Technical Specification Group Services and System Aspects
Meeting #15, Cheju Island, Korea, 11-14 March 2002

TSGS#15(02)0054

Source: SA1

Title: CRs to 22.127 Rel-5 on various OSA issues

Document for: Approval

Agenda Item: 7.1.3

SA Doc	Spec	CR	Rev	Phase	Cat	Subject	Old Vers	New Vers	SA1 Doc
SP-020054	22.127	034		Rel-5	D	Editorial Corrections	5.2.0	5.3.0	S1-020267
SP-020054	22.127	035		Rel-5	B	OSA use cases	5.2.0	5.3.0	S1-020268
SP-020054	22.127	036		Rel-5	C	CR on Network Capability Retrieval	5.2.0	5.3.0	S1-020269
SP-020054	22.127	037		Rel-5	F	Clarification of OSA functions related to user´s status	5.2.0	5.3.0	S1-020270
SP-020054	22.127	038		Rel-5	F	CR to 22.127 R5 on Correction of Service Capability Feature to SC Server	5.2.0	5.3.0	S1-020271
SP-020054	22.127	039		Rel-5	C	CR on Charging Requirements	5.2.0	5.3.0	S1-020283
SP-020054	22.127	040		Rel-5	F	Security requirements on User Profile Management	5.2.0	5.3.0	S1-020338
SP-020054	22.127	041		Rel-5	C	CR to 22.127 R5 on Charging Requirements	5.2.0	5.3.0	S1-020591

TSG-SA WG 1 (Services) SWG OSA #10 **S1-020267**
Phoenix, USA, 14-15 January 2001

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **034** ⌘ ev **-** ⌘ Current version: **5.2.0** ⌘

*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 **X**

Title:	⌘	Editorial Corrections
Source:	⌘	SA1
Work item code:	⌘	OSA1
Date:	⌘	15/01/02
Category:	⌘	**D**
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:	⌘	Removes inconsistencies in the Technical Specification.
Summary of change:	⌘	- The term “above” is used instead of “below” in section 12. - A reference to a chapter, which has been renumbered in R5, is modified. - The word “respectively” is misused in chapter 13.2.3.
Consequences if not approved:	⌘	

Clauses affected:	⌘	12, 12.1, 13.2.3		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	No impacts identified on other working groups		

How to create CRs using this form:

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

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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.

First 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 below~~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 the chapter on User Status Functions. ~~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 presence related information.

If any presence related information changes (such as one or more presence information attributes 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 any abstract entity that has the ability to report presence information.

Next Modified Section

13.2.3 Information Transfer function

The Information Transfer function shall enable an application to indicate to a user, or to ~~respectively~~ an application in the UE or USIM about the presence of existing information for the user~~her~~. Physically, this indication may be sent by the underlying network e.g. as a SMS or USSD message to the terminal. The Information Transfer function provides the means to inform the underlying network that an indication shall be sent to the user.

NOTE: For 3G release 99 mechanisms like USSD or SMS may be employed to transfer the indication to the user's terminal.

The following functions shall be supported:

- **send information notification:**
  - the Send information notification function provides the means to inform the underlying network that an indication shall be sent to a user, or to ~~respectively~~ an application in the UE or USIM about the presence of existing information for the user~~her~~;
- **request message receipt notification:**
  - the application can request to receive a notification every time a message is received in the mailbox for the user. This allows the application to take the appropriate action, e.g. informing the user.

End of Document

TSG-SA WG 1 (Services) meeting #15 **S1-020591**

Saalfelden, Austria, 11-15th February 2002 **Agenda Item: 10.10**

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **041** ⌘ ev **-** ⌘ Current version: **5.2.0** ⌘

*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:	⌘	CR on OSA Charging Requirements (security related)
Source:	⌘	SA1
Work item code:	⌘	OSA1
Date:	⌘	13/02/02
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:	⌘	For security reasons it is necessary that OSA supports a procedure that enables an application to ask the charged user for an explicit, interactive confirmation before any charging operation is performed.
Summary of change:	⌘	Addition to OSA General Account functions: The above mentioned requirement is stated
Consequences if not approved:	⌘	User unfriendly service behaviour, possibly security risk.

