Enhanced Visual Voice Mail Requirements

Candidate Version 1.0 – 11 May 2011

Open Mobile Alliance

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1. Scope (Informative)

The requirements defined in this document are for developing an OMA Enhanced Visual Voice Mail (EVVM) Enabler, which will be used to provide an enhanced voice mail service. The OMTP/GSMA VVM 1.3 Specifications [GSMA VVM] focus on providing an email like user interface and support functions such as message retrieval, message upload, VVM management, greeting management and provisioning. The OMA EVVM Enabler leverages the OMTP/GSMA VVM 1.3 Specifications, improving the existing voice mail service with market driven requirements by extending it with features and functions such as the following:

- customizable user greetings including conflict resolution
- extension of voice mail to multi-mode access networks (e.g., LTE deployment)
- multi-device supports
- forwarding voice mails
- request future delivery
- storage of sent voice mails
- support for various audio codecs
- text to voice conversion
- user preferences
- referencing voice mail parts

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2. References

2.1 Normative References

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

2.2 Informative References

[GSMA VVM] "Visual Voice Mail Interface Specifications", Version 1.3, Open Mobile Terminal Platform, OMTP URL:http://www.omtp.org/Publications/Display.aspx?Id=6e36ebdb-5e52-4c91-81e5-d9565b658088

Editor's Note: The OMA EVVM working group expects GSMA to take ownership of the existing OMTP VVM 1.3 Specifications. Therefore, the appropriate reference will be revisited during the consistency review.

[RFC3501] "Internet Message Access Protocol - Version 4rev1", M. Crispin, March 2003 URL:http://tools.ietf.org/html/rfc3501

[RFC5321] "Simple Mail Transfer Protocol", J. Klensin, October 2008 URL:http://tools.ietf.org/html/rfc5321

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3. Terminology and Conventions

3.1 Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “NOT RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except “Scope” and “Introduction”, are normative, unless they are explicitly indicated to be informative.

3.2 Definitions

Email Address Internationalization	UTF-8-based support for localized addresses in a native language script or character sets, including ASCII-based representation for backwards compatibility with legacy email systems.

3.3 Abbreviations

AMR	Adaptive Multi Rate
AMR-WB	Adaptive Multi Rate Wide Band
ASCII	American Standard Code for Information Interchange
EVVM	Enhanced Visual Voice Mail
GPRS	General Packet Radio Service
GSM	Global System for Mobile communications
GSMA	GSM Association
GUI	Graphical User Interface
IMAP4	Internet Message Access Protocol 4
IP	Internet Protocol
LTE	Long Term Evolution
MIME	Multipurpose Internet Mail Extension
MMS	Multimedia Messaging Service
NUT	New User Training
OMA	Open Mobile Alliance
OMTP	Open Mobile Terminal Platform
RFC	Request For Comments
SIP	Session Initiation Protocol
SMS	Short Message Service
SMTP	Simple Mail Transfer Protocol
TUI	Telephony User Interface
UMTS	Universal Mobile Telecommunications System
URI	Uniform Resource Identifier
UTF	Unicode Translation Format
VM	Voice Mail
VVM	Visual Voice Mail
WiFi	Wireless Fidelity (also Wi-fi, Wifi, or wifi from)

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4. Introduction (Informative)

The purpose of the OMA EVVM Enabler development work is to provide the next step in the evolution of the VVM-based service, which was originally carried out in Open Mobile Terminal Platform (OMTP) Forum and culminated in the release of VVM 1.3 Specifications. Upon the closing down of OMTP Forum in June 2010, its VVM 1.3 Specifications was transferred to the GSMA organization and its incomplete work of VVM 2.0 for enhancement of VVM 1.3 was left with no official status.

The OMA EVVM Enabler leverages the OMTP VVM 1.3 Specifications by improving the existing voice mail service with market driven requirements and extending it with several new features and functions. It fulfills new categories of voice mail service requirements including new high-level functional requirements, conditional greetings and protocol enhancements.

The OMA EVVM Enabler extends the user's ability to manage and handle his/her voice mails via supporting new capabilities for voice mail conversion and voice mail handling. Expanding the experiences of the voice mail service users, the service requirements also include higher security considerations for encryption of both sensitive content of voice mails and their corresponding notifications.

All new EVVM requirements are described in Section 6 and the descriptive use cases and supplementary information related to some requirements are provided in Appendix B. The content of Appendix C is fully dedicated to the listing of the VVM requirements that have been fulfilled by the OMTP VVM 1.3 Specifications.

4.1 Version 1.0

This version of the EVVM Enabler covers the requirements marked as EVVM V1.0 in the tables in Section 6 as well as all VVM 1.3 requirements listed in Appendix C.

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5. EVVM 1.0 release description (Informative)

The following shows the actors and their roles for the OMA EVVM Enabler:

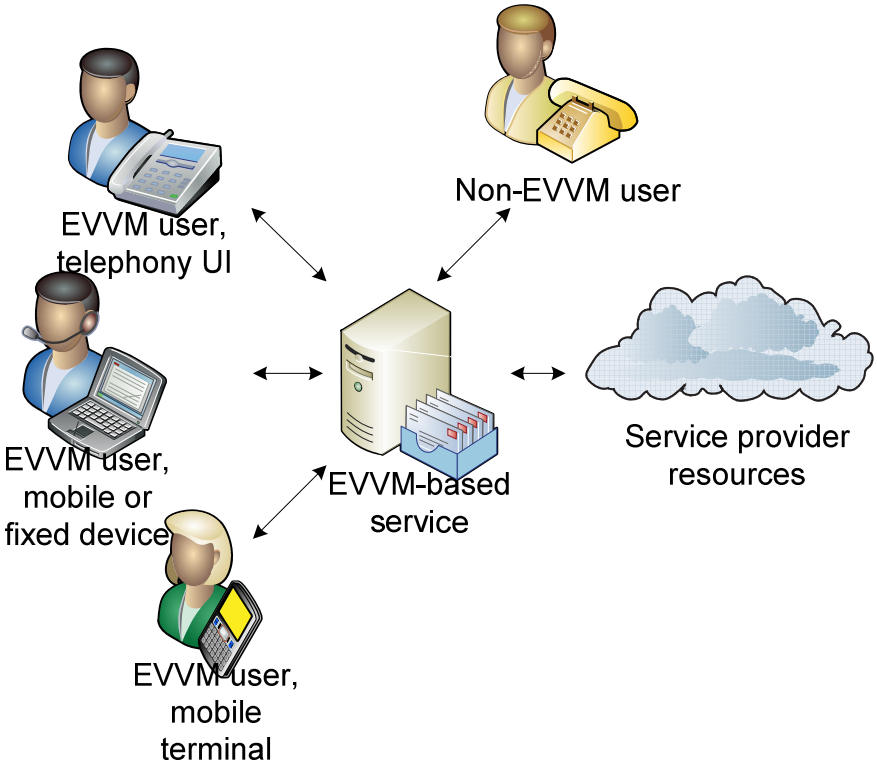

Figure 1: Illustration of EVVM-based service

The service provider deploys a service based on the EVVM Enabler.

