Source:	SA WG2
Title:	CRs to TS 23.141: Various Technical Corrections (Presence) (Rel- 6)
Document for:	Approval
Agenda Item:	7.2.3

SA Doc	TS No.	CR No	Re v	Rel	Cat	Subject	Vers Cur	SA2 Doc	WI	Clauses affected
SP-050336	23.141	0071	2	Rel-6	F	Correction of description of PNA indirect control of Presence Information flow	6.7.0	S2-050799	PRESNC	5.2.2.1, 5.2.2.2
SP-050336	23.141	0072	-	Rel-6	F	Alignment with Stage 3	6.7.0	S2-051180	PRESNC	5.1
SP-050336	23.141	0073	1	Rel-6	F	Update of references	6.7.0	S2-051319	PRESNC	2, 4.3.2, 4.3.3, 4.3.4, 4.3.14, 5.3.4
SP-050336	23.141	0074	1	Rel-6	F	Location of Presence entities	6.7.0	S2-051320	PRESNC	4.3.2, 4.3.7, 4.3.15, 5.2.1, 5.2.2
SP-050336	23.141	0075	-	Rel-6	F	Locating the Presence Server	6.7.0	S2-051183	PRESNC	5.3.2
SP-050336	23.141	0076	1	Rel-6	F	UE based PUA/Network based PUA	6.7.0	S2-051321	PRESNC	5.2.1, 5.3.4
SP-050336	23.141	0077	1	Rel-6	F	Modification about reference link in 24.141	6.7.0	S2-051318	PRESNC	4.3.12

## 3GPP TSG SA WG2 meeting #45 Beijing, China, 4<sup>th</sup> – 8<sup>th</sup> April 2005



		CHANGE REQUEST	UN-FUIIII-V.
æ	2	2.3.141 CR 0071 <b># rev 2</b> <sup># Current version:</sup> 6.7.0	æ
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Proposed chang	ge aff	ects: UICC apps <mark>% ME Radio Access Network Core N</mark>	etwork X
Title:	<mark>ж</mark> (	Correction of description of PNA indirect control of Presence Information flow	I
Source:	<mark>ж</mark>	SA WG3	
Work item code	: <mark>%</mark>	PRESNC         Date: # 30/03/2005	
Category: Reason for char	B U	Release:       Rel-6         se one of the following categories:       Use one of the following rel         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)         B (addition of feature),       R98       (Release 1997)         D (editorial modification of feature)       R99       (Release 1998)         D (editorial modification)       Rel-4       (Release 4)         etailed explanations of the above categories can a found in 3GPP TR 21.900.       Rel-6       (Release 6)         X       In general it is not possible for the Presence Network Agent (PNA) to represence Information to it the PNA.       A specific example of this is when using Pi. In this case the PNA uses SUBSCEIPE measage to subariba to patifications from the SUBSCEIPE measage to subariba to patifications from the SUBSCEIPE	quest (via ding)
		<ul> <li>SUBSCRIBE message to subscribe to notifications from the S-CSCF in this con until the subscription period ends or until terminated by the PNA (using a SUBSCRIBE message) or the S-CSCF (using a NOTIFY message that that the subscription has been terminated).</li> <li>For this reason the text in 5.2.2.1 that says that the PNA "shall be able to requests to the HSS/HLR to cause other network elements to send (or sending) Presence Information to the Presence Network Agent" needs to modified, along with a similar statement in 5.2.2.2.</li> </ul>	tinues a indicates o send stop o be
Summary of cha	ange:	The text in 5.2.2.1 and in 5.2.2.2 is changed to indicate that this capability limited to controlling the sending of Presence Information from network that have the Presence Information subscriptions made via the HSS/HL	ity is elements R.
Consequences not approved:	if	There is a requirement that the Presence Information flow for all network elements can be "gated" as a result of communication between the PNA HSS/HLR and this is not always possible.	k and the
Clauses affected	d:	<b>#</b> 5.2.2.1, 5.2.2.2	
Other specs Affected:		Y       N         X       Other core specifications       X         X       Test specifications       X         X       O&M Specifications       X	
Other comment	s:	*	

2

<< Changed section >>

## 5.2.2 Presence Network Agent

#### 5.2.2.1 Functions of the Presence Network Agent

The Presence Network Agent element shall provide the following functionality:

- The Presence Network Agent shall receive Presence information from network elements within the HPLMN and VPLMN.
- The Presence Network Agent shall be able to send requests to the HSS/HLR to cause other network elements to send (or stop sending) Presence Information to the Presence Network Agent. <u>Note that this only applies where</u> the other network element has Presence Information subscriptions managed via the HSS/HLR.
- The Presence Network Agent shall associate Presence information with the appropriate Subscriber/Presentity combination.
- The Presence Network Agent shall convert the Presence information into the format standardized for the Pen interface.
- The Presence Network Agent shall publish the Presence information to the Presence Server across the Pen reference point.

#### 5.2.2.2 Suppliers of Presence Information

The Presence Network Agent may receive Presence information from one or more of the following 2G/3G network elements over the specified reference point:

Network Element supplying Presence Information	Reference Point
HSS/HLR	Ph
S-CSCF	Pi
MSC Server/VLR	Pc
SGSN	Pg
GGSN	Pk
GMLC	Pl
3GPP AAA Server	Pr
PDG	Рр

It is a matter of implementation and operator choice which reference points the Presence Network Agent supports towards suppliers of Presence information. It should be noted that the Ph reference point is used to activate and deactivate publishing of Presence information via other reference points. Where other reference points support such a capability, a Presence Network Agent can use the Ph reference point to activate and deactivate publishing of Presence information.

