



Fixed-Mobile
Convergence Alliance

Convergence Services using SIP over Wi-Fi

Product Requirement Definitions (PRD)
Release 2.0
8th May 2006

Service Capabilities Document

Release 2.0 – 8th May 2006

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The FMCA Wi-Fi SIP PRD Release 2.0 documents base some of their User Equipment and Access Point requirements on those originally recommended by the UMA Stage 2 Architecture specification. The use of UMA recommendations is acknowledged within the appropriate document. It is acknowledged that this material may be copyright of the participating partners of UMA Technology.

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3 How to read this FMCA PRD

This document defines the Service Capabilities requirements for the FMCA Convergence Services using SIP over Wi-Fi PRD Release 2.0. This document should be read in conjunction with the following PRD Release 2.0 documents:

- Convergence Products using SIP over Wi-Fi PRD, Release 2.0, Terms and Definitions, 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

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4 Service Capabilities

4.1 Service Capabilities Matrix

Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
Voice and Supplementary services	
Plain Old Telephone Service – Telephony	M
<p>PSTN simulation services</p> <p>Originating Identification Presentation (OIP) call by call or permanent Originating Identification Restriction (OIR) call by call or permanent Terminating Identification Presentation (TIP) call by call or permanent Terminating Identification Restriction (TIR) call by call or permanent Calling Name Identification Presentation (CNIP) Calling/Connected Name Identification Restriction CNIR Malicious Call Identification (MCID) Anonymous Call Rejection (ACR)Call Diversion (CDIV) Call Forwarding Unconditional (CFU) Install Forwarding (the NDI for PBX) Call Forwarding on Busy user (CFB) Call Forwarding on No Reply (CFNR) Call Forwarding on Not Logged-in (CFNL) Call Forwarding to international Call Deflection (CD) Call session Barring (CB) Outgoing Call Barring (OCB) Incoming Call Barring (ICB) White list / Black list Call Waiting (CW)</p>	M

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Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
<p>Advice of Charge services (AOC) as the breakdown below:</p> <ul style="list-style-type: none"> Advice of Charge: charging information at communication Set-up time (AOC-S) Advice of Charge: charging information During the communication (AoC-D) Advice of Charge: charging information at the End of the communication (AOC-E) <p>Call Completion to Busy Subscriber (CCBS)</p> <p>Call Hold (HOLD)</p> <p>Call Conference (CONF)</p> <p>Message Waiting Indication (MWI)</p> <p>Explicit Call Transfer (ECT)</p> <p>Reverse Charging</p> <p>Direct Charging</p>	
<p>Other Supplementary Services:</p> <ul style="list-style-type: none"> Calling Line Identification (CLI) Calling Line Identification Presentation (CLIP) Calling Line Identification Restriction (CLIR) CLI blocking override Connected Line Identification Presentation (COLP) Connected Line Identification Restriction (COLR) Register Recall/Hook Flash DTMF support On/off or enable/disable for individual service or global for class of service Call Transfer/re-route Trunk reselection Carrier preselection Private signalling transport (QSIG, DSS1) 	M

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Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
Call Hold, Inquiry and three party call Multi Party (MPTY) Optimal Routing Barring of all Outgoing International Calls (roaming) except to HPLMN (BOIC-ex HC) Barring of all Incoming Calls when roaming outside HPLMN (BIC-ROAM) IN tag : incoming calls/outgoing calls/non-answered call/busy call Service statistics Limit on call duration Traffic observation Fraud detection mechanisms Short number dial Forced routing Private / public numbering plan management Close User Group VPN capability	
Data services	
Voice over IP (VoIP)	M
Multimedia Messaging Service	M
Short Message Service	M
General Packet Radio Service	M
Internet Browsing (Web/WAP/Java browsing)	M
E-mail	M
IP multimedia service	M
Fax over cellular	O
Fax over wireless	O

