

**CTIA's Wireless Internet Caucus
Enhanced Messaging Action Team
(EM Team)**

Enhanced Messaging Product

**Product Feature:
Presence
*Use Cases & Call Flows***

Documentation Final
December 3, 2008

See also documentation for EM Product; Product Feature: Group Messaging.

Documentation Outline

- The following Use Cases and Call Flows represent the output of a Team effort to determine the minimal requirements needed to support a cross-carrier Enhanced Messaging Product with Product Feature of Presence.
- Documentation for each Use Case include: Scenarios, Action Steps, and (CF) Call Flow. Presented in the following order:

01-01	Subscribe to Presence
01-02	Unsubscribe to Presence
01-03	Deleting a contact with Presence info
02-01	Presence attribute update
02-02	Blocking a Contact
03-01	Subscribe to Presence for a Legacy Contact

Use Cases that may be addressed in the future:

- Presence Attribute Share with Desktop User
- Presence Attribute Share with Off-Network User
- Presence Attribute Exchange with 3rd Parties – Applications
- Receiving a Presence Request on a Legacy Device

Base Assumptions for Customer Experience

Ad Hoc groups are made extemporaneously, and are valid as long as they meet the criteria for starting and ending groups in this set of Use Cases. (04-01, and 05-01A, B, &C)

Permanent groups are groups which have group ID and group members stored for use and reference at later dates, and can be communicated with outside of the timing parameters defined in this set of Use Cases.

All UC & CF were created presuming only support for Ad Hoc groups at this time.

A Polite Rejection/Block is one in which the User being blocked does not receive notification that they are blocked from joining the group.

A Rude Rejection/Block is one in which the User being blocked does receive notification that they are being blocked from joining the group.

Background for UC & CF

Use Case Functional Areas:

- FA-01 Presence Subscribe/Unsubscribe
- FA-02 Presence Publish
- FA-03 Presence Legacy Support

Enhanced Messaging Use Cases

- For each Use Case, the subscribers (a.k.a. actors or system users), the mobile carrier with which they have a relationship, and the Interoperability Use Cases that describe the system are defined. In this section, the main users and operators are described, and in the following section, their interaction via Use Cases.
- Note that these use cases are meant to cover the intercarrier aspects of enhanced messaging services only. In order to add context and understanding to the use cases, some actions are specified that would be undertaken by the use case actors, or their operator/service provider. In all cases, these user-specific (or operator-specific) actions are for example only, and do not indicate any specific implementation by a specific carrier. *Such actions are identified by italicized, blue text.*

Mobile Carrier G Messenger User

Property Name	Brief Description
Name	UserG
Brief Description	A Mobile Carrier G customer (user) who has registered for Mobile Carrier G Enhanced Messenger.
Responsibilities	The lifecycle of the subscriber UserG begins with registration on the system. Once registered, UserG uses the Mobile Carrier G messaging functionality to communicate
Relationships	<ul style="list-style-type: none"> • Has a billing relationship with Mobile Carrier G • Has an account with Mobile Carrier G Messenger system • Has Contacts on his Contact List • Is on the Contact List of other users
Operations	<p>The user uses the following operations within the system:</p> <ul style="list-style-type: none"> • Add/Delete/Block Contacts • Exchange Messages with Contacts • Watch Presence attribute information of Contacts • Participate in Private Group discussions
Attributes	Mobile Carrier G, Mobile Carrier D, and Mobile Carrier Z <i>all have relationships through an Interworking Partner/Aggregator (IWP/A) or direct connection to</i> exchange certain attributes and message types.
Characteristics	The Mobile Carrier G Messenger User is assumed to be a member of the general public who has a mobile phone (with Mobile Carrier G as Mobile Carrier)
Competence Requirements	The Mobile Carrier G Messenger User is assumed to be able to write SMS messages. He is assumed to be familiar with at least one of the Mobile Carrier G Messenger clients (i.e. WAP, SMS.)
Diagrams	N/a

Mobile Carrier D Messenger User

Property Name	Brief Description
Name	UserD
Brief Description	A Mobile Carrier D customer (user) who has registered for Mobile Carrier D Enhanced Messenger.
Responsibilities	The lifecycle of the subscriber UserD begins with registration on the system. Once registered, UserD uses the Mobile Carrier D messaging functionality to communicate
Relationships	<ul style="list-style-type: none"> • Has a billing relationship with Mobile Carrier D • Has an account with Mobile Carrier D Messenger system • Has Contacts on his Contact Lists • Is on the Contact List and/or special List of other users
Operations	<p>The user uses the following operations within the system:</p> <ul style="list-style-type: none"> • Add/Delete/Block Contacts • Exchange Messages with Contacts • Watch Presence attribute information of Contacts • Participate in Private Group discussions
Attributes	Mobile Carrier G, Mobile Carrier D, and Mobile Carrier Z <i>all have relationships through an Interworking Partner/Aggregator (IWP/A) or direct connection</i> to exchange certain attributes and message types.
Characteristics	The Mobile Carrier G Messenger User is assumed to be a member of the general public who has a mobile phone (with Mobile Carrier G as Mobile Carrier)
Competence Requirements	The Mobile Carrier G Messenger User is assumed to be able to write SMS messages. He is assumed to be familiar with at least one of the Mobile Carrier G Messenger clients (i.e. WAP, SMS.)
Diagrams	N/a

Mobile Carrier Z Customer (Non-Messenger)

