Push to talk over Cellular 2 Requirements

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1. Scope (Informative)

The intention of PoC V2.0 Requirement Document (RD) is to define the requirements for the Push to talk over Cellular services beyond those requirements created for PoC as developed in OMA [OMA PoC RD 1.0]. As stated in PoC V2.0 Work Item Document (WID), the following will be covered in this RD:

1. Interworking between PoC domains and non-PoC domains
2. Machine-to-user PoC Session
3. Automatic PoC Session initiated by outside applications
4. Seamless interaction between PoC and other enablers (e.g., instant messaging, VoIP)
5. Use of a variety of media formats to provide enhanced user experience within PoC (e.g., video)

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2. References

2.1 Normative References

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URL: http://www.3gpp.org/ftp/Specs/archive/22_series/22.950/

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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”, “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

1-1 PoC Session	A feature enabling a PoC User to establish a PoC Session with another PoC User.
1-many PoC Session	A PoC Session with many Participants and in which all Participants can communicate with each other.
1-many-1 PoC Session	A PoC Session established by a PoC User to a Pre-arranged PoC Group, in which one Participant is a Distinguished Participant and other Participants are Ordinary Participants.
Access Control	PoC User specified rules that restrict the set of other PoC Users that may establish PoC Sessions to the PoC User.
Ad-hoc PoC Group	A temporary PoC Group whose initial set of Participants is selected by the PoC User during the PoC Session set-up.
Ad-hoc PoC Group Session	A PoC Group Session involving an Ad-hoc PoC Group.
Answer Mode	A PoC Client mode of operation for the terminating PoC Session invitation handling.
Answer Mode Indication	A PoC Service Setting indicating the current Answer Mode of the PoC Client.
Automatic Answer Mode	Automatic Answer Mode is a PoC Client mode of operation in which the PoC Client accepts a PoC Session establishment request without manual intervention from the user; Media is immediately played when received.
Chat PoC Group	A persistent PoC Group in which each PoC User individually joins the PoC Session, i.e., the establishment of a PoC Session to a Chat PoC Group does not result in other PoC Users being invited.
Chat PoC Group Session	A PoC Group Session established to a Chat PoC Group.
Condition Re-evaluation	Repeated evaluation of conditions of PoC Users against the rules that define a Dynamic PoC Group. According to the evaluation results PoC Users are invited to or removed from a PoC Session involving the Dynamic PoC Group
Continuous Media	Media with an inherent notion of time (e.g., speech, audio, and video).
Crisis Handling Request	A request where a PoC User needs the immediate attention of the invited PoC Users.
Discrete Media	Media that itself does not contain an element of time (e.g., images, text).
Dynamic PoC Group	A Pre-arranged, restricted Chat or Ad-hoc PoC Group whose Participants are restricted based on the evaluation of a set of rules.
External P2T Network	Private or public circuit switched or packet switched network that provide Push To Talk services similar to PoC Services.
Group Advertisement	A Group Advertisement is a feature that provides the capability to inform other PoC Users of the existence of a PoC Group.
Group List	A list of members in a Pre-arranged or restricted Chat PoC Group. Each member is identified by a SIP URI or a TEL URI.
Half Duplex Voice Chat	A voice chat system allows peer-to-peer or conference based voice interactions (half duplex) between the voice chat clients. It is assumed to be implemented via SIP / RTP over the internet or an intranet domain. A registrar and SIP proxy is available to appropriately route SIP messages. The voice chat clients do not provide services like group management or floor control.

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Hierarchical PoC Group	A PoC Group with internal structure that is made up different levels.
Home PoC Network	The Home PoC Network is a PoC Network operated by the user's PoC Service Provider. The Home PoC Network is the same as the Home Network defined in IMS and MMD specifications.
Home PoC Server	The Home PoC Server is the PoC Server owned by the PoC Service Provider that provides PoC Service to the PoC User.
Incoming Condition Based PoC Session Barring	A PoC Service Setting for the PoC Client that conveys the PoC User's desire for the PoC Service to block a particular incoming PoC Session request based on conditions defined for Incoming PoC Sessions.
Incoming Instant Personal Alert Barring	Incoming Instant Personal Alert Barring is a PoC Service Setting for the PoC Client that conveys the PoC User's desire for the PoC Service to block all incoming Instant Personal Alerts.
Incoming Media Barring	A PoC Service Setting for the PoC Client that conveys the PoC User's desire for the PoC Service to block particular incoming Media Type.
Instant Personal Alert	A feature in which a PoC User sends a message to a PoC User requesting a 1-1 PoC Session.
Inviting PoC Client	An Inviting PoC Client is a PoC Client that invites other PoC User(s) to a PoC Session.
Man-machine PoC Session	A PoC Session between a PoC client interfacing with a human end user and another PoC client interacting with a non-human end point. Examples of a non-human end point include: a software-controlled camera, a recorded announcement machine, or an application embedded in some other types of appliance.
Manual Answer Mode	Manual Answer Mode is a PoC Client mode of operation in which the PoC Client accepts a PoC Session establishment request only after manual intervention from the PoC User.
Manual Answer Override	A PoC Service feature in which the Inviting PoC Client can use to override the Manual Answer Mode of the other PoC User(s) he is inviting to a PoC Session.
Media	Forms of information that are exchanged between Participants. Media may come in different forms, which are referred to as Media Types.
Media Burst	Flow of Media from a PoC Client, that has the permission to send Media to the receiving PoC Client(s).
Media Burst Control	A control mechanism that arbitrates requests from the PoC Clients, for the right to send Media and Multimedia.
Media Burst Request Permission Level	A level of permission, which can be used to limit the PoC Clients to request Media Burst.
Media Parameters	Information exchanged between the PoC Server and the PoC Client that specify the characteristics of the Media for a PoC Session being established or being modified.
Media Type	Media Types share a characteristic of human perception. Media Types are either real-time or non-real-time, like: • audio (e.g., speech, music) • video • still image • text (formatted and non-formatted) • file
Multimedia	Multimedia is the simultaneous existence of multiple Media Types like • audiovisual • video plus subtitles Multimedia from a single source that involves real-time Media Types are assumed to be synchronized.
Multiple Active Session	An enhancement of Simultaneous PoC Session and allows a PoC Client to have several PoC Sessions active at the same time without filtering of Media.
Outgoing Condition Based PoC Session Barring	A PoC Service Setting for the PoC Client that conveys the PoC User's desire for the PoC Service to block a particular outgoing PoC Session request or PoC Session join request based on conditions defined for Outgoing PoC Sessions.

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Participant	A PoC User in a PoC Session.
PoC Address	A PoC Address identifies a PoC User. The PoC Address can be used by one PoC User to request communication with other PoC Users.
PoC Administrator	An entity that creates and maintains relevant aspects of PoC Service for a specific PoC Subscriber or group of PoC Subscribers. The PoC Service Provider is the default PoC Administrator. PoC administrative rights may be assigned to a representative of a group of PoC Subscribers (e.g., IT department of a corporation, or a VAS provider) for the purpose of administering a PoC Service within that group of PoC Subscribers NOTE: The definition above is an editorial enhancement the definition given in [OMA PoC RD 1.0].
PoC Box	The functionality to store Media Bursts and related information (e.g., date & time, Sender Identity, Participant Information) on behalf of a PoC User.
PoC Client	A PoC Client is a PoC functional entity that resides on the User Equipment that supports the PoC Service.
PoC Dispatcher	PoC Dispatcher is a Participant in a 1-many-1 PoC Session that sends Media to all PoC Fleet Members and that receives Media from any PoC Fleet Member. NOTE: The PoC Dispatcher is an enhancement to the PoC V1.0 Distinguished Participant.
PoC External Entity	An entity connected to a PoC system, which provides supporting functionalities for Participants. Authorised Participants are able to control the PoC External Entities to realize the desired functionalities.
PoC Fleet Member	A Participant in a 1-many-1 PoC Session that is only able to send Media to the PoC Dispatcher, and that likewise is only able to receive Media from the PoC Dispatcher. NOTE: PoC Fleet Member is the same as Ordinary Participant in PoC V1.0.
PoC Group	A PoC Group is a predefined set of PoC Users together with its attributes. A PoC Group is identified by a SIP URI.
PoC Group Administrator	A person(s) or entity who has the authority to define, delete or modify PoC Group memberships (i.e., administrative rights for PoC Group membership management are exercised in an "off-line" fashion). The PoC Service Provider has PoC Group administrative rights by default. PoC Group administrative rights may be assigned by the PoC Service Provider to a PoC Subscriber or his representative (e.g., IT department in a corporation) as part of the service provisioning, or temporarily assigned by the PoC Session Owner to a Participant in a PoC Group Session. The PoC Group Administrator may be a Participant in all, some or none of the PoC Group Sessions. PoC Group Administrator is a special case of PoC Administrator.
PoC Group Identity	The PoC Group Identity is a SIP URI of the Pre-arranged PoC Group or Chat PoC Group.
PoC Group Session	A PoC Session involving a Pre-arranged PoC Group, Ad-hoc PoC Group or Chat PoC Group.
PoC Network	Network comprising of a SIP/IP Core and PoC Server(s), which provide PoC capabilities to the associated PoC capable User Equipments which are compliant with OMA PoC Service Enabler specifications.
PoC Remote Access	A method of providing a compliant PoC User access to a SIP/IP Core and PoC Network via an potentially non-SIP/IP based network
PoC Server	The PoC Server implements the 3GPP IMS and 3GPP2 MMD application level network functionality for the PoC Service. NOTE: This definition is modified from [OMA PoC AD 1.0].
PoC Service	The user perception of service functionality provided by the PoC Service Enabler.
PoC Service Enabler	The basic functionality of the PoC Service Enabler is described in [OMA PoC RD 1.0] and is referred to as "PoC V1.0" in the present specification. Enhancements to the PoC Service Enabler are described in the present specification.
PoC Service Infrastructure	The PoC Service Infrastructure is comprised of all PoC Networks and their system elements. PoC Networks are assumed to be interconnected to allow communication and data transfer among PoC Users.
PoC Service Provider	A PoC Service Provider provides PoC Service – on its own or in conjunction with other Value Added

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	Services – to his PoC Subscribers.
PoC Service Setting	The PoC Service Settings are, e.g., Answer Mode Indication, Incoming PoC Session Barring, Incoming Instant Personal Alert Barring, Multiple Active Sessions, and Simultaneous PoC Sessions Support.
PoC Session	A PoC Session is a SIP Session established by the procedures of this specification. This specification supports the following types of PoC Sessions: 1-1 PoC, Ad-hoc PoC Group, Pre-arranged PoC Group, and Chat PoC Group Session.
PoC Session Control Data	Information about PoC Session Data e.g., time & date, PoC Session initiator, etc.
PoC Session Data	Media Bursts and Media Burst Control information exchanged during a PoC Session e.g., video frames, an image or Talk Burst.
PoC Session Owner	The PoC Session Owner in the case of 1-1 PoC Session and Ad-hoc PoC Group Session is the initiator of the PoC Session. In the case of a Chat PoC Group and a Pre-arranged PoC Group Session, the PoC Session Owner is the creator of the PoC Group.
PoC Session Priority	The PoC Session Priority is determined based on the Service Provider Policy and the QoE profile associated to the PoC Session. It controls how the PoC Session is treated under competing situations with other PoC Sessions and may result in a preferred treatment for those PoC Sessions with a higher PoC Session Priority. The definition of different levels to be applied for this feature is a decision that belongs to the PoC Service Provider.
PoC Subscriber	A PoC Subscriber is one whose service subscription includes the PoC Service. NOTE: In [OMA PoC RD 1.0] the term "PoC Subscriber" is sometimes used to mean the same as term "PoC User" in [OMA PoC AD 1.0].
PoC User	A PoC User is a user of the PoC Service. NOTE: In [OMA PoC RD 1.0] the term "PoC Subscriber" is sometimes used to mean the same as term "PoC User" in [OMA PoC AD 1.0].
PoC V1.0	Push to talk over Cellular Version 1.0
PoC V2.0	Push to talk over Cellular Version 2.0
PoC V2.1	Push to talk over Cellular Version 2.1
Policy	A policy is a plan of action based on certain defined criteria for handling the PoC Service. A Policy is established by one or more roles of the PoC Service Enabler (the PoC Service Provider, PoC Subscriber, PoC User, or enterprise customer IT department on behalf of PoC Users) and may concern, e.g., expel rights in PoC Groups, release of PoC Sessions, PoC Network privacy rules, user preferences, assignment of priority levels, etc. Policy may be applicable to different points in the end-to-end PoC Session, e.g., PoC Client, PoC Service entity, underlying network infrastructure. NOTE: 'PoC Service Provider' policy is a special case; see definition.
Pre-arranged PoC Group	A persistent PoC Group whose membership is determined by a predefined Group List. The establishment of a PoC Session to a Pre-arranged PoC Group results in all members being invited.
Pre-arranged PoC Group Session	A PoC Group Session established to a Pre-arranged PoC Group.
Pre-emptive Priority	The right for an authorised Participant who has requested the permission to send Media to be granted the right to send Media and pre-empt the current Media sender with other Priority Levels, if needed.
Pre-established Session	The Pre-established Session is a SIP Session established between the PoC Client and the Home PoC Server. The PoC Client establishes the Pre-established Session prior to making requests for PoC Sessions to other PoC Users. To establish a PoC Session based on a SIP request from the PoC User, the PoC Server conferences other PoC Servers/Users to the Pre-established Session so as to create an end-to-end connection.
Priority Levels	A feature that controls the right of individual Participants in an on-going PoC Session to make PoC Media Burst requests. Priority Levels are defined as 'Pre-emptive Priority', 'High Priority', 'Normal Priority' and 'Listen Only'.

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Sender Identification	Sender Identification is the procedure by which the current Media sender's PoC Address is determined and made known to the receiving Participants on the PoC Session.
Service Level Agreement	A formal negotiated agreement between two PoC Service Providers.
Service Provider Policy	Service Provider Policy refers to the overall policy conditions actually selected by a service provider(s) for commercial implementation of a PoC Service. The Service Provider Policy is established based on commercial considerations, which may concern, e.g., support/non-support of certain network or client capabilities or service features within a network. Service Provider Policy is applicable only to the network or subscribers over which the service provider has control.
Simultaneous PoC Session	When a PoC User is a Participant in more than one PoC Session simultaneously using the same PoC Client.
SIP Session	A SIP Session is a SIP dialog. From RFC 3261 [RFC3261], a SIP dialog is defined as follows: A dialog is a peer-to-peer SIP relationship between two UAs that persists for some time. A dialog is established by SIP messages, such as a 2xx response to an INVITE request. A dialog is identified by a call identifier, local tag, and a remote tag.
SIP URI	From RFC 3261 [RFC3261]: "A SIP or SIPS URI identifies a communications resource" and "follows the guidelines in RFC 2396 [5]". PoC uses SIP URIs to identify PoC Clients, PoC Servers, and PoC Sessions, resource lists that point to URI lists, etc.
SIP/IP Core	The SIP/IP Core includes a number of SIP proxies and SIP registrars. When SIP/IP Core is based on the 3GPP IMS or 3GPP2 MMD, the SIP/IP Core architecture is specified in [3GPP TS 23.228] or [3GPP2 X.P0013.2] respectively.
Talk Burst	A Talk Burst is the flow of Media from a PoC Client while that has the permission to send Media.
Talk Burst Control	Talk Burst Control is a control mechanism that arbitrates requests from the PoC Clients, for the right to send Media. NOTE: In [OMA PoC RD 1.0] the term “Floor Control” is used to mean the same as term “Talk Burst Control” in [OMA PoC AD 1.0].
User Equipment	User Equipment is a hardware device that supports a PoC Client e.g., a wireless phone.
Value Added PoC Service	A service, provided by the PoC Service Provider to his PoC Subscribers, that makes use of the PoC Service Enabler and other capabilities (e.g., a CS voice call).
Vote Group Types	Open group vote: The voting is open to any PoC User (e.g., the unrestricted Chat PoC Group). Closed group vote: The voting is restricted only to the PoC Group members (e.g., the restricted Chat PoC Group).
Vote Processing Entity	Entity designated to process the voting result. This entity could either be the PoC Server, the originating PoC Client or a designated PoC Client.
Vote Response Types	Real-time vote response: As and when vote response is received from a PoC Client the response/accumulated response is forwarded to all the PoC Clients. Accumulated vote response: The vote response from PoC Clients is collected over a pre-defined time period. The voting result is computed and aggregate result is forwarded at the timeout. Any response received after the timeout is discarded.
Vote Result Types	Disclosed result vote: The voting result is sent to the PoC Users who participated the voting. Undisclosed result vote: The voting result is kept/sent only by/to the designated PoC Client (e.g., Vote originating PoC Client). Secret result vote: The voter's identity is not disclosed to the Vote Processing Entity.

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3.3 Abbreviations

3GPP	3rd Generation Partnership Project
3GPP2	3rd Generation Partnership Project 2
BW	Band Width
CS	Circuit Switched
DTMF	Dual Tone Multi-Frequency
HDVC	Half Duplex Voice Chat
IM	Instant Messaging
IMS	IP Multimedia Subsystem
IP	Internet Protocol
IVR	Interactive Voice Response
MMD	MultiMedia Domain
OMA	Open Mobile Alliance
P2HDVC	PoC to Half Duplex Voice Chat
P2T	Push to Talk
P2VIM	PoC to Voice IM
PoC V1.0	Push to talk over Cellular, Version 1
PoC V2.0	Push to talk over Cellular, Version 2
PSTN	Public Switched Telephone Network
PTT	Push to Talk
QoE	Quality of Experience
QoS	Quality of Service
SIP	Session Initiation Protocol
UA	User Agent
URI	Uniform Resource Identifier
VoIP	Voice over IP
XDM	XML Data Management
XML	Extensible Mark-up Language

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4. Introduction (Informative)

4.1 PoC V2.0 Functional Overview

This document defines the requirements for the Release Version 2.0 and beyond of the Push -To -Talk over Cellular (PoC) service extending the Release Version 1.0 PoC Service with:

- Other Media Types than voice. Examples of other medias are: video, images, text and files.
- A PoC Box functionality allowing the PoC Service Infrastructure to store Media Bursts and related information (e.g., date & time, Sender Identity, Participant information) on behalf of a PoC User.
- Interworking functionality allowing other External P2T Networks to interwork with PoC Service Infrastructure.
- Enhanced PoC Group handling, for example creation of PoC Group Sessions based on dynamic data such as presence state of the individual PoC Group members.
- Quality of Experience (QoE) profiles allowing the PoC Service Infrastructure to differentiate the end user experience provided to individual PoC Users on a subscription bases.
- Enhanced PoC Session handling, for example moderator controlled PoC Sessions.
- Browser based PoC Client Invocation.

Examples of functions extending the PoC Release Version 1.0 are described in clause 5 “Use cases” and detailed requirements in clause 6 “Requirements”.

4.2 Roles and System Elements of the PoC Service Enabler

The following figure shows the roles and system elements of the PoC Service Enabler as used in the present PoC V2.0 Requirements Document.

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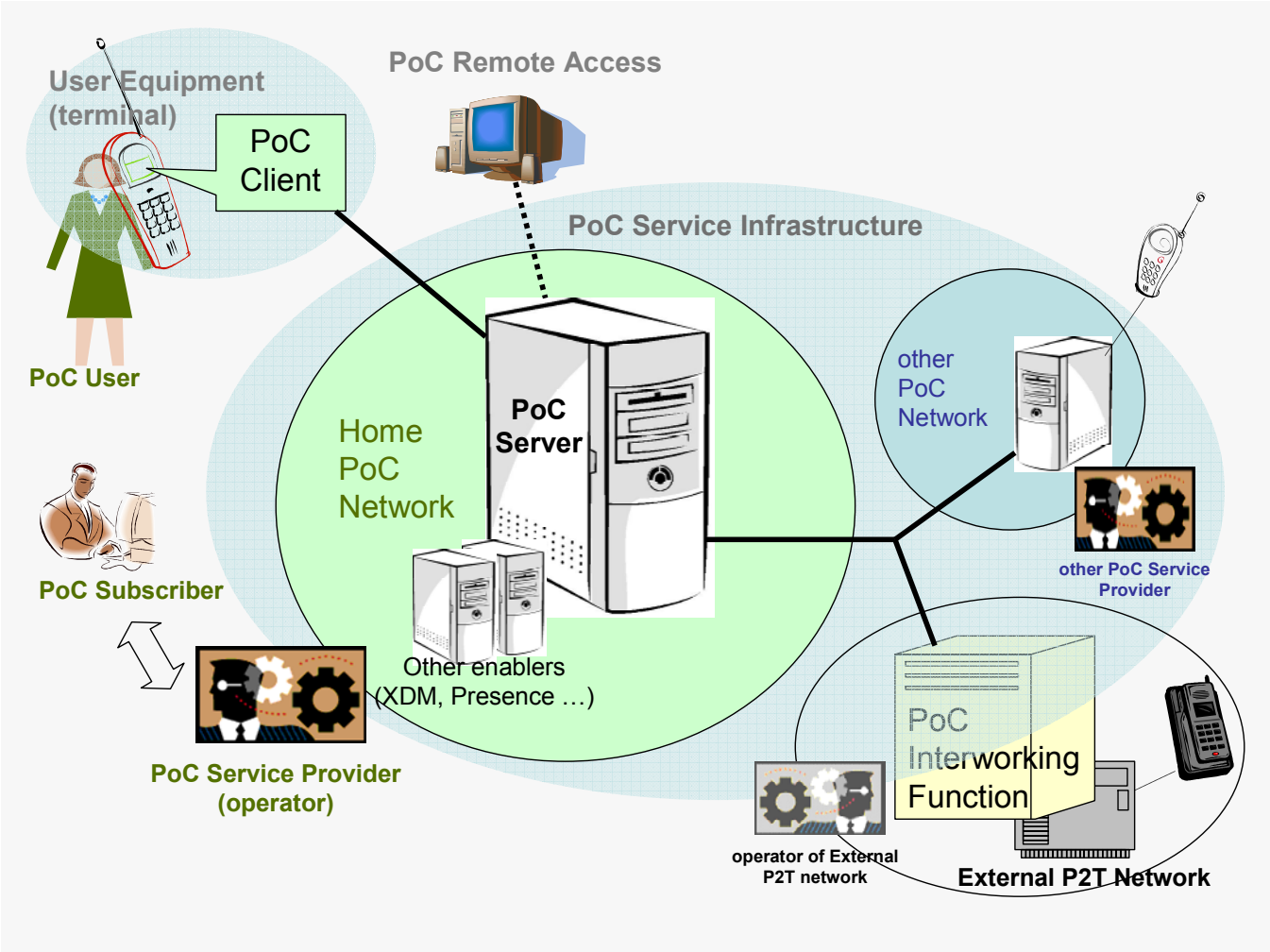

Figure 1: The PoC Service Enabler -
Roles and System Elements in This Document

The PoC Service Enabler comprises a set of system elements, their functional behaviour and the communication between them. The basic functionality of the PoC Service Enabler is described in [OMA PoC RD 1.0]. Enhancements to the PoC Service Enabler are described in the present specification.
For the full spectrum of capabilities provided by the PoC Service Enabler additional support by other enables (XDM, Presence …) may be needed.

A PoC Subscriber has a service subscription with the PoC Service Provider that includes the PoC Service. A PoC User uses the PoC Service (e.g., over a PoC Client in a User Equipment)

NOTE 1: The distinction between PoC Subscriber and PoC User can be illustrated as follows:

- The PoC Subscriber is an entity (e.g., a physical person, a company …), who has a commercial relationship - a service subscription that includes the PoC Service - with the PoC Service Provider. The PoC Subscriber may or may not use the PoC Service but may e.g., request service customization by the PoC Service Provider within the limits of his subscription. In general the PoC Subscriber is the entity that is charged by the PoC Service Provider.
  Except for special cases (e.g., anonymous pre-paid subscriptions) the PoC Subscriber can be identified by the PoC Service Provider.

- The PoC User is an entity (generally a physical person) that uses the PoC Service within the limitations set by the PoC Subscriber and PoC Service Provider. Usage may include all kinds of PoC communication and customization of PoC specific settings.

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A PoC User cannot be identified within the context of the PoC Service Enabler, however the PoC Client he uses can be identified through its PoC Address.

- An example of the above would be a family father (PoC Subscriber), who pays the bill but requests the PoC Service Provider to bar international calls of his son (the PoC User), who happily chats via the PoC Client.

A PoC Service Provider operates a PoC Network conforming to the PoC standard. For a PoC Subscriber of that PoC Service Provider this is called the Home PoC Network. The Home PoC Network can interact with other PoC Networks to provide PoC services between PoC Subscribers of different PoC Service Providers.

In PoC V2.0 it is possible, that a PoC Subscriber can communicate with users of other (private or public, circuit switched or packet switched) networks that provide Push To Talk services similar to PoC Services. Such networks are called "External P2T Networks".

System elements:

The current Requirements Document deals with the following system elements that are relevant to the PoC Service Enabler:

- The User Equipment is a hardware device, e.g., a wireless phone, that supports a PoC Client.
  The User Equipment is operated by the PoC User.

- A PoC Client is a PoC functional entity that resides on the User Equipment that supports the PoC Service.
  The PoC Client is operated by the PoC User. For the support of Value Added Services the PoC Client may need enhancements by the PoC Service Provider.

- PoC Remote Access allows PoC Users to access PoC Services when the PoC User is not directly connected to the PoC Network, not necessarily using a PoC Client. For example, a PoC User, with a valid subscription, accessing PoC Services via a PSTN terminal.

- The PoC Service Infrastructure is comprised of all PoC Networks and their system elements. PoC Networks are assumed to be interconnected to allow communication and data transfer among PoC Users.

- The main system element of the PoC Network of a PoC Service Provider is a PoC Server, implementing the 3GPP IMS and 3GPP2 MMD application level network functionality for the PoC Service.
  The PoC Server is operated by the PoC Service Provider.

- The PoC Interworking Function is part of an External P2T Network and provides the interworking of that network with the PoC Service Enabler. Within the PoC Service Infrastructure it provides interconnection to other PoC Networks.
  The PoC Interworking Function is operated by the operator of an External P2T Network.

NOTE 2: No architectural assumptions are associated with the above list of system elements.

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5. Use Cases (Informative)

5.1 PoC Video Sharing

5.1.1 Short Description

PoC video sharing is a way to share a live-streamed video between Participants while being in a PoC Session and using PoC for voice communication. The live-streamed video can be applied to 1-to-1 PoC Sessions as well as to PoC Group Sessions.

The video stream is half-duplex as the voice stream in PoC i.e., only one Participant can use video streaming at the same time.

This bullet list below provides the prose description of how the basic PoC video sharing service may be used.

- Monica is studying Information Architecture at the University of Milan and working extra as an exhibition hostess for one of the big international trade fair companies. She has a large network of friends that she need to stay in touch with so she communicates a lot using different means like messaging, chatting, calling etc.
- It's Friday and Monica will take a trip to Bologna to see her boyfriend and some of their friends. Monica and her boyfriend Vittorio will spend the weekend together with friends having a real party weekend. Monica's train is leaving the Milan Centrale just after lunch and she feel really energized and in a good weekend mood. Monica decides to boost up her friends party modes by sharing a live-streamed video with them.
- She selects from the buddy list the PoC Group she wants to share the video with, presses the PoC button and selects the video-mode. She starts talking and humming at the same time as she is filming some street musicians in concert at the Centrale ending the message with "See you soon".
- She gets some comments from Vittorio and Mauro.

5.1.2 Actors

- Host: Monica is acting as host.
- Participants: Vittorio and Mauro are acting as Participants.
- PoC Network operator
- PoC Service Provider

5.1.2.1 Actor Specific Issues

Host

- Want to communicate to a PoC Group using voice and potentially live-streamed video.
- Want easy to use handsets, with fast methods of selecting video mode and initiating a PoC video sharing Session.
- Want reasonably good voice and video quality.

