Technical Specification Group Services and System Aspects **TSGS#14(01)00675**
Meeting #14, Kyoto, Japan, 17-20 December 2001

Source: **SA1**

Title: **CRs to 22.127 for Rel-5 for Open Service Access (OSA)**

Document for: **Approval**

Agenda Item: **7.1.3**

Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Vers	Vers New	Doc-2nd-Level
SP-010675	22.127	025		Rel-4	F	CR to TS 22.127 v 5.1.1, (Cat F R4) on Removal of Terminal Capability Change Notification	4.2.0	4.3.0	1106
SP-010675	22.127	026		Rel-5	F	CR to TS 22.127 v 5.1.1, (Cat F R5)on OSA Information Service Modification	5.1.1	5.2.0	1105
SP-010675	22.127	027		Rel-5	C	CR to TS 22.127 v 5.1.1, (Cat C R5) User Data Management Modifications	5.1.1	5.2.0	1107
SP-010675	22.127	028		Rel-5	C	CR to TS 22.127 v 5.1.1, (Cat C R5) User Data Management Security Modifications	5.1.1	5.2.0	1108
SP-010675	22.127	029		Rel-5	D	CR to TS 22.127 v 5.1.1, (Cat D R5) Editorial corrections for the Support of Presence Service	5.1.1	5.2.0	1109
SP-010675	22.127	030		Rel-5	F	CR to TS 22.127 v 5.1.1, (Cat F R5) High Level requirements concerning OSA impact on SCF´s	5.1.1	5.2.0	1111
SP-010675	22.127	031		Rel-5	C	CR to TS 22.127 v 5.1.1, (Cat C R5) Support for presence related capability functions	5.1.1	5.2.0	1112
SP-010675	22.127	032		Rel-5	C	CR to TS 22.127 v 5.1.1, (Cat C R5) Backward Compatibility	5.1.1	5.2.0	1113
SP-010675	22.127	033		Rel5	B	CR to TS 22.127 V 5.1.1 (Cat B R5) Adding IM Session Control Funct	5.1.1	5.2.0	1344

TSG-SA WG 1 (Services) meeting #14 **S1-011106**
Kobe, Japan, 5-9 November 2001 **Agenda Item:**

3GPP TSG-SA1 – OSA ad-hoc #9 ***Tdoc S1O01100***
Loipersdorf, Austria, 15 - 16 October 2001

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **025** ⌘ ev **-** ⌘ Current version: **4.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Removal of terminal capability change notification
Source:	⌘	SA1
Work item code:	⌘	OSA
Date:	⌘	09/11/2001
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	SA2 and CN5 have not been able to specify this feature in the Rel4 timeframe. CN5 has sent an LS about this to SA2 asking clarifications on the architectural aspects of this feature.
Summary of change:	⌘	Text describing notifications about changes in the terminal's capabilities is removed.
Consequences if not approved:	⌘	A requirement that is not met in the stage 2 or 3.

Clauses affected:	⌘	11, 11.1
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

11 Event Notification Function

The Event Notification Function shall allow an application to specify the initial point of contact which it is interested in. The Event Notification Function provides the necessary mechanisms which enables an application to request the notification of subscriber or network related event(s). An application may in addition request the cancellation of subscriber or network related event notification. For all subscriber related events the application shall always specify the subscriber for which the Event Notification Function is valid. Once an application has enabled the notification of event(s), the Event Notification Function shall report the event(s) until such time the application explicitly requests the termination of the event(s) notification.

When the event occurs, the application that requested the event is informed.. The notification of the event shall be accompanied by unambiguous information identifying the original request and event related data.. For example, in case of an application is interested in "message" the notification to the application shall indicate whether it is incoming or outgoing, in case of chargeable events, the application shall receive details as used at the network to create a Call Detail Record. In this case, processing in the network is not suspended after notification of the event to the application.

The Event Notification Function includes the availability of offering additional criteria to be specified by the application. The set of criteria is individual and may vary for the event requested. The detailed set of criteria available for each of the events above are described in [6].

11.1 Subscriber Related events:

- A user becomes available.

  when a subscriber registers to a network and this event is armed by an application, that application shall be notified. Registration in this sense is further detailed in chapter 12.3.1. Attach and detach applies for CS and PS.

- An initial call processing event occurs.

  when a call to or from a given user is created and this event is armed by an application, that application shall be notified.

- A message is sent or received.

  when a message to or from a given user is sent or received and this event is armed by an application, that application shall be notified.

- A chargeable event happens.

  when a chargeable event occurs for a given user and this event is armed by an application, that application shall be notified.

- The user´s status is changed.

  when a given user changes her status (e.g. from idle to busy) and this event is armed by an application, that application shall be notified.

- The user´s location is changed.

  when a given user changes her location (e.g. leaving a certain area which is "identifiable" by the network) and this event is armed by an application, that application shall be notified.

