

Presence IMS Feature Successful Subscription (IMS Presence Subscription, Publication and Notification)							
Watcher UE	Watcher IMS Network		Presentity IMS Network			Presentity UE	EventStudio System Designer 4.0
Watcher User Equipment	Watcher Presence Proxy		Presence Server	Presentity Presence Proxy		Presence User Agent	
Watcher	Watcher P-CSCF	Watcher S-CSCF	PS	Presentity I-CSCF	Presentity S-CSCF	Presentity P-CSCF	16-Mar-08 08:39 (Page 1)

This sequence diagram was generated with EventStudio System Designer 4.0 (<http://www.EventHelix.com/EventStudio>). Copyright © 2008 EventHelix.com Inc. All Rights Reserved. The EventStudio source files for this document can be downloaded from <http://www.eventhelix.com/call-flow/ims-presence.zip>.

IP Multimedia Subsystem (IMS) provides a framework and building blocks for building advanced telecom services. One such service is network wide publication and subscription of presence information. Users can subscribe to presence information for their contacts. If the contact accepts their request, the subscriber will be registered for presence notification. Whenever the friend publishes presence information, the IMS presence framework will notify the subscribed users.

The following sequence diagram describes the presence subscription and notification flow. The entities involved in the interactions are:

**Presentity:** The entity that provides presence information to a presence service.

**Watcher:** The entity that requests presence information about presentity.

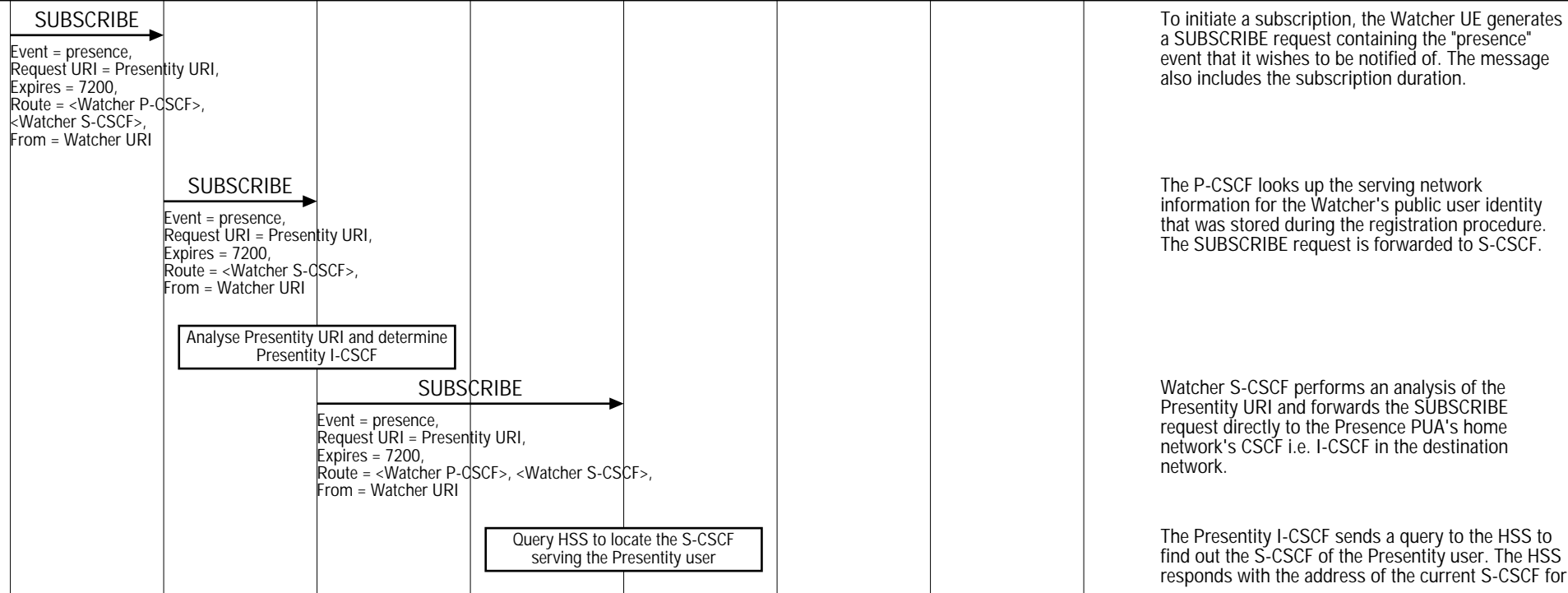
**Presence User Agent (PUA):** The entity that assembles and provides presence information to Presence Server.

