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APPLIED INNOVATION

DATA SHEET
GLOSSARY OF TERMS

Glossary of Terms

Access Server

An Access Server or Network Access Server connects devices to a Local Area Network (LAN) or Wide Area Network (WAN). Internet Service Providers are able to provide customers with Internet connectivity using the Access Server. The server provides user authentication and permits the flow between the user host and hosts.

Active Directory (AD)

The Active Directory provides information on objects including services, resources and users. The AD allows the control of security settings and access to the objects.

ADSL

Asymmetric Digital Subscriber Line (ADSL) uses existing copper telephone lines to send and receive data at speeds that far exceed conventional dial-up modems. The technology is used to provide high-speed Internet access along the same line used for voice or telephony services. ADSL maximum data transfer rates differ for uploading and downloading data.

Applications

Applications are computer programs that have a user interface. An application is so named because the program is designed for a specific task or application for the user. Email programs, web browsers and computer games are examples of applications.

Backbone

The backbone of a Network refers to infrastructure that interconnects multiple Networks and provides a route for the highspeed exchange of data between different Networks. The backbone can interconnect different Networks of dispersed devices in offices for example. Local Area Networks can be interconnected over a backbone to provide a Wide Area Network.

Bandwidth

Bandwidth refers to the size of a data connection's capacity. Bandwidth is usually measured in kilobits per second (Kbps), Megabits per second (Mbps) or Gigabits per second (Gbps).

Business Continuity

Task of identifying, developing, acquiring, documenting, and testing procedures and resources that will ensure continuity of a firm's key operations in the event of an accident, disaster, emergency, and/or threat.

Circuit

A physical circuit is a wire or a part of a wire which provides a communications route between two or more points on a Network. The circuit, sometimes described as a local loop connects a customer premise to a switch, router, multiplexer, or other device at the edge of a carrier or service provider Network.

Cloud Computing

Cloud Computing refers to a Network of remote servers hosted on the Internet rather than a local server or computer which are used to process, manage and store data. Cloud Computing is broken down into three common service levels: SaaS, PaaS and IaaS. See definitions.

Colocation

Colocation is where an organisation houses its servers in a server room in a third party Data Centre, and uses a service provider for the provision of Network connections such as Internet leased lines to several servers which are housed together in a server room.

Convergence

IP convergence is the consolidation of Networks (e.g. Voice, data, video) into a single platform lowering the cost of Networks and communications.

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Data Centre hosting

Data Centre hosting describes the hosting of Data Centres or databases on third party servers. Data Centre hosting is often done through colocation solutions and therefore avoids expensive on premise server and hardware purchases.

Desktop-as-a-Service

Desktop as a Service (DaaS) is a cloud service in which the back-end of a virtual desktop infrastructure is hosted by a cloud service provider. DaaS has a multi-tenancy architecture and the service is purchased on a subscription basis.

Direct Dial Inbound

DDI allows users to rent individual phone numbers without the need to rent individual lines. A single phone line is allocated to a range of numbers saving the expense of having a separate phone line for each number.

DWDM

DWDM (Dense Wavelength Division Multiplexing) is an optical multiplexing technology used to increase bandwidth over existing fibre networks. It works by combining and transmitting multiple signals simultaneously at different wavelengths on the same piece of fibre..

Ethernet Demarcation Device

An Ethernet Demarcation Device enables Ethernet services to enterprises and business subscribers. Owned by service providers and located at the customer premise, it provides a clear demarcation point between customer and service provider Networks.

As well as delivering managed services to customers with Quality of Service (QoS) control for each service, these devices have all the necessary carrier-class management and Operations, Administrations and Management functions essential for service providers to monitor Network health and performance up to the demarcation point.

Ethernet VPN

Ethernet VPN is a group of technologies used to provide Virtual Private Network services over the Internet between the Ethernet LANs. One of the Ethernet VPN technologies is based on Virtual Private LAN Services (VLPS) and Multiprotocol Label Switching (MPLS), which provides more benefits than other alternative Layer 2 or 3 VPN technologies.

Fibre Optics

Fibre Optics is a method for the transmission of data using optic fibre cable and light. Light is transmitted over high purity, hair-thin fibres of glass. The bandwidth capacity of fibre optic cable is much greater than that of conventional cable or copper wire.

Firewall

A Firewall is a protective security screen (hardware or software) that aims to protect Network devices from hostile intrusion, viruses or malicious activity over the Network. A corporate Network's traffic flows through the firewall and access to a corporate or private Network is granted or denied.

