3GPP TSG-CN Meeting #25 **Tdoc NP-040426**
Palm Springs, USA, 8-10th September 2004

CR-Form-v7

CHANGE REQUEST

⌘ **24.141** **CR** **003** ⌘**rev** **3** ⌘ Current version: **6.0.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☒

Title:	⌘	Editorial issues
Source:	⌘	Lucent Technologies, Siemens
Work item code:	⌘	PRESNC
Date:	⌘	07/06/2004
Category:	⌘	**D**
Release:	⌘	Rel-6

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘ A number of editorial issues require correction in 24.141

Summary of change: ⌘

- Incorrect order of statements in scope
- The abbreviation "TLS" is used within the document, but never defined in the abbreviations. Appropriate modifications are made to subclause 3.1 and 6.2.1 to cover this.
- Editor's note on the role of SIP and the role of Ut procedures in clause 4 is obsolete as these roles are clearly defined in clause 5 and 6.
- In subclause 5.2.2, it is indicated which subclauses contain procedures for the PUA, PS and RLS. Such a reference is missing for the PNA, and this is inserted.
- PNA is a role and is therefore renumbered to the role sub-clauses under 5.3
- In subclause 5.3.3.3, 4th paragraph, the introduction to the bullet list indicates "the PS shall". These words are wrongly repeated in the 1st and 2nd bullet items, and are therefore deleted.
- In subclause 5.4.1, "as follows" are inappropriate for what is now a reference to the material in subclause 5.4.2 (the CR inputting this material was split into two subclauses from the original proposal). A subclause reference is inserted instead.
- In subclause A.3.3.1, A.3.3.2, A.3.4.1, A.4.3.1, the word "are" is inserted as it is obviously missing from the sense.
- In subclause A.7, the word "signalling" is inserted in front of "flow" to distinguish it from other flows that may appear in stage 2, and for consistency with the remainder of the document.

Consequences if ⌘ None

not approved:	

Clauses affected:	⌘	1, 3.1, 4, 5.2.2, 5.3, 5.3.3.3, 5.4, 6.2.1, A.3.3.1, A.3.3.2, A.3.4.1, A.4.3.1, A.7			
Other specs affected:	⌘	**Y** / **N**		⌘	
			X Other core specifications		
			X Test specifications		
			X O&M Specifications		
Other comments:	⌘	This CR takes over all changes proposed in 24.141 CR 002 (see N1-041278) due to an interaction between the CRs.			

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.

PROPOSED CHANGE

1 Scope

The present document provides the protocol details for the presence service within the IP Multimedia (IM) Core Network (CN) subsystem based on the Session Initiation Protocol (SIP) and SIP Events as defined in 3GPP TS 24.229 [9]. ~~Requirements for manipulation of presence data are defined by use of a protocol at the Ut reference point based on XML Configuration Access Protocol (XCAP) (draft-rosenberg-simple-xcap-00).~~

Where possible the present document specifies the requirements for this protocol by reference to specifications produced by the IETF within the scope of SIP and SIP Events, either directly, or as modified by 3GPP TS 24.229 [9].

Requirements for manipulation of presence data are defined by use of a protocol at the Ut reference point based on XML Configuration Access Protocol (XCAP) (draft-ietf-simple-xcap-02 [33]).

The present document is applicable to Application Servers (ASs) and User Equipment (UE) providing presence functionality.

PROPOSED CHANGE

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AS	Application Server
AUID	Application Usage ID
CN	Core Network
CPIM	Common Profile for Instant Messaging
CSCF	Call Session Control Function
DM	Data Manipulator
DMS	Data Manipulation Server
EPA	Event Publication Agent
ESC	Event State Compositor
HSS	Home Subscriber Server
HTTP	HyperText Transfer Protocol
I-CSCF	Interrogating - CSCF
IM	IP Multimedia
IOI	Inter Operator Identifier
IP	Internet Protocol
MIME	Multipurpose Internet Mail Extensions
P-CSCF	Proxy - CSCF
PIDF	Presence Information Data Format
PNA	Presence Network Agent
PS	Presence Server
PSI	Public Service Identity
PUA	Presence User Agent
RLMI	Resource List Meta-Information
RLS	Resource List Server
RPID	Rich Presence Information Data
S-CSCF	Serving - CSCF
SIP	Session Initiation Protocol
TLS	Transport Layer Security
UE	User Equipment
URI	Universal Resource Identifier

