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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x   the first digit:

1   presented to TSG for information;

2   presented to TSG for approval;

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y   the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z   the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

This specification defines the requirements for the support of the presence service, which results in presence information and information on a user's devices, services and services components being managed by the wireless network. Together, 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.
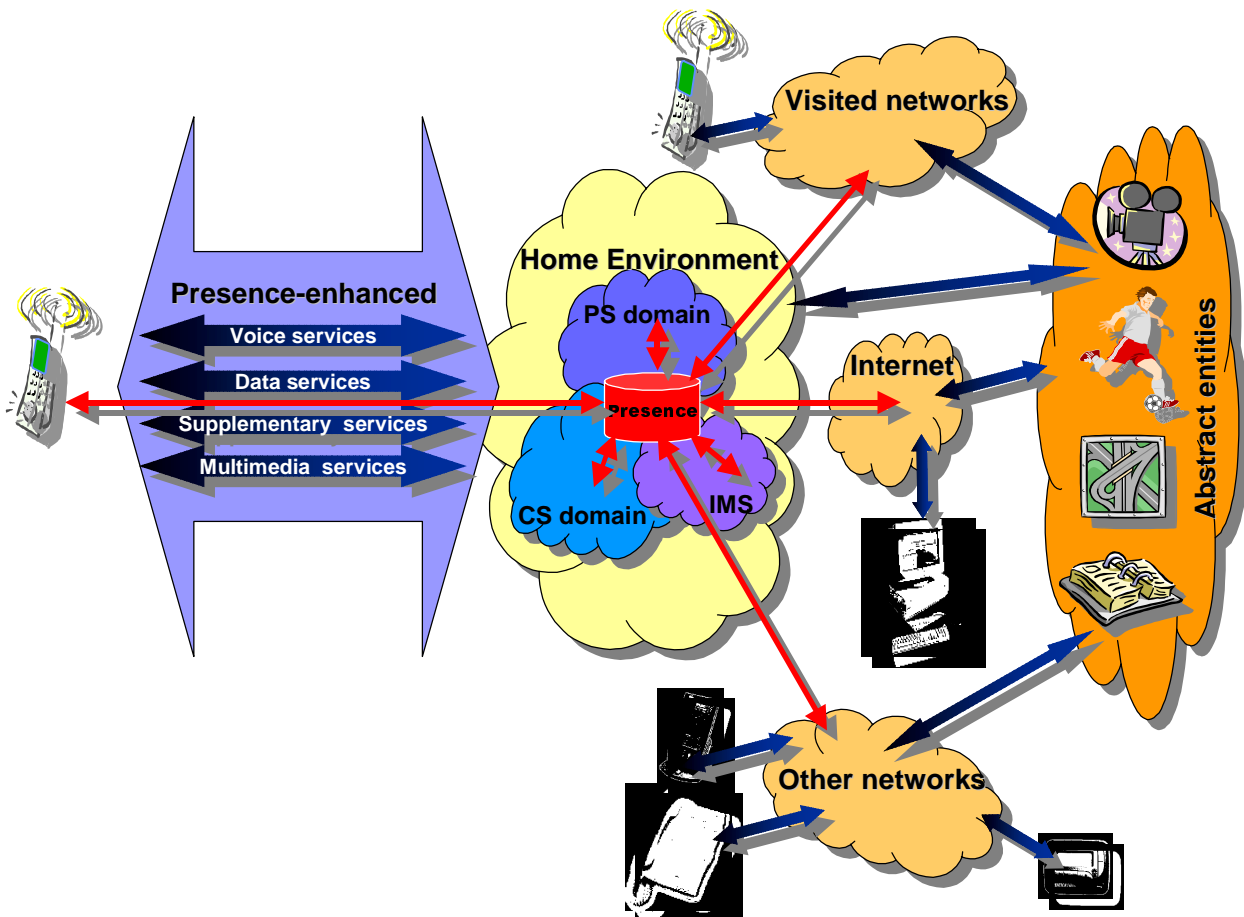
Figure 1: Logical presence service support of services

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.

1 Scope

This TS defines the stage one description for the presence service. Stage one is the set of requirements which shall be supported to enable the exploitation of the presence service, seen primarily from the users' and home environments' points of view.

This TS includes information applicable to the home environment, device and network manufacturers which are sufficient to provide complete support of the presence service.