~~- The Terminal Capabilities are changed.~~

~~when the capabilities of a terminal change (e.g. when a keyboard is attached) and this event is armed by an application, that application shall be notified.~~

~~Note: The ability to support this function is dependent on the ability of a terminal (through e.g. MExE or WAP) to notify changes in its capabilities. Therefore this function will *not* be able to supply event notifications for terminals not supporting notification of their terminal capabilities.~~

TSG-SA WG 1 (Services) meeting #14
Kobe, Japan, 5-9 November 2001

S1-011105
Agenda Item:

3GPP TSG SA1 – OSA ad-hoc #9
Loipersdorf, Austria
15 - 16 October, 2001

S1O01095

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **026** ⌘ ev **-** ⌘ Current version: **5.1.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	OSA support of information services functions
Source:	⌘	SA1
Work item code:	⌘	OSA
Date:	⌘	09th November 2001
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	Clarification to OSA support for information services functions
Summary of change:	⌘	The requirement on Service Information is made clear herein. It shall be possible for OSA application to supply to and retrieve from the HE service information. The HE is not requested to broadcast this service information to anyone. Service information shall clearly indicate a category they belong to and shall be limited in their size.
Consequences if not approved:	⌘	Potential risk to misunderstand the requirement.

Clauses affected:	⌘	13.4		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	29.198
Other comments:	⌘			

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Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Begin of change

13.4 Information Services functions

The information services ~~-~~functions enable applications to supply ~~and retrieve~~ information that is available for ~~distribution~~ later retrieval from applications ~~the Home Environment, HE VASPs and/or visited networks,~~ as determined by the Home Environment.

NOTE: The HE is not requested to broadcast service information received from OSA applications to any application or user.

The HE shall be able to restrict the maximum size of information supplied by OSA applications. The information is kept in the HE for retrieval by OSA applications. The HE provides the information on OSA application request. The main purpose is to pass textual information between OSA applications.

The information itself shall clearly allow to be classified in HE-defined categories.

Examples of such ~~information~~ categories could ~~include~~ be traffic information, weather, headlines, local services, etc~~., or indeed any type of generic information that is considered useful to make available to OSA applications~~.

The following functions shall be provided:-

- **supply and update of Information:**

  - ~~——~~the application shall be able to supply and update details to the information service in order to make it available to other applications

  - this action may take place by application's own initiative, or when requested by the network

- **retrieval of Information:**

  - the application shall be able to retrieve details from the information service

~~- **notification of Information change:**~~

~~- the application shall be able to receive notifications from the information service when the details are updated:~~

~~- addition of new information;~~

~~- removal of existing information;~~

~~- upgrade of existing information;~~

~~The application shall be able to enable, disable and modify receipt of information service notifications.~~

End of change

TSG-SA WG 1 (Services) meeting #14 **S1-011107**
Kobe, Japan, 5-9 November 2001 **Agenda Item:**

3GPP TSG-SA1 – OSA ad-hoc #9 ***Tdoc S1O01104***
Loipersdorf, Austria, 15 - 16 October 2001

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **027** ⌘ ev **-** ⌘ Current version: **5.1.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	User Data Management modifications
Source:	⌘	SA1
Work item code:	⌘	OSA
Date:	⌘	09/11/2001
Category:	⌘	**C**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Incomplete requirements
Summary of change:	⌘	The entity User Profile Access Manager is removed because it seems to overlap in great deal with the OSA SCS for User Profile Management, thus the latter term is now used in line with the other features. Some more description is given for the interface requirements which should be the core contents of this section. It is not sufficient to have requirements only in the clause 10 (security requirements). Location information is left out of the User Profile figure and Access Information is added to it.
Consequences if not approved:	⌘	Incomplete requirements.

Clauses affected:	⌘	7
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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Begin of change

7 Requirements for user data management

The User Profile logically is a set of information relevant for a given user. The set of information is provided by Service Capability Servers and – if permitted – from Value Added Services. The amount of User Profile information might be distributed over various physically separated entities. The concept of distributed information is not within the scope of this specification. The detailed content of the User Profile ~~depends on the Service Capability Servers and~~ is not subject herein.

However, subscribers are able to subscribe or use services provided from Value ~~a~~Added ~~s~~Service Providers. Subscriber may customise these VAS according to their needs equally as the subscriber customise her GSM/UMTS services provided by the network operator. To avoid malicious or conflicting situations it is needed to allow VAS to access the users USER Profile. The co-existence of several services and the correct inter-working between them are founded on sufficient information about other services subscribed to.

VAS shall not be allowed to access the User Profile without permission. It is important to prevent the User Profile from malicious attacks. The OSA Framework functions restrict the applications' access to the User Profile Management (UPM) functions.

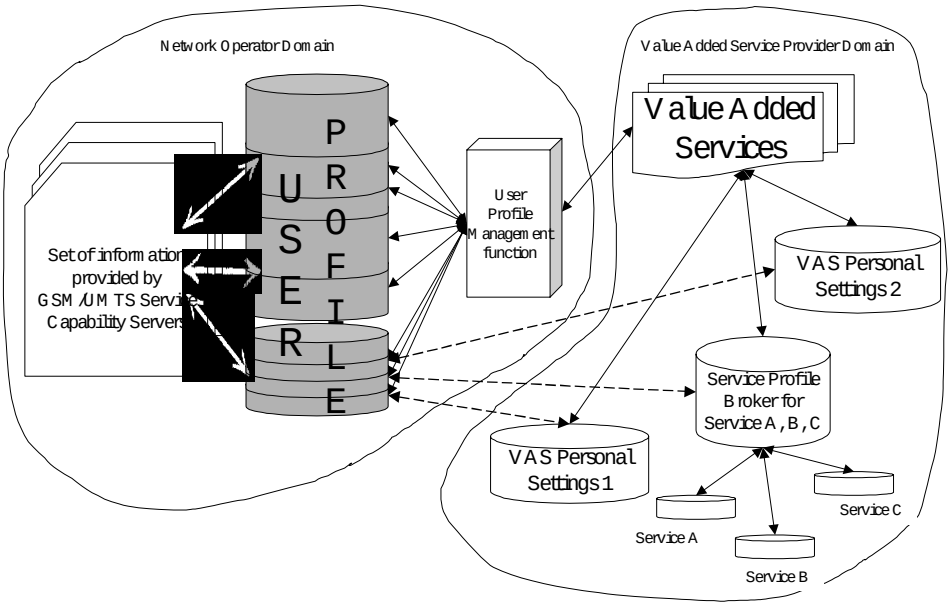
~~Therefore a User Profile Access Manager (UPAM) shall enable a VAS to access the User Profile. The User Profile Access Manager herein is defined as a network function. The realisation of the UPAM functions is out of the scope of this specification but will be detailed in the relevant stage 2 specification(s). The scope of the UAPM is to protect the User Profile, to authorise a VAS, to grant access and to observe actions performed by the VAS.~~