Property Name	Brief Description
Name	UserZ (ie Legacy)
Brief Description	A Mobile Carrier Z customer (user) who is not an enhanced messaging customer because Mobile Carrier Z does not support the service from an intercarrier perspective.
Responsibilities	None
Relationships	<ul style="list-style-type: none"> • Has a billing relationship with Mobile Carrier Z • Has friends who use the Mobile Carrier Z or Enhanced Messaging services through Mobile Carriers D or G
Operations	<p>The customer uses the following operations within the system:</p> <ul style="list-style-type: none"> •Receive Invitations •Registration •Receives/sends messages from/to friends UserG and UserD
Attributes	Mobile Carrier G, Mobile Carrier D, and Mobile Carrier Z <i>all have relationships through an Interworking Partner/Aggregator or direct connection to</i> exchange certain attributes and message types.
Characteristics	The Mobile Carrier Z Mobile Customer is assumed to be a member of the general public who has a mobile phone (with Mobile Carrier Z as Mobile Carrier)
Competence Requirements	The Mobile Carrier Z Messenger User is assumed to be able to write SMS messages.
Diagrams	N/a

Formation or Permission Settings

- Proactive / Automatic– Does not require the subscriber to approve each request from other subscribers to view their presence information.
- Reactive / Manual– Every request for a presence subscription must be approved by the user.
- White List – A list of subscribers pre-identified list that can be pre set to specific Presence Attribute.

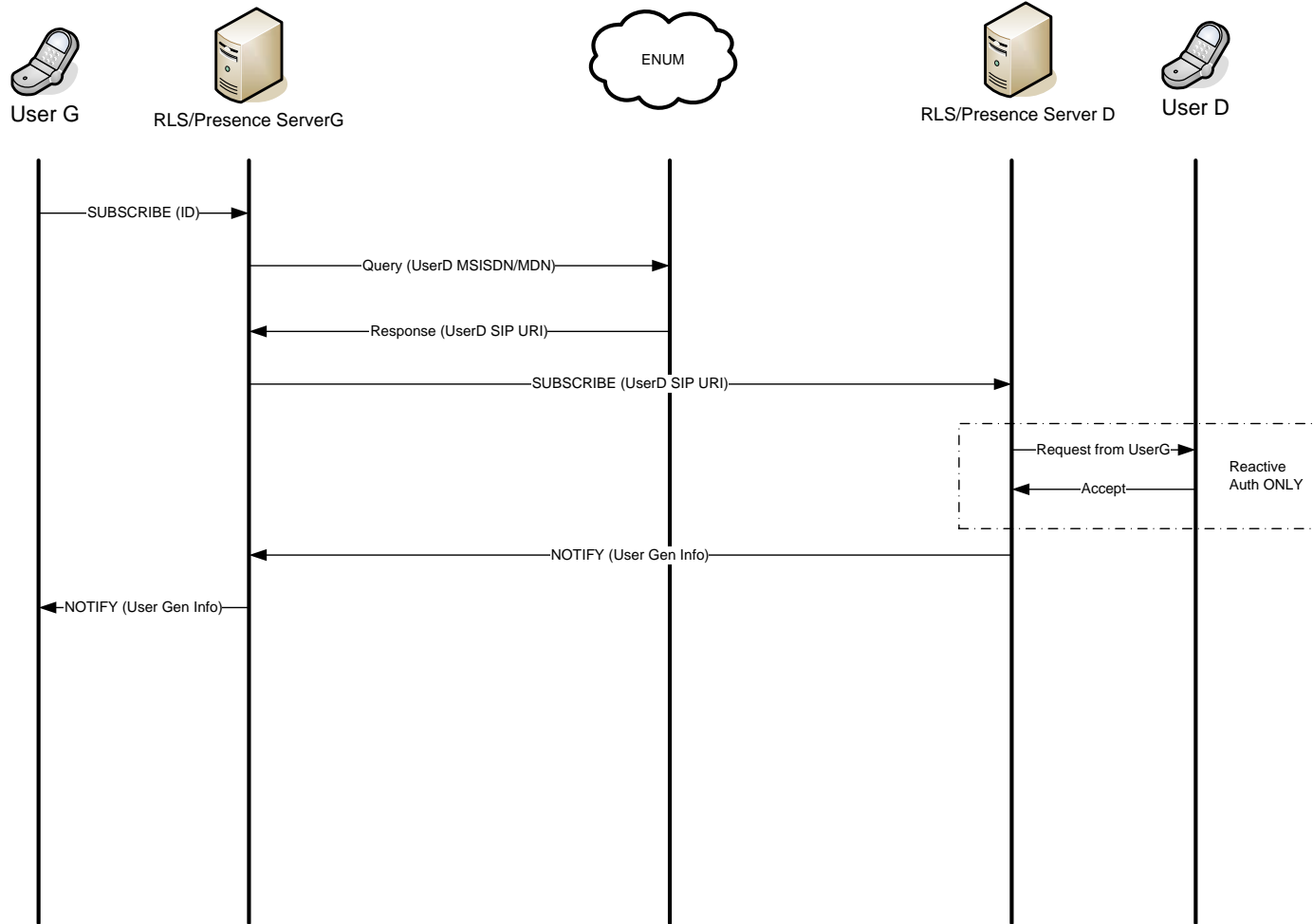
UC 01-01 Subscribe to Presence; Scenarios