Participants

- Want to respond quickly to the PoC Group by communicating using voice and potentially live-streamed video.
- Want easy to use handsets, with fast methods of selecting video mode and initiating a PoC video sharing Session.
- Want reasonably good voice and video quality.

PoC Network operator

- Want to increase traffic in their packet switched network.

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PoC Service Provider

- Wants to attract customers to new service.
- Wants to reduce subscriber churn to other network providers.
- Wants to maximise potential for IP-services, offering new revenue generating service.

5.1.2.2 Actor Specific Benefits

Host and Participants

- Ease and speed of placing a video and/or voice stream to a PoC Group and thus sharing the moment with family and friends

PoC Network provider

- Takes revenue from increased traffic in their packet switched network due to PoC video sharing.

PoC Service Provider

- Takes revenue from offering the service PoC video sharing.

5.1.3 Pre-conditions

Monica, Vittorio and Mauro have PoC video sharing capable terminals and PoC video sharing service subscriptions and have powered-on their phones. Monica, Vittorio and Mauro have registered with the PoC Network for the PoC Service.

5.1.4 Post-conditions

All three members of the ongoing PoC Session may at any given time choose video mode and start to sharing video.

5.1.5 Normal Flow

1. Monica selects the PoC Group she wants to contact from the buddy list
2. Monica selects the video mode and presses the PoC button, which will start the video recording and transmission of the live-streamed video to the other Participants.
3. Vittorio and Mauro get an indication of incoming video
4. Vittorio and Mauro accept the incoming video and are able to see the video from Monica
5. Monica releases the PoC button when she wants to end the transmission of video
6. Vittorio presses the PoC button replying to the PoC Group with voice only and releases it when ready
7. Mauro presses the PoC button replying to the PoC Group with voice only and releases it when ready
8. Mauro selects the video mode and presses the PoC button, which will start the video recording and transmission of the live-streamed video to the other Participants.
9. Vittorio and Monica get an indication of incoming video.
10. Vittorio and Monica accept the incoming video and are able to see the video from Mauro.
11. Mauro releases the PoC button when he wants to end the transmission of video.

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5.2 PoC Box

5.2.1 Short Description

This use case depicts a situation, where a PoC User A wants to initiate a PoC Session with PoC User B but the PoC User B is not available. Instead of PoC User B being alerted the PoC Service Infrastructure establish a PoC Session between PoC User A and a PoC Box.

5.2.2 Actors

The involved actors are:

- PoC Users A and B
- PoC Service Provider

5.2.2.1 Actor Specific Issues

None identified

5.2.2.2 Actor Specific Benefits

The benefits for the actors are:

- The PoC Service, enhanced by a "PoC Box" enables PoC Users to initiate a 1-1 PoC Session even if the Invited PoC User is currently unavailable.
- As the PoC Service becomes more attractive to end-users through this feature the PoC Service Provider may attract more customers.

5.2.3 Pre-conditions

The required pre-conditions are:

- The PoC User A has initiated a 1-1 PoC Session to PoC User B; and,
- The PoC Service has detected (e.g., by presence service) that the PoC User B is currently unavailable.

5.2.4 Post-conditions

The required post-conditions are:

- PoC User A has declined the offer of the PoC Service to establish a PoC Session with PoC User B's PoC Box; or,
- A PoC Session between the PoC User A and PoC User B's PoC Box is established.

5.2.5 Normal Flow

The normal flow for this use case is:

- The PoC User A selects the PoC User B and pushes the PoC button.
- The PoC Server Infrastructure detects that the PoC User B is unavailable and redirects the invitation to the PoC User B's PoC Box.
- The PoC Box accepts the invitation and the PoC User A is notified that a PoC Box has accepted the invitation instead of the PoC User B.
- PoC User A releases the PoC button in order to listen to the message.

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- The PoC User A receives a voice message: “The PoC User B is not available. Do you want to leave a message for him?”
- The PoC A pushes the PoC button again and leaves a message.
- After a while PoC User B is available again (the PoC Service Infrastructure may monitor PoC User B’s presence information).
- The PoC Service Infrastructure initiates a 1-1 PoC Session with the PoC User B, acting in place of PoC User A, but indicating to the PoC User B that this is a stored PoC Media, and sends the recorded Talk Burst to PoC User B.

5.2.6 Alternative Flow

There are three different alternative flows:

- The PoC User A may decide to not leave a message; or,
- The PoC User B receives the invitation to a PoC Session but redirects the invitation to the PoC Box; or,
- The PoC User A selects the PoC User B and decides to leave a message in PoC User B PoC Box directly before pushing the button. The invitation to a PoC Session is sent directly to the PoC Box without being offered to the PoC User B.

5.2.7 Operational and Quality of Experience Requirements

- The PoC Service Provider need to provision the PoC Box service to PoC Subscribers.
- The PoC Service Provider needs to provide suitable announcements to the PoC User A and the PoC User B.

5.3 The PoC Dispatcher

5.3.1 Short Description

This Use Case presents a practical example of the use of PoC for the communication between professionals. For these purposes, a special PoC Client with advanced capabilities is used to coordinate the fleet of professionals. This special PoC Client receives the name of PoC Dispatcher and is used by the fleet Managers.

5.3.2 Actors

A Highway Maintenance Company is under charge of the maintenance of a group of nested highways. The company uses PoC for the communication between its workers and has four fixed IP PoC Clients (PCs) in a Control Center connected to two routers. All of them are fixed PoC Dispatchers.

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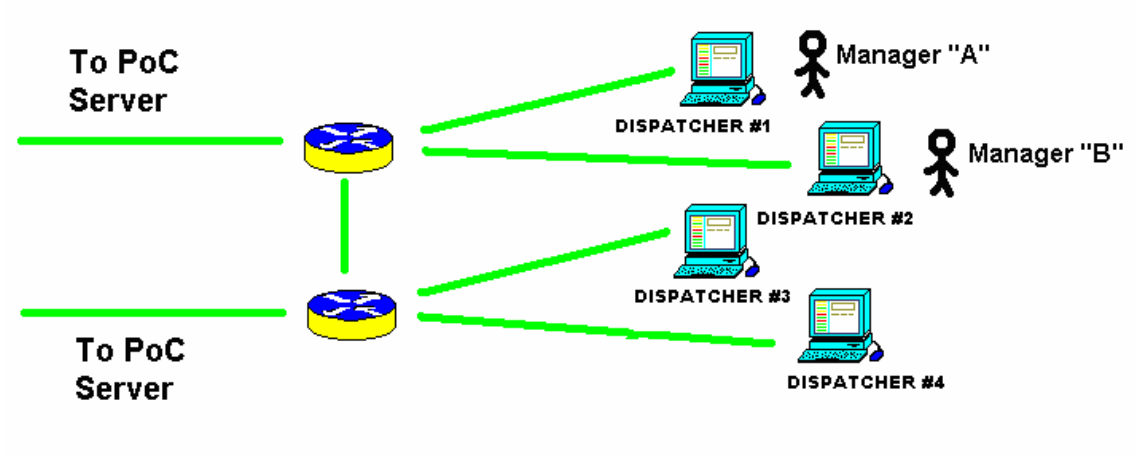

Figure 2: PoC Dispatch Network Use Case Example

- There are two Managers taking care of the coordination of the whole fleet. They optimally organize the regularly scheduled actions as well as any emergency situation that may happen. To carry out their job, they use the 4 PoC Dispatchers. As an additional help, they also receive the GPS position of the PoC Fleet Members from the Control Center.

The PoC Fleet Members, located in service vehicles, are divided into 2 subgroups: Maintenance Group (10 PoC Users) and Crane Group (10 PoC Users). All vehicles are equipped with a GPS system that regularly delivers the geographical position to the Control Center by non-PoC means.

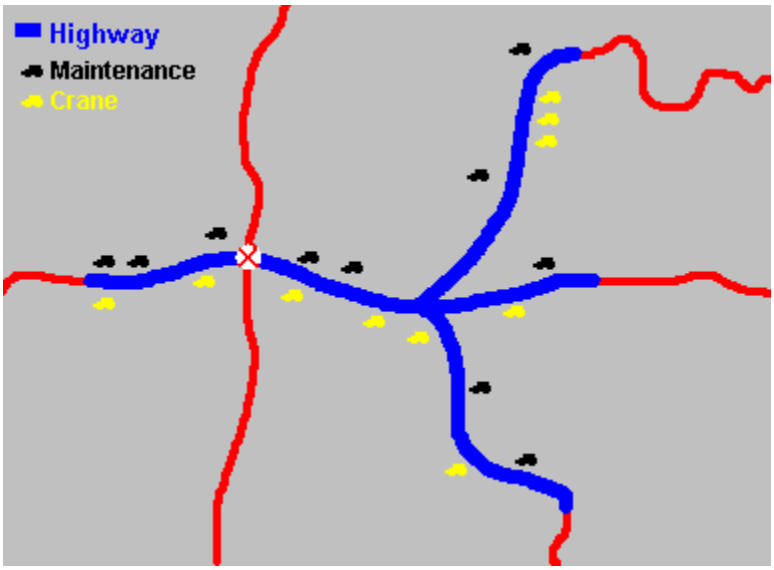

Figure 3: PoC Dispatch Scenario Use Case Example

5.3.2.1 Actor Specific Issues

PoC Fleet Members

- They want to quickly receive PoC calls from their Manager, in order to allow a fast coordination and fast action.
- In addition to voice, they may need to receive and transfer other types of Media from/to the Manager.

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- They must contact any Manager if an emergency situation occurs, although their assigned Manager is busy in that moment.
- In general, they do not really need to talk directly to other PoC Fleet Members when having a Group PoC Session.
- Some PoC Fleet Members should not call to other PoC Fleet Members directly, to avoid waste of time.

Managers

- The Managers want to quickly talk to any of the PoC Fleet Members under their charge.
- The Managers want to quickly talk to the whole group of PoC Fleet Members under their charge, but they want to be the only ones that receive the responses back.
- The Managers may need to individually restrict the outgoing PoC Sessions of their PoC Fleet Members, in order to avoid unnecessary conversations. These preconfigured restrictions need to be easily changed when necessary.
- Managers may need to manually divert an already established PoC Session to other PoC Dispatcher at any moment. Moreover, they need the automatic redirection of a new incoming PoC Session if they are busy.

PoC Service Provider

- He wants to offer a closed PoC Group communication service with a high added value for a specific “niche market”.

5.3.2.2 Actor Specific Benefits

PoC Fleet Members

- Fast voice and data communications.
- They can rely on a robust and organized communication mechanism that helps them in their daily work.

Managers

- Fast and easy way to talk and exchange other type of Media with the PoC Fleet Members, either individually or with all of them at once.
- A Manager has not to worry when he is busy since he knows that any new incoming call will be redirected to other PoC Dispatcher.
- Full control over the communications of the PoC Fleet Members. This optimizes the overall PoC Group communication and guarantees that the Manager will contact any of the PoC Fleet Members in all situations.

PoC Service Provider

- To obtain a “niche market”.
- To offer advanced solutions in Dispatch Services to professional customers.

5.3.3 Pre-conditions

- PoC Dispatcher #4 is diverted to PoC Dispatcher #2 by default.
- PoC Dispatcher #3 is diverted to PoC Dispatcher #1 by default.
- PoC Dispatcher #2 is diverted to PoC Dispatcher #1 if busy, and vice versa.
- It has been forbidden for Crane #3 to speak with Crane #4.
- All PoC Fleet Members, with their PoC terminals, are on the highway waiting for any indication from the Manager.
- Two Managers are on PoC Dispatcher #1 and #2 waiting for an event.

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- An accident is going to happen.

5.3.4 Post-conditions

The nearest Cranes have picked up the cars involved in the accident and the Maintenance Group has cleared the asphalt.

5.3.5 Normal Flow

- Based on non-PoC means, Manager A and B can view the geographic position of the PoC Fleet Members from a map on the screen of their special PoC Dispatcher Clients. The vehicles refresh their GPS position every 50 metres or 30 seconds.
- An accident has just happened in the highway. Manager A, from PoC Dispatcher #1, observes the state of the 10 components of the Maintenance Group. All of them are ready and he initiates a PoC Session to the Maintenance PoC Group. All of them accept the invitation and the 10 PoC Clients are included in the Maintenance PoC Group Session.
- Manager A orally explains the situation to the included PoC Fleet Members and, to avoid any confusion, informs that a text message is being sent to all of them with a description of the accident.
- Manager A is also viewing the GPS position of all the vehicles and, using the already established PoC Session, he orders the nearest Maintenance Vehicles to go to the accident location. The rest of vehicles must remain in standby.
- From PoC Dispatcher #2, Manager B calls the Crane PoC Group. 10 PoC Clients and their state are shown on the Manager's screen. A crane is out of coverage so it has not received the invitation. 9 Cranes automatically accept the call and are included in the PoC Session. They are ready to listen to the Manager’s indications. The Manager explains the operative procedures to be followed.
- The Crane that was out of coverage leaves that state and receives a late invitation to join the Crane PoC Group Session. He automatically accepts and PoC Dispatcher #2 is notified accordingly. The Manager B explains again the operative procedures to him and the rest of the group. Finally, Manager B closes the Crane PoC Group Session.
- One Crane initiates a 1-to-1 PoC call to the PoC Dispatcher #3. This PoC Dispatcher has no Manager and, therefore, is redirected to PoC Dispatcher #1 (pre-condition), but #1 is still busy. For that reason, the PoC call is automatically diverted again to PoC Dispatcher #2 as previously configured (pre-condition).
- Later on, Manager A, with the Maintenance PoC Group Session still open, realizes that his loudspeaker is not working correctly and decides to manually redirect the PoC Session to PoC Dispatcher #4 because it is not being used, and he continues with the Maintenance PoC Group Session.
- Manager A finishes the Maintenance PoC Group Session.
- Manager B, from PoC Dispatcher #2, closes the 1-to-1 PoC Session with the Crane.

5.3.6 Alternative Flow

- Crane #3 tries to make 1-to-1 PoC call to Crane #4. This is preconfigured to be forbidden and the PoC Session establishment is rejected (pre-condition).

5.3.7 Operational and Quality of Experience Requirements

- Managers should never find the PoC Clients they need to contact with as being busy. They also may want to request automatic acceptance of the call.
- PoC Fleet Members could have the outgoing PoC calls restricted so as to speak only to the Managers.
- Accidents require a fast coordination. The PoC V2.0 Service Enabler offers the technical solution to provide this fast service.

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- The call-redirection capability of the PoC Dispatcher makes it easier to find a Manager with no PoC Session in progress, which in turn enhances the reliability of the service.
- Managers receive the GPS position from the vehicles without interfering ongoing PoC Sessions.

5.4 Browser-Based PoC Client Invocation

5.4.1 Short Description

This use case describes a scenario where a PoC User Alice initiates an Ad-hoc PoC Group Session to Bob, Carol and David, who are members of one of her PoC Groups, Ski_Buddies, using the browser in her handset that talks to the Web server provided by the PoC Service Provider. Right after Alice selects the three members and clicks the "CALL" button on the browser, the PoC Client is invoked seamlessly and automatically, and the Ad-hoc PoC Group Session is initiated.

5.4.2 Actors

The involved actors are:

- PoC Users; Alice, Bob, Carol, David and Edward.
- PoC Service Provider

5.4.2.1 Actor Specific Issues

- Alice, Bob, Carol, David and Edward are members of a Pre-arranged PoC Group, Ski_Buddies.
- The PoC Service Provider provides value added services concerning to PoC Groups in addition to standard PoC Services. One of the value added services is to provide useful information that interests certain groups.

5.4.2.2 Actor Specific Benefits

The benefits for the actors are:

- The PoC Users are able to initiate PoC Sessions seamlessly while they are browsing on the browser. This enhances convenience and increases usability of the PoC Service.
- The PoC Service Provider is able to provide PoC Group information, user interfaces and any other information flexibly and dynamically on the browser.
- The PoC Service Provider is able to generate more PoC traffic as PoC Users use the PoC Service more frequently. There is a possibility to charge additional fee for such Web based premium information services and increase ARPU-Average Revenue Per User.

5.4.3 Pre-conditions

The required pre-conditions are:

- A Pre-arranged PoC Group, Ski_Buddies, includes Alice, Bob, Carol, David and Edward as its members.
- The Web server has proprietary mechanisms to provide Web pages combining information of PoC Groups taken from the XDM server and information which may be taken from other Web sites in the Internet.

5.4.4 Post-conditions

The required post-conditions are:

- A PoC Session is initiated.

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5.4.5 Normal Flow

The normal flow for this use case is:

- Alice connects to the Web server using the browser in her handset.
- The Web server is provided by the PoC Service Provider.
- The Web server authenticates Alice and presents Alice's home page on her browser.
- The home page presents a list of PoC Groups for which Alice is a member, along with other information such as news, offers, etc.
- Alice selects one of her PoC Groups, Ski_Buddies, on the browser.
- The browser presents a list of members of Ski_Buddies as well as updates of certain ski resort. The updates contain such information as dates, time, current weather, snowfall, forecast, wind, temperature, near real time pictures of the resort, etc.
- Since the condition looks perfect, using the PoC Service, Alice decides to talk to Bob, Carol and David to discuss their trip to the ski resort tomorrow. Alice knows that Edward is not available due to his trip abroad and she does not attempt to call him.
- Alice selects Bob, Carol and David and clicks the "CALL" button on the browser.
- The PoC Client is automatically invoked by clicking the "CALL" button and an invitation is sent to Bob, Carol and David. The four people start to talk in the Ad-hoc PoC Group call mode and discuss their ski trip tomorrow.
- Nete: If Alice selects only one person, it becomes a 1-1 PoC Session.

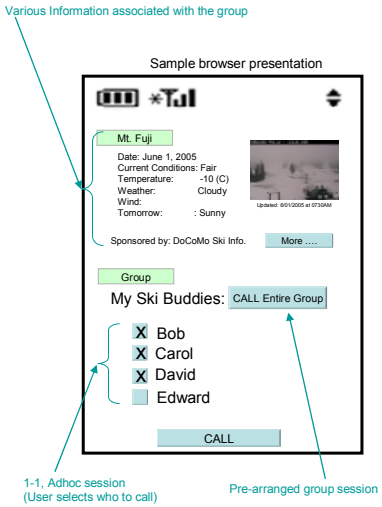

Figure 4: An Example of browser presentation.

5.4.6 Alternative Flow

An Alternative flow for this use case is:

- Instead of selecting each member whom Alice wants to talk to, Alice selects the "CALL ENTIRE GROUP" button. In this case, Alice knows that everyone should be available.
- The PoC Client is automatically invoked by clicking the "CALL Entire Group" button and an invitation is sent to everyone in the PoC Group. The Participants start to talk in the Pre-arranged PoC Group Session mode and discuss their ski trip tomorrow.

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5.4.7 Operational and Quality of Experience Requirements

- Invocation of the PoC Client and initiation of a PoC Session from browsing should be as seamless and automatic as possible.

5.5 Invitation Reservation

5.5.1 Short Description

According to an authorized PoC User's condition setting on PoC invitation reservation, the PoC Service Infrastructure automatically initiates PoC Sessions on behalf of the authorized PoC User. The PoC Service Infrastructure initiated PoC Session establishment can be triggered by the PoC Session start-up time, reservation timeout value, presence information, and triggering parameters (e.g., when at least one invitee or all invitees becomes available), etc.

5.5.2 Actors

- PoC Users: A, B and C
- PoC Service Infrastructure

5.5.3 Actor Specific Issues

The authorized PoC User A:

- Doesn't want to waste much time on checking the PoC User B's variable presence information or trying to invite the PoC User B, repeatedly.
- Requests that the PoC Service Infrastructure initiate a 1-1 PoC Session or a Group PoC Session on behalf of himself.

The PoC Service Infrastructure:

- Checks whether to invite the PoC Users A and B according to authorized PoC User A's condition setting.
- Invites the PoC Users A and B according to the authorized PoC User A's request, thus provides more convenient PoC Service.

5.5.3.1 Actor Specific Benefits

The authorized PoC User A:

- Doesn't need to spend much time on checking PoC User B's variable presence information or trying to invite the invitee, B, repeatedly.

The PoC Service Infrastructure:

- Can generate new revenue model through its rich functionality.

5.5.4 Pre-conditions

- The PoC User B cannot be invited due to some reasons.
- The authorized PoC User A requests the PoC Service infrastructure to reserve PoC Session invitation.
- PoC Service Infrastructure can invite both PoC Users A and B for the PoC Sessions.

5.5.5 Post-conditions

- The PoC Users A and B finish their PoC communication and terminate their PoC Sessions.

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5.5.6 Normal Flow

- The authorized PoC User A tries to call the PoC User B. But the PoC User B isn't currently available for some reason.
- The authorized PoC User A requests the PoC Service Infrastructure to reserve a PoC Session invitation by setting conditions of the invitation reservation according to his preferences, e.g., PoC Session start-up time, reservation timeout value, and presence information.
- PoC Service Infrastructure checks the conditions set by the authorized PoC User A and checks whether both PoC User A and B can be invited.
- When all conditions are satisfied and both the PoC Users A and B can be invited the PoC Service Infrastructure initiates to establish the reserved PoC Session.
- After the PoC Users A and B accept the PoC Session invitation, the PoC User A starts to talk and they enjoy the PoC Session.

5.5.7 Alternative Flow

- The authorized PoC User A tries to call the PoC Users B and C. But the PoC Users B and C aren't currently available for some reason.
- The authorized PoC User A requests the PoC Service Infrastructure to reserve a PoC Session invitation by setting conditions of the invitation reservation according to his preferences, e.g., PoC Session start-up time, reservation timeout value, presence information and triggering parameters (e.g., when all invited PoC Users become available).
- PoC Service Infrastructure checks the conditions set by the authorized PoC User A and checks whether all the PoC Users A, B and C can be invited.
- When all conditions are satisfied and all the PoC Users A, B and C can be invited the PoC Service Infrastructure initiates to establish the reserved PoC Session.
- After the PoC Users A, B and C accept the PoC Session invitation, the PoC User A starts to talk and they enjoy the PoC Session.

5.5.8 Operational and Quality of Experience Requirements

- Conduct of initiating PoC Session by a PoC Service Infrastructure should not affect the PoC Users to initiate other PoC Sessions.

5.6 Demonstrating the Use of PoC interworking

5.6.1 Short Description

This use case shows, through the use of PoC interworking capability, how the PoC User experience can be extended beyond the boundaries of the PoC Network. This expansion includes allowing the PoC User to communicate via PoC V2.0 with External P2T Network users. Also illustrated is how a PoC User can use PoC Service when situated beyond the direct reach of a PoC Network.

5.6.2 Actors

5.6.2.1 Service Providers

- POC-R-US: A PoC Service Provider with a PoC V2.0 Service offering.
- EZ-P2T: A service provider with a proprietary P2T service offering.

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- SmallFryNet: A wireless service provider without IMS or data capability (voice only).
- Joe's Bar, Grill & Wireless Clearing House: A wireless interworking service provider with PoC V2.0 interworking capabilities among its product offerings.

5.6.2.2 Subscribers

- Mangrove Swamp Securities: A financial instrument trading company recently formed by the merger of two smaller companies (Banyan Derivatives – a subscriber of POC-R-US' PoC V2.0 service and Pine Tar Bonds – a subscriber of EZ-P2T's P2T service)

5.6.2.3 Users

- Josh: A trader with Mangrove Swamp Securities, from Pine Tar Bonds before the merger. A user of EZ-P2T.
- Sam: A trader with Mangrove Swamp Securities from Banyan Derivatives before the merger. A user of POC-R-US.
- Trudy: Supervisor of the combined trading groups in Mangrove Swamp Securities. A user of EZ-P2T.
- Jesse: Mangrove Swamp Securities inbound call center specialist dealing with premium accounts. User of Mangrove Swamp Securities' internal voice enabled instant messaging system.
- Roger: Sales representative with Mangrove Swamp Securities from Banyan Derivatives before the merger. A user of POC-R-US.

5.6.2.4 Actor Specific Issues

- Mangrove Swamp Securities: Has just completed a merger and not completed the wireless communication planning including deciding on any user migration between existing service provider networks. Until the wireless communication planning is complete, wants to maintain existing connectivity and ensure similar levels of service across the two contracted network providers (EZ-P2T, POC-R-US).
- POC-R-US, EZ-P2T: Wants to ultimately gain Mangrove Swamp Securities' entire communication business.
- Joe's Bar, Grill & Wireless Clearing House: Increased usage of interworking service increases revenue. A key goal of this increased use is seamless user experience of the interworking features.
- Josh, Sam, Trudy: Wants to continue to access contacts in their pre-merger groups, but also reach staff from new post-merger groups with equal ease.
- Jess: Wants to be able to reach all Mangrove Swamp Securities traders from her desktop station in the call center regardless of pre-merger company location.
- Roger: Wants to be able to reach internal Mangrove Swamp Securities staff regardless of where he is roaming and regardless of the serving operator's capabilities.

5.6.2.5 Actor Specific Benefits

- Mangrove Swamp Securities: Able to select the most appropriate service plan without having the short term pressure because their existing service providers are able to continue service for all staff members through interworking.
- POC-R-US, EZ-P2T: Are able to assemble a better sales effort to try to win Mangrove Swamp Securities' entire business. Also are able to demonstrate technical strengths through interworking.
- Joe's Bar, Grill & Wireless Clearing House: Able to maintain heightened traffic and revenue levels by pitching to Mangrove Swamp Securities the value of maintaining existing dual operator subscription.
- Josh, Sam, Trudy, Jess, Roger: Able to communicate with Mangrove Swamp Securities staff using the tools they have been trained on to reach all employees in the newly combined company.

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5.6.3 Pre-conditions

- EX-P2T and POC-R-US have a business agreement to provide PoC Network to External P2T Network interworking between their subscribers and to use Joe's Bar, Grill & Wireless Clearing House to provide this PoC Network to External P2T Network interworking between their respective networks.
- SmallFryNet has a standard voice only roaming agreement with POC-R-US.
- Joe's Bar, Grill & Wireless Clearing House has an enterprise business agreement with Mangrove Swamp Securities to provide interworking capability between the internal voice enabled instant messaging system and other Mangrove Swamp Securities users with POC-R-US and EZ-P2T.
- Roger is at a customer site on a sales call and his only wireless coverage is SmallFryNet without PoC Service.
- Josh, Sam, Trudy and Jess's devices are registered in their respective networks and are authorized to use the interworking capability.

5.6.4 Post-conditions

The users have been able to establish PoC Sessions through the PoC V2.0-External P2T Network interworking capability to meet the communication needs of their work activities regardless of which network (EX-P2T or POC-R-US) the initiator and recipients reside in.

5.6.5 Normal Flow

1. Roger, in sales call, encounters a situation where he needs to include subject matter experts on a particular financial instrument.
2. Roger, unsure of which trader handles this particular financial instrument, decides to reach Trudy.
3. Since Roger is outside of the connectivity with POC-R-US, he uses the remote access capability of Joe's Bar, Grill & Wireless Clearing House by using the voice service of SmallFryNet to reach a designated access number.
4. The Joe's Bar, Grill & Wireless Clearing House remote access identifies and authenticates Roger for PoC Remote Access.
5. Roger initiates a PoC Session with Trudy, asks her who is responsible for the particular financial instrument.
6. The PoC Session to Trudy is extended through the Joe's Bar, Grill & Wireless Clearing House interworking to the EZ-P2T network.
7. Trudy decides that both Josh and Sam need to be involved. Trudy extends the PoC Session to them.
8. The PoC Session to Josh is extended through the Joe's Bar, Grill & Wireless Clearing House interworking to the EZ-P2T network.
9. The customer is allowed to participate in the presentation of the specific items through Roger's speaker phone.
10. The customer is satisfied, agrees to the purchase and the communication session is terminated.