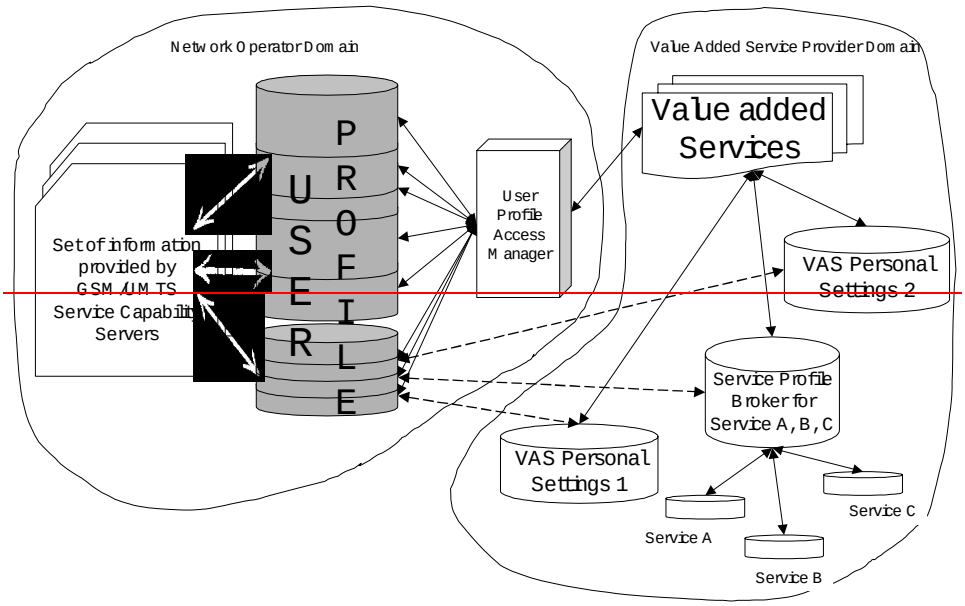
UPM functions check the application's rights to make these actions regarding each separate part of the user profile. Depending on the authorisation, ~~an UPAM~~ the User Profile Management functions may permit the VAS to read from and/or to add to and/or to modify the User Profile or parts of it. This decision is based on:

- Subscriber identity
- Access information in the User Profile of the subscriber
- Application identity
- Access type (read, add or modify)

Access information shall contain the user specific access rights per application. These may be given either for individual parts of the User Profile or for a group of data or even all data in the User Profile.

The figure below gives a~~n~~ logical overview of the relation between VAS, ~~UPAM~~ User Profile Management function and the User Profile itself.



