3GPP TSG_CN **Tdoc NP-000294**
Plenary Meeting #8, Dusseldorf, Germany
21st – 23rd June 2000.

Source: **TSG_N WG4**

Title: **CRs to 3G Work Item "Handover"**

Agenda item: **6.15.4**

Document for: **APPROVAL**

Introduction:

This document contains **"2"** CRs on **Work Item "Handover",** that have been agreed by **TSG_N WG4,** and are forwarded to **TSG_N Plenary** meeting #8 for approval.

TDoc	SPEC	CR	REV	PHAS	VERS	SUBJECT	CAT	NEW_VERS
N4-000050	29.002	121		R99	3.4.0	Correction of introduction of additional service parameters	F	3.5.0
N4-000209	29.002	130		R99	3.4.0	Version 3 Tags for handover messages for R99	F	3.5.0

3GPP TSG-CN 4 meeting #1
Charleston, USA, 27-31 March 2000

Document N4-000050
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

29.002	**CR**	**121**	Current Version:	3.4.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-CN#8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [X]
(at least one should be marked with an X)

Source: N4 **Date:** 23.03.00

Subject: Correction of introduction of additional service parameters for inter-system handover

Work item: Handover/Relocation

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: By the introduction of necessary parameters for inter-system handover according to CR 29.002-105r1 (N2B000324), a misalignment arised between the service description & the ASN.1description for ForwardAccessSignalling: 'integrityProtectionInformation' & 'encryptionInformation' IEs should be included in the ASN.1 description. In addition this CR removes a minor editorial error in PrepareHO-Arg (it should be "encryptionInformation" rather than "encryptionProtectionInformation").

Clauses affected:

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments: This CR is based on Tdoc N2B000324 (CR 29.002-105r1 on introduction of additional service parameters for inter-system handover) approved at CN#7 since the new base version of 3G TS 29.002 (v.3.4.0) was not yet available.

