



Fixed-Mobile  
Convergence Alliance

## **Convergence Services using SIP over Wi-Fi**

Product Requirement Definitions (PRD)  
Release 2.0  
8<sup>th</sup> May 2006

Terms and Definitions Document

Release 2.0 – 8<sup>th</sup> May 2006

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### 3 Introduction

The Fixed-Mobile Convergence Alliance (FMCA) is a global alliance of telecom operators whose objective is to accelerate the development of Convergence products and services.

The FMCA is committed to providing a superior experience to customers by creating seamless services using a combination of fixed broadband and local access wireless technologies to meet their needs in homes, offices, other buildings and on the move.

In order to accomplish its goals, the Alliance is focused on the close collaboration with Standards Development, Specification and Certification Organisations (SDO/Fora) and wider vendor community in key technical areas which require telecom operator input.

The FMCA Technical Working Group (TWG), with its various Workstreams and Working Groups, is responsible for the timely release of the FMCA Product Requirement Definitions (PRD), which are high level technical papers providing the common operator requirements for Convergence Services in areas such as Service Capabilities, Handset, Access Point & Gateway, and Network Architecture.

The FMCA PRDs are working documents, with each new release reflecting collaborative input from FMCA members and joint reviews with industry. For example, Release 2.0 of the FMCA Wi-Fi SIP and Wi-Fi GAN (UMA) PRDs benefit from input from the Wi-Fi Alliance, with whom the FMCA has a strategic relationship.

The FMCA is not a Standards Development, Specification or Certification Organisation. Its focus is on the rapid productisation of the Convergence technologies by identifying and setting product and service requirements for industry to meet when developing Convergence technologies. The FMCA PRDs will reference, where possible, existing and emerging standards and certifications.

Standards Development, Specification and Certification Organisations (SDO/Fora) and wider vendor community are invited to review the FMCA Product Requirement Definitions (PRD) and advise how these operator-led requirements can be integrated into existing and/or upcoming standards and certification programmes as well as product roadmaps.

The FMCA benefits from a clear PRD development framework, with PRDs Release 3.0 planned for late 2006.

More information is available from the FMCA website: <http://www.thefmca.com>

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## 4 Scope

The FMCA Convergence Services using SIP over Wi-Fi PRD, Release 2.0, describes the high-level technical requirements for Fixed-Mobile Convergence products and services provided over wireless and cellular networks.

The PRD defines a network architecture based on the standards 3GPP IMS or 3GPP2 MMD.

The objectives of the FMCA Convergence Services using SIP over Wi-Fi PRD, Release 2.0, are to initiate discussions with industry in the following areas:

- Industry wide service capabilities requirements that are in alignment with existing and future service capabilities defined by the leading Standards, Specifications and Certification Organisations;
- Technical requirements and capabilities of the Technical Handset;
- Technical requirements and capabilities of the Access Point & Gateway;
- High-level Network Architecture requirements.

It should be noted that the FMCA product and service requirements for the Convergence Technologies are based on existing and emerging standards, specifications and certifications defined by the leading SDOs/Fora, and referenced accordingly in each document.

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## 5 How to read this FMCA PRD

The FMCA Convergence Services using SIP over Wi-Fi PRD, Release 2.0, which contains the common operator product and service requirements for the key Convergence Technologies, consists of a number of documents designed to facilitate focused discussions with industry.

These are:

- Convergence Products using SIP over Wi-Fi PRD, Release 2.0, Service Capabilities, April 2006
- Convergence Products using SIP over Wi-Fi PRD, Release 2.0, Technical Handset Requirements, April 2006
- Convergence Products using SIP over Wi-Fi PRD, Release 2.0, Access Point & Gateway, April 2006
- Convergence Products using SIP over Wi-Fi PRD, Release 2.0, Network Architecture, April 2006

Standards Development, Specification & Certification Organisations (SDO/Fora) and vendors wishing to review these documents, should take notice of the following:

- documents reflect the various FMCA Technical Workstreams and respective Working Groups;
- sections of the documents are cross-referenced, where necessary, to indicate correlations in the various requirements and facilitate the reviewing process;
- technical, product and service requirements reference, where possible, existing and emerging standards, specifications and certifications defined by the leading SDOs/Fora.