**Watcher Presence Proxy:** The network entity that identifies the target network for a presentity and resolves its address.

**Presentity Presence Proxy:** The network entity that identifies the Presence Server assigned to a presentity.

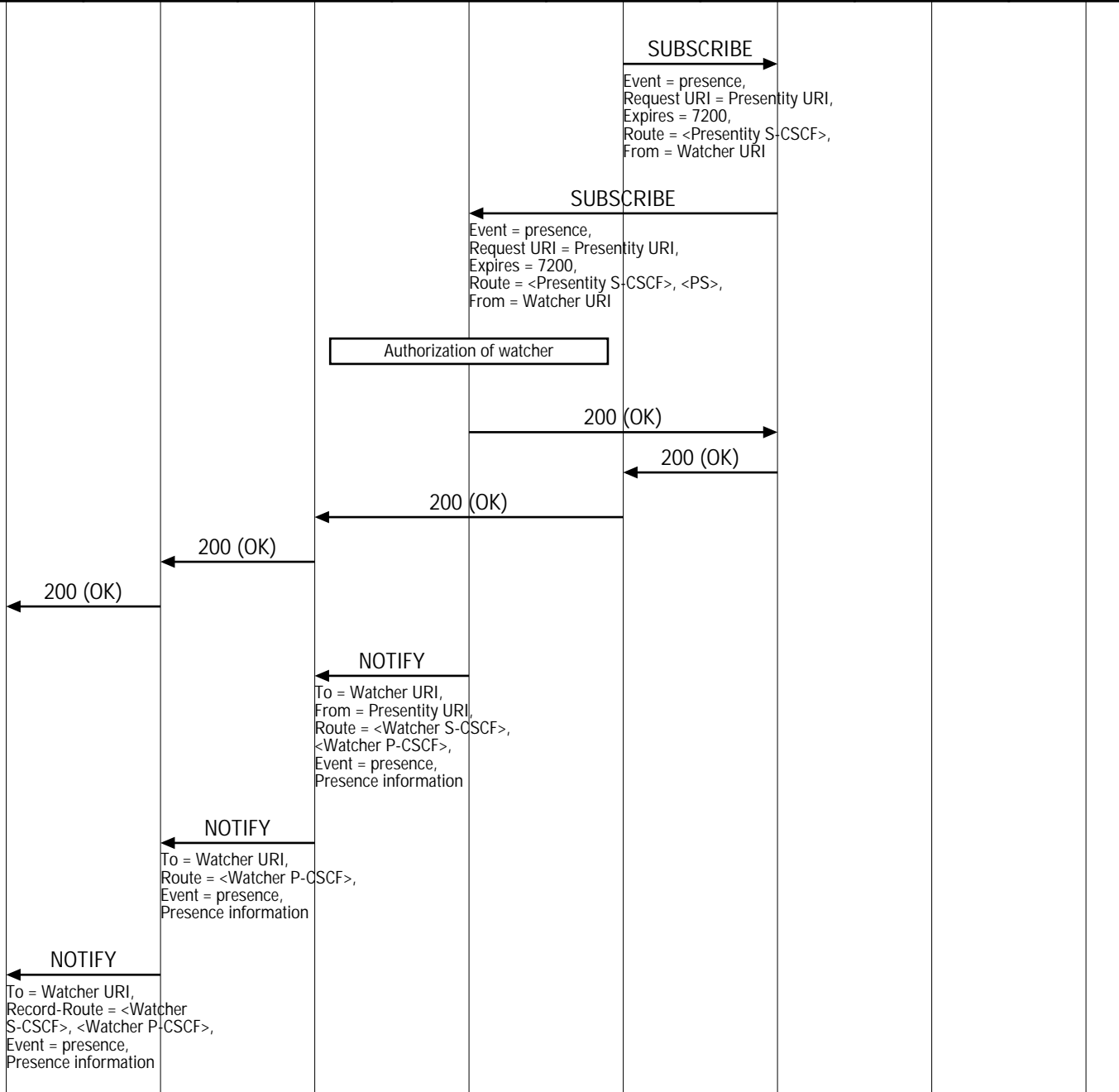
**Presence Server:** The network entity that manages presence information uploaded by PUAs and handles presence subscription requests.