Scenario	<p>A) UserG decides to subscribe to presence attributes for Contact UserD by MSISDN/MDN. UserG and D have the capability to set their own presence attributes.</p> <ul style="list-style-type: none"> • Request is sent to UserD stating that UserG would like to subscribe to their presence. <p>--If UserD chooses to allow UserG to view their presence, UserG will receive acknowledgement of their request and be able to view UserD's presence from point of acceptance.</p> <p><i>--UserD will also reciprocally be able to view UserGs presence upon positively acknowledging the request from UserG.</i></p>
Primary User	UserG
Other Users	UserD
Precondition	Support for Presence is for EM capable devices
Alternate Scenarios Or Extensions	<p>B) Block: UserD may choose to block UserG. Please see UC & CF02-02. UserD can Block all future requests (permanent rejection), <i>UserG may not receive an overt notification (dependent upon carrier implementation),</i></p> <p>C) Decline: If UserD chooses to decline the request to view their presence attribute, <i>UserG may not receive an overt notification (dependent upon carrier implementation),</i> and will <u>not</u> be able to see UserD's presence attribute, until a later invite is sent and accepted</p>

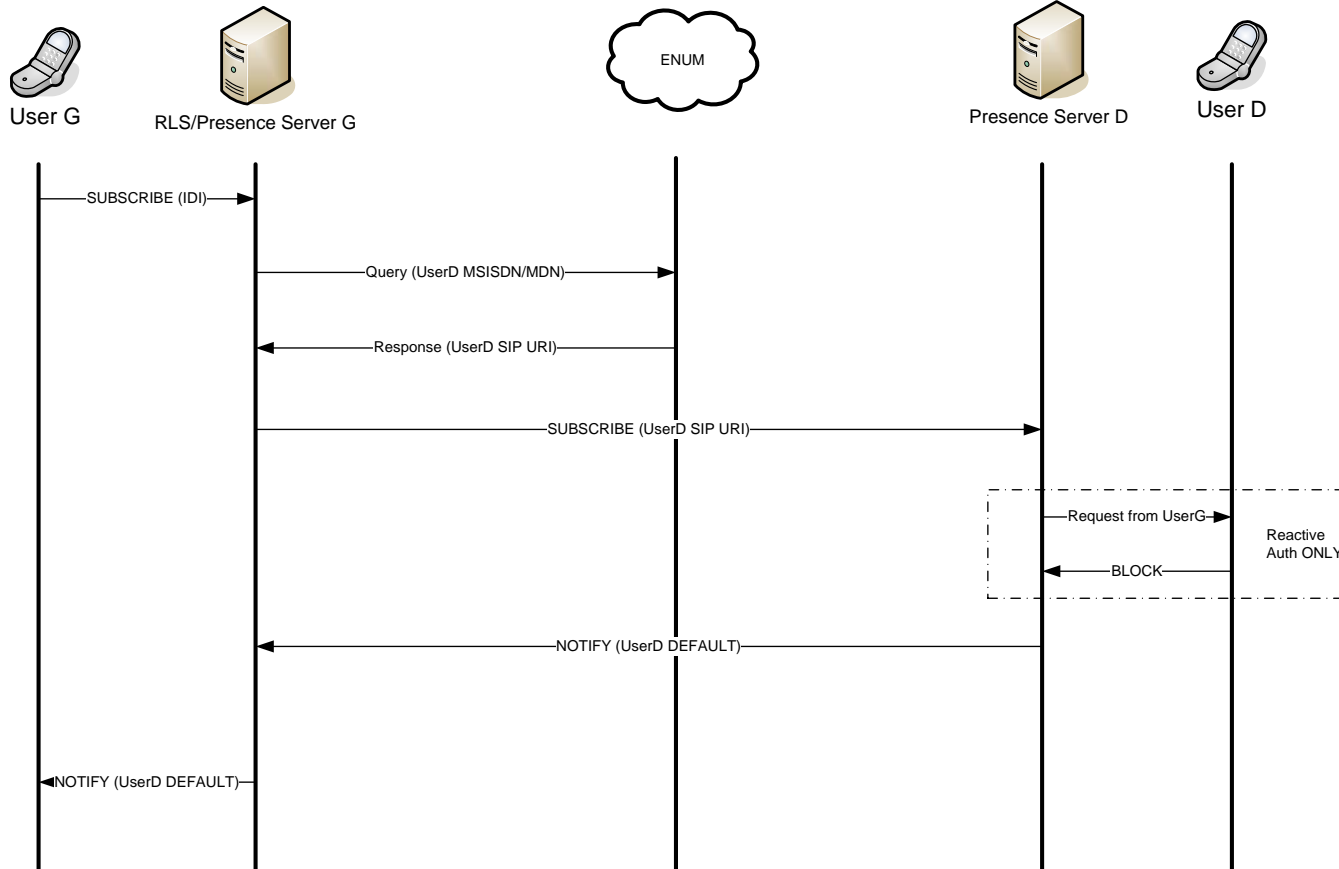
UC-01-01 Subscribe to Presence, Action Steps

Action Step	Response
<i>UserG requests to UserD to share their presence attributes, sends "Subscribe to Presence"</i>	Mobile Carrier D to add UserG to the list of users subscribed to the presence attributes for UserD (Watcher)
<i>Mobile Carrier D must choose to keep the approval from UserD for legal or privacy purposes if this is part of their policy. No interoperability feature is required to "remember" approval or blocking requests from specific subscribers.</i>	
UserD's presence attributes is made available to Mobile Carrier G	The Reciprocal subscription process would occur and UserG is offered can see presence attributes (assumed allow)
UserG's presence attributes made available to Mobile Carrier D	

CF-01-01 Subscribe to Presence



CF 01-01B Subscribe to Presence; Alternate Scenario = Block, or Permanent Rejection



--For Scenario 01-01-C = Decline, the Call Flow will be the same as above 01-01B with the Exception being that the return Notify 'Default' message will be adjusted to reflect Decline (temporary), rather than Block (permanent).
 --Presence Server D will maintain all the permission rules of UserD; Presence Server G will maintain all the permission rules of UserG. Permission rule settings are carrier specific.

