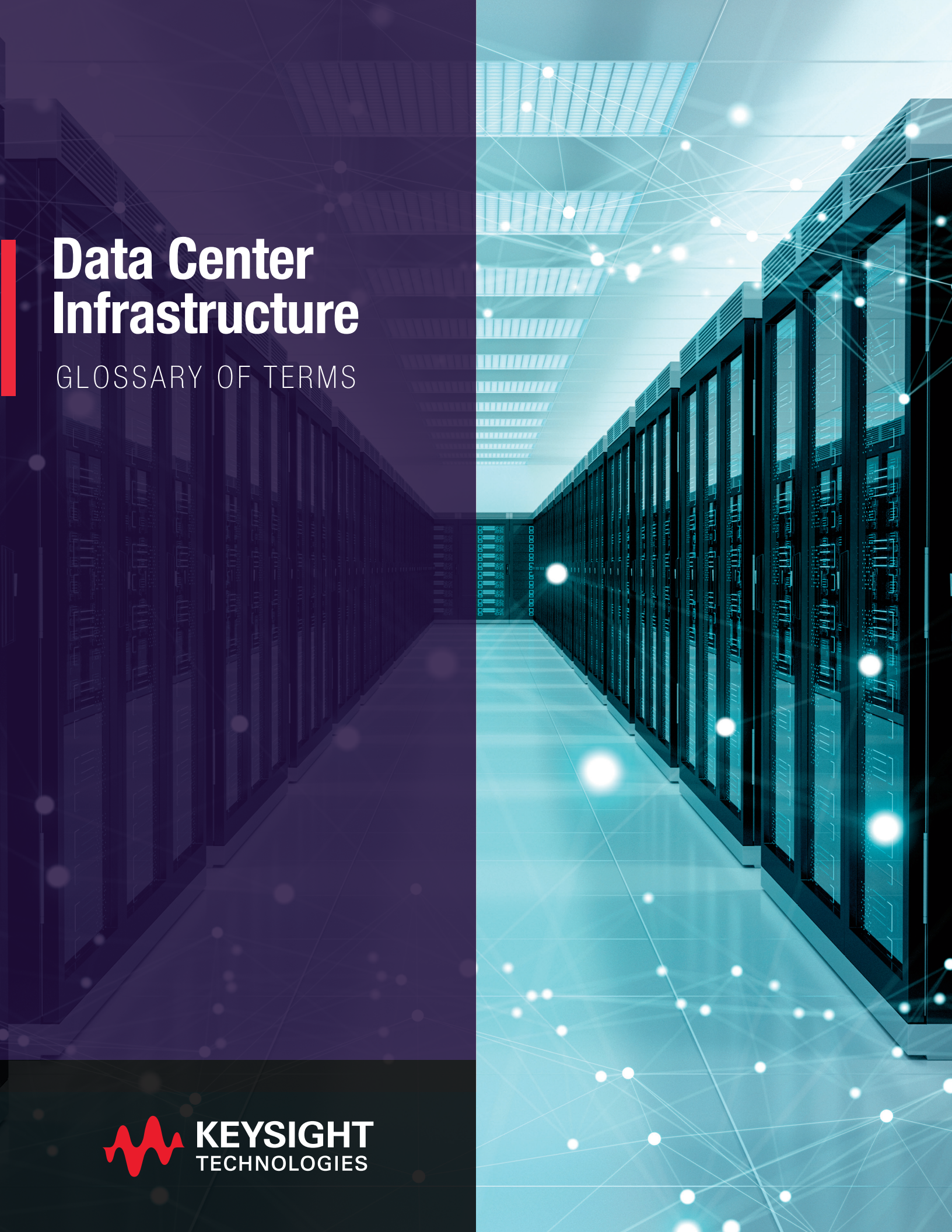




Data Center Infrastructure

GLOSSARY OF TERMS



KEYSIGHT
TECHNOLOGIES

Common Terms & Acronyms

Access Node Control Protocol (ANCP)

A Layer 2 TCP protocol that facilitates communication between an access node, such as a digital subscriber line access multiplexer (DSLAM), and a Layer 3 subscriber-aware controller, such as a broadband remote access server (BRAS) or network-attached storage (NAS).

Access Point (AP)

A hardware device that acts as a communication hub for wireless device users to connect to a wired local area network (LAN).

Active Optical Cable (AOC)

A high-performance, low power consumption cable that uses the same electrical inputs as a traditional copper cable, but with optical fiber between the connectors and electrical-to-optical conversion on the cable ends.

Application and Threat Intelligence (ATI)

Threat intelligence data, gathered and distributed in real time, containing up-to-the-moment network security and application security information that can be utilized by network infrastructure.

