Source:	TSG CN WG4
Title:	CRs on Rel-5 Location Service Enhancements
Agenda item:	9.7
Document for:	APPROVAL

Introduction:

This document contains 3 CRs on Rel-5 Work Item "LCS1", that have been agreed by TSG CN WG4, and are forwarded to TSG CN Plenary meeting #15 for approval.

Spec	CR	Re	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
24.030	012		N4-020045	Rel-5	Introduction of the "Requestor ID"	B	4.2.0
24.080	015	1	N4-020140	Rel-5	Introduction of the "Requestor ID"	B	4.2.0
29.002	381	2	N4-020266	Rel-5	Introduction of the "Requestor ID"	B	5.0.0

<div style="text-align:right">CR-Form-v6.1</div>

CHANGE REQUEST

⌘	**24.030** CR **012**	⌘**rev** -	⌘	Current version:	**4.2.0**	⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network **X**

Title: ⌘	Introduction of the "Requestor ID"	
Source: ⌘	CN4	
Work item code: ⌘	LCS1	***Date:*** ⌘ 18/01/2002
Category: ⌘ **B**		***Release:*** ⌘ 5

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)

Reason for change: ⌘	SA2 agreed the addition of the "Requestor Identity" so that the terminal user can know who requests the location information of the terminal user.
	In the LCS Stage2, the "Requestor Identity" is defined as follows.
	Requestor: the originating entity which has requested the location of the target UE from the LCS client.
	Requestor Identity: This identifier is identifying the Requestor and can be e.g. MSISDN or logical name.
	This CR shows the reflection of this parameter to 24.030.
Summary of change: ⌘	The addition of the parameter "LCS Requestor ID" to LCS Client ID.
Consequences if not approved: ⌘	

Clauses affected: ⌘	4.1.1
Other specs affected: ⌘	**X** Other core specifications ⌘ 24.080, 29.002 ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

How to create CRs using this form:

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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.

4.1   Location Notification

4.1.1   Normal operation

The network invokes a location notification procedure by sending a REGISTER message containing a LCS-LocationNotification invoke component to the MS. This may be sent either to request verification for MT-LR or to notify about already authorized MT-LR.

In case of privacy verification the MS shall respond to the request by sending a RELEASE COMPLETE message containing the mobile subscriber's response in a return result component (figure 4.1).

If the timer expires in the network before any response from the MS (e.g. due to no response from the user), the network shall interpret this by applying the default treatment defined in TS 23.271 (i.e. dissallow location if barred by subscription and allow location if allowed by subscription).

In the case of location notification no response is required from the MS, the MS shall terminate the dialoque by sending a RELEASE COMPLETE message containing a LocationNotification return result.