Additional functionalities not documented in this TS are considered outside the scope of this TS. Such additional functionality may be on a network-wide basis, nation-wide basis or particular to a group of users. Such additional functionality shall not compromise conformance to the requirements of the presence service defined in this specification.

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 TS 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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3 Definitions, symbols and abbreviations

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.

3.2 Abbreviations

For the purposes of this document the following abbreviations apply:

IETF	Internet Engineering Task Force
LAN	Local Area Network
VHE	Virtual Home Environment

4 Presence models

4.1 Informative models

The below models of the presence service and presence information are not definitive, and no implementation model or architecture is implied or required by them, and are solely provided to describe the functions and roles that shall be provided by the presence service.

4.2 Roles in the presence service

PRESENCE SERVICE

PRESENTITY

WATCHER

FETCHER

Fetcher requests the current value of some Presentity's presence information from the Presence Service

POLLER

A Poller is a Fetcher that requests the current value of some Presentity's presence information from the Presence Service on a regular basis.

SUBSCRIBED-WATCHER

Subscribed-watcher is a Watcher that requests notification of (future) changes in some Presentity's presence information from the Presence Service
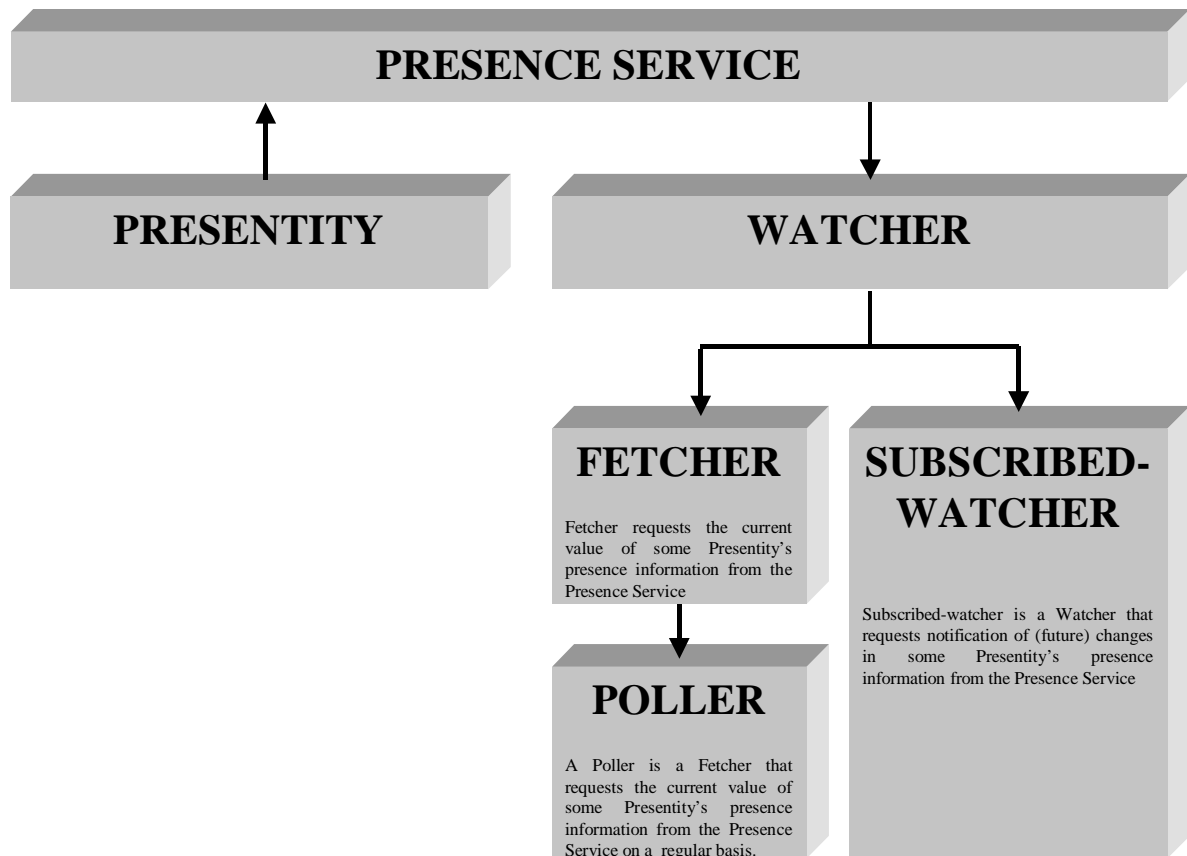
Figure 2: Presence service model

The presence service may be considered to support three main roles, as depicted in figure 2"Presence service model".

