Technical Specification Group Services and System Aspects
Meeting #17, Biarritz, France, 9-12 September 2002

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Source: **SA5 (Telecom Management)**

Title: **Rel-4 CR 32.401 (Performance Management (PM); Concept and requirements)**

Document for: **Approval**

Agenda Item: **7.5.3**

Doc-1st-	Spec	CR	Rev	Phase	Subject	Cat	Version-	Doc-2nd-	Workitem
SP-020501	32.401	002	-	Rel-4	**Alignment with CM TSs of measurement file parameter descriptions and examples**	F	4.1.0	S5-028322	OAM-PM

3GPP TSG-SA5 (Telecom Management) **S5-028322**
Meeting #30, Tampere, FINLAND, 19 - 23 August 2002

CR-Form-v7

CHANGE REQUEST

⌘ **32.401** **CR** **002** ⌘ **rev** **-** ⌘ Current version: **4.1.0** ⌘

*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 [X] Core Network [X]

Title:	⌘	Alignment with CM TSs of measurement file parameter descriptions and examples
Source:	⌘	S5
Work item code:	⌘	OAM-PM
Date:	⌘	23/08/2002
Category:	⌘	**F**
Release:	⌘	Rel-4

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Align measurement file parameter descriptions and examples with: • the Name Convention for Managed Objects (MOs) defined in TS 32.300 • the Generic Network Resource Model defined in TS 32.622
Summary of change:	⌘	• Alignment with CM of description for measurement file parameters related to MO naming and NE configuration data • Correction of measurement file examples, as per the above changes • Editorial modifications
Consequences if not approved:	⌘	The TS would be inconsistent with TSs 32.300 (Name convention for Managed Objects) and 32.622 (Generic Network Resources IRP: Network Resource Model).

Clauses affected:	⌘	2, A.1, C.2, C.3

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘

2 References

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[23] 3GPP TS 32.403: "Telecommunication Management; Performance Management (PM); Performance Measurements UMTS and combined UMTS/GSM".

[24] 3GPP TS 32.622: "Telecommunication Management; Configuration Management; Generic Network Resources IRP: Network Resource Model".

A.1 Parameter description and mapping table

Table A.1 maps the tags defined in the ASN.1 file format definition to those used in the XML file format definition. It also provides an explanation of the individual parameters. The XML tags defined in the DTD (see clause A.3.1) have been kept as short as possible in order to minimise the size of the XML measurement result files. XML tag attributes are useful where data values bind tightly to its parent element. They have been used where appropriate.

Table A.1 Mapping of ASN.1 Measurement Report File Format tags to XML tags

ASN.1 Tag	XML tag	Description
MeasDataCollection	mdc	This is the top-level tag, which identifies the file as a collection of measurement data. The file content is made up of a header ("measFileHeader"), the collection of measurement result items ("measData"), and a measurement file footer ("measFileFooter").
measFileHeader	mfh	This is the measurement result file header to be inserted in each file. It includes a version indicator, the name, type and vendor name of the sending network node, and a time stamp ("collectionBeginTime").
measData	md	The "measData" construct represents the sequence of zero or more measurement result items contained in the file. It can be empty in case no measurement data can be provided. The individual "measData" elements can appear in any order. Each "measData" element contains the name of the NE ("nEId") and the list of measurement results pertaining to that NE ("measInfo").
measFileFooter	mff	The measurement result file footer to be inserted in each file. It includes a time stamp, which refers to the end of the overall measurement collection interval that is covered by the collected measurement results being stored in this file.
fileFormatVersion	ffv	This parameter identifies the file format version applied by the sender. The format version defined in the present document shall be "2" for both the XML and ASN.1 formats alike.
senderName	sn	The senderName uniquely identifies the NE or EM that assembled this measurement file by its Distinguished Name (DN), according to the definitions in 3GPP TS 32.300 [10]. In the case of the NE-based approach, it ~~It~~ is identical to the sender's "nEDistinguishedName". The string may be empty (i.e. string size =0) in case ~~it~~ the DN is not configured in the sender.
senderType	st	This is a user configurable identifier of the type of network node that generated the file, e.g. NodeB, EM, SGSN. The string may be empty (i.e. string size =0) in case the "senderType" is not configured in the sender.
vendorName	vn	The "vendorName" identifies the vendor of the equipment that provided the measurement file. The string may be empty (i.e. string size =0) if the "vendorName" is not configured in the sender.
collectionBeginTime	cbt	The "collectionBeginTime" is a time stamp that refers to the start of the first measurement collection interval (granularity period) that is covered by the collected measurement results that are stored in this file.