Clauses affected:	⌘	13.4.2
Other specs Affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Impact on TSGs: This CR has an impact on CN5, however work in this SWG is already ongiong

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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.

First Modified Section

13.2.4 Charging functions

Call and Event Charging

Call and Event Charging functions enable the application to instruct the network and inform the user with charging information and to add some additional charging information to the network generated Call Detail Records. Some of the following charging facilities are available only if the network either controls the account or has access to it.

The OSA Call and Event Charging function shall enable an application to:

- define and manage thresholds (e.g. session duration, data volume) for a call;
- provide additional charging information to be included in the Call Detail Record. This may contain information transparent to the network;
- transfer Advice of Charge data (as defined in [5]) to the terminal.

Service Usage

These charging functions shall enable applications to augment subscriber accounts maintained by the network and to charge subscribers for using services. These applications are not necessarily telecommunication related. In addition to charging subscribers for service usage, these functions could also be used for payments in an online purchase scenario.

Provided, that these functions are supported by the underlying network an application shall be able to:

- Check, if – for the service to be provided by the application – the charge is covered by the subscribers account or credit limit
- Reserve – for the service to be provided by the application – a charge in the subscribers account, that can be deduced from the account after service delivery.
- Deduct an amount from the subscriber's account. If a reservation has been made earlier, this amount should be taken from the reserved amount.
- Release a reservation acquired earlier. If part of a reservation has been deducted already, just release the remaining reservation.
- Add non-monetary units to a subscriber's account.
- Deduct non-monetary units from a subscriber's account.
- Reverse a completed charge transaction, e.g. after repudiation.

The functions for charging application usage shall meet the following general requirements:

- Hide payment policy (e.g. prepaid/postpaid) from applications
- Hide payment type (credit card, cash, bank withdrawal) from applications
- Hide subscriber's identity towards the application. This would provide anonymity (like for prepaid customers).
- Support prepaid subscribers. This requires that the application immediately gets informed if the subscriber's account covers the service usage costs. If not, the application may reject serving the subscriber.
- Allow for Multi-currency support. This shall allow service providers to request charging in their preferred currency

General Account functions

These functions provide access to sensitive data. They shall be restricted to client applications that had been granted additional privileges via suitable means, i.e. as authorised by the framework function.

The OSA general Account function shall enable an application to:

- retrieve a transaction history of a subscriber's account, this may include
  - the retrieval of a list of monetary or non-monetary amounts that have been debited from or credited to a subscribers online account,
  - the request of additional information on the specific transaction (e.g. the application or service description provided with the actual transaction).
- check a subscriber's current account balance.
- monitor the subscribers account and may request to get informed of any change.
- ask the charged user for an explicit, interactive confirmation before any charging operation is performed. The General Account function will support a procedure to obtain confirmation by the user. Such a procedure shall be under the control of the network.
  Note: There is no requirement to standardise this procedure.

In case an application retrieves a list for a subscribers' transaction history, it shall specify the time interval for which the transaction history shall be retrieved.

End of Document

TSG-SA WG 1 (Services) meeting #15 **S1-020338**
Saalfelden, Austria, 11-15th February 2002 **Agenda Item: 10.10**

CR-Form-v4

CHANGE REQUEST

⌘ **22.127 CR 040** ⌘ ev **-** ⌘ Current version: **5.2.0** ⌘

Spec Title: Stage 1 Service Requirement for the Open Service Access (OSA) ⌘

*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: ⌘	Security requirements on User Profile Management	
Source: ⌘	SA1	
Work item code: ⌘	OSA	***Date:*** ⌘ 31 January 2002
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: ⌘	Incorrect implementation of CR 028 in SP-010675.
Summary of change: ⌘	Subclause 10.1 is deleted and subclause 10.2 is renumbered to 10.1.
Consequences if not approved: ⌘	Confusion about possibly missing text in subclause 10.1.

Clauses affected: ⌘	10.1, 10.2		
Other specs affected: ⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments: ⌘	No affect to other working groups.		

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Begin of change

10 Security requirements

~~10.1 Security requirements on User Profile Access management~~

10.1~~2~~ Security requirements on User Profile Management

The User Profile 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.