5.6.6 Alternative Flow

The first alternative flow can substitute Jesse to set up a communication session instead of Roger with any combination of Trudy, Sam and Josh.

Other alternative flows can have the PoC Session set up by any Mangrove Swamp Securities staff member to any other staff member(s) regardless of whether they are users of EZ-P2T, POC-R-US or the internal voice enabled instant messaging system.

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5.6.7 Operational and Quality of Experience Requirements

From this use case, several QOE requirements are clearly identified:

- It is important to maintain the current user experience for both the External P2T Network users and PoC Users.
- It is important to have the interworking between PoC Networks and External P2T Networks be as seamless as possible on the user QOE for such things as performance and user interfaces.
- With the number of different External P2T Networks that may be available to the PoC User, the interworking capability needs to be generic and flexible enough to deal with any and all of them.

5.7 Dynamic PoC Groups

5.7.1 Short Description

This use case describes the use of Dynamic PoC Groups. The members of Dynamic PoC Groups are selected according to rules that are specified for the PoC Group.

Dynamic PoC Groups may be used as follows:

- A PoC User defines a Dynamic PoC Group by choosing other PoC Users and additionally specifying rules for dynamically selecting some of the chosen PoC Users.
- The PoC User sets up a PoC Session by inviting the defined Dynamic PoC Group.
- Only the chosen PoC Users that also satisfy the Dynamic PoC Group's rules are invited to the PoC Session.
- Participants are automatically expelled from the PoC Session as soon as they don't match the Dynamic PoC Group's selection rules anymore.
- Chosen but non-participating PoC Users are automatically invited to an ongoing PoC Session as soon as the Dynamic PoC Group's selection rules are matched.

5.7.2 Actors

The involved actors are:

- Host: PoC User Andrew
- Participants: PoC Users Brian, Chris, Doris, Eric and Fabio
- PoC Network Operator
- PoC Service Provider

5.7.2.1 Actor Specific Issues

Host:

- Wants to communicate to known PoC Users that satisfy certain conditions.
- Does not want to communicate to known PoC Users that do not satisfy certain conditions.
- Wants to communicate to unknown PoC Users that satisfy certain conditions.
- Does not want to communicate to unknown PoC Users that do not satisfy certain conditions.
- Wants to communicate to PoC Users only when they satisfy certain conditions.

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- Does not want to take care of inviting and expelling PoC Users according to certain conditions during an ongoing PoC Session.

Participants:

- Want to be invited to PoC Sessions that are relevant to them.
- Do not want to be invited to PoC Sessions that are not relevant to them.
- Want to participate in PoC Sessions only when the PoC Sessions are relevant to them.

PoC Network Operator:

- Wants to increase traffic in his packet switched network.

PoC Service Provider:

- Wants to attract customers to new services.
- Wants to reduce subscriber churn to other network providers.
- Wants to maximise potential for IP-services, offering new revenue generating services.

5.7.2.2 Actor Specific Benefits

Host:

- Does not invite PoC Users that are not relevant to his PoC Session.
- Does invite unknown PoC Users that are relevant to his PoC Session.
- Communicates to other PoC Users only as long as they are relevant to his PoC Session.

Participants:

- Are not invited to PoC Sessions that are not relevant to them.
- Are invited to relevant PoC Sessions although the Participants are not known to the PoC Sessions host.
- Communicate in PoC Sessions only as long as the PoC Sessions are relevant to them.

PoC Network Operator:

- Takes revenue from additional traffic with unknown PoC Users.

PoC Service Provider:

- Takes revenue from offering the service “Dynamic PoC Groups”.

5.7.3 Pre-conditions

The pre-conditions are:

- PoC Users Andrew, Brian, Chris, Doris, Eric and Fabio have PoC Subscriptions.
- PoC User Andrew has a PoC terminal capable of specifying Dynamic PoC Groups.
- PoC Users Brian, Chris, Doris, Eric and Fabio provided consent to become a member of a Dynamic PoC Group based on Dynamic PoC Group rules.
- PoC Users Andrew, Brian, Chris, Doris, Eric and Fabio have switched on their PoC terminals and are registered to the PoC Service.

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5.7.4 Post-conditions

The post-conditions are:

- PoC Users Andrew, Brian, Chris, Doris, Eric and Fabio are participating in the same PoC Session as long as they match certain Dynamic PoC Group rules.

5.7.5 Normal Flow

PoC User Andrew is a manager and intends to invite his staff for an immediate meeting. Therefore he wants to set up a PoC Session with those members of his staff that are currently working and who are staying in the same location.

The normal flow for this use case is:

- PoC User Andrew defines a Dynamic PoC Group. He selects his buddy list “My staff” that consists of PoC Users Brian, Chris and Doris. Then he additionally specifies Dynamic PoC Group rules on “geographical location” and “working”. The rules require Group members to be in the same geographical location as PoC User Andrew and to being working.
- User Andrew initiates a PoC Session for the Dynamic Group.
- Users Chris and Doris indicated in their Presence parameters that they are currently working. User Brian is not working. Users Brian and Chris are currently staying at the same geographical location as User Andrew. User Doris is not staying at the same location.
- User Chris is invited to the PoC Session since he matches the rules defined for the invited Dynamic PoC Group. Users Brian and Doris are not invited since they don’t match the Dynamic PoC Group rules.
- PoC Users Andrew and Chris arrange an appointment for a meeting. The PoC Session continues to stay.
- PoC User Doris arrives at the same geographical location as Users Andrew, Brian and Chris.
- User Doris is automatically invited to the ongoing PoC Session. She agrees to join the meeting a little later.

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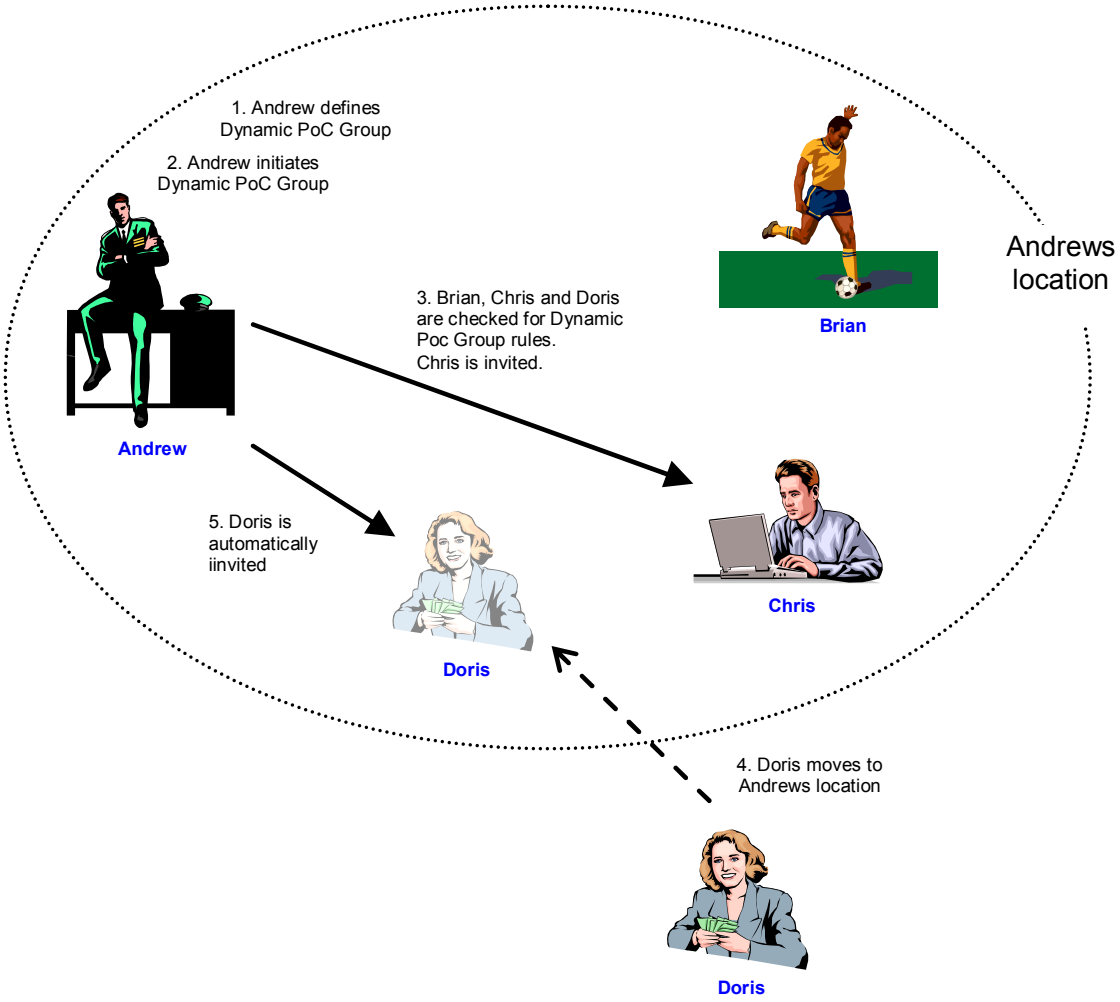

Figure 5: Use Case for Dynamic PoC Groups

5.7.6 Alternative Flow

Alternatively Dynamic PoC Groups may be based only on rules without using a pre-determined list of PoC Users. Then the scope of the search to populate the Dynamic PoC Group members is a matter of policy for the PoC Service Provider and may or may not be restricted. An example will be given in the following alternative flow:

- PoC User Andrew intends to play soccer after work. Therefore he wants to set up a PoC Session with other PoC Users that are interested in playing soccer and who are staying in the same location. User Andrew defines a Dynamic PoC Group. He specifies Dynamic PoC Group rules on “location” and “interest”. The rules require Group members to be in the same location as PoC User Andrew and to being interested in playing soccer.
- User Andrew initiates a PoC Session for the Dynamic PoC Group.
- According to the PoC Service Provider’s Policy members of the Dynamic PoC Group are searched amongst a set of all PoC Users served by the PoC Service Provider.
- Users Chris, Doris and Fabio indicated in their Presence parameters that they are interested in playing soccer. Users Brian and Eric are not interested in playing soccer. Users Brian, Chris and Fabio are currently staying at the same location as User Andrew. User Doris is not staying at the same location.
- Users Chris and Fabio are invited to the PoC Session since they match the rules defined for the invited Dynamic PoC Group. Users Brian, Doris and Eric are not invited since they don’t match the Dynamic PoC Group rules.

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- PoC Users Andrew, Chris and Fabio arrange an appointment for playing soccer. The PoC Session continues to stay.
- PoC User Doris arrives at the same location as Users Andrew, Brian, Chris and Fabio.
- User Doris is automatically invited to the ongoing PoC Session. She agrees to join for playing soccer a little later.

5.8 PoC Crisis Event handling

5.8.1 Short Description

This use case describes Crisis Event handling. PoC Service is expected to be a popular service available on most user equipments. PoC Service can be extended to reach majority of its customer in the crisis area to deliver the crisis alert.

In crisis handling, there are primarily three types of communication that are significant to this service:

- The reporting of the Crisis Event to the crisis responders, usually by a witness.
- The communication between authorized crisis responders who are dealing with and/or preventing the potential crisis.
- Any broadcast communication from the crisis responders to the PoC populace who might be near or directly affected by the crisis.

The first type of communication (Crisis Event reporting) is not necessarily in the scope of PoC. A Crisis Event may be reported by any person (e.g., a regular witness) or a machine (e.g., a fire sensor) to the crisis responders. Few examples of such communication are:

1. A witness use any communication means (usually not PoC but emergency services like 112, 911, etc) to report crisis situation to the crisis service responders or first responders.
2. A machine (e.g., fire sensor) that could use limited PoC Client interface to tie to the crisis service responder PoC Group for automatically initiating a crisis PoC Session among crisis service responders.

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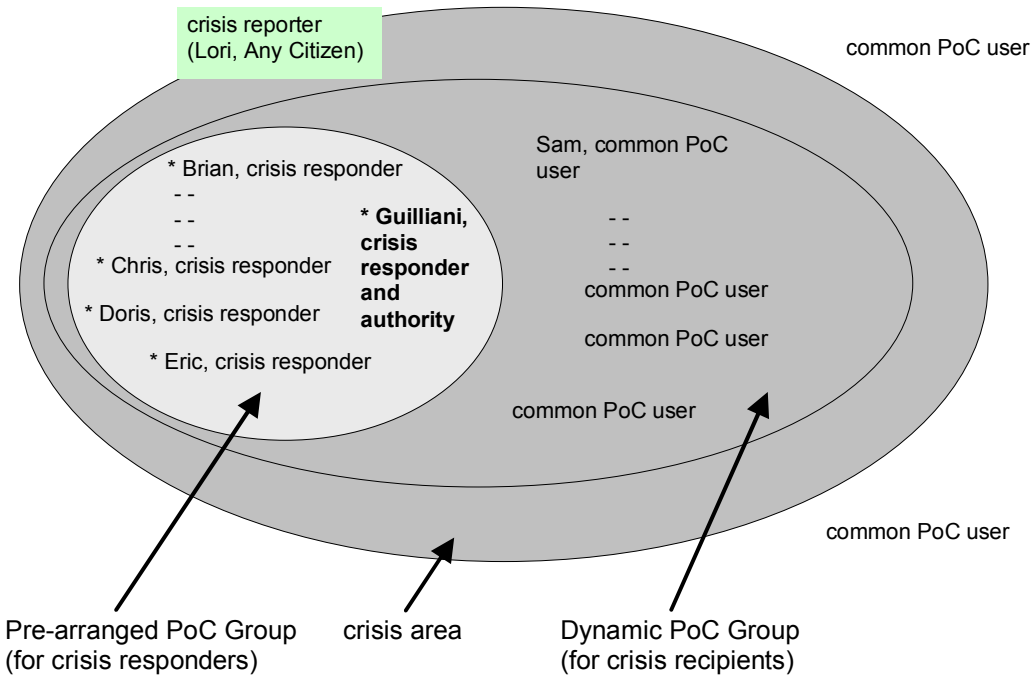

Figure 6: Use Case for PoC Groups in Crisis Event handling

5.8.2 Actors

The involved actors are:

Crisis Event reporter: Lori

Crisis handling responders: Crisis responder PoC Users Brian, Chris, Doris, Eric, Fabio and Guilliani

- Crisis handling authority (a Crisis handling responder with special authority): Crisis handling authority PoC User Guilliani (Crisis/disaster management authority for the affected area)
- Crisis message recipient: PoC User Sam and other populace in the vicinity of Crisis Event.

5.8.2.1 Actor Specific Issues

Crisis event reporter:

- Wants to communicate to the first responders of a Crisis Event.

Crisis responders:

- Wants to establish a PoC Session with special privileges to communicate among themselves while handling the crisis.
- Wants to establish a PoC Session with a Pre-arranged PoC Group of crisis responders.

Crisis handling authority:

- Wants to establish a PoC Session with special privileges to broadcast alert or messages to the general populace in the crisis affected area.
- Wants to establish a PoC Session with a Dynamic PoC Group to which users present in the crisis affected area are included.

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Crisis message recipient:

- Wants to receive important message from the crisis handling authority such as directions to escape away from the crisis affected area or take preventive measures.

5.8.2.2 Actor Specific Benefits

Crisis responders:

- Establish a PoC Session in a Pre-arranged PoC Group with special privileges to communicate among themselves while handling the crisis.

Crisis handling authority:

- Can send important message or direction to the common PoC Users in the crisis affected area in an effective way.

Crisis message recipient:

- Receives important alert message or direction from the crisis handling authority.

5.8.3 Pre-conditions

The pre-conditions are:

- PoC Users Andrew, Brian, Chris, Doris, Eric, Fabio and Guilliani have PoC Subscriptions with special privileges of initiating and participating in a crisis PoC Session and are member of a crisis responder Pre-arranged PoC Group.
- PoC User Guilliani has PoC Subscription with special privilege and authority to initiate a Crisis handling PoC Session and has a PoC Client capable of specifying Dynamic PoC Groups.
- PoC Users Andrew, Brian, Chris, Doris, Eric, Fabio, Guilliani and Sam have switched on their PoC Clients and are registered to the PoC Service.

5.8.4 Post-conditions

The post-conditions are:

- PoC Users Andrew, Brian, Chris, Doris, Eric, Fabio and Guilliani are participating in a privileged crisis PoC Session (Pre-arranged PoC Group) as long as they are responding to the crisis.
- PoC User Guilliani establishes a privileged PoC Session (Dynamic PoC Group) to deliver a crisis message for a brief period of time.

5.8.5 Normal Flow

Crisis PoC Session establishment with the crisis service responders by crisis service initiator: This flow is characterized by:

- A pre-defined PoC Group for the crisis service responders.
- Typically longer duration of PoC Session (approximately as long as the responders are in action at the crisis site) with full ability to talk to each other.
- Priority communication among crisis service responder (the primary reason being that their communication may be in the presence of heavy or extraordinary network traffic, or the network capacity may be reduced by the situation).

The flow for the use case is:

1. Andrew (responder) receives a Crisis Event report from Lori through a 1-1 PoC Session call.
2. Andrew needs to setup a crisis PoC Session with other crisis responders (Brian, Chris, Doris, Eric, Fabio, Guilliani).

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3. Andrew selects a Pre-arranged PoC Group (comprising of these crisis responders) and activates the PoC Session with crisis indication.

4. Andrew's access privilege is first verified to ensure whether he is authorized to initiate a crisis PoC Session. After verification a PoC Session with special characteristics (such as Manual Answer Override) and preferential (such as Official Government Use QoE Profile) privilege is setup.

5. The responders can communicate among themselves in the crisis PoC Session with preferential treatment as long as they need and then they terminate the PoC Session.

5.8.6 Alternative Flow

Crisis PoC Session establishment with the crisis service recipient by crisis service initiator (broadcast of emergency or priority messages by the crisis service responders to the affected populace of updates, actions to take (evacuation), etc.): This flow is characterized by:

- A Dynamic PoC Group (crisis service recipient). This Dynamic PoC Group usage is based on rules with or without using a pre-determined list of PoC Users. Without pre-determined lists of PoC Users the scope of the search to populate the Dynamic PoC Group members is a matter of the Service Provider Policy and may or may not be restricted.

- Typically very short duration of PoC Session (just sufficient to deliver the emergency or alert message) and mostly one-way delivery of message.

- Priority communication to crisis service recipient or the affected population (the primary reason being that their communication may be in the presence of heavy or extraordinary network traffic, or the network capacity may be reduced by the situation)

The flow for the use case is:

1. Guilliani (initiator) needs to send a crisis/disaster alert to the PoC Users in the area served under Guilliani crisis/disaster authority.

2. Guilliani selects a special PoC Group Identity and activates the PoC Session with crisis service indication. Guillianis's access privilege is first verified to ensure whether he is authorized and privileged to initiate a crisis PoC Session.

3. After Guilliani's access privilege verification special Dynamic PoC Group(s) get(s) created comprising of the PoC Users present in the crisis/disaster area served by Guilliani authority. (This Dynamic PoC Group is based only on rules without using a pre-determined list of PoC Users. In this case the scope of the search to populate the Dynamic PoC Group members is a matter of the Service Provider Policy, and may or may not be restricted).

4. The PoC Server(s) serving Guilliani's PoC Group Identity, sets-up either 1-many-1 or 1-many (depends on invocation) PoC Group Sessions with the special PoC Group(s)

5. Guilliani after delivering the crisis/disaster message immediately releases the PoC Session(s).

6. Sam (recipient) along with all other PoC Users in the crisis/disaster area served under Guilliani authority receives the crisis/disaster message.

5.8.7 Operational and Quality of Experience Requirements

Requirements defined for Official Government Use QoE Profileare applicable.

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6. Requirements (Normative)

This clause describes the requirements. Each requirement is written in a table format including a unique identifier, a normative description and an indication if the requirement is included in Release Version 2.0 or a later release.

Example of a requirement:

Label	Description	Enabler Release
FUNC-NMT-001	A PoC V2.0 Client MAY support the feature for handling new Media Types.	PoC V2.0

The "Label" column contains the unique identifier for the requirement.

The "Description" column contains the normative requirement using the style conventions described in the subclause 3.1 "*Conventions*".

The "Enabler Release" column indicates if a requirement belongs to Release Version 2.0 (referred to as "PoC V2.0") or a later release (referred to as "PoC V2.1" or "Post PoC V2.1").

Tables are divided into two sets of requirements;

The "*Conditionality"* which specifies whether the overall feature level requirement is mandatory or optional for the PoC Client and/or the PoC Service Infrastructure.

The "*Functionality*" which specifies the optional or mandatory nature of the detailed requirements when the overall feature level requirement is supported.

Where the *"Conditionality"* of the overall feature level requirements is optional, all detailed requirements in the *"Functionality"* portion of the table for the same feature (i.e., MAY, SHOULD or SHALL) are applicable only if the feature itself is supported.

6.1 High-Level Functional Requirements

This section outlines the functional requirements for the PoC Service Enabler given as enhancements to the PoC V1.0 Service Enabler.

Media Enhancement Functions:

- New Media Types
- Media Burst Control Enhancements

PoC Session Enhancement Functions:

- Enhanced PoC Session Establishment
- Enhanced PoC Session Control

Further requirements are provided with respect to:

- PoC Interworking Service
- Quality of Experience (QoE)
- Value added PoC Services
- Additional Functions

Functionality required by interaction with other OMA enablers.

- Interaction with Group Management and Presence
- Security
- Charging
- Usability
- Interoperability

6.1.1 New Media Types

PoC Service facilitates communication among PoC Users using Media Types, in addition to voice. The additional Media Types supported could be still images, live-streamed video, file transfer and text, but not limited to the above-mentioned list. In contrast to voice or video, text messaging within PoC Service in general will not require Media Burst Control.

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A PoC Server provides support for more than one Media Type in a PoC Session. PoC Clients can support more than one Media Type in a PoC Session, based on the capabilities of the User Equipment.

Label	Description	Enabler Release
Conditionality		
FUNC-NMT-001	A PoC Client MAY support the feature for handling new Media Types.	PoC V2.0
FUNC-NMT-002	A PoC Infrastructure SHALL support the feature for handling new Media Types.	PoC V2.0
Functionality		
	Overall	
FUNC-NMT-003	The PoC Service Infrastructure SHALL support mechanisms that guarantee end-to-end interoperability when considering the introduction of new Media Types in PoC.	PoC V2.0
FUNC-NMT-004	The PoC Client SHALL have means to set one or more of the offered Media component(s) inactive in the PoC Session set-up and set those active later during the PoC Session, if needed.	PoC V2.0
	Voice	
FUNC-NMT-005	If a PoC Client supports the feature for handling new Media Types, the PoC User MAY be able to invoke a PoC Session without PoC voice Media, but with one or more rich Media Streams (e.g., images, video). In other words, voice Media SHALL not be a mandatory Media in a PoC V2.0 Session**.**	PoC V2.0
FUNC-NMT-006	Any PoC Session Participant with a PoC Client supporting the feature for handling new Media Types SHALL be able to add PoC voice anytime during an existing PoC V2.0 Session consisting of only rich Media (e.g., images, video).	PoC V2.0
	Images or Series of Images	
FUNC-NMT-007	If a PoC Client supports images or series of images the PoC Client MAY send images or series of images that are available in the User Equipment (e.g., from a camera) to the Participants of the PoC Session.	PoC V2.0
FUNC-NMT-008	The PoC Server SHALL support the transfer of images or series of images sent by the PoC Client to those Participants of the PoC Session, that are able to receive and display images or series of images.	PoC V2.0
FUNC-NMT-009	If a PoC Client supports images or series of images the PoC Client SHALL be able to receive and display images or series of images. The receiving PoC Client MAY be able to store images or series of images in local memory for playback use, subject to digital rights management restrictions.	PoC V2.0
	Live-streamed video	
FUNC-NMT-010	The PoC Client MAY be able to send live-streamed video (e.g., from a camera) or pre-recorded video that is available in the User Equipment to the Participants of the PoC Session.	PoC V2.0
FUNC-NMT-011	The PoC Server SHALL support the transfer of live-streamed video that is available in the User Equipment (e.g., from a camera) to those Participants of the PoC Session that are able to receive and display live-streamed video.	PoC V2.0
FUNC-NMT-012	If a PoC Client supports streamed video the PoC Client SHALL be able to receive and display live-streamed video. The receiving PoC Client MAY be able store the video in local memory for playback use, subject to digital rights management restrictions.	PoC V2.0
FUNC-NMT-013	If the PoC Client supports Continuous Media other than voice, a PoC User using voice MAY add Continuous Media other than voice (e.g., video) to the PoC Session.	PoC V2.0

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	Transfer of Files	
FUNC-NMT-014	If a PoC Client supports files the PoC Client MAY be able to send files that are available in the User Equipment (e.g., a MS word document, a game software package) to the Participants of the PoC Session.	PoC V2.0
FUNC-NMT-015	The PoC Server SHALL support the transfer of files that are available in the User Equipment (e.g., a MS word document, a game software package) to those Participants of the PoC Session that are able to receive files.	PoC V2.0
FUNC-NMT-016	If a PoC Client supports files the PoC Client SHALL be able to receive files. The receiving PoC Client MAY be able to store files in local memory for playback use, subject to digital rights management restrictions.	PoC V2.0
	External Media Support	
FUNC-NMT-017	The PoC Client MAY be able to request the PoC Server to access and send the Media (e.g., live-streamed video, pictures) residing in an external content server by the PoC Service to other Participants in the PoC Session.	PoC V2.1
FUNC-NMT-018	The PoC Server MAY be able to retrieve and transfer the Media residing in an external content server (e.g., a video streaming server) to Participants in the PoC Session, on behalf of the PoC Client request. A PoC Server with this capability SHALL support the following Media Types: images or series of images, streamed video, and files	PoC V2.1
	Video Streams	
FUNC-NMT-019	PoC User with a PoC Client supporting voice and video SHALL request permission from the PoC Service Infrastructure before sharing a video stream in a PoC Session.	PoC V2.0
FUNC-NMT-020	If a PoC Session includes video streams (in addition to voice), the PoC Infrastructure SHOULD support a capability to configure a preferred mode of video streaming on PoC Client. This configuration MAY be done either • Due to the limitations of the PoC Client (e.g., a PoC V1.0 Client) • Configured by PoC Service Provider, or • Configured by the PoC User The modes of sending video streams in conjunction with voice are: (i) Single source mode: Both PoC voice and PoC video comes from the same Participant in a PoC Session in near real time. (ii) Multiple sources mode: PoC voice is sent from one Participant and PoC video is sent from another Participant in the same PoC Session.	PoC V2.0
FUNC-NMT-021	PoC Server SHALL support single and multiple source modes of sending video streams in conjunction with voice.	PoC V2.0
FUNC-NMT-022	If the PoC Client supports voice and video it SHALL support single and multiple source modes of sending and receiving video streams in conjunction with voice.	PoC V2.0
	Text	
FUNC-NMT-023	If a PoC Client supports text the PoC Client MAY send text that is available in the User Equipment to the Participants of the PoC Session.	PoC V2.0
FUNC-NMT-024	The PoC Server SHALL support the transfer of text sent by the PoC Client.	PoC V2.0
FUNC-NMT-025	If a PoC Client supports text the PoC Client SHALL be able to receive and display the received text. The receiving PoC Client MAY be able to store the received text in local memory.	PoC V2.0

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FUNC-NMT-026	If the PoC Client supports text it SHALL support sending text in conjunction with voice and/or video.	PoC V2.0
FUNC-NMT-027	If the PoC Client supports text the PoC Client MAY start a PoC Session with text messaging Media only. A PoC User using text messaging MAY add another Media (e.g., voice) to the PoC Session.	PoC V2.0
FUNC-NMT-028	PoC User with a PoC Client supporting text SHALL be able to send text messages to other PoC Users and PoC Groups.	PoC V2.0
	Discrete Media content	
FUNC-NMT-029	In a given PoC V2.0 Session with Discrete Media there SHALL be possible to indicate back to the sender the status (e.g., start/end/progress steps) of the Media transfer.	PoC V2.0
FUNC-NMT-030	If a PoC Client supports Discrete Media, PoC User using voice MAY add Discrete Media (e.g., images) to a PoC Session.	PoC V2.0
	Identity	
FUNC-NMT-031	Identity of Media sender SHALL be provided to recipients of Media in a PoC Session, subject to privacy rules.	PoC V2.0
FUNC-NMT-032	The description of Media (e.g., title of video) MAY be provided to other Participants in company with Media.	PoC V2.0

Table 1: New Media Types

6.1.2 PoC Sessions with Multiple PoC Groups

PoC Network elements can support Ad-hoc PoC Groups Sessions, that invite individual PoC Users and/or one or more Pre-arranged PoC Groups. PoC Network Elements can also support Ad-hoc PoC Groups Sessions where the target URI contains URIs that contain other PoC Groups, which in turn can contain yet other PoC Groups, and so on.