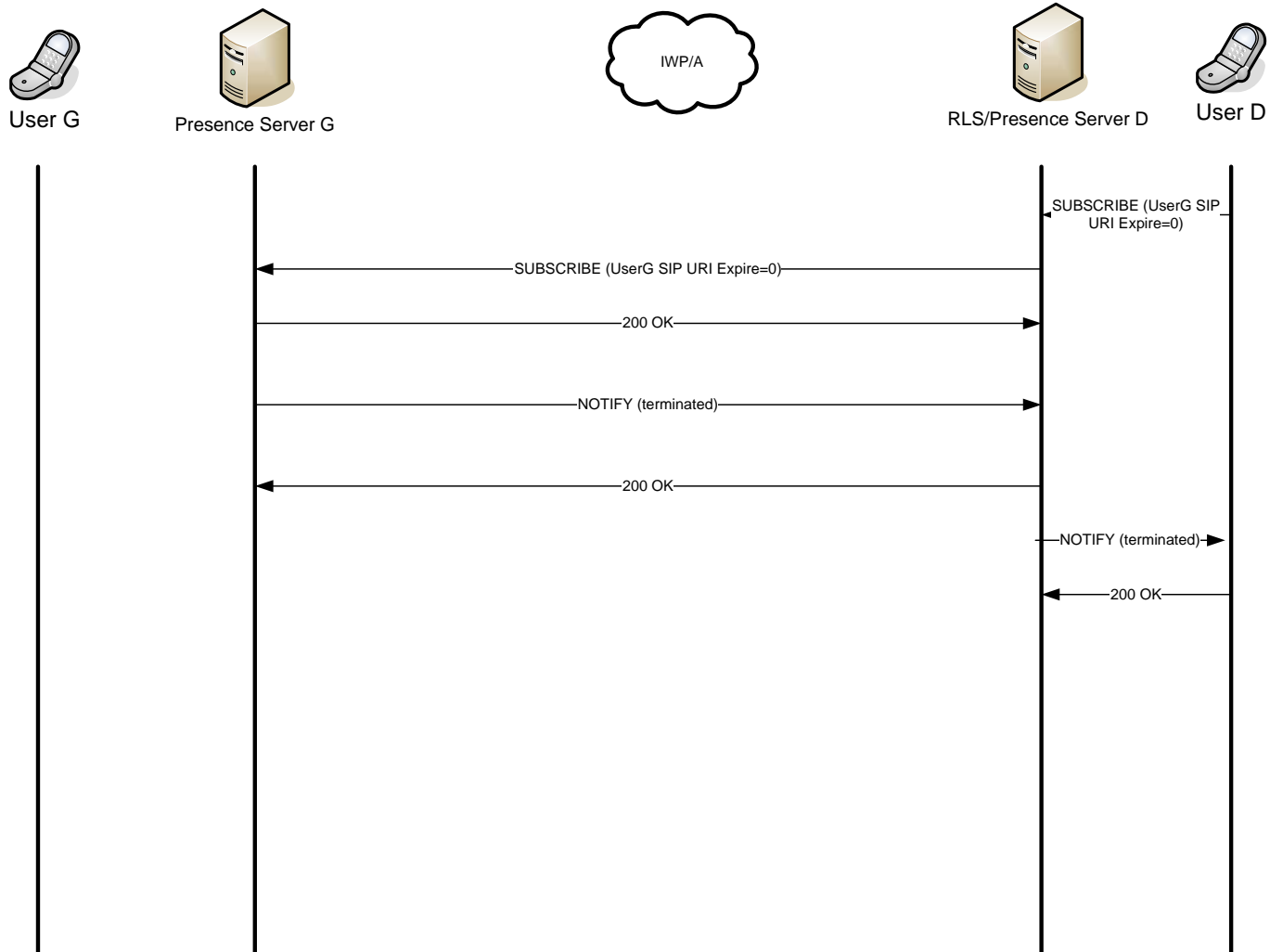
UC 01-02 Unsubscribe to Presence, Scenarios

Scenario	UserD may unsubscribe to presence attribute updates from UserG through his/her Contact List. This is not visible to UserG (UserG's Contact List is not affected in any way). UserD no longer receives presence attribute updates from UserG
Primary User	UserD
Other Users	UserG
Precondition	UserD has UserG has subscribed to UserG's presence attributes per UC 01-01
Alternate Scenarios	none

UC 01-02 Unsubscribe to Presence, Action Steps

Action Step	Response
<i>UserD navigates to his Contact List and sees that UserG is included and presence attribute is available. UserD selects UserG from his list, and chooses the option to unsubscribe UserG.</i>	<i>The presence attribute for the contact is no longer shown in UserD's Contact List.</i>
	Mobile Carrier D should remove UserG from any "subscriber to" presence lists the carrier keeps for UserD.
	Mobile Carrier D must notify Mobile Carrier G that the UserD is no longer interested in the presence attribute of UserG (i.e. UserD cancels his subscription).
	Mobile Carrier G can remove UserD from any list it keeps related to who is "watching" the presence attribute of UserG.