### Register for Presence Information



Presence IMS Feature Successful Subscription (IMS Presence Subscription, Publication and Notification)							
Watcher UE	Watcher IMS Network		Presentity IMS Network			Presentity UE	EventStudio System Designer 4.0
Watcher User Equipment	Watcher Presence Proxy		Presence Server	Presentity Presence Proxy		Presence User Agent	
Watcher	Watcher P-CSCF	Watcher S-CSCF	PS	Presentity I-CSCF	Presentity S-CSCF	Presentity P-CSCF	Presentity PUA

16-Mar-08 08:39 (Page 2)



the Presentity.  
The Presentity I-CSCF forwards the SUBSCRIBE request to the Presentity S-CSCF that will handle the termination.

The S-CSCF forwards the SUBSCRIBE request to the PS.

The PS performs the necessary authorization checks on the Watcher to ensure it is allowed to watch the presentity.

If all privacy conditions are met, PS sends a 200 (OK) response to the S-CSCF. 200 (OK) is passed all the way to Watcher.

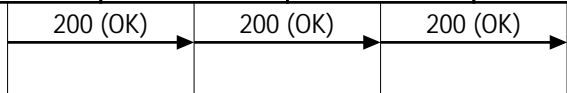
PS sends a NOTIFY request with the current state of the presentity's presence information that the watcher has subscribed and been authorized to.

Watcher S-CSCF forwards NOTIFY to Watcher P-CSCF.

Watcher P-CSCF forwards NOTIFY to Watcher.