It should be also noted that within the PRD Release 2.0 documents the word 'shall' denotes a mandatory requirement and the word 'should' denotes a desirable requirement.

### Contacts:

SDOs/Fora and vendors wishing to review the FMCA Product Requirement Definitions (PRD) should contact, in the first instance, the FMCA Programme Office, expressing their interest:

Rodrigo Donazzolo  
FMCA Programme Director  
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Enquiries will be reviewed by the FMCA Programme Office and passed to the relevant Workstreams and respective Working Groups within the overall FMCA Technical Working Group.

More information is available from the FMCA website: <http://www.thefmca.com>

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## 6 Definitions

For the purposes of this document, the following terms and definitions apply:

2G	Second Generation cellular mobile technology/systems.
2.5G	Enhanced 2G cellular technologies, such as higher speed data services, regarded as interim between 2G and 3G, e.g. GPRS support.
3G	Third Generation cellular mobile technology is a term used to describe a range of new air interfaces which includes, amongst others, W-CDMA, CDMA 2000 and TD-SCDMA.
Access Point	A wireless LAN base station. An Access Point (AP) acts as the communication hub for wireless device users to be able to connect to services such as the Internet, PSTN and PBX, backhauled typically via a wired fixed access network.
Access Network	The access network is defined as a collection of network entities and interfaces that provides the underlying IP transport connectivity between the device/terminal and the NGN core entities, e.g. XDSL, Cable Networks, WLAN, FTTH, 3GPP GSM Domain, 3GPP PS Domain, 3GPP IP-CAN, 3GPP2 CDMA Domain.
Application Applications	An application is a service enabler deployed by service providers, manufacturers or users. Individual applications will often be enablers for a wide range of services.
Application Interface	Software components providing services to users by utilising service capability features. Standardised interface used by applications to access service capability features
Associate	The process of obtaining a registered connection (association) between a UE and a wireless AP.
Attach	The process of obtaining a registered connection between a UE and a cellular base station.
Backhaul	Network backhaul from wireless Access Point e.g. ADSL, cable. Transmission Link between AP and the core IP network.
Basic telecommunication service	This term is used as a common reference to both bearer services and teleservices.
Bearer service	A type of telecommunication service that provides the capability of transmission of signals between end points.
Best effort service	A service model which provides minimal performance guarantees, allowing an unspecified variance in the measured performance criteria.

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Broadband Access Network	Broadband network backhaul from wireless Access Point, e.g. ADSL, cable.
Cellular/cellular network	Use of 2G, 2.5G and 3G networks for voice and data services.
Cellular mode	The Wi-Fi SIP UE has registered with a wide area cellular network.
Cellular-only mode	When the UE is in cellular-only mode, the service can only be accessed via a wide-area cellular network.
Cellular-preferred mode	When the UE is in cellular-preferred mode, the UE shall provide service via the wide-area cellular network when in coverage. When there is no cellular coverage, the UE shall register and provide service via the wireless network (if available). Note that the UE shall not automatically switch mode if this will terminate a voice call in progress.
Connectionless service	A service which allows the transfer of information among service users without the need for end-to-end call establishment procedures (source: ITU-T I.113).
Conversational service	An interactive service which provides for bi-directional communication by means of real-time (no store-and-forward) end-to-end information transfer from user to user (source: ITU-T I.113).
Core network	A portion of the delivery system composed of networks, systems equipment and infrastructures, connecting service providers to the access network. The core network is independent of the connection technology of the terminal.
Corporate/enterprise Wi-Fi access	A device accessing a corporate or enterprise Wi-Fi network.
Coverage	Zone of coverage created by one or multiple wireless Access Points.
Device	A UE which could take several form factors, e.g. a mobile handset, PC or a PDA.
Dual mode device	A user equipment able to use two or more of Bluetooth, DECT, Wi-Fi, WiMAX, TETRA, GSM, 3GPP, 3GPP2 as its radio interface, not necessarily simultaneously. A user equipment able to use both Circuit Switched and Packet Switched networks, not necessarily simultaneously.
Dual SIM	One SIM card supporting multiple independent SIM/USIM/ISIM applications with different profiles.

