Technical Specification Group Services and System Aspects   **TSGS#14(01)0677**
Meeting #14, Kyoto, Japan, 17-20 December 2001

Source:	**SA1**
Title:	**CRs to 22.141 for Rel-5 for Presence Service**
Document for:	**Approval**
Agenda Item:	**7.1.3**

Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Vers	Vers New	Doc-2nd-Level
SP-010677	22.141	001		Rel-5	C	Protection against replay attacks	5.0.0	5.1.0	1059
SP-010677	22.141	002		Rel-5	C	Reserved for Presence	5.0.0	5.1.0	1210
SP-010677	22.141	003		Rel-5	C	Clarification to Presence access rules	5.0.0	5.1.0	1211
SP-010677	22.141	004		Rel-5	B	Clarification on charging mechanisms	5.0.0	5.1.0	1212
SP-010677	22.141	005		Rel-5	F	Clarification of registration and administration procedures	5.0.0	5.1.0	1213
SP-010677	22.141	006		Rel5	F	Use of 'Principal' within TS 22.141	5.0.0	5.1.0	960
SP-010677	22.141	008		Rel5	F	Clarification of presence information requirements	5.0.0	5.1.0	1218

CR-Form-v4

CHANGE REQUEST

| ⌘ | **22.141** CR | **001** | ⌘ | ᵉev | **-** | ⌘ | Current version: | **5.0.0** | ⌘ |

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

Title: ⌘	Protection against replay attacks
Source: ⌘	SA1
Work item code: ⌘	PRESNC ***Date:*** ⌘ 09/11/01

Category: ⌘ **C**   ***Release:*** ⌘   REL-5

Use <u>one</u> 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 <u>TR 21.900</u>.

Use <u>one</u> 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: ⌘	In the current specification, clause 7 contains explicit requirements to protect the presence service, updates of presence information and notifications of presence information against eavesdropping and tampering. Replay attacks are a real threat for the presence service (presence information updates and notifications); and to ensure that the service provides the required security it should also be protected against such attacks.
Summary of change: ⌘	This CR affects only clause 7. It changes the requirement to protect against eavesdropping and tampering and makes it more general by requiring that the service be protected against all kinds of threats. Eavesdropping, tampering and replay attacks are then cited as examples of threats against which the presence service should be protected.
Consequences if ⌘ ***not approved:***	

Clauses affected: ⌘	7
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.

First Change in Chapter 7

# 7	Security

The use and access to the presence service shall be supported in a secure manner. It shall only be possible for the presence information to be supplied and/or updated by the presentity or the home environment as identified in clause 5 "High Level Requirements".

The presence service shall support measures to detect and prevent attempts to maliciously use or abuse the services. It shall be possible to authenticate presentities and/or watchers at any time.

It shall be possible to authenticate a presentity before allowing registration to the presence service.

It shall be possible to authenticate a watcher requesting access to the presence service. Existing security mechanisms as well as mechanisms specific to presence service may be used.

It shall be possible to authorise a watcher's watcher-subscription request to a presentity's presence information.

It shall be possible to protect the following items from <u>attacks (e.g.,</u> eavesdropping<u>,</u> ~~and~~ tampering<u>, and replay attacks)</u>:-

- Presence information and notifications

- Requests for presence information, e.g., requests for subscription and requests for presence information retrieval.

End of Document

CR-Form-v4

CHANGE REQUEST

	⌘	**22.141** CR	**002**	⌘	ev	**-**	⌘	Current version:	**5.0.0**	⌘

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

Title: ⌘	Support of a wireless subscriber as an entity in the presence information	
Source: ⌘	SA1	
Work item code: ⌘	PRESNC	***Date:*** ⌘ 9/11/01
Category: ⌘ **C**	Use <u>one</u> 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 <u>TR 21.900</u>.	***Release:*** ⌘ REL-5 Use <u>one</u> 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: ⌘	Introduction of detailed requirements for the support of a 3GPP subscriber in the presence information, and update of presence information requirements.
Summary of change: ⌘	Requirements identifying the information specifically supported in presence information related to a 3GPP subscriber are detailed. These requirements define the type of information to be supported when the presentity is a 3GPP subscriber, and if this information is manageable by the 3GPP subscriber and/or the network. Some example values are also suggested.
Consequences if ⌘ ***not approved:***	

Clauses affected: ⌘	5.3, 5.4
Other specs ⌘ ***affected:***	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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5   High level requirements

5.1   Home Environment requirements

The presence service shall provide the ability for the home environment to manage the presence information of users' devices, services and service media, even when roaming. The home environment shall be able to be both the supplier of presence information (i.e. presentities), as well as the requesters of presence information (i.e. watchers). The presence service supports the concept of VHE [2]. According to this concept the presence service can be regarded as a Home Environment service or a Home Environment – Value Added Service Provider (HE-VASP) service.

The home environment requirements for the support of the presence service are defined in 5.3 General requirements, and the applicable requirements in 5.4 Management requirements and 5.5 Notification and acknowledgement requirements.

5.2   User requirements

The presence service shall provide the ability for users to manage the presence information of their devices, services and service media, even when roaming. Users shall be able to be both the suppliers of presence information (i.e. presentities), as well as the requesters of presence information (i.e. watchers).

The user requirements for the support of the presence service are defined in 5.3 General requirements, and the applicable requirements in 5.4 Management requirements and 5.5 Notification and acknowledgement requirements.

5.3   General requirements

The following general requirements for the presence service shall be supported:-

   a) Presence information

      i) ~~P~~presence information for presentities shall be made available in a standardised presence information format to enable interoperability within 3GPP networks.

   ~~The standardised presence information format:~~

   ii) presence information for presentities shall be made available in a standardised presence information format to enable interoperability ~~shall be able to interwork~~ with IETF specified presence information formats (e.g. RFC 2778 [3], RFC 2779 [4] and CPIM [5])

   iii) presence information for presentities shall be extensible to represent additional information, without undermining the standardised format (e.g. device capabilities)

   iv) presence information for presentities shall include a means to uniquely identify the presentity

   v) presence information for presentities shall define a particular type of presentity, representing a 3GPP subscriber, with a minimum set of attributes as described below for interoperability within 3GPP networks. The values for these attributes are to be determined in the Stage 2/3 specifications.

      In addition to the generic requirements described above, the presence information representing a 3GPP subscriber:-

      a) may include a subscriber's status attribute describing the subscriber's willingness to communicate (e.g. available, unavailable). It does not identify the status of the device (e.g. registration or attachment to the network) or of any application.