Application Performance Monitoring (APM)

Area of information technology (IT) that ensures software application programs perform as expected by measuring and monitoring service-level agreements to provide end users with a high quality of experience.

Artificial Intelligence (AI)

The simulation of human intelligence by machines or computer systems.

Asynchronous Transfer Mode (ATM)

A communication protocol that encodes data into cells using asynchronous time-division multiplexing. It is used in telecommunications networks to carry integrated voice, data and video data.

Arbitrary Waveform Generator (AWG)

Electronic test equipment used to generate electrical waveforms. An AWG is often used in the design and troubleshooting of electronic circuits.

Base Station Controller (BSC)

A mobile network element that provides control functions to one or more base transceiver stations (BTS). The BSC is responsible for radio network management, hand-off functions and cell configuration data.

Base Transceiver Station (BTS)

The BTS connects user equipment (UE), such as mobile devices, to the mobile network. Commonly referred to as a cellphone tower, it is a fixed radio transceiver that sends and receives radio signals to mobile devices and converts them to digital signals to transmit over the internet.

Bidirectional (BIDI)

Often used in optical communications to describe a single strand of optical fiber that can transmit data in both directions.

Bit Error Ratio (BER)

The measure of the percentage of bits received with errors, due to noise or interference, divided by the number of bits transmitted. The BER is calculated by comparing the transmitted sequence of bits to the received bits and counting the number of errors.

Bit Error Ratio Test (BERT)

Electronic test equipment that includes a pattern generator and an error detector to measure BER in a data transmission system. A BERT is used to perform design verification, characterization, compliance and manufacturing test of high-speed communication ports for ASICs, components, modules and line-cards in the semiconductor, computer, storage and communication industry.

Bidirectional Forwarding Detection (BFD)

A network protocol that detects link failures in a bidirectional network. It provides fast forwarding path failure detection times and works in a variety of network environments using various network protocols.

Border Gateway Protocol (BGP)

An internet protocol for routing data between network gateways.

Broadband Network Gateway (BNG)

Establishes and manages subscriber sessions and is the first node for a subscriber to access a network service. When a connection is established between the BNG and customer premises equipment (CPE), the subscriber can access the broadband services provided by the network or internet service provider (ISP).

Broadband Remote Access Server (BRAS)

A specialized server in an ISP network that converges the output traffic from multiple digital subscriber line access multiplexers (DSLAMs) and routes it to the ISP network.

Cache Coherent Interconnect for Accelerators (CCIX)

An interconnect standard specified by the CCIX Consortium, that extends the benefits of cache coherent peer processing to many acceleration devices including FPGAs, GPUs, network/storage adapters, intelligent networks and custom ASICs.

Central Processing Unit (CPU)

A hardware device in a computer that executes all the instructions from the software.

C Form Factor Pluggable (CFP)

A hot pluggable form factor for optical transceivers specified by the multi-source agreement (MSA) organization. It supports a variety of data rates and protocols and is usually used in long-reach applications such as 100G Ethernet (GE), SONET/SDH and Optical Transport Network (OTN).

Chirp Managed Laser (CML)

An optical transmitter technology that is often used in high-performance applications. It uses a directly modulated laser (DML) and an isolated passive optical filter and uses less power than externally modulated transmitters.

Coarse Wavelength Division Multiplexing (CWDM)

A wavelength division multiplexing (WDM) technology that combines several signals at different wavelengths (up to 16) for simultaneous transmission over a single optical fiber.

Consortium for On-Board Optics (COBO)

A group of industry leading companies developing specifications for the use of board-mounted optical modules in the manufacturing of networking equipment. They have also developed a COBO form-factor for pluggable optical transceivers with on-board optics to support 400GE and 800GE.

Coherent (COH)

A form of optical transmission that uses complex modulation of the amplitude and phase of light to transmit a signal through a fiber optic cable.

Command Line Interface (CLI)

A text-based interface to interact with a computer application or operating system.

Commercial Off-The-Shelf (COTS)

General purpose hardware or software that is commercially available.

Common Public Radio Interface (CPRI)

An industry cooperation aimed at defining publicly available specifications for the key internal interface of radio base stations, such as eCPRI.

Connectivity Fault Management (CFM)

A standard that defines protocols for the operation, administration and management (OAM) of Ethernet networks. It is comprised of the following three protocols: Continuity Check Protocol (CCP), Link Trace (LT), and Loop-Back (LB).

Content Delivery Network (CDN)

A geographically distributed network of caching proxy servers deployed in multiple data centers that work together to accelerate the delivery of content to internet-connected devices.

Customer Edge (CE)

The router at the customer premises that provides an Ethernet interface from the customer's network to the provider edge router (PER).