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Modified Section

17.7 MAP constants and data types

17.7.1 Mobile Service data types

```
MAP-MS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-MS-DataTypes (11) version6 (6)}

DEFINITIONS

IMPLICIT TAGS

::=

BEGIN

EXPORTS

   -- location registration types
   UpdateLocationArg,
   UpdateLocationRes,
   CancelLocationArg,
   CancelLocationRes,
   PurgeMS-Arg,
   PurgeMS-Res,
   SendIdentificationArg,
   SendIdentificationRes,
   UpdateGprsLocationArg,
   UpdateGprsLocationRes,
   IST-SupportIndicator,


   -- handover types
   ForwardAccessSignalling-Arg,
   PrepareHO-Arg,
   PrepareHO-Res,
   PrepareSubsequentHO-Arg,

   -- authentication management types
   SendAuthenticationInfoArg,
   SendAuthenticationInfoRes,

   -- security management types
   EquipmentStatus,
   Kc,

   -- subscriber management types
   InsertSubscriberDataArg,
   InsertSubscriberDataRes,
   DeleteSubscriberDataArg,
   DeleteSubscriberDataRes,
   SubscriberData,
   ODB-Data,
   SubscriberStatus,
   ZoneCodeList,
   maxNumOfZoneCodes,
   O-CSI,
   D-CSI,
   O-BcsmCamelTDPCriteriaList,
   T-BCSM-CAMEL-TDP-CriteriaList,
   SS-CSI,
   ServiceKey,
   DefaultCallHandling,
   CamelCapabilityHandling,
   BasicServiceCriteria,
   SupportedCamelPhases,
   maxNumOfCamelTDPData,
   CUG-Index,
   CUG-Interlock,
```

```
   InterCUG-Restrictions,
   IntraCUG-Options,
   IST-AlertTimerValue,
   T-CSI,
   T-BcsmTriggerDetectionPoint,

   -- fault recovery types
   ResetArg,
   RestoreDataArg,
   RestoreDataRes,

   -- subscriber information enquiry types
   ProvideSubscriberInfoArg,
   ProvideSubscriberInfoRes,
   SubscriberInfo,
   LocationInformation,
   SubscriberState,

   -- any time information enquiry types
   AnyTimeInterrogationArg,
   AnyTimeInterrogationRes,

   -- any time information handling types
   AnyTimeSubscriptionInterrogationArg,
   AnyTimeSubscriptionInterrogationRes,
   AnyTimeModificationArg,
   AnyTimeModificationRes,

   -- subscriber data modification notification types
   NoteSubscriberDataModifiedArg,
   NoteSubscriberDataModifiedRes,

   -- gprs location information retrieval types
   SendRoutingInfoForGprsArg,
   SendRoutingInfoForGprsRes,

   -- failure reporting types
   FailureReportArg,
   FailureReportRes,

   -- gprs notification types
   NoteMsPresentForGprsArg,
   NoteMsPresentForGprsRes,

   -- Mobility Management types
   NoteMM-EventArg,
   NoteMM-EventRes



;

IMPORTS
   maxNumOfSS,
   SS-SubscriptionOption,
   SS-List,
   SS-ForBS-Code,
   Password
FROM MAP-SS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-SS-DataTypes (14) version6 (6)}

   SS-Code
FROM MAP-SS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-SS-Code (15) version6 (6)}

   Ext-BearerServiceCode
FROM MAP-BS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-BS-Code (20) version6 (6)}

   Ext-TeleserviceCode
FROM MAP-TS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-TS-Code (19) version6 (6)}
```

```
   AddressString,
   ISDN-AddressString,
   ISDN-SubaddressString,
   AccessNetworkSignalInfo,
   IMSI,
   TMSI,
   HLR-List,
   LMSI,
   Identity,
   GlobalCellId,
   CellIdOrLAI,
   Ext-BasicServiceCode,
   NAEA-PreferredCI,
   EMLPP-Info,
   SubscriberIdentity,
   AgeOfLocationInformation,
   LCSClientExternalID,
   LCSClientInternalID



FROM MAP-CommonDataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-CommonDataTypes (18) version6 (6)}

   ExtensionContainer
FROM MAP-ExtensionDataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-ExtensionDataTypes (21) version6 (6)}

   AbsentSubscriberDiagnosticSM
FROM MAP-ER-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-ER-DataTypes (17) version6 (6)}


;


-- location registration types
```

```
UpdateLocationArg ::= SEQUENCE {
     imsi                                IMSI,

     msc-Number                          [1] ISDN-AddressString,
     vlr-Number                          ISDN-AddressString,
     lmsi                                [10] LMSI OPTIONAL,
     extensionContainer                  ExtensionContainer                OPTIONAL,
     ... ,
     vlr-Capability                      [6] VLR-Capability                OPTIONAL }
```

```
VLR-Capability ::= SEQUENCE{
     supportedCamelPhases                [0] SupportedCamelPhases          OPTIONAL,
     extensionContainer                  ExtensionContainer                OPTIONAL,
