

25 - 28 February 2002

Bristol, UK

---

Source: Nokia

Title: The MAP Dialogue PDU requirements for MAP Security

Document for: Discussion

Agenda Item: x.x

---

Current MAP Application Layer Security specification (3G TS 33.200) does not contain any MAP services to be secured that use MAP Dialogue PDU. However if in the future also such MAP services are required to be secured, that has an affect to the 33.200 specification (or corresponding specifications for later releases).

At the moment 33.200 only describes protection levels for MAP components (invoke, result, error) for an individual MAP service (and application context/version). If such MAP service would be included to be secured that uses MAP Dialogue PDU, then 33.200 would have to define also the protection level for the MAP Dialogue PDU for that MAP service.

That can be done by either explicitly defining the used protection level for MAP Dialogue PDU for each MAP service in question or by defining some general rule, e.g. same protection level as for invoke component or e.g. always protection level 0.

It is good to be noted that the MAP Dialogue PDU is not part of the invoke component and it has also its own security header. Here is the definition of MAP Protected Dialogue PDU from 29.002:

```
MAP-ProtectedDialoguePDU ::= SEQUENCE {
    encapsulatedAC          OBJECT IDENTIFIER,
    securityHeader          SecurityHeader          OPTIONAL,
    protectedPayload        ProtectedPayload        OPTIONAL,
    ...}
-- The protectedPayload carries the result of applying the security function
-- defined in 3G TS 33.200 to the encoding of the securely transported
-- MAP-DialoguePDU
```

Here are included lists from 29.002 (version 4.6-0, Rel-4) of MAP services using MAP Dialogue PDU (including Destination reference and/or Originating reference):

**Table 7.3/2: Use of the destination reference**

<b>MAP service</b>	<b>Reference type</b>	<b>Use of the parameter</b>
MAP-REGISTER-SS	IMSI	Subscriber identity
MAP-ERASE-SS	IMSI	Subscriber identity
MAP-ACTIVATE-SS	IMSI	Subscriber identity
MAP-DEACTIVATE-SS	IMSI	Subscriber identity
MAP-INTERROGATE-SS	IMSI	Subscriber identity
MAP-REGISTER-PASSWORD	IMSI	Subscriber identity
MAP-PROCESS-UNSTRUCTURED-SS-REQUEST	IMSI (note 1)	Subscriber identity
MAP-UNSTRUCTURED-SS-REQUEST	IMSI (note 2)	Subscriber identity
MAP-UNSTRUCTURED-SS-NOTIFY	IMSI (note 2)	Subscriber identity
MAP-FORWARD-SHORT-MESSAGE	IMSI (note 3)	Subscriber identity
MAP-REGISTER-CC-ENTRY	IMSI	Subscriber identity
MAP-ERASE-CC-ENTRY	IMSI	Subscriber identity

NOTE 1: On the HLR - HLR interface and on the HLR - gsmSCF interface the Destination reference shall be either IMSI or MSISDN.

NOTE 2: On the gsmSCF - HLR interface and on the HLR - HLR interface the Destination reference shall be either IMSI or MSISDN.

NOTE 3: Only when the IMSI and the LMSI are received together from the HLR in the mobile terminated short message transfer.

**Table 7.3/3: Use of the originating reference**

<b>MAP service</b>	<b>Reference type</b>	<b>Use of the parameter</b>
MAP-REGISTER-SS	ISDN-Address-String	Originated entity address
MAP-ERASE-SS	ISDN-Address-String	Originated entity address
MAP-ACTIVATE-SS	ISDN-Address-String	Originated entity address
MAP-DEACTIVATE-SS	ISDN-Address-String	Originated entity address
MAP-INTERROGATE-SS	ISDN-Address-String	Originated entity address
MAP-REGISTER-PASSWORD	ISDN-Address-String	Originated entity address
MAP-PROCESS-UNSTRUCTURED-SS-REQUEST	ISDN-Address-String	Originated entity address
MAP-UNSTRUCTURED-SS-REQUEST	ISDN-Address-String (note)	Originated entity address
MAP-UNSTRUCTURED-SS-NOTIFY	ISDN-Address-String (note)	Originated entity address
MAP-REGISTER-CC-ENTRY	ISDN-Address-String	Originated entity address
MAP-ERASE-CC-ENTRY	ISDN-Address-String	Originated entity address

NOTE: The Originating reference may be omitted.