Customer Premises Equipment (CPE)

Telephone or other service provider equipment that is located at the customer's physical location.

Data Center Bridging (DCB)

A collection of open standards-based enhancements to Ethernet that extend networking and management functions to the data center.

Data Center Bridging Capability Exchange Protocol (DCBX)

Discovery and exchange protocol for communicating configuration and capabilities between directly connected peers to ensure consistent configuration across the data center network.

Data Center Interconnect (DCI)

Refers to the network connections within a data center (intra-DCI) or between two or more data centers (inter-DCI).

Data Center Networking (DCN)

The process of interconnecting all data center resources together.

Decision Feedback Equalization (DFE)

A technique to improve the quality of a transmitted signal that uses the voltage levels of other bits to correct the voltage level of the current bit.

Dense Wavelength Division Multiplexing (DWDM)

A wavelength division multiplexing (WDM) technology that combines several signals at different wavelengths (up to 80) for simultaneous transmission over a single optical fiber.

Device Under Test (DUT)

Device under test (DUT), equipment under test (EUT) and unit under test (UUT) are terms used to refer to a device being subjected to one or more tests.

Digital Subscriber Line (DSL)

High-speed technology that brings the internet to homes and small businesses over standard copper telephone lines.

Digital Subscriber Line Access Multiplexer (DSLAM)

A network device that connects multiple customer DSL connections to the internet using multiplexing techniques.

Direct Attach Copper (DAC)

A 10GE copper cable that is classified as either passive DAC or active DAC. A passive DAC contains no active components and provides a direct electrical connection at each end. An active DAC has optics or electronics embedded within the connectors.

Domain Name System (DNS)

A collection of servers across the internet that store and provide lookup services for domain names, mapping them to an internet protocol (IP) address that a computer uses to locate a website.

Double Data Rate (DDR) SDRAM

A type of computer memory that can transfer data twice as fast as regular SDRAM chips since it can send and receive signals twice every clock cycle. There are different generations of DDR technology such as DDR, DDR2, DDR3 and DDR4, each with progressively faster data rates and clock frequencies. Low power DDR generations such as LPDDR1, LPDDR2, LPDDR3, LPDDR4 are targeted for mobile devices.

Dual-Stack Lite (DS Lite)

A technology that enables service providers to transition from Internet Protocol version 4 (IPv4) to Internet Protocol version 6 (IPv6). When a device in the customer's network sends a packet to an external destination, the IPv4 packet is encapsulated in an IPv6 packet for transport into the provider's network.

Dynamic Circuit Network (DCN)

Network technology that is based on the Internet Protocol (IP) but that uses elements of classic packet-switched communications.

Dynamic Host Configuration Protocol (DHCP)

A communication protocol used by network administrators to centrally manage and automate the network configuration of devices attaching to an IP network.

eCPRI Radio Equipment (eRE)

Radio equipment (RE) included in the eCPRI specification.

eCPRI Radio Equipment Control (eREC)

Radio equipment control (REC) included in the eCPRI specification.

Enhanced Common Public Radio Interface (eCPRI)

An enhancement to the CPRI standard used in 5G wireless technology that defines the specification which connects the eREC and eRE in the fronthaul transport network.

Ethernet Alliance (EA)

A global, non-profit industry consortium that promotes and supports Ethernet technology.

Ethernet Private Line (E-Line or EPL)

A data service that provides a point-to-point Ethernet virtual connection (EVC) between a pair of dedicated user-network interfaces (UNIs).

Ethernet Transparent Local Area Network (E-LAN)

Multipoint-to-multipoint service that connects two or more user-network interfaces (UNIs), providing full mesh connectivity for those sites.

Ethernet Virtual Private Line (EVPL)

High-capacity multipoint connectivity that enables an EVC between multiple customer locations.

European Basic Multiplex Rate (E1)

European standard that defines the physical characteristics of a transmission path for digital telecommunications. It has an overall bandwidth of 2048 kilobit per second (kbps) and provides 32 channels, each supporting a data rate of 64 kbps.

European Telecommunications Standards Institute (ETSI)

Independent, non-profit, standards developing organization for information and communication technologies.

eXtended-Capability Pluggable (CXP)

A compact, hot pluggable transceiver form-factor for short reach, high-density computing, InfiniBand and 100GE applications in the data center.

Fiber Channel (FC)

A high-speed network technology that typically runs on optical fiber cables, primarily used in storage area networks (SANs) in commercial data centers to form a switched fabric that operates in unison as one big switch.

Fiber Channel over Ethernet (FCoE)

Storage protocol that enables Fiber Channel communications to run directly over Ethernet.