For the purposes of this TS, the following roles are identified to support the presence service:-

Suppliers of presence information

This role represents those entities that supply presence information.

Requesters of presence information

This role represents those entities which request (and subsequently receive) presence information of a presentity. The presence information may also maintain data on requesters of presence information, which may also be potentially distributed (on request) to requesters of presence information. The term watchers is used to identify the requesters of presence information.

The requesters of presence information may be associated with 2 modes of operation:-

Information Mode

This mode corresponds to a request-response mode and represents those entities (i.e. watchers) which simply request the current presence information of a presentity . The term "fetchers" is used to identify the receivers of this type of presence information of a presentity. Presence information of a presentity may also be requested on a regular or periodic basis, and are referred to as pollers.

Notification Mode

This mode corresponds to a 'push-type' mode and represents those entities (i.e. watchers) which request notifications on (future) changes in presence information of a presentity. The term subscribed-watchers is used to identify the receivers of these notifications. Watcher-subscriptions for subscribed-watchers are soft-stated i.e. they are time-bound, notifications of presence information cease on expiry of the negotiated interval. The subscribed-watcher is allowed to 'refresh' a watcher-subscription at any time. Watcher-subscription refreshes overwrite an existing watcher-subscription for the same presentity, subject to the presentity's access rules.
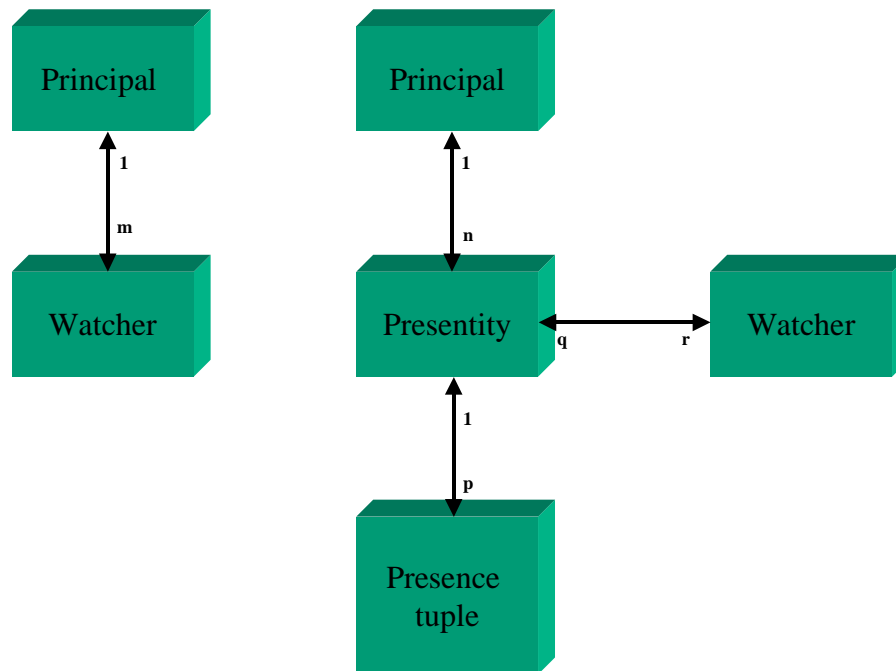
Figure 3: Presence Service Entity Relationships

The key concepts captured in figure 3 are as follows :-

- a principal may be associated with one or more watchers
- a watcher is associated with one principal
- a presentity is associated with one principal
- a principal may be associated with one or more presentities.
- a presentity may be associated with one or more presence-tuples
- a watcher can have a watcher-subscription to one or more presentities
- a presentity may be watched by one or more watchers

4.3 Presence information

A logical model of a presentity's presence information consists of an arbitrary number of elements, known as presence tuples, as depicted in figure 4. Presence information for each presentity is identified by a unique identifier.