      This attribute is controlled by the subscriber. It shall be possible for this subscriber's status to be provided by the subscriber, or by the network on behalf of the subscriber (subject to the subscriber's agreement). For example the subscriber could define that he's unavailable each day between 10 p.m. and 7 a.m., and the network would then be responsible for the subscriber's status update.

The format and values of this attribute shall be standardised.

Note: It is to be determined in the Stage 2/3 specifications how the Status field (in RFC2778 [3]) in notifications is completed, and whether or not the values in the subscriber status attribute, network status attribute or other information are used.

b) may include a network status attribute describing the connectivity of the device used by the 3GPP subscriber. This attribute could for example be defined using the information of the subscriber's connectivity to the network (e.g. CS attached, IMS registered, PDP context information…).

This attribute is controlled by the network.

The format and values of this attribute shall be standardised.

Note: It is to be determined in the Stage 2/3 specifications how the Status field (in RFC2778 [3]) in notifications is completed, and whether or not the values in the subscriber status attribute, network status attribute or other information are used.

c) may include one or more communication means (e.g. SMS, telephone, e-mail, multimedia session…) and their contact addresses (e.g. MSISDN, e-mail address, NULL…) by which the subscriber may be contacted.

This attribute is controlled by the subscriber. It shall be possible for this information to be provided by the subscriber, or by the network on behalf of the subscriber (subject to the subscriber's agreement).

The format and values of the communication means shall be standardised, and the format of the contact address shall be standardised.

d) may include two types of location information, one provided by the network (e.g. geographical co-ordinates) and/or one provided by the subscriber (e.g. "at home").

The network provided location is controlled by the network, and the subscriber provided location information is controlled by the subscriber. It shall be possible for the subscriber provided location information to be furnished by the subscriber, or by the network on behalf of the subscriber (subject to the subscriber's agreement).

The format of the network provided location shall be standardised, and the format of the subscriber provided location shall be standardised.

e) may include a priority attribute giving a relative priority for each of the defined communication means and contact address pairs. It is via this priority attribute that the subscriber can indicate his preference for the order in which the communication means and contact address pairs should be used.

This attribute is controlled by the subscriber. It shall be possible for the priority information to be provided by the subscriber, or by the network on behalf of the subscriber (subject to the subscriber's agreement).

The format and values of this attribute shall be standardised.

f) may include a text attribute (e.g. "In a meeting until 4 p.m.")

This attribute is controlled by the subscriber. It shall be possible for the text information to be provided by the subscriber, or by the network on behalf of the subscriber (subject to the subscriber's agreement).

The format of this attribute shall be standardised.

ii) shall enable it to be extended to represent additional information, without undermining the standardised format (e.g. customise the status dependent on location, time of day, devices etc.).

iii) shall include a means to uniquely identify the presentity

iv) shall define a standardised presence schema suitable for different services (e.g. instant messaging), with a minimum set of attributes and their values needed for interoperability within 3GPP (e.g. status attributes with the following values open, closed, online, offline, busy, away, do not disturb etc.)

v) shall include a means to relate contact information for the presentity's principal (if applicable), such as email address, telephone number, postal address etc., or a link to that information

b) A means to uniquely identify the watcher

c) Forward compatible presence service

Presence service shall leverage current and evolving presence technology by re-using existing standards as far as possible and proposing extensions (as necessary) to existing standards.

d) Interoperability with external presence services

External networks (e.g. those in other PLMN's, the Internet, LANs etc.) currently support several different forms of presence service. The presence service shall enable the wireless network to present a consistent and interoperable support of presence, such that the wireless presence capability users can interwork with one or more other external presence services.

e) Consistent and interoperable presence service

Regardless of the service using presence information, the presence service shall be supported in a consistent and interoperable manner between the UE and the network

f) Transport independence

It shall be possible to use the presence service independent of the bearer or transport mechanism. Restrictions may apply due to the nature of the underlying transport mechanism (e.g. a CS terminal may not be capable to supply the same presence information as a terminal attached to the IM CN Subsystem)

g) Presence service quality of service

i) the Presence Service shall enable a watcher, if required, to request a time after which delivery of the requested information shall not take place.

ii) the Presence Service shall enable a presentity to indicate an expiry time for the presence information, if required.

iii) the Presence Service shall enable presence information delivered to a watcher to be marked with an expiry time, if required.

h) Presence and other user services

The operation of Presence Service may be offered both in parallel and independent of other services, e.g. supplementary services, teleservices, bearer services or any other services

5.4 Management requirements

The following management requirements shall be supported for the presence service:-

a) Access to the presence service

The presentity shall have the ability to accept or reject a request for presence information on a per watcher basis, with the option:-

i) once only per watcher (e.g. set up access rules for known watcher, groups of watchers, anonymous watcher-subscriptions, etc.),

ii) for each presence information request (e.g. for watchers that are unknown or not set up in the current access rules).

iii) it shall be possible for the presence service to make access control decisions on behalf of the presentity (e.g. when the presentity is out of contact) subject to the presentity's privacy

b) Watcher-subscription to a presentity's presence information

i) an entity shall be able to watcher-subscribe to the presence service at any time, i.e. to request notification from the presence service of (future) changes in a presentity's presence information, subject to the presentity's privacy. Note, that by this watcher-subscription the entity becomes a subscribed-watcher.

ii) subscriptions are soft-stated. The subscribed-watcher shall be able to refresh a watcher-subscription to the presentity's presence information at any time. A watcher-subscription refreshes overwrite an existing watcher-subscription for the same presentity, subject to the presentity's access rules – the duration of a watcher-subscription starts from the time it is accepted.

iii) the subscribed-watcher shall be able to cancel his watcher-subscription to a presentity's presence information at any time. Whenever a subscribed-watcher withdraws its watcher-subscription from a presentity's presence information, the subscribed-watcher shall no longer be receiving notifications regarding the presentity's presence information.

iv) an unauthorised third party shall not be able to cancel a subscribed-watcher's watcher-subscription to a presentity's presence information

c)   Supplying data to, and requesting data from, the presence information

It shall be possible to request the current value of presence information data on demand at any time (i.e. a fetcher) or on a periodic basis (i.e. a poller) subject to presentity privacy, or to be notified of subsequent changes in presence information data (except when such notification is prevented by access rules), and:-

i)   it shall be possible to inform the presentity of watcher-subscription requests

ii) it shall be possible to report existing watcher-subscriptions to the presentity (on request or periodically)

iii) the subscribed-watcher shall be able to determine the status of his watcher-subscription to that presentity's presence information, at any time.

iv) it shall be possible for the presentity to request the watcher information

v)   it shall be possible for the watcher and/or presentity to withhold their identifier

vi) if the subscribed-watcher so chooses, the subscribed-watcher's watcher-subscription to a presentity's presence information shall not be revealed to other watchers.

vii) It shall be possible for a watcher to define which parts of a presentity's presence information it receives, subject to the presentity's privacy requirements.