The EVVM-based service provides enhanced visual voice mail service to EVVM users.

EVVM users can access the EVVM-based service via

- telephony UI,
- mobile or fixed devices using internet – including wireless internet – connectivity, or
- mobile terminals using the mobile network infrastructure.

Non-EVVM users can access the EVVM-based service only via the telephony UI, and only to deposit voice mails to existing EVVM users.

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6. Requirements (Normative)

6.1 High-Level Functional Requirements

Label	Description	Release
EVVM-HLF-001	The EVVM Enabler SHALL allow an EVVM user to deposit a new or a stored voice mail to the recipient via the EVVM Enabler.	EVVM V1.0
EVVM-HLF-002	The EVVM Enabler MAY allow an EVVM user to block specific users from leaving voice mails.	EVVM V1.0
EVVM-HLF-003	The EVVM Enabler MAY employ techniques to automatically maintain an uninterrupted EVVM based service in challenged environments.	EVVM V1.0
EVVM-HLF-004	The EVVM Enabler MAY support multiple identifier types (e.g., phone number, email address, SIP URI) to deposit a voice mail.	EVVM V1.0
EVVM-HLF-005	The EVVM Enabler MAY support association of multiple identifiers (zero or more) of each identifier type (e.g., phone number, email address, SIP URI) with one and only one voice mail box.	EVVM V1.0
EVVM-HLF-006	The EVVM Enabler SHALL support Email Address Internationalization.	EVVM V1.0
EVVM-HLF-007	When multiple identifers are associated with a single EVVM voice mailbox, the EVVM Enabler SHALL always allow the user owning the mailbox to access his/her voice mail box after only one valid login operation.	EVVM V1.0
EVVM-HLF-008	When multiple identifers are associated with a single EVVM voice mailbox, the EVVM Enabler SHALL always allow the user owning the mailbox to manage (e.g., receive, send, store, retrieve) voice mails with any of his/her identifiers after logging into his/her voice mail box.	EVVM V1.0
EVVM-HLF-009	An EVVM user MAY be able to add a background audio item and send it together with his/her voice mail.	EVVM V1.0
EVVM-HLF-010	The EVVM Enabler MAY support playing simultaneously a voice mail and its associated background media, if present, at the recipient's EVVM client.	EVVM V1.0
EVVM-HLF-011	The EVVM Enabler SHOULD support the handling of wide band speech (e.g. G.722, AMR-WB).	EVVM V1.0
EVVM-HLF-012	The EVVM Enabler MAY allow an EVVM user to manage (e.g., list, retrieve, delete) the voice mails previously sent by him/her in a separate folder (i.e. in a sentbox).	EVVM V1.0
EVVM-HLF-013	The EVVM Enabler MAY support storing copies of sent VMs in a storage separated from the inbox according to user preferences and service provider policy.	EVVM V1.0
EVVM-HLF-014	The EVVM Enabler MAY support inclusion of an emotion indication by the sending user, along with the VM, while depositing the VM for delivery. NOTE: The number of the emotions (which could include combinations of emotions) is finite and will be decided during the TS phase.	EVVM V1.0
EVVM-HLF-015	The EVVM Enabler SHALL deliver the emotion indication information, if present, to the recipient.	EVVM V1.0
EVVM-HLF-016	The EVVM Enabler SHOULD provide support for multi-device environment.	EVVM V1.0
EVVM-HLF-017	The EVVM Enabler MAY allow an EVVM user to recall his/her voice mail deposited to another EVVM user.	EVVM V1.0
EVVM-HLF-018	The EVVM Enabler SHALL support sending notification to the recalling EVVM user, which includes the status (i.e., success, failure) of the voice mail recall attempt made by the recalling EVVM user.	EVVM V1.0

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EVVM-HLF-019	The EVVM Enabler SHALL support sending notification to the recipient EVVM user, which includes the information and status of the voice mail recall attempt made by the recalling EVVM user, according to the recalling EVVM user's preferences.	EVVM V1.0
EVVM-HLF-020	The EVVM Enabler SHOULD support interworking between various codecs (e.g. narrowband with G.711, GSM, AMR and wideband with G.722 and AMR-WB).	EVVM V1.0
EVVM-HLF-021	The EVVM Enabler SHALL support network-initiated deactivation.	EVVM V1.0
EVVM-HLF-022	The EVVM Enabler SHALL allow the EVVM client and EVVM server to exchange information that supports avoiding spam voice mails.	EVVM V1.0
EVVM-HLF-023	The EVVM Enabler SHALL support interworking with other non-OMA VM services that are based on open standards.	EVVM V1.0

Table 1: High-Level EVVM Functional Requirements

6.1.1 Greeting Management

Label	Description	Release
EVVM-GRM-001	The EVVM Enabler SHOULD support personalized greetings and voice signatures based on any of the identifiers of the caller.	EVVM V1.0
EVVM-GR,M-002	The EVVM Enabler MAY support creating and managing groups (e.g., a predetermined list of colleagues stored in an address book, a white list) for greetings and associate greetings with groups.	EVVM V1.0
EVVM-GRM-003	The EVVM Enabler MAY support creating personalized greetings and voice signatures in various languages and offer a choice to the caller.	EVVM V1.0
EVVM-GRM-004	The EVVM Enabler MAY support creating personalized greetings and voice signature to be played during a specific time range (i.e., start and end time).	EVVM V1.0
EVVM-GRM-005	The EVVM Enabler MAY support creating personalized greetings and voice signatures to be played based on calendar dates, including intervals.	EVVM V1.0
EVVM-GRM-006	The EVVM Enabler MAY support creating personalized greetings and voice signatures to be played based on the day(s) of the week.	EVVM V1.0
EVVM-GRM-007	The EVVM Enabler SHALL notify the EVVM user of the occurrence of any conditional greeting conflicts, e.g., overlapping date, time, etc.	EVVM V1.0
EVVM-GRM-008	The EVVM Enabler MAY support a mechanism for resolving the EVVM user's conditional greeting conflicts based on the EVVM user's preferences.	EVVM V1.0
EVVM-GRM-009	The EVVM Enabler MAY support managing (add, delete or retrieve) contact information as an attachment along with the EVVM user's greeting recording or voice signature.	EVVM V1.0
EVVM-GRM-010	The EVVM Enabler SHALL support a caller while listening to a greeting or voice signature to retrieve an attached contact information, if present.	EVVM 1.0

Table 2: Greeting Management Requirements Items

6.1.2 Protocol Alignment

Label	Description	Release
EVVM-PRO-001	The EVVM Enabler SHALL support multiple media formats and the selection of a preferred format based on various factors: e.g., user preferences, device capabilities, operator policies).	EVVM V1.0

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EVVM-PRO-002	The EVVM Enabler MAY allow the service providers to insert images as attachments to a voice mail (e.g., display of logos, advertisements).	EVVM V1.0
EVVM-PRO-003	The EVVM Enabler SHALL support including customized call-back information in the voice mail delivered to the EVVM client.	EVVM V1.0
EVVM-PRO-004	The EVVM Enabler SHALL ensure the exchange of client, server and protocol capabilities between the EVVM client and the EVVM server.	EVVM V1.0