ASN.1 Tag	XML tag	Description
nEId	neid	The unique identification of the NE in the system. It includes the user name ("nEUserName"), the distinguished name ("nEDistinguishedName") and the software version ("nESoftwareVersion") of the NE.
nEUserName	neun	This is the user definable ~~NE~~ name ("userLabel")~~, cf.~~ defined for the NE in 3GPP TS ~~32.300~~32.622 [~~10~~24]. The string may be empty (i.e. string size =0) if the "nEUserName" is not configured in the CM applications.
nEDistinguishedName	nedn	This is the ~~distinguishedName~~ Distinguished Name (DN) defined for the NE in 3GPP TS 32.300 [10]. It is unique across an operator's 3G network. The string may be empty (i.e. string size =0) if the "~~-~~nEDistinguishedName~~-~~" is not configured in the CM applications.
nESoftwareVersion	nesw	This is the software version ("`swVersion`") defined for the NE in 3GPP TS 32.622 [24]. This is an optional parameter which allows post-processing systems to take care of vendor specific measurements modified between software versions.
measInfo	mi	The sequence of measurements, values and related information. It includes a list of measurement types ("measTypes") and the corresponding results ("measValues"), together with the time stamp ("measTimeStamp") and granularity period ("granularityPeriod") pertaining to these measurements.
measTimeStamp	mts	Time stamp referring to the end of the granularity period.
granularityPeriod	gp	Granularity period of the measurement(s) in seconds.
measTypes	mt	This is the list of measurement types for which the following, analogous list of measurement values ("measValues") pertains. The GSM only measurement types are defined in TS 52.402 [22]. The measurement types for UMTS and combined UMTS/GSM implementations are specified in TS 32.403 [23].
measValues	mv	This parameter contains the list of measurement results for the resource being measured, e.g. trunk, cell. It includes an identifier of the resource ("measObjInstId"), the list of measurement result values ("measResults") and a flag that indicates whether the data is reliable ("suspectFlag").
measObjInstId	moid	The "measObjInstId" field ~~identifies~~ contains the ~~relative~~ local distinguished name (~~RDN~~LDN) of the measured object within the scope defined by the "nEDistinguishedName" (see 3GPP TS 32.300 [10]). The concatenation of the "nEDistinguishedName" and the "measObjInstId" yields the DN of the measured object. The "measObjInstId" is therefore empty if the "nEDistinguishedName" already specifies completely the DN of the measured object, which is the case for all measurements specified on NE level. For example, if the measured object is ~~an~~ a "~~RncFunction~~ManagedElement" representing RNC "~~RF-1~~RNC-Gbg-1", then the "nEDistinguishedName" will be for instance "DC=a1.companyNN.com,SubNetwork=1,IRPAgent=1,~~G3~~SubNetwork=~~Sweden~~CountryNN,MeContext=MEC-Gbg-1,~~G3~~ManagedElement=RNC-Gbg-1~~,RncFunction=RF-1~~", and the "measObjInstId" ~~is~~ will be empty. On the other hand, if the measured object is a "UtranCell"~~,~~ representing cell "Gbg-997" managed by that RNC, then the "nEDistinguishedName" ~~would~~ will be for instance the same as ~~before~~ above, i.e. "DC=a1.companyNN.com,SubNetwork=1,IRPAgent=1,~~G3~~SubNetwork=~~Sweden~~CountryNN,MeContext=MEC-Gbg-1,~~G3~~ManagedElement=RNC-Gbg-1~~,RncFunction=RF-1~~", and the "measObjInstId" ~~is~~ will be for instance "RncFunction=RF-1,UtranCell=Gbg-997". The class of the "measObjInstId" is defined in item F of each measurement definition template.
measResults	r	This parameter contains the sequence of result values for the observed measurement types. The "measResults" sequence shall have the same number of elements, which follow the same order as the measTypes sequence. Normal values are INTEGERs and REALs. The NULL value is reserved to indicate that the measurement item is not applicable or could not be retrieved for the object instance.

ASN.1 Tag	XML tag	Description
suspectFlag	sf	Used as an indication of quality of the scanned data. FALSE in the case of reliable data, TRUE if not reliable. The default value is "FALSE", in case the suspect flag has its default value it may be omitted.
TimeStamp	ts	ASN.1 GeneralizedTime format. The minimum required information within timestamp is year, month, day, hour, minute, and second.
Not Required	mt p	An optional positioning XML attribute specification of ~~the <mt/> tag~~ XML element "mt", used to identify a measurement type for the purpose of correlation to a result. The value of this ~~field~~ XML attribute specification is expected to be a non-zero, non-negative integer value~~,~~ that is unique for each instance of ~~the <mt/> tag~~ XML element "mt" that is contained within the measurement data collection file.
Not Required	r p	An optional positioning XML attribute specification of ~~the <r/> tag~~ XML element "r", used to correlate a result to a measurement type. The value ~~used for the r p~~ of this XML attribute specification should match the value of ~~the corresponding mt p~~ XML attribute specification "p" of corresponding XML element "mt".