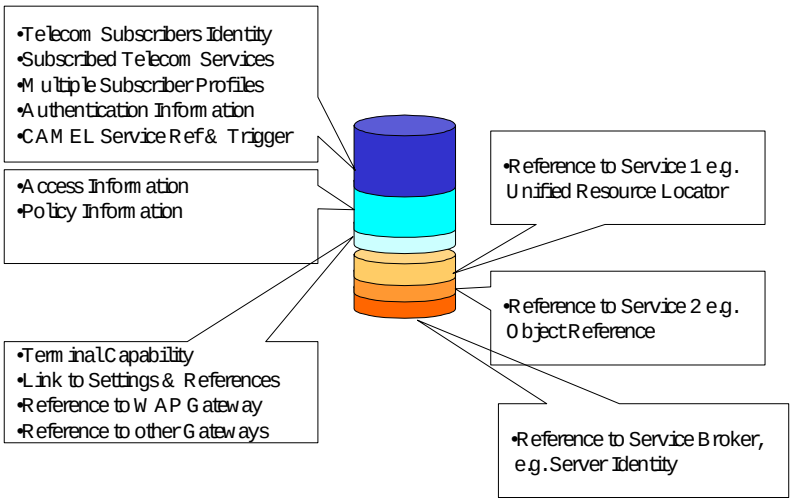


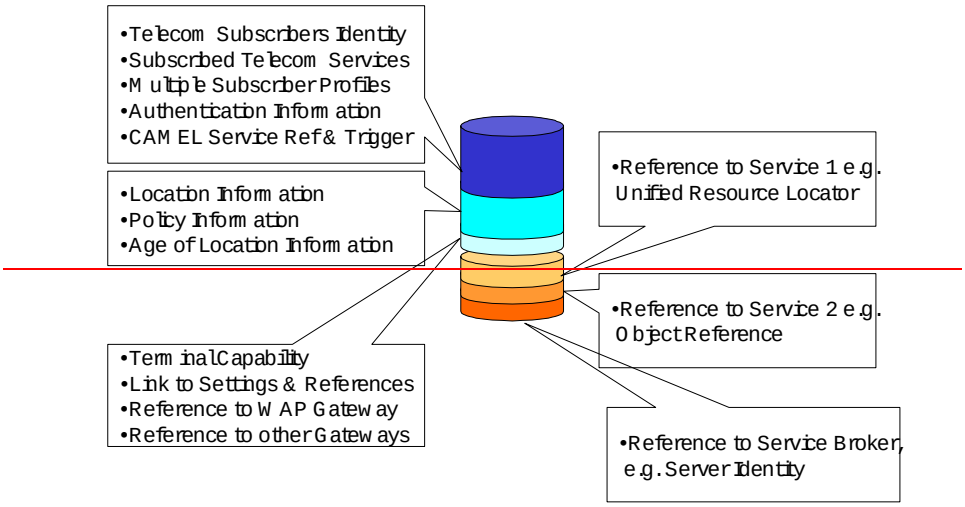
Note: the dotted line refers to additional Personal Settings. The reference itself shall unambiguously identify the location of the additional personal settings.

User specific information from the e.g. HLR and/or HSS are equally part of the User Profile as terminal settings and VAS specific preferences. The User Profile in principle is the summary and collection of information with a relevance for the services supported for a given subscriber.

The figure above shows User and Network Service and VAS specific information, customised by the user. It is assumed that the user profile consists of several parts. The User Profile elements shall at least be capable to store a reference to additional information stored else where. The User Profile shall act as a root towards all user specific information.

Even when the content of the User Profile is outside this specification, the following figure shows how a content could look like.





On the left side of the figure above, typical GSM/UMTS information are listed (this is not an exhaustive list).

The right side depict references to VAS specific information. The representation of references to VAS specific information above, is an example and does not insist to be complete.

End of change

TSG-SA WG 1 (Services) meeting #14 **S1-011108**
Kobe, Japan, 5-9 November 2001 **Agenda Item:**

3GPP TSG-SA1 – OSA ad-hoc #9 ***Tdoc S1O01105***
Loipersdorf, Austria, 15 - 16 October 2001

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **028** ⌘ ev **-** ⌘ Current version: **5.1.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	User Data Management security modifications
Source:	⌘	SA1
Work item code:	⌘	OSA
Date:	⌘	09/11/2001
Category:	⌘	**C**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
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Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Incomplete requirements
Summary of change:	⌘	The entity User Profile Access Manager is removed because it seems to overlap in great deal with the OSA SCS for User Profile Management, thus the latter term is now used in line with the other features. The requirements are rewritten in a more unambiguous way.
Consequences if not approved:	⌘	Incomplete requirements.

Clauses affected:	⌘	10.1
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications
	⌘	
Other comments:	⌘	

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Begin of change

10 Security requirements

10.1 Security requirements on User Profile ~~Access m~~Management

~~An application shall be enabled to access User Profile data as long as permission is granted by the User Profile Access Manager..~~ The User Profile ~~Access Manager~~ Management functions shall be able to~~:~~ grant or deny access to individual parts of the subscriber's User Profile as described in the clause 7.

~~- verify authorised access to the requested parts of the User Profile for a given application and User~~

~~- identify the type of access which is requested,~~

~~- elaborate the access rights for the request,~~

~~- permit dedicated access,~~

~~- verify the granted access, and~~

~~- deny access requests.~~

The User Profile Management functions shall ensure that all operations on parts of User Profile data are authorized.

~~An application has to pass the framework functions prior to initiating the authorisation mechanism of the User Profile Access Manager.~~

The type of access is one out of:

- Reading user profile information; in case parts of the User profile is subject for reading it shall unambiguously be identified by the application,
- Adding information to the user profile,
- Modify existing information in the user profile.

The control of access rights are in principle on the user's discretion. The user shall have the possibility to allow or restrict the retrieval and presentation of her user related data. The mechanism how a user is able to maintain access rights is for further study.

~~Whenever an application requires access of user related data, the application shall be forced by the User Profile Access Manager and shall be enabled by the OSA SCS to identify the user before it can use the requested service capabilities.~~

~~The network shall guarantee the privacy of the user's profile data. This shall be possible based upon~~

~~a)the already defined authentication/authorisation mechanisms of the Framework~~

~~b)and additional information, provided by the application via the OSA SCS, that uniquely identifies the user.~~

End of change

TSG-SA WG 1 (Services) meeting #14 **S1-011109**
Kobe, Japan, 5-9 November 2001 **Agenda Item:**

3GPP TSG-S1 OSA Ad Hoc #9 ***S1O01110***
Loipersdorf, Austria, 15th- 16th October 2001

CR-Form-v3

CHANGE REQUEST

⌘ **22.127** **CR** **029** ⌘ rev **-** ⌘ Current version: **5.1.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Editorial corrections on the support of presence related capability functions
Source:	⌘	SA1
Work item code:	⌘	OSA
Date:	⌘	09/11/01
Category:	⌘	**D**
Release:	⌘	REL-5

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Confusing formulation
Summary of change:	⌘	Editorial correction
Consequences if not approved:	⌘	Confusing formulation remains

Clauses affected:	⌘	12.3
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

****** FIRST MODIFIED SECTION ******

12.3 Other Related Events:

- A change in the presence information.