XCAP	XML Configuration Access Protocol
XML	Extensible Markup Language

PROPOSED CHANGE

4 Presence service overview

The presence service provides the ability for the home network to manage presence information of a user's device, service or service media even whilst roaming. A user's presence information may be obtained through input from the user, information supplied by network entities or information supplied by elements external to the home network. Consumers of presence information, watchers, may be internal or external to the home network. The architecture for the 3GPP presence service is specified in 3GPP TS 23.141 [4].

~~Editor's note: Include information about the difference between the data manipulation protocol defined at the Ut reference point, and that functionality occurring at the SIP level.~~

SIP and XCAP provide means to manipulate the presence status of a user. For details on the differences between those means refer to draft-ietf-sip-publish-03 [23] and draft-isomaki-simple-xcap-pidf-manipulation-usage-00 [34]. For details on the relationship of DMS to other roles see subclause 6.2.2.

Editor's note: It may be appropriate to include text in this clause pointing to the stage 1 on group management.

PROPOSED CHANGE

5.2.2 Application Server (AS)

An AS may implement either of the roles of a PUA (see subclause 5.3.1), watcher (see subclause 5.3.2), PS (see subclause 5.3.3), RLS (see subclause 5.3.4), or PNA (see subclause 5.3.5).

For this version of the present document, the interface between the PNA and the PS is not defined.

PROPOSED CHANGE

5.3.3.3 Publication acceptance of presence information

The PS shall act as an Event State Compositor (ESC).

When the PS receives a PUBLISH request, the PS shall first verify the identity of the source of the PUBLISH request as described in 3GPP TS 24.229 [9] subclause 5.7.1.4, then perform authorization according to 3GPP TS 24.229 [9] subclause 5.7.1.5. In case of successful authentication and authorization, the PS shall process the PUBLISH request in accordance with draft-ietf-sip-publish-03 [23].

If the PUBLISH request indicated support for partial publishing using the "application/pidf-partial+xml" content-type described in draft-ietf-simple-partial-pidf-format-00 [38] and if the PS supports partial publishing, the PS shall process the PUBLISH request in accordance with draft-ietf-sip-publish-03 [23]. If the PS does not support partial publishing, then the PS shall send a 415 (Unsupported Media Type) response with "application/pidf+xml" in the Accept header field.

Editor's Note: The above procedures on partial publishing will be replaced by references to the IETF draft-lonnfors-simple-publish-partial-00 once the draft has been discussed in IETF.

If the PUBLISH request contained the "multipart/related" content type and the PS supports the content type, the PS shall process the content as follows:

- if a MIME multipart contains a MIME object of a content type supported by the PS, ~~the PS shall~~ either store the MIME object in case of initial publication or replace an existing content in case of modify operation;
- if a multipart includes the "message/external-body" content type and the content indirection is supported by the PS, ~~the PS shall~~ ensure that it has access to the MIME object indicated by the URI and that the MIME object is existing; and
- associate the value of the presence attribute referring to one of the MIME multiparts with the MIME object and additional information about it.

If the PS does not support the content type used for publishing MIME objects then the PS shall send a 415 (Unsupported Media Type) response and indicate the supported content types in the Accept header.

NOTE: If the PS receives a HTTP request for storing a MIME object on the PS meaning that the HTTP URI points to a predefined directory reserved for storing MIME objects and the request is an HTTP PUT request, the PS replaces any existing content referenced by the Request-URI with the content of the request. If the Request-URI points to an uncreated directory, the PS creates the directory, stores the content there and associates the content with the Request-URI. For all requests, i.e. HTTP PUT, HTTP GET and HTTP DELETE requests, the PS generates an appropriate response in accordance with RFC 2616 [15].

PROPOSED CHANGE

5.3.5~~5.4~~ Presence Network Agent (PNA)

5.3.5~~5.4~~.1 General

~~For this version of the present document, the interface between the PNA and the PS is not defined.~~

In addition to the procedures specified in subclause ~~5.4~~5.3.5, the PNA shall support the procedures specified in 3GPP TS 24.229 [9] appropriate to the functional entity in which the PNA is implemented.