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Gateway	A combined DSL/cable modem, router and Access Point with additional capabilities such as NAT, NAPT, DHCP and personal firewall.
Guest Wi-Fi Service	The capability for a gateway or Access Point to offer guest Wi-Fi services to visiting users.
Handover	<p>The seamless in-call/in-session movement of a UE from wireless to cellular operation, or vice versa, or in-call/in-session movement from one AP to another. Voice calls and data session continuity are required.</p> <ul style="list-style-type: none"><li>• handover-in = UE moving from cellular to Wi-Fi.</li><li>• handover-out = UE moving from Wi-Fi to cellular.</li><li>• handover AP = UE moving from one Wi-Fi AP to another.</li></ul>
Idle Mode	State of a UE such that no IP-session or voice call is actually in progress, but the UE is accessible for session/call setup (in either direction).
Immediate messaging	Typically, the sender is aware of the availability of the recipient(s) (possibly through the use of the Presence service) before sending this type of message as, if the recipient is not available, the message may be discarded or deferred. An immediate message may be deferred by the recipient's network based on the message filtering settings defined by the recipient or by the recipient's service provider.
IMS SIM (ISIM)	An application residing on the Universal Integrated Circuit Chip (UICC) that provides access to IP Multimedia Services.
Incoming call	A call originating from the fixed or mobile network or another Wi-Fi SIP UE towards the Wi-Fi SIP UE.
Internet service	A service provided via internet protocols. Examples of these services include SIP telephony, multimedia, World Wide Web and email.
Interactive service	A service which provides the means for bi-directional exchange of information between users. Interactive services are divided into three classes of services: conversational services, messaging services and retrieval services (source: ITU-T I.113).
Interworking WLAN (I-WLAN)	A WLAN that inter-works with a 3GPP system.
Inter AP transfer	The process by which the UE moves from one AP to another on a different subnet, while maintaining service.

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Intra AP transfer	The process by which the UE moves from one AP to another on the same subnet, while maintaining service.
IP multimedia application	An application that handles one or more media simultaneously such as speech, audio, video and data (e.g. chat text, shared whiteboard) in a synchronised way from the user's point of view. A multimedia application may involve multiple parties, multiple connections, and the addition or deletion of resources within a single IP multimedia session. A user may invoke concurrent IP multimedia applications in an IP multimedia session.
IP multimedia service	An IP multimedia service is the user experience provided by one or more IP multimedia applications.
IP multimedia session	An IP multimedia session is a set of multimedia senders and receivers and the data streams flowing from senders to receivers. IP multimedia sessions are supported by the IP multimedia subsystem and are enabled by IP connectivity bearers. A user may invoke concurrent IP multimedia sessions.
IP multimedia subsystem	The architecture and protocols defined in 3GPP Release 5 and higher to support IP multimedia applications and services. Note that 3GPP has an alignment with 3GPP2.
IP-Connectivity Access Network (IP-CAN)	The collection of network entities and interfaces that provides the underlying IP transport connectivity between the UE and the IMS entities. An example of an 'IP-Connectivity Access Network' is GPRS.
Location Based Services (LBS)	May be considered as a network provided enabling technology consisting of standardised service capabilities, which enable the provision of location applications. The application(s) may be service provider specific. A Location Based Service is specified by all the necessary network elements and entities, their functionalities, interface, as well as communication messages to implement the positioning functionality in a cellular network.
Messaging Services	An interactive service which offers user-to-user communication between individual users via storage units with store-and-forward, mailbox and/or message handling, (e.g. information editing, processing and conversion) functions (source: ITU-T I.113).
Mobile Station	One example of User Equipment – a mobile station/handset.
Mobility	The ability for the user to communicate whilst moving independent of location