# 3GPP TSG-SA WG2 Meeting #46 Athens, Greece, 9<sup>th</sup> – 13<sup>th</sup> April 2005

# Tdoc **#**S2-051180

CHANGE REQUEST						
<b>#</b>	23.141 CR 0072	- X Current version: 6.7.0				
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Proposed chang	e affects: UICC apps <mark>%</mark> ME	Radio Access Network Core Network X				
Title:	Alignment with Stage 3					
Source:	₩ SA WG2					
Work item code:	# PRESNC	Date: <mark>೫ 05/09/2005</mark>				
Category:	<ul> <li>F</li> <li>Use <u>one</u> of the following categories: <i>F</i> (correction) <i>A</i> (corresponds to a correction in an earlied <i>B</i> (addition of feature), <i>C</i> (functional modification of feature) <i>D</i> (editorial modification) Detailed explanations of the above categories of be found in 3GPP <u>TR 21.900</u>.</li> </ul>	Release:%Rel-6Use one Ph2of the following releases: (GSM Phase 2)er release)R96(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)canRel-4(Release 4)Rel-5(Release 5)Rel-6(Release 7)				

Reason for change: #	Partial Publications are indicated as being supported in Presence Stage 3 specifications TS 24.141 section 5.3.3.3: "If the PUBLISH request contained the "application/pidf-diff+xml" content-type as described in draft-ietf-simple-partial-pidf-format [38], the PS shall process the PUBLISH request in accordance with RFC 3903 [23] and draft-ietf-simple-partial-
	publish [45]." Stage 2 doesn't clearly indicates that the Presence Server should be able to process those Partial publications. As such there is a misalignment between Stage 2 and Stage 3.
Summary of change: #	Text added in section 5.1 that the Presence Server shall be able to process partial publications if received from Presence User Agents.
Consequences if # not approved:	Misalignment between Stage 2 and Stage 3 and inconsistent specifications.
Clauses affected: #	5.1

Other specs affected:	¥	<ul> <li>N</li> <li>X Other core specifications</li> <li>X Test specifications</li> <li>X O&amp;M Specifications</li> </ul>	s <mark>#</mark>
Other comments:	æ	·	

## 5.1 Presence Server

The Presence Server shall reside in the presentity's home network.

The Presence Server shall be able to receive and manage presence information that is published by the Presence User/Network/External agents, and shall be responsible for composing the presence-related information for a certain presentity from the information it receives from multiple sources into a single presence document. The composing process to create the single presence document may involve complex transformations of presence information such as modifying the presence information from one presence source based on information from another presence source. In particular, the Presence server shall be able to receive and manage presence information that is published from multiple Presence User agents of the same presentity. The Presence Server shall be able to process partial publications of information from Presence User Agents. These partial publications contain the presence information of the presentity that has been modified since the latest publication sent to the Presence Server about this presentity.

These Presence User agents may be updating the same parts of the presence information.

The mechanisms for combining the presence related information shall be defined based on presence attributes, and according to certain policy defined in the Presence Server. The Presence Server shall be capable of receiving and composing the Presence information received in the standardized formats from authorized sources regardless of the source of the information or the ability to interpret the information contained in the presence tuples. The information that the Presence Server is not able to interpret shall be handled in a transparent manner.

The Presence Server shall also allow watchers to request and subscribe to either the full set of presence information of a presentity, or only certain information within. Watcher defines the subset of the presence information, that he is interested in, by the filter that is carried in presence information subscription. The Presence Server shall be able to generate partial notifications to a watcher, which has indicated the capability to process them. These partial notifications contain the presence information of the presentity that has been modified since the latest notification sent to the watcher about this presentity, and required additional information to be able to link the partial notification to the information watcher has received earlier. In case the watcher does not indicate the capability to process partial notifications the presence server shall send only full updates.

Before the subscription to presence information is accepted, the Presence Server should attempt to verify the identity of the watcher that subscribes to Presentity's Presence information, except if the watcher has indicated his desire to remain anonymous. The action taken by the Presence Server if the verification fails may include notifying the Presentity.

The Presence Server shall support SIP-based communications for publishing presence information.

The Presence Server shall support SIP-based communications with the Presentity Presence Proxy. The Presence Server is a SIP Application Server as defined by 3GPP TS 23.228 [9], and is located using SIP URLs, standard SIP and existing IMS mechanisms (SIP routing, HSS query, ISC filtering, etc...).

The Presence Server shall provide Subscription Authorization Policy. The Subscription Authorization Policy determines which Watchers are allowed to subscribe to a Presentity's Presence information.

The Subscription Authorization Policy also determines which tuples of the Presentity's Presence information the watcher has access. It shall be possible for the Presentity's Presence User Agent to provide the Subscription Authorization Policy or it may be configured by the operator as part of the service provisioning.

The Presence Server may provide a watcher configurable filtering function that is used to limit the information that is delivered to a watcher. After subscription the authorized watchers get notified of the actual Presence Information based on the Subscription Authorization Policy and the filters set by the watcher in the subscription. If the Presence Server does not support the filters as requested by the watcher, this is indicated to the watcher. In this case the notification shall contain the actual Presence information based on the Subscription Authorization Policy and the filters as requested by the watcher, this is indicated to the watcher. In this case the notification shall contain the actual Presence information based on the Subscription Authorization Policy and local policy in the Presence Server. The Presence Server may support one or more of the following types of filters: Filters, which allow watchers to define

- the tuples that the watcher is interested in;

Watcher can define a criteria which allows the complete tuple and all the information within the tuple to be transmitted. E.g. watcher can define the filter to permit notifying all the tuples (and all the information within those tuples) which has "tel:user@domain" as the contact address or "IM" as a communication means.

