traffic on the Tier 1 Internet is decreasing as more and more traffic is retained by Regional networks that offer users better connections to content that is stored closer.

Video conferencing – Provides real-time interactive video and audio to a distributed number of participants simultaneously.

Voice over Internet Protocol (VoIP) – Technology that enables broadband users to send and receive telephone calls over the Internet.

WAN – A Wide Area Network (WAN), as the term implies, spans a large physical distance. It is a geographically-dispersed collection of LANs. Routers connect LANs to a WAN. A WAN differs from a LAN in several important ways. Most WANs (like the Internet) are not owned by any one organization but rather exist under collective or distributed ownership and management. WANs tend to use technology like ATM, Frame Relay and X.25 for connectivity over the longer distances.

WISP – Short for Wireless Internet Service Provider, WISPs offer Internet connection services to subscribers using a wireless connection.