If the MS is unable to process the request received from the network, it shall return an error indication by sending a RELEASE COMPLETE message containing a return error component. Error values are specified in 3GPP TS 24.080
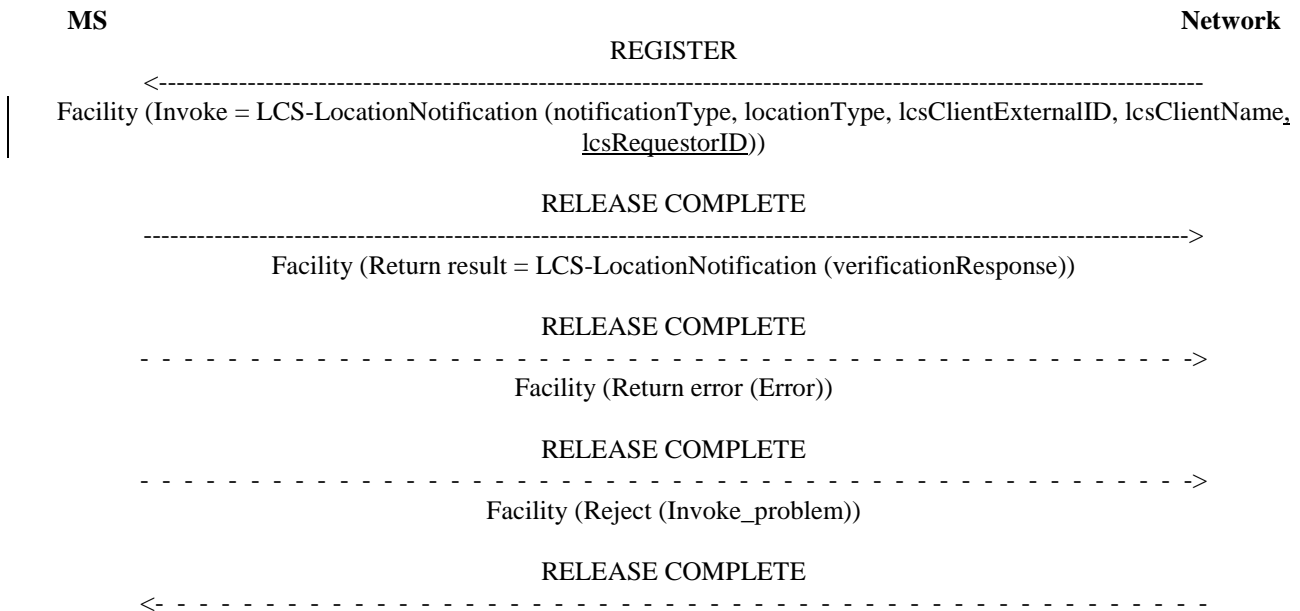
```
MS                                                                                                            Network
                                              REGISTER
        <----------------------------------------------------------------------------------------------------------
        Facility (Invoke = LCS-LocationNotification (notificationType, locationType, lcsClientExternalID, lcsClientName,
                                          lcsRequestorID))


                                         RELEASE COMPLETE
        ---------------------------------------------------------------------------------------------------------->
                    Facility (Return result = LCS-LocationNotification (verificationResponse))

                                         RELEASE COMPLETE
        - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - ->
                                   Facility (Return error (Error))

                                         RELEASE COMPLETE
        - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - ->
                                 Facility (Reject (Invoke_problem))

                                         RELEASE COMPLETE
        <- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Figure 4.1: Location Notification

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CHANGE REQUEST

| ⌘ | **29.002** CR **381** | ⌘ **rev** | **2** | ⌘ | Current version: | **5.0.0** | ⌘ |

Spec Title: Mobile Application Part (MAP) specification ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network **X**

Title: ⌘	Introduction of the "Requestor ID"	
Source: ⌘	CN4	
Work item code: ⌘	LCS1	*Date:* ⌘ 1/02/2002
Category: ⌘ **B**		*Release:* ⌘ 5

Use <u>one</u> of the following categories:	Use <u>one</u> of the following releases:
F (correction)	2 (GSM Phase 2)
A (corresponds to a correction in an earlier release)	R96 (Release 1996)
B (addition of feature),	R97 (Release 1997)
C (functional modification of feature)	R98 (Release 1998)
D (editorial modification)	R99 (Release 1999)
Detailed explanations of the above categories can	REL-4 (Release 4)
be found in 3GPP <u>TR 21.900</u>.	REL-5 (Release 5)

Reason for change: ⌘	SA2 agreed the addition of the "Requestor Identity" so that the terminal user can know who requests the location information of the terminal user.
	In the LCS Stage2, the "Requestor Identity" is defined as follows.
	Requestor: the originating entity which has requested the location of the target UE from the LCS client.
	Requestor Identity: This identifier is identifying the Requestor and can be e.g. MSISDN or logical name.
	This CR shows the reflection of this parameter to MAP specification.
Summary of change: ⌘	The addition of the parameter "LCS Requestor ID" to LCS Client ID.
Consequences if not approved: ⌘	

Clauses affected: ⌘	17.7.13
Other specs affected: ⌘	**X** Other core specifications ⌘ 24.030, 24.080
	☐ Test specifications
	☐ O&M Specifications
Other comments: ⌘	

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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.

17.7.13 Location service data types

```
MAP-LCS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-LCS-DataTypes (25) version7 (7)}

DEFINITIONS
IMPLICIT TAGS
::=
BEGIN

EXPORTS
   RoutingInfoForLCS-Arg,
   RoutingInfoForLCS-Res,
   ProvideSubscriberLocation-Arg,
   ProvideSubscriberLocation-Res,
   SubscriberLocationReport-Arg,
   SubscriberLocationReport-Res,
   LocationType,
   LCSClientName,
   LCS-QoS,
   Horizontal-Accuracy,
   ResponseTime,
   Ext-GeographicalInformation,
   SupportedGADShapes,
   Add-GeographicalInformation,
   LCSRequestorID
;