  If one or more presence information attributes changes, and this event is armed by the application, that application shall be notified. Presence information may be associated with a user, device or service, or ~~may be a more~~any abstract entity that has the ability to report presence information.

TSG-SA WG 1 (Services) meeting #14 **S1-011111**
Kobe, Japan, 5-9 November 2001 **Agenda Item:**

3GPP TSG-S1 OSA Ad Hoc #9 ***S1O01118***
Loipersdorf, Austria, 15th- 16th October 2001

CR-Form-v3

CHANGE REQUEST

⌘ **22.127** **CR** **030** ⌘ rev **-** ⌘ Current version: **5.1.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	High level requirements concerning OSA impacts on standardised and non-standardised Service Capability Functions
Source:	⌘	SA1
Work item code:	⌘	OSA
Date:	⌘	09/11/01
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
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R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change:	⌘	TS 22.127 is unclear about whether OSA requires that the Service Capability Features, to which OSA provides access, need to be 3GPP standardised entities or not. In the past this has given rise to unclear requirements on CN5 and SA2.
Summary of change:	⌘	This CR clarifies that OSA does not require that all SCFs, to which OSA provides an API interface, need to be 3GPP standardised entities, nor that the existence of a standardised interface / protocol to communicate with that SCF is required. Thus it is permissible to e.g. build a OSA API function into a WAP gateway to retrieve terminal capabilities from terminal supporting the WAP protocol. If, on the other hand, the SCF is a 3GPP standardised entity and if a standardised interface / protocol to communicate with that SCF exists it is recommended to define a mapping of the OSA API functions to that interface / protocol.
Consequences if not approved:	⌘	Confusing formulation remains

Clauses affected:	⌘	1, 6		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	

Other comments:	⌘

****** FIRST MODIFIED SECTION ******

1 Scope

This document specifies the stage 1 requirements for realisation of an Open Service Access (OSA).

OSA enables applications to make use of network functionality through an open standardised interface (the OSA API). OSA provides the glue between applications and network functionality. In this way applications implementing the services become independent from the underlying network technology.

Applications which make use of network functionality offered through the OSA interface are not standardised by 3GPP.

The network functionality offered through the OSA interface may or may not be standardised by 3GPP.

OSA is one toolkit, amongst others, that enables certain aspects of the requirements of the Virtual Home Environment (VHE) concept to be realised.

****** NEXT MODIFIED SECTION ******

6 High level requirements to OSA

The following high level requirements apply to the OSA application programming interface (API). The standardised API shall be:

- independent of vendor specific solutions;
- independent of programming languages, operating systems, underlying communication technologies, etc. used in the service capabilities;
- secure, scalable and extensible;
- independent of the location where service capabilities are implemented;
- independent of supported server capabilities in the network;
- independent of the transport mechanism between the service capability features server and the application server;
- Access to Service Capability Features shall be realised using modern state of the art access technologies, e.g. distributed object oriented technique might be considered.;
- OSA shall be aligned as far as possible with equivalent work in other bodies, such as ETSI SPAN,Parlay and JAIN;
- OSA shall allow applications access to home network service capability features. Access to Service capability features other than those provided by the home network is not required.
- OSA does not require that SCFs, to which OSA provides an API interface, need to be 3GPP standardised entities, nor that the existence of a standardised interface / protocol to communicate with these SCFs is required. Thus it is permissible to e.g. build a OSA API function into a WAP gateway to retrieve terminal capabilities from terminal supporting the WAP protocol.

Note: If the SCF, to which OSA provides an API interface, is a 3GPP standardised entity and if a standardised interface / protocol to communicate with that SCF exists it is recommended that 3GPP defines a mapping of the OSA API functions to that interface / protocol.

TSG-SA WG 1 (Services) meeting #14 **S1-011112**
Kobe, Japan, 5-9 November 2001 **Agenda Item:**

3GPP TSG-S1 OSA Ad Hoc #9 ***S1O01119***
Loipersdorf, Austria, 15th- 16th October 2001

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **031** ⌘ ev **-** ⌘ Current version: **5.1.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Clarifications on the support of presence related capability functions
Source:	⌘	SA1
Work item code:	⌘	OSA
Date:	⌘	09/11/2001
Category:	⌘	**C**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ The current description of the capabilities offered through the OSA interface are not sufficiently clear. Presence related functions include presence information as defined by the presence service and may include user's availability. An OSA application may be a requester of presence information (i.e. in TS 22.141 terminology a watcher) as well as a provider of presence information (i.e. in TS 22.141 terminology a presentity). In addition, the OSA interface shall allow an application to read and/or modify any properties of presentities or watchers that fall within the presence service but is not part of presence information (e.g. access rules).

As a result, the OSA interface must be able to:
- allow an application to request presence related information (including periodic notifications or changes)
- allow an application to update presence related information
- register as a presentity as well as a watcher (the latter is FFS as this is not yet covered in TS 22.141)
- allow an application to modify or query presence related data
- allow an application to retrieve watcher information

Summary of change: ⌘ The definition section is updated in order to refer to definitions existing in TS 22.141.

Authorisation performed by the Presence Service has been clarified. New OSA function has been added to support the retrieval of Watcher Information used within the Presence Service.