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Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
Cell broadcast services	M
Circuit Switched Data (CSD) Services - TeleTYpe (TTY)	O
Unstructured Supplementary Service Data (USSD)	M
Device Management	M
Layers 1, 2 and 3 access methods: Simple IP (S-IP), Mobile IP (MIP) over Code Division Multiple Access Evolution Data Only — CDMA2000 1x EV DO	O
IP CENTREX, transit services like VPNs to enterprise	M
Access to hosted ICT services	M
Mobile, portable and nomadic access across networks	M
Real-time services based on SIP	M
ENUM service for interoperability between enterprise and public operator.	M
Location Based Services	M
Presence-based communication services	M
Authentication, Authorisation, and Accounting (AAA), E2E QoS and Security support services	M
Single-sign-on (Single-authentication/registration) across administrative network domains	M
Corporate email, file transfer, corporate Web services and access to the World Wide Web	M
IP connectivity services	M
Service provisions of voice, multimedia, messaging.session establishment and control of communication sessions	M
Conferencing services, presence services, call logging services, configuration services	M
Virtual Private Network (VPN - ITU-T Recommendation Y.1311) communication transport services between Next Generations Corporate Networks (NGCNs) and the network operator's NGN	M
Internet Protocol Television (IPTV)	O
Billing; and content storage and distribution services	M

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Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
Video services	
Video Streaming	O
Video Telephony Service	O
Messaging and Regulatory services	
<p>Messaging MMS Service Capabilities:</p> <ul style="list-style-type: none"> • MMS-storage • MMS-delivery (push) • MMS-delivery (pull) • MMS-delivery (streaming) • MMS-submission • MMS-type conversion • MMS-format conversion • MMS bearer • MMS-forwarding • Management control: so the operator may disable/enable MMS delivery • Terminal-capabilities detection: the network shall be able to detect if the terminal has this capability • MMS-user profile • MMS-cancellation/replacement/timeout • MMS mass delivery • MMS-notification • MMS-user agent • MMS accounting 	O
<p>IM and Chat Service capabilities:</p> <ul style="list-style-type: none"> • IM-delivery • IM-storage (user requested) 	M

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Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
<ul style="list-style-type: none"> • User presence storage (presentity) • User presence delivery • Management control: so the operator may disable/enable IM delivery • User control: so the user may disable/enable IM delivery • IM sender ID identification and restriction • IM message filtering (based on receiving user profile) • IM user profile • IM accounting • CHAT group control • CHAT session control • CHAT user profile • CHAT private messaging • Management control: so the operator may disable/enable CHAT delivery • User control: so the user may disable/enable CHAT delivery • CHAT sender ID identification and restriction • CHAT message filtering (based on receiving user profile) • CHAT storage (user requested) • CHAT storage (system) • CHAT accounting 	
<p>Presence capabilities</p> <p>User presence storage (presentity)</p> <p>User presence delivery (watcher)</p> <p>User Presence profile</p> <p>Presence accounting</p> <p>User location storage</p> <p>User location delivery (watcher)</p>	M

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Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
Other Optional Service Capabilities; Originating Communication Control Terminating Communication Control Intermediate Communication Control User Profile for communication service Logon CONF media bridge – 3 way media bridge Real-time charging calculation Voice bearer	O
Regulatory Services	
Emergency calls	M
Lawful Intercept	M
Malicious Communication Identity service (MCID)	M
Unsolicited Communication (UC)	M
Anonymous Communications Rejection service (ACR)	M
Priority Service	O
Number Portability	O
High-level User Equipment Requirements	
Phone Book	O
Prefix Routing List	O
Calls list/call history (log)	O
Total call duration	O
Bluetooth/Wi-Fi signal strength Display	M
Network icons (network availability)	O
Redial from Dialed Calls List	O

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Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
Contact name presentation	O
Calling/Called Line Identification	M
Call duration	O
Network in use	O
Address book	O
Menus	O
Speed dial capability	O
Language support	O
Voice activity detection	O
Battery level indication	O
Loudspeaker/hands-free capability	O
Alerting mechanism	O
Accessories	O
Dual Tone Multiple Frequency (DTMF)	O
Volume control	O
Time/date display	O
SMS	O
Predictive text	O
Games	O
Colour display	O
Network Selection for originating calls	M
Automatic selection	O
Destination number prefix based selection	O
Full destination number based selection	O
Per call selection	O
Network availability for carrying calls	M

