Technical Specification Group Services and System Aspects **TSGS#7(00)0016**
Meeting #7, Madrid, Spain, 15-17 March 2000

Source: **WG SA5 (Telecom Management)**

Title: **2 CRs to 32.104 v.3.0.0 (3G Performance Management)**

Document for: **Approval**

Agenda Item: **5.5.3**

Ty	Number	Title	WG	editor	version
TS	32.104	3G Performance Management	S5	Karl-Heinz Nenner	3.0.0

TSG Meet-ing	TSG WG doc number	Spec	CR	Ph	Vers Old	Vers New	Subject	TSG WG meeting	WG status	Workitem
SP-07	S5-000133	32.104	001	R99	3.0.0	3.1.0	Reduction of measurement job advance period	S5-10	Agreed	Performance Management (PM)
SP-07	S5-000134	32.104	002	R99	3.0.0	3.1.0	PM file format - ASN.1 description	S5-10	Agreed	PM

CHANGE REQUEST

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

32.104 CR **Xxx**   Current Version: **3.0.0**

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

For submission to: **SA#7**   for approval **X**   strategic ☐   *(for SMG*
list approval meeting # here ↑   for information ☐   non-strategic ☐   *use only)*

Form: CR cover sheet, version 1.1 for 3GPP and SMG   *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CRF-11.rtf*

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

Source: SA5   **Date:** 02.03.00

Subject: Reduction of measurement job advance period

Work item: PM

Category: F Correction   **Release:** Phase 2 ☐
    A Corresponds to a correction in an earlier release   Release 96 ☐
(only one category   B Addition of feature   Release 97 ☐
shall be marked   C Functional modification of feature **X**   Release 98 ☐
with an X)   D Editorial modification   Release 99 **X**

(releases phase2, 96, 97 and 98 apply only to GSM specifications)

Reason for change: The current draft of TS 32.104 states that 3G systems shall support a performance measurement job starttime of up to at least 90 days from the job creation date. The requirement of 90 days has been copied from SMG TS 12.04. However, it was found that such a long advance period was not required by the Operators and could be difficult to implement for the vendors. The new value of 30 days was unanimously agreed between Operators and vendors within SA5 PM work and is therefore suggested as the minimum requirement to be standardised within TS 32.104.

Clauses affected: 5.2.1.2

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:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

5.1.2   Measurement administration

(Performance) measurement administration functions allow the system operator , using functions of the EM, to determine measurement data collection in the network and forwarding of the results to one or more OS(s).

A (performance) measurement concept covers:

1) measurement data collection requirements:

   - **Measurement types.** Corresponds to the measurements as defined in annex C, i.e. measurement types specified in this TS, defined by other standards bodies, or manufacturer defined measurement types;

   - **Measured network resources.** The resource(s) to which the measurement types shall be applied have to be specified, e.g. one or more NodeB(s);

   - **Measurement recording**, consisting of periods of time at which the NE is collecting (that is, making available in the NE) measurement data.

2) measurement reporting requirements:

   - the measurement related information to be reported has to be specified as part of the measurement. The frequency at which scheduled result reports shall be generated has to be defined.

3) measurement result transfer requirements:

   - measurement results can be transferred from the NE to the EM according to the measurement parameters, and/or they are stored locally in the NE and can be retrieved when required;

   - measurement results can be stored in the network (NEs or EM) for retrieval by the NM when required.

A (performance) measurement job, covers the measurement data collection and measurement reporting requirements, as described in points 1 and 2 above. It is up to the implementation whether requirements for the result transfer or the local storage of results are specified within the measurement job, particularly since the use of standard protocols, such as FTP, is foreseen.

A measurement job can be created, modified, displayed or deleted by the EM. In addition, measurement job activities in the NE can be suspended and resumed on request of the EM.

The system operator shall specify the required measurement parameters upon initiation of a measurement job. These parameters consist of, among others, recording schedule, granularity, and measurement type(s).

5.2   Measurement jobs

When defining a measurement job, the following aspects have to be considered:

5.2.1   Measurement job characteristics

5.2.1.1   Measurement types

Every measurement job consists of one or more measurement types (as defined in annex C), for which it collects measurement data. The measurement type(s) contained in a job may apply to one or more network resources of the same type, e.g. a measurement job may be related to one or several NodeB(s). A measurement job will only produce results for the measurement type(s) it contains.

5.2.1.2   Measurement schedule

The measurement schedule specifies the time frames during which the measurement job will be active. The measurement job is active as soon as the starttime - if supplied in the schedule - is reached. The system shall support a job starttime of up to at least 9030 days from the job creation date. If no starttime is provided, the measurement job shall become active

Meeting SA5 #10
Luleå, Sweden, 28th February – 3rd March 2000

Document **S5-000134**
*e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx*

CHANGE REQUEST

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32.104 CR **Xxx**   Current Version: 3.0.0

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

For submission to:	SA#7	for approval	X		strategic		*(for SMG*
list approval meeting # here ↑		for information			non-strategic		*use only)*

Form: CR cover sheet, version 1.1 for 3GPP and SMG   *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CRF-11.rtf*

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

Source:	SA5		**Date:**	02.03.00

Subject: PM file format – ASN.1 description

Work item: PM

Category:	F	Correction		**Release:**	Phase 2	
	A	Corresponds to a correction in an earlier release			Release 96	
(only one category	B	Addition of feature			Release 97	
shall be marked	C	Functional modification of feature	X		Release 98	
with an X)	D	Editorial modification			Release 99	X

(releases phase2, 96, 97 and 98 apply only to GSM specifications)

Reason for change: This CR proposes the standard PM file format. The requirement for a standard file format has been identified within existing releases of TS 32.104, however, the formal definition of that format had not yet been agreed. This CR provides that currently missing information. Its contents reflects agreements achieved during the last PM rapporteur sessions held during SA5 #9 and #10.