IMPORTS
   AddressString,
   ISDN-AddressString,
   IMEI,
   IMSI,
   LMSI,
   SubscriberIdentity,
   AgeOfLocationInformation,
   LCSClientExternalID,
      LCSClientInternalID
FROM MAP-CommonDataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-CommonDataTypes (18) version7 (7)}

   ExtensionContainer
FROM MAP-ExtensionDataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-ExtensionDataTypes (21) version7 (7)}

   USSD-DataCodingScheme,
   USSD-String
FROM MAP-SS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-SS-DataTypes (14) version7 (7)}

   APN
FROM MAP-MS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-MS-DataTypes (11) version7 (7)}

   Additional-Number
FROM MAP-SM-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-SM-DataTypes (16) version7 (7)}
;


-------------
```

```
ProvideSubscriberLocation-Arg ::= SEQUENCE {
    locationType                        LocationType,
    mlc-Number                          ISDN-AddressString,
    lcs-ClientID                        [0] LCS-ClientID              OPTIONAL,
    privacyOverride                     [1] NULL                      OPTIONAL,
    imsi                                [2] IMSI                      OPTIONAL,
    msisdn                              [3] ISDN-AddressString        OPTIONAL,
    lmsi                                [4] LMSI                      OPTIONAL,
    imei                                [5] IMEI                      OPTIONAL,
    lcs-Priority                        [6] LCS-Priority              OPTIONAL,
    lcs-QoS                             [7] LCS-QoS                   OPTIONAL,
    extensionContainer                  [8] ExtensionContainer        OPTIONAL,
    ... ,
    supportedGADShapes                  [9]  SupportedGADShapes       OPTIONAL}

    -- one of imsi or msisdn is mandatory
```

```
LocationType ::= SEQUENCE {
    locationEstimateType                [0] LocationEstimateType,
    ...,
    deferredLocationEventType           [1] DeferredLocationEventType     OPTIONAL }
```

```
LocationEstimateType ::= ENUMERATED {
    currentLocation                     (0),
    currentOrLastKnownLocation          (1),
    initialLocation                     (2),
    ...,
    activateDeferredLocation            (3),
    cancelDeferredLocation              (4) }
--   exception handling:
--   a ProvideSubscriberLocation-Arg containing an unrecognized LocationEstimateType
--   shall be rejected by the receiver with a return error cause of unexpected data value
```

```
DeferredLocationEventType ::= BIT STRING {
    msAvailable                         (0) } (SIZE (1..16))
-- exception handling
-- a ProvideSubscriberLocation-Arg containing other values than listed above in
-- DeferredLocationEventType shall be rejected by the receiver with a return error cause of
-- unexpected data value.
```

```
LCS-ClientID ::= SEQUENCE {
    lcsClientType                       [0] LCSClientType,
    lcsClientExternalID                 [1] LCSClientExternalID       OPTIONAL,
    lcsClientDialedByMS                 [2] AddressString             OPTIONAL,
    lcsClientInternalID                 [3] LCSClientInternalID       OPTIONAL,
    lcsClientName                       [4] LCSClientName             OPTIONAL,
    ...,
    lcsAPN                              [5] APN                       OPTIONAL,
    lcsRequestorID                      [6] LCSRequestorID            OPTIONAL }
```

```
LCSClientType ::= ENUMERATED {
    emergencyServices                   (0),
    valueAddedServices                  (1),
    plmnOperatorServices                (2),
    lawfulInterceptServices             (3),
    ... }
    --   exception handling:
    --   unrecognized values may be ignored if the LCS client uses the privacy override
    --   otherwise, an unrecognized value shall be treated as unexpected data by a receiver
    --   a return error shall then be returned if received in a MAP invoke
```

```
LCSClientName ::= SEQUENCE {
    dataCodingScheme                    [0] USSD-DataCodingScheme,
    nameString                          [2] NameString,
    ...}