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Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
Treatment of call to busy mobile station	O
Location Based Service (LBS)	O
Network determined user busy	M
Range of QoS-enabled services	O
Codecs Services	O
Mobility Management	O
Service Mobility	M
Push Services	O
Over The Air Service Activation (OTASP)	O
Over The Air Parameter Administration (OTAPA)	O
+ code dialling	M
Mobile Originating and Mobile Terminating sessions against Internet/Intranet, CS or IM Mobile, ISDN, PSTN call party	O
MSISDN and SIP URL numbering and addressing schemes – ENUM enabled	M
Global Text Telephony (GTT) is a feature that enables real-time text conversation	O
Packet Switched Streaming Service	O
One or more of the following Subscriber Identification types of identity modules shall be supported: - Universal Subscriber Identity Module (USIM) - IMS Subscriber Identity Module (ISIM) - Subscriber Identity Module (SIM) according to GSM - Subscriber identification beyond xSIM shall be supported - R-UIM for cdma2000	M
Removable-User Identity Module (R-UIM)	O
Messaging MMS terminal capabilities: <ul style="list-style-type: none"> • Terminal/USIM storage of MMS-user profile • MMS-delivery control 	O

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Service Capabilities Requirements for PRD Release 2	M=Mandatory O=Optional
<ul style="list-style-type: none"> • MMS-creation • MMS-presentation • MMS-storage • MMS-notification presentation 	
<p>IM and Chat Terminal capabilities:</p> <ul style="list-style-type: none"> • Terminal/ISIM storage of IM-user profile • IM-creation • IM-presentation • IM-storage • IM-notification presentation • IM stored message manipulation (retrieval/deletion/forwarding/etc) • CHAT session establishment/joining/invite handling/leaving • CHAT session presentation • CHAT message creation • CHAT invitation creation • CHAT group creation • CHAT stored message manipulation (retrieval/deletion/forwarding/etc) 	M
<p>Presence Terminal Capabilities:</p> <p>User presence profile editing</p> <p>User presence setting</p> <p>User location setting</p>	M

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4.2 General End-to-End Aspects

4.2.1 APs shall offer the maximum possible coverage to minimise the number of APs required to cover both business and consumer premises and hence reduce installation costs. However, it is recognised that, in the enterprise environment, there will be a trade-off between AP coverage and call density due to the fact that APs can only support a limited number of simultaneous calls. It is also recognised that Wi-Fi power level regulations will vary from country to country.

Matching PRD Release 1 Ref. 5.1.2

4.2.2 The Wi-Fi SIP UE and associated Wi-Fi APs shall ensure that the wireless mode voice quality, for both incoming and outgoing calls, shall be comparable or better than the voice quality obtained with good-coverage cellular (including delay and echo).

Matching PRD Release 1 Ref. 5.1.3

4.2.3 The Wi-Fi SIP UE and associated Wi-Fi APs shall support seamless in-call/in-session AP to AP handovers and seamless in-call/in-session handover between Wi-Fi AP and cellular networks, and vice-versa, with balancing of voice quality. Voice call continuity shall be supported.

Matching PRD Release 1 Ref. 5.1.4

4.2.4 The UE shall support idle roving between Wi-Fi and cellular networks (and vice versa) and inter AP transfers.

Matching PRD Release 1 Ref. 5.1.5

4.2.5 The UE shall be able to connect to the Wi-Fi SIP service with no user interaction without compromising security.

Matching PRD Release 1 Ref. 5.1.6

4.2.6 Wi-Fi SIP services shall support the capability for Operators to specify call admission control policies, e.g. list of incoming/outgoing calls not to be accepted and the ability to restrict services to wireless or cellular access.

Matching PRD Release 1 Ref. 5.1.7

4.2.7 Wi-Fi GAN (UMA) and Wi-Fi SIP handset specifications should be aligned to facilitate common physical devices that can be modified by software and configuration parameters to operate with SIP or GAN (UMA), depending on which service the user is subscribed to. For more information on Wi-Fi GAN (UMA) refer to the FMCA Wi-Fi GAN (UMA) PRD Releases 1.0 and 2.0.

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Matching PRD Release 1 Ref. 5.1.8

4.2.8 Wi-Fi SIP services and UE should be wireless Access Point agnostic and hence support seamless connection to public Wi-Fi hotspots, private Wi-Fi enabled home hubs, Wi-Fi enabled teleworker APs and corporate and enterprise Wi-Fi networks.

Matching PRD Release 1 Ref. 5.1.9

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