Table 3: Protocol Alignment Requirements Items

6.1.3 User Interface Management

Label	Description	Release
EVVM-UIM-001	The EVVM Enabler SHALL support EVVM user preferences that govern the notification and subsequent delivery of voice mail messages.	EVVM V1.0

Table 4: User Interface Management Requirements

6.1.4 VM Conversion

Label	Description	Release
EVVM-VMC-001	The EVVM Enabler MAY support text to voice conversion.	EVVM V1.0

Table 5: Voice Mail Conversion Requirements

6.1.5 VM Handling

Label	Description	Release
EVVM-VMH-001	The EVVM Enabler MAY allow an EVVM user to include references to one or more voice mails stored in the EVVM Enabler, when: 1. Composing a new voice mail 2. Forwarding a stored voice mail 3. Replying a voice mail.	EVVM V1.0
EVVM-VMH-002	The EVVM Enabler SHALL resolve the VM references included in a VM and reassemble the original VM by injecting the referenced parts.	EVVM V1.0
EVVM-VMH-003	The EVVM Enabler MAY allow an EVVM user to request to send a voice mail at a future time. NOTE: the EVVM user is the user originating the voice mail.	EVVM V1.0
EVVM-VMH-004	The EVVM Enabler MAY support an EVVM user to request on forwarding VMs via SMS, MMS or email as text.	EVVM V1.0
EVVM-VMH-005	The EVVM Enabler MAY support an EVVM user to request on forwarding VMs via MMS or email as voice.	EVVM V1.0
EVVM-VMH-006	If the EVVM Enabler allows an EVVM user to forward VMs using SMS, MMS or email as text, the EVVM Enabler SHALL support voice to text conversion to generate the textual content (also known as transcript).	EVVM V1.0
EVVM-VMH-007	If the EVVM Enabler allows an EVVM user to forward VMs using SMS, MMS or email, the EVVM Enabler MAY support requesting delivery and/or read reports for the forwarded SMS, MMS or email messages.	EVVM V1.0

Table 6: VM Handling Requirements

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6.1.6 Security

Label	Description	Release
EVVM-SEC-001	The EVVM Enabler MAY provide application-level encryption over bearers that do not provide transport-level encryption.	EVVM V1.0
EVVM-SEC-002	The EVVM Enabler SHOULD preserve the integrity and confidentiality of communication when inter-working with non EVVM based services.	EVVM V1.0
EVVM-SEC-003	The EVVM Enabler SHALL provide at least the same level of security as GSMA/OMTP VVM 1.3.	EVVM V1.0
EVVM-SEC-004	The EVVM Enabler MAY allow protecting EVVM users from unsolicited voice mails.	EVVM V1.0
EVVM-SEC-005	The EVVM Enabler SHALL preserve the integrity and confidentiality of communication.	EVVM V1.0
EVVM-SEC-006	The EVVM Enabler MAY support non-repudiation.	EVVM V1.0

Table 7: Security Requirements

6.1.6.1 Authentication

Label	Description	Release
EVVM-AUT-001	The EVVM Enabler SHALL provide mutual authentication (e.g., user, client, service) prior to accessing the EVVM based service.	EVVM V1.0
EVVM-AUT-002	The EVVM Enabler SHALL provide authentication information in the notifications.	EVVM V1.0

Table 8: Authentication Requirements

6.1.6.2 Confidentiality

Label	Description	Release
EVVM-CON-001	The EVVM Enabler SHOULD support confidentiality of sensitive content such as entire VMs, individual parts of VMs, and notifications.	EVVM V1.0
EVVM-CON-002	The EVVM Enabler SHALL support confidentiality when using STATUS SMS message as notification content.	EVVM V1.0
EVVM-CON-003	The EVVM Enabler MAY support confidentiality when using SYNC SMS message as synchronization content.	EVVM V1.0

Table 9: Confidentiality Requirements

6.1.7 Usability

Label	Description	Release
EVVM-USA-001	The EVVM Enabler SHALL support EVVM clients without SMS capability, such as personal computers relying solely on IP connectivity.	EVVM V1.0
EVVM-USA-002	The EVVM Enabler SHALL allow reporting a spam voice mail without having to upload the whole voice mail.	EVVM V1.0

Table 10: Usability Requirements

6.2 Overall System Requirements

Label	Description	Release
EVVM-OVE-001	The EVVM Enabler SHALL support all features and functions specified in OMTP/GSMA VVM 1.3.	EVVM V1.0

Table 11: Overall System Requirements

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Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-RD-EVVM-V1_0	21 Sep 2010	All	Baseline as agreed in: OMA-COM-EVVM-2010-0003R01-INP_RD_Baseline_Version
	10 Oct 2010	1 6.1.1-6.1.5	Scope added (CR#2010-0009R01) New Requirements Groups added (CR#2010-0008R01)
	25 Oct 2010	1, 2.2 & 3.3 6.1.1 6.1.2 6.1.6	Added a NOTE, modified references & added acronyms (CR#2010-0035R01) Greeting Management (CR#2010-0015R02) Protocol Alignment (CR#2010-0018R02) Security (CR#2010-0017R03)
	02 Nov 2010	6.1 & Appendix B.1, B.2 & B.3 Appendix C.1 6.1	Added High-Level Functional Requirements & Use Cases for forwarding VM as MMS, Email & SMS (CR#2010-0026R02) Temporary Account (CR#2010-0030R02) Added one HLF requirement item (CR#2010-0033R01)
	20Nov 2010	6.1 6.1.2 1 6.1.1 6.1	Added a High-Level Functional requirement on blocking to leave VM (CR#2010-0038R02) Added a Protocol Alignment requirement on call back number (CR#2010-0039R4) Revised the Scope section (CR#2010-0043R02) Revised 3 Greeting Management requirements and added two more (CR#2010-0053R02) Added a High-Level Functional requirement to support feature and functions of VVM1.3 (CR#2010-0058R01)
	01 Dec 2010	6.1.9 Appendix X.1 Appendix X.2	Added a Usability requirement supporting IP-based VVM clients without SMS capability (CR#2010-0047R01 Added 3 VVM1.3 Greeting Management requirements (CR#2010-0051R02) Added one VVM1.3 Protocol Alignment requirements (CR#2010-0060R02)
	08 Dec 2010	6.1 6.3	Added one High-Level Function requirement item supporting SPAM reporting (CR#2010-0031R04 Added one Protocol Alignment requirements item supporting exchange of information between client & server regarding protocol version & client type (CR#2010-0046R02)
	20 Dec 2010	All	General editorial clean-up by DSO: fonts, numbering of tables, language set to English UK, deletion of example requirements
	21 Dec 2010	All	Deletion by DSO of more examples from the original template, deletion of redundant whitespace, formatting of note
	16 Jan 2011	4.1	Added a brief statement to the empty “Introduction” section per action to the editor in the Nanjing Interim meeting (11-13 January 2011)
	17 Jan 2011	4.1	Revised addition to the Introduction section per EVVM Chair’s email (13 January 2011)
	21 Jan 2011	6.1, 6.1.1, 6.1.2, 6.1.3	Incorporated: Added a UIM requirement related to “User Preferences” (CR#2010-0059R04) Added a PRO requirement on determining non-OMA VM Services (CR#2010-0070R02) Added three requirement items on “recalling” VM (CR#2010-0083R01) Added two GRM requirement items on “Contact Card in Greeting” (CR#2010-0085R01)