-- The USSD-DataCodingScheme shall indicate use of the default alphabet through the
-- following encoding
--   bit 7 6 5 4 3 2 1 0
--       0 0 0 0 1 1 1 1
```

```
NameString ::= USSD-String (SIZE (1..maxNameStringLength))
```

```
maxNameStringLength   INTEGER ::= 63
```

```
LCSRequestorID ::= SEQUENCE {
    dataCodingScheme                    [0] USSD-DataCodingScheme,
    requestorIDString                   [1] RequestorIDString,
    ...}
```

```
RequestorIDString ::= USSD-String (SIZE (0..maxRequestorIDStringLength))
```

```
maxRequestorIDStringLength  INTEGER ::= 127
```

CR-Form-v6.1

CHANGE REQUEST

⌘   **24.080 CR 015**   ⌘**rev 1** ⌘   Current version: **4.2.0**   ⌘

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

Proposed change affects: ⌘   (U)SIM ☐   ME/UE **X**   Radio Access Network ☐   Core Network **X**

Title: ⌘	Introduction of the "Requestor ID"	
Source: ⌘	NTC, Nokia	
Work item code:⌘	LCS1	*Date:* ⌘ 21/01/2002
Category: ⌘ **B**		*Release:* ⌘ 5

Use <u>one</u> of the following categories:
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R98   (Release 1998)
R99   (Release 1999)
REL-4   (Release 4)
REL-5   (Release 5)

Reason for change: ⌘	SA2 agreed the addition of the "Requestor Identity" so that the terminal user can know who requests the location information of the terminal user. In the LCS Stage2, the "Requestor Identity" is defined as follows. **Requestor**: the originating entity which has requested the location of the target UE from the LCS client. **Requestor Identity**: This identifier is identifying the Requestor and can be e.g. MSISDN or logical name. This CR shows the reflection of this parameter to 24.080.
Summary of change: ⌘	The addition of the parameter "LCS Requestor ID" to LCS Client ID.
Consequences if not approved: ⌘	

Clauses affected: ⌘	4.4.2
Other specs affected: ⌘	**X** Other core specifications ⌘ 24.030, 29.002 ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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4.4.2   ASN.1 data types

This subclause provides an ASN.1 module defining the abstract data types in operations and errors specification. Only data types which are specific for this specification are defined. All other data types are imported from MAP together with the import of operations and errors.

```
SS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Access (2) modules (3)
   ss-DataTypes (2) version7 (7)}

DEFINITIONS

IMPLICIT TAGS ::=

BEGIN

-- exports all data types defined in this module

IMPORTS

SS-Code
FROM MAP-SS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-SS-Code (15) version7 (7)}

-- imports MAP-SS-DataTypes
SS-Status, USSD-DataCodingScheme, USSD-String, CCBS-Feature
-- USSD-DataCodingScheme, USSD-String were introduced because of CNAP.
FROM MAP-SS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-SS-DataTypes (14) version7 (7)}

CUG-Index,
NotificationToMSUser
FROM MAP-MS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-MS-DataTypes (11) version7 (7)}

maxSignalInfoLength,
ISDN-AddressString,
ISDN-SubaddressString,
AlertingPattern,
LCSClientExternalID,
AddressString
FROM MAP-CommonDataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-CommonDataTypes (18) version7 (7)}

LocationType,
LCSClientName,
LCS-QoS,
Horizontal-Accuracy,
ResponseTime,
Ext-GeographicalInformation,
SupportedGADShapes,
Add-GeographicalInformation,
LCSRequestorID
FROM MAP-LCS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-LCS-DataTypes (25) version7 (7)}

;

--------------------------------


LocationNotificationArg ::= SEQUENCE {
    notificationType     [0] NotificationToMSUser,
    locationType         [1] LocationType,
    lcsClientExternalID  [2] LCSClientExternalID    OPTIONAL,
    lcsClientName        [3] LCSClientName          OPTIONAL,
    ...,
    lcsRequestorID       [4] LCSRequestorID         OPTIONAL}
```

```
-- exception handling:
-- At reception of an unrecognised notificationType value the receiver shall reject the
-- operation with a return error cause of unexpected data value.
-- At reception of an unrecognised locationType value the receiver shall reject the
-- operation with a return error cause of unexpected data value.
```