     ... ,
     solsaSupportIndicator               [2] NULL                          OPTIONAL,
     istSupportIndicator                 [1] IST-SupportIndicator          OPTIONAL,
     superChargerSupportedInServingNetworkEntity   [3] SuperChargerInfo    OPTIONAL }
```

```
SuperChargerInfo ::= CHOICE {
     sendSubscriberData                  [0] NULL,
     subscriberDataStored                [1] AgeIndicator }
```

```
AgeIndicator ::= OCTET STRING (SIZE (1..6))
     -- The internal structure of this parameter is implementation specific.
```

```
IST-SupportIndicator ::=  ENUMERATED {
     basicISTSupported                   (0),
     istCommandSupported                 (1), ...}
-- exception handling:
-- reception of values > 1 shall be mapped to ' istCommandSupported '
```

```
UpdateLocationRes ::= SEQUENCE {
    hlr-Number                          ISDN-AddressString,

    extensionContainer                  ExtensionContainer              OPTIONAL,
    ... }
```

```
CancelLocationArg ::= [3] SEQUENCE {
    identity                            Identity,
    cancellationType                    CancellationType                OPTIONAL,
    extensionContainer                  ExtensionContainer              OPTIONAL,
    ...}
```

```
CancellationType ::= ENUMERATED {
    updateProcedure                     (0),
    subscriptionWithdraw                (1),
    ...}
    -- The HLR shall not send values other than listed above
```

```
CancelLocationRes ::= SEQUENCE {
    extensionContainer                  ExtensionContainer              OPTIONAL,
    ...}
```

```
PurgeMS-Arg ::= [3] SEQUENCE {
    imsi                                IMSI,
    vlr-Number                          [0] ISDN-AddressString          OPTIONAL,
    sgsn-Number                         [1]  ISDN-AddressString         OPTIONAL,
    extensionContainer                  ExtensionContainer              OPTIONAL,
    ...}
```

```
PurgeMS-Res ::= SEQUENCE {
    freezeTMSI                          [0]  NULL                       OPTIONAL,
    freezeP-TMSI                        [1]  NULL                       OPTIONAL,
    extensionContainer                  ExtensionContainer              OPTIONAL,
    ...}
```

```
SendIdentificationArg ::= SEQUENCE {
    tmsi                                TMSI,
    numberOfRequestedVectors            NumberOfRequestedVectors,
    segmentationProhibited              NULL                            OPTIONAL,
    -- if segmentation is prohibited the previous VLR shall not send the result
    -- within a TC-CONTINUE message.
    extensionContainer                  ExtensionContainer              OPTIONAL,
    ...}
```

```
SendIdentificationRes ::= [3] SEQUENCE {
    imsi                                IMSI                            OPTIONAL,
    -- IMSI must be present if SendIdentificationRes is not segmented.
    -- If the TC-Continue segmentation option is taken the IMSI must be
    -- present in one segmented transmission of SendIdentificationRes.
    authenticationSetList               AuthenticationSetList           OPTIONAL,
    extensionContainer                  [2] ExtensionContainer          OPTIONAL,
    ...}
```

```
AuthenticationSetList ::= CHOICE {
    tripletList                         [0] TripletList,
    quintupletList                      [1] QuintupletList }
```

```
TripletList ::= SEQUENCE SIZE (1..5) OF
                                        AuthenticationTriplet
```

```
QuintupletList ::= SEQUENCE SIZE (1..5) OF
                                        AuthenticationQuintuplet
```

```
AuthenticationTriplet ::= SEQUENCE {
    rand                                RAND,
    sres                                SRES,
    kc                                  Kc,
    ...}
```

```
AuthenticationQuintuplet ::= SEQUENCE {
    rand                                RAND,
    xres                                XRES,
    ck                                  CK,
    ik                                  IK,
    autn                                AUTN,
    ...}
```

```
RAND ::= OCTET STRING (SIZE (16))
```

```
SRES ::= OCTET STRING (SIZE (4))
```

```
Kc ::= OCTET STRING (SIZE (8))
```

```
XRES ::= OCTET STRING (SIZE (4..16))
```

```
CK ::= OCTET STRING (SIZE (16))
```

```
IK ::= OCTET STRING (SIZE (16))
```

```
AUTN ::= OCTET STRING (SIZE (14..18))
```

```
AUTS ::= OCTET STRING (SIZE (12..16))
```