Gateway

The entrance and exit to a communications Network or system. Gateways are commonly used to connect computers on one Network with those on a long-distance Network.

Gigabit Ethernet

Gigabit Ethernet is a transmission technology based on the Ethernet protocol with speed tenfold over the fast Ethernet supporting a theoretical maximum data rate of 1000 Mbps or 1 Gbps. Ethernet operates at Layers 1 and 2 of the 7-layer Open Systems Interconnection (OSI) Networking model, delivering its data packets to any device connected to the Network cable.

Gigabits per Second

Gbps is a measure of the speed of data transfer in Networking.

Hosted PBX

Hosted PBX is an Internet Protocol (IP) based phone system which is hosted in a service provider's Data Centre removing the need for phone system hardware. Customer profiles are controlled via web-based browsers and can be edited by the end-user from an Internet connection.

Hunt Group

Multiple phones allocated to a single extension number which enable a call to be answered by any one person within a group. Calls will generally 'hunt' from one phone to another until answered.

Hybrid Cloud

The hybrid cloud is a mix of public cloud and private cloud services, maintained by both internal IT teams and external cloud computing providers. The hybrid cloud is the solution of choice for those users who need both a local server running specific applications and a cloud hosting service that offers additional applications, files, or databases. These elements are configured to operate together to make up the hybrid cloud solution.

Infrastructure as a Service (IaaS)

IaaS is the acronym for Infrastructure as a Service. IaaS describes the delivery of IT infrastructure such as servers and storage on demand over the Internet, through an outsourced IaaS service provider.

Integrated Services Digital

Network Integrated Services Digital Network (ISDN) a Network technology that provides digital transfer of simultaneous voice and data traffic and works over ordinary telephone lines.

Internet Protocol Address

Internet Protocol Address (IP Address) is a unique address in number format which every computer device has. The IP address enables computer devices to communicate with each other over an IP Network or the Internet. In order for data to be sent from one computer to another over the Internet, a data packet must be transferred across the Network containing the IP addresses of both devices. The unique IP address allows data to reach the right destination.

IPv4 and IPv6

Internet Protocol Version 4 (IPv4), is the most commonly used numbering system used to create IP addresses. IPv4 employs 32-bits of recombined digits and has a maximum of 4.3 billion possible addresses. IPv6 is a newer system for the creation of IP addresses. It uses 128 bits instead of 32 bits for its addresses, creating trillions of new IPv6 addresses, enough to support the demand for IP addresses for some expected time to come.

Latency

Latency is a time interval between the stimulation and response or, from a more general point of view, as a time delay between the cause and the effect of some physical change in the system being observed.

Leased Line

A Leased Line is a service contract between a provider and a customer, whereby the provider agrees to deliver a symmetric telecommunications line connecting two or more locations, in exchange for a monthly rent (hence the term lease). It is sometimes known as a 'Private Circuit' or 'Data Line' in the UK. Unlike traditional lines it does not have a telephone number, each side of the line being permanently connected to the other. Leased lines can be used for telephone, data or Internet services.

Load Balanced

Balancing a workload amongst multiple computer devices, for example, virtual servers or servers.

Local Area Network

A LAN is a data Network connecting devices including computers, printers and servers in one location for fast and secure internal communication.

Managed Hosting

A dedicated hosting service, dedicated server, or managed hosting service is a type of Internet hosting in which the client leases an entire server not shared with anyone else.

Megabit per Second

Megabit per second (Mbps) is a measure of the speed of data transfer in Networking.

Multiprotocol Label Switching

Multiprotocol Label Switching (MPLS) is a Networking technology which is used to route data packets over an IP Network. MPLS ensures that all packets in a particular flow take the same route over a backbone. When used for a corporate VPN / WAN, the technology eliminates the need to buy and manage multiple firewalls as traffic is routed within a secure virtual private Network.

Network to Network Interface

Network to Network Interface (NNI) is both a physical and logical point of demarcation defining how two Networks interconnect and exchange information. The NNI serves the technical boundary where protocol issues are resolved and as the point of division between the responsibilities of individual service providers.

PaaS

PaaS (Platform-as-as-Service) is a category of Cloud Computing services that provides a platform allowing customers to develop, run, and manage applications without the complexity of building and maintaining the infrastructure.