Note: this may be a new requirement which should perhaps be added to the CPIM recommendation

d)   User availability and mobility

The presence service shall continue to be supported if the environment into which the user has moved supports presence service. The presence service shall take into account changes in the availability of users (e.g. the user is out of contact or not reachable, despite having activated his presence) or his mobility (e.g. wherever he may be in his home environment or in a visited network).

e)   Registration to the presence service

i)   It shall be possible for a presentity to establish a registration to the presence service

ii) It shall be possible for a presentity to cancel its registration to the presence service

f) Access to presence service

i) it shall be possible for the presence service to accept presence information from a presentity at any time

ii) it shall be possible for the presence service to accept requests from, and provide presence information to, an authorised watcher at any time

h)   Principals, which are 3GPP Subscribers

If a 3GPP subscriber is a principal to one or more Presentities and/or Watchers her preferences, settings and personalisation data (e.g. access rules) which are not part of the presence information shall be part of her VHE User Profiles [2].

~~The following high level presence service requirements may be supported:~~

~~a) Location information~~

~~Integration of location information, and provide notifications based on changes in location as requested by a watcher.~~

~~Note: The presence service may also allow other presence attributes to be supported.~~

5.5 Notification and acknowledgement requirements

The following notification and acknowledgement presence service requirements shall be supported:-

a) Presence data modification and monitoring requests

The presence service shall be able to support the acknowledgement of any requests to monitor a presentity's presence information (i.e. from watchers)

If a subscribed-watcher establishes a watcher-subscription to a presentity's presence information:-

i) the presence service, depending on the presentity's access rules, shall inform the subscribed-watcher if the presentity refused the subscribed-watcher's watcher-subscription

ii) if the subscribed-watcher's watcher-subscription to presentity's presence information is cancelled, the presence service shall inform the subscribed-watcher of the cancellation

iii) it shall be possible for the presentity to configure the presence service to deny a subscribed-watcher's subscription, whilst appearing to the subscribed-watcher as if the subscription has been granted (this is sometimes called "polite blocking")

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CHANGE REQUEST

| ⌘ | **22.141** | **CR** | **003** | ⌘ | ev | **-** | ⌘ | Current version: | **5.0.0** | ⌘ |

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

Title: ⌘	Clarification to Presence access rules	
Source: ⌘	SA1	
Work item code: ⌘	PRESNC	***Date:*** ⌘ 9.11.2001
Category: ⌘ **C**		***Release:*** ⌘ REL-5

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

Use <u>one</u> 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: ⌘	Clarifies the presence information access rules
Summary of change: ⌘	Extends the presence information access rules to cover group(s) of watchers
Consequences if not approved: ⌘	

Clauses affected: ⌘	6.2
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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6.2 Access rules

The principal that controls the presentity shall be able to define access rules, in order to control how the presentity's presence information is made available for watchers.

These access rules shall define:

- a watcher or groups ~~list~~ of watchers allowed access to the presentity's presence information. ~~This list can be defined in several ways.~~ For example: watchers x and y are allowed, or only ~~every~~ watchers ~~is~~ in group z are allowed, or all watchers and groups are allowed ~~except watcher z~~…
- the validity of the access authorisation granted for a given watcher or groups of watchers. The access to the presentity's presence information can be restricted for a certain period (i.e. duration or number of requests), or during specific periods of the day.
- the attributes of the presentity's presence information that can be made available to a given watcher or groups of watchers.
- the ability to provide different presence information (i.e. both number of attributes and values of attributes) based on the watcher, and principal's preferences (e.g. its availability). For example: watcher x receives 'Online/Instant Messaging/im:a@there.com', while ~~watcher~~ group y receives 'Offline/Instant Messaging/im:a@there.com'.

A set of default access rules shall be defined by the principal.

The Home Environment shall be able to override the privacy requirements if needed. (c.f. legal interception requirement in clause 5.3)

CR-Form-v4

CHANGE REQUEST

| ⌘ | **22.141** | **CR** | **004** | ⌘ | ev | **-** | ⌘ | Current version: | **5.0.0** | ⌘ |

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

Title: ⌘	Clarification on charging mechanisms	
Source: ⌘	SA1	
Work item code: ⌘	PRESNC	***Date:*** ⌘ 9/11/2001
Category: ⌘ **B**	*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.	***Release:*** ⌘ Rel-5 *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: ⌘	Since a presence service will be used by prepaid and post paid users it is necessary to distinguish the charging methods for these two categories of users
Summary of change: ⌘	It is added that charging mechanisms shall be supported both for On-line and Off-line charging
Consequences if not approved: ⌘	A Presence Service could not be able to support On-line and Off-line charging mechanisms

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

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8 Charging

The presence service shall be able to support various charging mechanisms both for On-line and Off-line charging. The following charging characteristics shall be considered:-

- charging for a user's registration as a presentity

- charging for each subscription to presence information for a user

- charging for presence information retrieval for users

- charging for presence information notifications received for users

- charging for presence information usage when in a visited network

The above list is not exhaustive.

CR-Form-v4

CHANGE REQUEST

| | ⌘ | **22.141** CR | **005** | ⌘ | ev | **-** | ⌘ | Current version: | **5.0.0** | ⌘ |

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

Title:	⌘	Clarification of registration and administration procedures
Source:	⌘	SA1
Work item code: ⌘	PRESNC	***Date:*** ⌘ 9/11/01

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:	⌘	The registration process is not detailed within the specification and watcher registration is not mentioned.
Summary of change:	⌘	Within the administration clause, the different steps (provision, registration, activation, invocation) and the interactions between them are clarified. The use of presentities/watchers is replaced by principals whenever appropriate. The registration (previously mentioned in the Management requirements section) is detailed in this clause.
Consequences if not approved:	⌘	Watcher registration not implemented. Risks of misunderstanding of the different provision, registration, activation, and invocation steps.

Clauses affected:	⌘	5.4, 7, 9

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.