Label	Description	Enabler Release
Conditionality		
FUNC-MPG-001	A PoC Service Infrastructure SHALL support establishing an Ad-hoc PoC Group Session involving one or more Pre-arranged PoC Groups and individual PoC Users.	PoC V2.0
FUNC-MPG-002	A PoC Client MAY support initiating an Ad-hoc PoC Group Session involving one or more Pre-arranged PoC Groups and individual PoC Users.	PoC V2.0
Functionality		
FUNC-MPG-003	A PoC Client SHALL be able to establish an Ad-hoc PoC Group Session involving one or more Pre-arranged PoC Groups and individual PoC Users	PoC V2.0
FUNC-MPG-004	The invited Pre-arranged PoC Groups MAY reside on separate group management servers, each possibly owned by a different PoC Service Provider or otherwise in another administrative domain. This is subject to interdomain agreement(s).	PoC V2.0
FUNC-MPG-005	The PoC Session Identity of the resulting Ad hoc PoC Group Session with multiple PoC Groups SHALL be dynamically selected and distinct from the PoC Group Identities of the invited Prearranged PoC Groups.	PoC V2.0
FUNC-MPG-006	The invited PoC Users MAY be represented as PoC Users of a URI that contain Nested Groups and/or individual PoC Users. These Nested Groups MAY similarly contain individual PoC Users or other Nested Groups. Each such Nested Group MAY possibly be owned by a different PoC Service Provider, or MAY otherwise be in another administrative domain.	PoC V2.0

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FUNC-MPG-007	The invited PoC Groups MAY have restrictions that prohibit the members to be invited to the PoC Session (the PoC Group has an attribute of "none" implying only the members of the PoC Group may belong to a given PoC Session). The invited PoC Groups MAY also have restrictions that prohibit additional PoC Users not originally invited to be added to a PoC Session. NOTE: The policy applied for the resulting PoC Session is the same policy that applies to an Ad-hoc PoC Group Session.	PoC V2.1
FUNC-MPG-008	The originating PoC User MAY be able to send a message that advertises the the PoC Group to multiple PoC Groups and/or individual PoC Users. The targeted PoC Groups MAY be able to reside on separate group management servers, each possibly owned by a different PoC Service Provider	PoC V2.1
FUNC-MPG-009	The maximum number of Participants of the resulting Ad hoc PoC Session SHALL not exceed the maximum number of Participants permitted for the Ad hoc PoC Group Session.	PoC V2.0

Table 2: PoC Sessions with Multiple Groups

6.1.3 Enhanced PoC Session Establishment

6.1.3.1 Requests with Media Contents

When inviting PoC User(s) to a PoC Session, or when sending a Group Advertisement message, media contents can be added to the requests.

Label	Description	Enabler Release
Conditionality		
FUNC-EPE-MC-001	The PoC Service Infrastructure MAY support adding media content to PoC Session invitations or Group Advertisement messages.	PoC V2.0
FUNC-EPE-MC-002	The PoC Client MAY support adding media content to PoC Session invitations or Group Advertisement messages.	PoC V2.0
Functionality		
FUNC-EPE-MC-003	A PoC Client MAY add media content to a PoC Session invitation(s) sent to PoC User(s).	PoC V2.0
FUNC-EPE-MC-004	A PoC Client SHALL support receiving of PoC Session invitation(s) that includes media content. Depending on the PoC Client's capability for the included media content, the PoC Client SHOULD replay the received media content.	PoC V2.0
FUNC-EPE-MC-005	A PoC Client MAY add media content to Group Advertisement message(s) sent to PoC User(s)	PoC V2.0
FUNC-EPE-MC-006	A PoC Client MAY support the receiving Group Advertisement message(s), which MAY include media content from PoC User(s). Depending on the PoC Clients capability for the included media content, the PoC Client SHOULD replay the received media content.	PoC V2.0
FUNC-EPE-MC-007	The PoC Service infrastructure MAY remove media content(s) to the PoC Session invitation(s) according to the configuration set by inviting and invited PoC Client.	PoC V2.0
FUNC-EPE-MC-007a	The PoC Service infrastructure MAY add/change media content(s) to the PoC Session invitation(s) according to the configuration set by inviting and invited PoC Client.	PoC V2.1

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FUNC-EPE-MC-008	Media content SHALL be either a reference to the media content or contain the content directly. Examples of content types can be found in [RFC 2046, Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types]	PoC V2.0
FUNC-EPE-MC-009	The PoC Service Infrastructure MAY be able to remove media content according to the reference to the media content	PoC V2.0
FUNC-EPE-MC-009a	The PoC Service Infrastructure MAY be able to add/change media content according to the reference to the media content.	PoC V2.1
FUNC-EPE-MC-010	It SHALL be possible to limit the size and type of the media content based on PoC Service Provider Policies of the inviting and invited PoC Users and/or setting of inviting PoC Client and invited PoC Client.	PoC V2.0
FUNC-EPE-MC-011	The PoC Service infrastructure SHALL be able to filter out the included media content based on PoC Service Provider Policies of the inviting and invited PoC Users and/or setting of inviting PoC Client and invited PoC Client.	PoC V2.0
FUNC-EPE-MC-011a	The PoC Service infrastructure MAY accept or reject the request with the included media content based on Service Provider Policies.	PoC V2.0
FUNC-EPE-MC-012	Settings by the PoC Service Infrastructure SHALL have precedence over settings by PoC Clients.	PoC V2.0
FUNC-EPE-MC-013	It SHALL be possible to charge the Inviting PoC Client and the Invited PoC Client for Media in Requests based on PoC Service Providers charging model.	PoC V2.0

Table 3: Enhanced PoC Session Establishment

6.1.3.2 Invited Parties Identity Information

In the case of an Ad-hoc PoC Group Session establishment, a PoC User can include the identities of all the other invited PoC Users in the invitation sent to each individual PoC User invited to that PoC Session. The invited PoC User can use this information, when deciding whether to participate in the PoC Session or not.

Label	Description	Enabler Release
Conditionality		
FUNC-EPE-PI-001	The PoC Service Infrastructure SHALL support the invited parties identity information functionality in regions where this functionality is not restricted due to regulations.	PoC V2.0
FUNC-EPE-PI-002	The PoC Client MAY support the invited parties identity information functionality.	PoC V2.0
Functionality		
FUNC-EPE-PI-003	An inviting PoC User MAY indicate each PoC Addresses of all the invited PoC Users in the invitation to an Ad-hoc PoC Group Session to be presented to, or hidden from, the other invited PoC Users.	PoC V2.0
FUNC-EPE-PI-004	The originating PoC Server SHALL send PoC Addresses of all invited PoC Users to all terminating PoC Servers with the indication of each PoC Address of all the invited PoC Users to be presented to, or hidden from, the other invited PoC Users. NOTE: If the indication is not included in an invitation, the originating PoC Server sets the indication based on the settings, default is to make the PoC Address of the invited PoC User be hidden.	PoC V2.0
FUNC-EPE-PI-005	The terminating PoC Server MAY, according to the settings of the PoC Service Provider definition, remove the received invited party identity information.	PoC V2.0

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FUNC-EPE-PI-006	In case one or more of the invited PoC Users identities have been expressed as anonymous: • The originating PoC Server SHALL inform all terminating PoC Server(s) of their anonymity by including an indication with their PoC User Identity. • The terminating PoC Server SHALL indicate in the invitation to the invited PoC User, the total number of anonymous PoC Users invited to the PoC Session. • The terminating PoC Server SHALL NOT send the PoC User Addresses of any PoC User indicated as anonymous by the originating PoC Server, in the invitation to the invited PoC User.	PoC V2.0

Table 4: Invited Parties Identification Information

6.1.3.3 Incoming Media Barring

In addition to what is specified in PoC V1.0, the Incoming Media Barring feature is supported when the receiving PoC User does not want to receive certain Media at a certain moment. "Media" or "Media Type" in this subclause means those described in section 6.1.1 "New Media Types". He can require the barring without interfering to the conversion and Media sharing within the rest of the PoC Group.

Label	Description	Enabler Release
Conditionality		
FUNC-EPE-MB-001	The PoC Client MAY support Incoming Media Barring.	PoC V2.1
FUNC-EPE-MB-002	The PoC Service Infrastructure SHOULD support Incoming Media barring.	PoC V2.1
Functionality		
FUNC-EPE-MB-003	The PoC Client MAY support separate Incoming Media Barring for each Media Type.	PoC V2.1
FUNC-EPE-MB-004	The PoC Client MAY support different Access Control for each Media Type.	PoC V2.1
FUNC-EPE-MB-005	The PoC Service Infrastructure SHALL support separate Incoming Media Barring for each Media Type.	PoC V2.1
FUNC-EPE-MB-006	The PoC Service Infrastructure SHALL use the Manual Answer Mode as the default Answer Mode for the PoC Sessions when video is the Media (the PoC User can configure the Answer Mode as he wishes).	PoC V2.1
FUNC-EPE-MB-007	The PoC Service Infrastructure SHALL use the Automatic Answer Mode as the default Answer Mode for the PoC Sessions with only messaging Media or when adding messaging to the on-going PoC Session.	PoC V2.1
FUNC-EPE-MB-008	The PoC Service Infrastructure SHALL use the Answer Mode according to the PoC Service Settings the same way as specified in PoC V1.0.	PoC V2.0
FUNC-EPE-MB-009	The PoC Service Infrastructure SHALL use different Access Control for each Media Type, if configured by the PoC Client.	PoC V2.1

Table 5: Incoming Media Barring

6.1.3.4 Incoming Condition Based PoC Session Barring

In addition to what is specified in PoC V1.0, the Incoming Condition Based PoC Session Barring feature is supported. In case a PoC Subscriber or an authorized PoC User does not want to be invited to new PoC Sessions under certain barring conditions, the PoC Subscriber or the authorized PoC User can activate a setting to reject the conditioned new incoming PoC Sessions.

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Label	Description	Enabler Release
Conditionality		
FUNC-EPE-ISB-001	The PoC Client MAY support Incoming Condition Based PoC Session Barring.	PoC V2.1
FUNC-EPE-ISB-002	The PoC Service Infrastructure SHOULD support Incoming Condition Based PoC Session Barring.	PoC V2.1
Functionality		
FUNC-EPE-ISB-003	The PoC Client MAY support that a PoC Subscriber or an authorized PoC User defines the Incoming Condition Based PoC Session Barring conditions: • On/off setting on Incoming Condition Based PoC Session barring (e.g., international Incoming Condition Based PoC Session Barring) based on PoC Address information and/or network information such as the country or the region in which the inviting PoC User's Home PoC Network is located; and, Note that the above requirement may be limited by the functionality provided by the underlying network. • PoC Group Parameters (e.g., particular PoC Group members).	PoC V2.1
FUNC-EPE-ISB-004	The PoC Client MAY support a PoC User to interrogate his Incoming Condition Based PoC Session Barring settings from the PoC Service Infrastructure.	PoC V2.1
FUNC-EPE-ISB-005	The PoC Service Infrastructure SHALL store the Incoming Condition Based PoC Session Barring conditions according to the PoC Client's request.	PoC V2.1
FUNC-EPE-ISB-006	The PoC Service Infrastructure SHALL provide a PoC User with his Incoming Condition Based PoC Session Barring settings if requested.	PoC V2.1
FUNC-EPE-ISB-007	The PoC Service Infrastructure SHALL verify the Incoming Condition Based PoC Session Barring conditions defined by an authorized PoC User or a PoC Subscriber, and bar the incoming PoC Session invitation only if the conditions are fulfilled.	PoC V2.1

Table 6: Incoming Condition Based PoC Session Barring

6.1.3.5 Outgoing Condition Based PoC Session Barring

In case a PoC Subscriber or an authorized PoC User does not want to join a PoC Session or to setup a PoC Session at all under certain barring conditions, the PoC Subscriber or the authorized PoC User can activate a setting for not carrying out the conditioned join or PoC Session setup.

Label	Description	Enabler Release
Conditionality		
FUNC-EPE-OSB-001	The PoC Client MAY support Outgoing Condition Based PoC Session Barring.	PoC V2.1
FUNC-EPE-OSB-002	The PoC Service Infrastructure SHOULD support Outgoing Condition Based PoC Session Barring.	PoC V2.1

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Functionality		
FUNC-EPE-OSB-003	The PoC Client MAY support that a PoC Subscriber or an authorized PoC User defines the Outgoing Condition Based PoC Session Barring conditions: • On/off setting of Condition Based PoC Session barring (e.g., international Condition Based PoC Session Barring) based on PoC Address information and/or network information such as the country or the region in which the invited PoC Users are located; and, NOTE 1: The above requirement may be limited by the functionality provided by the underlying network. • PoC Group Parameters (e.g., particular PoC Group members). NOTE 2: The above is not an exhaustive list of conditions.	PoC V2.1
FUNC-EPE-ISB-004	The PoC Client MAY support a PoC User to interrogate his Outgoing Condition Based PoC Session Barring settings from the PoC Service Infrastructure.	PoC V2.1
FUNC-EPE-OSB-005	The PoC Service Infrastructure SHALL store the Outgoing Condition Based PoC Session Barring conditions according to the PoC Client's request.	PoC V2.1
FUNC-EPE-OSB-006	The PoC Service Infrastructure SHALL provide a PoC User with his Outgoing Condition Based PoC Session Barring settings if requested.	PoC V2.1
FUNC-EPE-OSB-007	The PoC Service Infrastructure SHALL verify the Outgoing Condition Based PoC Session Barring conditions defined by an authorized PoC User or a PoC Subscriber and bar the outgoing PoC Session invitation only if the conditions are fulfilled.	PoC V2.1
FUNC-EPE-OSB-008	The PoC Service Infrastructure SHALL notify an inviting PoC User that an outgoing PoC Session invitation has been barred when it has been done due to the Outgoing Condition Based PoC Session Barring conditions defined by the PoC Subscriber or the authorized PoC User.	PoC V2.1

Table 7: Outgoing Condition Based PoC Session Barring

6.1.3.6 Automatic Notification of Limited Participating Information

In case of PoC Group Session, especially in case of large PoC Groups, the amount of data exchanged due to each Participant subscribing to a conference event package and receiving the consequent notifications may become substantially high. From the usability point of view, even though the limited participant information could be sufficient for many cases, the conventional mechanisms may result in providing the full information to the Participants of the PoC Session. From the PoC Network traffic point of view, this may cause unnecessary high load and also cause deterioration of Media quality in a PoC Session. To overcome this issue, the PoC Service may provide functionality of automatic notification of limited Participant information as an alternative to the full conference information delivery.

Label	Description	Enabler Release
Conditionality		
FUNC-EPE-AN-001	The PoC Service Infrastructure MAY support the automatic notification of limited participating information functionality.	PoC V2.1
FUNC-EPE-AN-002	The PoC Client MAY support the automatic notification of limited participating information functionality.	PoC V2.1

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Functionality		
FUNC-EPE-AN-003	PoC Service SHALL be able to provide limited Participant Information information (i.e., PoC User's identity and joining alert) automatically to the Participant(s) who already joined using the existing PoC Session during the PoC Group Session establishment phase or on-going PoC Session, if authorized by PoC Group policy.	PoC V2.1
FUNC-EPE-AN-004	Using this capability, the PoC Session Owner SHOULD be able to receive another PoC User's Participant Information (e.g., when each PoC User joins, leaves, or rejects an invitation).	PoC V2.1
FUNC-EPE-AN-005	Using this capability, the Participant(s) SHOULD be able to receive another PoC User's Participant information subsequently (e.g., when each PoC User joins).	PoC V2.1

Table 8: Automatic Notification of Limited Participating Information

6.1.3.7 Rejection of Session Establishment Due to Hidden Identity of an Inviting User

The PoC Service Infrastructure rejects PoC Session establishment initiated by an inviting PoC Client because of the hidden identity based on invited PoC User's local policies and preferences and indicates to that PoC Client of this failure.

Label	Description	Enabler Release
Conditionality		
FUNC-EPE-EF-001	The PoC Service Infrastructure SHALL be able to reject PoC Session establishment initiated by an inviting PoC User whose identity is hidden based on local policies and preferences of invited PoC Users.	PoC V2.0
FUNC-EPE-EF-002	The PoC Client SHOULD support the indication of PoC Session establishment failure due to identity hiding functionality.	PoC V2.0
Functionality		
FUNC-EPE-EF-003	Invited PoC User's PoC Network SHALL be able to reject PoC Session establishment initiated by an inviting PoC User whose identity is hidden based on local policies and preferences of the invited PoC User.	PoC V2.0
FUNC-EPE-EF-004	Invited PoC User's PoC Network SHALL be able to indicate the inviting PoC User that the PoC Session establishment fails due to the inviting PoC User's hidden PoC Address.	PoC V2.0

Table 9: Rejection of Session Establishment Due to Hidden Identity of an Inviting User

6.1.4 Invitation Reservation

When a PoC User requests a PoC Server to reserve an invitation with its preferred PoC Service Settings the PoC Server automatically establishes a corresponding PoC Session on behalf of the PoC User's request.

Label	Description	Enabler Release
Conditionality		
FUNC-IRS-001	The PoC Service Infrastructure MAY support the invitation reservation functionality.	PoC V2.1
FUNC-IRS-002	The PoC Client MAY support initiation of the invitation reservation.	PoC V2.1

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Functionality		
FUNC-IRS-003	In case of 1-1 PoC Session and Ad-hoc PoC Group Session, a PoC User SHALL be able to reserve an invitation.	PoC V2.1
FUNC-IRS-004	In case of Pre-arranged PoC Group Session, an authorised PoC Group member, defined in the PoC Group data, SHALL be able to reserve an invitation.	PoC V2.1
FUNC-IRS-005	The PoC Client SHALL provide a means for a PoC User to place preferred PoC Service Settings such as invited PoC User presence information, PoC Session start-up time, reservation timeout value, and triggering parameters (e.g., when at least one invited PoC User becomes available).	PoC V2.1
FUNC-IRS-006	The PoC Client SHALL request PoC Server to reserve the PoC Client's invitation according to the preferred PoC Service Settings. NOTE 1: The preferred PoC Service Settings can be placed by an external interworking machine (e.g., a PC). NOTE 2: To reserve an invitation can be requested by an external interworking machine.	PoC V2.1
FUNC-IRS-007	The PoC Server SHALL collect information on both inviting PoC User's and invited PoC User's availability from corresponding PoC Server and Presence Server, if Presence is supported.	PoC V2.1
FUNC-IRS-008	The PoC Server SHALL send an invitation to the inviting PoC User and all the invited PoC Users, if the preferred PoC Service Settings are satisfied.	PoC V2.1
FUNC-IRS-009	The PoC Server SHALL initiate 1-1 PoC Session or PoC Group Session according to the PoC Service Settings requested by the authorized PoC User.	PoC V2.1
FUNC-IRS-010	The PoC Server SHALL follow transparent procedures as the normal PoC Session establishment initiated by a PoC Client.	PoC V2.1
FUNC-IRS-011	The PoC Server SHALL invite missing PoC Users through invitation reservation, when they become available, until the ongoing PoC Session is released.	PoC V2.1
FUNC-IRS-012	The PoC Server MAY notify the inviting PoC User if the feature is not allowed to use for any reason.	PoC V2.1
FUNC-IRS-013	PoC User SHALL be able to cancel the made invitation reservation, if conditions are not met yet.	PoC V2.1

Table 10: Invitation Reservation

6.1.5 PoC Box

PoC Box is the functionality to store PoC Media Bursts and related information (e.g., date & time, Sender Identification, and Participant information) on behalf of a PoC User, similar to a voice mail service. The PoC Box service is invoked either by the terminating PoC User, by the PoC Network on behalf of the PoC User, or it can be explicitly be requested by the originator of the PoC Session. When participating in a PoC Session a PoC Box behaves like a PoC Client. A PoC Box may be collocated with the PoC Client and/or be a separate function in the PoC Network.

Label	Description	Enabler Release
Conditionality		
FUNC-PBO-001	The PoC Service Provider MAY offer services, based on the PoC Box functionality, to his PoC Subscribers.	PoC V2.0
FUNC-PBO-002	The PoC Service Infrastructure MAY provide the PoC Box functionality.	PoC V2.0
FUNC-PBO-003	The PoC Client MAY provide the PoC Box functionality.	PoC V2.0

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Functionality		
FUNC-PBO-004	The PoC Service SHALL have the means to route incoming 1-1 PoC Session invitations on behalf of a PoC User to his PoC Box based on various criteria such as the PoC User is unavailable. The PoC Box SHALL have the means to accept incoming 1-1 PoC Session invitations on behalf of a PoC User.	PoC V2.0
FUNC-PBO-004a	The PoC Service SHALL have the means to route incoming 1-many PoC Session invitations on behalf of a PoC User to his PoC Box based on various criteria such as the PoC User is unavailable. The PoC Box SHALL have the means to accept incoming 1-many PoC Session invitations on behalf of a PoC User.	PoC V2.1
FUNC-PBO-005	A PoC User SHALL have the means to explicitly request that incoming PoC Sessions are routed to his PoC Box.	PoC V2.0
FUNC-PBO-006	If the PoC Box functionality is supported then an originating PoC User MAY have the possibility to explicitly request that the PoC Session is routed to the terminating PoC Users PoC Box. NOTE 1: This functionality is similar to what is already deployed in most mobile voicemail services where a caller can explicitly set up a call to the called users voice mailbox by using a prefix before called number	PoC V2.0
FUNC-PBO-007	A PoC User SHALL have the means to invoke the recording of PoC Session Data and PoC Session Control Data while in a PoC Session (e.g., for re-play of stored data) by the PoC Box functionality using PoC Client capabilities. NOTE 2: It is FFS whether the inviting PoC User is able to select which PoC Box (a PoC Network based or PoC Client based PoC Box) shall be used when both are available, or whether the owner of the PoC Boxes has the ultimate decision.	PoC V2.1
FUNC-PBO-008	A PoC User while in a PoC Session MAY have the means to request the floor on behalf of his PoC Box and replay for the audience stored PoC Session Data using PoC Client capabilities.	PoC V2.1
FUNC-PBO-009	A PoC User MAY have the means to request the PoC Box functionality in case the PoC User is participating in Simultaneous PoC Sessions.	PoC V2.1
FUNC-PBO-010	If the PoC Session is accepted by a PoC Box, the originating PoC User SHALL be informed that the PoC Session was accepted by a PoC Box.	PoC V2.0
FUNC-PBO-011	If a PoC Client collocated PoC Box accepts the PoC Session the PoC Client collocated PoC Box SHALL provide an indication to the PoC Service Infrastructure that a PoC Client collocated PoC Box accepted the PoC Session.	PoC V2.0
FUNC-PBO-012	The PoC Service Infrastructure SHOULD forward the indication that a PoC Client collocated PoC Box accepted the PoC Session to the originating PoC Client.	PoC V2.0
FUNC-PBO-013	If the PoC Client receives an indication that a PoC Client collocated PoC Box accepted the PoC Session the PoC Client MAY indicate this to the PoC User.	PoC V2.0
FUNC-PBO-014	A PoC User MAY have the means to request that the on-going PoC Session is routed to the PoC Box when he leaves that PoC Session.	PoC V2.1
FUNC-PBO-015	A PoC User MAY have the means to request that he/she joins the on-going PoC Session in which the PoC Box is participating on behalf of the PoC User by his/her request	PoC V2.1
FUNC-PBO-016	Inviting PoC UserSHALL be notified of the existence of the PoC Box, when the PoC Session invitation has automatically been accepted by a PoC Box on behalf of a PoC User	PoC V2.0
FUNC-PBO-016a	PoC Users in a PoC Session SHALL be notified of the existence of the PoC Box, when the PoC Box is entering the PoC Session.	PoC V2.1

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FUNC-PBO-017	The PoC Service Infrastructure SHOULD according to regulatory conditions expel the PoC Box from the PoC Session, when PoC Client(s) without PoC Box functionality (incl. PoC V1.0 Clients) joins to the PoC Session and indication of the PoC Box can't be given.	PoC V2.1
FUNC-PBO-018	The PoC Service Infrastructure SHOULD according to regulatory conditions prevent joining the PoC Box to the on-going PoC Session, when PoC Client(s) without PoC Box functionality (incl. PoC V1.0 Clients) are participating in the PoC Session, and an indication of the PoC Box can't be given.	PoC V2.1
FUNC-PBO-019	An authorized PoC User SHALL be able to deny access or expel a PoC Box from a PoC Session using PoC Client capabilities.	PoC V2.1
FUNC-PBO-020	A PoC User SHALL be able to manage (i.e., get notifications, retrieve, replay, store and delete) PoC Session Data and PoC Session Control Data belonging to that PoC User that is stored in the PoC Box using PoC Client capabilities.	PoC V2.0
FUNC-PBO-021	When requesting the PoC Box service, the PoC User SHALL be able to configure PoC Box service parameters (e.g., size, time, or Media Type to be stored) that are used in recording PoC Session Data and PoC Session Control Data using PoC Client capabilities.	PoC V2.0
FUNC-PBO-022	Participants in a PoC Session MAY define a lifetime of their messages left on a PoC Box.	PoC V2.1
FUNC-PBO-023	Messages for which a lifetime has been indicated by the message issuer SHALL be deleted from a PoC Box if the message's lifetime has expired.	PoC V2.1
FUNC-PBO-024	The PoC Address of the inviting PoC User SHALL be stored along with the Media Burst unless privacy has been requested by the inviting PoC User.	PoC V2.0
FUNC-PBO-025	If the PoC Box functionality is supported then when the stored PoC Media Burst is replayed the PoC Address of the inviting PoC User SHALL be displayed unless the inviting PoC User has requested privacy.	PoC V2.1
FUNC-PBO-026	The PoC Box MAY store included text content in an incoming invitation to a PoC Session. All other types of media content SHALL be discarded.	PoC V 2.0

Table 11: PoC Box

6.1.6 Enhanced PoC Session Control

6.1.6.1 PoC Session Transfer

PoC Session can be transferred to another PoC Client or to another SIP based client.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-ST-001	The PoC Service Infrastructure MAY support PoC Session transfer functionality.	Post PoC V2.1
FUNC-PSC-ST-002	The PoC Client MAY support PoC Session transfer functionality.	Post PoC V2.1
Functionality		
FUNC-PSC-ST-003	The PoC User MAY be able to transfer his/her participating PoC Session from his/her PoC Client to other of his PoC Client, using the same PoC Address.	Post PoC V2.1
FUNC-PSC-ST-004	The PoC Client MAY be able to request that the PoC Service in the home PoC Network authorises the requested PoC Session Seamless Transfer	Post PoC V2.1