Forward Error Correction (FEC)

An advanced coding technique used for controlling and mitigating errors in data transmission over unreliable or noisy communication channels. The required information to correct errors is sent through the link along with the payload data.

Frame Loss Ratio (FLR)

A block of data with a fixed size is referred to as a symbol. Symbols are grouped together into a frame. FLR is the measure of the percentage of frames not delivered, divided by the number of frames sent during transmission in a network.

Gateway GPRS Service Node (GGSN)

A part of the mobile core network that connects GSM-based third generation (3G) networks to the internet. The GGSN, sometimes known as a wireless router, works in tandem with the serving GPRS support node (SGSN) to keep mobile users connected to the internet and IP-based applications.

General Packet Radio Service (GPRS)

A wireless communication service that provides data features in a GSM network.

Gigabit Ethernet (GE)

Defined by the Institute of Electrical and Electronics Engineers (IEEE) 802.3-2008 standard to describe transmission of Ethernet frames at a rate of 1 billion bits per second (Gb/s).

Gigabits per Second (Gbps or Gb/s)

A data transmission speed that is measured in billions of bits per second.

Global System for Mobile Communications (GSM)

An ETSI-defined standard that defines protocols for 2nd generation (2G) cellular networks.

GPRS Tunneling Protocol (GTP)

An IP-based protocol designed to carry GPRS within mobile core networks, allowing seamless subscriber mobility.

GTP Session Controller (GSC)

Advanced network packet broker (NPB) that performs deep packet inspection to enable subscriber-aware load balancing, filtering, and sampling of traffic.

High Availability (HA)

Refers to fully tested systems that usually have redundancy or fail-over mechanisms in case of failure to ensure that they operate continuously.

High-Speed Serial Interface (HSSI)

A differential emitter-coupled logic (ECL) serial interface standard primarily for use in wide-area network (WAN) router connections. It is capable of speeds up to 52 megabits per second (Mb/s) with cables up to 50 feet (15 m.) in length.

Institute of Electrical and Electronics Engineers (IEEE)

An international non-profit organization of technical professionals with more than 420,000 members in over 160 countries around the world. Its objectives are the educational and technical advancement of electrical and electronic engineering, telecommunications, computer engineering, and allied disciplines.

Integrated Services Digital Network (ISDN)

A communication protocol that digitizes voice, video and data signals to simultaneously transmit over a traditional public switched telephone network.

Intermediate System to Intermediate System (IS-IS)

A link-state interior gateway routing protocol commonly used in the backbone of large service provider networks.

International Committee for Information Technology Standards (INCITS)

International forum dedicated to creating technology standards for next-generation technologies such as Cloud computing, IoT, and Serial Attached SCSI (SAS).

International Telecommunication Union Telecommunications Standard (ITU-T)

International standards that define elements in the global infrastructure of information and communication technologies (ICTs).

Internet Control Message Protocol (ICMP)

Part of the Internet Protocol (IP) suite used by network devices to send error messages and operational information to the source IP address.

Internet Gateway Message Protocol (IGMP)

An internet protocol used in IPv4 networks to enable a computer to report its multicast group membership to adjacent routers.

Internet Key Exchange (IKE)

Protocol used within the Internet Security Protocol (IPSec) suite to exchange decryption/encryption keys between the host and endpoint.

Internet of Things (IoT)

Internetworking of physical devices (also referred to as “connected devices” and “smart devices”), vehicles, buildings, and other items embedded with electronics, software, sensors, actuators, and network connectivity, which enables these objects to collect and exchange data and control information.

Internet Protocol (IP)

A communication protocol suite used to send data from one computer to another on the internet. It is commonly referred to as TCP/IP.

Internet Protocol Multimedia Subsystem (IMS)

An integrated framework developed by 3GPP to deliver IP services over wireless or landlines.

Internet Protocol Security (IPSec)

Suite of protocols for securing IP communications at the network layer (Layer 3 of the Open Systems Interconnection (OSI) model). IPSec also includes protocols for cryptographic key establishment.

Internet Protocol Television (IPTV)

Delivery of television content using signals based on IP, rather than through traditional terrestrial, satellite signal, and cable TV formats.

Internet Protocol Version 4 (IPv4)

Fourth revision of the IP and a widely used protocol in data communication over different kinds of networks. IPv4 is a connectionless protocol used in packet-switched layer networks such as Ethernet.

Internet Protocol Version 6 (IPv6)

The successor to IPv4 that provides a much larger IP address pool to allow many more devices to connect to the internet. IPv6 utilizes 128 bits per address, as opposed to IPv4 that utilized only 32 bits per address.