The PNA can collect presence information about the presentity from a number of core network entities. The PNA can combine information from various core network entities to form more complete presence information.

Among these core network entities, the S-CSCF uses SIP to deliver presence information to the PNA over the Pi reference point as ~~follows~~specified in subclause 5.3.5.2.

NOTE: As part of the configuration of AS to provide a presence system, appropriate settings are downloaded to the initial filter criteria in the S-CSCF to ensure this occurs. The PNA will receive third-party REGISTER requests as specified in 3GPP TS 24.229 [9] subclauses 5.4.1.7 and 5.7.1.1.

5.3.5~~5.4~~.2 Subscription to reg event package

On receiving a third-party REGISTER request which contains an Expires header with a non-zero value, the PNA shall, if no subscription already exists, subscribe to the reg event package for a particular user at the S-CSCF, as described in 3GPP TS 24.229 [9] subclause 5.7.1.1. As a result, the S-CSCF will then provide the presence-related information as reg event packages in NOTIFY requests to the PNA.

On receiving a third-party REGISTER request, the PNA may, if a subscription already exists, resubscribe to the reg event package for a particular user at the S-CSCF, as described in 3GPP TS 24.229 [9] subclause 5.7.1.1. As a result, the S-CSCF will then provide the presence-related information as reg event packages in NOTIFY requests to the PNA.

PROPOSED CHANGE

6.2 Functional entities

6.2.1 User Equipment (UE)

The UE implements the Data Manipulator (DM) role as described in subclause 6.3.1.

The UE shall implement HTTP digest AKA (see RFC 3310 [20]) and it shall initiate a bootstrapping procedure with the bootstrapping server function located in the home network, as described in 3GPP TS 24.109 [7].

The UE shall acquire the subscriber's certificate from PKI portal by using a bootstrapping procedure, as described in 3GPP TS 24.109 [7].

The UE and the authentication proxy shall both implement Transport Layer Security (TLS) (see RFC 2246 [13]). The UE shall be able to authenticate the authentication proxy based on the received certificate during TLS handshaking phase.

6.2.2 Application Server (AS)

If an AS implements the role of a PS (see subclause 5.3.3) or of a RLS (see subclause 5.3.4), then the AS shall also implement the role of a Data Manipulation Server (DMS) (see subclause 6.3.2).

If there is no authentication proxy in the network, then the AS shall also implement the role of a network application function, as described in 3GPP TS 24.109 [7] and it shall support HTTP digest authentication and certificate authentication.

Editor's note: It needs to be clarified what physical entities can contain the Authentication Proxy and its relationship with the IMS architecture.

6.2.3 Authentication proxy

The authentication proxy shall implement the role of a network application function, as described in 3GPP TS 24.109 [7] and it shall support HTTP Digest Authentication and certificate authentication.

The Authentication Proxy shall authenticate the UE and integrity protect the messages sent towards the UE.

Editor's note: It is FFS how the Authentication Proxy passes the user's identity to the Application Server (AS).

PROPOSED CHANGE

A.3.3.1 Watcher subscribing to his own resource list, UE in visited network - Successful subscription