CR page 3

Watcher can define a criteria which result notifies to contain values only for defined attributes (attributes are defined by the filter and values for other attributes are not available in the notifications)

- the triggers when a notification should be sent. Watcher can define a criteria which specifies when to send a notification. E.g. every time the communication means status attribute changes its value, a notification is sent to the watcher. Another example: filter out and do not send the notifications resulting from the publication of the Presence User agent that is equal to the watcher.

The Presence Server shall collect watcher information to enable presentity to obtain information of the watchers that are or have been requesting, fetching or subscribing presentity's presence information. Service provider shall be able to define the maximum time period over which information is collected and stored. The watcher information list shall include:

- identity of the watcher (unless anonymity was requested);
- In case of anonymous watcher, the identity of the watcher shall not be provided to the presentity. The presentity shall be able to determine that an anonymous watcher has requested, fetched or subscribed presence information of the presentity including related information as specified in this list without revealing the watchers identity.
- time of the request, fetch or subscription;
- length of the subscription; and
- state of the request or subscription.

The Presence Server shall be able to support the presentity obtaining the above watcher information. The Presence Server shall be able to receive watcher information fetches and subscriptions from the presentity. These watcher information fetch and subscribe requests shall be able to contain filters which define

- what watchers the presentity is interested in;
  - Possible categories are:
  - all watchers;
  - defined watchers;
  - new, unauthorised watchers; and
  - defined and new, unauthorised watchers.
- what information the presentity is interested in; and The information is all or part of the watcher information list as defined above.
- the length of the watcher information history collection period that the presentity is interested in.

In response to watcher information fetches, the presence server shall be able to provide requested watcher information to the presentity. In response to watcher information subscriptions, the presence server shall provide notification to the presentity of the current state of the subscribed watcher information. When there are subsequent changes in the subscribed watcher information, notifications of the changes in watcher information are sent to the presentity.

The Presence Server may support rate-limiting or filtering of the presence notifications based on local policy in order to minimize network load.

## 3GPP TSG–SA WG2 Meeting #46 Athens, Greece

# *Tdoc* **#S2-051319**

CHANGE REQUEST						
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Category: ೫	<ul> <li>F</li> <li>Use <u>one</u> of the following categories:</li> <li>F (correction)</li> <li>A (corresponds to a correction in</li> <li>B (addition of feature),</li> <li>C (functional modification of feature)</li> <li>D (editorial modification)</li> <li>Detailed explanations of the above cate be found in 3GPP <u>TR 21.900</u>.</li> </ul>	F an earlier release) rre) egories can	Release: <mark>₩ RE</mark> Use <u>one</u> of the fo 2 (GSN R96 (Rele R97 (Rele R98 (Rele R99 (Rele Rel-4 (Rele Rel-5 (Rele Rel-6 (Rele	EL-6 billowing releases: M Phase 2) ease 1996) ease 1997) ease 1998) ease 1999) ease 4) ease 5) ease 6)		
<ul> <li>[3] provides guidelines for Pen, Pex, Pw and Pep interfaces. The new reference should be used and the specifications on the interfaces sl be clarified accordingly. The Internet draft in reference in section 2 item [4] has expired and been repl by IETF RFC 3856. The Internet draft in references in section 2 item [12] is in a new draft version.</li> <li>Summary of change: In section 2 about references, [3] for Common Presence and Instant Messaging (CPIM) Internet Draft http://www.ietf.org/internet-drafts/draft-ietf-impp-cpim-pidf-05.txt, May 2002 is replaced by IETF RFC 3863: "Presence Information Data Format", August 20 In sections 4.3.2, 4.3.3, 4.3.4, 4.3.14 about Pen, Pex, Pw and Pep interfaces added that each interface shall support the transport of presence information under the PIDF format [3] possibly with its extensions.</li> <li>[4] for Presence extensions Internet Draft is replaced by IETF RFC 3856: "A Presence Funct Package for the Section Package for the Section Package (SID)". August 20</li> </ul>						
Correction IS made in Section 5.3.4. [12] for Event Notification Extension for Resource ListsInternet-Draft is replaced by current version, <u>http://search.ietf.org/internet-drafts/draft-ietf-simple-event-list-07.txt</u> March 2005.						
Consequences if ne approved:	ot Wrong reference, inconsistence Incomplete specifications of P	ey with stage 3 (Tage 1, Pex, Pw and I	S 24.141 section Pep interfaces.	n 2 [21] and [27])		
Clauses affected:	<b>೫ <mark>2, 4.3.2, 4.3.3, 4.3.4, 4.3.14, 5</mark></b>	.3.4				
Other specs affected:	YNXOther core specificationXTest specificationsXO&M Specifications	ns X				
Other comments:	æ					

# 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 TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 22.141: "Presence service; Stage 1".
- [3] Common Presence and Instant Messaging (CPIM) <u>IETF RFC 3863:</u> "Presence Information Data Format", <u>Internet Draft http://www.ietf.org/internet drafts/draft ietf impp cpim pidf 05.txt</u>, <u>May</u> <u>2002August 2004</u>

Editor's note: The above document is not yet published as an RFC, where possible the reference should be converted to an RFC prior to approval of this document.