First Change in Chapter 5.4

5.4 Management requirements

The following management requirements shall be supported for the presence service:-

a) Access to the presence service

The presentity shall have the ability to accept or reject a request for presence information on a per watcher basis, with the option:-

i) once only per watcher (e.g. set up access rules for known watcher, groups of watchers, anonymous watcher-subscriptions, etc.),

ii) for each presence information request (e.g. for watchers that are unknown or not set up in the current access rules).

iii) it shall be possible for the presence service to make access control decisions on behalf of the presentity (e.g. when the presentity is out of contact) subject to the presentity's privacy

b) Watcher-subscription to a presentity's presence information

i) an entity shall be able to watcher-subscribe to the presence service at any time, i.e. to request notification from the presence service of (future) changes in a presentity's presence information, subject to the presentity's privacy. Note, that by this watcher-subscription the entity becomes a subscribed-watcher.

ii) subscriptions are soft-stated. The subscribed-watcher shall be able to refresh a watcher-subscription to the presentity's presence information at any time. A watcher-subscription refreshes overwrite an existing watcher-subscription for the same presentity, subject to the presentity's access rules – the duration of a watcher-subscription starts from the time it is accepted.

iii) the subscribed-watcher shall be able to cancel his watcher-subscription to a presentity's presence information at any time. Whenever a subscribed-watcher withdraws its watcher-subscription from a presentity's presence information, the subscribed-watcher shall no longer be receiving notifications regarding the presentity's presence information.

iv) an unauthorised third party shall not be able to cancel a subscribed-watcher's watcher-subscription to a presentity's presence information

c) Supplying data to, and requesting data from, the presence information

It shall be possible to request the current value of presence information data on demand at any time (i.e. a fetcher) or on a periodic basis (i.e. a poller) subject to presentity privacy, or to be notified of subsequent changes in presence information data (except when such notification is prevented by access rules), and:-

i) it shall be possible to inform the presentity of watcher-subscription requests

ii) it shall be possible to report existing watcher-subscriptions to the presentity (on request or periodically)

iii) the subscribed-watcher shall be able to determine the status of his watcher-subscription to that presentity's presence information, at any time.

iv) it shall be possible for the presentity to request the watcher information

v) it shall be possible for the watcher and/or presentity to withhold their identifier

vi) if the subscribed-watcher so chooses, the subscribed-watcher's watcher-subscription to a presentity's presence information shall not be revealed to other watchers.

vii) It shall be possible for a watcher to define which parts of a presentity's presence information it receives, subject to the presentity's privacy requirements.

Note: this may be a new requirement which should perhaps be added to the CPIM recommendation

d) User availability and mobility

The presence service shall continue to be supported if the environment into which the user has moved supports presence service. The presence service shall take into account changes in the availability of users (e.g. the user is out of contact or not reachable, despite having activated his presence) or his mobility (e.g. wherever he may be in his home environment or in a visited network).

e) ~~Registration to the presence service~~

i) ~~It shall be possible for a presentity to establish a registration to the presence service~~

ii) ~~It shall be possible for a presentity to cancel its registration to the presence service~~

f) Access to presence service

i) it shall be possible for the presence service to accept presence information from a presentity at any time

ii) it shall be possible for the presence service to accept requests from, and provide presence information to, an authorised watcher at any time

h) Principals, which are 3GPP Subscribers

If a 3GPP subscriber is a principal to one or more Presentities and/or Watchers her preferences, settings and personalisation data (e.g. access rules) which are not part of the presence information shall be part of her VHE User Profiles [2].

The following high level presence service requirements may be supported:-

a) Location information

Integration of location information, and provide notifications based on changes in location as requested by a watcher.

Note: The presence service may also allow other presence attributes to be supported.

Next Change in Chapter 7

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7   Security

The use and access to the presence service shall be supported in a secure manner. It shall only be possible for the presence information to be supplied and/or updated by the presentity or the home environment as identified in clause 5 "High Level Requirements".

The presence service shall support measures to detect and prevent attempts to maliciously use or abuse the services. It shall be possible to authenticate presentities and/or watchers at any time.

It shall be possible to authenticate a principal~~presentity~~ before allowing registration to the presence service.

It shall be possible to authenticate a watcher requesting access to the presence service. Existing security mechanisms as well as mechanisms specific to presence service may be used.

It shall be possible to authorise a watcher's watcher-subscription request to a presentity's presence information.

It shall be possible to protect the following items from eavesdropping and tampering:-

- Presence information and notifications

- Requests for presence information, e.g., requests for subscription and requests for presence information retrieval.

| **Next Change in Chapter 9** |

---

9   Administration

The following administration requirements shall be supported.

Note: The different logical steps (provision, registration, activation) might be combined. For example when a principal requests a watcher-subscription, a watcher associated with him is automatically registered in the Presence Service.

9.1   Provisioning

Provisioning is an action taken by the service provider to make the presence service available to a ~~presentity or watcher~~principal. Provisioning may be:-

- General: where the service may be made available to all ~~presentities or watchers~~ principals without prior arrangements being made with the service provider.

- Pre-arranged: where the service is made available to an individual ~~presentity or watcher~~principal only after the necessary arrangements such as login name, password have been made with the service provider.

This provision action shall allow the principals to subsequently register within the Presence Service as a presentity, as a watcher or as both.

9.2   Withdrawal

Withdrawal is an action taken by the service provider to withdraw the presence service from the ~~presentity or watcher~~principal. Withdrawal may be:

- General: where the presence service is removed from all ~~presentities or watchers~~principals

- Specific: where the presence service is removed per ~~presentity or watcher~~principal.

9.3   Registration

Registration is an action taken by the service provider or the principal to provide information necessary for presentities and/or watchers to use the Presence Service. For example, a 3GPP subscriber could request the creation of a presentity associated with him and provide the corresponding access rules.

It shall be possible to take this registration action under the condition that the presence service is available for the principal. (i.e. the provision has been performed previously).

This registration process may be performed at any time by the principal or service provider to create new presentities/watchers.

The service provider may provide privacy control at registration time on behalf of a presentity.

9.4 Erasure

Erasure is an action taken at any time by the service provider or the principal in order to cancel a registration.

9.5~~3~~   Activation

~~Activation is an action to initiate usage of the presence service by the presentity or watcher, after having been provisioned.~~

Activation is an action taken at any time by the service provider, the presentity or the watcher to bring the Presence Service into the active state.

It shall be possible to activate the service once the presentity or watcher has been registered.

Once the presentity or watcher is in an active state,

- This presentity or watcher may invoke Presence Service features

- Other presentities or watchers may invoke Presence Service features concerning this presentity or watcher (e.g. by subscribing to its presence information)

- The Presence Service may invoke Presence Service features concerning this presentity or watcher (e.g. by notifying changes in the presence information)

9.6~~4~~   Deactivation

~~Deactivation is an action to terminate usage of the presence service by the presentity or watcher.~~

Deactivation is an action taken at any time by the service provider, the presentity or the watcher to bring the Presence Service into the non-active state.