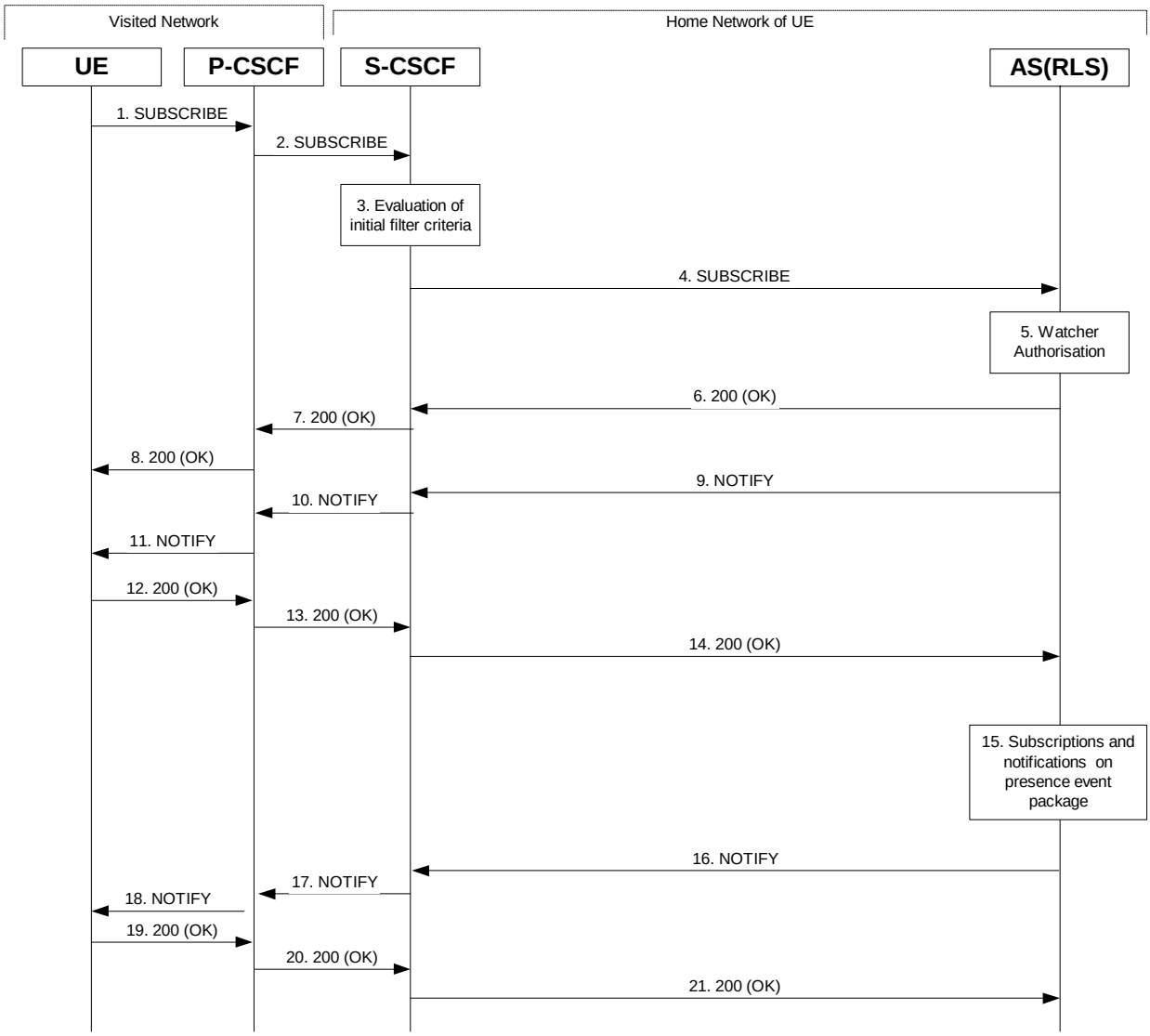

Figure A.3.3.1-1: Watcher subscribing to resource list

Figure A.3.3.1-1 shows a watcher subscribing to resource list event notification. The details of the signalling flows are as follows:

1. **SUBSCRIBE request (UE to P-CSCF) – see example in table A.3.3.1-1**

   A watcher agent in a UE wishes to watch a number of presentities, or certain presence tuples of these presentities. The list of presentities are identified by a SIP URI. In order to initiate a subscription to the RLS, the UE generates a SUBSCRIBE request indicating support for "eventlist", together with an indication of the length of time this periodic subscription should last.

Remainder of subclause not shown.