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

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.

End of change

SA1 OSA Adhoc #10 **S1-020283**
Phoenix, USA, 14-18 January 2001

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **039** ⌘ ev **-** ⌘ Current version: **5.2.0** ⌘

*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:	⌘	CR on OSA Charging Requirements
Source:	⌘	SA1
Work item code:	⌘	OSA1 ***Date:*** ⌘ 14/01/02
Category:	⌘	**C** ***Release:*** ⌘ REL-5

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R96 (Release 1996)
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R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	currently an OSA application can only deduct an amount from a single subscriber's account. For mobile commerce it is necessary to split the charge among several subscribers.
Summary of change:	⌘	OSA Charging functions for Service usage: An OSA application shall be able to request the network to split the deduction of an amount among several subscribers accounts according to a specified partitioning
Consequences if not approved:	⌘	Function for m-commerce missing

Clauses affected:	⌘	13.2.4
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Impact on other Groups: impact on TSG CN5, but work there seems to be done.

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First Modified Section

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- Reserve – for the service to be provided by the application – a charge in the subscribers account, that can be deduced from the account after service delivery.
- Deduct an amount from the subscriber's account. If a reservation has been made earlier, this amount should be taken from the reserved amount.
- Request the network to split the deduction of an amount among several subscribers accounts or other chargeable entities according to a specified partitioning. It shall be possible to notify an individual subscriber's account or other chargeable entity about the percentage of the total amount, to which the deduction has been performed Note: this requirement also covers the case when the total amount to be deduced is calculated by the network.
- Release a reservation acquired earlier. If part of a reservation has been deducted already, just release the remaining reservation.
- Add non-monetary units to a subscriber's account.
- Deduct non-monetary units from a subscriber's account.
- Reverse a completed charge transaction, e.g. after repudiation.

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- Support prepaid subscribers. This requires that the application immediately gets informed if the subscriber's account covers the service usage costs. If not, the application may reject serving the subscriber.

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  - the retrieval of a list of monetary or non-monetary amounts that have been debited from or credited to a subscribers online account,
  - the request of additional information on the specific transaction (e.g. the application or service description provided with the actual transaction).
- check a subscriber's current account balance.
- monitor the subscribers account and may request to get informed of any change.

In case an application retrieves a list for a subscribers' transaction history, it shall specify the time interval for which the transaction history shall be retrieved.

End of Document

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **038** ⌘ ev **-** ⌘ Current version: **5.2.0** ⌘

*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 **X**

Title:	⌘	Correction of “Service Capability Feature” to “network entities”
Source:	⌘	SA1
Work item code:	⌘	OSA1 ***Date:*** ⌘ 14/01/02
Category:	⌘	**F** ***Release:*** ⌘ REL-5

Use one of the following categories:
F *(correction)*
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B *(addition of feature),*
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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:	⌘	3GPP TSG CN5 has identified an incorrect wording in chapter 6, High Level Requirements. The current wording is misleading. It is proposed to adapte CN5 suggestion and reword the bullet point accordingly.
Summary of change:	⌘	Current text in the last bullet point of chapter 6, High Level Requirements, use the term Service Capability Features where Service Capability Servers would be the correct expression.
Consequences if not approved:	⌘	Text would remain incorrect.

Clauses affected:	⌘	6
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	No impact on any SWG

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Begin 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;
- It is not required that ~~SCSs~~network entities, which provide the implementation of OSA interfaces (SCFs), be mappable to 3GPP standardised functionality, nor that the existence of a standardised interface / protocol to communicate with 3GPP standardized network elements is 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~~network entity, to which OSA provides an API interface, is a 3GPP standardised entity and if a standardised interface / protocol to communicate with that network entity ~~SCF~~ exists it is recommended that 3GPP defines a mapping of the OSA API functions to that interface / protocol.