9.7 Invocation

Invocation is an action taken at any time by the presentity or watcher (e.g. by requesting presence information) or by the Presence Service as a result of a particular condition (e.g. by notifying presence information's changes) in order to invoke the Presence Service features.

9.8~~5~~   Presentity privacy

The presentity shall be able to grant permission to access its presence information. The presentity shall be able to authorise the presentity's presence information access, per watcher or per group of watchers, with different levels of authorisation for a definitive period of time or on demand.

End of Document

CR-Form-v4

CHANGE REQUEST

| ⌘ | **22.141** CR | **006** | ⌘ ev | **-** | ⌘ | Current version: | **5.0.0** | ⌘ |

*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: ⌘	Alignment between the definition of "principal" and its use in the specification.	
Source: ⌘	SA1	
Work item code: ⌘	PRESNC	**Date:** ⌘ 9/11/01
Category: ⌘ **F**	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.	**Release:** ⌘ REL-5 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: ⌘	In the current specification a note states that the definition of principal should be made consistent with the usage of the term principal in the TS. The proposed changes aim to avoid any inconsistency within the specification.
Summary of change: ⌘	• The privacy requirements are related to the principal and not to the presentity, therefore presentity's privacy is replaced by principal's privacy in chapter 5.4. • Subscriber and possessor privacy are no longer mentioned in the specification, hence their removal in chapter 6.1. • Presentity's privacy is removed from the administration part, insofar as requirements about access rules and principal are already covered in chapter 6.
Consequences if not approved: ⌘	Misalignment between the definition of "principal" and the use of this term.

Clauses affected: ⌘	3.1, 5.4, 6.1, 9.5
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.

3.1   Definitions

Access rules: constraints on how the presence service makes presence information available to watchers. For each presentity's presence information, the applicable access rules are managed by the principal that controls the presentity.

availability: a property of a presentity denoting its ability and willingness to communicate based on factors such as the identity or properties of the watcher and the preferences and/or policies that are associated with the presentity

fetcher: a form of watcher that has asked the presence service for the presence information of one or more presentities, but is not requesting a notification from the presence service of (future) changes in a presentity's presence information.

identifier: a means of indicating a point of contact, intended for public use such as on a business card. Telephone numbers, email addresses, and typical home page URLs are all examples of identifier in other systems.

poller: a fetcher that requests presence information on a regular basis.

presence information: is a set of attributes characterising current properties of presentities such as status, an optional communication address and other optional attributes etc

presence service: the capability to support management of presence information between watchers and presentities, in order to enable applications and services to make use of presence information

presentity (presence entity): any uniquely identifiable entity that is capable of providing presence information to presence service. Examples of presentities are devices, services etc. Any presentity shall have one, and only one, principal associated with it.

principal: human, organisation, program, or collection of humans, organisations and/or programs that chooses to appear to the presence services as a single actor, distinct from all other principals. A principal is associated with one or more presentities and/or watchers. A principal is said to "own" a certain presentity or watcher if such an association exists. Within the context of this specification a subscriber may be a principal to one or more presentities and/or watchers. Examples: A subscriber may be a principal to the terminals (the presentities) he owns. A program, providing a stock exchange information service to customers, may be the principal to the market quotations (the presentities) it monitors.

> Note: The case where a presentity is not a subscriber requires to be further considered

> Note: ~~FFS: definition of principal to be made consistent with the usage of the term principal in the remainder of the document~~

status: ffs

subscribed-watcher: a subscribed-watcher is a type of watcher, which requests notification from the presence service of changes in a presentity's presence information, resulting in a watcher-subscription, as they occur in the future.

watcher-subscription: the information kept by the presence service about a subscribed-watcher's request to be notified of changes in the presence information of one or more presentities

> Note: This definition represents an entity's request to obtain presence service information, and is not related to the term "subscription" in [1]. Within this specification the term watcher-subscription (and its derivatives) purely refers to this relationship.

watcher: any uniquely identifiable entity that requests presence information about a presentity, or watcher information about a watcher, from the presence service. Special types of watcher are fetcher, poller, and subscribed-watcher. Any watcher shall have one, and only one, principal associated with it.

watcher information: information about watchers that have received or may receive presence information about a particular presentity within a particular recent span of time.

5.4 Management requirements

The following management requirements shall be supported for the presence service:-

a) Access to the presence service

The presentity shall have the ability to accept or reject a request for presence information on a per watcher basis, with the option:-

i) once only per watcher (e.g. set up access rules for known watcher, groups of watchers, anonymous watcher-subscriptions, etc.),

ii) for each presence information request (e.g. for watchers that are unknown or not set up in the current access rules).

iii) it shall be possible for the presence service to make access control decisions on behalf of the presentity (e.g. when the presentity is out of contact) subject to the principal's~~presentity's~~ privacy

b) Watcher-subscription to a presentity's presence information

i) an entity shall be able to watcher-subscribe to the presence service at any time, i.e. to request notification from the presence service of (future) changes in a presentity's presence information, subject to the principal's~~presentity's~~ privacy. Note, that by this watcher-subscription the entity becomes a subscribed-watcher.

ii) subscriptions are soft-stated. The subscribed-watcher shall be able to refresh a watcher-subscription to the presentity's presence information at any time. A watcher-subscription refreshes overwrite an existing watcher-subscription for the same presentity, subject to the presentity's access rules – the duration of a watcher-subscription starts from the time it is accepted.

iii) the subscribed-watcher shall be able to cancel his watcher-subscription to a presentity's presence information at any time. Whenever a subscribed-watcher withdraws its watcher-subscription from a presentity's presence information, the subscribed-watcher shall no longer be receiving notifications regarding the presentity's presence information.

iv) an unauthorised third party shall not be able to cancel a subscribed-watcher's watcher-subscription to a presentity's presence information

c) Supplying data to, and requesting data from, the presence information

It shall be possible to request the current value of presence information data on demand at any time (i.e. a fetcher) or on a periodic basis (i.e. a poller) subject to principal's~~presentity~~ privacy, or to be notified of subsequent changes in presence information data (except when such notification is prevented by access rules), and:-

i) it shall be possible to inform the presentity of watcher-subscription requests

ii) it shall be possible to report existing watcher-subscriptions to the presentity (on request or periodically)

iii) the subscribed-watcher shall be able to determine the status of his watcher-subscription to that presentity's presence information, at any time.

iv) it shall be possible for the presentity to request the watcher information

v) it shall be possible for the watcher and/or presentity to withhold their identifier

vi) if the subscribed-watcher so chooses, the subscribed-watcher's watcher-subscription to a presentity's presence information shall not be revealed to other watchers.

vii) It shall be possible for a watcher to define which parts of a presentity's presence information it receives, subject to the principal's~~presentity's~~ privacy requirements.