[4] <u>IETF RFC 3856: " A Presence Event Package for the Session Initiation Protocol (SIP)", August 2004</u>

<u>Session Initiation Protocol (SIP) Extensions for Presence, Internet Draft http://www.ietf.org/internet\_drafts/draft-ietf\_simple\_presence\_07.txt, May 2002</u>

Editor's note: The above document is not yet published as an RFC, where possible the reference should be converted to an RFC prior to approval of this document.

- [5] 3GPP TS 33.203: "3G security; Access security for IP-based services".
- [6] 3GPP TS 32.200: "Telecommunication management; Charging management; Charging principles".
- [7] 3GPP TS 32.225: "Telecommunication management; Charging management; Charging data description for the IP Multimedia Subsystem (IMS)".
- [8] 3GPP TS 33.210: "3G security; Network Domain Security (NDS); IP network layer security".
- [9] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".
- [10] 3GPP TS 23.218: "IP Multimedia (IM) session handling; IM call model; Stage 2".
- [11] IETF RFC 3265: "Session Initiation Protocol (SIP) Event Notification"
- [12] A Session Initiation Protocol (SIP) Event Notification Extension for Resource Lists, Internet-Draft, <u>http://search.ietf.org/internet-drafts/draft-ietf-simple-event-list-057.txt</u> <u>August March 20054</u>

Editor's note: The above document is not yet published as an RFC, where possible the reference should be converted to an RFC prior to approval of this document.

- [13] 3GPP TS 29.061: "Interworking between the Public Land Mobile Network (PLMN) supporting Packet Based services and Packet Data Networks (PDN)".
- [14] 3GPP TS 23.271: "Location Services (LCS); Functional description; Stage 2".
- [15] 3GPP TS 23.127: "Virtual Home Environment (VHE) / Open Service Access (OSA); Stage 2".
- [16] IETF RFC 2778: "A Model for Presence and Instant Messaging".
- [17] IETF RFC 2779: "Instant Messaging / Presence Protocol Requirements".

- [19] 3GPP TS 23.234: "3GPP system to Wireless Local Area Network (WLAN) interworking; System description".
- [20] LIF TS 101: "Mobile Location Protocol Specification"(Location Interoperability Forum 2001) [Available at http://www.openmobilealliance.org].

\*\*\* NEXT MODIFICATION \*\*\*

## 4.3.2 Reference point <u>Presence</u> Network Agent – Presence Server (Pen)

This reference point shall allow a presentity's presence information to be supplied to the Presence Server. [3] provides guidelines for such an interface. The transport on this reference point shall not impose any limitations to the size of the presence information.

Pen shall provide mechanisms for the Network Agent to manage subscription authorisation policies.

Pen shall provide mechanisms for the Network Agent to supply or update only a certain subset of the presentity's presence information to the Presence Server.

Pen shall provide mechanisms for activating or deactivating the reporting of Presence Information for a given presentity from the network entities within the PLMN.

In order to provide the all the functionalities required on this reference point, a combination of multiple protocols may be used. The protocols used at the Pen reference point are not standardised. At least, this interface shall support the transport of presence information under the PIDF format as specified in IETF RFC 3863 [3].

#### \*\*\* NEXT MODIFICATION \*\*\*

## 4.3.3 Reference point Presence External Agent – Presence Server (Pex)

This reference point shall allow a presentity's presence information to be supplied to the Presence Server. [3] provides guidelines for such an interface. The transport on this reference point shall not impose any limitations on the size of the presence information.

Pex shall provide mechanisms for the Presence External Agent to supply or update only a certain subset of the presentity's presence information to the Presence Server.

In order to provide all the functionalities required on this reference point, a combination of multiple protocols may be used. Presence information obtained from an external network by the Presence External Agent is transferred across the Pex reference point to the Presence Server. This interface shall support the transport of presence information under the PIDF format as specified in IETF RFC 3863 [3].

\*\*\* NEXT MODIFICATION \*\*\*

# 4.3.4 Reference point Watcher applications – Presentity Presence Proxy (Pw)

This reference point shall allow a Watcher application to request and obtain presence information. [3] provides guidelines for such an interface. This interface shall support the transport of presence information under the PIDF format as specified in IETF RFC 3863 [3].

The transport shall not impose any limitations to the size of the presence information.

In order to provide all the functionalities required on this interface, a combination of multiple protocols may be used.

This reference point shall support both presence monitoring and fetching modes. In the fetching mode, it shall be possible for the watcher to once request all or only a subset of a presentity's presence information (e.g. one or more tuples). The subset of the presence information is defined by the filter that is carried in the presence information subscription.

In the monitoring mode, it shall be possible for the watcher to request monitoring of all or a subset of a presentity's presence information (i.e. one or more tuples). Watcher shall be able to explicitly indicate the capability to process partial updates. The subset of the presence information is defined by the filter that is carried in the presence information

subscription. It shall be possible for the watcher to request the presence server to filter out information when the watcher is equal to the publishing Presence User Agent.

It shall be possible for the notifications containing the presentity's presence information to contain only information as defined by filters. It shall be possible for the notifications containing the presentity's presence information to contain only the modified tuples, i.e. only those tuples which have changed since the last notification.

This reference point may allow a Watcher application to use presence lists in presence information subscriptions, and the Watcher Presence Proxy to interface to a server that provides the functionality of Presence List Server.

IPv6 shall be supported for all functionalities required from a Watcher application that supports the Pw reference point. An IPv6 capable 3GPP UE shall use IPv6 when accessing Pw.