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FUNC-PSC-ST-005	The PoC Service MAY be able to connect the transfer target PoC Client to the on-going PoC Session, and release the previous PoC Client without noticeable service interruption, upon the request of PoC Client. NOTE 1: The PoC Session transfer function is not applicable during message transfer.	Post PoC V2.1
FUNC-PSC-ST-006	The PoC User MAY be able to transfer his participating PoC Session between his PoC Client and another SIP-based client. NOTE 2: We need a definition for SIP based client. We have to study if we want to expand this functionality to any client.	Post PoC V2.1

Table 12: PoC Session Transfer

6.1.6.2 Full Duplex Call Follow-on Proceed

Semi duplex voice PoC Session can be changed to a full duplex Circuit switched (CS) or VoIP call.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-FD-001	The PoC Service Infrastructure MAY support the full duplex call follow-on proceed functionality.	PoC V2.0
FUNC-PSC-FD-002	The PoC Client MAY support the full duplex call follow-on proceed functionality.	PoC V2.0
Functionality		
FUNC-PSC-FD-003	The PoC Service MAY support for a PoC Client to leave a 1-1 or 1-many PoC Session with an indication to the peer PoC Clients that the PoC User intends to set up a full duplex voice call among the peer entities immediately after release of the PoC Session. NOTE: Full duplex voice call could either be a SIP voice call or a circuit switched (CS) call. User Equipment may support e.g., automatic initiation and answer of this kind of call.	PoC V2.0
FUNC-PSC-FD-004	The PoC Service MAY support for a PoC User to include a target address (e.g., SIP URI or E.164 number) to the indication, so that the full duplex call can be set up to that target address.	PoC V2.0

Table 13: Full Duplex Follow-on Proceed

6.1.6.3 Expelling Participant(s) from a PoC Session

The PoC Service supports the functionality to expel the selected Participant(s) from a PoC Session.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-EP-001	The PoC Service Infrastructure SHALL support expelling Participant(s) from a PoC Session functionality.	PoC V2.0
FUNC-PSC-EP-002	The PoC Client MAY support initiation of the expelling Participant(s) from a PoC Session functionality.	PoC V2.0
Functionality		
FUNC-PSC-EP-003	It SHALL be possible to specify expel rights for the PoC Group.	PoC V2.0

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FUNC-PSC-EP-004	The PoC Group Administrator of Pre-arranged and Chat PoC Groups SHALL be able to assign expelling rights to other PoC User(s) in the PoC Group.	PoC V2.0
FUNC-PSC-EP-005	A Participant, who has been granted expel rights, SHALL be able to expel other Participant(s) from a PoC Group Session (incl. all Participants at a time), and an expelled PoC User SHALL not be able to rejoin the PoC Session which the PoC User has been expelled from for a period or during the entire PoC Session.	PoC V2.0
FUNC-PSC-EP-006	If expelling is supported, the Ad hoc PoC Group Session initiator SHALL be able to expel any other Participants from an Ad hoc PoC Group Session.	PoC V2.0

Table 14: Expelling Participant(s) from a PoC Session

6.1.6.4 Group Specific Releasing Rules

In addition to what is specified in PoC V1.0 the PoC Session release can be made according to the PoC Group specific release rules.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-RR-001	The PoC Service Infrastructure MAY support PoC Group specific releasing rules.	Post PoC V2.1
FUNC-PSC-RR-002	The PoC Client MAY support PoC Group specific releasing rules.	Post PoC V2.1
Functionality		
FUNC-PSC-RR-003	If PoC Group specific releasing rules are supported, it SHALL be possible to specify release rules for the PoC Group.	Post PoC V2.1
FUNC-PSC-RR-004	If PoC Group specific releasing rules are supported, it SHALL be possible to define for a PoC Group that the PoC Session is released when one or more of the following conditions are fulfilled (and in this case the general PoC Session release policy specified in PoC V1.0 is not used): • The PoC Session initiator leaves the PoC Session • A defined Participant leaves the PoC Session • The number of Participants is less than a certain value • The PoC Session allocated time has expired • When only machines are still in the PoC Session	Post PoC V2.1

Table 15: Group Specific Releasing Rules

6.1.6.5 Checking for Condition Based Session Barring

Condition Based PoC Session barring conditions may be checked during a time period defined by the PoC User that defined the Condition Based PoC Session barring conditions. During the time period invitations are carried out as soon as the invitations are no longer barred.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-CB-001	The PoC Service Infrastructure MAY support checking for Condition Based Session Barring functionality.	Post PoC V2.1
Functionality		
FUNC-PSC-CB-002	The PoC Client MAY support that a PoC User defining Condition Based PoC Session Barring conditions for incoming PoC Session invitations defines a time period for checking the conditions.	Post PoC V2.1

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FUNC-PSC-CB-003	The PoC Client MAY support that a PoC User defining Condition Based PoC Session Barring conditions for outgoing PoC Session invitations defines a time period for checking the conditions.	Post PoC V2.1
FUNC-PSC-CB-004	If the PoC Service Infrastructure supports Condition Based PoC Session Barring it MAY be able to carry out the incoming PoC Session invitation as soon as the conditions are in favor of the invitation during a time period defined by the inviting PoC User.	Post PoC V2.1
FUNC-PSC-CB-005	If the PoC Service Infrastructure supports Condition Based PoC Session Barring it MAY be able to carry out the outgoing PoC Session invitation as soon as the conditions are in favor of the invitation during a time period defined by the inviting PoC User.	Post PoC V2.1

Table 16: Checking for Condition Based Session Barring

6.1.6.6 Enhanced Simultaneous PoC Sessions

The Enhanced Simultaneous PoC Sessions feature enables PoC Client to receive/transmit Media in different PoC Sessions without interference with one another. With the optional feature of Simultaneous PoC Sessions in PoC V1.0, the PoC Server filters the voice from different PoC Sessions and delivers only one voice stream from one PoC Session to a PoC User at a time. With this feature, the Media other than voice is not necessarily filtered, but Media in different PoC Sessions can be transferred at the same time. Enhanced Simultaneous PoC Sessions is an optional functionality for PoC Server and PoC Client. If supported, the following requirements apply.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-MA-001	The PoC Service Infrastructure MAY support the Enhanced Simultaneous PoC Sessions functionality.	PoC V2.1
FUNC-PSC-MA-002	The PoC Client MAY support the Enhanced Simultaneous PoC Sessions functionality.	PoC V2.1
Functionality		
FUNC-PSC-MA-003	The PoC User MAY request multiple PoC Session(s) in active and the PoC Service SHALL support the Enhanced Simultaneous PoC Sessions feature.	DELETED
FUNC-PSC-MA-004	The PoC Server SHALL be able to activate Enhanced Simultaneous PoC Sessions on receipt of the PoC Session setup request or during the PoC Session.	PoC V2.1
FUNC-PSC-MA-005	The PoC Client MAY support receiving more than one Media at the same time belonging to either the same or different PoC Session according to the negotiation with PoC Server.	PoC V2.0
FUNC-PSC-MA-006	The PoC Client and the PoC Server SHALL support sending more than one Media Type at a time in either the same or different PoC Sessions.	PoC V2.1
FUNC-PSC-MA-007	The PoC Client and the PoC Server SHALL be able to support switching from one Media Type to another Media Type within a PoC Session. NOTE 1: The decision of the switching from one Media Type to another Media Type depends on local policy (e.g., only the PoC Session initiator can have the right to do the switching).	PoC V2.1
FUNC-PSC-MA-008	The PoC Client SHALL support switching between Media Bursts either within one PoC Session or between PoC Sessions in case more than one Media Burst is offered by the PoC Server, if requested by PoC User.	PoC V2.1

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FUNC-PSC-MA-009	The PoC Client and PoC Server SHALL support separate and independent Media Burst Control for each Media Burst either in the same or different PoC Sessions. This method SHALL be applicable to Continuous Media and SHOULD be applicable to Discrete Media. NOTE 2: Discrete Media types should only use Media Burst Control, if it is essential for the application using PoC Enabler.	DELETED
FUNC-PSC-MA-010	The PoC Server MAY support the Simultaneous PoC Sessions Media filtering for video in a similar way as specified in PoC V1.0 for voice.	PoC V2.0
FUNC-PSC-MA-010a	The PoC Server MAY support the Simultaneous PoC Sessions Media filtering for images in a similar way as specified in PoC V1.0 for voice.	PoC V2.1

Table 17: Enhanced Simultaneous PoC Sessions

6.1.6.7 Man-machine PoC Session Release Policies

Man-machine PoC Session is a PoC Session in which machine PoC User(s) is (are) participating. This kind of PoC Session can have different release rules.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-MM-001	The PoC Service Infrastructure SHALL support the Man-machine PoC Session release policies feature.	Post PoC V2.1
Functionality		
FUNC-PSC-MM-002	The PoC Server SHALL be able to check the attribute of Participant in a Man-machine PoC Session. NOTE 1: "Attribute" needs clarification.	Post PoC V2.1
FUNC-PSC-MM-003	The PoC Service Provider SHALL be able to ensure that the PoC Session can be released if only machine Participant(s) stay in one PoC Session. NOTE 2: This requirement is covered in the next one and this requirement can be removed.	Post PoC V2.1
FUNC-PSC-MM-004	In addition to what is specified in PoC V1.0 the PoC Session release policies and in the PoC Group Specific Releasing Rules, PoC Service Provider SHALL be able to release a Man-machine PoC Session due to one or more reasons in the following list: Release PoC Session when the second last human Participant leaves the PoC Session; Release PoC Session when the last human Participant leaves the PoC Session;	Post PoC V2.1

Table 18: Man-Machine PoC Session Release Policies

6.1.6.8 PoC Session Control for Crisis Handling

The PoC Service can optionally support special PoC Sessions with a different set of characteristics to be used for Crisis Handling.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-CH-001	The PoC Service Infrastructure MAY support the PoC Session control for crisis handling functionality.	PoC V2.1

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FUNC-PSC-CH-002	The PoC Client MAY support PoC Session control for crises handling functionality.	PoC V2.1
Functionality		
FUNC-PSC-CH-003	The PoC Service SHALL differentiate the Crisis Handling Request from other requests.	PoC V2.1
FUNC-PSC-CH-004	The PoC Service Infrastructure SHALL validate the Crisis Handling Request (e.g., authenticate the source) and authorize the PoC Session initiation for crisis handling.	PoC V2.1
FUNC-PSC-CH-005	The PoC Service Infrastructure SHALL enforce high enough priority to be able to serve the PoC Session initiated with Crisis Handling Request	PoC V2.1
FUNC-PSC-CH-006	The PoC Service Infrastructure SHALL to be able to serve the PoC Session initiated with Crisis Handling Request by using an appropriate access network resource reservation schema.	PoC V2.1
FUNC-PSC-CH-007	Based on the crisis information received in the Crisis Handling Request the PoC Service Infrastructure MAY perform pre-defined procedures for PoC Session such as: a) Sending out PoC Session invitation to one or more Pre-arranged PoC Group(s) b) Invoking other services (e.g., location, presence) to determine the Dynamic PoC Groups to be invited c) Distributing pre-recorded data (e.g., canned voice) d) Distributing data received in the received Crisis Handling Request (e.g., images), or e) Invoking other services to complement crisis related data to be distributed (e.g., location information)	PoC V2.1
FUNC-PSC-CH-008	The PoC V2.0 Service Infrastructure MAY apply a pre-defined set of specific PoC Service Settings to the PoC Session for Crisis Handling (e.g., characterized by PoC Session priority, Manual Answer Override to invited PoC Users, etc.).	PoC V2.1

Table 19: PoC Session Control for Crisis Handling

6.1.6.9 Splitting and Merging PoC Sessions

The PoC Service optionally supports splitting and merging of PoC Sessions.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-SM-001	The PoC Service Infrastructure MAY support the splitting and merging PoC Session feature.	Post PoC V2.1
FUNC-PSC-SM-002	The PoC Client MAY support the splitting and merging PoC Session feature.	Post PoC V2.1
Functionality		
FUNC-PSC-SM-003	A Participant or PoC Session Owner MAY be able to combine on-going multiple PoC Sessions with another on-going or starting a 1-1, Pre-arranged or Ad hoc Group PoC Session into one PoC Group Session if authorized to do so and permitted by the PoC Group specific policy. NOTE 1: This is not Pre-arranged or Chat PoC Group Session, but is this Ad-hoc PoC Group Session or something else? Definition for this kind of PoC Session is needed. NOTE 2: A PoC User not involved in a PoC Session may initiate the combining of the PoC Session with another PoC Session, if	Post PoC V2.1

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	the PoC User is authorized to do so.	
FUNC-PSC-SM-004	A PoC Participant or PoC Session Owner MAY be able to combine on-going multiple Chat PoC Group Sessions with on-going Chat PoC Group Session into one Chat PoC Group Session if authorized to do so and permitted by the PoC Group specific policy and Access Control. NOTE 3: Handling of different PoC Group policies when combining PoC Sessions is FFS. NOTE 4: Further elaboration is needed on PoC Group policy will be used for the maximum Participants and error handling when maximum Participant's condition is reached.	Post PoC V2.1
FUNC-PSC-SM-005	If splitting and merging is supported, a priority mechanism SHALL be applied to grant the sender arbitration during the merging process.	Post PoC V2.1
FUNC-PSC-SM-006	Splitting is only applicable to a Hierarchical PoC Groups. When splitting an ongoing hierarchical Pre-arranged Group PoC Session, a Participant or a PoC Session Owner MAY be able to split the PoC Session into two or more pre-defined PoC Groups, if he is authorized to do so and the release rules allow for it.	Post PoC V2.1
FUNC-PSC-SM-007	If splitting and merging is supported, the PoC Service SHALL support static Hierarchical PoC Groups. NOTE 5: Applicability to multiple domains is FFS.	Post PoC V2.1

Table 20: Splitting and Merging PoC Sessions

6.1.6.10 PoC Session Substitution

In PoC V1.0, the number of Simultaneous PoC Sessions is limited. If the PoC Client has the maximum number of PoC Sessions and a new incoming invitation arrives at the PoC Server, the PoC Server sends the reject message 'busy'. PoC Session substitution can provide flexibility for the PoC User to accept the incoming invitation by replacing an existing PoC Session according to preference of the PoC User.

Label	Description	Enabler Release
Conditionality		
FUNC-PSC-SU-001	The PoC Service Infrastructure MAY support the PoC Session substitution functionality.	Post PoC V2.1
FUNC-PSC-SU-002	The PoC Client MAY support PoC Session substitution functionality.	Post PoC V2.1
Functionality		
FUNC-PSC-SU-003	The PoC Service Infrastructure MAY support the preferred PoC Service Settings in the PoC Server by the PoC User. The Preferred PoC Service Settings are as follows • Rejecting new incoming invitation automatically by PoC Server. • Routing to the invited PoC Client directly by PoC Server (default setting). • Routing to the PoC Box directly by PoC Server.	Post PoC V2.1
FUNC-PSC-SU-004	The PoC Client MAY allow the PoC User to substitute an incoming invitation in place of the existing PoC Session according to choice of PoC User.	Post PoC V2.1

Table 21: PoC Session Substitution

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6.1.7 Dispatcher Functions

A PoC Dispatcher is a Participant that is able to use dedicated functionalities from his PoC Client. There are many different use cases where team based communication with PoC Dispatcher can be applied, e.g., to enable more specialist PoC Group communication between a team leader and his team. A limited functionality for 1-many-1 PoC Group communications is already specified as an optional feature in the PoC V1.0 specification.

Label	Description	Enabler Release
Conditionality		
FUNC-DPF-001	The PoC V2.0 Service Infrastructure MAY support the PoC Dispatcher functionality. To further enhance on the PoC Dispatcher specific behaviour specified in PoC V1.0, and in addition to the PoC V2.0 other requirements, the following requirements SHALL apply when the functionality is supported:	PoC V2.0
FUNC-DPF-002	The PoC Client MAY support the PoC Dispatcher functionality.	PoC V2.0
Functionality		
FUNC-DPF-003	According to the Service Provider Policy, the 1-many-1 PoC Session MAY be limited only to Pre-arranged PoC Groups composed of authorised PoC Users (e.g., the PoC Dispatcher and the rest of PoC Fleet Members to be included in the 1-many-1 PoC Session).	PoC V2.0
FUNC-DPF-004	The PoC Dispatcher SHALL be able to establish a 1-many-1 PoC Session by sending an invitation to the Pre-arranged PoC Group or a subset of the Pre-arranged PoC Group supporting 1-many-1 PoC Session.	PoC V2.0
FUNC-DPF-005	The PoC Dispatcher SHALL be able to transmit Media Bursts to an individual PoC Fleet Member in an ongoing 1-many-1 PoC Session separately.	PoC V2.1
FUNC-DPF-006	The PoC Dispatcher SHALL be able to have pre-emptive Media Burst priority over the PoC Fleet Members in an ongoing 1-many-1 PoC Session.	PoC V2.0
FUNC-DPF-007	The PoC Dispatcher SHALL be able to have pre-emptive Media Burst priority over a PoC Fleet Member in an ongoing 1-1 PoC Session.	PoC V2.0
FUNC-DPF-008	The PoC Dispatcher SHALL be able to use the Manual Answer Override feature towards any PoC Fleet Member who supports this feature.	PoC V2.0
FUNC-DPF-009	The PoC Dispatcher SHALL be able to expel any PoC Fleet Member from an ongoing 1-1 or 1-many-1 PoC Session (including all PoC Fleet Members at once)	PoC V2.0
FUNC-DPF-010	The PoC Dispatcher SHALL be able to limit the establishment of 1-1 and Ad hoc PoC Group Sessions among individual PoC Fleet Members.	PoC V2.1
FUNC-DPF-011	According to the PoC Service Provider's policy, the PoC Dispatcher SHALL be notified when a PoC Session has been re-directed to other PoC Dispatcher(s) (e.g., in case of being busy).	PoC V2.0
FUNC-DPF-012	The PoC Dispatcher SHALL be able to redirect a 1-many-1 PoC Session to another PoC Dispatcher, if needed.	PoC V2.0
FUNC-DPF-013	The PoC Dispatcher MAY be able to create new Pre-arranged PoC Groups with support for 1-many-1 PoC Sessions using PoC Fleet Members from other larger Pre-arranged PoC Groups subject to the Service Provider Policy.	Deleted
FUNC-DPF-014	The PoC Dispatcher MAY be able to manage the permission of individual PoC Fleet Members to establish PoC Sessions to PoC Users outside their Pre-arranged Group supporting 1-many-1 PoC Sessions.	PoC V2.1

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FUNC-DPF-015	The PoC Dispatcher MAY be able to request an invitation for a 1-many-1 PoC Session to be resent to PoC Fleet Members(s) who did not receive the original invitation message (e.g., being out of coverage). NOTE: This requirement above is also useful for ordinary Pre-arranged PoC Group Session invitations.	PoC V2.0
FUNC-DPF-016	A PoC Fleet Member SHALL be able to be informed if the PoC Dispatcher is communicating with him in 1-1 mode.	PoC V2.0
FUNC-DPF-017	Subject to authorisation, a PoC Fleet Member MAY be able to communicate in a 1-1 or Ad hoc PoC Group Session with other PoC Fleet Members when not already participating in an ongoing 1-many-1 PoC Session.	PoC V2.1
FUNC-DPF-018	A PoC Fleet Member SHALL be able to subscribe to the status of the PoC Session and receive a notification if the PoC Session with the PoC Dispatcher has been diverted to another PoC Dispatcher (e.g., when the initial PoC Dispatcher is busy or has re-directed, manually, to another PoC Dispatcher).	PoC V2.0
FUNC-DPF-019	A PoC Fleet Member MAY be able to obtain identities of other PoC Fleet Members in a 1-many-1 PoC Session	PoC V2.0

Table 22: Dispatcher Functions

6.1.8 Media Burst Control Enhancements

6.1.8.1 General

The PoC Service enabler supports enhancements to PoC Media Burst Control in addition to PoC V1.0.

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-GN-001	The PoC Service Infrastructure SHALL support the PoC Media Burst Control enhancement features.	PoC V2.0
FUNC-MBC-GN-002	The PoC Client MAY support the Media Burst Control enhancements functionality.	PoC V2.0
Functionality		
FUNC-MBC-GN-003	If the Media Burst Control is applicable for the Media Type, the PoC Network elements SHALL support capability for an independent Media Burst Control for each Media in a PoC Session. Media Burst Control SHALL be applicable to Continuous Media and SHOULD be applicable to the Discrete Media involved in a PoC Session. NOTE: Discrete Media types should only use Media Burst Control, if it is essential for the application using PoC Service Enabler.	PoC V2.0
FUNC-MBC-GN-004	If the Media Burst Control is applicable for the Media Type the PoC Service Infrastructure SHALL support and the PoC Client MAY support capability for one Media Burst Control for multiple Media in a PoC Session.	PoC V2.0
FUNC-MBC-GN-005	The PoC Service Provider MAY support providing several Media Burst Control schemes (e.g., pre-granted right-to-speak).	PoC V2.0

Table 23: General for Media Burst Control Enhancements

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6.1.8.2 Pre-granted Media Burst Control

PoC Service can support the Pre-granted Media Burst Control for reducing the delay to right-to-speak.

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-PG-001	The PoC Service Infrastructure MAY support the pre-granted Media Burst Control feature.	PoC V2.0
FUNC-MBC-PG-002	The PoC Client MAY support the pre-granted Media Burst Control feature.	PoC V2.0
Functionality		
FUNC-MBC-PG-003	The Media Burst MAY be pre-granted to a PoC User before the PoC User has requested the Media Burst.	PoC V2.0
FUNC-MBC-PG-004	The pre-granted Media Burst Control MAY be given to one or many PoC User(s) in a PoC Session. The number of PoC Users and which PoC User(s) that are given pre-granted Media Burst is up to local policy in the PoC Server.	PoC V2.0
FUNC-MBC-PG-005	If pre-granted Media Burst Control is supported, the pre-granted Media Burst SHOULD expire if not used during a certain time period (to be configured by the PoC Service Provider).	PoC V2.0
FUNC-MBC-PG-006	If pre-granted Media Burst Control is supported, the PoC Client SHALL get confirmation from the PoC User before encoding and sending the Media.	PoC V2.0

Table 24: Pre-granted Media Burst Control

6.1.8.3 Queue Reset

When an optional queuing of Media Burst queuing is supported the PoC Service can optionally support queue reset.

NOTE: The user experience related to the interaction of optional features requiring the authorization of the PoC Client needs to be examined.

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-QR-001	The PoC Service Infrastructure MAY support the queue queue reset feature.	Post PoC V2.1
FUNC-MBC-QR-002	The PoC Client MAY support the queue reset feature.	Post PoC V2.1
Functionality		
FUNC-MBC-QR-003	The authorized PoC User SHALL be able to request a queue reset.	Post PoC V2.1
FUNC-MBC-QR-004	The authorization rights for queue reset SHOULD be configurable.	Post PoC V2.1
FUNC-MBC-QR-005	The PoC Server SHALL be able to clear all reserved Talk Burst requests in a queue, when requested. NOTE: It is FFS if it is Media Burst or Talk Burst queuing. Applicable also to bullet 5.	Post PoC V2.1
FUNC-MBC-QR-006	If queue reset is requested but cannot be completed (e.g., the PoC User is not authorised), then the requesting Participant SHALL be notified accordingly. The reason for failure MAY also be provided.	Post PoC V2.1

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FUNC-MBC-QR-007	The PoC Server SHALL provide the capability to indicate to those Participants whose Talk Burst Request has been queued, that all Talk Burst requests in the queue have been reset after a queue reset request was successfully handled.	Post PoC V2.1

Table 25: Queue Reset

6.1.8.4 Media Burst Reject Option

In some error cases it is useful to be able to stop PoC Server to transmit the on-going Media Burst.

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-BR-001	The PoC Service Infrastructure MAY support the Media Burst Control reject option feature.	Post PoC V2.1
FUNC-MBC-BR-002	The PoC Client MAY support the Media Burst reject option feature.	Post PoC V2.1
Functionality		
FUNC-MBC-BR-003	A PoC Client MAY be able to reject an incoming Media Burst any time in a way, that the PoC Client is still able to receive subsequent Media Bursts in the same PoC Session.	Post PoC V2.1
FUNC-MBC-BR-004	If the Media Burst reject functionality is supported by the PoC Server, the PoC Server SHALL stop sending the on-going Media Burst to the rejecting PoC Client.	Post PoC V2.1

Table 26: Media Burst Reject Option

6.1.8.5 Limiting the Permission to Request the Media Bursts

In some situations a PoC Service Provider chooses to limit the permission to request the Media Burst, and in such cases the following apply:

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-LP-001	The PoC Service Infrastructure MAY support the limiting the permission to request the Media Bursts feature.	Post PoC V2.1
FUNC-MBC-LP-002	The PoC Client MAY support the limiting the permission to request the Media Burst feature. NOTE: It is FFS, if this functionality is optional or mandatory for the PoC Client.	Post PoC V2.1
Functionality		
FUNC-MBC-LP-003	PoC Server MAY indicate the PoC Client the Media Burst Request Permission Level(s), which are allowed to attempt Media Burst Request.	Post PoC V2.1
FUNC-MBC-LP-004	The Media Burst Request Permission Levels, if used, MAY be provisonable by the PoC ServiceProvider.	Post PoC V2.1
FUNC-MBC-LP-005	PoC Client SHALL NOT attempt to send Media Burst request in case Media Burst request is allowed only for other Media Burst Request Permission Level(s) than the PoC Client belongs to.	Post PoC V2.1

Table 27: Limiting the Permission to Request the Media Bursts

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6.1.8.6 Advanced Revocation Alert

Advanced revocation alert enables the PoC Client to provide the PoC User with an advanced alert so that the PoC User knows the transmit time is about to finish.

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-AR-001	The PoC Service Infrastructure SHOULD support the advanced revocation alert functionality.	PoC V2.0
FUNC-MBC-AR-002	The PoC Client MAY support the advanced revocation alert functionality.	PoC V2.0
Functionality		
FUNC-MBC-AR-003	The setting of the advanced revocation alert MAY be configurable by the PoC User.	PoC V2.1

Table 28: Advanced Revocation Alert

6.1.8.7 Remaining Transmit Time Notification for Advanced Revocation Alert

The feature for the PoC Server to send to the PoC Client a notification of remaining transmit time, called as "Remaining transmit time Notification", is needed for the PoC Client to be able to generate an accurate advanced alert for the PoC User to inform revocation of granted floor to occur.

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-TN-001	The PoC Service Infrastructure SHOULD support the remaining transmit time notification for advanced revocation alert functionality.	Post PoC V2.1
FUNC-MBC-TN-002	The PoC Client MAY support the remaining transmit time notification for advanced revocation alert functionality.	Post PoC V2.1
Functionality		
FUNC-MBC-TN-003	If Remaining Transmit Time Notification for Advanced Revocation Alert is supported by the PoC Service Infrastructure, the PoC Server SHALL be able to send a notification of the remaining transmit time to the transmitting PoC Client.	Post PoC V2.1
FUNC-MBC-TN-004	If Remaining Transmit Time Notification for Advanced Revocation Alert is supported by the PoC Service Infrastructure, the PoC Server SHALL be able to send a notification of the remaining transmit time to the transmitting PoC Client during transmission.	PoC V2.1
FUNC-MBC-TN-005	The PoC Client SHOULD be able to give an alert for the PoC User to indicate the remaining transmit time.	Post PoC V2.1

Table 29: Remaining Time for Advance Revocation Alert

6.1.8.8 Stop Transmit Time Notification for Advanced Revocation Alert

A PoC Client may be notified before hand about when its video Media Burst permission is expected to be revoked. This information is needed for the PoC Client to be able to generate an advanced revocation alert for the PoC User before or when starting video transmission.