PROPOSED CHANGE

A.3.3.2 Watcher subscribing to a resource list, UE in visited network - successful subscription

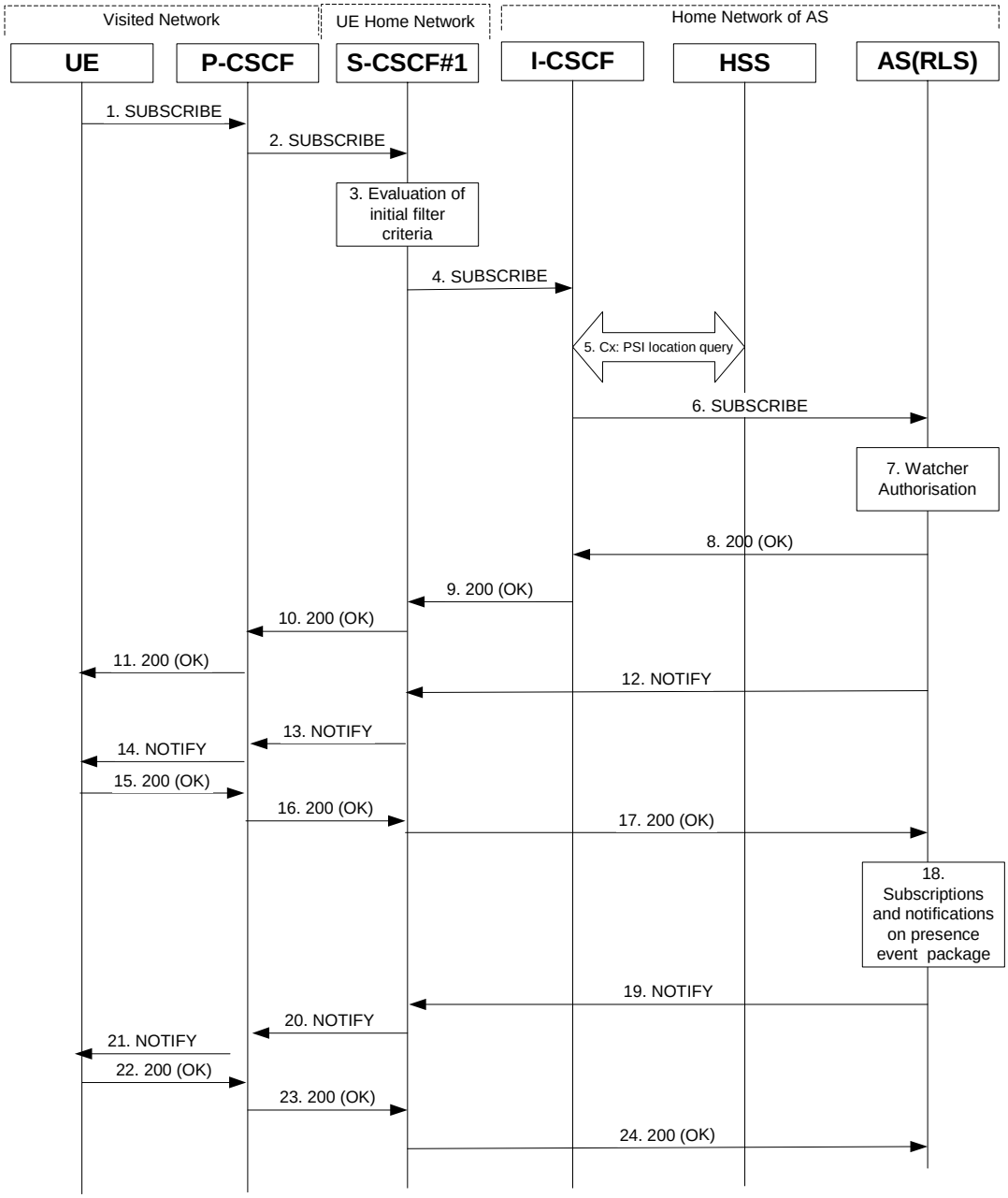

Figure A.3.3.2-1 Watcher subscribing to resource list

Figure A.3.3.2-1 shows a watcher subscribing to resource list event notification. The details of the signalling flows are as follows:

1. **SUBSCRIBE request (UE to P-CSCF) - see example in table A.3.3.2-1**

   A watcher agent in a UE wishes to watch a number of presentities, or certain presence tuples of these presentities. The list of presentities are identified by a SIP URI. In order to initiate a subscription to the RLS, the UE generates a SUBSCRIBE request indicating support for 'eventlist', together with an indication of the length of time this periodic subscription should last.

Remainder of subclause not shown.