#### \*\*\* NEXT MODIFICATION \*\*\*

# 4.3.14 Reference point Presence User Agent – Presentity Presence Proxy (Pep)

This reference point shall allow a presentity's presence information to be supplied to the Presence Server. [3] provides guidelines for such an interface. The transport on this reference point shall not impose any limitations on the size of the presence information. This interface shall support the transport of presence information under the PIDF format as specified in IETF RFC 3863 [3].

Pep shall provide mechanisms for the Presence User Agent to obtain information on watcher subscriptions to the presentity's presence information.

Pep shall provide mechanisms for the Presence User Agent to supply or update only a certain subset of the presentity's presence information to the Presence Server. It shall also be possible for the Presence User Agent to supply the complete presence document over Pep.

Pep shall support SIP-based communications for publishing presence information.

IPv6 shall be supported for all functionalities required from a Presence User Agent that supports the Pep reference point. An IPv6 capable 3GPP UE shall use IPv6 when accessing Pep.

#### \*\*\* NEXT MODIFICATION \*\*\*

### 5.3.4 Relationship of Presence Proxies with IMS entities

The functionalities of the Watcher Presence Proxy are then taken care of by the P-CSCF and the S-CSCF:

- The S-CSCF is responsible for authentication according to procedures described in 3GPP TS 33.203 [5].
- The charging and accounting procedures are conducted as per procedures defined by 3GPP TS 32.200 [6], 3GPP TS 32.225 [7].
- The security mechanisms between the Watcher and the Presentity Presence proxy are defined by 3GPP TS 33.210 [8].

The functionality of the Presentity Presence Proxy is taken care of by the P-CSCF, I-CSCF and the S-CSCF as defined in 3GPP TS 23.228 [9].

The procedures for locating, routing to and accessing the Presence Server of the presentity are defined in 3GPP TS 23.228 [9] and 3GPP 23.218 [10]. These procedures also take care of routing and accessing the Presence Server of a presentity that is associated with an unregistered UE.

The functionality of the Watcher Presence Proxy and the Presentity Presence Proxy are allocated to the functional element CSCF as defined in 3GPP TS 23.002 [18].

Figure 5.3.4-1 below presents the mapping of the Watcher and Presentity Presence Proxy functionalities to IMS network elements when located within the IMS along with the Watcher application. This mapping is based on and restricted to reusing the existing IMS architecture mechanisms and can be clearly seen in the detailed information flows show in annex A.



#### Figure 5.3.4-1: Both the Watcher application and the Presence Server located within IMS

NOTE : The standard IMS (SIP) routing mechanisms define whether a certain CSCF is indeed included in the path of a SUBSCRIBE or NOTIFY transaction.

As described in <u>IETF RFC 3856IETF draft ietf simple presence</u>[4], the Watcher Application sends a SIP SUBSCRIBE to Event: presence addressed to the presentity's SIP URL to subscribe or fetch presentity's presence information. This SUBSCRIBE transaction will be routed and handled by the IMS infrastructure according to standard IMS routing and ISC procedures defined in 3GPP TS 23.228 [9] and 3GPP TS 23.218 [10].

The Presentity's S-CSCF is not mandated to insert itself into the Record-Route header of the initial SUBSCRIBE request, in case the S-CSCF does not execute any functions for the subsequent requests and responses of the dialog.

The presence document will be provided from the Presence Server to the Watcher Application using SIP NOTIFY along the dialogue setup by SUBSCRIBE either within the NOTIFY payload, or via a URL provided in the NOTIFY. The means to fetch the content can be seen as part of the Pw interface.

#### \*\*\* END OF MODIFICATION \*\*\*

# 3GPP TSG-SA WG2 Meeting #46 Athens, Greece, 9<sup>th</sup> – 13<sup>th</sup> April 2005



Image: State in section 5.2.1, the Presence Network Agent: For state in section 5.2.1, the Presence Network Agent should be intra-operator. As stated in section 5.2.1 about Presence Network Agent: The Presence Network Agent Presence Presence Network Agent Presence Proxy is taken care of by the P-CSCF and SecSF with the PS and the Px is meant for the interface at the S-CSCF with the PS and the Px is meant for the interface at the S-CSCF as defined in 3GPP Presence Network Agent Presence User Agent Presence Us	<b>H</b> 72 (								
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Reason for change:#       Currently, in TS 23.141, it is not clearly stated which entities are located at the home network of the presentity/watcher and which interfaces are intra-operator. As stated in section 5.2.2.1, the Presence Network Agent "shall be able to send requests to the HSS/HLR to cause other network elements to send (or stop sending) Presence information to the Presence Network Agent". For security reasons, the Presence Network Agent should be located in the presentity's home network. As stated in section 5.1, the "Presence Server shall reside in the presentity be now network." Thus, the Pen interface should be intra-operator. As stated in section 5.3.4, "The functionality of the Presentity Presence Proxy is taken care of by the P-CSCF, I-CSCF and the S-CSCF with the PS and the Px is meant for the interface at I-CSCF and S-CSCF with the PS and the Px is meant for the interface at I-CSCF and S-CSCF with the PS and the Px is meant for the interface at I-CSCF and Px should be intra-operator interfaces.         As stated in section 5.2.1 about Presence User Agent, "In reality, a Presence Use Agent may be located within the network", etc "In this case, the interface between the terminal and the Presence User Agent movies the recensary intervorking with the presence information can be provided alternative mechanisms such as SMS, WAP etc. The Presence User Agent provides the necessary intervorking with the presence server. As previously indicated, the PUA may be located with network entities such as AWAP WML/HTTP server or SMS-C, however this is an implementation issue and outside of the scope of technical report. This particular example is illustrative and shows the case when a user updates presence information through a WAP browser, where the Presence User Agent is located in the user's terminal show the case when a user updates presence information through a WAP browser, where the Presence User Agent is located in the acces of technic	Category:	ne of the following categori (correction) (corresponds to a correct (addition of feature), (functional modification of (editorial modification) ed explanations of the about and in 3GPP <u>TR 21.900</u> .	es: ion in an earli f feature) ve categories	l ier release) can	Release:         ₩         RE           Use one         of the form           2         (GSI           R96         (Relown           R97         (Relown           R98         (Relown           R99         (Relown           Rel-4         (Relown           Rel-5         (Relown	EL-6 ollowing rele M Phase 2) ease 1996) ease 1997) ease 1998) ease 1999) ease 4) ease 5) ease 6)	eases:		
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	<ul> <li>in section 4.3.2 that the Pen interface is intra operator;</li> <li>in section 4.3.7 that the Px interface is intra operator;</li> <li>in section 4.3.15 that the Pwp interface is intra operator;</li> <li>in section 5.2.1 that the Network based Presence User Agent is in the presentity's home network;</li> <li>in section 5.2.2 that the Presence Network Agent is in the presentity's home network;</li> </ul>				
Consequences if not approved:	Unclear specifications				
Clauses affected: #	4.3.2, 4.3.7, 4.3.15, 5.2.1, 5.2.2				
Other specs # affected:	X     Other core specifications     #       X     Test specifications     #       X     O&M Specifications				
Other comments: ೫					