Removal of the ability to create and delete a presentity. This is now replaced by

		the registration of presentities as well as watchers. In general presence information is replaced by a more generic term “presence related information”. The term presence information is used exclusively for presentities and watchers as defined by 22.141. Presence related information includes presence information and availability. Clear text to indicate that an application may act as watcher or presentity. In general, an OSA application may perform any action deemed applicable by a watcher and/or presentity as described in TS 22.141. An application may also query or modify availability preferences as well as the policies associated with the evaluation of the availability.
Consequences if not approved:	⌘	

Clauses affected:	⌘	3.1, 3.2, 12.3, 13.5			
Other specs affected:	⌘	**X**	Other core specifications	⌘	29.198
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

****** FIRST MODIFIED SECTION ******

3 Definitions and abbreviations

3.1 Definitions

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

Access Rules: For the definition see [7].

Applications: software components providing services to users by utilising service capability features.

Application Interface: standardised Interface used by applications to access service capability features.

Availability: a property of a user denoting his/her ability and willingness to communicate based on factors such as the identity or properties of the requester of the information and the preferences and/or policies that are associated with the user. This property may be computed through information available from various capabilities within the network including (but not necessarily) the presence service.

Call: A logical association between several users (this could be connection oriented or connection less). This pertains to the CS CN domain, the PS CN domain and the IP Multimedia Subsystem.

Charging: A function whereby information related to a chargeable event is formatted and transferred in order to make it possible to determine usage for which the charged party may be billed.

HE-VASP: Home Environment Value Added Service Provider. For the definition see [3]

Home Environment: For the definition see [3]

Local Service: For the definition see [1]

Personal Service Environment: For the definition see [1]

Policy: is a formalism that may be used to express business, engineering or management criteria. A policy is represented by a set of rules. Rules are expressed as condition(s)-actions(s) pairs. When the conditions associated with a rule are satisfied the associated actions are executed.

Note: Policies created by applications are matched against the policies of a Network.

Policy Event : A policy event is associated with the action part of designated rule(s). The event is generated when the action part is executed.

Policy Management: is the capability to create, modify and delete policy related information, including policy events.

Policy Enabled Service: is a Service which has some or all of its properties expressed in terms of policy rules. E.g. Charging Service wherein charging criteria are expressed in terms of policy rules

Policy Decision Point: A function of the network where the applicable policy is chosen.

Policy Enforcement Point: A function of the network where the chosen policy is applied.

Policy Repository: A function of the network where policies are stored.

Policy Enabled network: is a network that supports at least one instance of a Policy Repository and Policy Decision Point and Policy Enforcement Point.

Presence Service: For the definition see [7].

Presence Information: For the definition see [7].

Presence Entity (presentity): For the definition see [7].

Service Capabilities: bearers defined by parameters, and/or mechanisms needed to realise services. These are within networks and under network control.

Service Capability Feature: functionality offered by service capabilities that are accessible via the standardised application interface.

Service Provider: an organisation which delivers services to the subscriber. This can be e.g. the operator of the subscriber's Home Environment or an authorised VASP.
Note: In the context of this specification it is assumed, that at least one application providing the services of the Service Provider makes use of OSA functions

Services: a service is the user experience provided by one or more applications.

User: For the definition see [1]

Virtual Home Environment: For the definition see [1]

Watcher Information: For the definition see [7].

Further 3G related definitions are given in 3G TR 21.905 [3].

3.2 Abbreviations

For the purposes of this TS the following abbreviations apply:

API	Application Programming Interface
CAMEL	Customised Application For Mobile Network Enhanced Logic
HE	Home Environment
PSE	Personal Service Environment
VHE	Virtual Home Environment
OSA	Open Service Access
SCF	Service Capability Feature
MExE	Mobile Execution Environment

Further 3G related abbreviations are given in 3G TR~~S~~ 21.905 [3].

****** NEXT MODIFIED SECTION ******

12 Event Notification Function

The Event Notification Function shall allow an application to specify the initial point of contact which it is interested in. The Event Notification Function provides the necessary mechanisms which enables an application to request the notification of subscriber or network related event(s). An application may in addition request the cancellation of subscriber or network related event notification. For all subscriber related events the application shall always specify the subscriber for which the Event Notification Function is valid. Once an application has enabled the notification of event(s), the Event Notification Function shall report the event(s) until such time the application explicitly requests the termination of the event(s) notification.

When the event occurs, the application that requested the event is informed.. The notification of the event shall be accompanied by unambiguous information identifying the original request and event related data.. For example, in case of an application is interested in “message” the notification to the application shall indicate whether it is incoming or outgoing, in case of chargeable events, the application shall receive details as used at the network to create a Call Detail Record. In this case, processing in the network is not suspended after notification of the event to the application.

The Event Notification Function includes the availability of offering additional criteria to be specified by the application. The set of criteria is individual and may vary for the event requested. The detailed set of criteria available for each of the events above are described in [6].

12.1 Subscriber Related events:

- A user becomes available.

  when a subscriber registers to a network and this event is armed by an application, that application shall be notified. Registration in this sense is further detailed in chapter 12.3.1. Attach and detach applies for CS and PS.

- An initial call processing event occurs.

  when a call to or from a given user is created and this event is armed by an application, that application shall be notified.

- A message is sent or received.

  when a message to or from a given user is sent or received and this event is armed by an application, that application shall be notified.

- A chargeable event happens.

  when a chargeable event occurs for a given user and this event is armed by an application, that application shall be notified.