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Mobility Controller	A device that interfaces to APs with the primary role of controlling, inter alia, the functionality of connected APs, client services, associations, QoS, VLAN, prioritisation, security and RF management in order to facilitate intra- or inter-AP transfer.
Multimedia service	Multimedia services combine two or more media components (e.g. voice, audio, data, video, pictures) within one call. Services that handle several types of media (voice, audio, data, video, pictures) in a synchronised way from the user's point of view. A multimedia service may involve multiple parties, multiple connections, and the addition or deletion of resources and users within a single communication session.
Optimal routing	The capability to route traffic based on key factors such as call tariffs and location (e.g. in a Wi-Fi hotspot).
Outgoing call	A call originating from the Wi-Fi SIP UE towards a fixed or mobile network or another Wi-Fi SIP UE.
Point-to-multipoint (PTM) service	A service type in which data is sent to all service subscribers or a pre-defined subset of all subscribers within an area defined by the Service Requester.
Point-to-point service	A service type in which data is sent from a single network termination to another network termination.
Public hotspot	A zone of continuous public access to IP networks owned by one or multiple operators via wireless access points.
Presence	Presence provides the ability to collate and expose information relating to a user, the services subscribed to by that user, the device over which the service is delivered, and the network responsible for delivering the service. The Presence information may relate to one of four areas, the user, the service, the device delivering the service, and the network over which the service is delivered. The presence information is held within attributes that can be used individually by other services, or as a service within their own right.
Private User Identity	A unique global identity defined by the Home Network Operator as defined in 3GPP TS 23.228..
Public User Identity	An identity which is used to communicate with other users. The public user identity/identities are used by any user for requesting communications to other users and are in the form of a SIP URL or TEL URL as defined in 3GPP TS 23.228.
Protocol	A formal set of procedures that are adopted to ensure communication between two or more functions within the same layer of a hierarchy of functions (source: ITU-T I.112).

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Quality of Service (QoS)	The collective effect of service performance which determines the degree of satisfaction of a user for this service. Source ITU-T E.800.
Roaming	The ability of the users to access converged services according their user profile while moving outside of their subscribed home access network. This will be supported by roaming agreements between network operators.
Router	A functional block that determines the next network point to which a data packet should be forwarded en route to its destination.
Roving	The action of re-selection between cellular access technology and wireless access technology for a Wi-Fi SIP UE in an idle mode. Roving occurs without any manual action required by the user. <ul style="list-style-type: none"><li>rove-in – UE reselects from cellular to wireless.</li><li>rove-out – UE reselects from wireless to cellular.</li><li>rove AP – UE reselects from within a wireless network (e.g. from one AP to another AP)</li></ul>
Seamless	Seamless is defined as there being no perceptible break in service delivery due to handover (from the calling party or the called party's perspective).
Security	The ability to prevent fraud as well as the protection of information availability, integrity and confidentiality.
Service/Services	A component of the portfolio of choices offered by service providers to a user, a functionality offered to a user. A service is the user experience provided by one or more applications.
Service Capabilities	Bearers defined by parameters, and/or mechanisms needed to realise services. These are within networks and under network control.
Service Capability Feature	Functionality offered by service capabilities that are accessible via the standardised application interface
Service category or service class	A service offered to the users described by a set of performance parameters and their specified values, limits or ranges. The set of parameters provides a comprehensive description of the service capability.
Service Continuity	The ability for a user to maintain an ongoing service during handover.

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Service Control	The ability of the user, home environment or serving environment to determine what a particular service does, for a specific invocation of that service, within the limitations of that service.
Service Enabler	A capability which may be used, either by itself or in conjunction with other service enablers, to provide a service to the end user.
Service Feature	Functionality that a Delivery System shall offer to enable provision of services. Services are made up of different service features.
Service Implementation Capabilities	Set of implementation capabilities, in each technical domain, required to enable a UE to support a set of UE Service Capabilities.
Service Mobility	This is Mobility, applied for a specific Service, i.e. the ability of a user to use the particular (subscribed) service irrespective of the location of the user and the terminal that is used for that purpose.
Session Mobility	The seamless movement of in-call sessions (both voice and data) between Wi-Fi Access Points, Wi-Fi hotspots and cellular networks.
Subscriber	A Subscriber is an entity (associated with one or more users) that is engaged in a Subscription with a service provider. The subscriber is allowed to subscribe and unsubscribe services, to register a user or a list of users authorised to enjoy these services, and also to set the limits relative to the use that associated users make of these services.
Supplementary service	A service which modifies or supplements a basic telecommunication service. Consequently, it cannot be offered to a user as a standalone service. It must be offered together with or in association with a basic telecommunication service. The same supplementary service may be common to a number of basic telecommunication services.
Telecommunication Service	What is offered by an operator or service provider to its customers in order to satisfy a specific telecommunication requirement (source: ITU-T I.112). Telecommunication services are divided into two broad families: bearer services and teleservices (source: ITU-T I.210).

