
Source: SA1
Title: Release 6 CRs to 22.141 on Presence
Document for: Approval
Agenda Item: 7.1.3

SA Doc	Spec	CR	Rev	Phase	Cat	Subject	Old Vers	New Vers	SA1 Doc
SP-020560	22.141	015		Rel-6	F	Presence TS - Cleaning of requirements	6.0.0	6.1.0	S1-021592
SP-020560	22.141	016		Rel-6	F	Presence TS - Tidy up of security requirements	6.0.0	6.1.0	S1-021781

CR-Form-v7

CHANGE REQUEST

⌘ **22.141 CR 015** ⌘ rev **-** ⌘ Current version: **6.0.0** ⌘

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

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘	Cleaning of the specification	
Source:	⌘	SA1 (Fujitsu Laboratories of Europe)	
Work item code:	⌘	PRESNC	Date: ⌘ 02/08/2002
Category:	⌘	F	Release: ⌘ Rel-6
		Use <u>one</u> of the following categories:	Use <u>one</u> of the following releases:
		F (correction)	2 (GSM Phase 2)
		A (corresponds to a correction in an earlier release)	R96 (Release 1996)
		B (addition of feature),	R97 (Release 1997)
		C (functional modification of feature)	R98 (Release 1998)
		D (editorial modification)	R99 (Release 1999)
		Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘	Some issues in the TS are still open.	
Summary of change:	⌘	<ul style="list-style-type: none"> - It is proposed not to include a definition of status insofar as this term is used in different contexts throughout the TS (IETF status, subscriber status, and network status). The meaning of "status" can be understood wherever it is used. - Unclear text is reworded, and formatting is changed in section 4.2 	
Consequences if not approved:	⌘	Some issues remain open and unsolved.	

Clauses affected:	⌘	2, 3.1, 4.2									
Other specs affected:	⌘	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="width: 20px;"> </td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"> </td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"> </td> <td style="width: 20px;">X</td> </tr> </table> Other core specifications ⌘ Test specifications O&M Specifications	Y	N		X		X		X	
Y	N										
	X										
	X										
	X										
Other comments:	⌘	This Change Request does not add any new requirement to the specification.									

How to create CRs using this form:

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

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

- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

First Change in Clause 2

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-imp-pim-05.txt |

Note: This Internet document is still draft.

End of First Change

Next Change in Clause 3.1

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

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.