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Document Identifier	Date	Sections	Description
	22 Jan 2011	Section 6.1	Added a HLF requirement on VVM Service Continuity (CR#2010-0022R05) Added two requirements for support of multiple identifier types (CR#2010-0042R04) Added a requirement item on managing group (CR#2010-0055R03) Added a requirement on attaching background media (CR#2010-0056R02) Added a requirement on handling multiple widebands (CR#2010-0073R01) Added a requirement to manage previously sent VM (CR#2010-0078R01) Added two "Emotion Indication" requirement items (CR#2010-0079R01) Added one requirement items on support of multi-device (CR#2010-0081R01) Removed an instance of requirement item duplications (CR#2010-0088) Added a requirement on interworking between various codecs (CR#2011-0012R01)
		Section 6.1.1	
		Section 6.1.2	Added two GRM requirements on conditional greeting conflict (CR#2010-0068R02).
		Section 6.1.4	Removed an instance of PRO requirement item duplications (CR#2010-0088)
		Section 6.1.5	Added a VMC requirement on text to voice conversion (CR#2010-0086R02) Added two VMH requirements for depositing by referencing VM (CR#2010-0080R02)
		Section 6.1.9	Added a USA requirement on Spam reporting (CR#2010-0071R01)
		Appendix B.4.1 & B.4.2	Added a use case on "Background Media" (CR#2010-0056R02)
		Appendix D.1.8	Added a VVM1.3 ADM requirement for provisioning status (CR#2010-0075R01)
		Appendices D.X1 to D.X6 &	Added 13 VVM1.3 requirements in six new categories (CR#2011-0001R01)
		Appendix D.X7	Added 5 VVM1.3 requirements in Message Deposit category (CR#2011-0002R02)
	25 Jan 2011	All	Language set to English UK, copyright set to 2011 on page 2, added periods and deleted extra spaces and empty row.
	03 Feb 2011	Section 6.1.4	Added a VMH requirement to defer sending a voice mail (CR#2010-0045R04)
	03 Marc 2011 (RDRR)	Section 1 Scope	Revised per RDRR comments (CR#2011-0052R01)
	10 Mar 2011	Sections 2.2 & 5	Revised per RDRR comments (CR#2011-0053R02)
		Sections 6.1 & 6.1.1,	Revised per RDRR comments (CR#2011-0036R03)
	16 Mar 2011 (RDRR)	Section 1	Fixed editorials errors (CR#2011-0040R02)
		Section 3.3	Added several abbreviations (CR#2011-0035R04)
		Section 6 & Appendix D	Removed all introductory text before every requirements table per RDRR comments and "Note to Editor" (CR#2011-0054R01, Change 1)
		Section 6.1	Revised per RDRR comments (CR#2011-0054R01, Change 1, CR#2011-0055R03, CR#2011-0056R02 & CR#2011-0057R1) Added a HLF requirement on avoiding Spam (CR#2011-0051R01) Removed HLF-009 (turned to PRO-005) per RDRR comments (CR#2011-0092R01)
		Section 6.1.2	Revised 3 EVVM-PRO requirements per RDRR comments (CR#2011-0088R01) Added PRO-005 (from HLF-009) per RDRR comments (CR#2011-0092R01)
		Section 6.1.3	Remove NOTE from EVVM-UIM-001 (CR#2011-0059)
		Section 6.5	Revised per RDRR comments (CR#2011-0054R01, Change 2)
		Section 6.1.6	Revised per RDRR comments (CR#2011-0055R03)
		Section 6.1.9	Revised EVVM-USA-001 per RDRR comments (CR#2011-0066R01)
		Appendix B	Removed all blank sub-clause under "Market Benefits" headings (CR#2011-0061) Revised per RDRR comments (CR#2011-0067R01)
		Appendix D	Added table captions, streamlined sub-sections numbering, revised text and changed VVM User and VVM Client to VVM user and VVM client, respectively (CR#2011-0037R05) Provided clareification for "legacy" and "regular" notifications (CR#2011-0065R01)

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Document Identifier	Date	Sections	Description
	22 Mar 2011 (RDRR)	General	Globally changes “VVM specification” or “EVVM specification” to “VVM Specifications” and “EVVM Specifications”, respectively, and changed EVVM User to EVVM user (CR#2011-0074R01) Globally changed “EVVM Server” to “EVVM server” and “EVVM Client” to “EVVM client” (CR#2011-0082R01) Globally changed all occurrences of “voicemail” and “voice message” to “voice mail” (CR#2011-0097R01) Changed the first occurrence of “Voice Mail” to “Voice Mail (VM)” and the rest to “VM” (CR#2011-0097R01)
		Section 3.1	Added the missing “NOT RECOMMENDED” key word (CR#2011-0026)
		Sections 4 & 4.1	Added texts to Sections 4 and 4.1 (CR#2011-0072R04)
		Section 6.1	Revised PRO-004 and turned it into an HLF requirement, HLF-026, (CR#2011-0069R01) Added HLF-0012a to support Email Address Internationalisation (CR#2011-0075R01) Made a few editorial corrections and fixes to HLF-008 (CR#2011-0081R01) Moved HLF-001 to Section 6.2 Overall System Requirements (CR#2011-0094R01)
		Sections 6.1.2	Revised PRO-004 and turned it into an HLF requirement, HLF-026, (CR#2011-0069R01) Revised VMH-002 per RDRR Comments (CR#2011-0076) Made a few editorial corrections and fixes to VMH-001 (CR#2011-0049R01)
		Section 6.1.5	Added EVVM-SEC-004 requirement for integrity & confidentiality of communications and removed 4 blank empty sections, 6.1.6.1 thru 6.1.6.4 (CR#2011-0048R02)
		Section 6.1.6	Moved two SEC to CON, added 4 new SEC & added 3 new AUT (CR#2011-0058R03) Revised EVVM-USA-002 per RDRR Comment (CR#2011-0075R01)
		Section 6.1.9	Deleted all empty sub-sections per RDRR comments (CR#2011-0083R02 & CR#2011-0093)
		Section 6.1.x thru 6.2	Moved HLF-001 to Section 6.2 Overall System Requirements (CR#2011-0094R01)
		Section 6.2	Revised and changed VHM to VMH in revisions 22 January and 3 February 2011 per RDRR Comment (CR#2011-0077)
		Appendix A	Revised per R&A comments on CR#2011-0037R05 for change normative language to informative and some editorial changes (CR#2011-0037R06)
		Appendix D	Changed the sequence of the two sentences in the introductory paragraph (CR#2011-0085R01) Fixed the title of Section D.4 to “Message Retrieval” and editorial fixed the heading of D.10 (CR#2011-0099)
	28 Mar 2011	6.1.5, App A 2	Applied CR#2011-0062 Marked CR # 2011-0099 as applied on 22 March 2011 in history box Restored numbering of tables Formatting of font styles
	31 Mar 2011	Sections 3.2 & 3.3	Added definition for EAI and acronyms for ASCII and UTF (CR#2011-0112)
		Section 6.1.1	Revised GRM-002 & GRM-003 (CR#2011-0101R01) Revised GRM-004 & GRM-005 (CR#2011-0102R01) Revised GRM-006, GRM-007 & GRM-008 (CR#2011-0103R01) Revised GRM-008 & GRM-009 (CR#2011-0104 R01)
		Appendix B	Added B.6, “Multi-Device and Multi-Network Access”, use case (CR#2011-106 Added B.7, “Forwarding VM to SMS, MMS & Email”, use case (CR#2011-107R01)
	04 Apr 2011	Section 6.1	Added clarification text to HLF-012 (CR#2011-0090)
		Appendix C	Deleted Appendix C.1 Temporary Account (CR# 2011-0095R01)
	06 Apr 2011	Section 6.1	Added HLF-012b and HLF-012c (CR#2011-0079R02 Split HLF-014 into two separate requirements, HLF-014 & HLF-014a (CR#2011-0116)
		Section 6.1.2	Made two editorial fixes in PRO-001 & PRO-003 (CR#2011-0113)