Internet Service Provider (ISP)

A company that provides internet service to residential and commercial customers.

Internet Small Computer Systems Interface (iSCSI)

An IP-based standard that enables storage devices to carry SCSI commands over the TCP/IP network.

Kernel Virtual Machine (KVM)

A Linux kernel module that uses virtualized extensions to create virtual machines within Linux.

Label Distribution Protocol (LDP)

A multiprotocol label switching (MPLS) protocol that enables peer routers to exchange label mapping information.

Label Switched Path (LSP)

A one-directional path for traffic through an MPLS network.

Layer (L)

The Open Systems Interconnection (OSI) network model has 7 layers: Physical Layer 1, Networking Protocols Layers 2/3, and the Application Layers 4-7. Each layer serves the layer above it and is served by the layer below it.

Lightweight Directory Access Protocol (LDAP)

An industry standard protocol that runs on a layer above the TCP/IP stack to access and maintain directory information over an IP network.

Link Aggregation Control Protocol (LACP)

A protocol in the IEEE 802.3ad standard that lets devices send Link Aggregation Control Protocol Data Units (LACPDU) to each other.

Local Area Network (LAN)

A computer network of interconnected devices located near each other, such as within a building or group of buildings.

Long Term Evolution (LTE)

Standards for fourth generation (4G) compliant radio access technology defined by the 3GPP network.

Media Access Control (MAC)

Part of the data link layer (Layer 2) of the OSI network model that transmits data to and from the network interface card.

Metro Ethernet Forum (MEF)

Founded in 2001, it is a non-profit organization composed of service providers, network equipment vendors, etc. that defines standards for the interoperability of Carrier Ethernet networks and services.

Mobility Management Entity (MME)

Key control node for the LTE access network that supports user authentication and configures mobility session management.

Multicast Label Distribution Protocol (MLDP)

Protocol used to carry multicast traffic in point-to-multipoint (P2MP) and multipoint-to-multipoint (MP2MP) label switched paths (LSPs) in MPLS networks.

Multicast Listener Discovery Protocol (MLD)

A protocol used by IPv6 routers to discover multicast listeners that want to receive a particular data stream on a direct attached link.

Multicast Virtual LAN (VLAN) Registration Protocol (MVRP)

A Layer 2 network protocol for automatic configuration of virtual local area network (VLAN) information on switches.

Multi-Link Point-To-Point Protocol (MLPPP)

A communication protocol that is used to combine multiple physical ports or channels together into a single logical port with greater bandwidth.

Multiple Input Multiple Output (MIMO)

The use of multiple transmit and receive antennas to provide better signal performance and higher data rates for wireless communications.

Multiple Spanning Tree Protocol (MSTP)

An IEEE 802.1s standard that enables two or more VLANs to be assigned to a single spanning tree instance.

Multiprotocol Label Switching (MPLS)

A packet-forwarding technique that uses labels, rather than long network addresses, to direct data from one network node to another.

Multiprotocol Label Switching-Transport Profile (MPLS-TP)

An extension of the MPLS protocol that is used in packet switched data networks.

Neighbor Discovery Protocol (NDP)

Part of the IPv6 protocol operating in the Link Layer that allows neighboring nodes to advertise their existence and discover their neighbors.

Network Access Control (NAC)

A method to enforce network security policies for devices connecting to a network.

Network Address Translation (NAT)

A method used by network devices, such as a firewall, to reassign one IP address to another IP address by modifying the header of an IP packet. NAT can be combined with network address and port translation (NAPT) to assign a single public IP address to a group of computers that need to connect to the internet, also known as IP masquerading.

Network-Attached Storage (NAS)

A storage device attached to a computer network that allows access to data retrieval and storage for connected network users through an assigned network address.

Network Equipment Manufacturer (NEM)

Companies that sell network equipment product and services to communications service providers (SP) or enterprises.

Network Functions Virtualization (NFV)

Network functions virtualization is a network architecture concept that automates entire classes of network node functions into building blocks that may connect, or chain together, to create communication services.

Non-Return to Zero (NRZ)

A form of pulse amplitude modulation (PAM) signaling that has two amplitude levels with 1 bit of information per symbol. Also referred to as PAM2 signaling.

Octal Small Form-Factor Pluggable (OSFP)

A compact, hot pluggable transceiver form-factor with 8 lanes (8x50 Gb/s) used in 400GE applications.

Open Daylight (ODL)

An open source project created by the Linux Foundation to promote SDN and NFV.

Open Shortest Path First (OSPF)

A link-state IP routing protocol used to find the best path for packets as they pass through a set of connected networks.

OpenStack

An open source software platform used to build and manage cloud networks.