End of change in Clause 3.1

Next Change in Clause 4.2

4.2 Roles in the presence service

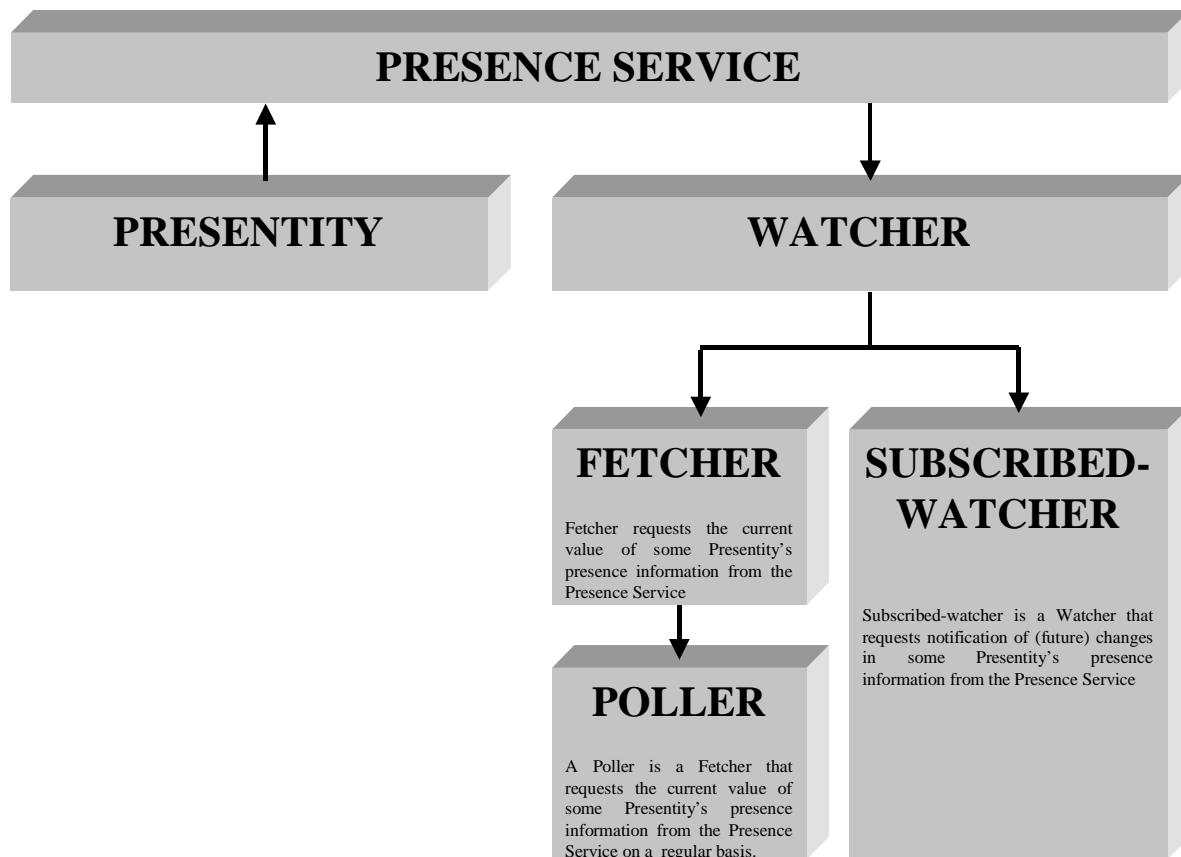


Figure 2: Presence service model

The presence service may be considered to support two 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. The term "pollers" identifies the type of fetchers that request the pPresence 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.

