3GPP TSG- SA3-LI Meeting #12   *Tdoc* ⌘ S3LI02_137r3
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CR-Form-v7

CHANGE REQUEST

| ⌘ | **33.108** CR **CRNum** | ⌘**rev** | **-** | ⌘ | Current version: | **5.1.0** | ⌘ |

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

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

Title:	⌘	Aggregation of IRI Records
Source:	⌘	SA WG3-LI (Reg TP)

Work item code:⌘	SEC1		***Date:*** ⌘	25/09/2002

Category:	⌘ **B**	***Release:*** ⌘	Rel-6

Use <u>one</u> 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 <u>TR 21.900</u>.

Use <u>one</u> 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:	⌘	When IRI records are to be sent to the LEMF e.g. using FTP, each record is transmitted separately, i.e. for each record a FTP session needs to be established and closed. Compared to the size of the records, the overhead caused by the exchange of the messages of the transmission protocols is quite significant, and consequently the time required to transmit one IRI record.
		Therefore, as an optional feature, it is proposed to allow the aggregation of several IRI records into on single file. When applied, this feature increases significantly the throughput of the Mediation Function. Especially in cases when there has been a breakdown of the link to the LEMF or of the equipment either on the network or LEA side, and many buffered IRI records need to be transmitted afterwards, the time required to transmit these records in a aggregated form will be only a fraction compared to that when each record is transmitted individually.
		As there are time constraints, clearly, this optional feature has to be applied according to national or regional requirements respectively laws.
		The aggregation can be achieved by introducing an additional production into the ASN.1 description in Annex B.3.
		Since the proposed feature is defined at the ASN.1 parameter level, it is independent from the transport protocol used, i.e. it can be applied with FTP, ROSE, TPKT and any other transport protocol..

Summary of change: ⌘	In order to increase the throughput for the IRI records, an optional feature to allow the aggregation of several IRI records into one single file is proposed	
Consequences if not approved: ⌘	Possible overload of the Delivery Function, the Mediation Function or the LEMF Function, also time delay when delivering the IRI records.	

Clauses affected: ⌘	4.4.1 and Annex B2 and B3			
	Y	**N**		
Other specs affected: ⌘		**X**	Other core specifications ⌘	
		X	Test specifications	
		X	O&M Specifications	
Other comments: ⌘				

4.4.1   Handover interface port 2 (HI2)

The handover interface port 2 shall transport the IRI from the NWO/AP/SvP's IIF to the LEMF.

The delivery shall be performed via data communication methods which are suitable for the network infrastructure and for the kind and volume of data to be transmitted.

The delivery can in principle be made via different types of lower communication layers, which should be standard or widely used data communication protocols.

The individual IRI parameters shall be coded using ASN.1 and the basic encoding rules (BER). The format of the parameter's information content shall be based on existing telecommunication standards, where possible.

The individual IRI parameters have to be sent to the LEMF at least once (if available).

The IRI records are transmitted individually. As an option, IRI records can be aggregated for delivery to the same LEA (i.e., in a single delivery interaction). As there are time constraints associated with the delivery of IRI, the use of this optional feature is subject to national or regional requirements. As a general principle, IRI records shall be sent immediately and shall not be withheld in the MF/DF in order to use the IRI record aggregation option.

The IRI records shall contain information available from normal network or service operating procedures. In addition the IRI records shall include information for identification and control purposes as specifically required by the HI2 port.

The IIF is not required to make any attempt to request explicitly extra information which has not already been supplied by a signalling system.
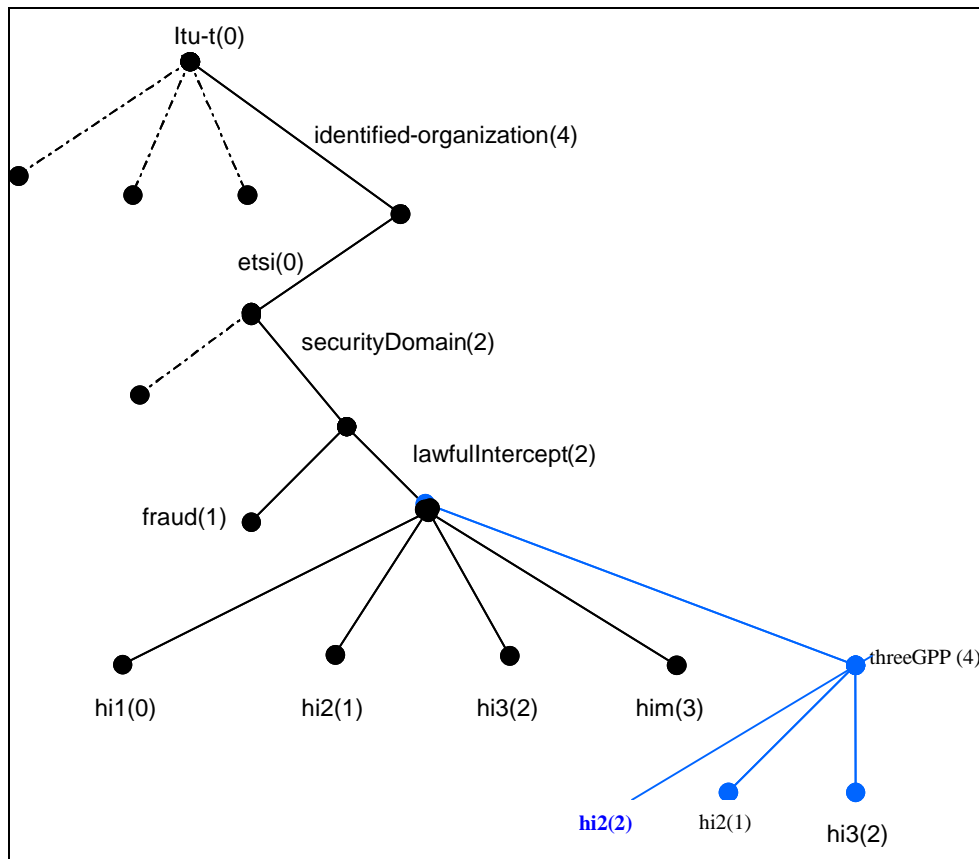
B.2   3GPP object tree