## 4.3.2 Reference point Presence Network Agent – Presence Server (Pen)

This reference point shall allow a presentity's presence information to be supplied to the Presence Server. [3] provides guidelines for such an interface. The transport on this reference point shall not impose any limitations to the size of the presence information.

Pen shall provide mechanisms for the Network Agent to manage subscription authorisation policies.

Pen shall provide mechanisms for the Network Agent to supply or update only a certain subset of the presentity's presence information to the Presence Server.

Pen shall provide mechanisms for activating or deactivating the reporting of Presence Information for a given presentity from the network entities within the PLMN.

<u>The Pen interface is an intra-operator interface.</u> In order to provide the all the functionalities required on this reference point, a combination of multiple protocols may be used. The protocols used at the Pen reference point are not standardised.

\*\*\* NEXT MODIFICATION \*\*\*

# 4.3.7 Reference point Presentity Presence Proxy – HSS (Px)

<u>The Px interface is an intra-operator interface.</u> This interface shall assist locating the Presence Server of the presentity. This interface is implemented using the mechanisms defined for the Cx and Dx reference points as defined in TS 23.002 [18].

\*\*\* NEXT MODIFICATION \*\*\*

### 4.3.15 Reference point Presentity Presence Proxy – Presence Server (Pwp)

<u>The Pwp interface is an intra-operator interface.</u> This reference point shall allow all the functionalities provided by the Pw and Pep reference points.

#### \*\*\* NEXT MODIFICATION \*\*\*

## 5.2.1 Presence User Agent

The Presence User Agent element shall provide the following functionality:

- The Presence User Agent shall collect Presence information associated with a Presentity representing a Principal.
- The Presence User Agent shall assemble the Presence information in the format defined for the Peu and Pep reference points.
- The Presence User Agent shall send the Presence information to the Presence Server element either via the Presentity Presence Proxy over the Pep reference point or over the Peu reference point.- The Presence User Agent shall be capable of managing the subscription authorisation policies.
- The Presence User Agent shall handle any necessary interworking required to support terminals that do not support the Peu and Pep reference points.
- Presence User Agent shall uniquely identify itself (among the Presence User Agents of the presentity) when publishing presence information.

From a conceptual view, the Presence User Agent (PUA) element resides between the presence server and the user's equipment as illustrated in the reference architecture in figure 4.2-1. In reality, a Presence User Agent may be located in the user's terminal or within a network entity.

Where the PUA is located in UE, the UE shall support Pep and the Peu reference point to the Presence Server as illustrated in Figure 5.2.1-1 below.



Figure 5.2.1-1. UE based Presence User Agent

The Network based Presence User Agent shall reside in the presentity's home network.

Where the PUA is located within the network, the particular network entity shall support the Pep and Peu reference point to the presence server as illustrated in Figure 5.2.1-2.. In this case, additional functionality may be required to provide routeing between UE and the Presence User Agent, and, for the Presence User Agent to "register" the user within the "Presence network".

In this case, the interface between the terminal and the Presence User agent is outside of the scope of the present document.



Figure 5.2.1-2. Network based Presence User Agent

#### 5.2.1.1 Relationship of Presence User Agent with IMS entities

When the Presence User Agent is located in an IMS UE the Pep reference point is implemented using the Gm, Mw and ISC reference points as defined in 3GPP TS 23.002 [14].

- The Gm, Mw, and ISC reference points allow a presentity's presence information to be supplied to the Presence Server. These reference points also allow for the Presence User Agent to obtain information on watcher subscriptions to the Presentities Presence Information.
- The Peu reference point is implemented using the Ut reference point as defined in 3GPP TS 23.002 [18]. The Ut reference point provides mechanisms for the Presence User Agent to manage subscription authorisation policies.

\*\*\* NEXT MODIFICATION \*\*\*

## 5.2.2 Presence Network Agent

#### 5.2.2.0 General

The Presence Network Agent shall reside in the presentity's home network.