Note: this may be a new requirement which should perhaps be added to the CPIM recommendation

d) User availability and mobility

The presence service shall continue to be supported if the environment into which the user has moved supports presence service. The presence service shall take into account changes in the availability of users (e.g. the user is out of contact or not reachable, despite having activated his presence) or his mobility (e.g. wherever he may be in his home environment or in a visited network).

e) Registration to the presence service

   i)   It shall be possible for a presentity to establish a registration to the presence service

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f) Access to presence service

   i) it shall be possible for the presence service to accept presence information from a presentity at any time

   ii) it shall be possible for the presence service to accept requests from, and provide presence information to, an authorised watcher at any time

h) Principals, which are 3GPP Subscribers

   If a 3GPP subscriber is a principal to one or more Presentities and/or Watchers her preferences, settings and personalisation data (e.g. access rules) which are not part of the presence information shall be part of her VHE User Profiles [2].

The following high level presence service requirements may be supported:-

a) Location information

   Integration of location information, and provide notifications based on changes in location as requested by a watcher.

   Note: The presence service may also allow other presence attributes to be supported.

Next Change in Chapter 6.1

6.1 General privacy requirements

Specific local, national, and regional privacy regulations shall be complied with.

The privacy aspect of presence information and the need for authorisation before providing presence information shall be configurable by the user (i.e. presentity).

It shall be possible for the user (i.e. presentity) to define different user groups with different levels of authorisation, e.g. the details of presence information may depend on target user groups (e.g. family, friends, colleagues etc.).

Any services using the presence information shall ensure privacy agreement before releasing presence information. The presence service does not address deployment specific issues (e.g. where agreements are stored or how they are negotiated). It only gives requirements for privacy management.

The following privacy requirements shall be supported:-

- Principal's privacy

   a principal of a presentity shall, at any time, be able to control to whom, for how long and what (all or part of) presence information of the presentity is provided, and a principal of a watcher shall, at any time, be able to control to whom, for how long and what (all or part of) watcher information of the watcher is provided

   Note: need to consider where subscriber's privacy (as distinct from principal's privacy) requires to be addressed

An operator shall, at any time, be able to override ~~subscriber, possessor and~~ principal's privacy preferences if required to do so by local authorities.

Next Change in Chapter 9.5

~~9.5~~   ~~Presentity privacy~~

~~The presentity shall be able to grant permission to access its presence information. The presentity shall be able to authorise the presentity's presence information access, per watcher or per group of watchers, with different levels of authorisation for a definitive period of time or on demand.~~

End of Document

CR-Form-v4

CHANGE REQUEST

	⌘	**22.141**	**CR**	**007**	⌘	ev	**-**	⌘	Current version:	**5.0.0**	⌘

*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:	⌘	Removal of identifier's hiding for presentities
Source:	⌘	Sa1

Work item code: ⌘	PRESNC	***Date:*** ⌘	09/11/01

Category:	⌘	**F**		***Release:*** ⌘	REL-5

<table>
<tr><td colspan="2"><i>Use <u>one</u> of the following categories:</i></td><td colspan="2"><i>Use <u>one</u> of the following releases:</i></td></tr>
<tr><td>F</td><td><i>(correction)</i></td><td>2</td><td><i>(GSM Phase 2)</i></td></tr>
<tr><td>A</td><td><i>(corresponds to a correction in an earlier release)</i></td><td>R96</td><td><i>(Release 1996)</i></td></tr>
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<tr><td>D</td><td><i>(editorial modification)</i></td><td>R99</td><td><i>(Release 1999)</i></td></tr>
<tr><td colspan="2">Detailed explanations of the above categories can be found in 3GPP <u>TR 21.900</u>.</td><td>REL-4</td><td><i>(Release 4)</i></td></tr>
<tr><td colspan="2"></td><td>REL-5</td><td><i>(Release 5)</i></td></tr>
</table>

Reason for change:	⌘	Watchers must have access to a presentity's identifier in order to be able to subscribe to its presence information. Therefore the requirement allowing a presentity to withhold its identifier is non-appropriate.
Summary of change:	⌘	In clause 5.4, a requirement is changed in order to allow only watchers to withhold their identifier. They can do so for example in the case of anonymous watcher-subscription.
Consequences if not approved:	⌘	Requirement not possible to implement.

Clauses affected:	⌘	2, 5.4

Other specs Affected:	⌘	☐ Other core specifications ⌘	
		☐ Test specifications	
		☐ O&M Specifications	

Other comments:	⌘	

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2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1]   3GPP TRS 21.905: 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Vocabulary for 3GPP Specifications

[2]   3GPP TS 22.121: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects Service Aspects; The Virtual Home Environment"

[3]   RFC 2778 "A Model for Presence and Instant Messaging"; http://www.ietf.org/rfc.html

[4]   RFC 2779 "Instant Messaging / Presence Protocol Requirement"; http://www.ietf.org/rfc.html

[5]   A Common Profile for Instant Messaging; http://www.ietf.org/internet-drafts/draft-ietf-impp-cpim-01.txt

        Note: this Internet document is still draft

2.1 Acknowledgement

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<div style="border: 1px solid black; text-align: center;">

Next Change in Chapter 5.4

</div>

5.4 Management requirements

The following management requirements shall be supported for the presence service:-

a) Access to the presence service

The presentity shall have the ability to accept or reject a request for presence information on a per watcher basis, with the option:-

    i) once only per watcher (e.g. set up access rules for known watcher, groups of watchers, anonymous watcher-subscriptions, etc.),

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    iii) the subscribed-watcher shall be able to cancel his watcher-subscription to a presentity's presence information at any time. Whenever a subscribed-watcher withdraws its watcher-subscription from a presentity's presence information, the subscribed-watcher shall no longer be receiving notifications regarding the presentity's presence information.

    iv) an unauthorised third party shall not be able to cancel a subscribed-watcher's watcher-subscription to a presentity's presence information

c) Supplying data to, and requesting data from, the presence information

It shall be possible to request the current value of presence information data on demand at any time (i.e. a fetcher) or on a periodic basis (i.e. a poller) subject to presentity privacy, or to be notified of subsequent changes in presence information data (except when such notification is prevented by access rules), and:-

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    v) it shall be possible for the watcher ~~and/or presentity~~ to withhold their identifier <u>(e.g. in the case of anonymous watcher-subscription)</u>

    vi) if the subscribed-watcher so chooses, the subscribed-watcher's watcher-subscription to a presentity's presence information shall not be revealed to other watchers.

    vii) It shall be possible for a watcher to define which parts of a presentity's presence information it receives, subject to the presentity's privacy requirements.