Open Systems Interconnection (OSI)

The OSI network model is a conceptual reference model to describe network communications. It is divided into 7 layers: Physical Layer 1, Networking Protocol Layers 2/3, and the Application Layers 4-7.

Operation Support System (OSS)

A group of software programs used by service providers to monitor, control, analyze and manage their network services.

Operations Administration and Maintenance (OAM or OA&M)

A protocol for the operation, administration and maintenance functions of an Ethernet network.

Optical Internetworking Forum (OIF)

A non-profit consortium founded in 1998 that promotes the development and deployment of interoperable networking solutions and services for optical networking products.

Optical Transport Network (OTN)

An industry-standard protocol that provides performance monitoring, error correction and management functions for optical fiber networks.

Over the Top (OTT)

The delivery of content or services, for example Netflix, over the internet.

Packet Data Network (PDN)

A network that provides data services such as the internet.

Passive Optical Network (PON)

A fiber-optic access network that uses optical splitters to provide optical signals to multiple end users from a single optical fiber.

Packet Over Synchronous Optical Networking (POS)

Communication protocol for transmitting digital packets over synchronous optical networking (SONET) frames.

Path Maximum Transmission Unit (PMTU)

The maximum size of a packet supported by a network path.

Peripheral Component Interconnect (PCI)

A computer expansion bus standard, introduced by Intel in 1992, used to connect a computer processor to a peripheral device.

Peripheral Component Interconnect Express (PCIe®)

A computer expansion bus standard, replacing the older PCI and PCI-X bus standards, designed to allow for faster exchange of data between a computer processor and peripheral devices. Official abbreviations are PCIe® or PCI Express®. The PCIe specification is developed and maintained by the PCI-SIG.

Peripheral Component Interconnect eXtended (PCI-X)

A computer expansion bus standard that enhances the 32-bit PCI local bus for higher bandwidth demanded mostly by servers and workstations.

Peripheral Component Interconnect Special Interest Group (PCI-SIG)

An industry consortium responsible for specifying the PCI, PCI-X, and PCI Express computer bus standards.

Peer-to-Peer (P2P)

A decentralized communication model that shares workload or computing tasks between peer computers in a network.

Phase-Locked Loop (PLL)

An electronic circuit with a voltage controlled oscillator (VCO) and a phase comparator that constantly adjusts to match the frequency of an input signal.

Point-to-Point Protocol (PPP)

A Layer 2 datalink protocol that is used establish a point-to-point link between two nodes in a network.

Point-to-Point Protocol over ATM (PPPoA)

A Layer 2 datalink protocol typically used to encapsulate PPP frames over ATM.

Point-to-Point Protocol over Ethernet (PPPoE)

A Layer 2 datalink protocol typically used to encapsulate PPP frames over Ethernet.

Policy and Charging Rules Function (PCRF)

A software node that determines in real time the policy rules in a multimedia network.

Power Integrity (PI)

The analysis of how effectively power is converted and delivered from the source to the load within a system.

Protocol Independent Multicast (PIM)

A group of multicast routing protocols that sends data from a single point to multiple points in an IP network.

Provider Backbone Bridge (PBB)

A bridging technology that defines protocols for the interconnection of multiple provider bridge networks.

Provider Edge Router (PER)

A router that sits on the edge of an ISPs network and is part of a MPLS architecture.

Pseudo-Wire Emulation Edge to Edge (PWE3)

Emulation of point-to-point connection services over a packet switched network.

Public Data Network Gateway (PDN-GW)

Provides IP addresses to user equipment and connectivity to external packet data networks.

Public Switched Telephone Network (PSTN)

The collection of interconnected worldwide circuit-switched telephone networks. It is also referred to as plain old telephone service (POTS).

Pulse Amplitude Modulation (PAM)

A form of signal modulation in which data is transmitted by varying the amplitude of pulses proportional to the instantaneous amplitude of the message signal. PAM4 is multilevel signaling that uses 4-level PAM modulation with two bits of information per symbol. PAM4 doubles the data rate of NRZ signaling.

QoS Class Identifier (QCI)

An identifier defined by the 3GPP LTE standard to specify the quality of service of packet communications.

Quad (4-channel) Small Form-Factor Pluggable (QSFP)

A compact, hot pluggable transceiver used in high-density data communications applications such as InfiniBand, Fiber Channel, Ethernet and SONET/SDH. There are different variants of QSFP, including: QSFP+, QSFP28, QSFP56 and QSFP-DD.

Quality of Experience (QoE)

A measure of a customer's level of satisfaction with a service or vendor.

Quality of Service (QoS)

A measure of the overall performance of a network service.