CF 01-02 Unsubscribe to Presence



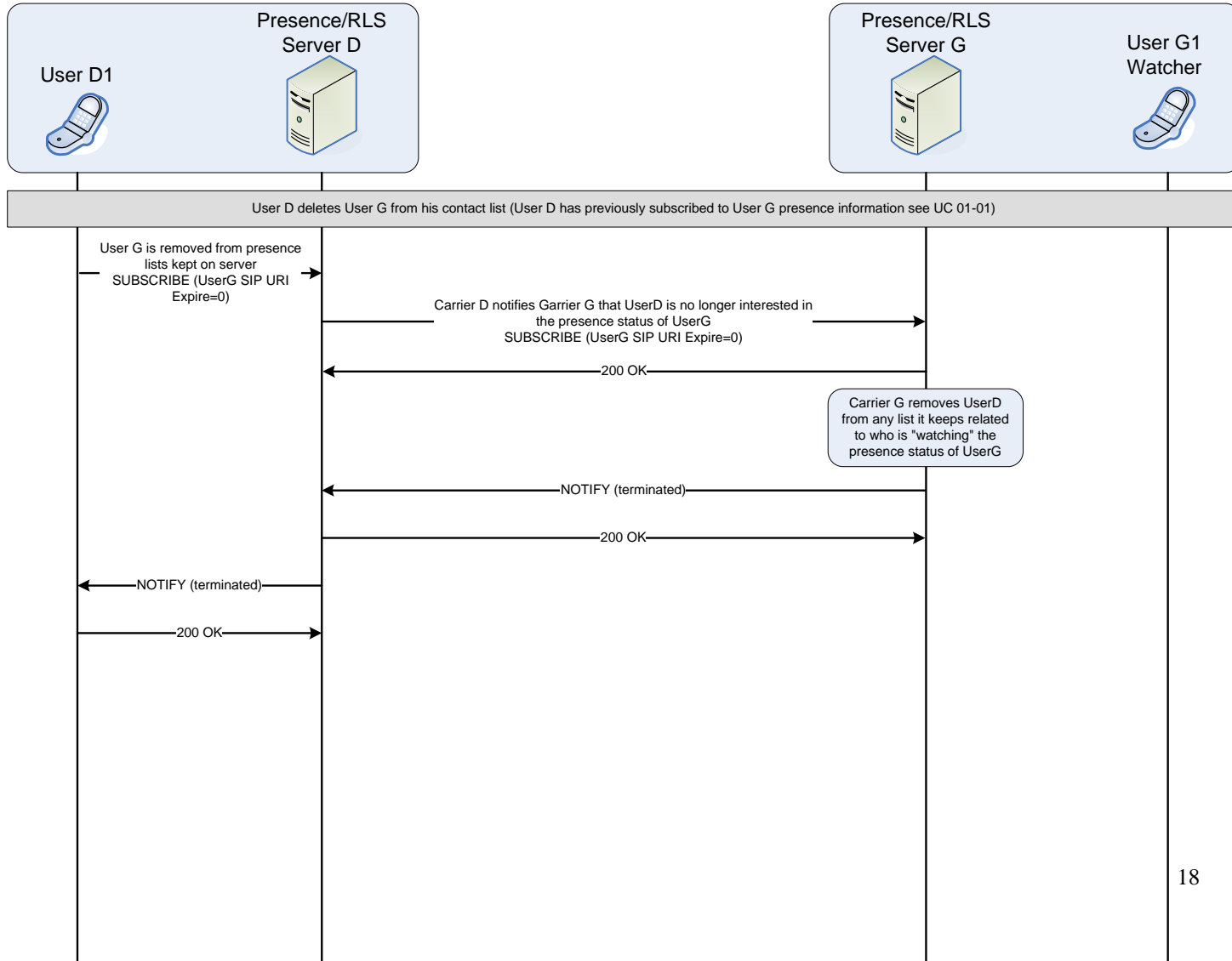
UC 01-03 Deleting a Contact with Presence Information, Scenarios

Scenario	UserD may delete UserG from his/her Contact List. This is not visible to UserG (UserG's Contact List is not affected in any way). UserG is removed from UserD's Contact list. UserD no longer receives presence attributes updates from UserG
Primary User	UserD
Other Users	UserG
Precondition	UserD has UserG on his Contact List and has subscribed to UserG's presence attributes per UC-01-01

UC 01-03 Deleting a contact with Presence information, Action Steps

Action Step	Response
<i>UserD navigates to his Contact List and sees that UserG is included. UserD selects UserG from his list, and chooses the option to delete contact.</i>	<i>The contact is deleted from UserD's Contact List.</i>
	Mobile Carrier D should remove UserG from any "subscribed to" presence lists the carrier keeps for UserD.
	Mobile Carrier D must notify Mobile Carrier G that the UserD is no longer interested in the presence attributes of UserG (i.e. UserD cancels his subscription).
	Mobile Carrier G can remove UserD from any list it keeps related to who is "watching" the presence attributes of UserG.
	Server D notifies Server D of Termination Mobile Carrier D confirms terminations to User D1.