#### 5.2.2.1 Functions of the Presence Network Agent

The Presence Network Agent element shall provide the following functionality:

- The Presence Network Agent shall receive Presence information from network elements within the HPLMN and VPLMN.
- The Presence Network Agent shall be able to send requests to the HSS/HLR to cause other network elements to send (or stop sending) Presence Information to the Presence Network Agent.

- The Presence Network Agent shall associate Presence information with the appropriate Subscriber/Presentity combination.
- The Presence Network Agent shall convert the Presence information into the format standardized for the Pen interface.
- The Presence Network Agent shall publish the Presence information to the Presence Server across the Pen reference point.

### 5.2.2.2 Suppliers of Presence Information

The Presence Network Agent may receive Presence information from one or more of the following 2G/3G network elements over the specified reference point:

Network Element supplying Presence Information	Reference Point
HSS/HLR	Ph
S-CSCF	Pi
MSC Server/VLR	Pc
SGSN	Pg
GGSN	Pk
GMLC	Pl
3GPP AAA Server	Pr
PDG	Рр

It is a matter of implementation and operator choice which reference points the Presence Network Agent supports towards suppliers of Presence information. It should be noted that the Ph reference point is used to activate and deactivate publishing of Presence information via other reference points.

#### 5.2.2.3 Relationship of Presence Network Agent with IMS entities

Figure 5.2.2.3-1 below presents the architecture for the S-CSCF and the HSS to provide presence related information to the Presence Server.

NOTE: The architecture on Figure 5.2.2.3-1 is an IMS-specific simplification of some of the interfaces of the generic Presence reference architecture presented in clause 4.



#### Figure 5.2.2.3-1: IMS network elements supplying presence information

The ISC interface is used to convey presence information from the S-CSCF to the Presence Network Agent. More specifically, the functions of the Pi interface are taken care of by the ISC interface. As an example, the S-CSCF can convey a user's IMS-registration status by generating and sending a 3<sup>rd</sup> party REGISTER request to the Presence server.

The Sh interface is used to convey information from the HSS to the Presence Network Agent. More specifically, the functions of the Ph interface are taken care of by the Sh interface.

Since the Network Agent is introduced as a functional entity, which models the abstraction from the different presence sources, the network agent and the presence server may be collocated. In case of an IMS-only network environment the Pen reference point is assumed to be realized by an internal interface.

#### \*\*\* END OF MODIFICATION \*\*\*



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Reason for change: <mark></mark> #	In section 5.3.2 about watcher presence proxy, it is stated:
	"When a Watcher application intends to access some presence information of a presentity, it first needs to find the Presence Server containing this information."
	A stated in section 5.3.4, no specific routing procedure is used to contact the Presence server.
	"The procedures for locating, routing to and accessing the Presence Server of the presentity are defined in 3GPP TS 23.228 [9] and 3GPP 23.218 [10]. These procedures also take care of routing and accessing the Presence Server of a presentity that is associated with an unregistered UE."
	As stated in section 5.3.2:
	"The Watcher Presence Proxy shall provide the following functionality: Address resolution and identification of target networks associated with a presentity;"
	As stated in section 5.3.3:
	"The Presentity Presence Proxy shall provide the following functionality: Determination of the identity of the presence server associated with a particular presentity;"
	Thus, the access to the PS from the watcher should be done via the watcher presence proxy and then the presentity presence proxy.
Summary of change: 🔀	The access to the presence server from the watcher is corrected in section 5.3.2:
	When a Watcher application intends to access some presence information of a presentity, it first needs to contact its Watcher Presence Proxy which will contact the Presentity Presence Proxy to find the Presence Server containing this

	information.
Consequences if not	Inconsistency within TS 23.141
approved:	with sections 4.2 and 5.3.4: no interface between the watcher application and the Presence Server
	with sections 5.3.2 and 5.3.3: determination of the address of the Presence server at the presentity proxy.

Clauses affected:	<b>#</b> 5.3.2
	YN
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	X O&M Specifications
Other comments:	Here and the second

## 5.3.2 Watcher Presence Proxy

When a Watcher application intends to access some presence information of a presentity, it first needs to <u>contact its</u> <u>Watcher Presence Proxy which will contact the Presentity Presence Proxy to</u> find the Presence Server containing this information.

The Watcher Presence Proxy shall provide the following functionality:

- Address resolution and identification of target networks associated with a presentity;
- Authentication of watchers;
- Interworking between presence protocols for watcher requests;
- Generation of accounting information for watcher requests.

\*\*\* END OF MODIFICATION \*\*\*

# 3GPP TSG-SA WG2 Meeting #46 Athens, Greece, 9<sup>th</sup> – 13<sup>th</sup> April 2005



<sup>#</sup> 23	<mark>.141</mark> CR <mark>0076</mark>	<mark>⊮rev 1</mark>	Current version:	<b>6.7.0</b> <sup>8</sup>
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	"The functionality of the F CSCF, I-CSCF and the S Consequently, the P-CS0	Presentity Presen -CSCF as define CF should be pres	ice Proxy is taken care id in 3GPP TS 23.228 sent in figure 5.3.4.1 v	e of by the P- [9]." vith its interfaces
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Consequences if not approved:	Incorrect (section 5.2.1) a	and incomplete (s	section 5.3.4) specifica	ations
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Other specs # affected:	Y       N         X       Other core specifi         X       Test specifications         X       O&M Specifications	cations 🔀		
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## 5.2.1 Presence User Agent

The Presence User Agent element shall provide the following functionality:

- The Presence User Agent shall collect Presence information associated with a Presentity representing a Principal.
- The Presence User Agent shall assemble the Presence information in the format defined for the Peu and Pep reference points.
- The Presence User Agent shall send the Presence information to the Presence Server element either via the Presentity Presence Proxy over the Pep reference point or over the Peu reference point.- The Presence User Agent shall be capable of managing the subscription authorisation policies.
- The Presence User Agent shall handle any necessary interworking required to support terminals that do not support the Peu and Pep reference points.
- Presence User Agent shall uniquely identify itself (among the Presence User Agents of the presentity) when publishing presence information.