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Label	Description	Enabler Release
Conditionality		
FUNC-MBC-ST-001	The PoC Service Infrastructure SHOULD support the transmit time notification for advanced revocation alert functionality.	PoC V2.1
FUNC-MBC-ST-002	The PoC Client SHOULD support the transmit time notification for advanced revocation alert functionality.	PoC V2.1
Functionality		
FUNC-MBC-ST-003	In addition to what is specified in PoC V1.0 for voice Media the PoC Server SHALL be able to send a notification of the transmit time of a video burst to the transmitting PoC Client before transmission.	PoC V2.1

Table 30: Stop Transmit Time for Advanced Revocation Alert

6.1.8.9 Expanding Duration of Media Burst Transmitting

If the PoC Server supports pre-emptive Media Burst priority or Media Burst queuing function, the following requirements apply.

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-ED-001	The PoC Service Infrastructure MAY support the expanding duration of speaking feature.	Post PoC V2.1
FUNC-MBC-ED-002	The PoC Client MAY support the expanding duration of Media Burst transmitting feature.	Post PoC V2.1
Functionality		
FUNC-MBC-ED-003	In case that there is no Media Burst requests in the queue, the PoC Server MAY expand duration of Media Burst transmitting. If the expanding duration of Media Burst transmitting feature is supported and if the Media Burst request with same or higher priority is requested, expanding Media Burst transmitting time SHALL be revoked, except in the case when on-going Media Burst pre-emptive priority.	Post PoC V2.1
FUNC-MBC-ED-004	In case that the PoC Client is transmitting has pre-emptive priority and another pre-emptive Media Burst request is not requested, the PoC Server MAY expand duration of Media Burst transmitting. If the expanding duration of Media Burst transmitting feature is supported and if the Media Burst with Pre-emptive priority is requested, expanding duration of speaking SHALL be revoked after current maximum speaking duration.	Post PoC V2.1

Table 31: Expanding Duration for Media Burst Transmitting

6.1.8.10 Interrupted Floor Recovery

PoC V1.0 Service Enabler has Talk Burst priority levels. One of the levels is pre-emptive. It enables the PoC User to interrupt another PoC User who is transmitting currently. If a PoC User with the pre-emptive priority interrupts another PoC User who is transmitting currently, the PoC Service MAY support the following functionality:

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-IF-001	The PoC Service Infrastructure MAY support the interrupted floor recovery feature.	Post PoC V2.1
FUNC-MBC-IF-002	The PoC Client MAY support the interrupted floor recovery feature.	Post PoC V2.1

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Functionality		
FUNC-MBC-IF-003	The interrupted PoC Client SHALL be suspended from sending the Media.	Post PoC V2.1
FUNC-MBC-IF-004	After the Pre-emptive user releases his floor, the floor SHALL be immediately granted back to the interrupted PoC User who has been suspended providing another PoC User with a Pre-emptive priority has not request the floor.	Post PoC V2.1
FUNC-MBC-IF-005	When the Media Burst permission is granted back to the interrupted PoC Client, the PoC Client SHALL get confirmation from the PoC User before encoding and sending the Media. NOTE: The term 'floor' will be replaced after the appropriate word is found.	Post PoC V2.1

Table 32: Interrupted Floor Recovery

6.1.8.11 Moderated PoC Groups

Moderated PoC Groups is a functionality of PoC enabler, which supports an authorized Participant of a PoC Group Session to be a moderator of the Session. Moderator in a PoC Session has an ability to control the Media Burst Control entity of the PoC Session. Moderator is typically the owner of the Pre-arranged PoC Group, but she/he may be able to delegate the role of moderator to other PoC User, that is a Participant in a PoC Session.

Label	Description	Enabler Release
Conditionality		
FUNC-MBC-MG-001	The PoC Service Infrastructure MAY support the moderated PoC Groups functionality.	PoC V2.1
FUNC-MBC-MG-002	The PoC Client MAY support the moderated PoC Groups functionality.	PoC V2.1
Functionality		
FUNC-MBC-MG-003	An owner of a Pre-arranged PoC Group or Chat PoC Group MAY be assigned the role of moderator, e.g., a PoC Dispatcher.	PoC V2.1
FUNC-MBC-MG-004	A moderator, e.g., a PoC Dispatcher, SHALL be able to assign the role of the moderator to other authorized Participants of a PoC Session, e.g., a PoC Dispatcher, before or during a PoC Session.	PoC V2.1
FUNC-MBC-MG-005	Moderator, e.g., a PoC Dispatcher, SHALL be able to request permission to send the Media Burst on behalf of another PoC User, e.g., a PoC Fleet Member. NOTE: A PoC V1.0 Client may not be able to fulfill the function of sending a Media Burst when permission to send the Media Burst has been requested by a Moderator.	PoC V2.1
FUNC-MBC-MG-006	PoC Client acting as a moderator, e.g., a PoC Dispatcher SHALL be able to grant or deny the request from another PoC Client, e.g., a PoC Fleet Member, for permission to send the Media Burst.	PoC V2.1

Table 33: Moderated PoC Groups

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6.1.9 Quality of Experience (QoE)

The objective of this feature is to provide a wide range of quality of service for PoC Users according to service subscription. Among other things, PoC Servers distinguish PoC Sessions from one another based on the QoE assigned to the PoC Sessions, providing better service for higher priority PoC Sessions.

6.1.9.1 General

Label	Description	Enabler Release
Conditionality		
FUNC-QOE-GN-001	The PoC Service Infrastructure SHALL support QoE.	PoC V2.0
FUNC-QOE-GN-002	The PoC Client SHOULD support QoE.	PoC V2.0
Functionality		
FUNC-QOE-GN-003	The PoC Service Provider SHALL be able to define a QoE profile(s) for each PoC Subscriber. As a minimum, the following profiles (from lower to higher end PoC User experience) SHALL be defined: • Basic • Premium • Professional. In addition, the following QoE profile MAY be defined: Official Government Use (this is a profile with multiple levels of priority access intended for national security and emergency preparedness purposes; subject to applicable regulations, when this profile is implemented, it SHALL take precedence over all other QoE profiles)”	PoC V2.0
FUNC-QOE-GN-004	The PoC Service Provider SHOULD be able to use QoE profiles as a way to define a mapping between different types of quality of service expected by the PoC Users at application level and different profiles of performance criteria to be realized at underlying network level. These performance criteria SHOULD consider the following on a profile basis: • QoS to be provided for the PoC Sessions and each of Media Types in the PoC Session, and/or • PoC Session Priority. And any mapping mechanism SHALL depend on the concrete underlying network capabilities (i.e., QoS framework…) and conditions. Note: When the PoC Service Provider has not enabled the use of QoE profiles, the PoC Service Infrastructure ignores received QoE information.	PoC V2.0
FUNC-QOE-GN-005	The PoC Service Provider SHOULD be able to use QoE profiles to make a better usage of the PoC Network resources and capabilities, and available underlying network.	PoC V2.0
FUNC-QOE-GN-006	The PoC Group Administrator SHALL be able to define the QoE profile for each PoC Group, according to the Service Provider Policy and PoC Users' subscription.	PoC V2.0
FUNC-QOE-GN-007	The PoC Service Provider SHALL be able to restrict access to certain PoC Groups to PoC Subscribers having a minimum necessary QoE profile.	PoC V2.0

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FUNC-QOE-GN-008	The PoC Client SHALL be able to indicate the desired QoE profile to be applied on a PoC Session-by-PoC Session basis. When selecting the QoE profile for the PoC Session, the PoC User SHALL be able to choose their subscribed profile and all lower profiles (i.e., with lower QoS characteristics, lower PoC Session Priority, etc). The PoC Client SHALL store in the User Equipment the default settings for the desired QoE profiles to be applied to outgoing PoC Sessions. These settings MAY be configurable via e.g., OMA Device Management.	PoC V2.0
FUNC-QOE-GN-009	The PoC Server SHALL be able to define the QoE profile applied for the PoC Session at the establishment of the PoC Session, according to policies defined by the PoC Service Provider based on the following parameters: • QoE profile requested by the inviting PoC User • Preferences associated to the PoC User(s) and/or the PoC Group	PoC V2.0
FUNC-QOE-GN-010	The PoC Server SHALL be able to charge according to the QoE actually provided in each PoC Session.	PoC V2.0
FUNC-QOE-GN-011	The PoC Server SHOULD indicate to all Participants the actual QoE applied in each PoC Session. The PoC Server SHOULD also indicate to a Participant if the requested QoE is not provided (e.g., if it is unsupported by the PoC Network, or the PoC User is participating in a lower profile PoC Group, etc)	PoC V2.0
FUNC-QOE-GN-012	The PoC Client SHOULD be able to optimally select the network resources it requests for the transport of voice or Media of the PoC Session based on the QoE profile(s) or any other parameters associated to the PoC User or the PoC Service Provider.	PoC V2.0
FUNC-QOE-GN-013	PoC Users having Official Government Use QoE subscription SHALL be able to establish PoC Sessions with Official Government Use QoE profile toward any PoC Users, regardless of the subscription of the invited PoC Users.	PoC V2.0

Table 34: QoE General

6.1.9.2 Prioritization and pre-emption

The PoC Session Priority associated to a PoC Session determines how the PoC Session is treated under competing situations with other PoC Sessions. In those cases, PoC Sessions with higher PoC Session Priority receive preferred allocation of those network resources controlled, directly or indirectly, by the PoC Server, (e.g., access to the service under load conditions, more bandwidth, faster Media processing at PoC Server, etc).

Pre-emption considers the capability to tear down one or more PoC Sessions when another PoC Session, with a higher PoC Session Priority, needs more resources to be properly established. Policies related to the use of pre-emption might vary between regions.

NOTE: The following requirements apply to the PoC Server and/or the PoC Client but assume that a prioritization mechanism is available in the underlying access network. As stated above, the prioritization actions to be taken at the access network are derived from the QoE profile and communicated to the underlying network using some mapping mechanism or indication at PoC Session set up.

Label	Description	Enabler Release
Conditionality		
FUNC-QOE-PP-001	The PoC Service Infrastructure MAY support the prioritization and pre-emption functionality.	PoC V2.0
FUNC-QOE-PP-002	The PoC Client MAY support prioritization and pre-emption functionality.	PoC V2.0

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Functionality		
FUNC-QOE-PP-003	The PoC Session Priority of a PoC Session SHOULD be directly determined from the QoE profile selected for that PoC Session, as defined by the PoC Service Provider	PoC V2.0
FUNC-QOE-PP-004	The PoC Server SHALL support prioritization of the PoC Sessions	PoC V2.0
FUNC-QOE-PP-005	Under high load situations at the PoC Server the PoC Server SHOULD prioritise all Media involved in a PoC Session among the Media of other PoC Sessions with lower PoC Session Priority.	PoC V2.0
FUNC-QOE-PP-006	Under high load situations at the PoC Server, the establishment of PoC Sessions MAY force the pre-emption of other PoC Sessions with lower PoC Session Priority (i.e., PoC Sessions with lower PoC Session Priority are torn down by the PoC Server).	PoC V2.0
FUNC-QOE-PP-007	Under high load situations at the PoC Server and in case of several simultaneous requests of PoC Sessions associated to the same PoC Session Priority, the PoC Server SHALL proceed with the establishment by order of request.	PoC V2.0
FUNC-QOE-PP-008	Based on the PoC Service Provider's Policy, the PoC Server SHALL be able to pre-empt ongoing PoC Session(s) of a PoC User when receiving a PoC Session request with a special PoC Session Priority (e.g., Official Government Use) destined to that PoC User.	PoC V2.0
FUNC-QOE-PP-009	When multiple PoC Sessions are in active, the PoC Client MAY support prioritization of the PoC Sessions (i.e., preferred allocation of resources for PoC Sessions with higher PoC Session Priority).	PoC V2.0
FUNC-QOE-PP-010	The levels of priority defined in 3GPP TR 22.950 V6.4.0 (2005-01) MAY be supported. Please refer to Annex A in [3GPP TR 22.950] or Appendix B.	PoC V2.0

Table 35: Prioritization and Preemption

6.1.10 Multicast

The multicast applies to PoC Group Sessions and is optional for PoC enabler. This feature requires multicast capabilities in the underlying radio access network.

Label	Description	Enabler Release
Conditionality		
FUNC-MUC-001	The PoC Service Infrastructure MAY support the multicast feature for PoC Group Sessions.	Post PoC V2.1
FUNC-MUC-002	The PoC Client MAY support the multicast feature.	Post PoC V2.1
Functionality		
FUNC-MUC-003	The Service Provider Policy and/or PoC User subscription SHALL determine if a given Pre-arranged or Chat PoC Group Sessions is able to utilize multicast capability for Media.	Post PoC V2.1
FUNC-MUC-004	A multicast enabled PoC User accessing PoC Service via a multicast access network SHALL be able to establish a PoC Session that uses multicast capabilities for the transport of downlink Media.	Post PoC V2.1
FUNC-MUC-005	The PoC Service SHALL provide capability to include PoC Group members that are not multicast capable through normal PoC procedures.	Post PoC V2.1

Table 36: Multicast

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6.1.11 Interaction with XML Document Management and Presence

6.1.11.1 PoC Group Policies

PoC Group policies are policies that apply to a specific PoC Group only. For example expel rights and releasing rules may be attached to a PoC Group

Label	Description	Enabler Release
Conditionality		
FUNC-XDM-GP-001	The PoC Service Infrastructure MAY support PoC Group policies.	Post PoC V2.1
FUNC-XDM-GP-002	The PoC Client MAY support PoC Group policies.	Post PoC V2.1
Functionality		
FUNC-XDM-GP-003	A PoC User MAY set and modify general PoC Group policies used for Ad hoc PoC Group Sessions initiated by the PoC User, if not set in the PoC Session setup.	Post PoC V2.1
FUNC-XDM-GP-004	At the initiation of an Ad hoc PoC Group Session and/or during an Ad hoc PoC Session the initiator of the Ad hoc Group PoC Session MAY set and modify PoC Group policies specific for this Ad hoc PoC Group Session.	Post PoC V2.1

Table 37: PoC Group Policies

6.1.11.2 Dynamic PoC Groups

PoCEnabler supports the use of rules to specify the membership of PoC Groups. PoC Groups with memberships determined in this way are called Dynamic PoC Groups, since memberships may change dynamically, depending on the evaluation of the rules.

Label	Description	Enabler Release
Conditionality		
FUNC-XDM-DG-001	PoC Service Infrastructure MAY support the Dynamic PoC Groups functionality.	PoC V2.1
FUNC-XDM-DG-002	The PoC Client MAY support the Dynamic PoC Groups functionality.	PoC V2.1
Functionality		
FUNC-XDM-DG-003	A PoC Group Administrator SHALL be able to specify a set of rules for the membership of Pre-arranged or restricted Chat PoC Groups.	PoC V2.1
FUNC-XDM-DG-004	A PoC User initiating an Ad hoc PoC Group Session SHALL be able to specify a set of rules for the membership of the Ad hoc PoC Group at the set up of the Ad hoc PoC Group Session.	PoC V2.1
FUNC-XDM-DG-005	A PoC User SHALL be invited to a PoC Session of a Dynamic PoC Group during PoC Session set up.	PoC V2.1
FUNC-XDM-DG-006	A PoC User SHALL be allowed to join or rejoin an ongoing PoC Session of a Dynamic PoC Group if and only if the set of rules for the Dynamic PoC Group can be evaluated and are matched.	PoC V2.1
FUNC-XDM-DG-007	Condition Re-evaluation MAY be supported in both, the PoC Client and the PoC Service Infrastructure.	PoC V2.1
FUNC-XDM-DG-008	If the PoC Client supports 'Condition Re-evaluation' then the PoC User, who specified the rules for Dynamic PoC Group SHALL be able to additionally require, that during an ongoing PoC Session the members of the Dynamic PoC Group whether Participants or not, are continuously monitored and the Dynamic PoC Group rules are re-evaluated continuously.	PoC V2.1

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FUNC-XDM-DG-009	If the PoC Server supports Condition Re-evaluation and if for a PoC Session 'Condition Re-evaluation' has been requested then the following SHALL apply during an ongoing PoC Session: - If for a PoC User who is a member of the Dynamic PoC Group, who is not a Participant in the PoC Session, the Dynamic PoC Group rules can be evaluated and match, this PoC User SHALL be (re)invited to the PoC Session, unless he had previously declined such an invitation. - If for a Participant in a PoC Session the Dynamic PoC Group rules can be evaluated and do not match any longer, this SHALL be signalled to the PoC Client and the Participant SHALL be removed from the PoC Session.	PoC V2.1
FUNC-XDM-DG-010	If PoC Client and the PoC Service Infrastructure support Dynamic PoC Groups, other OMA Enablers MAY be used for evaluating the Dynamic PoC Group rules.	PoC V2.1
FUNC-XDM-DG-011	If Dynamic PoC Group rules are supported, then at least rules that are based on location or on presence status information SHOULD be supported.	PoC V2.1
FUNC-XDM-DG-012	A PoC User who matches the rules of a Dynamic PoC Group SHALL be able to subscribe to the status of a Dynamic PoC Group and receive a notification as soon as there is at least one other PoC User who matches the rules of the Dynamic PoC Group, other than the subscribing PoC User.	PoC V2.1
FUNC-XDM-DG-013	A PoC User, who is a member of a Dynamic PoC Group, SHALL be able to subscribe to the status of a Dynamic PoC Group and receive a notification when another PoC User who matches the rules becomes an active member of the Dynamic PoC Group or when another PoC User who was an active member no longer matches the rules and ceases to be an active member of the Dynamic PoC Group	PoC V2.1
FUNC-XDM-DG-014	A PoC Group Administrator MAY create a Dynamic PoC Group based on rules without the PoC Group Administrator explicitly predefining a set of members. In this case the PoC Service Infrastructure will populate the PoC Group Members dynamically based on the rules specified subject to the prior consent of the evaluated and matched PoC User to become a member of a Dynamic PoC Group of this type NOTE: In the case of dynamic PoC Groups defined as above the scope of the search to populate the Dynamic PoC Group members is a matter of policy for the PoC Service Provider and may or may not be restricted. The actual implementation of this requirement is an architectural issue.	PoC V2.1
FUNC-XDM-DG-015	A PoC User MAY publish Presence Information about themselves that can be used for the evaluation of rules for the membership of Dynamic PoC Groups.	PoC V2.1
FUNC-XDM-DG-016	A PoC User MAY provide consent to become a member of a Dynamic PoC Group based on Dynamic PoC Group rules.	PoC V2.1
FUNC-XDM-DG-017	The PoC Service Infrastructure SHALL be able to create PoC Groups to which PoC Users are added dynamically at the crisis service invocation. Only PoC Service Provider can create such a special crisis PoC Group to which an authorized user is assigned. Only authorized PoC User can invoke PoC Sessions with Crisis Handling Request through his assigned Crisis PoC Group.	PoC V2.1

Table 38: Dynamic PoC Groups

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6.1.11.3 XML Document Management Requirements

The PoC Service supports enhancements to XML Document Management required for PoC functionality.

Label	Description	Enabler Release
Conditionality		
FUNC-XDM-MG-001	The PoC Service Infrastructure SHALL support the XML document management functionality with multiple User Equipment having the same PoC Address.	PoC V2.0

Table 39: XML Document Management Requirements

6.1.11.4 Presence requirements

The PoC Service supports enhancements to Presence required for PoC functionality.

Label	Description	Enabler Release
Conditionality		
FUNC-PRS-MG-001	The PoC Service Infrastructure MAY support the presence functionality.	PoC V2.1
FUNC-PRS-MG-002	The PoC Service SHALL handle presence with multiple User Equipment having the same PoC Address in case presence is supported.	PoC V2.1

Table 40: Presence Requirements

6.1.11.5 Management of PoC Groups and PoC Group Member Lists

Label	Description	Enabler Release
Conditionality		
FUNC-XDM-GL-001	The PoC Service Infrastructure SHOULD support the management of PoC Groups and PoC Group Member Lists.	PoC V2.1
FUNC-XDM-GL-002	If PoC Client is able to create PoC Groups, the PoC Client SHOULD support the management of PoC Groups and PoC Group Lists.	PoC V2.1
Functionality		
FUNC-XDM-GL-003	In order to ensure that network resources are not wasted with obsolete or unused lists PoC Service Infrastructure SHOULD support removal of PoC Groups and PoC Group Lists that have not been accessed or used for PoC Sessions for a period of time set by the PoC Service Provider or by the PoC Subscriber.	PoC V2.1
FUNC-XDM-GL-004	Specifically it SHOULD be possible to specify an expiration time by the PoC Service Provider or PoC Subscriber when creating PoC Groups and PoC Group Lists and the deletion of the PoC Groups and PoC Group Lists when the expiration time expires.	PoC V2.1
FUNC-XDM-GL-005	For PoC Groups and PoC Group Lists that do not have an expiration time, it SHOULD be possible for the PoC Service Infrastructure to delete PoC Groups and associated PoC Group Lists, which have not been used for a period of time set by the operator.	PoC V2.1
FUNC-XDM-GL-006	The PoC Service infrastructure SHOULD notify the PoC Group Administrator and PoC Group members of a pending deletion of PoC Groups and PoC Group Lists and SHOULD provide a mechanism to allow the PoC Group Administrator to request that the lifetime of the notified PoC Group or PoC Group List is renewed.	PoC V2.1

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FUNC-XDM-GL-007	It SHOULD be possible for the PoC Service Provider to charge for the creation and storage of PoC Groups and PoC Group Lists and to charge based on the size of these documents and the period of time that such PoC Groups and PoC Group Lists exist.	PoC V2.1

Table 41: Management of PoC Groups and Group Lists

6.1.12 PoC Interworking Service

6.1.12.1 General

The PoC Interworking Service provides the means to extend the PoC User experience and reach beyond the OMA defined PoC Service and PoC Network boundaries. This is accomplished by interworking with other networks and systems, while not PoC compliant, may be able to provide a reasonably comparable capability. The interworking service manipulates interactions with these other networks and systems into PoC behaviour to hide the details of the variation from PoC.

For PoC Interworking Service, the focus is limited to: interworking with External P2T Networks to provide PoC interactions between PoC Users and External P2T Network users; providing PoC Users Remote PoC access when not directly connected to a PoC Network.

The thrust of this effort is to minimize the impact on PoC specifications of the accommodation of this interworking capability, both for interconnection with External P2T Networks and for PoC Remote access. The requirements for interworking capability articulated in this specification sub-clause are limited in scope to those aspects of PoC interfaces supporting the export of PoC functions and capabilities beyond PoC Network borders. This means that the interworking service itself, interfaces to External P2T Networks and remote access networks are outside the scope of this OMA Enabler.

NOTE: PoC Interworking Service does not guarantee that all systems outside the OMA PoC domain will be capable to interworking without enhancements.

Label	Description	Enabler Release
Conditionality		
FUNC-IWF-GN-001	PoC Service Infrastructure MAY utilize the inter-working service to support symmetric communication with PoC Remote Access users and users in External P2T Network.	PoC V2.0
FUNC-IWF-GN-002	PoC Client MAY support the Inter-working Service for PoC Remote Access Users.	PoC V2.0
Functionality		
FUNC-IWF-GN-003	The PoC interworking service SHALL support the following PoC communication modes: • 1-1 PoC Session, • PoC Group Sessions for Ad-hoc PoC Groups, Pre-arranged PoC Groups and Chat PoC Groups and 1-many-1 PoC Sessions, and, • Instant Personal Alert	PoC V2.0
FUNC-IWF-GN-004	The PoC Interworking Service SHOULD support the following PoC Communication Modes and settings: • PoC Service Settings (e.g., Automatic/Manual Answer, Incoming Session Baring, Incoming Talk Burst Baring), • Manual Answer Override, • Polite Calling, and, • Group Advertisement.	PoC V2.0

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FUNC-IWF-GN-005	The PoC Interworking Service SHALL support the following PoC Functionality: • Address mapping of External P2T Network users requesting PoC Services from a External P2T Network, • Charging of PoC Services offered to PoC Users or External P2T Users, • Presence information supporting to the PoC Service, NOTE 1: This only refers to the Presence information that can be carried by the PoC protocols. Presence information exchange between presence servers interworking is outside the scope of this specification. • Group Identities used by the PoC Service, and, • Conference state events information.	PoC V2.0
FUNC-IWF-GN-006	The PoC Interworking Service SHALL support the negotiation of: • Media Burst Control Protocol in PoC Sessions. • Codec and Media Parameter for PoC Sessions. • PoC Session modifications, • Media Burst Control Protocol options in PoC Sessions and, • User Plane adaptation in PoC Sessions. NOTE 2: Further details of the interworking service is outside the scope of OMA specifications.	PoC V2.0
FUNC-IWF-GN-007	The PoC Interworking Service MAY support the following PoC Communication Mode: • Full Duplex Call Follow-on Proceed.	PoC V2.0

Table 42: Interworking General

6.1.12.2 External P2T Networks

The PoC Interworking service defines a service for Push To Talk communication between users of PoC Networks and users of External P2T Networks. Interworking service between a PoC Network and an External P2T Network is described here without describing the details of the services or specific functionality that may be provided by an External P2T Network. Interworking service is described from the perspective of a PoC Network and the communications that may be sent from a PoC Network toward an External P2T Network, and the communications that may be received into a PoC Network from an External P2T Network.

The External P2T Network system is presumed to manage its own subscribers, users and services. Authentication and authorization capabilities are presumed to be provided by the External P2T Network or the PoC V2.0 interworking infrastructure or both for:

- External P2T Network interaction with and use of the PoC 2.0 interworking service
- External P2T Network users interacting with PoC Users and using PoC 2.0 services.

However the requirements and specification of these are outside the domain of PoC V2.0 specifications.

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Label	Description	Enabler Release
Conditionality		
FUNC-IWF-EN-001	The PoC Service Infrastructure MAY provide support of PoC Interworking with External P2T Networks.	PoC V2.0
Functionality		
FUNC-IWF-EN-002	A PoC User MAY initiate, join or be invited to a PoC Session including users of a trusted External P2T Network.	PoC V2.0
FUNC-IWF-EN-003	A PoC User MAY send or receive an Instant Personal Alert to or from an users of a trusted External P2T Network.	PoC V2.0
FUNC-IWF-EN-004	A PoC User SHOULD send or receive a Group Advertisement to or from users of a trusted External P2T Network.	PoC V2.0

Table 43: Interworking and External P2T Networks

6.1.12.3 PoC Remote Access

A PoC Network may provide PoC remote access, allowing PoC Users to access PoC Services when the user is not directly connected to the PoC Network, not necessarily using a PoC Client. For example, a PoC User, with a valid subscription, is accessing PoC Services via a PSTN terminal.

Label	Description	Enabler Release
Conditionality		
FUNC-IWF-RA-001	The PoC Service Infrastructure MAY provide support of PoC Remote Access.	PoC V2.0
FUNC-IWF-RA-002	The PoC Client MAY support the PoC Remote Access	PoC V2.0
Functionality		
FUNC-IWF-RA-003	A PoC remote access user, registered with a PoC Network MAY initiate, join or be invited to a PoC Session.	PoC V2.0
FUNC-IWF-RA-004	A PoC remote access user, registered with a PoC Network MAY send or receive an Instant Personal Alert.	PoC V2.0
FUNC-IWF-RA-005	A PoC remote access user, registered with a PoC Network MAY send or receive a Group Advertisement.	PoC V2.0

Table 44: Interworking and Remote Access

6.1.12.4 PoC User Experience Using PoC Interworking Service

The user experience for PoC interworking service is relevant for Participants in PoC Sessions involving interworking, which may include PoC Users in PoC Networks, PoC Remote Access users and External P2T Network users.