CF 01-03 Deleting a Contact with Presence Information



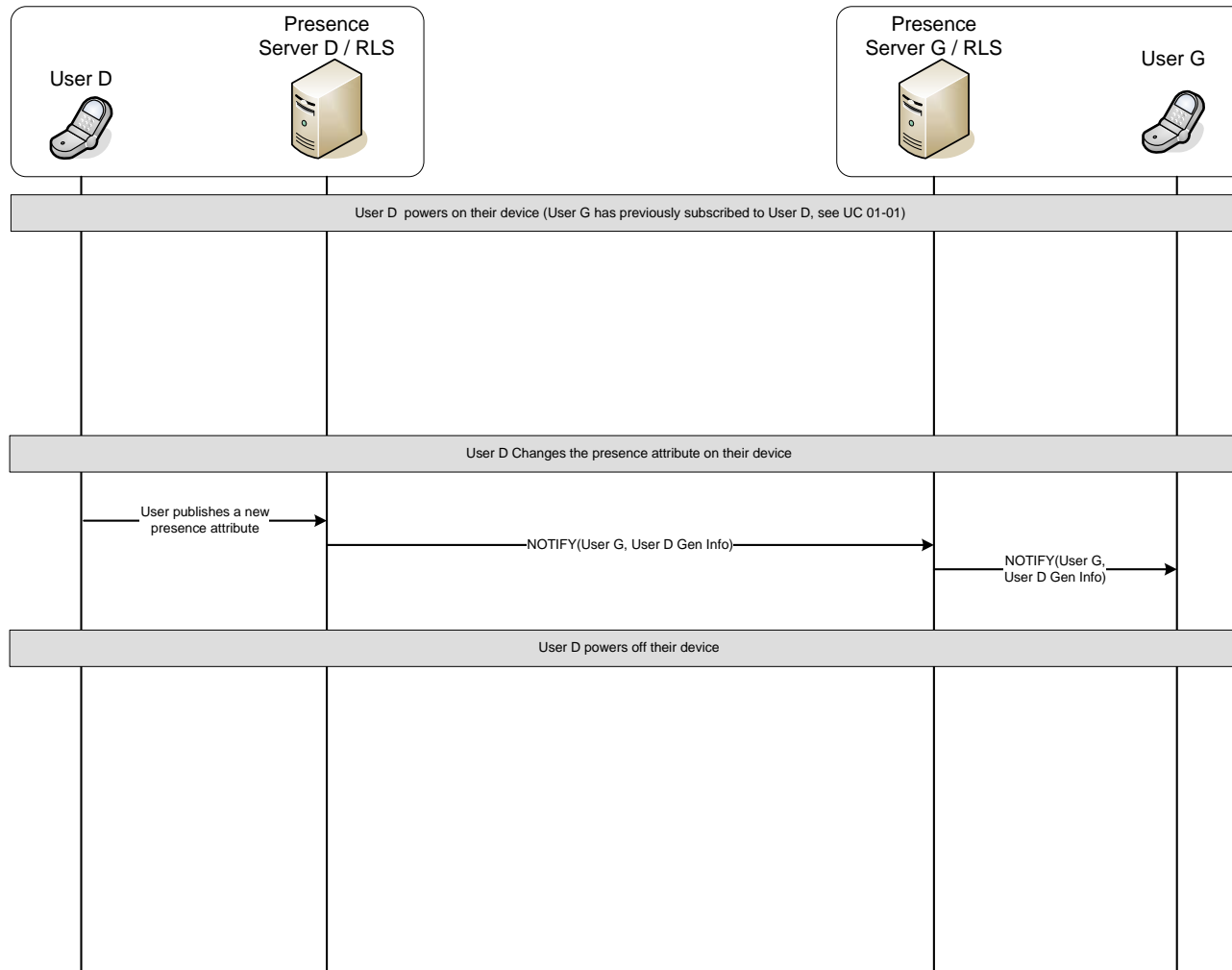
UC 02-01 Presence Attribute Update, Scenarios

Scenario	UserD updates his presence attribute information by powering on his mobile, powering off his mobile, or manually altering one of his presence attributes. The Mobile Carrier D server system sends presence attribute notification to all authorized Contacts who have requested to be notified of UserD's presence attribute.
Primary User	UserD
Other Users	UserG
Precondition	UserG has UserD on his Contact List and has successfully subscribed to presence updates for UserD.
Alternate Scenarios Or Extensions	If UserG is not logged in then he does not receive the presence attribute update. The Mobile Carrier G server may update the server contact list, so that when UserG logs in he has the current presence attributes for his list.
Scope	The attribute change trigger of power on/off would be dependent on the final decision regarding presence attribute(s) to be supported and is therefore TBD.