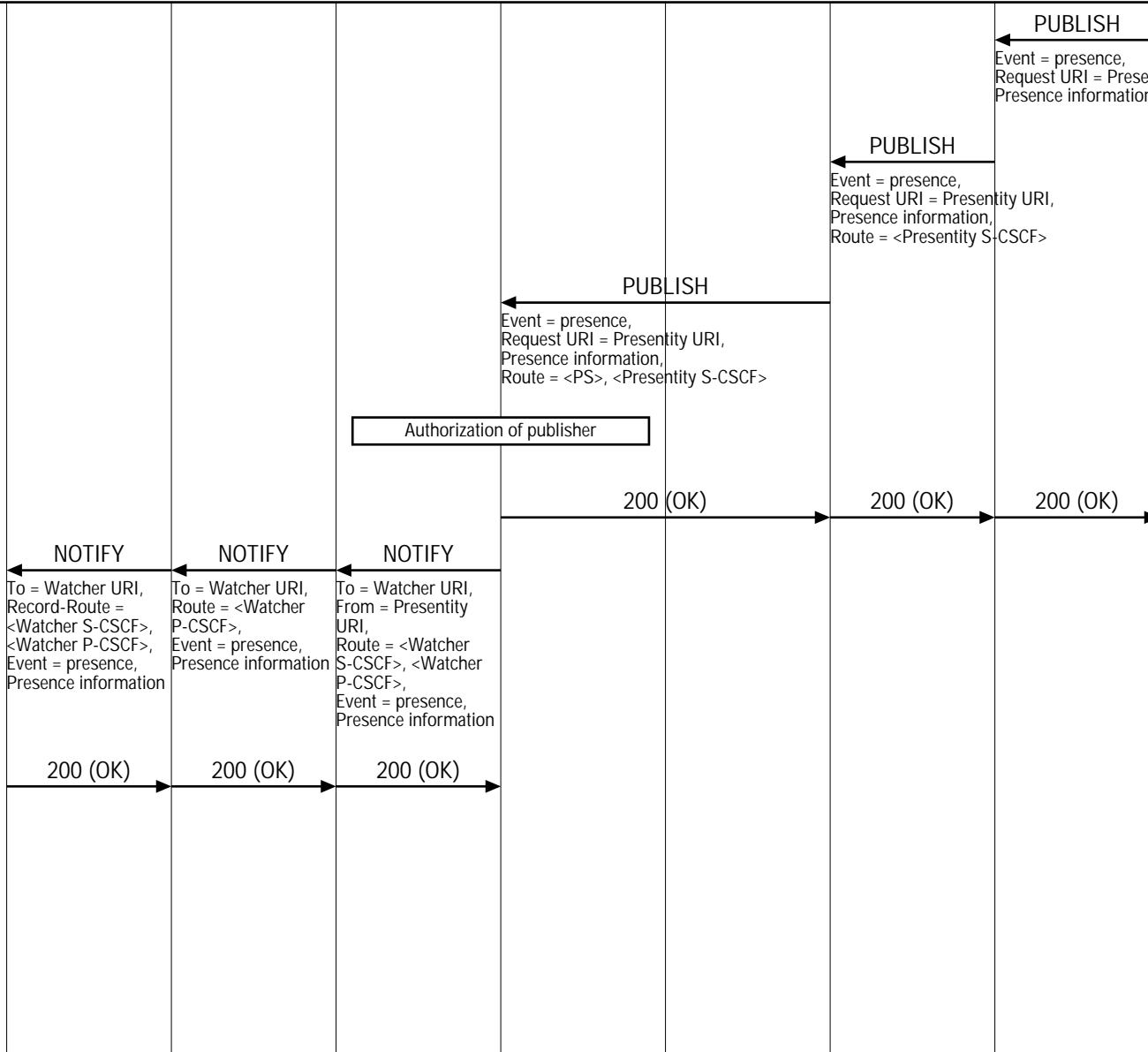
Presence IMS Feature Successful Subscription (IMS Presence Subscription, Publication and Notification)							
Watcher UE	Watcher IMS Network		Presentity IMS Network			Presentity UE	EventStudio System Designer 4.0
Watcher User Equipment	Watcher Presence Proxy		Presence Server	Presentity Presence Proxy		Presence User Agent	
Watcher	Watcher P-CSCF	Watcher S-CSCF	PS	Presentity I-CSCF	Presentity S-CSCF	Presentity P-CSCF	Presentity PUA

16-Mar-08 08:39 (Page 3)



The UE generates a 200 (OK) response to the NOTIFY request. The message is passed to PS as shown.

Presence State Changes for the Watched User



To initiate the publication, the PUA in UE generates a PUBLISH request containing the presence information that it wishes to publish.

Presentity P-CSCF looks up the serving network information for the public user identity that was stored during the registration procedure. The PUBLISH request is forwarded to the Presentity S-CSCF. A Route header is inserted into PUBLISH request.

The Presentity S-CSCF forwards the PUBLISH request to the PS.

The PS performs the necessary authorization checks to ensure that it is allowed to publish the presentity's presence information.

When all privacy conditions are met, PS generates 200 (OK) response towards Presentity PUA.

The UE generates a 200 (OK) response to the NOTIFY request. The message is passed to PS as shown.