Clauses affected: Annex A

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:

help.doc

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Annex A (Normative): Measurement Report File Format

This annex describes the format of measurement result files that can be transferred from the network (NEs or EM) to the NM. The following conditions have been considered in defining the file format:

∗   Since the files are transferred via a machine-machine interface, the file format should be machine readable using standard tools;

∗   The file format should be independent of the data transfer protocol used to carry the file from one system to another;

∗   The file format should be generic across 3G systems;

∗   The file format should be flexible enough to include all possible measurement types, i.e. those specified within annex C as well as measurements defined within other standards bodies, or vendor specific measurement types.

∗   The file format should not impose any dependency between granularity periods for the generation of measurement results and file upload cycles for the file transfer from the network to the NM;

∗   The file format should be flexible enough to support both the NE-based and the EM-based approaches.

∗   The file format should be usable for other interfaces than Itf-N if required. The measurement file header could be augmented to indicate this other usage, however this would be a non-standard extension.

A.1   ASN.1 file format description

For ASN.1 formatted files, BER encoding rules shall apply. Note that embedded comments are integral parts of the standard format, i.e. any implementation claiming conformance to this annex must also conform with the comments.

```
PM_File_Description

DEFINITIONS AUTOMATIC TAGS ::= BEGIN

MeasDataCollection ::= SEQUENCE

        {

          measFileHeader      MeasFileHeader,

          measData            SEQUENCE OF MeasData,

          measFileFooter      MeasFileFooter

        }

        -- The measData can be an empty sequence in case no measurement data can be provided.

        -- The individual MeasData can appear in any order.


MeasFileHeader ::= SEQUENCE

        {

          fileFormatVersion   INTEGER,

          senderName          PrintableString,

          senderType          SenderType,
```

```
          vendorName              PrintableString SIZE (0..32),

          collectionBeginTime    TimeStamp,

  ...
          }
```

-- The fileFormatVersion identifies the file format version applied by the sender. The only defined value is "1" for the format defined here. The senderName uniquely identifies the NE or OS that assembled this measurement file, according to the definitions in TS 32.106. The senderType refers to the type of entity that has delivered the measurement file, e.g. RNC, EM. The vendorName identifies the vendor of the equipment that provided the measurement file. A size of "0" for the above "PrintableString" data items means that the respective string value is not configured in the sender. The collectionBeginTime refers to the start of the first measurement collection interval that is covered by the collected measurement results that are stored in this file.

The sole purpose of the ellipse notation used in the file header is to facilitate inter-release compatibility, vendor specific additions are not allowed in implementations claiming conformance to the TS. However, it is acknowledged that this feature does enable the use of non-standard extensions to the file header without loosing compatibility to the file format specified in this TS.

```
SenderType ::= PrintableString SIZE (0..8)
```

-- This is a user configurable identifier of the type of network node that generated the file, e.g. NodeB, EM, SGSN, a.s.o. A size of "0" means that the "senderType" string is not configured in the sender.

```
TimeStamp ::= GeneralizedTime
```

-- The minimum required information within timestamp is year, month, day, hour, minute, and second.

```
MeasData ::= SEQUENCE
          {
          nEId                    NEId,
          measInfo                SEQUENCE OF MeasInfo
          }


NEId ::= SEQUENCE
          {
          nEUserName              PrintableString,     -- this is the user definable NE name, cf. TS 32.106
          nEDistinguishedName     tbd                  -- this is the unique distinguishedName defined for the
                                                       -- NE in TS 32.106
          }


MeasInfo ::= SEQUENCE
          {
          measStartTime           TimeStamp,
          granularityPeriod       INTEGER,             -- granularity period of the measurement(s) in seconds
```

```
        measTypes                    SEQUENCE OF MeasType,

        measValues                   SEQUENCE OF MeasValue

    }
```

MeasType ::= PrintableString SIZE (1..32)   -- as defined in annex C

MeasValue ::= SEQUENCE

```
    {

        measObjInstId            MeasObjInstId,

        measResults              SEQUENCE OF MeasResult,

        suspectFlag              BOOLEAN    -- Used as an indication of the quality of the scanned data

                                            -- FALSE in case of reliable data, TRUE if not reliable

    }
```

   -- The "measObjInstId" field identifies the measured object class and its instance, e.g. trunk1 means object
      class is trunk and instance #1 is being measured.. The values for this parameter are defined in annex C.

      The "measResults" sequence shall have the same number of elements which follow the same order as the
      measTypes sequence.

MeasObjInstId ::= PrintableString SIZE (1..64)

MeasResult ::= ANY DEFINED BY measType

MeasFileFooter ::= TimeStamp

   -- The TimeStamp in the MeasFileFooter refers to the end of the overall measurement collection interval that is
      covered by the collected measurement results being stored in this file.

END

Measurement types and measurement groups will be defined in release 2000. This also applies to the exact details
concerning the arrangement of the information in the files, since that aspect is dependent on the measurement
type/group definitions.

At least for those measurement types that are re-used from non 3GPP standards, it is required that the measType be
operator definable. This is necessary to allow the operator to harmonise the numbering between different vendors'
systems where appropriate. Through this harmonisation, it can be assured that identical measurements always carry the
same measType value, which is required by the postprocessing system. This requirement will eventually be reflected in
annex C, which discusses and specifies the measurement definition.

A.2   XML file format description

FFS for release 2000.