Source: **SA5 (Telecom Management)**

Title: **Rel-6 CR 32.401 (Performance Management; Concept & Requirements) : Add requirements for Measurement Job overload management**

Document for: **Decision**

Agenda Item: **7.5.3**

Doc-1st-	Spec	CR	Phase	Subject	Cat	Versio	Doc-2nd-	Status-	WI
SP-030647	32.401	012	Rel-6	Add requirements for Measurement Job overload management	B	5.2.0	S5-038693	Agreed	OAM-PM

CR-Form-v7

CHANGE REQUEST

⌘ 32.401 CR 012 ⌘ rev - ⌘ Current version: 5.2.0 ⌘

*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:	⌘	Add requirements for Measurement Job overload management
Source:	⌘	SA5 (toche@nortelnetworks.com)
Work item code:	⌘	OAM-PM
Date:	⌘	10/10/2003
Category:	⌘	**B**
Release:	⌘	Rel-6

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:	⌘	The introduction of Measurement Job management on Itf-N in Rel-6 may lead to more frequent overload situations at NE and/or EM level. Consequently, there is a need to enhance the overload management capabilities.
Summary of change:	⌘	Addition of the possibility for the system to suspend Measurement Jobs in case of overload.
Consequences if not approved:	⌘	

Clauses affected:	⌘	4.2.1, 5.43

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

Other comments: ⌘

Change in Clause 4.2.1

4.2.1 Measurement job administration

Measurement jobs, i.e. the processes which are executed in the NEs in order to accumulate measurement result data and assemble it for collection and/or inspection, will need to be scheduled by the EM for the period or periods for which gathering of data shall be performed.

The administration of measurement jobs by the EM comprises the following actions:

1) Create/delete a measurement job. This action implies the instantiation respectively deletion of a measurement collection process within the network.

2) Modifying a measurement job, i.e. changing the parameters (specifically the schedule) of a measurement job that has been previously created.

3) Definition of measurement job scheduling. This action defines the period or periods during which the measurement job is configured to collect performance data.

4) Specification of the measurement types to be contained in the job, e.g. "number of GPRS attach attempts". In GSM, the measurement jobs are administered by individual measurement types, which are specified in TS 52.402 [22]. In UMTS, the measurement jobs may be administered per individual measurement type or per measurement family, which comprises a collection of related measurement types. The measurement types and families for UMTS and combined GSM/UMTS networks are specified in TS 32.403 [23].

5) Identification of the measured resources, i.e. the NEs (e.g. MSC, NodeB) or NE components (e.g. trunkgroups, radio channels, transceivers) to which the measurement types or measurement families, specified in the measurement job, pertain.

6) Suspend/resume a measurement job. The "suspend" action inhibits the collection of measurement result data by a measurement job, regardless of its schedule, without deleting it. The "resume" action will re-enable measurement result data collection according to the measurement job schedule. It may also be possible for the system to suspend a measurement job without any operator's action in case of overload. It should then be possible, at any time, for the operator to resume a job suspended by the system.

7) Setting up any necessary requirements for the reporting and routing of results to one or more OSs (EM and/or NM).

8) Retrieval of information related to measurement jobs, i.e. view the current measurement job definition.

A measurement job is thus characterised by a set of measurement types and/or measurement families which all pertain to the same set of measured resources and share the same schedule. Typically a large number of measurement jobs will run simultaneously within the NEs comprising the PLMN, and one or more EM is involved in the administration of those measurement jobs. In order for the operator to manage this large number of measurement jobs effectively and efficiently, it is necessary that the administration functions in the EM can not only deal with individual measurements on individual NEs, but also scope the execution environment across the measured resources, and apply an additional filter to the resources/NEs selected by the measurement scope. The scoping and filtering of the measurement(s) shall then be automatically adapted if measured resources that match the selection criteria are added or removed.