End of Document

TSG-SA WG 1 (Services) SWG OSA #10 **S1-020270**
Phoenix, USA, 14-15 January 2002

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **037** ⌘ ev **-** ⌘ Current version: **5.2.0** ⌘

*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 **X**

Title:	⌘	Clarification of OSA functions related to user's status
Source:	⌘	SA1
Work item code:	⌘	OSA1 ***Date:*** ⌘ 15/01/02
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:	⌘	The status of the user is described in the current TS as either linked with the availability (which has a specific meaning since version 5.2.0) or with the attachment/busy information. Moreover the case where a notification is sent when a user becomes busy is mentioned in clause 12, but is not detailed in section 13.3.1.
Summary of change:	⌘	- The event "user becomes available" is removed, because the availability part is now covered in section 12.3. The description of this event is moved into the event "user's status is changed". - In the User Status Function section, it is clarified that the status retrieved may indicate that the user is busy, it is added that the notification of user's status change also applied for the busy state, and it is added that the attach/detach applies for both PS and CS.
Consequences if not approved:	⌘	Inconsistencies and confusion within the Technical Specification.

Clauses affected:	⌘	12, 12.1, 13.3.1
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	No impact identified on other working groups

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

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 subscriber registers to a network or 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. Registration in this sense is further detailed in the chapter on User Status Functions. Attach and detach applies for CS and PS.~~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 presence related information.

  If any presence related information changes (such as one or more presence information attributes 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 any abstract entity that has the ability to report presence information.

Next Modified Section

13.3.1 User Status functions

The User Status functions enable an application to retrieve the user's status, i.e. to find out on which terminals the user is available.

The following functions shall be provided:

- **retrieval of User Status:**
  - the application shall be able to retrieve the status of the user ~~.~~ (e.g. the user is busy, her terminal is attached, or detached).
- **notification of User Status Change:**
  - the application shall receive notifications when the user's terminal attaches or detaches:
    - detach: the user's terminal is switched off or the network initiates detach upon location update failure;
    - attach: the user's terminal is switched on or there has been a successful location update after network initiated detach.
  - the application shall receive notifications when the user's status moves from idle to busy, or from busy to idle.

Attach and detach applies for CS and PS.

The application shall be able for each terminal to start/stop receipt of notifications.

End of Document

3GPP TSG-SA1 – OSA ad-hoc #10
Phoenix, USA, 14-15 January 2002

Tdoc S1-020269

CR-Form-v5

CHANGE REQUEST

⌘ **22.127** **CR** **036** ⌘ **rev** **-** ⌘ Current version: **5.2.0** ⌘

*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 **X**

Title:	⌘	Clarification on OSA network capabilities retrieval requirement
Source:	⌘	SA1
Work item code:	⌘	OSA1
Date:	⌘	21-12-2001
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:	⌘	Clarification on network capability retrieval OSA requirement. OSA SCS-s are always under the control of the home network operator, and it makes no sense to fetch the OSA version supported in the visited network. It makes no sense either to retrieve the list of Service Capability Servers supported by the visited network. On the other hand, some capabilities supported and advertised by the home network and which the application is allowed to access may not be available for the application at runtime, for example when the user is roaming in a network which does not supported those capabilities. Therefore, it may be useful for an OSA AS to retrieve, via an OSA SCS, the reason why network capabilities are not available for a specific user at runtime (e.g., due to roaming restrictions) and in case the user is roaming, to get more information about the visited network.
Summary of change:	⌘	Section 13.3.6 has been modified to clarify the OSA requirement on retrieval of Network capabilities.
Consequences if not approved:	⌘	Unclear OSA requirement that may hinder the stage 2 work

Clauses affected:	⌘	13.3.6
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications
	⌘	
Other comments:	⌘	No identified impact on other specifications

How to create CRs using this form:

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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.

13.3.6 Functions for retrieval of Visited Network Capabilities

OSA applications make use of network capabilities offered through the abstraction of the service capability features. As a user may be served by network capabilities in a VPLMN, applications may benefit from knowing the differences that exist between the home and visited network capabilities. Such information may provide the ability for an application to tailor its behaviour according to the capabilities of the visited network.

The functions for retrieval of Visited Network Capabilities shall enable the application to obtain information about ~~discover~~ the network capabilities of the ~~serving~~ visited network serving~~of~~ a subscriber.

The i~~I~~nformation provided to the application shall contain the following ~~information~~, if available:

- Available network toolkits, including level of support (e.g. CAMEL Phase X)~~, OSA version Y),~~

~~Available Service Capability Servers (e.g. SMSC, CSE),~~

- Supported Network access, (e.g. GPRS, CS, IMS), and in case of no support, detailed information (unknown support, roaming not allowed, …).