UC 02-01 Presence Attribute Update, Action Steps

Action Step	Response
<p>UserD's presence attribute information is updated automatically on the Mobile Carrier D's system when UserD does one of the following:</p> <ul style="list-style-type: none"> manually changes one of his attributes 	<p>Mobile Carrier D sends notification of the presence attribute change to all authorized contacts who subscribe to UserD's presence attribute (UserD's Watching Contacts). Among these is the Mobile Carrier G subscriber UserG.</p>
<p><i>The Mobile Carrier G system updates UserD's presence attribute information on UserG's Client Contact List when User G logs on</i></p>	<p>No permanent storage of the presence information from other carriers' subscribers is required.</p>

CF 02-01 Presence Attribute Update



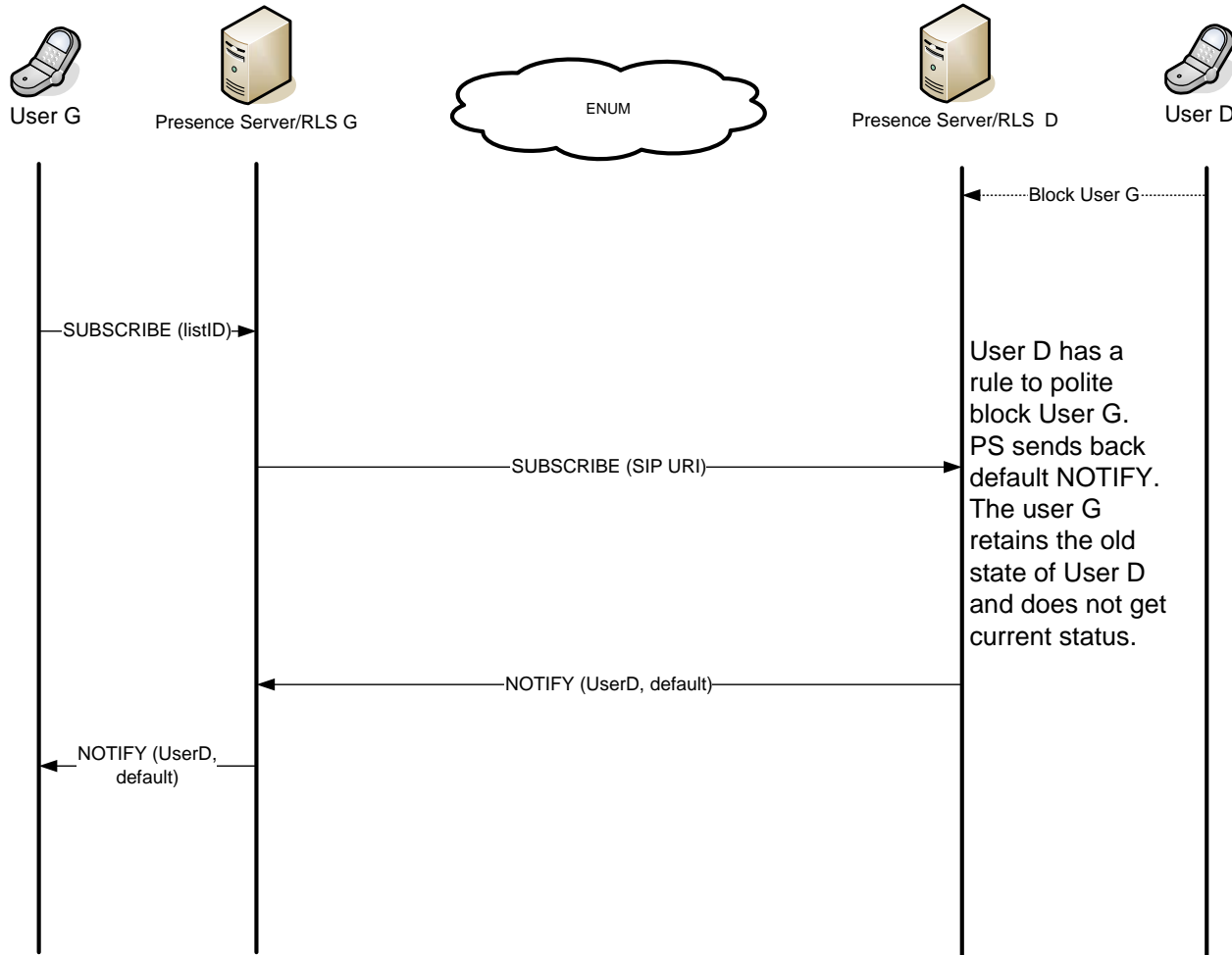
UC 02-02 Blocking a Contact, Scenarios

Scenario	UserD may block their presence information from UserG by placing UserG on UserD's Block List. UserG is not removed from UserD's Contact List, but is marked as blocked. <i>UserD's presence attribute is never shown on UserG's Contact List. (carrier specific)</i>
Primary User	UserD
Other Users	UserG
Precondition	UserD has UserG on his Contact List and vice versa. Following Use Case 01-01, both have previously allowed the sharing of their presence information.
Alternate Scenarios Or Extensions	<i>B) The opposite use case "Unblock Contact" reverses the effect of the block functionality:</i> <ul style="list-style-type: none"> • <i>presence sharing attribute is unblocked.</i> • <i>UserG updates presence attribute on UserD's Contact List.</i>
Note	Blocking presence attribute does not have any impact on the ability for any other messaging.