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Terminal Mobility	Terminal Mobility is defined as the terminal having the ability to be moved to different physical locations and provide the user access to their services. This is mobility for those scenarios where the same terminal equipment is moving or is used at different locations. The ability of a terminal to access telecommunication services from different locations and while in motion, and the capability of the network to identify and locate that terminal. When being moved it may or may not connect to an access network that is the same in terms of technology to that of the access network that it has just moved from.
UE Service Capabilities	Capabilities that can be used either singly or in combination to deliver services to the user. The characteristic of UE Service Capabilities is that their logical function can be defined in a way that is independent of the implementation of the Delivery System (although all UE Service Capabilities are of course constrained by the implementation of the Delivery System). Examples: a data bearer of 144 kbps; a high quality speech teleservice; an IP teleservice; a capability to forward a speech call.
UICC	A physically secure device, an IC card (or smart card), that can be inserted and removed from the terminal equipment. It may contain one or more applications. One of the applications may be a USIM.
Universal Subscriber Identity Module (USIM)	An application residing on the UICC used for accessing telecommunications services, which the application is able to register on the network with the appropriate security.
User Equipment User Interface Profile	A device allowing a user access to network services. Contains information to present the personalised user interface within the capabilities of the terminal and serving network.
User Mobility, Personal Mobility	The ability of a user to access telecommunication services at any terminal at different locations on the basis of a personal identifier, and the capability of the network to provide those services delineated in the user's service profile.
User Profile	Is the set of information necessary to provide a user with a consistent, personalised service environment, irrespective of the user's location or the terminal used (within the limitations of the terminal and the serving network).
User Services Profile	Contains identification of subscriber services, their status and reference to service preferences.
Trusted	A service in which the user has the firm belief in the competence of an entity to act dependably, securely and reliably within the context of service provisioning and billing.

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Wireless	For the purpose of this PRD, wireless enabled devices or UE (IEEE 802.11a, b, g, h, j) for both enterprise and consumer voice (VoIP) and data applications.
Wireless Fidelity (Wi-Fi®)	A wireless-LAN technology based on IEEE 802.11 specifications. Wi-Fi is a registered trademark of the Wi-Fi Alliance.
Wi-Fi association	Set-up signalling and handshaking between a device and a Wi-Fi AP e.g. SSID, security association, channel allocation, data rates, capabilities.
Wi-Fi SIP Service	SIP protocol based services via a Wi-Fi access network.
Wireless Profile	The Wireless Profile is a set of service related parameters that facilitates a Wi-Fi device to associate and then access a Wi-Fi network, e.g. the profile could contain details associated with AP SSIDs, locations, supported protocols, security options.
WiMAX	World Interoperability for Microwave Access is a broadband wireless access technology based on IEEE 802.16 standard.
Wireless mode	The Wi-Fi SIP device has registered with a network using Wi-Fi access.
Wireless-only mode	When the UE is in wireless-only mode – the service can only be accessed when in wireless coverage.
Wireless-preferred mode	The UE shall register to the SIP server when in wireless coverage and SIP will be the default means of making outgoing connections. The operator will define whether the cellular radio interface remains simultaneously active or not in this mode.

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## 7 Acronyms

This document uses the following acronyms:

2G	Second Generation
3GPP	Third Generation Partnership Project
3GPP2	Third Generation Partnership Project 2.
3G	Third Generation
AAA	Authentication, Authorisation and Accounting
ADSL	Asymmetric Digital Subscriber Line
AFH	Adaptive Frequency Hopping
ALG	Application Level Gateway
AMR	Adaptive Multi-Rate speech encoding
AN	Access Network
AP	Access Point
API	Application Programming Interface
APN	Access Point Name
B2BUA	Back to Back User Agent
BAOC	Barring of All Outgoing Calls
BIC-ROAM	Barring of All Incoming Calls when Roaming outside HPLMN
BOIC	Barring of Outgoing International Calls
BOIC-ex HC	Barring of All Outgoing International Calls (roaming) except to HPLMN
BSSID	Broadcast SSID
CAC	Connection Admission Control
CAPWAP	Control And Provisioning of Wireless Access Points
CCMP	Counter Mode with Cipher Block Chaining Message Authentication Code Protocol
CDMA	Code Division Multiple Access
CE	Conformité Européenne
CF	Conversion Facility
CFB	Call Forwarding on mobile subscriber Busy
CFU	Call Forwarding Unconditional
CFN	Connection Frame Number
CFNRc	Call Forwarding on mobile subscriber Not Reachable
CFNRy	Call Forwarding on No Reply
CLI	Caller Line Identification
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
CN	Core Network