TSG-SA WG 1 (Services) SWG OSA #10 **S1-020268**
Phoenix, USA, 14-15 January 2002

CR-Form-v4

CHANGE REQUEST

⌘ **22.127** **CR** **035** ⌘ ev **-** ⌘ Current version: **5.2.0** ⌘

*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:	⌘	Use Cases Annex
Source:	⌘	SA1
Work item code:	⌘	OSA1
Date:	⌘	15/01/02
Category:	⌘	**B**
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:	⌘	Clarify how the OSA functions can be used to build a service.
Summary of change:	⌘	A service scenario is described and for each of the service steps the OSA functions used are detailed.
Consequences if not approved:	⌘	

Clauses affected:	⌘	Annex
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	No impact identified on other working groups

How to create CRs using this form:
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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.

- Annex A (informative) : Use cases

This informative annex describes how the OSA functions described in the normative section of this document could be used to deploy enhanced multimedia services.

Service Scenario Description

The service scenario described below is the following: a user has subscribed to a tourist board information service, and each time he will enter a new interesting location the service provider will offer him to watch a video showing the main attractions of the area. The service is charged 1 Euro per movie.

Step by step description

Note: The following description does not imply any physical location of the different functions, or any mapping between the SCFs and the network capabilities. The processes internal to the different entities are not detailed.

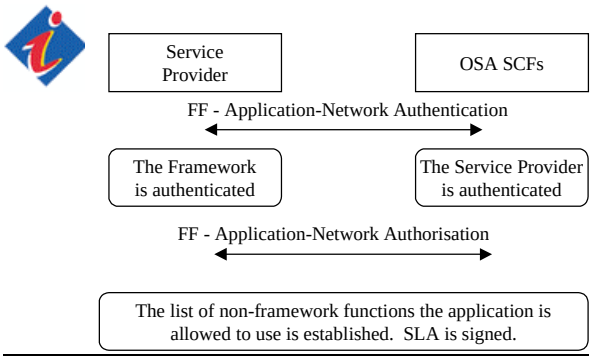
FF: Framework Function

NF: Network Function

UF: User data related Functions

Step 1: On-line Service Level Agreement

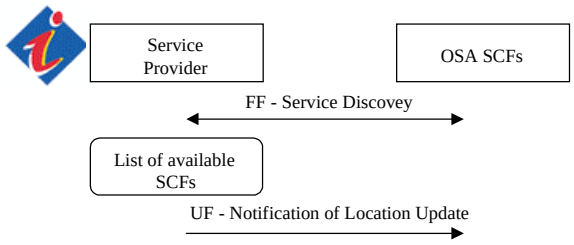
This step is intended to sign an on-line service level agreement (SLA) between the information service and the framework.