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C.2 Example of ASN.1 Measurement Report File

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```
MeasDataCollection ::= {
    measFileHeader  {
        fileFormatVersion ::= 1,
        senderName ::=
"DC=a1.companyNN.com,SubNetwork=1,IRPAgent=1,G3SubNetwork=SwedenCountryNN,MeContext=MEC-Gbg-
1,G3ManagedElement=RNC-Gbg-1,RncFunction=RF-1" ,
        senderType  ::= "RNC",
        vendorName  ::= "Telecom corp.",
        collectionBeginTime  ::= 20000301140000
        },
    measData   {
        nEId {
            nEUserName  ::= "RNC Telecomville",
            nEDistinguishedName  ::=
"DC=a1.companyNN.com,SubNetwork=1,IRPAgent=1,G3SubNetwork=SwedenCountryNN,MeContext=MEC-Gbg-
1,G3ManagedElement=RNC-Gbg-1,RncFunction=RF-1",
            nESoftwareVersion  ::= "2.1"
        },
        measInfo {
            measTimeStamp ::= 20000301141430,
            granularityPeriod ::= 900,
            measTypes  {
 "attTCHSeizures", "succTCHSeizures", "attImmediateAssignProcs", "succImmediateAssignProcs"
},
            measValues {
                {
measObjInstId ::= "RncFunction=RF-1,UtranCell=Gbg-997",
measResults { iValue ::= 234, iValue ::= 345, iValue ::= 567, iValue ::= 789},
suspectFlag ::= FALSE
},
                {
measObjInstId ::= "RncFunction=RF-1,UtranCell=Gbg-998",
measResults { iValue ::= 890, iValue ::= 901, iValue ::= 123, iValue ::= 234},
suspectFlag ::= FALSE
},
                {
measObjInstId ::= "RncFunction=RF-1,UtranCell=Gbg-999",
measResults { iValue ::= 456, iValue ::= 567, iValue ::= 678, iValue ::= 789},
suspectFlag ::= FALSE
}
}
        }
},
    measFileFooter ::= 20000301141500
}
```

C.3 Example of XML Measurement Report File

```
<?xml version="1.0"?>
<?xml-stylesheet type="text/xsl" href="MeasDataCollection.xsl"—?>
<!DOCTYPE mdc SYSTEM "MeasDataCollection.dtd">
<mdc>
__<mfh>
____<ffv>2</ffv>
____<sn>DC=a1.companyNN.com,SubNetwork=1,IRPAgent=1,G3SubNetwork=SwedenCountryNN,MeContext=MEC-Gbg-
1,G3ManagedElement=RNC-Gbg-1,RncFunction=RF-1</sn>
____<st>RNC</st>
____<vn>Telecom corp.</vn>
____<cbt>20000301140000</cbt>
__</mfh>
__<md>
____<neid>
_____<neun>RNC Telecomville</neun>
_____<nedn>DC=a1.companyNN.com,SubNetwork=1,IRPAgent=1,G3SubNetwork=SwedenCountryNN,MeContext=MEC-
Gbg-1,G3ManagedElement=RNC-Gbg-1,RncFunction=RF-1</nedn>
____</neid>
____<mi>
_____<mts>20000301141430</mts>
_____<gp>900</gp>
_____<mt p="1">—attTCHSeizures—</mt>
_____<mt p="2">—succTCHSeizures—</mt>
_____<mt p="3">—attImmediateAssignProcs—</mt>
_____<mt p="4">—succImmediateAssignProcs—</mt>
_____<mv>
_____<moid—>—RncFunction=RF-1,UtranCell=Gbg-997—</moid>
_____<r p="1">—234—</r>
_____<r p="2">—345—</r>
_____<r p="3">—567—</r>
_____<r p="4">—789—</r>
_____<sf>FALSE</sf>
_____</mv>
_____<mv>
_____<moid>—RncFunction=RF-1,UtranCell=Gbg-998</moid>
_____<r p="1">—890—</r>
_____<r p="2">—901—</r>
_____<r p="3">—123—</r>
_____<r p="4">—234—</r>
_____<sf>FALSE</sf>
_____</mv>
_____<mv>
_____<moid>—RncFunction=RF-1,UtranCell=Gbg-999—</moid>
_____<r p="1">—456—</r>
_____<r p="2">—567—</r>
_____<r p="3">—678—</r>
_____<r p="4">—789—</r>
_____<sf>FALSE</sf>
_____</mv>
____</mi>
__</md>
__<mff>
____<ts>20000301141500</ts>
__</mff>
</mdc>
```