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Document Identifier	Date	Sections	Description
	13 Apr 2011	Section 1 Section 5 Section 6.1 Section 6.1.6 Section 6.1.6.1 Section 6.1.7 Appendix B.3.1 Appendix B.5 Appendix B.7.1 Appendic B.8	Two editorial fixes (CR#2011-0126R01) Buletized 3 EVVM users' means of access to EVVM-based service (CR#2011-0126R01) Fixed editorials in HLF-010, 017 & 025 (CR#2011-0126R01) Fixed an editorial in SEC-008 (CR#2011-0126R01) Removed a duplication of AUT-001 (CR#2011-0126R01) Fixed an editorial in USA-001 (CR#2011-0126R01) Fixed numbering sequence (CR#2011-0126R01) Added Use Case "End to End Voice Mail Delivery" (CR#2011-0105R02) Removed the extra word "for" (CR#2011-0126R01) Added Use Case "Interactions with Legacy Voice Message Service" (CR#2011-0108)
	14 Apr 2011	All Sections 4 & 4.1 Section 6.1 Section 6.1.1 Section 6.1.5 Appendic B Appendix C	EVVM Group's overall editorial review and editorial fixes during the 1st Session on 13/04/2011, also straigthening the numbering of EVVM requirement items in all categories Revised for the removal of the Appendix C and renaming of Appendix D to C. Revised HLF-019 to change support for multi-device in EVVM (CR#2011-0131R01) Revised GRM-001 to change the Caller ID (CR#2011-0130R01) Removed VMH-008 (CR#2011-0129) Removed Appendix B.1 through B.4 (CR#2011-0105R02) Removed Heading for emty Appendix C
	15 Apr 2011	Section 6.1	Changed manual heading to auto.
	26 Apr 2011	All	Editorial fixes: Cross-references fixed History Table
Candidate Version OMA-RD-EVVM-V1_0	11 May 2011	N/A	Status changed to Candidate by TP TP ref# OMA-TP-2011-0163-INP_EVVM_V1_0_RD_for_Candidate_Approval

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Appendix B. Use Cases (Informative)

B.1 End-to-End Voice Mail Delivery

B.1.1 Short Description

Bob, Alice and John are three friends, who are all EVVM users and are able to communicate with each other using EVVM-based services. This use case involves voice mails' composition, deposit, retrieval, forwarding, notifications and so on, and demonstrates a good user experience brought by the EVVM end-to-end voice mail service.

B.1.2 Actors

Bob is an EVVM user.

Alice is an EVVM user.

John is an EVVM user.

B.1.2.1 Actor Specific Issues

Bob wants to tell Alice some interesting stories during his vacation and leaves her a voice mail. Later, he receives a voice mail from John, learning that Alice has just failed in an exam and is in bad mood. Bob wants to recall his previous voice mail for Alice.

To console Alice, Bob wants to send Alice a voice mail containing an emotion indication and soothing background music. He also wants to include a reference to John's voice mail so as to let Alice know that her friends are caring about her.

B.1.2.2 Actor Specific Benefits

Bob, Alice and John can all take advantage of EVVM-based services.

John can use his EVVM Client to compose a voice mail for Bob, and Bob can receive it.

Bob can deposit a voice mail for Alice and then recall it.

Bob can send Alice a voice mail with emotion indication and background music.

Bob can send Alice a voice mail including a reference to John's voice mail.

Alice can see Bob's emotion indication and can hear Bob's voice and the background music at the same time.

Alice can also hear John's voice mail included initially as a reference in Bob's voice mail.

B.1.3 Pre-conditions

Bob, Alice and John have all subscribed to EVVM-based voice mail services.

B.1.4 Post-conditions

Bob can receive John's voice mail.

Bob is able to recall the inappropriate voice mail he has previously deposited for Alice.

Alice is able to receive Bob's voice mail, see its emotion indication, and hear Bob's voice together with the background music.

Alice can also hear John's voice mail after opening Bob's voice mail.

B.1.5 Normal Flow

1. Bob just returned from his vacation, and he wants to tell Alice some interesting stories during his vacation, so he dials Alice's mobile phone number.

2. Alice has just failed in an exam and is in bad mood. She has turned off her mobile phone and does not want to talk to any one.

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3. Bob cannot speak to Alice at this moment and his call is diverted automatically to Alice's voice mail system. It's around 3:30 pm in the afternoon. Bob hears the following greeting: "Good afternoon! You have reached the voice mail box of Alice Green, please leave a message after the beep. Thank you and have a nice day!"

4. Bob leaves a message and describes how enjoyable his vacation was.

5. John decides to tell Bob what has happened to Alice, so he opens his EVVM Client, composes a voice mail locally, and sends it to Bob via the EVVM-based service.

6. Bob's EVVM Client receives a SYNC SMS notification indicating that a new voice mail has been received in Bob's voice mail box. Then, a flickering icon appears on the user interface, with a special ringing tune generated at the same time on Bob's terminal device. Bob realizes that he has got a new voice mail.

7. Bob accesses his voice mail box and opens John's voice mail. In his message, John tells Bob that Alice has failed in an important exam and is feeling very sad.

8. Bob realizes that his previous voice mail is inappropriate for Alice at this moment, so he decides to recall that particular voice mail. He locates that voice mail in his sentbox, and selects "Recall" in the menu of the user interface.

9. In a matter of seconds, Bob receives a notification from his EVVM-based service, saying that his voice mail has been recalled successfully. Thus, Alice will not see that voice mail.

10. After that, using his EVVM Client, Bob composes a new voice mail for Alice, expressing his sorrow and consoling her.

11. He includes an emotion indication, indicating that he feels sorry.

12. He believes that some soothing background music may make Alice feel better, so he selects a piece of music from his media collection in his device, and the selected music is then associated with his voice message as the background music.