Step 2: Service initialisation

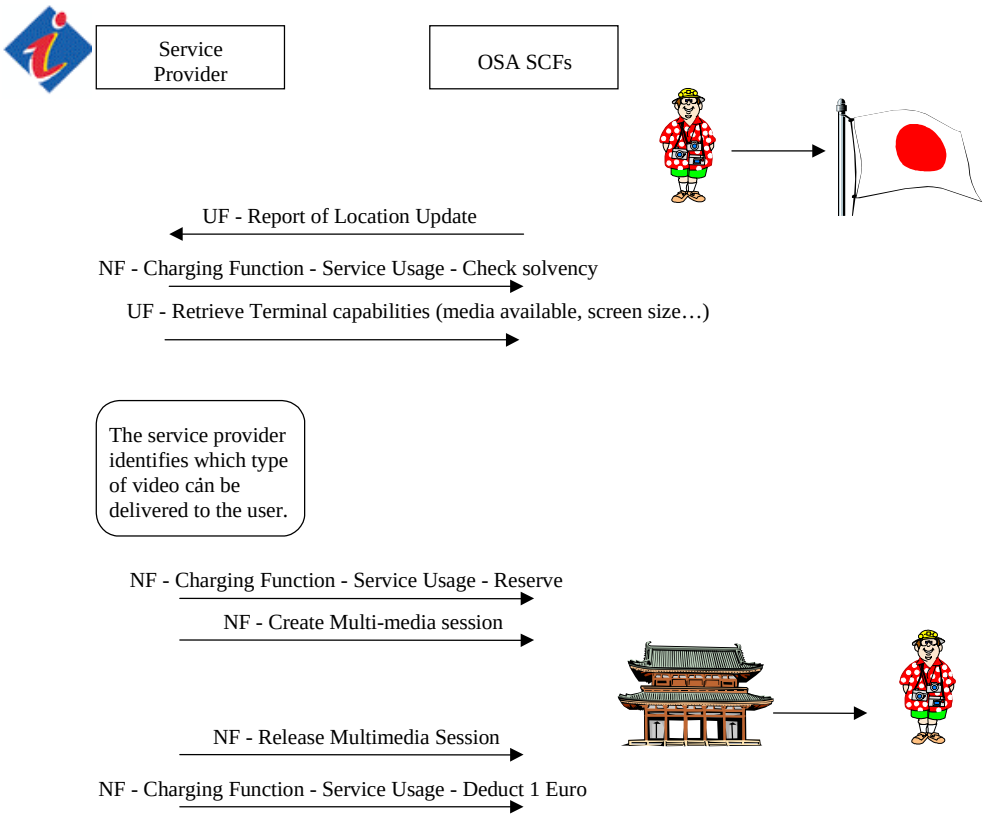
The Service Provider will discover all the service features available in the network (e.g. location update, service usage charging…), and set up the parameters necessary to render the service (i.e. the service provider asks to be notified whenever the user enters a specific geographic area). The list of available service features depends on the SLA.

Note: It is assumed that all the available Service Capability Features have already registered.



Step 3: Service Delivery

The service provider is informed that the user has entered a new geographical area (e.g. Japan). After checking that the user has enough money left on his account, the service provider retrieves the terminal capabilities. Based on this information, the service provider can determine the type of content that can be sent to the user (for example a black and white video if the terminal does not support colour display,…). The service provider will then reserve 1 € in the account of the subscriber. A multimedia session will be established between the service provider and the user, and the user will then be displayed the sightseeing information. Once the movie's display is over, the session will be released and the service fee will be deducted from the user's account.



- Annex ~~A~~ B (informative): Change history

Version	Date	Comment
0.0.0	June 2000	Initial Draft (OISP parts extracted from 22.121 v 3.2.0)
0.1.0	July 2000	Output of OISP ad-hoc Retz/Austria, presented to S1 #9 (Taastrup)
0.2.0	July 2000	Output of OISP ad-hoc at S1 #9 (Taastrup)
0.3.0	August 2000	OISP renamed to "Open Service Access" (OSA) , Document number TS 22.127 received from MCC (editorial modification)
0.4.0	September 2000	Output of OSA ad-hoc Sophia-Antipolis
1.0.0	September 2000	Raised to version 1.0.0 by SA#9, identical with version 0.3.0
0.5.0	October 2000	Agreed contribution tdoc S1O00019 included, document tidied up (editorials)
1.0.1	October 2000	Based on 0.5.0 with editorial modification; input to S1 OSA adhoc, 18th to 19th of October 2000.
1.1.0	October 2000	Output of OSA ad-hoc Vienna (S1O00040)
1.1.1	November 2000	Cleanup by editor
1.2.0	December 2000	Edited by OSA ad hoc for presentation to SA #10 for approval.
2.0.0	December 2000	Raised to version 2.0.0 for approval at SA #10.
4.0.0	January 2001	Raised to version 4.0.0 after approval by SA #10.