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CNG	Comfort Noise Generator
COS	Class Of Service
CPE	Customers' Premises Equipment
CPU	Central Processing Unit
CS	Circuit Switched
CSCF	Call Session Control Function
CSD	Circuit Switched Data
CTS	Cordless Telephony System
CW	Call Waiting
DHCP	Dynamic Host Configuration Protocol
DiffServ	Differentiated Services
DMZ	De-Militarised Zone
DNS	Domain Name Server
DSCP	Differentiated Services Code Point
DSCP/ToS	Differentiated Services Code Point / Type of Service
DSL	Digital Subscriber Line
DTMF	Dual Tone Multi Frequency
DTF	Domain Transfer Function
DRF	Domain Routing Function
EAP	Extensible Authentication Protocol
EAPOL	EAP over LAN
EAP-AKA	Extensible Authentication Protocol – Authentication and Key Agreement
EAP-FAST	Extensible Authentication Protocol – Flexible Authentication via Secure Tunneling
EAP-MD5	Extensible Authentication Protocol – Message Digest 5
EAP-PEAP	Extensible Authentication Protocol – Protected Extensible Authentication Protocol
EAP-TLS	Extensible Authentication Protocol – Transport Layer Security
EAP-TTLS	Extensible Authentication Protocol – Tunnelled TLS
EAP-SIM	Extensible Authentication Protocol – Subscriber Identity Module
ECC	Emergency Call Code
EDCA	Enhanced Distributed Channel Access (IEEE 802.11e)
EIRP	Effective Isotropic Radiated Power
EFR	Enhanced Full Rate
FAX	Facsimile
FMC	Fixed-Mobile Convergence
FMCA	Fixed-Mobile Convergence Alliance
GERAN	GSM EDGE Radio Access Network
GPRS	General Packet Radio Service

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GSM	Global System for Mobile communications
GTT	Global Text Telephony
HCCA	Hybrid Controlled Channel Access (IEEE 802.11e)
HLR	Home Location Register
HMACL	Hash Message Authentication Code
HN	Home Network
HO	Handover
HOLD	Call hold
HPLMN	Home Public Land Mobile Network
HSS	Home Subscriber Server
HTML	HyperText Mark-up Language
HTTP	HyperText Transfer Protocol
HTTPS	HTTP over SSL
HSS	Home Subscriber Server
IAPP	Inter-Access Point Protocol
ICMP	Internet Control Message Protocol
ICNIRP	International Commission on Non-Ionising Radiation Protection
ICSA	International Computer Security Agency
IGMP	Interior Group Management Protocol
IKE	Internet Key Exchange version 2
IMEI	International Mobile station Equipment Identity
IMS	IP Multimedia Subsystem (3GPP)
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
IP-CAN	IP Connectivity Access Network (3GPP)
IPsec	Internet Protocol Security
IPTV	Internet Protocol Television
IRAP	International Roaming Access Protocol
ISDN	Integrated Services Digital Network
ISIM	IM Subscriber Identity Module
ISM	Industrial, Scientific and Medical
ISP	Internet Service Provider
LAES	Lawfully Authorised Electronic Surveillance
LAN	Local Area Network
LBS	Location Based Services
MAC	Medium Access Control
MBMS	Multimedia Broadcast Multicast Services
ME	Mobile Equipment
MEID	Mobile Equipment ID