Figure B.1: 3GPP object tree

B.3 Intercept related information (HI2)

Declaration of ROSE operation umts-sending-of-IRI is ROSE delivery mechanism specific. When using FTP delivery mechanism, data umtsIRIContent must be considered.

ASN1 description of IRI (HI2 interface)

```
UmtsHI2Operations {itu-t(0) identified-organization(4) etsi(0) securityDomain(2)
lawfulintercept(2) threeGPP(4) hi2(1) version-12(21)}

DEFINITIONS IMPLICIT TAGS ::=

BEGIN
```

```
IMPORTS

        OPERATION,
        ERROR
            FROM Remote-Operations-Information-Objects
            {joint-iso-itu-t(2) remote-operations(4) informationObjects(5) version1(0)}

        LawfulInterceptionIdentifier,
        TimeStamp,
        Network-Identifier,
        National-Parameters,
        DataNodeAddress,
        IPAddress,
        IP-value,
        X25Address

            FROM HI2Operations
        {itu-t(0) identified-organization(4) etsi(0) securityDomain(2)
                lawfulIntercept(2) hi2(1) version3(3)}; -- TS 101 671 Edition 3
```

```
-- Object Identifier Definitions

-- Security DomainId
lawfulInterceptDomainId OBJECT IDENTIFIER ::= {itu-t(0) identified-organization(4) etsi(0)
securityDomain(2) lawfulIntercept(2)}

-- Security Subdomains
threeGPPSUBDomainId OBJECT IDENTIFIER ::= {lawfulInterceptDomainId threeGPP(4)}
hi2DomainId OBJECT IDENTIFIER   ::= {threeGPPSUBDomainId hi2(1) version-12(12)}
```

```
umts-sending-of-IRI  OPERATION ::=
{
    ARGUMENT     UmtsIRIFileContent

    ERRORS       { OperationErrors }
    CODE         global:{threeGPPSUBDomainId hi2(1) opcode(1)}
}
-- Class 2 operation . The timer shall be set to a value between 3 s and 240 s.
-- The timer.default value is 60s.
-- NOTE:    The same note as for HI management operation applies.
```

```
UmtsMTSIRIFileContent ::= CHOICE


{

  umtsIRIContent    UmtsIRIContent,
  umtsIRIFile       UmtsIRIFile

)


UmtsIRIFile    ::= SEQUENCE OF UmtsIRIContent

-- Aggregation of UmtsIRIContent is an optional feature.
-- It may be applied in cases when at a given point in time
```

```
-- several IRI records are available for delivery to the same LEA destination.
-- As a general rule, records created at any event shall be sent
-- immediately and not withheld in the DF or MF in order to
-- apply aggragation.
-- When aggregation is not to be applied,
-- the appropriateUmtsIRIContent option needs to be chosen.



IRIfile   ::= SEQUENCE OF UmtsIRIContent

-- Aggregation of UmtsIRIContent is an optional feature.
-- It may be applied in cases when at a given point in time
-- several IRI records to the same LEA destination are available.
-- As a general rule, records created at any event shall be sent
-- immediately and not withheld in the DF or MF in order to
-- apply aggragation.
-- When aggregation is not to be applied, the ASN.1 production
-- "IRIfile ::= SEQUENCE OF UmtsIRIContent" shall be ignored.
-- National or regional laws may specify in more detail in
-- which cases aggregtation is allowed
```

```
UmtsIRIContent        ::= CHOICE
{
    iRI-Begin-record       [1] IRI-Parameters, -- include at least one optional parameter
    iRI-End-record         [2] IRI-Parameters,
    iRI-Continue-record    [3] IRI-Parameters, -- include at least one optional parameter
    iRI-Report-record      [4] IRI-Parameters  -- include at least one optional parameter
}
```

```
unknown-version         ERROR ::= { CODE local:0}
missing-parameter       ERROR ::= { CODE local:1}
unknown-parameter-value ERROR ::= { CODE local:2}
unknown-parameter       ERROR ::= { CODE local:3}

OperationErrors ERROR ::=
{
    unknown-version |
    missing-parameter |
    unknown-parameter-value |
    unknown-parameter
}
-- This values may be sent by the LEMF, when an operation or a parameter is misunderstood.
```


. . .