Change history											
TSG SA#	SA Doc.	SA1 Doc	Spec	CR	Rev	Rel	Cat	Subject/Comment	Old	New	WI
SP-11	SP-010060	S1-010140	22.127	001		Rel-4	F	CR to 22.127 V 4.0.0 on CS Call Control (Release 4)	4.0.0	4.1.0	OSA1
SP-11	SP-010060	S1-010141	22.127	002		Rel-4	F	CR to 22.127 V 4.0.0 on User interaction(Release 4)	4.0.0	4.1.0	OSA1
SP-11	SP-010163	S1-010274	22.127	003		Rel-4	D	Clarify the situation when a user becomes available	4.0.0	4.1.0	OSA1
SP-11	SP-010163	S1-010276	22.127	005		Rel-4	D	Make the Scope more precise description of 22.127	4.0.0	4.1.0	OSA1
SP-11	SP-010163	S1-010277	22.127	006		Rel-4	D	Clarify charging requirements	4.0.0	4.1.0	OSA1
SP-11	SP-010163	S1-010278	22.127	007		Rel-4	D	OSA consistency within stage1 specification	4.0.0	4.1.0	OSA1
SP-11	SP-010164	S1-010279	22.127	008		Rel-4	C	Clarification to the requirements of the Event Notification Function	4.0.0	4.1.0	OSA1
SP-12	SP-010248	S1-010530	22.127	009		Rel-4	F	Detailed requirements for transaction history retrieval	4.1.0	4.2.0	OSA1
SP-12	SP-010248	S1-010391	22.127	011		Rel-4	F	Terminal capabilities	4.1.0	4.2.0	OSA1
SP-12	SP-010248	S1-010531	22.127	010		Rel-5	C	CR on Decoupling the OSA API	4.1.0	5.0.0	OSA1-IOAPI
SP-12	SP-010248	S1-010392	22.127	012		Rel-5	B	Introduction of OSA support to enable Policy Management	4.1.0	5.0.0	OSA1
SP-12	SP-010248	S1-010393	22.127	013		Rel-5	B	De-Registration Function	4.1.0	5.0.0	OSA1
SP-13	SP-010439	S1-010864	22.127	014	1	Rel-5	B	Re-introduction of R5 OSA function; Traceability, CR 22.127 - 14	5.0.0	5.1.0	OSA1
SP-13	SP-010439	S1-010658	22.127	015		Rel-5	B	Re-introduction of R5 OSA function; Multi Media Channel Control CR 22.127-15	5.0.0	5.1.0	OSA1
SP-13	SP-010439	S1-010659	22.127	016		Rel-5	B	Re-introduction of R5 OSA function; Retrieval of Network Capabilities CR 22.127-16	5.0.0	5.1.0	OSA1
SP-13	SP-010439	S1-010660	22.127	017		Rel-5	B	OSA support of information service function CR 22.127-17	5.0.0	5.1.0	OSA1
SP-13	SP-010439	S1-010661	22.127	018		Rel-5	B	OSA support of Presence service function CR 22.127-18	5.0.0	5.1.0	OSA1
SP-13	SP-010439	S1-010662	22.127	019		Rel-5	B	OSA requirements for User Data Management CR 22.127-19	5.0.0	5.1.0	OSA1
SP-13	SP-010439	S1-010663	22.127	020		Rel-5	B	OSA requirements on User Profile Access Management CR	5.0.0	5.1.0	OSA1

Change history											
TSG SA#	**SA Doc.**	**SA1 Doc**	**Spec**	**CR**	**Rev**	**Rel**	**Cat**	**Subject/Comment**	**Old**	**New**	**WI**
								22.127-20			
SP-13	SP-010439	S1-010664	22.127	021		Rel-5	F	Correction of Scope statement CR 22.127-21	5.0.0	5.1.0	OSA1
SP-13	SP-010436	S1-010890	22.127	024	1	Rel-5	F	Definitions of Home Environment and HE-VASP	5.0.0	5.1.0	VHE1
2001-10-09			22.127			Rel-5		Editorial correction of Specification	5.1.0	5.1.1	Correct
SP-14	SP-010675	1105	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	OSA1
SP-14	SP-010675	1107	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	OSA1
SP-14	SP-010675	1108	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	OSA1
SP-14	SP-010675	1109	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	OSA1
SP-14	SP-010675	1111	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	OSA1
SP-14	SP-010675	1112	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	OSA1
SP-14	SP-010675	1113	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	OSA1
SP-14	SP-010675	1344	22.127	033		Rel-5	B	CR to TS 22.127 V 5.1.1 (Cat B R5) Adding IM Session Control Funct	5.1.1	5.2.0	OSA1