13. In his voice mail, Bob also includes a reference to John's voice mail so as to let Alice know that her friends are caring about her.

14. Bob then sends the voice mail to Alice via his EVVM-based service, and the voice mail is deposited into Alice's voice mail box.

15. Later in the evening, Alice turns on her mobile phone and is notified of a new SMS message, which tells her that she has got a new voice mail and provides the information related to that voice mail (e.g., who sent the voice mail, when the voice mail was sent).

16. Alice logs into her voice mail box, retrieves and opens the voice mail from Bob.

17. She sees Bob's emotion indication, and hears Bob's voice and the background music at the same time. She is deeply touched.

18. After that, she also hears John's voice message which was sent initially to Bob. She realizes that her friends are really caring about her.

B.2 Multi-Device and Multi-Network Access

B.2.1 Short Description

An EVVM user can have multiple devices in his/her environment and each device has its own capabilities. Some devices may be capable of switching between different network connections, e.g., GPRS, UMTS, LTE, WiFi, etc. This use case describes how EVVM-based services can be offered to ensure a consistent and seamless user experience in multi-device and multi-network situations.

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B.2.2 Actors

Bob is an EVVM user who uses his EVVM-based service on several devices.

Alice is an EVVM user who uses her EVVM-based service on several devices.

B.2.2.1 Actor Specific Issues

Bob is at home and has two EVVM-capable devices, his laptop computer and his mobile phone. He wants to send Alice a voice mail using his mobile phone. Then, he wants to switch to his laptop and continue using his EVVM-based service.

Alice is at home and has three EVVM-capable devices, a desktop computer, a PDA and her mobile phone A. She also has a second mobile phone, her mobile phone B, which is not EVVM-capable. Her SIM card is initially put inside her mobile phone B. Alice's preferences state that she wants to be notified of new voice mails on all of her registered devices. After receiving Bob's voice mail on her computer, Alice needs to go to her office and wants to continue using her EVVM-based service on her mobile phone A. There is a WiFi environment in her office, so she wants her EVVM-based service to be maintained when her device switches to WiFi connection. She replies to Bob's voice mail with her mobile phone A.

Bob wants to receive EVVM notifications on his laptop only. He opens Alice's voice mail, but his laptop suffers intermittent WiFi connection, so he wants his EVVM-based service to be maintained.

B.2.2.2 Actor Specific Benefits

Bob can send Alice a voice mail with his mobile phone, using either Alice's phone number or her EVVM e-mail address, and then continues with his EVVM-based service on his laptop.

Alice can receive notifications of new voice mails on all of her registered devices.

Alice can switch from her computer to her mobile phone, with her EVVM-based service continued.

Alice feels that her EVVM-based service is maintained when her mobile phone switches from UMTS connection to WiFi connection.

Alice can send Bob a voice mail using either Bob's phone number or his EVVM e-mail address.

Upon receiving Alice's voice mail, Bob is notified on his laptop only, as set by himself.

Bob feels that his EVVM-based service is maintained even when his laptop suffers intermittent WiFi connection.

B.2.3 Pre-conditions

Bob and Alice have both subscribed to EVVM-based voice mail services.

Bob has two EVVM-capable devices, a laptop computer and a mobile phone.

Alice has three EVVM-capable devices, a desktop computer, a PDA and her mobile phone A. Her mobile phone B is not EVVM-capable.

B.2.4 Post-conditions

Bob is able to maintain his EVVM-based service while switching devices.

Alice receives notifications of new voice mails on all of her registered devices.

Alice feels that her EVVM-based service is maintained while changing her devices and switching network connections.

Bob is notified of new voice mails on his laptop only, as set by himself.

Bob feels that his EVVM-based service is maintained even when his laptop suffers intermittent WiFi connection.

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B.2.5 Normal Flow

1. Bob just returned from his vacation, and he wants to tell Alice some interesting stories during his vacation. He decides to send her a voice mail using his EVVM-based service.
2. Bob has two identifiers for his EVVM voice mail box, i.e., a phone number 12345678 and an e-mail address "bobwhite@abcd.com." He logs into his voice mail service using his phone number 12345678 from his mobile phone
3. Bob composes a voice mail and sets the "Sender" to his e-mail address, "bobwhite@abcd.com."
4. Alice has three identifiers for her EVVM voice mail box, i.e., a phone number 11223344, an e-mail address "alicegreen@efgh.com" and a SIP URI "sip:alice@wxyz.com." Bob selects Alice's phone number, 11223344, and deposits the voice mail into Alice's voice mail box.
5. After that, Bob starts to process some documents on his laptop, but he wants his EVVM Client to be open also on his laptop.
6. Bob opens his EVVM Client on his laptop, and the voice mail he just sent to Alice can be found in the sentbox belonging to "bobwhite@abcd.com."
7. From the EVVM user interface on his mobile phone or his laptop, he sets the preference which will let him be notified of new voice mails only on his laptop.
8. Alice is at home and, according to her preference settings, she will be notified of new voice mails on all of her registered devices.
9. She has turned off her EVVM-capable mobile phone A and put her SIM card into her mobile phone B that does not support EVVM-based services, as she wants to use the application programs in her mobile phone B.
10. When Bob's voice mail is deposited into Alice's voice mail box, Alice notices the flickering icons shown on her computer and her PDA, and receives a human-readable SMS notification on her mobile phone B reading "You have got a voice mail from Bob White."
11. Alice accesses her voice mail box and finds Bob's voice mail in the inbox belonging to the identifier "11223344," i.e., her phone number.
12. Alice opens Bob's voice mail. She is amused by Bob's stories.
13. Now it is time for Alice to go to her office. She puts her SIM card back into her mobile phone A and opens her EVVM Client on that device. She notices Bob's voice mail in the Inbox belonging to "11223344," and is marked as "Read." She leaves home for her office.
14. Alice's mobile phone A is using UMTS connection. There is a WiFi environment in her office. When she enters her office, her mobile phone switches to WiFi connection automatically. During the switch, her EVVM user interface is maintained and she does not have to do anything to resume her EVVM-based service.
15. Alice decides to reply to Bob's message, so she composes a voice mail on her mobile phone, sets the "Sender" to "11223344," and sends it to Bob's EVVM e-mail address, "bobwhite@abcd.com".
16. When Alice's voice mail is deposited into Bob's voice mail box, Bob is notified only on his laptop.
17. Bob opens Alice's voice mail and hears her voice.
18. Bob's laptop relies on WiFi connection in his house, but the connection is intermittent. Nevertheless, the EVVM user interface is maintained on Bob's laptop, and he does not have to do any operations to resume his EVVM-based service.

B.2.6 Operational and Quality of Experience Requirements

An EVVM user should be able to access his/her EVVM-based service with multiple devices.

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An EVVM voice mail box may be associated with multiple identifiers, such as a phone number, an email address, a SIP URI, etc. An EVVM user may be able to deposit a voice mail using different identifier types.