Label	Description	Enabler Release
Conditionality		
FUNC-IWF-UE-001	The PoC Service Infrastructure MAY support the PoC interworking service.	Post PoC V2.1
FUNC-IWF-UE-002	The PoC Client MAY support the PoC interworking service.	Post PoC V2.1
Functionality		
FUNC-IWF-UE-003	Introduction of PoC V2.0 interworking service SHALL not result in significantly diminished performance (e.g., delays, QoS, etc.) for PoC Users operating in the PoC Network.	Post PoC V2.1

Table 45: Interworking and PoC User Experience

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6.1.12.5 Interaction of PoC - Video only Session with Other Voice Call Enablers

A capability is provided by the PoC Client to initiate a PoC Session with video Media, invoked by or invoking another capability (such as a CS or VoIP client) resident in the same User Equipment as the PoC Client. This capability enables Value Added PoC Services.

Label	Description	Enabler Release
Conditionality		
FUNC-IWF-VS-001	The PoC Service Enabler MAY support the Interaction of PoC - Video only Session with other voice call enablers.	PoC V2.1
FUNC-IWF-VS-002	The PoC Client MAY support the interaction of PoC - video only PoC Session with other voice call enablers.	PoC V2.1
Functionality		
FUNC-IWF-VS-003	PoC Users SHALL be able to invite other PoC Users to a video only PoC Session, anytime during an active voice call or at the voice call initiating time.	PoC V2.1
FUNC-IWF-VS-004	A PoC User who joins the voice call SHALL also be invited to the video only PoC Session.	PoC V2.1
FUNC-IWF-VS-005	A PoC User SHALL have the option to participate only in the voice call, without receiving the optional video stream.	PoC V2.1
FUNC-IWF-VS-006	Anytime during an active voice call or at the voice call initiating time, the user SHALL have the option to add and release the video stream in the PoC Session.	PoC V2.1
FUNC-IWF-VS-007	If a Participant releases the voice call, the Participant's corresponding video PoC Session SHALL also be automatically released.	PoC V2.1
FUNC-IWF-VS-008	The Value Added PoC Service SHALL support the following characteristics:All Participants in the PoC Session MAY be able to receive the list of Participants that are capable to receive video.	PoC V2.1
FUNC-IWF-VS-009	The PoC Service SHALL be able to establish or terminate the PoC Session requested by the PoC Client.	PoC V2.1
FUNC-IWF-VS-010	The PoC Service SHALL automatically end the video Session when the voice call ends.	PoC V2.1
FUNC-IWF-VS-011	The PoC Service SHALL support 1-1, Ad-hoc, Chat, and Pre-arranged PoC Group Sessions.	PoC V2.1
FUNC-IWF-VS-012	The PoC Service SHALL invite the same PoC Users to the PoC Session that are currently in the voice calls. Participant, who leaves the voice call SHALL be removed from the PoC Session. User who joins the voice call SHALL be added to the PoC Session.	PoC V2.1
FUNC-IWF-VS-013	The interaction of PoC - video only PoC Session with other voice call enablers functionality it SHALL use the same Media Burst Control mechanism as specified in the PoC Service Enabler NOTE: In case of the PoC Group CS teleconference the interaction with the PoC Service is out of scope of PoC version 2.	PoC V2.1

Table 46: Video Session with Other Call Enablers

6.1.12.6 PoC Interworking with IVR System

PoC interworking with the IVR system enables the PoC Users to access the IVR System using their PoC Service. This will provide more flexibility for those users, who are already in a PoC conversation, and who may have PoC as their preferred means of communication.

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Label	Description	Enabler Release
Conditionality		
FUNC-IWF-IVR-001	PoC Service Infrastructure MAY support the interworking with the IVR system.	Post PoC V2.1
Functionality		
FUNC-IWF-IVR-002	In order to interworking with IVR system, PoC Service enable SHALL be able to transmit DTMF tones.	Post PoC V2.1

Table 47: Interworking and IVR Systems

6.1.12.7 PoC Interworking with Voice-enabled Instant Messaging

A PoC supports interworking between the PoC Users and IM users who are equipped with voice-enabled IM clients ("Voice IM" users), or voice chat users, thus allowing for symmetric voice communications between PoC Users and voice IM or voice chat users.

NOTE: For purposes of PoC interworking, an IM system serving voice-enabled IM clients (or a HDVC system), which is interconnected to the PoC Network, is treated as a virtual External P2T systems for exchanging voice messages (i.e., Talk Burst) in a half-duplex manner.PoC to voice IM (P2VIM) interworking, including PoC to HDVC (P2HDVC) interworking, is intended to enable basic PoC communications and may support only a subset of PoC, IM or voice chat functionality. The PoC interworking will provide the necessary functions to support PoC Users communicating with voice IM or HDVC users and should ensure that the PoC User experience is not negatively affected.

Label	Description	Enabler Release
Conditionality		
FUNC-IWF-VIM-001	PoC Service Infrastructure MAY support the interworking with PoC-to-Voice IM (P2VIM), and PoC-to-Half-Duplex Voice Chat (P2HDVC).	PoC V2.1
FUNC-IWF-VIM-002	PoC Client MAY support the interworking with PoC-to-Voice IM (P2VIM) and PoC-to-Half-Duplex Voice Chat (P2HDVC).	PoC V2.1
Functionality		
FUNC-IWF-VIM-003	Both voice IM and Half Duplex Voice Chat interworking SHALL be subject to Service Provider Policy and agreement with voice IM or HDVC service provider(s), as applicable.	PoC V2.1
FUNC-IWF-VIM-004	P2VIM or P2HDVC Interworking SHALL enable interworking between PoC Users and authorised voice IM, or HDVC, users only; general unlimited interworking between PoC and IM or voice chat networks is beyond the scope of P2VIM or P2HDVC interworking.	PoC V2.1
FUNC-IWF-VIM-005	Voice quality of PoC Sessions between PoC Users and Voice IM or HDVC users SHOULD not be unnecessarily degraded by mechanisms and procedures in the PoC Network; similar issues in the voice IM or HDVC network affecting the voice quality (e.g., latencies) therein are beyond the scope of PoC Service Enabler.	PoC V2.1
FUNC-IWF-VIM-006	For purposes of PoC interworking, the voice IM, or HDVC, system is treated as a virtual External P2T Network; authorized voice IM or HDVC users are treated as authorized External P2T Network users. If P2VIM or P2HDVC interworking is supported, unless otherwise specified, the general PoC interworking Service requirements apply:	PoC V2.1

Table 48: Interworking and Voice Enabled IM

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6.1.12.8 Interaction of PoC – Non-voice Media Only Session with Other Voice Call Enablers

This section specifies PoC Service Enabler requirements for interaction between non-voice PoC Sessions, such as video, images and text and other voice enablers, e.g. VoIP, circuit switched calls etc.

Label	Description	Enabler Release
Conditionality		
FUNC-IWF-NV-001	The PoC Service Infrastructure MAY support the interaction of PoC – non-voice Media only PoC Session with other voice call enablers.	Post PoC V2.1
FUNC-IWF-NV-002	The PoC Client MAY support the interaction of PoC – non-voice Media only PoC Session with other voice call enablers.	Post PoC V 2.1
Functionality		
FUNC-IWF-NV-003	A capability MAY be provided by the PoC Client to initiate a non-voice Media only PoC Session, invoked by or invoking another capability (such as a CS or VoIP client) resident in the same User Equipment as the PoC Client. The requirements for such a non-voice Media only PoC Session SHALL have requirements analogous to the requirements described in the sub-sections 6.1.13.	Post PoC V2.1

Table 49: Interworking - Non-Voice Only Session with Other Voice Call Enablers

6.1.13 Performance Enhancements Objectives

The PoC V2.0 Service Enabler is developed with the intention to improve the overall quality of experience when compared with PoC V1.0 and to allow the PoC Service Provider to provide the PoC Service according to PoC User's expectations by making a better use of network resources and capabilities, including the underlying network, to best adapt to each customer's needs. Having this in mind, this subclause captures recommended objectives for end-to-end performance to be achieved by the basic PoC Service Enabler functionality, in a controlled optimized network environment, at the time of the deployment of PoC Service Infrastructure. As there is a strong dependence on underlying network performance enhancements, it has to be understood that the achievement of these recommended objectives may not be under control of the PoC Service Enabler on its own. These recommended objectives are not intended to be included in the scope of OMA PoC Service Enabler test specifications and conformance testing.

NOTE: The term 'basic PoC Service Enabler functionality' refers to simple functionalities that do not imply complex procedures in the PoC Service Infrastructure (e.g., 1-1 PoC Session and 1-many PoC Sessions involving non Dynamic PoC Group).

Label	Description	Enabler Release
Conditionality		
FUNC-PEH-001	The PoC Service Infrastructure SHALL support performance enhancements.	PoC V2.0
FUNC-PEH-002	The PoC Client SHALL support performance enhancements.	PoC V2.0
Functionality		
FUNC-PEH-003	The PoC Client MAY convey information to the PoC Service Infrastructure that characterizes the Media processing throughput capabilities of the PoC Client. NOTE 1: This is for User Equipment to indicate its own data rate for receiving and processing Media, and has nothing to do with User Plane Adaptation.	PoC V2.0
FUNC-PEH-004	The PoC V2.0 Service Enabler SHALL support User Equipments that have limited memory capabilities. Therefore, the PoC Service Infrastructure SHALL be able to convey an appropriate Media throughput to the PoC Client in order to avoid buffer overrun at the client side.	PoC V2.0

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FUNC-PEH-005	If the invited PoC User answers manually, then the inviting PoC User SHOULD typically receive the 'right-to-speak' indication in less than [1.0] second after the invited PoC User manually accepts the PoC Session invitation. NOTE 2: The enhancements of the "right-to-speak" time areforeseen to be only related to an optimized use of compression strategies (i.e., SigComp). Other required enhancements completely fall in the scope of the underlying network and, therefore, the achievement of this recommendation may strongly depend on them.	PoC V2.0
FUNC-PEH-006	The duration between the times the inviting PoC User initiates the PoC Session and when he receives a "Right-to-Speak (RtS)" indication SHOULD typically be less than [1.8] seconds, in case PoC Service Infrastructure provides early "right-to-speak" indication and the invited PoC User is on Automatic Answer Mode. NOTE 3: The enhancements for the "Right-to-Speak" time are foreseen to be only related to an optimized use of compression strategies (i.e., SigComp). Other required enhancements completely fall in the scope of the underlying network, and therefore, the achievement of this recommendation may strongly depend on them.	PoC V2.0
FUNC-PEH-007	When a Participant makes a request to talk in the PoC Session, and the request is not queued, the StS time SHOULD typically be less than [0.8] seconds. If the Participant's RtS is queued due to other Participants speaking or having already requested to speak, the Participant SHOULD typically receive an indication within [0.8] seconds that the request has been queued. If the Participant's request is rejected for any reason, the Participant SHOULD typically receive an indication within [0.8] seconds that his request has been rejected. NOTE 4: From the PoC Service Enabler, the enhancements of to the StS time are foreseen to depend on the use of pre-granted Media Burst Control and potential buffering techniques. Other required enhancements completely fall in the scope of the underlying network and, therefore, the achievement of this recommendation may strongly depend on them.	PoC V2.0
FUNC-PEH-008	The Media delay between the time the Media is sent by the originating Participant and the time it is displayed by the destination Participant SHALL depend on the QoS applied for the Media transmission in the PoC Session, more concretely (following the QoS classes specified in [3GPP TS 23.107]): • For Interactive traffic class: the end-to-end delay SHOULD typically be less than 1.6 seconds. • For Streaming traffic class: the end-to-end delay SHOULD typically be less than 1 second. • For Conversational traffic class: the end-to-end delay SHOULD typically be less than 500 ms.	PoC V2.0

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FUNC-PEH-009	Different delay requirements MAY apply for different Media Types of the same PoC Session (e.g., different QoS assigned to each Media Type of the PoC Session). The QoS to be applied for each Media Type of the PoC Session SHALL be directly determined from the QoE profile applied for the PoC Session and based on the Service Provider Policy.	PoC V2.0
FUNC-PEH-010	When the Participants of a PoC Session are distributed across multiple PoC Networks, the PoC Server MAY support the optimization to reduce Media latencies and to enhance efficiency of reserved lines between the PoC Networks.	PoC V2.0

Table 50: Performance Enhancement Objectives

6.1.14 Value Added PoC Services

6.1.14.1 PoC Voting Service

PoC voting is a mechanism to collect the opinion from Participants in a PoC Session, evaluate, and notify the result to Participants without interference with Participants who have the permission to send Media. PoC voting is an optional service.

Label	Description	Enabler Release
Conditionality		
FUNC-VAS-VO-001	The PoC Service Infrastructure MAY support the PoC voting service.	Post PoC V2.1
FUNC-VAS-VO-002	The PoC Client MAY support the PoC voting service.	Post PoC V2.1
Functionality		
FUNC-VAS-VO-003	The PoC voting service SHALL be able to specify Vote Group Type (open/closed).	Post PoC V2.1
FUNC-VAS-VO-004	The PoC voting service SHALL be able to specify Vote Result Type (disclosed/undisclosed/secret).	Post PoC V2.1
FUNC-VAS-VO-005	The PoC voting service SHALL be able to specify Vote Response Type (real time/accumulated).	Post PoC V2.1
FUNC-VAS-VO-006	The PoC voting service SHALL be able to specify the timeout period in case of accumulated response type voting.	Post PoC V2.1
FUNC-VAS-VO-007	The PoC voting service SHALL be able to specify Vote Processing Entity (PoC Server, originating PoC Client or a designated PoC Client). NOTE: PoC Server as Vote Processing Entity is FFS	Post PoC V2.1
FUNC-VAS-VO-008	The PoC voting service MAY be performed in respect with Media Bursts transmission.	Post PoC V2.1
FUNC-VAS-VO-009	A privileged Participant SHALL be able to specify a voting question with several options and send it to the PoC Server for the request of voting initiation.	Post PoC V2.1
FUNC-VAS-VO-010	Upon the receipt of the voting initiation request, the PoC Server SHALL be able to send the voting question(s) message to all Participants of a PoC Session.	Post PoC V2.1
FUNC-VAS-VO-011	Upon the receipt of the voting question message, the Participants SHALL be able to respond to that question(s) and send their choice to the PoC Server.	Post PoC V2.1
FUNC-VAS-VO-012	The Vote Processing Entity SHALL be able to receive and evaluate the PoC voting responses from Participants.	Post PoC V2.1
FUNC-VAS-VO-013	The PoC Server SHALL be able to notify the PoC voting evaluation result to all Participants depending on the setting of Vote Group Types, Vote Result Types, and Vote Response Types.	Post PoC V2.1

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FUNC-VAS-VO-014	Each Participant SHALL be able to receive the PoC voting evaluation results depending on the setting of Vote Group Types, Vote Result Types, and Vote Response Types.	Post PoC V2.1

Table 51: PoC Voting Services

6.1.15 Others

6.1.15.1 Operator Specified Warning Message

The operator specified warning message is a free text message that is sent from the PoC Server to the PoC Client in order to present miscellaneous information from the PoC Service Provider to the PoC User. If the PoC Service Provider wants to notify arbitrary messages besides the warning texts that are statically implemented on the PoC Client and the PoC Server, the PoC Service Provider may utilise this functionality. Based on the local policy determined by the PoC Service Provider, various languages may be used in the operator specified warning message. Languages to be supported are totally optional both on the PoC Server and the PoC Client.

Label	Description	Enabler Release
Conditionality		
FUNC-ADD-WH-001	The PoC Service Infrastructure MAY support the operator specified warning message functionality.	PoC V2.0
FUNC-ADD-WH-002	The PoC Client SHOULD support the operator specified warning message functionality.	PoC V2.0
Functionality		
FUNC-ADD-WH-003	PoC Server MAY have the ability to send a warning message according to the Service Provider Policy. PoC Clients SHOULD be able to display such a message if it is sent from the PoC Server and if the language is supported. User Equipments, which have limited capability for displaying such a message, may be unable to support this capability. The operator specified warning message is a free text message that is sent from the PoC Server to the PoC Client in order to present miscellaneous information from the PoC Service Provider to the PoC User. If the PoC Service Provider wants to notify arbitrary messages besides the warning texts that are statically implemented on the PoC Client and the PoC Server, the PoC Service Provider may utilise this functionality. Based on the local policy determined by the PoC Service Provider, various languages may be used in the operator specified warning message. Languages to be supported are totally optional both on the PoC Server and the PoC Client.	PoC V2.0
FUNC-ADD-WH-004	PoC Client SHOULD be able to request to the PoC Server the language that it can accept. Upon receiving such an accept language request, the PoC Server SHALL be able to send back a response using the requested language in the warning text if the language is supported	PoC V2.0
FUNC-ADD-WH-005	PoC Server MAY be able to send warning message in a response to a request from a PoC Client. If supported, the warning text SHALL be able to contain miscellaneous information to be presented to the PoC User. The PoC Service Provider can send an appropriate message to the PoC Client using the warning text.	PoC V2.0
FUNC-ADD-WH-006	PoC Client SHOULD display on the device the received warning message as it is received.	PoC V2.0

Table 52: Operator Specified Warning Message

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6.1.15.2 Browser-Based PoC Client Invocation

Browsers are widely deployed in User Equipment and have extensive capability for presentations. A Web server that has connections to the XDM server facilitates PoC Session initiation as well as presents other information. In order to increase usability, a PoC User is able to initiate PoC Sessions while the PoC User is browsing the Web server.

Label	Description	Enabler Release
Conditionality		
FUNC-ADD-CI-001	The PoC Service Infrastructure MAY support browser-based PoC Client invocation functionality.	PoC V2.0
FUNC-ADD-CI-002	The PoC Client MAY support the browser-based PoC Client invocation functionality.	PoC V2.0
Functionality		
FUNC-ADD-CI-003	The PoC User SHALL be able to invoke a PoC Client and initiate a PoC Session (i.e., 1-1, Ad-hoc, Chat, or Pre-arranged Group PoC Session), seamlessly and automatically, while browsing the Web site from the same User Equipment.	PoC V2.0
FUNC-ADD-CI-004	The PoC User SHALL be authenticated to access the PoC Group information from the browser.	DELETED
FUNC-ADD-CI-005	In the case of 1-1, Chat, and Pre-arranged Group PoC Sessions, the PoC User SHALL be able to initiate a PoC Session by clicking on a menu on a Web page presented on a browser. In the case of an Ad-hoc PoC Group Session, the PoC User SHALL be able to select the PoC Users to invite from a Web page presented on a browser before clicking on a menu to initiate a PoC Session.	PoC V2.0
FUNC-ADD-CI-006	To accomplish the above requirements for each PoC Session including enhanced ones, the mechanism SHALL be extensible to convey all the necessary current and evolving information to initiate a PoC Session.	PoC V2.0

Table 53: Browser-Based PoC Client Invocation

6.1.15.3 PoC External Entity

The PoC External Entity function allows an external entity to be connected to a PoC Service Infrastructure. The external entity acts as a PoC Client and can perform tasks that are out of scope of PoC e.g. a camera supervising a building. It will also be possible for a PoC User to remotely control the external device.

Label	Description	Enabler Release
Conditionality		
FUNC-ADD-EX-001	The PoC Service Infrastructure SHALL support the handling for the PoC External Entity feature.	Post PoC V2.1
FUNC-ADD-EX-002	The PoC Client MAY support the handling for the PoC External Entity feature.	Post PoC V2.1
Functionality		
FUNC-ADD-EX-003	The PoC V2.0 Service Infrastructure SHALL support transport paths for accessing (e.g., for the purpose of sending PoC External Entity control messages) to PoC External Entity from the PoC Client.	Post PoC V2.1
FUNC-ADD-EX-004	The PoC V2.0 Service Infrastructure SHALL support a mechanism to allow a PoC Client to access a PoC External Entity exclusively.	Post PoC V2.1
FUNC-ADD-EX-005	An authorised PoC User SHALL be able to manage services provided by PoC External Entity.	Post PoC V2.1

Table 54: PoC External Entity

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6.1.15.4 Lawful Interception

This section specifies PoC Service Enabler requirements for lawful interception. The capability to intercept telecommunications traffic and related information in the PoC Service Infrastructure is always implemented in accordance with national or regional (e.g. European Union) laws or technical regulations applicable to the PoC Service Provider. Nothing in this specification, including the definitions, is intended to supplant such applicable laws or regulations.

Label	Description	Enabler Release
Conditionality		
FUNC-ADD-LI-001	The PoC Service Infrastructure SHALL provide support for lawful interception.	PoC V2.0
Functionality		
FUNC-ADD-LI-002	The PoC Service Enabler SHALL be able to provide information available in the PoC Network for support of lawful interception by regional law enforcement authorities of PoC Sessions of an identified PoC User.	PoC V2.0
FUNC-ADD-LI-003	The PoC Service Enabler SHALL be able to provide the available PoC Address information of all Participants of particular PoC Sessions when supporting a lawful interception request regardless of anonymity or privacy settings.	PoC V2.0
FUNC-ADD-LI-004	The PoC Service Enabler SHALL be able to ensure that the Media Burst content is available to law enforcement in support of a lawful interception request (e.g., by providing decryption information or decrypting any encrypted content, or providing decompression information or decompressing any compressed content) when the PoC Service Provider furnishes the encryption or uses compression.	PoC V2.0
FUNC-ADD-LI-005	Available and applicable underlying network (e.g., SIP/IP Core) capabilities SHOULD be used to support lawful interception requirements as much as possible. NOTE: Specific references (e.g., 3GPP) may be added to the reference section at a later date.	PoC V2.0

Table 55: Lawful Interception

6.1.16 Security

6.1.16.1 PoC Interworking Service Security

PoC Service Infrastructure has to have a trusted relationship with PoC Interworking functions, even when these are in a different domain.

Label	Description	Enabler Release
FUNC-SEC-IWF-001	PoC Service Infrastructure SHALL support the PoC interworking security functionality in case interworking is supported.	PoC V2.1
FUNC-SEC-IWF-002	The trust relationship between the PoC interworking function and the PoC Server SHALL be aligned with the trust relationship between PoC Servers.	PoC V2.1
FUNC-SEC-IWF-003	The PoC remote access user SHALL have the same level security as the PoC V2.0 Services provided to the PoC V2.0 Client through the PoC interworking function.	PoC V2.1

Table 56: PoC Service Security

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6.1.17 Charging

6.1.17.1 General Charging Requirements

This section specifies PoC Service Enabler requirements for charging including the requirements to provide the capabilities for different charging mechanisms and methods. These methods are based on different subscriptions, traffic types, number of Participants, roles of Participants, Media Type, etc.

Label	Description	Enabler Release
Conditionality		
FUNC-CHG-GN-001	The PoC Service Infrastructure SHALL be able to collect sufficient information needed for charging, both types of PoC Subscribers (prepaid and post-paid PoC Subscribers).	PoC V2.0
Functionality		
FUNC-CHG-GN-002	The PoC Service Infrastructure SHALL support sufficient mechanisms to allow various forms of charging. Charging Information SHALL include, but not be limited to, the following items. For subscription based charging • PoC Subscriber type, status and QoE profile. • Identity and type of each PoC Group in which the PoC Subscriber participates. • Maximum size of each PoC Group (i.e., maximum number of Participants who joined the PoC Session, regardless of having spoken or not) in which the PoC Subscriber has participated within a defined period (as configured by the PoC Service Provider). This must consider any kind of PoC Group and Session (Dynamic Groups, Simultaneous PoC Group Sessions, etc) For support traffic based charging (in addition to that for subscription based charging) • Separate charging Information generated for originator and terminator(s) of each PoC Session. • PoC Service interactions (e.g., special rights or roles, join a PoC Group Session, leave a PoC Group Session, administer PoC Groups, etc). • Number and type of PoC Sessions initiated (successful attempts) • QoE profile for each PoC Session initiation (QoS and priority) • Number and type of failed PoC Session attempts, with time stamps of failed attempts. • Number and type of Participants in each PoC Session, including their identities and the identity and type of the PoC Group (if applicable). Also considering the special case of non-human Participant (PoC Box, etc) • Duration of each PoC Session, with start and finish time stamps.	PoC V2.0

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	• Type of IP address used for downlink in the PoC Session (unicast vs. multicast)
	• Number and types of Media exchanged in the PoC Session.
	• For each Media Type actually exchanged by the PoC User in the PoC Session:
	  • Duration of transmit time for the Media in the PoC Session (i.e., total time periods for all Media Bursts by a PoC Subscriber).
	  • Number of Media Bursts transmitted.
	  • Volume of data (e.g., Media packets, bytes).
	  • Codification used.	

FUNC-CHG-GN-003	Charging Information for the underlying packet connectivity resource indicates that the connectivity session is being used for PoC. They also indicate the underlying QoS provided (BW, QoS class, etc).PoC charging information SHALL support charging correlation.	PoC V2.0
FUNC-CHG-GN-004	Latency SHOULD be a time-based value captured as part of the charging information; this would allow PoC Service Providers to define their own thresholds for each QoE profile (e.g., for operational performance measurements).The PoC Service Infrastructure SHALL provide records for failed delivery of Media Bursts.	PoC V2.0
FUNC-CHG-GN-005	During a PoC Group Session, charging information for traffic generated by each Participant individually SHALL be available.	PoC V2.0

Table 57: Charging - Introduction

6.1.17.2 Network Domain Based Charging

When a PoC User invites other PoC User(s) who is in a different country, region and/or PoC Network the PoC Service Provider needs to charge its PoC User differently.

Label	Description	Enabler Release
Conditionality		
FUNC-CHG-NB-001	The PoC Service Infrastructure SHALL be able to collect network domain based charging information.	PoC V2.1
Functionality		
FUNC-CHG-NB-002	It SHALL be possible for a PoC Service Provider to charge its PoC User differently depending on PoC Address information of the inviting and invited PoC User(s) and/or information such as country, region and/or PoC Network of the inviting and Invited PoC User(s).	PoC V2.1

Table 58: Network Domain Based Charging

6.1.17.3 PoC Interworking Service Charging

PoC Interworking Service provides charging information. The PoC V1.0 charging principles applies to the PoC Interworking service.

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Label	Description	Enabler Release
Conditionality		
FUNC-CHG-IWF-001	The PoC Service Infrastructure SHALL support PoC interworking service charging, in case interworking is supported.	PoC V2.1
Functionality		
FUNC-CHG-IWF-002	It SHALL be possible for PoC Service Providers to ascertain the usage of the PoC Service entity by PoC Subscribers accessing remotely the PoC Service.	PoC V2.1
FUNC-CHG-IWF-003	Chargeable Events in PoC Service SHALL also indicate PoC remote access usage.	PoC V2.1
FUNC-CHG-IWF-004	It SHALL be possible for PoC Service Providers to ascertain the usage of the PoC Service entity by External P2T Network subscribers accessing the PoC Service from an External P2T Networks using a PoC interworking function.	PoC V2.1
FUNC-CHG-IWF-005	Chargeable Events in PoC Service SHALL also indicate PoC interworking usage.	PoC V2.1

Table 59: PoC Interworking Service Charging

6.1.18 Administration and Configuration

Label	Description	Enabler Release
	< no requirements identified >	

Table 60: High-Level Functional Requirements – Administration and Configuration Items

6.1.19 Usability

6.1.19.1 Multiple PoC Clients with the Same PoC Address

Multiple PoC Clients with the Same PoC Address allows a PoC User to register more than one PoC Client using the same PoC Address.