Note: this may be a new requirement which should perhaps be added to the CPIM recommendation

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The presence service shall continue to be supported if the environment into which the user has moved supports presence service. The presence service shall take into account changes in the availability of users (e.g. the user is out of contact or not reachable, despite having activated his presence) or his mobility (e.g. wherever he may be in his home environment or in a visited network).

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h) Principals, which are 3GPP Subscribers

If a 3GPP subscriber is a principal to one or more Presentities and/or Watchers her preferences, settings and personalisation data (e.g. access rules) which are not part of the presence information shall be part of her VHE User Profiles [2].

The following high level presence service requirements may be supported:-

a) Location information

Integration of location information, and provide notifications based on changes in location as requested by a watcher.

Note: The presence service may also allow other presence attributes to be supported.

End of the document

CR-Form-v4

CHANGE REQUEST

| ⌘ | **22.141** | **CR** | **008** | ⌘ | ev | **-** | ⌘ | Current version: | **5.0.0** | ⌘ |

*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 **X**   Radio Access Network ☐   Core Network **X**

Title: ⌘	Clarification of presence information requirements	
Source: ⌘	SA1	
Work item code: ⌘	PRESNC	***Date:*** ⌘ 9.11.2001

Category: ⌘ **F**	***Release:*** ⌘ REL-5

Use <u>one</u> 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 <u>one</u> 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: ⌘	Clarifying presence service requirements
Summary of change: ⌘	The Presence Service requirements are updated to improve clarity. Further, it is made clear that a user in the presence service is a 3GPP subscriber. Requirements on supplying information to the presence service, as well as privacy requirements are further clarified.
Consequences if not approved: ⌘	

Clauses affected: ⌘	Introduction, 5.2, 5.4, 6.1
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ 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.

Introduction

This specification defines the requirements for the support of the presence service., which The presence service results in presence information of a user and information on a user's devices, services and services components being managed by the wireless network. Together, user, these devices, services and services components are termed presentity (presence entity). This TS makes extensive use of internet terminology to ensure alignment with the presence service description and behaviour in internet recommendations.

The presence service provides access to presence information to be made available to other users or services. Exploitation of this service, see figure 1, will enable the creation of wireless-enhanced rich multimedia services along the lines of those currently present in the internet world.

Presence is an attribute related to, but quite different from mobility information, and is a service that can be exploited to create additional services. The types of services that could be supported by the presence service may include:-

- New communications services

   The presence service will enable new multimedia services to exploit this key enabler to support other advanced multimedia services and communications. These new services may infer the context, availability and willingness of a user to accept or participate in particular types of communications by accessing the presence information for the user's devices and services.   Examples of such new multimedia services that could potentially exploit the presence service include "chat", instant messaging, multimedia messaging, e-mail, , handling of individual media in a multimedia session etc.

- Information services

   The presence service may also be exploited to enable the creation of services in which abstract entities are providing the services to the mobile community. The presence service may be used to support such abstract services as cinema ticket information, the score at a football match, motorway traffic status, advanced push services etc.

- Enhanced existing services

   Existing wireless services may also be significantly enhanced by exploiting the presence information. For example a user may dynamically arrange for his wireless services to be supported through his corporate PABX whilst he is on-site, require media to be converted and directed to specific devices (e.g. user cannot accept a voice call whilst in a meeting, but is prepared to receive the voice call converted to text in the form of an SMS/MMS/e-mail message). The presence service may also be used to enable the creation of advanced versions of CS/PS services, enable terminal capabilities support etc.

The following figure 1 represents a logical overview of how services could exploit the presence service to create advanced services.
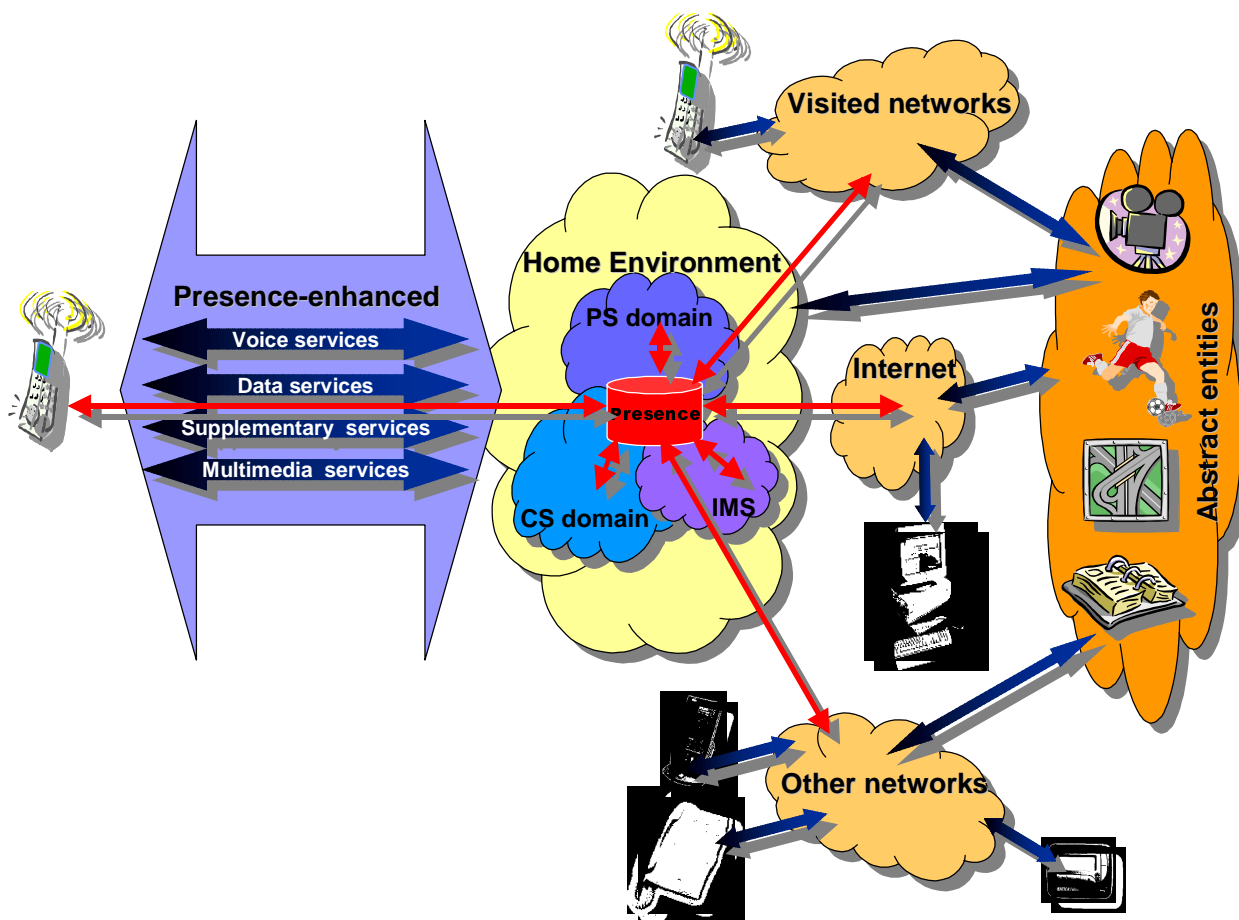
Figure 1: Logical presence service support of services