The EVVM Enabler may employ techniques to maintain the perception of an uninterrupted EVVM-based service, omitting the need to re-login in challenged environments, such as

- Intermittent connectivity situation (e.g., unreliable connections, temporary loss of client-server connection, etc.)
- Switching between multi-mode connections (e.g., WiFi, GPRS, UMTS, LTE, etc.).

B.3 Forwarding VM to SMS, MMS & Email

B.3.1 Short Description

This use case describes forwarding VM to SMS, MMS & Email.

B.3.2 Actors

Bob and Alice are EVVM users.

John, Peter and Tom are non-EVVM users.

B.3.2.1 Actor Specific Issues

Bob receives a voice mail from Alice and he wants to forward it to John, Peter and Tom.

Bob wants to forward the voice mail to John as a MMS message and receive a delivery/read report.

Bob wants to forward the voice mail to Peter as an e-mail and receive a delivery/read report.

Bob fails to forward the voice mail directly to Tom. Then, he wants to forward its transcript as a SMS message and receive a delivery/read report.

B.3.2.2 Actor Specific Benefits

Bob can forward a voice mail to someone as a MMS message or an e-mail and receive a delivery/read report.

Bob can forward the transcript of a voice mail to someone as a SMS message and receive a delivery/read report.

B.3.3 Pre-conditions

Bob and Alice have both subscribed to EVVM-based voice mail services.

John is able to receive MMS messages on his terminal device.

Peter is able to receive e-mails on his terminal device.

Tom is able to receive SMS messages on his terminal device.

B.3.4 Post-conditions

Alice’s voice mail is forwarded by Bob to John as a MMS message. Bob receives a delivery/read report.

Alice’s voice mail is forwarded by Bob to Peter as an e-mail. Bob receives a delivery/read report.

The transcript of Alice’s voice mail is forwarded by Bob to Tom as a SMS message. Bob receives a delivery/read report.

B.3.5 Normal Flow

1. Bob accesses his EVVM voice mail box and checks his voice mails.

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2. There is a voice mail from Alice telling him her new home address. Since Alice is also a good friend of John, Peter and Tom, Bob decides to forward this information to John, Peter and Tom.
3. Bob knows that John is not an EVVM user but is able to receive MMS messages. He clicks the “Forward with MMS” button on his EVVM user interface and enters John’s phone number.
4. Bob wants to ensure that John can see the forwarded information, so he selects “Request Read Report” on the user interface.
5. The EVVM Enabler constructs a MMS message for John, including Alice’s voice mail and its envelope information (such as who left the voice mail at what time-date, etc.) and forwards this MMS to John.
6. John receives the MMS with the voice mail included and plays it.
7. After that, a MMS read report is sent to Bob and is displayed on his EVVM user interface next to the voice mail he forwarded.
8. Now Bob wants to forward Alice’s voice mail to Peter. Bob knows that Peter is not an EVVM user and is not sure if he can receive MMS messages, but Bob has Peter’s e-mail address.
9. Bob clicks the “Forward with E-Mail” button on his EVVM user interface and enters Peter’s e-mail address.
10. Bob wants to ensure that Peter can see the forwarded information, so he selects “Request Read Report” on the user interface.
11. The EVVM Enabler constructs an e-mail for Peter, including Alice’s voice mail and its envelope information (such as who left the voice mail at what time-date, etc.) and forwards this e-mail to Peter.
12. Peter receives the e-mail with the voice mail included and plays it.
13. After that, an e-mail read report is sent to Bob and is displayed on his EVVM user interface next to the voice mail he forwarded.
14. Now Bob wants to forward Alice’s voice mail to Tom. Bob is not sure whether Tom is an EVVM user, but he still wants to try EVVM-based service first.
15. Bob clicks the “Forward” button on his EVVM user interface and enters Tom’s mobile phone number.
16. The EVVM Enabler attempts to forward the voice mail to Tom, but finds that Tom is not a registered EVVM user.
17. Bob is notified that Tom is not an EVVM user, and is prompted with three options, “Forward with MMS,” “Forward with E-Mail,” and “Forward text transcript with SMS.”
18. Bob selects the option of “Forward text transcript with SMS.”
19. Bob wants to ensure that Tom can receive the message, so he selects “Request Delivery Report” on the user interface.
20. The EVVM Enabler constructs a SMS with the text transcript for Tom and forwards this text transcript to Tom.
21. Tom receives the SMS with the text transcript included.
22. After that, the SMS delivery report from Tom is sent to Bob and is displayed on his EVVM user interface next to the voice mail he forwarded.

B.3.6 Operational and Quality of Experience Requirements

An EVVM user may be able to request forwarding voice mails via SMS, MMS or e-mail as text transcripts.

An EVVM user may be able to request forwarding voice mails via MMS or e-mail as voice.

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If an EVVM user can forward voice mails via SMS, MMS or e-mail, he/she may also be able to request delivery and/or read reports for the forwarded SMS, MMS or e-mail messages.

B.4 Interaction with Legacy Voice Message Services

B.4.1 Short Description

This use case describes how an EVVM system interacts with legacy voice message services.

B.4.2 Actors

Bob is an EVVM user.

Alice is an EVVM user.

B.4.2.1 Actor Specific Issues

Bob wants to use his EVVM Client to change the password of his voice mail box's telephony user interface (TUI).

Alice wants to leave Bob a voice mail.

Bob wants to access his EVVM voice mail box using TUI.

B.4.2.2 Actor Specific Benefits

Bob can use his EVVM Client to change his TUI password.

Bob can access his voice mail box and hear Alice's voice message with his TUI.

B.4.3 Pre-conditions

Bob and Alice have both subscribed to EVVM-based voice mail services.

B.4.4 Post-conditions

Bob changes his TUI password with his EVVM Client.

Bob hears Alice's voice message with his TUI.

B.4.5 Normal Flow

1. Bob logs into his EVVM voice mail box.
2. Bob clicks "Change TUI Password" button on his EVVM user interface, and enters a new password for his EVVM TUI. Now his EVVM TUI has a new password.
3. Bob goes to John's house for a party, but he forgets to carry his mobile phone with him.
4. Using her EVVM Client, Alice composes a voice mail and deposits it into Bob's voice mail box.
5. Later in the evening, Bob realizes that he has left his mobile phone at home. Then, he decides to check his voice mails using John's fixed phone.
6. On John's fixed phone, Bob enters his phone number and the new TUI password. He accesses his EVVM voice mail box successfully.
7. Bob hears Alice's voice message.

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B.4.6 Operational and Quality of Experience Requirements

An EVVM user should be able to access his/her EVVM voice mail box using his/her TUI.

An EVVM user should be able to change his/her TUI password using his/her EVVM Client.

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Appendix C. VVM1.3 Requirements (Informative)

The EVVM Enabler supports all features and functions included in the OMTP VVM 1.3 Specifications [OMTP VVM]. The features and functions listed in this Appendix are derived from the OMTP VVM 1.3 Specifications [OMTP VVM].