Label	Description	Enabler Release
Conditionality		
FUNC-USA-MC-001	The PoC Service Infrastructure SHALL support registration of multiple PoC Clients with the same PoC Address and handle PoC Service Settings when set from multiple User Equipments having the same PoC Address.	PoC V2.1
FUNC-USA-MC-002	The PoC Client SHALL support multiple registration of PoC Clients with the same PoC Address and handle PoC Service Settings when set from multiple User Equipments having the same PoC Address.	PoC V2.1
Functionality		
FUNC-USA-MC-003	When inviting a PoC User who has multiple PoC Clients with the same PoC Address to a PoC Session all the PoC Clients with the PoC Address of the invited PoC User SHALL be invited to the PoC Session.	PoC V2.1
FUNC-USA-MC-004	If multiple PoC Clients with the same PoC Address are invited to the same PoC Session and more than one of the PoC Clients accepts the invitation then only the first PoC Client to accept the invitation SHALL receive Media Bursts and all other PoC Clients with the same PoC Address that accept the invitation SHALL be released from the PoC Session.	PoC V2.1

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FUNC-USA-MC-005	The PoC Service Settings of one PoC Client SHALL be treated independently of those of other PoC Clients with the same PoC Address and when inviting multiple PoC Clients with the same PoC Address to a PoC Session each PoC Client SHALL be invited according to their own PoC Service Settings.	PoC V2.1
FUNC-USA-MC-006	When multiple PoC Clients with the same PoC Address are registered for the PoC Service, the PoC Client SHALL be notified that other PoC Clients are registered for the PoC Service with the same PoC Address. NOTE 1: This requirement may impact on the PoC Service Infrastructure or the SIP/IP Core.	PoC V2.1
FUNC-USA-MC-007	The PoC Service Provider SHALL have the ability to charge based on multiple PoC Clients having the same PoC Address.	PoC V2.1
FUNC-USA-MC-008	The PoC Service Provider SHALL have the ability to limit the number of PoC Clients that can share the same PoC Address. NOTE 2: This requirement may impact on the PoC Service Infrastructure or the SIP/IP Core.	PoC V2.1
FUNC-USA-MC-009	A PoC Client SHALL have the ability to obtain the PoC Service Settings of all the currently registered PoC Clients sharing the same PoC Address when the PoC Client requests its PoC Service Settings. NOTE 3: It is FFS whether this requirement provides any information to the PoC User that he can take any action upon. If the information provided can not be used by the PoC User to correct any issue caused by multiple PoC Clients with different PoC Settings then this requirement will be removed.	PoC V2.1

Table 61: Multiple PoC Clients with the Same PoC Address

6.1.19.2 Alert for Unavailable PoC Users

The PoC Service Enabler makes it possible to send an alerting message to other PoC User(s) not currently available for the PoC Service in order to get them to activate the PoC Service and initiate or join a PoC Session.

Label	Description	Enabler Release
Conditionality		
FUNC-USA-UC-001	The PoC Service Infrastructure MAY support the alert for unavailable PoC Users functionality.	PoC V2.1
FUNC-USA-UC-002	The PoC Client MAY support the alert for unavailable PoC Users functionality.	PoC V2.1
Functionality		
FUNC-USA-UC-003	After unsuccessful PoC Session establishment attempts to one or more PoC Users, the PoC V2.0 Service Enabler MAY support sending an alerting message to those PoC Users that are not currently available, providing the PoC Service Settings of the PoC Users allow to do so.	PoC V2.1
FUNC-USA-UC-004	The alerting message SHALL contain the appropriate PoC contact information (e.g., originating PoC User's address or PoC Group Session Identity).	PoC V2.1

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FUNC-USA-UC-005	Upon receiving an alerting message, a PoC Client which is not available for the PoC Service, SHALL be able to activate the PoC Service, if necessary, and initiate a PoC Session in a convenient way (e.g., automatically) according to the contact information indicated in the alerting message.	PoC V2.1
FUNC-USA-UC-006	This functionality SHOULD use PoC mechanisms if possible (e.g., destination PoC User has activated Incoming Session Barring, but not Incoming Personal Alert Barring). Otherwise, other alerting mechanisms outside the PoC V2.0 Service Enabler MAY be triggered from the originating PoC Client.	PoC V2.1
FUNC-USA-UC-007	It SHOULD be possible to specify an expiration time for the alerting message either by the PoC User sending the alert or the PoC Infrastructure in case the PoC Infrastructure sends the alert"	PoC V2.1

Table 62: Alert for Unavailable Users

6.1.20 Interoperability

PoC Network Elements provide backwards compatibility with PoC V1.0 specifications.

Label	Description	Enabler Release
FUNC-IOP-001	PoC V2.0 Service Infrastructure SHALL support the PoC V1.0 Clients and PoC V1.0 Service Infrastructures offering the PoC V1.0 functionality.	PoC V2.0
FUNC-IOP-002	While connected to the PoC V1.0 Network PoC V2.0 Clients SHALL support the PoC V1.0 functionality.	PoC V2.0

Table 63: Interoperability

6.1.21 Privacy

No other privacy related requirements than already described in the above subclauses.

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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 2.0 History

Document Identifier	Date	Sections	Description
OMA-REQ-2004-0971-RD_PoC-V2_0_Baseline.doc	27 Oct 2004	Title, 1, 2.1, 4 and 6.4.1	Clean up and approval os Baseline Doc as initial input
Draft Versions: OMA-RD-PoC-V2_0	14 Feb 2005	Appendix B added	According to the decisions taken at the Frankfurt meeting February 2005 in the new appendix B potential requirements, coming from individual contributions, are collected. The aim is to consolidate these potential requirements, prioritize them and then move them to the requirements section as appropriate.
	17 Mar 2005	3.2, Appendix B	Editor's suggestion for preliminary text in 3.2 Additional input in Appendix B as decided in Conference Calls on Feb. 23rd and March 9th
	2 Apr 2005	Appendix B	Additional input to Appendix B as decided in Conference Calls on March 23rd
	16 Apr 2005	Appendix B	New structure of Appendix B according to decision taken in Singapore meeting
	20 May 2005	Appendix B	A.) corrects a problem with the clean version of OMA-RD_PoC-V2_0-20050416-D (OMA-REQ-2005-0187R03-PoC2 did not show in the clean version, however it was contained in the 'changebar' version) B.) contains updates to Appendix B as decided in Conference Calls on Aprill 11th (OMA-REQ-2005-0235R01-PoC2 B.2.3 requirement consolidation)
	10 Jun 2005	Appendix B	Changes according to conference calls on May 25th and June 1st. Contains: === from May 25th === OMA-REQ-2005-0213R02-LATE-PoC2-unload-speed-of-media OMA-REQ-2005-0236-POC2-B.2.9-Prioritization-consolidation === from June 1st === OMA-REQ-2005-0262R04-POC2-B.2.3.4-requirement-consolidation OMA-REQ-2005-0265R02-PoC2-B.2.4-requirement-consolidation OMA-REQ-2005-0271R02-LATE-PoC2-combined-policy-requirements
	02 Jul 2005	3.2 Appendix B	Changes according to theSan Diego meeting OMA-REQ-2005-0200R02-PoC2-Requirement-Charging OMA-REQ-2005-0241R03-PoC2_B.2.7_Dispatcher OMA-REQ-2005-0255R02-PoC2-UC-PoC-Session-Control-for-Crisis-Handling OMA-REQ-2005-0261R04-POC2-B.2.3.2-requirement-consolidation OMA-REQ-2005-0296R02-LATE-PoC2-B.2.11-filtered-PoC-Groups OMA-REQ-2005-0312R01-Update-of-PoC-2-Requirements-Definitions OMA-REQ-2005-0313R03-POC2-B.2.8-floor-control-enhancements OMA-REQ-2005-0314R01-PoC2-B.2.12-Interworking OMA-REQ-2005-0315R03-PoC2-B-2-6-Requirement-Consolidation OMA-REQ-2005-0316R02-PoC2-B.2.13-Requirement-Consolidation OMA-REQ-2005-0364R01-LATE-PoC2--Interworking-Introduction Note: Not all changes, that were agreed at the San Diego meeting are yet included in this version because not all requested revisionswere yet available.
	05 Aug 2005	All	Changes according to the San Diego Meeting OMA-REQ-2005-290R01-PoC2-PoCBox OMA-REQ-2005-323R01-PoC2-MEDIA-consolidated-requirements

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Document Identifier	Date	Sections	Description
			OMA-REQ-2005-0343R01-PoC-warning-header-language OMA-REQ-2005-0344R01-User-Alert-Talk-Burst-Revocation Changes according to Conference Call of 30.06.2004 OMA-REQ-2005-0330r1-PoC2 requirement for expanding duration of speaking.doc Changes according to Conference call of 07.07.2005 OMA-REQ-2005-328R02-additional-requirements-for Queue-reset Changes according to Conference call of 21.07.2005 OMA-REQ-2005-0337R01-PoC-Talk-Priority-Enhancements.doc Changes at the Vienna meeting: OMA-REQ-2005-0296R05-PoC2-B.2.11-filtered-PoC-Groups OMA-REQ-2005-0297R01-POC2-B.1-Potential-high-level-functional-requirements. OMA-REQ-2005-0347R02-PoC2-Requirements-Split-and-Merge OMA-REQ-2005-0362R02-continuous-checking-for-Session-barring. OMA-REQ-2005-0376R05-PoC2-B.2.12-Interworking OMA-REQ-PoC2-2005-0004R01-Multiple-PoC-sessions-in-active OMA-REQ-PoC2-2005-0027R01-session-barring-issues OMA-REQ-PoC2-2005-0028R01-PoC2-Use-Case-QoE-profiles OMA-REQ-PoC2-2005-0029R03-PoC2-media-with-other-voice-enablers OMA-REQ-PoC2-2005-0030R02-Enhanced-Session-Establishment1 OMA-REQ-PoC2-2005-0031R02-Enhanced-Session-Establishment2 OMA-REQ-PoC2-2005-0053R01-B.1.1-backward-compatibility--was-298R03 OMA-REQ-PoC2-2005-0055R01-B.2.3.4-addition-to-barring-was-387R01 OMA-REQ-PoC2-2005-0056R01-B.2.6-Re-wording-titles OMA-REQ-PoC2-2005-0057R01-Some-corrections-to-dispatching OMA-REQ-PoC2-2005-0058-B.2.11-Re-wording-the-title OMA-REQ-PoC2-2005-0059R01-Media-Burst-Definition
	02 Sep 2005	All	Specification changed to new RD template, using the new table format. Included agreed revisions that became available OMA-REQ-PoC2-2005-0007-B2.1--Consolidation-for-PoC-2-Media OMA-REQ-2005-0329R02-PoC2-use-case-for-PoC-voting Changes at the Montreal meeting: Included changes that were agreed in Montreal at presentation of OMA-RD_PoC-V2_0-20050805-D: OMA-REQ-2005-PoC2-0119R02-PoC-Interworking-Charging OMA-REQ-PoC2-2005-0032R03-End-Session-Policy-Enhancement OMA-REQ-PoC2-2005-0064-was-0307R02-POC2-B 2 10-mcast OMA-REQ-PoC2-2005-0067R01-consolidation_multiple-PoC-Sessions-in-active OMA-REQ-PoC2-2005-0069-B.2.12-Interworking-Service-Nomenclature-Change OMA-REQ-PoC2-2005-0081R01-Requirement-addition-to-337R01-in-Appendix OMA-REQ-PoC2-2005-0082R03-Some-editorial-changes-to-RD-20050805 OMA-REQ-PoC2-2005-0083R05-PoC2-UC-and-Requirements-for-Invoking-PoC-Client-and-Initiating-PoC-Session-While-Browsing OMA-REQ-PoC2-2005-0097R03-Interworking-with-Voice-enabled-IM--Use-Case-and-Requirements OMA-REQ-PoC2-2005-0073R01-SpecificationText_InvitationReservation OMA-REQ-PoC2-2005-0093R01-B.2.6-Consolidation-of-Seamless-Session-Transfer-Requirement OMA-REQ-PoC2-2005-0098R01-Editors_proposal_for_PoC2_RD_enhancements
	20 Sep 2005	All	Changes according to Conference call of 11. 08. 2005:

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Document Identifier	Date	Sections	Description
			OMA-REQ-PoC2-2005-0054R03-PoC2-Requirements-LI-Lawful-Interception OMA-REQ-PoC2-2005-0060R01-Consolidation-of-B.2.13 Changes after email approval following the Montreal meeting: OMA-REQ-PoC2-2005-0078R02-Media-Burst-Requirement Changes according to Conference call of 1. 09. 2005 OMA-REQ-PoC2-2005-0102R02-B2.9.2-Consolidation--prioritization-and-pre-emption- OMA-REQ-PoC2-2005-0117R01-Full-Duplex Changes agreed during Seoul meeting on 12. September OMA-REQ-PoC2-2005-0118R01-Charging-requirements OMA-REQ-PoC2-2005-0123R01-Editor_Proposal_2_for_RD_enhancement OMA-REQ-PoC2-2005-0126R01-Dispatcher-section-clean-up OMA-REQ-PoC2-2005-0129R01-Clarification-of-international-charging OMA-REQ-PoC2-2005-0132R01-PoC-Group-policies-purpose OMA-REQ-PoC2-2005-0134R01-Consolidation-for-Man-machine-PoC-Session-Release-Policies OMA-REQ-PoC2-2005-0135R01-Remaining-Talk-Time-Notification-for-Advanced-Revocation-Alert OMA-REQ-PoC2-2005-0094R03-Automatic-notification-of-limited-participant-information OMA-REQ-PoC2-2005-0046R03-Multiple-PoC-Clients- OMA-REQ-PoC2-2005-0108R02-granted-revoke-time-indication OMA-REQ-PoC2-2005-0140R02-B.2.1-New-media-types-for-PoC-2 OMA-REQ-PoC2-2005-0145R01-Enhanced-PoC-Session-Control---B.2.6-Requirements-Consolidation OMA-REQ-PoC2-2005-0146R01-PoC-Interworking-Charging-Requiremetns OMA-REQ-PoC2-2005-0153R01-LATE-PoC-Session-Priority-definition-and-extra-requirement OMA-REQ-PoC2-2005-0154-LATE-Enhancements-to-2.6.2---Full-Duplex-Call-Follow-on-Proceed OMA-REQ-PoC2-2005-0157R01-was-0064-POC2-B.2.10-mcast-additional-Requirement OMA-REQ-PoC2-2005-0075R03-Alert-for-unavailable-POC-users OMA-REQ-PoC2-2005-0113R02-media-burst-life-time OMA-REQ-PoC2-2005-0133R01-session-barring-editors-notes OMA-REQ-PoC2-2005-0144R01-B-2.14-others-consolidation OMA-REQ-PoC2-2005-0034R04-Calling-Line-Identification-Presentation-Negotiatedly OMA-REQ-PoC2-2005-0149R02-PoC-Interworking-Security-Requirements OMA-REQ-PoC2-2005-0163-replacing-77r02-interworking-with-IVR-system OMA-REQ-PoC2-2005-0111R04-PoC-Value-Added-Service_PoC-Voting OMA-REQ-PoC2-2005-0124R02-session-barring-clarifications OMA-REQ-PoC2-2005-0137R02-PoC-external-entity OMA-REQ-PoC2-2005-0165-advanced-revocation-alert-consolidation OMA-REQ-PoC2-2005-0166-consolidation-of-B.2.12-with-97r03 OMA-REQ-PoC2-2005-0160R01-was-93-Cleaning-up-EN-B.2.6.1 OMA-REQ-PoC2-2005-0112R03-Crisis-Handling-Req-Enhancement Changes agreed during Seoul meeting on 15. September OMA-REQ-PoC2-2005-0022R04-prioritize-voice-than-new-media OMA-REQ-PoC2-2005-0079R02-usecase-for-discrete-content OMA-REQ-PoC2-2005-0106R03-Consolidation-of-B-2.8-Media-burst-control-enhancement OMA-REQ-PoC2-2005-0171-Replacing-76r02-PoC-Session-substitution

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Document Identifier	Date	Sections	Description
			In addition Tables have been split to be aligned with the Subsection-structure as agreed at the Seoul meeting Changes agreed at conference call 20. September OMA-REQ-PoC2-2005-0060R01-Consolidation-of-B.2.13 OMA-REQ-PoC2-2005-0174R01-PoC-Interworking-with-Voice-enabled-IM-to-include-Voice-Chat OMA-REQ-PoC2-2005-0172R01-moderated-PoC-Groups-framework-for-170R01 OMA-REQ-PoC2-2005-0141R02--Revision-of-0008R01--Floor-control-enhancements-and-customization OMA-REQ-PoC2-2005-0045R04-PoC2-Group-Mgmt-Enhancements OMA-REQ-PoC2-2005-0023R04-PoC-Client-PoC-Box OMA-REQ-PoC2-2005-0114R02-media-sharing-mode
	03 Nov 2005	All	OMA-REQ-PoC2-2005-0192R01-B.2.11.2 OMA-REQ-PoC2-2005-0205R03-Justication-PoC-Session_barring OMA-REQ-PoC2-2005-0198R03-Clarification-of-barring-requirements OMA-REQ-PoC2-2005-0201-POC2-IC-Consolidation-into-Main-RD-Body OMA-REQ-PoC2-2005-0199R01-editor-note_multiple_clients OMA-REQ:PoC2-2005-0179R02 OMA-REQ-PoC2-2005-0210-Moderated-PoC-Groups-drafting-output OMA-REQ-PoC2-2005-0209R02-session-barring-renamingOMA-REQ-PoC2-2005-0207-Minutes-F2F-Sydney Delete Annex B
	01 Dec 2005	All	OMA-REQ-PoC2-2005-0212R01-PoC-VGM-Use-Case OMA-REQ-PoC2-2005-0213R02-Use-case-for-PoC-Box OMA-REQ-PoC2-2005-0214R01-PoC2-PoC-Dispatcher-Use-Case-for-RD OMA-REQ-PoC2-2005-0226-Use-Case-for-Browser-Based-PoC-Client-Invocation OMA-REQ-PoC2-2005-0229R01-use-case-of-invitation-reservation OMA-REQ-PoC2-2005-0216R03-RD-clean-up-2.8.4-onward OMA-REQ-PoC2-2005-0220R01-RD-mandatory-optiona OMA-REQ-PoC2-2005-0183R03-RD-clean-up-3 OMA-REQ-PoC2-2005-0223-6.1.1-New-media-types-clarifications OMA-REQ-PoC2-2005-0224R02-PoC2-RD-PoC-Interworking-Conditionality OMA-REQ-PoC2-2005-0227R02-RD-clean-up OMA-REQ-PoC2-2005-0228R01-XDM---Presence OMA-REQ-PoC2-2005-0230R01-kill-Editor's-Note OMA-REQ-PoC2-2005-0231R01-Automatic-notification-clarify OMA-REQ-PoC2-2005-0233-Definitions-and-Abbreviations OMA-REQ-PoC2-2005-0235R01-Introduction-to-RD OMA-REQ-PoC2-2005-0240R01-Clause-6-intro-text OMA-REQ-PoC2-2005-0244R01-Clarification-in-6.1.6.6-Multiple-PoC-Sessions-in-Active OMA-REQ-PoC2-2005-0245R01-New-requirement-for-section-6.1.3.8 OMA-REQ-PoC2-2005-0264-RD-errors-in-adopting-179R02-and-190R03.zip
	26 Dec 2005	All	~~OMA-REQ-PoC2-2005-0223R01-6.1.1-New-media-types-clarifications.zip~~ OMA-REQ-PoC2-2005-0253R01-RD-reservation-inv-mandatory-optional.zip OMA-REQ-PoC2-2005-0262R01-expelling-participants-for-PoC-Dispatcher.zip OMA-REQ-PoC2-2005-0268R01-Resolve-Multiple-PoC-Clients-Ed-Notes.zip OMA-REQ-PoC2-2005-0269R01-Resolve-Moderated-PoC-Group-Ed-Notes.zip OMA-REQ-PoC2-2005-0273-Operator-Warning-Header-Correction-

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			for-Optionality.zip OMA-REQ-PoC2-2005-0274R01-Invited-Parties-Identity-Information-CR.zip OMA-REQ-PoC2-2005-0277R01-Corrections_in-several-sections.zip OMA-REQ-PoC2-2005-0281R02-Include-XML-Document-Management-Req-PoC2.zip
	11 Jan 2006	All	OMA-REQ-PoC2-2005-0241R02-Proposed-changes-to-the-Definition-table.zip OMA-REQ-PoC2-2005-0256R01-Performance-requirements-into-normative-table.zip OMA-REQ-PoC2-2005-0261R01-Small-Editorial-in-PoC-Box.zip OMA-REQ-PoC2-2005-0287-Man-Machine-Session-definition.zip
	17 Jan 2006	All	OMA-REQ-PoC2-2005-0222R01-RD-clean-up-2.12.5-onwards.zip , except FUNC-ADD-WH-002 OMA-REQ-PoC2-2005-0282R01-comments_on_190_r03.zip OMA-REQ-PoC2-2005-0270R01-editorial-corrections-to-6.1.12.5 OMA-REQ-PoC2-2005-0286-Outgoing-Condition-Based-Session-Barring-renaming.zip OMA-REQ-PoC2-2005-0255R02-RD-PoC-box-mandatory-optional.zip
	31 Jan 2006	All	OMA-REQ-PoC2-2006-0016-RD-some-small-errors-in-adopting-222R1-and-255R02.zip OMA-REQ-PoC2-2006-0017-RD-small-errors-when-adopting-270r2.zip Corrections to incorrectly adopted from 223 editor note under 6.1; Section 6.1.1: func-nmt-003; deleted, func-nmt-026 editor note deleted; func-nmt-0027 deleted "interaction with IM enabler". 286R01 adopted instead of 286.
	13 Feb 2006	All	OMA-REQ-PoC2-2006-0012-Removing-Polite-Calling.zip OMA-REQ-PoC2-2006-0022-Dynamic-PoC-Groups-use-case-was-2005-0237R04.zip OMA-REQ-PoC2-2006-0025R01-RD-mandatory-optional-post-poc-2.zip OMA-REQ-PoC2-2006-0026-RD-PoC-box-option-in-option.zip OMA-REQ-PoC2-2006-0024R01-Crisis-Handling-use-case.zip OMA-REQ-PoC2-2006-0029R01-RD-Title-change-of-MPSIA.zip OMA-REQ-PoC2-2006-0031-Removing-one-EN-in-PoC-Box.zip OMA-REQ-PoC2-2006-0020-Respecting-the-BPD-for-req-tracebility.zip OMA-REQ-PoC2-2005-0266R04-Resolve-PoC-Box-Ed-Notes.zip
	14 Feb 2006	All	OMA-REQ-PoC2-2005-0275-Optional-Priority-Access-Levels.zip
	15 Mar 2006	All	Edits to address closed comments in OMA-RD-PoC-V2_0-20060315-D-RDRR
	23 Mar 2006	All	Edits to address closed comments in OMA-RD-PoC-V2_0-20060318-D-RDRR
		All	Errors to be corrected from previous RDRR
	30 Mar 2006	All	Cover page edit to remove 'xx', and adding explanatory text to previous rows of this table.
	11 Apr 2006	All	Editorial clean up prior to TP approval
	02 May 2006	All	Editorial clean up following style comments made during R&A finishing on 20060509
	09 May 2006	All	Editorials from OPS (e-mail) + Editorial from PoC2 (e-mail) OMA-REQ-2006-0097R01-PoC2-Release-split-update-for-v2.0-and-v2.1
	10 May 2006	All	Editorials, update header of ToC, correct history box., correct numbering in tables: 11, 41, 46, & 51
	29 May 2006	All	Editorial updates and implementation of agreed CRs: OMA-POC-POCv2-2006-0424, 0425, 0427R01, 0428, 0438R01 & 0439R02
	30 May 2006	All	Editorial updates.
	20 Aug 2006	6.1.7 & 6.1.6.3	Updated according to agreed CRs: OMA-POC-POCv2-2006-602R02 & 0318R01

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Document Identifier	Date	Sections	Description
Candidate Version: OMA-RD-PoC-V2_0	23 May 2006		Conversion to candidate following TP R&A finishing on 2006-05-23
Draft Version: OMA-RD-PoC-V2_0	29 Nov 2006		Updated according to agreed CRs: OMA-POC-POCv2-1138, OMA-POC-POCv2-1147R01, OMA-POC-POCv2-1207R01
Candidate Version: OMA-RD-PoC-V2_0	19 Dec 2006	All	Conversion to Candidate following TP R&A ending 2006-12-19 (OMA-TP-2006-0416R01)
Draft Versions: OMA-RD-PoC-V2_0	27 Jun 2007	All	Inclusion of CRs: OMA-POC-POCv2-2006-0704R01 resolving OMA-TP-2006-0205-INP_Comments_POCV2_RD OMA-POC-POCv2-2006-0960 OMA-POC-POCv2-2006-1285 OMA-POC-POCv2-2006-1476 solving comments received during consistency review: A1, A4, A7, A8, A11, A13, A14, A23, A24, A25,A26, A27, A28, A35 OMA-POC-POCv2-2007-0006 solving comments A5, 6, 15, 16, 17, 20, 21, 28, 29, 41, 42, 43, 45 OMA-POC-POCv2-2007-0118R02 solving comments A36, A37, A38, A40 OMA-POC-POCv2-2007-0151 OMA-POC-POCv2-2007-0356R02 solving comment A1 OMA-POC-POCv2-2007-0429R01 solving comments A3, A34, A35 OMA-POC-POCv2-2007-0435R01 solving comment A2 OMA-POC-POCv2-2007-0471R01 solving comments A25, 30 and 31 OMA-POC-POCv2-2007-0683R01 related to comment D65 OMA-POC-POCv2-2007-0917R01 solving comment A47 OMA-POC-POCv2-2007-0933R01 solving comment A12 OMA-POC-POCv2-2007-0950-CR_RD_A46 solving comment A46 Editorial changes to references section. Editorial change: “Push to Talk over Cellular” changed to “Push to talk over Cellular”.
	20 Aug 2007	6.1.3.3, 6.1.5, 6.1.6.6, 6.1.8.2, 6.1.8.6	Inclusion of CR: OMA-POC-POCv2-2007-1086R01
Candidate Version: OMA-RD-PoC-V2_0	02 Oct 2007	All	Status changed to Candidate by TP TP ref # OMA-TP-2007-0343R01-INP_POC_V2_0_ERP_for_Candidate_Approval

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Appendix B. Levels of Priority (Informative)

3GPP TR 22.950 V6.4.0 (2005-01) defines the following five levels of priority:

Level 1 Executive Leadership and Policy Makers

Users who qualify for the Executive Leadership and Policy Makers priority will be assigned Priority 1. A limited number of PLMN technicians who are essential to restoring the PLMN networks shall also receive this highest priority treatment. Wireless carrier may assign Priority 1 to its technicians with operational responsibilities.

Level 2 Disaster Response / Military Command and Control

Users who qualify for the Disaster Response/Military Command and Control priority will be assigned Priority 2. Individuals eligible for Priority 2 include personnel key to managing the initial response to an emergency at the local, State, regional and Federal levels. Personnel selected for this priority should be responsible for ensuring the viability or reconstruction of the basic infrastructure in an emergency area. In addition, personnel essential to the continuity of government and national security functions (e.g., conducting international affairs and intelligence activities) are included.

Level 3 Public Health, Safety, and Law Enforcement Command

Users who qualify for the Public Health, Safety, and Law Enforcement Command priority will be assigned Priority 3. Eligible for this priority are individuals who direct operations critical to life, property, and maintenance of law and order immediately following an event.

Level 4 Public Services/ Utilities and Public Welfare

Users who qualify for the Public Services/Utilities and Public Welfare priority will be assigned Priority 4. Eligible for this priority are those users whose responsibilities include managing public works and utility infrastructure damage assessment and restoration efforts and transportation to accomplish emergency response activities.

Level 5 Disaster Recovery

Users who qualify for the Disaster Recovery priority will be assigned Priority 5. Eligible for this priority are those individuals responsible for managing a variety of recovery operations after the initial response has been accomplished.

NOTE: For US networks, these 5 priority levels are assigned by Office of the Manager, National Communications System (OMNCS) to key National Security and Emergency Preparedness (NS/EP) personnel in leadership positions.

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