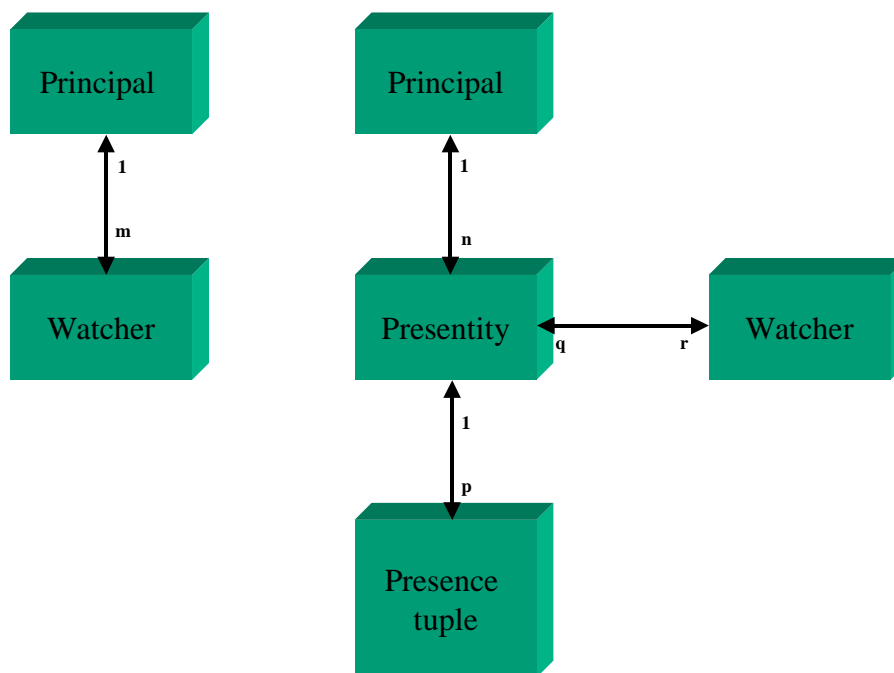


Figure 3: Presence Service Entity Relationships

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

End of change in Clause 4.2
End of document

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CHANGE REQUEST

⌘ **22.141 CR 016** ⌘ rev **-** ⌘ Current version: **6.0.0** ⌘

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

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Tidy up of security requirements		
Source:	⌘ SA1 (Fujitsu Laboratories of Europe)		
Work item code:	⌘ PRESNC	Date:	⌘ 02/08/2002
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
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	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ SA3 reviewed TS 22.141 and commented that some redundancies could be avoided on security and privacy requirements and that some requirements were unclear (c.f. S1-020689)
Summary of change:	⌘ <ul style="list-style-type: none"> - In 5.4, the management requirements are reorganised and a reference to the privacy section is added. - In 5.4, a note stating that a requirement might need to be introduced in CPIM has been removed as CN1 has taken into account this aspect. - In 5.4, two requirements are changed in order to apply not only to subscribed-watchers but to all categories of watchers. - In 5.4, the meaning of anonymity is clarified. - In 6.1, requirements already covered in the access rules section are removed. - In 6.2, a requirement (containing a reference to a non-existing section) is removed as it is already covered in 6.1. - In 7, a vague statement on fraud requirements and a requirement on authorisation already covered in 6.1 are removed.
Consequences if not approved:	⌘ Unclear and redundant requirements persist in the TS.

Clauses affected:	⌘ 5.4, 6.1, 6.2, 7								
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"> </td> <td style="padding: 2px;">X</td> </tr> <tr> <td style="padding: 2px;"> </td> <td style="padding: 2px;">X</td> </tr> </table>	Y	N		X		X	Other core specifications	⌘
	Y	N							
		X							
	X								
Test specifications	⌘								

O&M Specifications

Other comments: ⌘ This Change Request does not add any new requirement to the specification.

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First Change in Clause 5.4

5.4 Management requirements

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

a) ~~a)~~ Access control to the presence service information

The presentity shall be able to manage the access to its presence information in compliance with the principal's privacy and access rules requirements detailed in 6.1 and 6.2.

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 privacy.~~

It shall be possible to inform the presentity of watcher-subscription requests

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

It shall be possible for the presentity to request the watcher information.

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

~~i) an entity shall be able to watcher-subscribe to a presentity's presence information at any time, i.e. to request notification from the presence service of (future) changes in any of the attributes or only in the attributes specified by the watcher (subject to the principal'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.~~

d) 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 privacy, or to be notified of subsequent changes in presence information data (except when such notification is prevented by access rules), and:-

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

It shall be possible for watcher to request presence information anonymously (i.e. the watcher's identifier will not be revealed to the presentity). This request can be accepted or rejected, depending on the principal's privacy.

A Watcher's interest to a presentity's presence information shall not be revealed to other watchers.

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

Watcher-subscription to a presentity's presence information

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

ii) it shall be possible for the watcher to request an anonymous watcher-subscription (i.e. the watcher's identifier will not be revealed to the presentity or to other watchers). This request can be accepted or rejected, depending on the principal's privacy.

iii) 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.

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

v) 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.

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

~~ii) it shall be possible for the watcher to request an anonymous watcher-subscription (i.e. the watcher's identifier will not be revealed to the presentity or to other watchers). This request can be accepted or rejected, depending on the principal's privacy.~~

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

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

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

~~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 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) Not used

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].

End of First Change in Clause 5.4

Next Change in Clause 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 (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'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.

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.

~~Specific local, national, and regional privacy regulations shall be complied with. In particular, aAn operator shall, at any time, be able to override principal's privacy preferences if required to do so by local authorities.~~

End of Change in Clause 6.1

Next Change in Clause 6.2

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 of watchers allowed access to the presentity's presence information. For example: watchers x and y are allowed, or only watchers in group z are allowed, or all watchers and groups are allowed.
- 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 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)~~

End of Change in Clause 6.2

Next Change in Clause 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 principal before allowing registration to the presence service.

It shall be possible to authenticate at any time a watcher and/or a presentity 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 attacks (e.g., eavesdropping, tampering, and replay attacks):

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

End of Change in Clause 7
End of document