Figure 4: Presence information
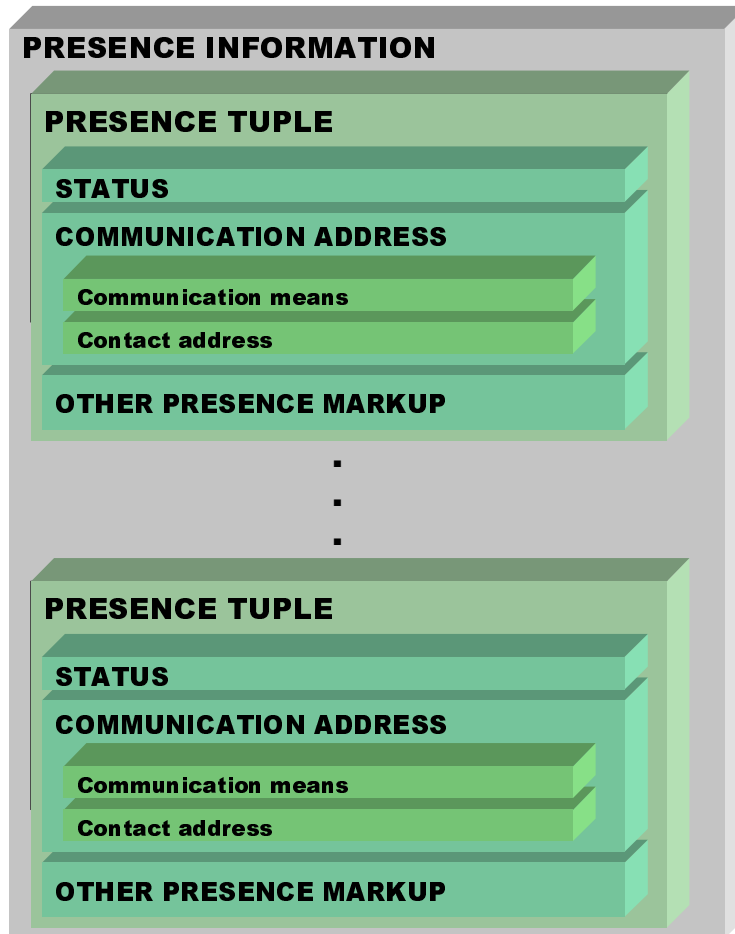
Each such presence tuples contains the following information as described in RFC 2778 [3]:-

- status

Item	Explanation	Example Values
status	Indicates the current condition of the device or service represented by the presence tuple	open, closed, online, offline, busy, away, do not disturb etc.

Table 1: Status

- communication address

consists of a communication means and a contact address

Item	Explanation	Example Values
communication means	Information indicating a method whereby communication can take place	service type (e.g. telephony, SMS), media type (e.g. audio, video, text message), multimedia messaging service, instant messaging service etc.
contact address	Information indicating a specific point of contact via some communication means	E.164, URI, instant inbox address etc

Table 2: Communication address

-   other presence markup

    any additional presence information

---

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

    Presence information for presentities shall be made available in a standardised format to enable interoperability.

    The standardised presence information format:

    i)   shall be able to interwork with IETF specified presence information formats (e.g. RFC 2778 [3], RFC 2779 [4] and CPIM [5])

    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")

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 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.

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 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 every watcher is allowed except watcher z…

- the validity of the access authorisation granted for a given watcher. The access to the presentity's presence information can be restricted for a certain period, or during specific periods of the day.

- the attributes of the presentity's presence information that can be made available to a given watcher.

- the ability to provide different presence information 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 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)

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 eavesdropping and tampering:-

- Presence information and notifications

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

8 Charging

The presence service shall be able to support various charging mechanisms. 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.

9 Administration

The following administration requirements shall be supported.

9.1 Provisioning

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

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

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

9.2 Withdrawal

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

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

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

9.3 Activation

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

9.4 Deactivation

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

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.

Annex A (informative):
Example presence service use cases

Immediate Messaging Use Case

- Premise:

  User is in-and-out of coverage

  Others wish to send a message and get a response - now

- Considerations

  User's Presence provides info regarding availability (Yields measure of Probability of message delivery)

- Presence capability can be separated from IM

  Functional Separation

- Sequence

  User is out and about (having meetings or just travelling)

  Availability status gets updated as needed (User control - change to 'unavailable - in meeting', Network control - out-of-coverage / busy-in-call)

- Co-worker wants to send you a note

  Check of Presence Info lets others see if user is available (If available - provides addressing info (e.g. IM server / account ids))

- IM Server handles message deliveries

  Status updates available at any time

Location Info in Presence Use Case

- Premise:

  User is travelling per a schedule

  Others looking to find out when user will arrive

  Alternative model is to know where to go to meet user

- Considerations

  User's Presence Info could have activity indicator (e.g. 'in a meeting' or 'driving')

- System may have access to location information on user

  Issue would be the granularity/resolution

- System may have access to user's 'calendar'

  Would make a plan available

- Security/authentication aspects of disclosures

- Sequence

  User is out and about (having meetings or just travelling (Assume that user activity indication available (For example: 'unavailable - driving')

System could correlate location information with activity (Answer questions like - is user at planned meeting?, If travelling, could correlate distance with minimum transit time)

System could maintain progress on plan from calendar (System may be able to determine if user is running late or not, User could revise plan or provide annotated information)

Co-worker wants to know if you are available (System provides current activity, possible links to schedule)

- Family wants to know if user is on way home

    Activity indication of 'driving' may assist in determination

    Current location info could help determine how far from home

- Meet-me example

    Service may correlate matching info (Example where Activity Indication - 'Shopping' & Location - 'Mall', Friend with matching codes could be flagged, Could IM to determine which store or to have lunch)

    Service could manage meeting maker (May have appointment scheduled with others, Could check status to see if everybody was in right location)

Message Modality Control Use Case

- Premise:

    User has different means to communicate (voice, text…)

    User may indicate preferences

    Voice number is managed by entity monitoring status

- Considerations

    Content format adaptation available (e.g. text-to-speech (synthetic voice) or speech-to-text)

    User preferences set desired message format (May change the official communication device address)

    Related services subscribe to user status (Cell net could be watcher to provide value-add/quick routing)

- Sequence

    User is in a meeting (can't take a phone call)

    Status shows 'busy - in a meeting' (Presence status listed as 'unavailable for voice', Option for speech-to-text delivery provided if available)

    If friend can send text - does so (Works as expected)

    If friend has a voice device (Calls into user's number, Switch sees speech delivery disabled - conversion offered, Switch connects caller to speech-to-text converter, Text is sent to user, If caller stays on circuit, could engage in two-way dialog)

- Premise:

    User is travelling and changes plane

    Others looking to communicate with the user

    Service available to 'take a message'

- Considerations

    Service has access to User's state

    Service could be associated with User info (May be dependent on state or watcher identification)

    Service may deliver 'markup' contact for reply (Ideal is to enable programmable or responsive operations)

Traveler Changing Planes Use Case

- Sequence

  User is on a plane

  User (more correctly - device) is out of coverage (Presence status listed as 'unavailable', Service ('take a message') shown as available)

  Friend wants to pass some info and sees 'unavailable' status (Uses 'take a message' to save a friendly note)

  Co-worker needs some specific info (Uses 'take a message' to record a 'get back to me' note)

- User arrives at airport

  User status changes (Availability may be provided to limited subset of watchers)

  'Take a Message' Service gets update and sends a report (Provides an inbox type message)

  User may interact to read the messages (stored by service) (Messages could be selectively managed (read/forward/delete))

  Addresses in Notes are associated with status information (Effectively invokes a dynamically generated buddy list, May have been entities that were not part of regular buddy list, Very easy to 'return the call' with know availability information)

- User gets on next plane

  Status changes again - reverts to unavailable handling

Annex B (informative):
Change history

Change history											
TSG SA#	SA Doc.	SA1 Doc	Spec	CR	Rev	Rel	Cat	Subject/Comment	Old	New	Work Item
			22.141					Produced during Presence Adhoc 18th-19th April, Seattle, Washington, USA	0.0.0	0.1.0	Presence
			22.141					Produced during S1 plenary 7th-11th May, Helsinki, Finland	0.1.0	0.2.0	Presence
			22.141					Produced for TSG-SA#12	0.2.0	1.0.0	Presence
			22.141					Produced during Presence adhoc 5th-6th June, Sophia Antipolis, France	1.0.0	1.1.0	Presence
			22.141					Produced during Presence adhoc 26th-28th June, Dallas, Texas, USA	1.1.0	1.2.0	Presence
			22.141					Produced during Presence adhoc 10th -11th July, Lake Tahoe, Nevada, USA	1.2.0	1.3.0	Presence
			22.141					Produced during Presence adhoc 10th -11th July, Lake Tahoe, Nevada, USA	1.3.0	2.0.0	Presence