- The user´s status is changed.

  when a given user changes her status (e.g. from idle to busy) and this event is armed by an application, that application shall be notified.

- The user´s location is changed.

  when a given user changes her location (e.g. leaving a certain area which is “identifiable” by the network) and this event is armed by an application, that application shall be notified.

- The Terminal Capabilities are changed.

  when the capabilities of a terminal change (e.g. when a keyboard is attached) and this event is armed by an application, that application shall be notified.

Note: The ability to support this function is dependent on the ability of a terminal (through e.g. MExE or WAP) to notify changes in its capabilities. Therefore this function will *not* be able to supply event notifications for terminals not supporting notification of their terminal capabilities.

12.2 Network Related Events:

- A network fault management condition is met,

  when a fault management condition occurs at the underlying network (e.g. congestion of network components) and this event is armed by an application, that application shall be notified.

- A network service or network service capability de-registers,

  when a network service capability feature de-registers with the Framework all applications which are currently authorised to use this service capability feature shall be notified.

12.3 Other Related Events:

- A change in ~~the~~ presence related information.

  If any presence related information changes (such as one or more presence information attributes ~~changes~~or a user’s availability), and this event is armed by the application, that application shall be notified. Presence

information may be associated with a user, device or service, or may be a more abstract entity that has the ability to report presence information.

****** NEXT MODIFIED SECTION ******

13.5 Presence related capability ~~Service~~ functions

~~OSA shall enable the management of presence entities (i.e. presentity) in the presence service. The following management functions shall be supported:~~

The OSA interface shall allow an application access to presence capabilities within the network. Presence related information may be requested or supplied by an OSA application and may include, but not limited to presence information pertaining to the presence service as described in [7] or user availability.

An OSA application may act as a requester of presence information (i.e. act as a watcher) and/or act as a supplier of presence information (i.e. act as a presentity). All the capabilities offered to presence service watchers and presentities are described in [7] and may be offered to OSA applications. In addition to the authorisation performed by the OSA Framework, the presence service checks that the application is permitted to access the presence service.

An OSA application may manage or query availability status and/or preferences of a user which may be associated with one or more services (e.g. voice call, IMS sessions, MMS …etc.). Such availability may be determined from a range of existing capabilities.

The following OSA capabilities shall be supported for an application:

- **register as a presentity and/or watcher:**

  - the application shall be able to request the registration as a presentity and/or as a watcher in the presence service. This registration shall include the ability to establish as well as cancel a registration.

Note : Registration of a watcher is not covered in TS 22.141 and hence FFS.

- **supply presence related information to the network:**

  the application shall be able to supply and/or update presence related information (presence information or availability) at any time. An application may modify the availability of a user.

- ~~**presentity creation:**~~

  - ~~the application shall be able to request the creation of a presentity. The application shall be able to supply all attributes of the presentity as well as any access rules pertaining to the presentity to be created.~~

- ~~**presentity**~~ **request the querying and/or modification of presence related data:**

  - the application shall be able to request the querying and/or modification of data other than ~~-~~ presence information related to watchers and/or presentities~~.~~. Such data includes, but is not limited to ~~. The application shall be able to modify any attributes of the presentity as well as~~ any access rules pertaining to the presentity to be modified. An application may be able to request the management of availability preferences of a user. Management includes the setting, modification and deletion of availability preferences.

- **request Presence related Information ~~presentity watch~~:**

  - the application shall be able to request presence related information. T~~t~~he application shall be able to request presence information about a presentity or may request the availability of a user. ~~This~~ Such requests may be for the current information, on a periodic basis or for future changes in the ~~presentity's~~ presence related

information (e.g. arming of event notifications). ~~An application may only request presence information of a presentity for which it is allowed to do so.~~

- ~~**presentity deletion:**~~

  - ~~the application shall be able to request the deletion of a presentity.~~

- **retrieve watcher information:**

  - the application shall be able to request watcher information about a presentity.

****** END OF DOCUMENT ******

TSG-SA WG 1 (Services) meeting #14 **S1-011113**
Kobe, Japan, 5-9 November 2001 **Agenda Item:**

3GPP TSG-S1 OSA Ad Hoc #9 ***S1O01120***
Loipersdorf, Austria, 15th- 16th October 2001

CR-Form-v3

CHANGE REQUEST

⌘ **TS 22.127** **CR** **032** ⌘ rev **-** ⌘ Current version: **5.1.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Introducing backwards compatibility requirements in OSA API
Source:	⌘	SA1
Work item code:	⌘	OSA
Date:	⌘	9/11/01
Category:	⌘	**C**
Release:	⌘	REL-5

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	The requirements introduced as part of Release 5 should build on the capabilities of previous releases. Some changes to features such as the framework may be introduced as a result. In the future, enhancements to existing capabilities may lead changes to the methods across the API interface. It is important that any evolution of the API maintains as far as possible some backward compatibility. At a minimum, applications should continue to operate after the network has been upgraded with new OSA capabilities for an operator controlled timeframe. Such backward compatibility may be achieved by the practice used in Java, called 'deprecation' to manage name changes. However, the detail of how this is achieved is left to experts in TSG CN WG5.
Summary of change:	⌘	Introduction of a high level requirement that OSA APIs should be backward compatible in release 5 and beyond.
Consequences if not approved:	⌘	Applications created for a particular OSA release may not work in future release, even though the functionality of the application has not changed.

