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## Glossary

.NET	Microsoft's application development platform with an orientation to web services.
21CN	Twenty First Century Network - BT's programme to migrate to an NGN and retire its current circuit-switched network in the UK.
2G	Second Generation mobile phone networks such as GSM. Typically used to carry voice and low-rate data.
3G	Third Generation mobile phone networks capable of supporting high data rates and focused on multi-media services.
3GPP	Third Generation Partnership project - consortium to develop a standards roadmap for 3G mobile services and technology evolving from GSM.
3GPP2	North American organisation covering similar areas to 3GPP, starting from the CDMA technology base used in North America.
A&R	Artist and Repertoire - the division of a recording company responsible for scouting for and developing new talent.
AAA	Authentication, Authorisation Accounting - functions carried out by IETF protocols and servers such as RADIUS and DIAMETER.
AES	Advanced Encryption Standard - current state-of-the-art in symmetric key encryption algorithms. The US Government standard.
AI	Artificial Intelligence - branch of computer science studying computational approaches to understanding and modelling psychological processes.
AIN	Advanced Intelligent Network - name used in North America for the circuit-switched Intelligent Network (IN).
AIP	Application Infrastructure Provider - a business which provides a platform for Internet-accessible applications - the customer loads their application on to the AIP platform. Relevant technologies: Java EE, .NET.
AJAX	Asynchronous JavaScript And XML - a technology to make the browser smarter by loading/executing Javascript and asynchronously fetching data from the server (using XML).
ANSI	American National Standards Institute.
AS	Application Server in IMS.
ASP	Application Service Provider - a business which provides software as a service over

the Internet, accessed via browser. Salesforce.com is a well-known example.

Relevant technologies: Java EE, .NET, AJAX.

ATM	Asynchronous Transfer Mode - the B-ISDN cell format for carrying all services across the network.
BGP	Border Gateway Protocol - Internet routing protocol.
BGP-4	The current version of BGP in service on the Internet.
B-ISDN	Broadband ISDN - the pre-Internet carrier vision of the multi-service network of the future.
BPE	Business Process Re-engineering - the discipline of analysing, redesigning and transforming business processes.
BRAS	Broadband Remote Access Server - network device which aggregates traffic from DSLAMs and terminates DSL sessions (e.g. PPP), and manages QoS and accounting functions.
BSC	Base Station Controller in GSM.
BSS	Base Station Subsystem in GSM.
BSS	Business Support Systems - IT used to run the business (CRM, ERM, billing etc).
BT	British Telecom - major carrier in the UK.
BTS	Base Transceiver Station in GSM.
CA	Conditional Access System - digital rights management system used to control access to content.
CAPEX	Capital Expenditure - that portion of an organisation's budget which covers capital costs, e.g. new equipment.
CDR	Call Detail Record - used in billing.
CE	Customer Edge - the customer edge router which connects to the Service Provider network.
Centrex	The name of a carrier service, where offers PBX facilities to feature-rich handsets. Equivalent to a hosted PBX service.
CIO	Chief Information Officer - the executive in charge of Information Technology within an enterprise.
CORBA	Common Object Request Broker Architecture - a standard for distributed computing.
CoS	Class of Service - a network mechanism to divide traffic into classes for QoS-related handling.
COTS	Commercial Off-The-Shelf - systems which are bought and configured (vs. in-house

	developed applications).
CPS	Carrier Pre-Select - a pro-competitive arrangement where you can register your preferred telephony provider, and the incumbent is obligated to hand your call straight to that provider (replacing prefix digit dialling).
CRM	Customer Relationship Management - systems which store customer data, take orders, manage sales etc.
CSCF	Call Session Control Function - a component of IMS. An updated version of the soft-switch.
CTO	Chief Technology Officer - the executive in charge of Technology within an enterprise.
CUTV	Catch-Up TV - a form of VoD covering recently broadcast material.
CWDM	Coarse Wave Division Multiplexing - the provision of a number of optical channels via closely frequency-spaced laser carriers. Cheaper but fewer channels than DWDM.
DDoS	Distributed Denial of Service - a DoS attack launched from many different computers, e.g. by synchronously activating trojan programs previously covertly installed on each computer.
DHCP	Dynamic Host Configuration Protocol - assigns IP address and standard services to hosts as they power up on the network.
Diffserv	Differentiated Services - a method of implementing services classes on the Internet by marking the required class of service in a field in the IP packet header called the DSCP (Diffserv Code Point).
DNS	Domain Name System - the Internet distributed directory which maps names (e.g. URLs) to IP addresses.
DoS	Denial of Service - an attack on a website by bombarding it with protocol messages which overload it.
DRM	Digital Rights Management.
DSCP	Diffserv Code Point - a field in the IP packet header where the required class of service can be indicated.
DSL	Digital Subscriber Line - the technology to provide a digital service currently up to 24 Mbps down a copper pair phone line.
DSLAM	Digital Subscriber Line Access Multiplexor - the exchange equipment which connects to the phone line to provide DSL.

DT	Deutsche Telekom - major carrier in Germany.
DWDM	Dense Wave Division Multiplexing - providing large numbers of optical channels via closely frequency-spaced laser carriers.
EAI	Enterprise Application Integration - architecture and technology middleware for automatically linking applications.
ECM	Entitlement Control Message - used to distribute control words (decryption keys) in CA systems.
EMM	Entitlement Management Message - distributes authorisation to decode to an STB in CA systems.
EPG	Electronic Programme Guide - a directory which the viewer uses to select content to watch.
ERM	Enterprise Resource Management - systems which support business functions (logistics, finance, HR, etc).
ERP	Enterprise Resource Planning - a synonym for ERM.
eTOM	Enhanced Telecoms Operations Map - a standardised model of carrier business and operational processes.
ETSI	European Telecommunications Standards Institute.
FFM	Five Factor Model - the 'standard model' of personality in contemporary academic research.
Frame Relay	Data protocol at layer 2 which replaced X.25. MPLS largely replaces it.
FT	France Telecom - major carrier in France.
GCF	Global Grid Forum - organising body for grid computing.
GGSN	Gateway GPRS Support Node - router which connects the GPRS cellular access network to the chosen IP network (e.g. the Internet or an enterprise network).
GMPLS	Generalised MPLS - an extended form of MPLS used for managing virtual circuits in layer-2, TDM, optical and fibre networks.
GPRS	General Packet Radio Service in mobile telephony.
GSM	Global System for Mobile Communications - basis for European-developed 2G mobile phone system.
GTP	GPRS Tunnelling Protocol in GPRS. The tunnels connect an SGSN to a GGSN.
GUID	Globally Unique Identifier - a document identifier used in Freenet.
H.323	A family of protocols originally designed (in the ITU-T) for LAN video-telephony. H.323 was initially pressed into service for VoIP implementations, but is

increasingly being replaced by SIP and IMS.

HLR	Home Location Register in GSM.
HPP	High-Performance People - a Human Resources term for talent in a company to be fast-tracked.
HSS	Home Subscriber Server in IMS.
HTML	HyperText Markup Language - an annotation language for designing web pages.
HTTP	HyperText Transfer Protocol - a protocol for exchanging messages between web browsers and web servers.
HTTPS	Refers to the layering of HTTP over SSL e.g. to provide a secure website connection.
IBGP	Interior BGP - the variant of BGP used within a Service Provider's network.
I-CSCF	Interrogating Call Session Control Function in IMS.
ICT	Information and Communication Technologies - an acronym capturing the convergence between computing and telecommunications.
IETF	Internet Engineering Task Force - the global, voluntary community of engineers who develop and set Internet standards.
IMS	IP Multimedia Subsystem - the session signalling layer of the NGN.
IN	Intelligent Network - a circuit-switched public switching architecture which separates switching and services.
IP	Internet Protocol - the packet format of data carried on today's Internet (IPv4).
IPsec	IP Security - a protocol for encrypting traffic end-to-end over IP networks.
IPTV	Linear TV channels distributed over an IP network.
IPv4	IP version 4 - the current version of IP used in today's Internet.
IPv6	IP version 6 - a version of IP which was aimed to replace IPv4, but which so far has found little acceptance.
ISDN	Integrated Services Digital Network - the original carrier narrowband model of a multiservice network.
ISP	Internet Service Provider.
ITU-T	International Telecommunication Union Telecommunications Standardisation Sector - part of the UN. Global carrier standards body.
J2EE	Java 2 Platform Enterprise Edition - Java-based application development platform with a focus to web services. See Java EE.
Java EE	Java Platform, Enterprise Edition - the current name for the platform formerly

	known as J2EE.
L2TP	Layer 2 Tunnelling Protocol.
LAN	Local Area Network - usually an Ethernet network which connects computers in an building.
LCAS	Link Capacity Adjustment Scheme - used for managing the bandwidth provided by VCAT in next-generation SDH networks.
LRIC	Long Run Incremental Cost - the pricing level regulators often set for companies with Significant Market Power. It approximates to the price which would be charged in a sustainable competitive market.
LSP	Label-Switched Path - a 'virtual circuit' traversed by labelled packets in MPLS.
M&A	Mergers and Acquisitions - a way of growing a business by buying or merging with others.
MAN	Metropolitan Area Network - a network on the scale of a city or small region.
MBMS	Multimedia Broadcast Multicast Service - multicast service on 3G mobile networks.
MBTI	Myers-Briggs Type Indicator (TM) - a psychometric test classifying personality based on the theories of Isabel Myers and Katherine Cook Briggs (developing Carl Jung's theory of psychological types).
MDM	Master Data Management - an IBM marketing term for managing an enterprise data model.
MG	Media Gateway - a device which terminates circuit-switch traffic and maps it to/from IP packetisation.
MGCF	Media Gateway Control Function - a function within IMS which controls media and signalling gateways.
MNO	Mobile Network Operator - a mobile phone company with a network (contrasted with MVNO).
MP3	Audio compression format defined within MPEG-1.
MPEG-n	Moving Picture Experts Group - n = 1, 2, 3, 4 defines a set of protocols for compressed TV and audio.
MPLS	Multi-Protocol Label Switching - a labelling technology which allows virtual circuits to be created.
MSAN	MultiService Access Node - an enhanced DSLAM which also provides voice telephony (VoIP conversion), ISDN and other data and transmission encapsulation services. It is typically a layer 2 edge device located at a carrier PoP.

MSC	Mobile Switching Centre in GSM.
MVNO	Mobile Virtual Network Operator - a 'front-office' company which sells mobile services to customers, and which buys network capacity wholesale from another, facilities based operator, which owns a mobile network.
NASS	Network Attachment SubSystem - one of the subsystems in the NGN architecture. Used for IP address allocation, AAA functions and layer 3 location management (mobile IP).
NAT	Network Address Translation - typically used to map private IP addresses to public ones for Internet access.
NBMA	Non-Broadcast Multiple Access - denotes a full-mesh configuration of PVCs in Frame Relay.
NGN	Next-Generation Network - the carrier vision of an all-IP multiservice fixed-mobile converged network creating many new revenue streams and with dramatically decreased costs.
OCEAN	A Mnemonic for the five factors of academic personality theory: Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism.
OC-n	Optical Carrier - North American transport container. OC-3 = STM-1 = 155.52 Mbps, for example.
OGSA	Open Grid Services Architecture - architecture standard for grid computing.
OPEX	Operational Expenditure - that portion of an organisation's budget which covers running costs.
OSPF	Open Shortest Path First - an IETF routing protocol.
OSS	Operations Support Systems - in a carrier, the systems which manage the network itself.
OTN	Optical Transport Network - ITU standards covering transport, multiplexing, routing, management, supervision and survivability of optical channels carrying higher layer traffic.
P	Provider - the Service Provider core routers which interconnect PE routers.
P&L	Profit and Loss - in business, having P&L responsibilities gives significant organisational power, and is therefore a goal of ambitious executives.
P2P	Peer-to-Peer - an architecture for applications which run on end-system, using the network just to carry traffic.

PBB	Provider Backbone Bridge - also known as MAC-in-MAC. A protocol being developed by the IEEE in 802.1ah. An additional header pre-pended to the customer Ethernet frame which allows carrier forwarding to be scalably decoupled from enterprise switching.
PBT	Provider Backbone Transport - a development of Ethernet which provides it with MPLS-like forwarding and resilience properties.
PBX	Private Branch Exchange - an almost meaningless acronym. It means a private telephone switch used to connect phone calls within an office or enterprise.
P-CSCF	Proxy Call Session Control Function in IMS.
PDA	Personal Digital Assistant.
PDH	Plesiochronous Digital Hierarchy - carrier transmission standard and technology - the technology is now obsolete.
PE	Provider Edge - the Service Provider edge router which connects to customer routers.
PMB	Project/Programme Management Board - a review body in many programme management methodologies.
PoC	Push-to-talk over Cellular - 'walkie-talkie' function which will be an early mobile IMS service.
PoP	Point of Presence - the location of carrier equipment which is closest to, and directly connects to, the customer.
POTS	Plain Old Telephone Service - playful name for ordinary (legacy) circuit-switched telephony.
PPP	Point to Point Protocol - an IP packet framing, layer 2 protocol used for link error-checking, the carriage of connection authentication and password data, and for interface configuration. Commonly used on dial-up and DSL connections.
PRM	Project/Programme Review Meeting - a regularly scheduled meeting in many programme management methodologies.
PRM	Partner Relationship Management - a business function whereby an enterprise manages its relationship with its business partners. For example, a carrier selling through VARs.
PSTN	Public Switched Telephone network - the current global circuit-switched phone network.
PVC	Permanent Virtual Circuit - in STM or Frame Relay.

PVR	Personal Vide Recorder - hard disk system for recording transmitted content for later replay.
QoS	Quality of Service - service quality as experienced by the user.
RACS	Resource and Admission Control Subsystem - one of the subsystems in the NGN. Used for admission control and bandwidth management.
RAN	Radio Access Network in mobile telephony.
RFC-n	Request For Comments (number n) - IETF standards document.
RFI	Request For Information - a tendering document issued to suppliers.
RFP	Request For Product - a tendering document issued to suppliers.
RFQ	Request For Quote - a tendering document issued to suppliers.
RFS	Ready for Service - the point where a network, after construction, is handed across to operations to be enter normal service.
RIAA	Recording Industry Association of America - industry group active in legal action against Internet music copyright violators.
RIP	Routing Information Protocol - an older routing protocol.
RP	Rete Populi - 'the people's network'. A fictional technology in chapter 11 loosely modelled on Freenet.
RSA	Public Key Encryption algorithm invented by Ron Rivest, Adi Shamir, and Leonard Adleman in 1977. GCHQ had developed the basic technique in 1973, but this was kept secret.
RSVP	Resource Reservation Protocol - an IETF protocol which allows hosts to reserve session capacity across a network (with RSVP-aware routers). Generally felt not to scale on the Internet, where Diffserv is preferred, (if any CoS solution is felt necessary).
SBC	Session Border Controller - a security gateway which sits in the voice and signalling path between VoIP network operators. It provides security and transcoding services.
SCM	Supply Chain Management - processes and systems whereby a business manages its suppliers.
SCP	Service Control Point - the services platform in an Intelligent Network.
S-CSCF	Serving Call Session Control Function in IMS.
SDH	Synchronous Digital Hierarchy - carrier transmission standard and technology - the basis for most current carrier networks.
SDH-NG	SDH Next Generation - the use of VCAT, LCAS standards to make SDH (and

	SONET) more data-capable.
SG	Signalling Gateway - a devices which maps circuit-switched signalling to/from signalling over IP.
	Sales, General and Administrative - accounting name for these overhead costs.
SG&A	Normally a line item in Profit and Loss accounts, or in a business case financial model.
SGSN	Serving GPRS Support Node - part of GPRS. The router which directly connects to the user terminal via the RAN.
	Systems Integrator - a company specialising in integrating complex components to deliver customer solutions. Broadly synonymous with high-end VAR, although they tend to prefer 'professional services' or 'consultancy' labels.
SI	
SIP	Session Initiation Protocol - an IETF protocol for managing multimedia calls on IP networks.
SIPPING	Joint IETF-3GPP working group to develop IETF protocols for the purposes of 3G networks (which are based on IP).
SLA	Service Level Agreement - a contract between Service Provider and customer specifying levels of service, penalty clauses etc.
SME	Small and Medium Enterprises - a market segmentation category.
SMP	Significant Market Power - a term regulators use to identify companies which are candidates for regulatory attention.
SMS	Short Message Service - 'texting'. The 2G service which allows short messages to be sent between mobile phones.
SOAP	A protocol for exchanging XML messages between applications across a network - part of the web services architecture.
SONET	Synchronous Optical Network - North American version of SDH.
	Signalling System 7 - the protocol used to set-up, manage and tear-down calls within existing PSTN networks (ISDN or analogue signalling is used in the access network - the 'last mile').
SS7	
SSL	Secure Sockets Layer - a transport layer en/decryption and authentication scheme frequently used by websites (see HTTPS).
SSP	Service Switching Point - the switching function in an Intelligent Network.
STB	Set-Top Box - the device which terminates the TV signal and adapts it to the TV set.
STM-n	Synchronous Transport Module - a container for carrying data over a carrier

transmission network. STM-1 = OC-3 = 155.52 Mbps.

SVP	Senior Vice President (senior executive title).
TCP	Transmission Control Protocol - used for reliably transferring files between end points. A layer-4 protocol layered over IP.
TCP/IP	See TCP and IP.
TDM	Time-Division Multiplexing - technique of using a high-speed bit-stream to carry interleaved voice samples from different conversations on the same wire or fibre in a standardised frame structure (PDH or SDH) in today's circuit-switched networks.
TISPAN	Telecoms & Internet converged Services & Protocols for Advanced Networks - ETSI NGN working group.
UDDI	Universal Description, Discovery and Integration - the <i>application interface</i> directory in web services.
UDP	User Datagram Protocol - the 'other' layer-4 protocol to TCP used to encapsulate data in IP packets. Used for low-overhead data connections where automatic retransmission-on-failure is not required, e.g. DNS queries, VoIP calls.
UMA	Unlicensed Mobile Access - GSM over WiFi scheme.
UNC	UMA Network Controller - the device which translates voice and signalling from standard GSM format into the special format for carriage over an IP and DSL network.
URL	Uniform Resource Locator - the name for a networked informational resource, e.g. a website name, www... .
VAR	Value Added Reseller - a company which typically integrates and customises commodity products to produce a package which solves a customer problem.
VCAT	Virtual Concatenation - method in SDH-NG to create higher-capacity data pipes by bonding VC-n containers together (see LCAS).
VC-n	Virtual Container (e.g. VC-12, VC-3, VC-4). Container for data within SONET/SDH transport streams.
VDSL	Very high data rate Digital Subscriber Line - technology for data rates around 100 Mbps on copper wiring of a few hundred metres.
VLR	Visitor Location Register in GSM.
VNO	Virtual Network Operator - a 'front office' company which sells communications services to customers, but which buys network capacity wholesale from a facilities-based operator owning a network.

VoD	Video on Demand - technique/service of storing a number of TV programmes on a server and allowing any programme to be accessed by a user 'on demand'.
VoIP	Voice over IP - carrying digital voice samples (often compressed) across the network within an IP packet. Contrasted with circuit-switched time-division multiplexed carriage of voice, or carrying voice in other packet formats such as ATM.
VPN	Virtual Private Network - a service emulating dedicated inter-site transmission links on a shared network.
VRF	Virtual Routing and Forwarding instance (virtual router) within a PE device supporting BGP/MPLS VPNs.
W3C	World-Wide Web Consortium. Standards body for web technologies.
WAN	Wide-Area Network - often a carrier-provided network.
WiFi	Wireless LAN technology as specified by the family of protocols 802.11.
WiMAX	Worldwide Interoperability for Microwave Access - the family of wireless MAN protocols (802.16 and variants).
X.25	Obsolete data networking protocol and technology.
XML	eXtensible Markup Language - a syntactic framework for creating application-dependent markup languages.