C.1 Greeting Management

Label	Description	Release
VVM-GRM-001	The VVM Specifications support management (e.g., creating, deleting, modifying) of personalised greetings and voice signatures.	VVM1.3 (OMTP/GSMA Specs, Section 7, 1st Paragraph)
VVM-GRM-002	The VVM Specifications support the use of the voice signature recording to replace the phone number in the default system of voice mail greeting, which a caller hears when her/his call is diverted to the voice mail system.	VVM1.3 (OMTP/GSMA Specs, Section 7, 1st Paragraph)
VVM-GRM-003	The VVM Specifications support network-based message storage for storing VVM user's personalised greetings and voice signatures including their audio attachments. NOTE1: A VVM greeting stored object can be of a multipart-mixed message format. NOTE 2: A VVM greeting stored object is identifiable by VVM user in the TUI session, e.g., use of ICON, flag).	VVM1.3 (OMTP/GSMA Specs, Section 7.1, 2nd Paragraph)

Table 12: VVM 1.3 Greeting Management Requirements

C.2 Protocol Alignment

Label	Description	Release
VVM-PRO-001	The VVM Specifications include the use of existing standards protocols and their extensions over its interfaces for handling voice mails, e.g., IMAP4 RFC for retrieval, SMTP RFC for deposit, SETMETADATA and GETMETADATA for device capabilities.	VVM1.3 (OMTP/GSMA Specs, Sections 2.1 & 2.2, Message Retrieval & Deposit)

Table 13: VVM 1.3 Protocol Alignment Requirements

C.3 Administration and Configuration

Label	Description	Release
VVM-ADM-001	A VVM service subscriber can have one of the following five provisioning status: 1. Unknown: The subscriber is not provisioned to the VVM service or does not have a mailbox in the voice mail system. 2. Provisioned: The subscriber is provisioned to the VVM service, while the VVM service is not activated yet. 3. New: The subscriber is provisioned to the VVM service, and the VVM service is active, while the subscriber has not gone through NUT session. 4. Ready: The subscriber is provisioned to the VVM service, and the VVM service is active, while the subscriber has already gone through NUT session. 5. Blocked: The subscriber is provisioned and has a mailbox, while the mailbox is blocked.	VVM1.3 (OMTP/GSMA Specs, Sections 2.8 PROVISIONING STATUS)

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Table 14: VVM 1.3 Administration and Configuration Requirements

C.4 Message Retrieval

<table>
<tr><th>Label</th><th>Description</th><th>Release</th></tr>
<tr><td>VVM-MR-001</td><td>The VVM client communicates with the VVM server for message retrieval.</td><td>VVM V1.3, Section 2.1</td></tr>
<tr><td>VVM-MR-002</td><td>The VVM Specifications supports the retrieval of the following items:
• Voice,
• Video,
• Fax,
• Greeting,
• Empty Call Capture,
• NUMBER Message,
• Infotainment</td><td>VVM V1.3, Section 2.1</td></tr>
<tr><td>VVM-MR-003</td><td>The VVM server supports transcoding the message attachment to a format supported by the client as follows:
<table>
<tr><th>Attachment Type</th><th>File Formats</th><th>MIME Types</th></tr>
<tr><td rowspan="3">Voice and Greeting attachments</td><td>AMR 12200</td><td>audio/amr</td></tr>
<tr><td>WAV g711a
WAV g711u</td><td>audio/wav; codec=“g711a”
audio/wav; codec=“g711u”</td></tr>
<tr><td>QCELP 13300
EVRC, 13000</td><td>audio/qcelp
audio/evrc</td></tr>
<tr><td>Video attachments</td><td>3gpp h263_amr</td><td>video/3gpp; codec=“h263_amr”</td></tr>
<tr><td>Fax attachments</td><td>PDF</td><td>application/pdf</td></tr>
<tr><td>Scripted Text</td><td>Text</td><td>plain/text</td></tr>
</table></td><td>VVM V1.3, Section 2.1</td></tr>
</table>

Table 15: VVM 1.3 Message and Greeting Retrieval Requirements

C.5 TUI Password Changes

Label	Description	Release
VVM-TPC-001	The VVM Specifications support the client to change the subscriber’s TUI password.	VVM V1.3, Section 2.3

Table 16: VVM 1.3 TUI Password Changes Requirements

C.6 TUI Language Changes

Label	Description	Release
VVM-TLC-001	The VVM Specifications support the client to change the subscriber’s voice mail language.	VVM V1.3, Section 2.4

Table 17: VVM 1.3 TUI Language Changes Requirements

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C.7 NUT Closing

Label	Description	Release
VVM-NTC-001	The VVM Specifications support the implementation of a NUT in a VVM client.	VVM V1.3, Section 2.5

Table 18: VVM 1.3 NUT Closing Requirements

C.8 Audio Message Transcription

Label	Description	Release
VVM-TRN-001	The VVM Specifications support the transcription of an audio message.	VVM V1.3, Section 2.6

Table 19: VVM 1.3 Audio Message Transcription Requirements

C.9 Interaction between VVM and SMS

Label	Description	Release
VVM-SMS-001	The VVM Specifications support the system-originated SMS messages sent to a VVM client to notify the client about a specific event in the subscriber's mailbox or profile.	VVM V1.3, Section 2.9
VVM-SMS-002	The VVM Specifications support legacy notifications in addition to the VVM notifications.	VVM V1.3, Section 2.9
VVM-SMS-003	The VVM client filters out the regular (i.e., human-readable) notifications if they are received in addition to VVM notifications.	VVM V1.3, Section 2.9
VVM-SMS-004	The VVM Specifications support sending the following SMS messages to the client: • SYNC SMS: Notifies the client that the status of a message or greeting in the mailbox may have been changed; • STATUS SMS: Notifies the client that the VVM subscriber's provisioning status was changed.	VVM V1.3, Section 2.9
VVM-SMS-005	The VVM Specifications support the configuration of an outgoing SMS on the server according to the client type.	VVM V1.3, Section 2.9
VVM-SMS-006	The VVM client sends SMS messages to the server to do the following: • Query the provisioning status of the subscriber, using a STATUS SMS message; • Activate the service; • Deactivate the service.	VVM V1.3, Section 2.9

Table 20: VVM 1.3 Interaction Requirements between VVM and SMS

C.10 Message Deposit

Label	Description	Release
VVM-MED-001	The VVM Specifications support users to deposit their voice mail.	VVM1.3, Sections 2.2 Message Deposit Interface
VVM-MED-002	The VVM Specifications support authentication of the VM deposit request from a user (e.g., predefined username and password).	VVM1.3, Sections 2.2 Message Deposit Interface

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VVM-MED-003	The VVM client supports encryption of session for depositing VM.	VVM1.3, Sections 2.2 Message Deposit Interface
VVM-MED-004	The VVM Specifications support storing of delivery notifications in sender's mailbox if the VM recipient cannot be located.	VVM1.3, Sections 2.2 Message Deposit Interface
VVM-MED-005	The VVM Specifications support inclusion of the original VM when it is forwarded or replied to.	VVM1.3, Sections 2.2 Message Deposit Interface

Table 21: VVM 1.3 Message Deposit Requirements

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