Rack Unit (RU)

A standard measure used to indicate the height of rack mounted network equipment. One rack unit is abbreviated as "1U" and is equal to 1.75 inches or 44.5 millimeters.

Radio Equipment (RE)

Radio equipment is a basic building block of the radio base station that contains analog radio frequency (RF) functions.

Radio Equipment Control (REC)

Radio equipment control is a basic building block of the radio base station that contains the radio functions of the digital baseband domain.

Radio Network Controller (RNC)

The main element in the UMTS radio access network (UTRAN) that handles critical functions of the base transceiver station (BTS).

Random Multiple Access (RMA)

Algorithms used to control channel access between distributed users in existing and new generation networks.

Real Time Control Protocol (RTCP)

A control protocol that works with real time transport protocol (RTP) to monitor and provide statistics of data delivery on multicast networks.

Real Time Transport Protocol (RTP)

A network protocol that specifies transmission of real time multimedia data, such as audio and video, over an IP network.

Reed Solomon (RS)

The most common coding scheme used in data center networking links employing FEC. It was originally developed in 1960s by Irving Reed and Gustav Solomon for use in satellite data links.

Remote Authentication Dial-In User Service (RADIUS)

A networking protocol that enables authentication, authorization, and accounting (AAA) management access to a network access service (NAS).

Remote Network Monitoring (RMON)

A standard that enables remote management of network equipment in multiple locations.

Representational State Transfer (REST)

A network architecture style that provides standards for computers to communicate and interoperate with one another on the internet.

Resource Reservation Protocol-Traffic Engineering (RSVP-TE)

A transport layer protocol that supports the reservation of resources across an IP network.

Routing Information Protocol (RIP)

A distance-vector IP routing protocol that prevents routing loops by limiting the number of hops allowed in a network path from source to destination.

Routing Information Protocol Next Generation (RIPng)

The next generation of RIP that supports IPv6.

Secure Real-Time Transport Protocol (SRTP)

An extension of RTP that provides enhanced security features such as encryption, message authentication and integrity.

Secure Socket Layer (SSL)

An older computer networking protocol used to secure connections between network application clients and servers over an insecure network, such as the internet.

Serial Advanced Technology Attachment (SATA)

A computer bus interface that connects storage devices or optical drives to a computer. SATA is the evolution of the parallel advanced technology attachment (ATA) physical storage interface from a parallel bus to a serial bus architecture.

Serial Attached SCSI (SAS)

A point-to-point serial protocol that replaces parallel SCSI bus technology to move data to and from computer storage devices.

Software Defined Network (SDN)

A network architecture that enables network management and control through programmable, centrally controlled applications.

Service Level Agreement (SLA)

A level of service agreement established between a service provider and an end user.

Serving GPRS Service Node (SGSN)

The main component on the GPRS network that is responsible for handling packed switched data in the network.

Service Provider (SP)

An organization that provides cellular or local exchange telecom services, Cloud data center networking services, or other internet services.

Session Announcement Protocol (SAP)

An experimental protocol responsible for the broadcasting of multicast session information.

Session Border Controller (SBC)

A network function that provides voice over internet protocol (VoIP) signaling control and optionally media session control.

Session Initiation Protocol (SIP)

A communication protocol for signaling and controlling multimedia communication sessions.

Signaling Gateway (SGW)

A network component responsible for transferring signaling messages between common channel signaling (CCS) nodes.

Signal Integrity (SI)

The measure of the quality of an electrical signal. Electrical signal quality tends to be degraded at high bit rates and over longer distances which cause errors to occur and the system or device to fail.

Signal-to-Noise Ratio (SNR)

A measure of the ratio of the amplitude of a signal to the amplitude of the noise in a transmission channel.

Signaling System 7 (SS7)

A set of signaling protocols that define how network elements in a public switched telephone network (PSTN) exchange information with one another. It is typically used to setup and tear down phone calls.

Signaling Transport (SIGTRAN)

A telephony protocol used to transport SS7 signals over the internet.

Simple Network Management Protocol (SNMP)

A protocol for IP network management that provides a standard way to monitor, configure and manage hardware and software from various manufacturers.

Small Computer System Interface (SCSI)

A set of parallel interface standards developed by the American National Standards Institute (ANSI) to attach peripheral devices to computers. It has since been replaced by SAS.

Small Form-Factor Pluggable (SFP)

A compact, hot-pluggable optical module transceiver used in telecommunication and data communications for Ethernet and Fiber Channel applications.

Software-Defined Networking (SDN)

A network architecture that enables software programmable network control of a virtualized network infrastructure.

Software-Defined Wide-Area Network (SD-WAN)

An extension of SDN applied to WAN connections.

Spanning Tree Protocol (STP)

A network protocol that provides redundancy while preventing bridge loops in the network.