UC 02-02 Blocking a Contact, Action Steps

Action Step	Response
<i>UserD selects UserG from his contact list, and chooses the option to block the contact</i>	Mobile Carrier D sends a final presence attribute update directed to UserG that clears all presence attribute information for UserD. No further attribute changes are sent by Mobile Carrier D for UserD destined for UserG. This may be referred to as “Polite Blocking”.
Note	<p>A Polite Block is one in which the User being blocked does not receive notification that they are blocked from seeing attribute updates.</p> <p>A Rude Block is one in which the User being blocked receives notification that they are being blocked from seeing future attribute updates.</p>

CF 02-02 Blocking a Contact



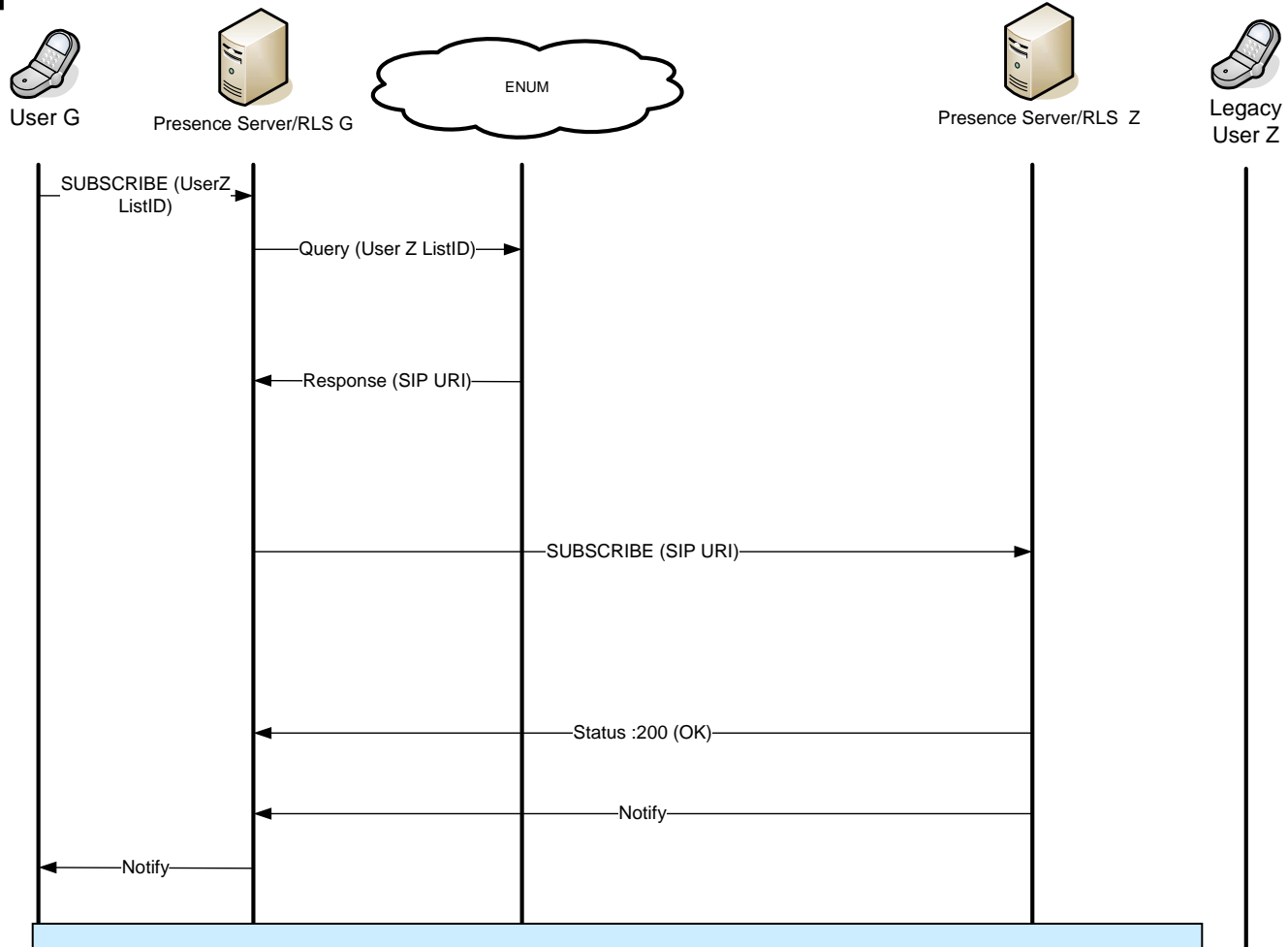
UC-03-01 Subscribe to Presence Attribute for a Legacy Contact, Scenarios

Scenario	UserG decides to request presence information for Contact UserZ by MSISDN/MDN.
Precondition	UserZ represents a valid MSISDN/MDN. The added UserZ does not subscribe to enhanced messaging.
Alternate Scenarios Or Extensions	B) This case covers the scenario where Mobile Carrier Z supports enhanced messaging but User is not an active user. Another use case should exist to cover the case where Mobile Carrier Z does not support enhanced messaging at all.

UC-03-01 Subscribe to Presence Attribute for a Legacy Contact, Action Steps

Action Step	Response
<i>UserG navigates to UserZ in their contact list and chooses "Subscribe to Presence"</i>	The Mobile Carrier G system performs validity checks and carrier analysis on the MSISDN/MDN (in the basic workflow assumed a valid number); the result is that UserZ number is not owned by Mobile Carrier G. The Mobile Carrier G server requests Mobile Carrier Z to add UserG to the list of users subscribed to the presence for UserZ.
<i>The Mobile Carrier Z server checks UserZ registration status</i>	<i>Since UserZ is not an enhanced messaging subscriber, the response to Mobile Carrier Z depends on how Mobile Carrier Z chooses to treat legacy subscribers within its network.</i> If legacy presence support is allowed, Mobile Carrier Z will return the presence attribute for UserZ (following their authorization rules for legacy subscribers). If legacy presence support is not available, then Mobile Carrier Z shall return a default presence value of "Unknown/Not Supported".

UC-03-01 Subscriber to Presence of Legacy User



The default Notify will be 'unknown'