A presence-enabled service as observed by the user is a service in which the user can control the dissemination of his presence information to other users and services, and also be able to explicitly identify specifically which other users and services to which he provides presence status. Combined with the capability of other users' control of their own presence status, virtually infinite combinations of users and services interacting at different levels can be created.

The exploitation of the presence service is already available in the internet world, although unfortunately with different non interoperable mechanisms. This specification identifies the requirements for support of a wireless-enhanced version of the presence service through the support of wireless attributes (e.g. services, media components of a multimedia service, location information) in an interoperable manner both within the wireless network, and with external networks.

5　High level requirements

5.2　User 3GPP subscriber requirements

The presence service shall provide the ability for users 3GPP subscribers to manage their presence information or the presence information of their devices, services and service media, even when roaming. Users 3GPP subscribers shall be able to be both the suppliers of presence information (i.e. presentities), as well as the requesters of presence information (i.e. watchers).

The user 3GPP subscriber requirements for the support of the presence service are defined in 5.3 General requirements, and the applicable requirements in 5.4 Management requirements and 5.5 Notification and acknowledgement requirements.

5.4   Management requirements

The following management requirements shall be supported for the presence service:-

a) Access to the presence service

The presentity shall have the ability to accept or reject a request for presence information on a per watcher basis, with the option:-

i) once only per watcher (e.g. set up access rules for known watcher, groups of watchers, anonymous watcher-subscriptions, etc.),

ii) for each presence information request (e.g. for watchers that are unknown or not set up in the current access rules).

iii) it shall be possible for the presence service to make access control decisions on behalf of the presentity (e.g. when the presentity is out of contact) subject to the presentity's privacy

b) Watcher-subscription to a presentity's presence information

i) an entity shall be able to watcher-subscribe to the presence service at any time, i.e. to request notification from the presence service of (future) changes in a presentity's presence information, subject to the presentity's privacy. Note, that by this watcher-subscription the entity becomes a subscribed-watcher.

ii) subscriptions are soft-stated. The subscribed-watcher shall be able to refresh a watcher-subscription to the presentity's presence information at any time. A watcher-subscription refreshes overwrite an existing watcher-subscription for the same presentity, subject to the presentity's access rules – the duration of a watcher-subscription starts from the time it is accepted.

iii) the subscribed-watcher shall be able to cancel his watcher-subscription to a presentity's presence information at any time. Whenever a subscribed-watcher withdraws its watcher-subscription from a presentity's presence information, the subscribed-watcher shall no longer be receiving notifications regarding the presentity's presence information.

iv) an unauthorised third party shall not be able to cancel a subscribed-watcher's watcher-subscription to a presentity's presence information

c) Supplying data to, and requesting data from, the presence information

When supplying data it shall be possible to update only part of the presence information. It shall be possible to request the current value of presence information data on demand at any time (i.e. a fetcher) or on a periodic basis (i.e. a poller) subject to presentity privacy, or to be notified of subsequent changes in presence information data (except when such notification is prevented by access rules), and:-

i) it shall be possible to inform the presentity of watcher-subscription requests

ii) it shall be possible to report existing watcher-subscriptions to the presentity (on request or periodically)

iii) the subscribed-watcher shall be able to determine the status of his watcher-subscription to that presentity's presence information, at any time.

iv) it shall be possible for the presentity to request the watcher information

v) it shall be possible for the watcher and/or presentity to withhold their identifier

vi) if the subscribed-watcher so chooses, the subscribed-watcher's watcher-subscription to a presentity's presence information shall not be revealed to other watchers.

vii) It shall be possible for a watcher to define which parts of a presentity's presence information it receives, subject to the presentity's privacy requirements.

Note: this may be a new requirement which should perhaps be added to the CPIM recommendation

d) User availability and mobility

The presence service shall continue to be supported if the environment into which the user has moved supports presence service. The presence service shall take into account changes in the availability of users (e.g. the user is out of contact or not reachable, despite having activated his presence) or his mobility (e.g. wherever he may be in his home environment or in a visited network).

e) Registration to the presence service

  i) It shall be possible for a presentity to establish a registration to the presence service

  ii) It shall be possible for a presentity to cancel its registration to the presence service

f) Access to presence service

  i) it shall be possible for the presence service to accept presence information from a presentity at any time

  ii) it shall be possible for the presence service to accept requests from, and provide presence information to, an authorised watcher at any time

h) Principals, which are 3GPP Subscribers

  If a 3GPP subscriber is a principal to one or more Presentities and/or Watchers her preferences, settings and personalisation data (e.g. access rules) which are not part of the presence information shall be part of her VHE User Profiles [2].

The following high level presence service requirements may be supported:-

a) Location information

  Integration of location information, and provide notifications based on changes in location as requested by a watcher.

  Note: The presence service may also allow other presence attributes to be supported.

6 Privacy

6.1 General privacy requirements

Specific local, national, and regional privacy regulations shall be complied with.

The privacy aspect of presence information and the need for authorisation before providing presence information shall be configurable by the user (i.e. presentity).

It shall be possible for the user (i.e. presentity) to define different user groups with different levels of authorisation, e.g. the details of presence information (i.e. both number of attributes and values of attributes) may depend on target user groups (e.g. family, friends, colleagues etc.).

Any services using the presence information shall ensure privacy agreement before releasing presence information. The presence service does not address deployment specific issues (e.g. where agreements are stored or how they are negotiated). It only gives requirements for privacy management.

The following privacy requirements shall be supported:-

- principal privacy

  a principal of a presentity shall, at any time, be able to control to whom, for how long and what (all or part of) presence information of the presentity is provided, and a principal of a watcher shall, at any time, be able to control to whom, for how long and what (all or part of) watcher information of the watcher is provided

  Note: need to consider where subscriber privacy (as distinct from principal privacy) requires to be addressed

An operator shall, at any time, be able to override subscriber, possessor and principal privacy preferences if required to do so by local authorities.