Storage Area Network (SAN)

A type of LAN that provides access to consolidated data storage.

Symbol Error Ratio (SER)

The measure of the percentage of symbols received with errors, due to noise or interference, divided by the number of symbols transmitted.

Synchronous Dynamic Random-Access Memory (SDRAM)

Volatile memory that is synchronized with the clock speed of the CPU and used for short term storage of data being processed.

Synchronous Optical Networking (SONET)

A digital communication protocol that uses fiber optics to transmit large amounts of data over relatively long distances.

System on a Chip (SoC)

An integrated circuit that integrates electronic system components into a single silicon chip.

System Under Test (SUT)

A system that consists of one or more DUTs that is being tested for correct operation.

Testing as a Service (TaaS)

Outsourcing of testing services to a service provider.

Third Generation Partnership Project (3GPP)

A group of telecommunication standards organizations that developed specifications for third generation (3G) mobile systems.

Time Domain Reflectometry (TDR)

A method of measurement using a fast step generator and a receiver to measure either transmission or reflection.

Transmission Control Protocol/Internet Protocol (TCP/IP)

A communication protocol suite used to send data from one computer to another on the internet. It is comprised of two of the most common protocols - the transmission control protocol (TCP) and the internet protocol (IP).

Transmitter Dispersion and Eye Closure (TDEC)

An optical transmitter characterization measurement of the vertical eye closure (mainly due to inter-symbol interference) after transmission over an optical fiber with the worst-case dispersion.

Transmitter Dispersion and Eye Closure Quaternary (TDECQ)

A TDEC variant that is expanded for all three sub-eyes in an equalized PAM4 signal.

Transport Layer Security (TLS)

New updated version of the SSL protocol that is used for the encryption of data communications.

Twisted Pair Ethernet (10BaseT)

Two pair of insulated copper wires each twisted together that form a system to transmit and receive data in physical Layer 1 of an Ethernet network.

Unified Communications (UC)

A set of products sold as a single communication platform that provide a consistent unified user interface across multiple devices.

Unit (U)

A measurement for rackmount equipment (1U is 1.75 in or 4.44 cm).

User Datagram Protocol (UDP)

An alternative communication protocol to TCP used to quickly send short messages, called datagrams, between computer applications in a network. Unlike TCP datagrams, UDP datagrams are unreliable – there is no guarantee or acknowledgement that they arrived at their destination.

User Equipment (UE)

A class of wireless user equipment designed for consumers such as a smart phone, laptop or tablet.

User Interface (UI)

A user interface that enables a user to interact with a computer system.

Universal Mobile Telecommunications System (UMTS)

A third generation (3G) mobile communication system defined by 3GPP.

Universal Serial Bus (USB)

An industry standard, developed by the Universal Serial Bus Implementers Forum (USB-IF), which defines standard interfaces between computers and peripherals.

Universal Serial Bus Implementers Forum (USB-IF)

A non-profit corporation, founded by the group of companies that developed the USB specification, to facilitate the development of USB devices and promote compliance testing.

Virtual Circuit Connectivity Verification (VCCV)

A control channel that verifies end-to-end connectivity of a pseudowire.

Virtual Local Area Network (VLAN)

A group of interconnected computers or devices from different physical LANs.

Virtual Machine (VM)

Hardware and software functionality that provides a run-time environment for a computer system. A given physical system may support many virtual machines at one time, each with a partitioned view, and a limited set of compute, storage, and memory resources.

Virtual Private LAN Segment (VPLS)

Telecom carrier-provided service that makes it possible for to connect LANs over the internet.

Virtual Private Network (VPN)

Extends private network functionality across a private network to ensure that sensitive data is safely transmitted over a less secure network.

Virtual Reality (VR)

A computer-generated simulation of the real-world environment that users can interact with using special equipment such as a headset, glasses, gloves, or jacket fitted with sensors.

Virtual Router Redundancy Protocol (VRRP)

An internet protocol that dynamically assigns a virtual backup router on a LAN.

Virtualized Network Function (VNF)

Code responsible for handling a specific network function in a virtual machine as part of an NFV system.

Voice over Internet Protocol (VoIP)

A technology that allows voice communication over a broadband internet connection.

Wavelength Division Multiplexing (WDM)

Wavelength division multiplexing (WDM) technology that combines several signals at different wavelengths for transmission over a single optical fiber.

Wide-Area Network (WAN)

A geographically distributed enterprise network that connects multiple LANs to allow users access to shared resources.

Wireless Local Area Network (WLAN)

Allows mobile users to connect to a LAN through a wireless radio connection.

Learn more at: www.keysight.com

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus