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MIKEY	Multimedia Internet KEYing
MIP	Mobile IP
MIMO	Multiple Input Multiple Output
MMD	Multimedia Domain
MMS	Multimedia Messaging Service
MNC	Mobile Network Code
MNO	Mobile Network Operator
MNP	Mobile Number Portability
MPTY	Multi Party
MS	Mobile Station
MVNO	Mobile Virtual Network Operator
NAPT	Network Address Port Translation
NAT	Network Address Translation
NDUB	Network Determined User Busy in Abbreviations
NGN	Next Generation Network
OFDM	Orthogonal Frequency Division Multiplexing
OMA	Open Mobile Alliance
OMA-CP	OMA Client Provisioning
OMA-DM	OMA Device Management
OMA-SUPL	OMA Secure User Plane for Location
OS	Operating System
OSA	Open Service Access
OSPF	Open Shortest Path First protocol
OSS	Operational Support System
OTA	Over The Air
PAT	Port Address Translation
PBX	Private Branch Exchange
PDA	Personal Digital Assistant
PDG	Packet Data Gateway
PEAP	Protected Extensible Authentication Protocol
PER	Packet Error Rate
PLC	Packet Loss Concealment
PMK	Pair Wise Master Key (IEEE 802.11i)
P-CSCF	Proxy Call State Control Function
PPPoA	Point-to-Point Protocol over ATM
PPPoE	Point-to-Point Protocol over Ethernet
PS	Packet Switched
PSAP	Public Safety Answering Point
PSK	WPA Pre-Shared Keys

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PSTN	Public Switched Telephone Network
PQCBWFQ	Priority Queue Class Based Weighted Fair Queuing
QoS	Quality of Service
RADIUS	Remote Access Dial-up User Service
RAN	Radio Access Network
RF	Radio Frequency
RIP	Routing Information Protocol
RSSI	Receive Signal Strength Indicator
RTP	Real-time Transport Protocol
R-UIM	Removable User Identity Module
SDP	Session Description Protocol
SHDSL	Single-pair High-speed Digital Subscriber Line
SIP	Session Initiation Protocol
SIP-TLS	Transport Layer Security (TLS) in SIP
S-IP	Simple IP
SIM	Subscriber Information Module
SMS	Short Message Service
SMS-PP	SMS Point-to-Point
SME	Small Medium Enterprise
SOHO	Small Office Home Office
SRTCP	Secure RTP
STRP	Signalling Type Rearrangement Pref. Mkr
SSID	Service Set Identifier
SSL	Secure Sockets Layer
TCP	Transmission Control Protocol
TDM	Time Domain Multiplexing
TD-SCDMA	Time Division – Synchronous Code Division Multiple Access
TIS	Total Isotropic Sensitivity
TISPAN	Telecommunications and Internet Services and Protocols for Advanced Networks (ETSI)
TKIP	Temporal Key Integrity Protocol
TLS	Transport Layer Security
ToS	Type of Service
TRP	Total Radiated Power
TTY	Teletype
UAM	Universal Access Method
UDP	User Datagram Protocol
UE	User Equipment
UICC	Universal Integrated Circuit Chip

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UMA	Unlicensed Mobile Access
URL	Uniform Resource Locators
USB	Universal Serial Bus
USIM	Universal Subscriber Identity Module
USSD	Unstructured Supplementary Services Data
UTRAN	Universal Terrestrial Radio Access Network
VAD	Voice Activity Detector
VCC	Voice Call Continuity
VLAN	Virtual Local Area Network
VoIP	Voice over IP
VoWLAN	Voice over WLAN
VPN	Virtual Private Network
WAN	Wide Area Network
WAP	Wireless Application Protocol
WBA	Wireless Broadband Alliance
W-CDMA	Wideband Code Division Multiple Access
WDS	Wireless Distribution System
WEEE	Waste from Electrical and Electronic Equipment
WEP	Wired Equivalent Privacy
Wi-Fi®	Wireless Fidelity (registered trademark of the Wi-Fi Alliance)
WiMAX	World Interoperability for Microwave Access, and IEEE 802.16
WLAN	Wireless Local Area Network
WMC	Wireless Mobile Convergence
WME	Wireless Media Extensions
WMM	Wi-Fi MultiMedia
WMM-SA	Wi-Fi MultiMedia – Scheduled Access
WPA	Wi-Fi Protected Access
WRED	Weighted Random Early Discard
XML	eXtensible Markup Language

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