-- gprs location registration types

```
UpdateGprsLocationArg ::= SEQUENCE {
    imsi                                IMSI,
    sgsn-Number                         ISDN-AddressString,
    sgsn-Address                        GSN-Address,
    extensionContainer                  ExtensionContainer              OPTIONAL,
    ... ,
    sgsn-Capability                     [0] SGSN-Capability             OPTIONAL }
```

```
SGSN-Capability ::= SEQUENCE{
    solsaSupportIndicator               NULL                            OPTIONAL,
    extensionContainer                  [1] ExtensionContainer          OPTIONAL,
    ... ,
    superChargerSupportedInServingNetworkEntity   [2] SuperChargerInfo  OPTIONAL ,
    gprsEnhancementsSupportIndicator    [3] NULL                        OPTIONAL,
    supportedCamelPhases                [4] SupportedCamelPhases        OPTIONAL }
```

```
GSN-Address ::= OCTET STRING (SIZE (5..17))
    -- Octets are coded according to TS GSM 03.03
```

```
UpdateGprsLocationRes ::= SEQUENCE {
    hlr-Number                          ISDN-AddressString,
    extensionContainer                  ExtensionContainer              OPTIONAL,
    ...}
```

-- handover types

```
ForwardAccessSignalling-Arg ::= SEQUENCE {
    an-APDU                             AccessNetworkSignalInfo,
    integrityProtectionInfo             [0] IntegrityProtectionInformation  OPTIONAL,
    encryptionInfo                      [1] EncryptionInformation           OPTIONAL,
    extensionContainer                  [20] ExtensionContainer         OPTIONAL,
    ...}
```

```
PrepareHO-Arg ::= SEQUENCE {
    targetCellId                        GlobalCellId                    OPTIONAL,
    ho-NumberNotRequired                NULL                            OPTIONAL,
    an-APDU                             [2] AccessNetworkSignalInfo     OPTIONAL,
    imsi                                [3] IMSI                        OPTIONAL,
    integrityProtectionInfo             [4] IntegrityProtectionInformation  OPTIONAL,
    encryptionProtectionInfo            [5] EncryptionProtectionInformation   OPTIONAL,
    radioResourceInformation            [6] RadioResourceInformation    OPTIONAL,
    extensionContainer                  [7] ExtensionContainer          OPTIONAL,
    ...}
```

```
PrepareHO-Res ::= SEQUENCE {
    handoverNumber                      ISDN-AddressString              OPTIONAL,
    bss-APDU                            ExternalSignalInfo              OPTIONAL,
    ...}
```

```
PrepareSubsequentHO-Arg ::= SEQUENCE {
    targetCellId                        GlobalCellId,
    targetMSC-Number                    ISDN-AddressString,
    bss-APDU                            ExternalSignalInfo,
    ...}
```

```
RadioResourceInformation ::= OCTET STRING (SIZE (5..10))
    -- Octets are coded according the Channel Type information element in GSM 08.08
```

```
IntegrityProtectionInformation ::= OCTET STRING (SIZE (17..maxNumOfIntegrityInfo))
    -- Octets are coded according to 3G TS 25.413
```

```
maxNumOfIntegrityInfo INTEGER ::= 100
```

```
EncryptionInformation ::= OCTET STRING (SIZE (17..maxNumOfEncryptionInfo))
    -- Octets are coded according to 3G TS 25.413
```

```
maxNumOfEncryptionInfo INTEGER ::= 100
```

3GPP TSG-N4
Rotenburg an der Fulda
22-26 May 2000

Tdoc 3GPP N4-000209

CHANGE REQUEST

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29.002	**CR**	**130**	Current Version:	3.4.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	CN#08	for approval	X	strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME		UTRAN / Radio		Core Network	X

Source: N4 **Date:** 08.05.00

Subject: Version 3 tags for handover messages

Work item: Handover

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: To allow monitoring equipment to decode MAP handover messages without knowing the AC version.

Clauses affected: 17.7.1

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

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17.7.1 Mobile Service data types

•••••

```
-- handover types

ForwardAccessSignalling-Arg ::= [3] SEQUENCE {
    an-APDU                         AccessNetworkSignalInfo,
    extensionContainer              [0]  ExtensionContainer          OPTIONAL,
    ...}
```

•••••

```
PrepareSubsequentHO-Res ::= [3] SEQUENCE {
    an-APDU                         AccessNetworkSignalInfo,
    extensionContainer              [0]  ExtensionContainer          OPTIONAL,
    ...}

ProcessAccessSignalling-Arg ::= [3] SEQUENCE {
    an-APDU                         AccessNetworkSignalInfo,
    extensionContainer              [0]  ExtensionContainer          OPTIONAL,
    ...}

SendEndSignal-Arg ::= [3] SEQUENCE {
    an-APDU                         AccessNetworkSignalInfo,
    extensionContainer              [0]  ExtensionContainer          OPTIONAL,
    ...}
```

•••••