There are several instances of this "plug&measure" feature:

1) execute the same (set of) measurement type(s) on a set of identical resources within a single NE. An example of this is to measure the average bit error rate on all channels in a cell, or all channels of the cell that match the filter criterion;

2) execute the same (set of) measurement type(s) on a set of identical NEs or resources according to the hierarchical structure of the network. Examples of this are to measure the average bit rate on all Iu_{PS} links of the same U-MSC or to measure inter-cell handovers for all cells attached to the same BSC;

3) execute the same (set of) measurement type(s) across all resources/NEs of the same type that belong to a specific administrative domain. An example of this is to measure the call set-up failure rate in all cells located

in a certain city, or otherwise defined geographical area (this may be a combination of scope and filter), or within the responsibility area of system operator number 2.

The definition of those administrative, or management, domains may be part of either the measurement job administration functions or the CM functions provided by the EM. The functionality of scoping and filtering of measurements within the same NE may either be distributed across the NE and the EM (e.g. EM creates a single measurement job with scope and filter, and NE determines the measured resources that match the selection criteria), or it may be realised solely in the EM (EM determines measured resources from the scope and filter specified by the system operator, and multiple measurement jobs will be created), according to implementation choice.

End of Change in Clause 4.2.1

Change in Clause 5.4.3

5.4.3 Measurement job administration

Measurement jobs can be administered by the EM according to the following stipulations.

Creating a measurement job: On creation of a measurement job, all information has to be supplied in order to collect the required data from the selected network resources as specified by the measurement job characteristics (see clause 5.2.1).

Modifying a measurement job: In general, the modification of measurement job parameters may be requested by the EM during the lifetime of a measurement job when the job is suspended (explained below).

Displaying a measurement job: The system operator shall be able to get a list of all measurements that are currently defined, together with all available actual information as stored in the NE. This information consists of the data that is supplied on creation/modification and the actual state and status information of the measurement job.

Deleting a measurement job: A measurement job is automatically deleted by the system when it reaches the job endtime and all scheduled measurement reports have been generated. A created measurement job can also be deleted by manual intervention at any time. When deleted, the measurement process associated with the job is stopped, and all allocated resources are freed.

Suspending/resuming a measurement job: On normal operation, the measurement job collects measurement data within the NE according to the actual values of the measurement job parameters. However, the system operator may decide for some reason to discard temporarily the collection of measurement data (e.g. in case of system overload or congestion, measurement results temporarily not used,...). The system operator therefore is able to suspend a defined measurement job at any time~~, using the Administrative State~~. This implies that the measurement job definition remains in the system, but that no measurement gathering activities are performed for this job. When the measurement job is resumed, measurement data collection is started again at the next granularity period within the measurement schedule. In addition to the suspend operation which may be triggered by the operator, the system may selectively suspend one or more measurement jobs in case of overload. When a measurement job is suspended, a “job suspended” notification shall then be generated so that the Network Manager(s) will be warned of such an event.

End of Change in Clause 5.4.3
End of Document

Annex D (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
June 2001	S_12	SP-010237	--	--	Submitted to TSG SA #12 for Information.	--	1.0.0
June 2001	--	--	--	--	MCC editorials	1.0.0	1.0.1
Sep 2001	S_13	SP-010467	--	--	Submitted to TSG SA #13 for Approval	2.0.0	4.0.0
Dec 2001	S_14	SP-010638	001	--	Correction of declaration in XML header	4.0.0	4.1.0
Mar 2002	S_15	--	--	--	Automatic upgrade to Rel-5 (no Rel-5 CR)	4.1.0	5.0.0
Sep 2002	S_17	SP-020502	003	--	Description of Alarm IRP usage for performance alarms	5.0.0	5.1.0
Sep 2002	S_17	SP-020502	004	--	Addition of measurement file XML schema and miscellaneous alignments with CM	5.0.0	5.1.0
Jun 2003	S_20	SP-030291	006	--	Clarification of NE file generation behaviour in case of multiple granularity periods	5.1.0	5.2.0
Jun 2003	S_20	SP-030291	008		Correction of Measurement Result File Name Definition for alignment with Windows based systems	5.1.0	5.2.0