Clauses affected:	⌘	6
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications

Other comments: ⌘	

****** FIRST MODIFIED SECTION ******

6 High level requirements to OSA

The following high level requirements apply to the OSA application programming interface (API). The standardised API shall be:

- independent of vendor specific solutions;
- independent of programming languages, operating systems, underlying communication technologies, etc. used in the service capabilities;
- secure, scalable and extensible;
- independent of the location where service capabilities are implemented;
- independent of supported server capabilities in the network;
- independent of the transport mechanism between the service capability features server and the application server;
- it shall be possible for an OSA application to continue operation in case of a consecutive upgrade of the underlying OSA capabilities. This ability to operate may be limited to a specific time period which is managed by the network operator.
- Access to Service Capability Features shall be realised using modern state of the art access technologies, e.g. distributed object oriented technique might be considered.;
- OSA shall be aligned as far as possible with equivalent work in other bodies, such as ETSI SPAN,Parlay and JAIN;
- - OSA shall allow applications access to home network service capability features. Access to Service capability features other than those provided by the home network is not required.

****** END OF DOCUMENT ******

TSG-SA WG 1 (Services) meeting #13 **S1-01344**
Kobe, Japan, 5-9 November 2001 **Revision of S1-011270**

CR-Form-v3

CHANGE REQUEST

⌘ **22.127** **CR** **033** ⌘ rev **-** ⌘ Current version: **5.1.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Adding IM Session Control functions
Source:	⌘	SA1
Work item code:	⌘	OSA
Date:	⌘	09/11/2001
Category:	⌘	**B**
Release:	⌘	REL-5

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change:	⌘	The IMS stage 1 (22.228) and the IP multimedia framework technical report (TR 22.941) document use cases for IP multimedia services. In order to support the services listed, enhancements to the current OSA capabilities within IMS are required. The CR also places all the requirements for IP Multimedia together in one section.
Summary of change:	⌘	The existing text in 13.2.2 has been moved to section 13.2.1.3 and additional IP Multimedia Session Control Functions have been added.
Consequences if not approved:	⌘	Without this CR there would be no way to perform all the IP Multimedia Call Control functions in a Release 5 IM Subsystem.

Clauses affected:	⌘	13.2.1.3, 13.2.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

13.2.1.3 IM ~~Call~~ Session Control functions

~~No requirements for this release are identified.~~

Session Control

Create Multi-media Sessions
The application shall be able to establish sessions between two or more parties with certain media capabilities. The application may add or remove parties at any time for any session. An application may add additional sessions with certain media capabilities between any parties already involved in an session. Sessions with multiple parties may lead to the creation of a Multi-media Conference Call. This can either be an ad-hoc conference creation or it can refer to resources that were reserved in advance.

Release Multimedia Sessions
This provides the ability for an application to force the release of a multimedia session. This may be limited to the release of certain parties from the session or may be the release of all the parties.

Relinquish control over session
This allows an application to relinquish control over the session.

Party join/leave control
The application shall be informed when a new call party wants to join/leave the conference. It shall be possible for the application to allow or reject the inclusion of the new party to a conference.

Presentation of, or restriction of, information associated with a party involved in a session (e.g. calling line ID, calling name);

Media Control

Control media channels
The application shall have the ability to control media channels originated by (or on behalf of) a user or media channels terminated to a user. This control includes, but is not limited to the barring of a media channel request, allowing the media channel establishment to continue with or without modified information, addition or removal of additional media channels, temporarily suspend a media channel (place on hold), open, close or modify the parameters of the media channels.

Relinquish control over specific media channels
This allows an application to relinquish control over the media stream. When it relinquishes control over certain media channels it does not lose control over the entire session.

Reserve/Free conference resources
The application shall be able to reserve resources in the network or free earlier reserved resources for a conference in advance.

Information

Request Notification of Media channel events
The application shall be able to request notification of certain events associated with a type of media channel. Events include, but not limited to: a user initiating or closing a session, an incoming session request to user or a terminating user unable to accept an incoming session request.

Monitoring of Media channels
The application shall be able to request all the media channels currently available on a session In addition the application must be able to monitor the opening and closing of channels for media for a specified session.

13.2.2 ~~Multi-Media Channel Control:~~Void

~~These capabilities allow an application to control individual channels in an IP Multimedia call. An application shall be enabled to:~~

- ~~Be notified on Media channel events~~
  ~~OSA shall enable an application to be notified when a certain type of media channel is opened or closed. This may be dependent on additional criteria (tbd.)~~

- ~~Monitor Media channels~~
  ~~OSA shall enable an application to request information on all the media channels currently available on a call. In addition the application must be able to monitor on the opening and closing of channels for media for a specified call.~~

- ~~Open/Close/Modify Media channels~~
  ~~OSA shall enable an application to open, close and modify the parameters of a media channel on a certain call.~~

- ~~Reserve/Free conference resources~~
  ~~OSA shall enable an application to reserve resources in the network or free earlier reserved resources for a conference in advance.~~

- ~~Create Multi-media Conference~~
  ~~OSA shall enable an application to create an Multi-media Conference Call. This can either be an add-hoc conference creation or it can refer to resources that were reserved in advance~~

- ~~Party join/leave control~~
  ~~OSA shall enable an application to be informed when a new call party wants to join/leave the conference. It shall be possible to attach the call leg to the conference or reject the join~~