Packet Switching

A form of data transmission in which data is broken into small packets that are transmitted independently and reassembled at the destination. This is in contrast with circuit-switching, traditionally used for voice telephony, in which the transmission occurs over a dedicated circuit.

Point of Presence

A Point of Presence (PoP) is the point at which a telecoms carrier establishes a physical presence in a geographic area, and at which the local exchange carriers (LECs) terminate access services. The PoP can consist of the high-speed telecommunications equipment and technologies that enable users to connect to the Internet via their ISP. The PoP can include call aggregators, modem banks, routers, and high-speed Asynchronous Transfer Mode (ATM) switches.

Private Branch Exchange

Private Branch Exchange (PBX) is a switch station for telephone systems. Serving as the exchange point for the routing of incoming and outgoing calls. PBX consists of several branches of telephone systems and switches.

Private Cloud

Private cloud is a term used to describe the common cloud computing model whereby a service provider makes resources like software or data storage available over the Internet.

Public Switched Telephone Network

Public Switched Telephone Network (PSTN) is the standard telephone service provided over basic analogue phone lines.

Quality of Service

QoS is the ability to provide different priority to different applications, users, or data flows, or to guarantee a certain level of performance to a data flow. QoS involves prioritisation

of Network traffic. QoS can be targeted at a Network interface, toward a given server or router's performance, or in terms of specific applications. A Network monitoring system must typically be deployed as part of QoS, to ensure that Networks are performing at the desired level.

RaaS

RaaS (Render-as-a-Service) provides an Elastic Cloud solution that combines the flexibility of virtualised graphic processing with the security of a Private Cloud, and large scale on-demand compute power.

Server

A computer or computer program which manages access to a centralized resource or service in a Network. Comprised of four main components: GPU, memory, storage, Network.

SDN

SDN (Software Defined Networking) is the combination of a number of different technologies and concepts being brought together to change how Networks work. Software automates the configuration and management of the Network, removing the human element and the static nature of Network control and configuration.

SD WAN

SD WAN (Software Defined Wide Area Networking) is a transformational approach to simplifying networking between office locations, enabling agility across the Network and cost effectiveness. It also enables IT departments to retain more control of their Infrastructure.

Session Initiation Protocol

Session Initiation Protocol (SIP) enables calls to be routed via the Internet rather than a telephone Network.

Software as a Service

Software as a Service (SaaS) is a software delivery method over the Internet. The software is hosted remotely, so organisations do not need to invest in additional hardware. Software as a Service removes the need for organisations to handle the installation, set-up and often daily upkeep and maintenance, meaning leaner and more responsive IT resources.

Telephony

Telephony is the field of technology involving the development, application, and deployment of telecommunication services for the purpose of electronic transmission of voice, fax, or data, between distant parties.

Trunking

A communication line between two switching systems. The term switching system typically includes equipment in a Central Office and PBXs. A tie trunk connects PBXs. Central office trunks connect a PBX to the switching system at the Central Office.

Unified Communications

Unified Communications is the integration of real-time communication services such as instant messaging, presence information, telephony, video conferencing, desktop sharing, data sharing, call control and speech recognition with non-real-time communication services such as unified messaging.

Virtual Private LAN Service

VPN provides secure connections between private Networks linked through private Networks or public Networks such as the Internet. It allows remote computers to act as though they were on the same secure, local Network – ideal for linking multiple sites, home-based or remote workers. The main benefit of a VPN is the lower cost needed to support this technology compared to alternatives like traditional leased lines or remote access servers.

Virtualisation

Virtualisation refers to technologies designed to provide a layer of abstraction between computer hardware systems and the software running on them. With virtualisation, an entire server (including processor and storage) runs as a software image, meaning multiple virtual machines can be run on one physical machine.

Wide Area Network

A WAN is a Network covering a broad area and connecting multiple smaller Networks across local, regional, or national boundaries. Multi-site organisations can use them to link LANs together.

ABOUT EXPONENTIAL-E

Innovation is at the core of Exponential-e, and has been since our inception in 2002. We wholly own our super-fast Network, and our fusion of complementary technologies - a carrier-class Network and Cloud infrastructure - means we can deliver enterprise applications at wire speed for a superior end-user experience. We deliver scalable, dynamic and bespoke solutions. Renowned for our responsiveness, coupled with our customer centric approach, and a UK based 24 / 7 x 365 service desk, means we offer unrivalled expertise.

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