From a conceptual view, the Presence User Agent (PUA) element resides between the presence server and the user's equipment as illustrated in the reference architecture in figure 4.2-1. In reality, a Presence User Agent may be located in the user's terminal or within a network entity.

Where the PUA is located in UE, the UE shall support Pep and the Peu reference point to the Presence Server as illustrated in Figure 5.2.1-1 below.



Figure 5.2.1-1. UE based Presence User Agent

Where the PUA is located within the network, the particular network entity shall support the Pep and Peu reference point to the presence server as illustrated in Figure 5.2.1-2.. In this case, additional functionality may be required to provide routeing between UE and the Presence User Agent, and, for the Presence User Agent to "register" the user within the "Presence network".

In this case, the interface between the terminal and the Presence User agent is outside of the scope of the present document.



Figure 5.2.1-2. Network based Presence User Agent

### 5.2.1.1 Relationship of Presence User Agent with IMS entities

When the Presence User Agent is located in an IMS UE the Pep reference point is implemented using the Gm, Mw and ISC reference points as defined in 3GPP TS 23.002 [14].

- The Gm, Mw, and ISC reference points allow a presentity's presence information to be supplied to the Presence Server. These reference points also allow for the Presence User Agent to obtain information on watcher subscriptions to the Presentities Presence Information.
- The Peu reference point is implemented using the Ut reference point as defined in 3GPP TS 23.002 [18]. The Ut reference point provides mechanisms for the Presence User Agent to manage subscription authorisation policies.



\*\*\* NEXT MODIFICATION \*\*\*

## 5.3.4 Relationship of Presence Proxies with IMS entities

The functionalities of the Watcher Presence Proxy are then taken care of by the P-CSCF and the S-CSCF:

- The S-CSCF is responsible for authentication according to procedures described in 3GPP TS 33.203 [5].
- The charging and accounting procedures are conducted as per procedures defined by 3GPP TS 32.200 [6], 3GPP TS 32.225 [7].
- The security mechanisms between the Watcher and the Presentity Presence proxy are defined by 3GPP TS 33.210 [8].

The functionality of the Presentity Presence Proxy is taken care of by the P-CSCF, I-CSCF and the S-CSCF as defined in 3GPP TS 23.228 [9].

The procedures for locating, routing to and accessing the Presence Server of the presentity are defined in 3GPP TS 23.228 [9] and 3GPP 23.218 [10]. These procedures also take care of routing and accessing the Presence Server of a presentity that is associated with an unregistered UE.

The functionality of the Watcher Presence Proxy and the Presentity Presence Proxy are allocated to the functional element CSCF as defined in 3GPP TS 23.002 [18].

Figure 5.3.4-1 below presents the mapping of the Watcher and Presentity Presence Proxy functionalities to IMS network elements when located within the IMS along with the Watcher application. This mapping is based on and restricted to reusing the existing IMS architecture mechanisms and can be clearly seen in the detailed information flows show in annex A.





#### Figure 5.3.4-1: Both the Watcher application and the Presence Server located within IMS

NOTE : The standard IMS (SIP) routing mechanisms define whether a certain CSCF is indeed included in the path of a SUBSCRIBE or NOTIFY transaction.

As described in IETF draft-ietf-simple-presence [4], the Watcher Application sends a SIP SUBSCRIBE to Event: presence addressed to the presentity's SIP URL to subscribe or fetch presentity's presence information. This SUBSCRIBE transaction will be routed and handled by the IMS infrastructure according to standard IMS routing and ISC procedures defined in 3GPP TS 23.228 [9] and 3GPP TS 23.218 [10].

The Presentity's S-CSCF is not mandated to insert itself into the Record-Route header of the initial SUBSCRIBE request, in case the S-CSCF does not execute any functions for the subsequent requests and responses of the dialog.

The presence document will be provided from the Presence Server to the Watcher Application using SIP NOTIFY along the dialogue setup by SUBSCRIBE either within the NOTIFY payload, or via a URL provided in the NOTIFY. The means to fetch the content can be seen as part of the Pw interface.

#### \*\*\* END OF MODIFICATION \*\*\*

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Reason for change	: X Invalid reference link about Pr ref. point		
Summary of change: B Delete Invalid reference link about Pr ref. point in section 4.3.12			
Consequences if not approved:	X Invalid reference link may be confusing		
Clauses affected:	<b>#</b> 4.3.12		
Other specs affected:	YNXOther core specificationsXTest specificationsXO&M Specifications		
Other comments:	<b>X</b>		

# **MODIFICATION**

## 4.3.12 Reference point Presence Network Agent – 3GPP AAA Server (Pr)

This reference point shall allow the 3GPP AAA Server to report IP-connectivity related events to the Presence Network Agent (such as WLAN UE attaching/detaching and tunnel establishment/removal). The Pr reference point shall be <u>as</u> <u>much as possible</u> based on mechanisms of existing interfaces of the 3GPP WLAN interworking architecture defined in 3GPP TS 23.234 [19].