PROPOSED CHANGE

A.3.4 RLS subscribing to presentities in different network

A.3.4.1 Successful subscription

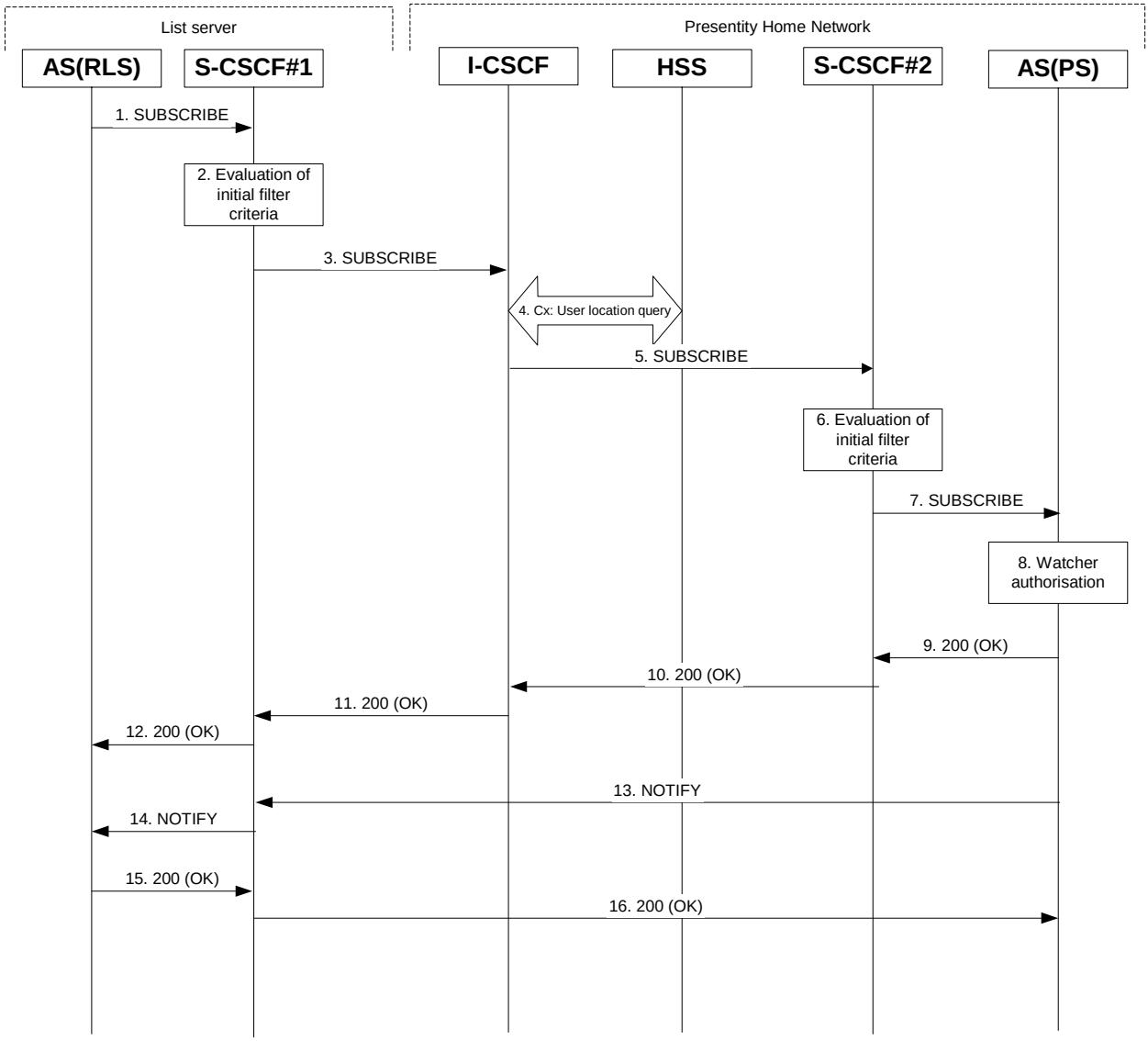

Figure A.3.4.1-1 RLS subscribing to presentities in different network

Figure A.3.4.1-1 shows the RLS subscribing to presence event notification about a presentity. The presentity is in a different IM CN subsystem. The details of the signalling flows are as follows:

1. **SUBSCRIBE request (RLS to S-CSCF) – see example in table A.3.4.1-1**

   The RLS resolves the watcher's resource address (the address is received according to subclause A.3.3) and subscribes to presence event notification at all the presentities that are represented by the resource list SIP URI. The home network of these presentities can be different or in the same network, as the RLS. In this example only a single subscription is shown where the home network of the presentity is another network. Subscriptions to other presentities follow a similar procedure. To initiate a subscription, the RLS generates a SUBSCRIBE request containing the "presence" event that it wishes to be notified of, together with an indication of the length of time this periodic subscription should last. The RLS sends the SUBSCRIBE request to the S-CSCF of "sip:user1_public1@home1.net" (S-CSCF#1). The address of S-CSCF#1 is either remembered from previous transactions (when "sip:user1_public1@home1.net" has subscribed for the resource list) or queried by the RLS using the Sh interface.

Remainder of subclause not shown.

PROPOSED CHANGE

A.4.3 Refreshing of presence information by UE

A.4.3.1 Successful refresh

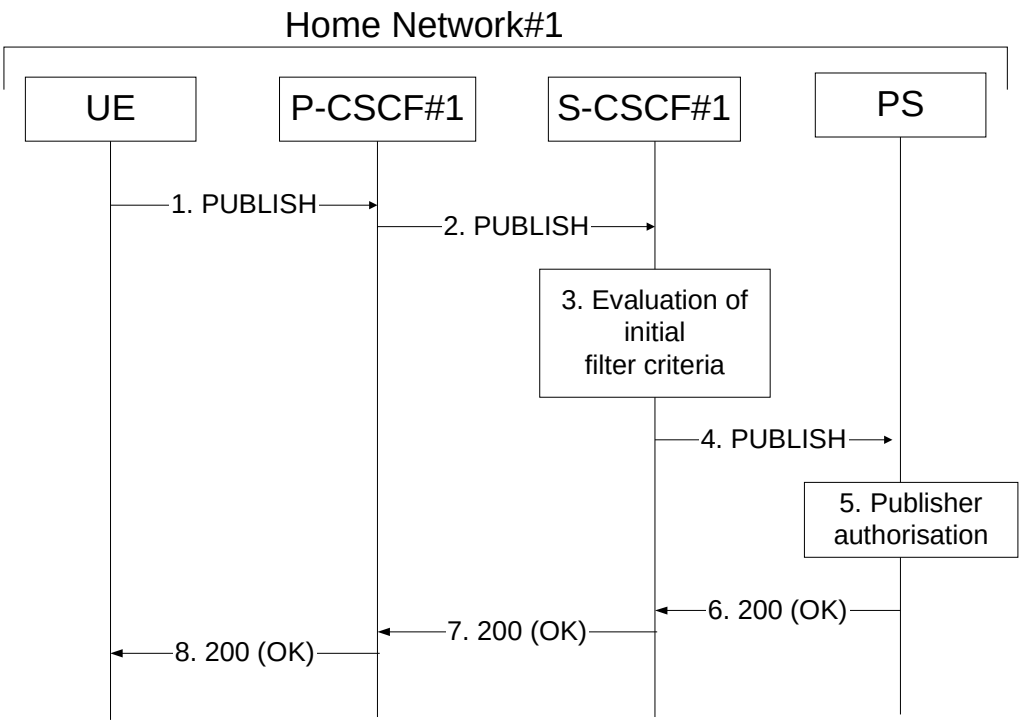

Figure A.4.3.1-1: UE updating presence information

Figure A.4.3.1-1 shows an UE refreshing the presence information about a presentity. The details of the signalling flows are as follows:

1. **PUBLISH request (UE to P-CSCF) – see example in table A.4.3.1-1**

   A PUA in a UE wishes to refresh already existing presence information. To initiate the publication, the UE generates a PUBLISH request according to draft-ietf-sip-publish-03 [23].

Remainder of subclause not shown.

PROPOSED CHANGE

A.7 PNA subscription for the reg-event package

Figure A.7-1 shows the registration signalling flow for the scenario when the user is not registered. For the purpose of this registration signalling flow, the subscriber is considered to be roaming. This signalling flow also shows the authentication of the private user identity.

This is followed by the subscription procedure for the reg-event package, whereby the PNA requests to be notified by the S-CSCF when a registration event has occurred. This is done using the 'reg-event' package as described in 3GPP TS 24.229 [9].

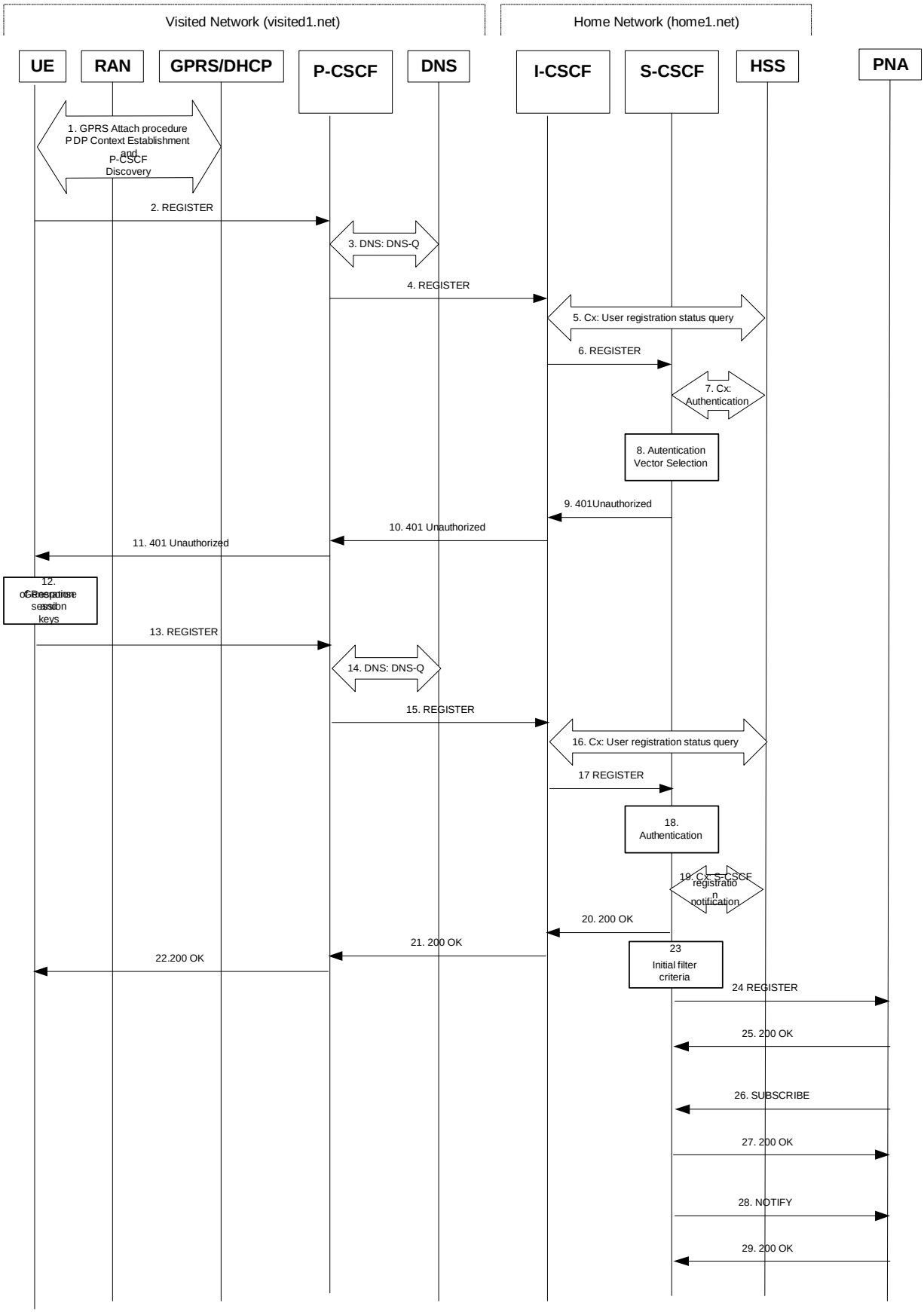

Figure A.7-1: Registration signalling: user not registered

Remainder of subclause not shown.