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Technical Specification

3rd Generation Partnership Project;
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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x   the first digit:

1   presented to TSG for information;

2   presented to TSG for approval;

3   or greater indicates TSG approved document under change control.

y   the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z   the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; as identified below:

32.381:   Partial Suspension of Itf-N Integration Reference Point (IRP); Requirements.

32.382:   Partial Suspension of Itf-N Integration Reference Point (IRP); Information Service (IS).

32.386:   Partial Suspension of Itf-N Integration Reference Point (IRP); Solution Set (SS) definitions.

The Itf-N interface is built up by a number of IRPs and a related Name Convention, which realise the functional capabilities over this interface. The basic structure of the IRPs is defined in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

Information of an event is carried in a notification. An IRPAgent (typically an EM or a NE) emits notifications (see 3GPP TS 32.302 [3]. The IRPManager (typically a Network Management System) receives notifications. In certain scenarios floods of unwanted notifications including alarms would be sent to the IRP manager by network object instances. Thereby the interface and the management systems bear unnecessary load. Even worse: the Operator's awareness is drawn away from really urgent events.

1 Scope

The purpose of Partial Suspension of Itf-N IRP is to define an interface through which an IRPManager can suspend the forwarding of notifications via Itf-N which were generated in parts of the managed systems.

The present document contains the Requirements of Partial Suspension of Itf-N IRP. It defines, for the purpose of generally suspending the forwarding of notifications, the basic requirements to be fulfilled on Itf-N.

2 References

The following documents contain provisions that, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document in the same Release as the present document.

[1] 3GPP TS 32.101: "Telecommunication management; Principles and high level requirements".

[2] 3GPP TS 32.102: "Telecommunication management; Architecture".

[3] 3GPP TS 32.302: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP); Information Service (IS)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

IRP: See 3GPP TS 32.101 [1].

IRP Agent: See 3GPP TS 32.102 [2].

IRP Manager: See 3GPP TS 32.102 [2].

Itf-N suspended managed instance: instance whose notifications are temporarily not forwarded via Itf-N

Partial suspension of Itf-N: the forwarding of all notifications via Itf-N generated by some or all managed objects is suspended
If a bulk CM file was transported into the IRPAgent and is activated there shortly before suspension or not via Itf-N during suspension, then Itf-N notifications resulting from the execution of the file are suspended.

suspended notification: notification which would be sent under normal circumstances via Itf-N, but is not because a corresponding suspension request was previously received

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CM	Configuration Management
EM	Element Manager
IRP	Integration Reference Point
IS	Information Service (see 3GPP TS 32.101 [1])
Itf-N	Interface N
MIB	Management Information Base
NE	Network Element

4 Requirements for partial suspension of Itf-N

4.1 General requirements

4.1.1 Granularity of suspension:
The Itf-N shall allow to specify in a suspension request which managed instances shall be Itf-N suspended.

4.1.2 An IRPManager shall be able to remove a partial suspension of Itf-N.

4.1.3 An IRPManager should be able to request from the IRPAgent a list of the active suspensions.

4.1.4 Impact on logging and alarming:
It's the IRPAgent's decision whether or not the suspended notifications are logged, whether or not they go into the alarmList.

4.1.5 Impact on measurements:
Measurements are not suspended.

4.1.6 Impact on delta synchronization:
Delta synchronization is also not affected by the suspension.

4.2 Requirements for notifications

4.2.1 Suspended notifications shall not be sent, need not to be stored for re-sending after the end of the suspension.

4.2.2 Suspension should be applied as soon as possible, but notifications which are already ready to be sent from notification buffers are allowed to be sent.

4.3 Security related requirements

4.3.1 Authorization and Authentication of IRPManagers requesting partial suspension of Itf-N may be regarded necessary.

4.4 Multi-Manager Related Requirements

4.4.1 If one IRPManager requests a partial suspension of Itf-N, then a notification shall be sent containing the information about the suspension. After receiving the notification, IRPManagers should be aware that the IRPAgent can not deliver reliable results for some operations while partial suspension is active. Therefore the IRPManager should not use such operations, e.g. CM and FM or TM, etc. operations in the scoped branch of the MIB, which is suspended.

4.4.2 If an IRPManager requests an operation related to suspended instances which are subject of notification forwarding, then a notification may be sent to this IRPManager containing the information about the related suspension.

4.4.3 If one IRPManager removes a partial suspension of Itf-N, then a notification shall be sent containing the information about the suspension revocation.
An Itf-N partial suspension may be removed by another IRPManager than the one who requested it. This is useful in order to avoid the critical case that a temporary Itf-N suspension can not be removed anymore because the initiating IRPManager fails for a longer time.

NOTE: The co-ordination between several IRPManagers / NMS operators involved in this functionality is an organizational matter and out of scope of the present document.

Annex A (informative):
Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Cat	Old	New
Jun 2006	SA_32	SP-060254	--	--	Submitted to SA#32 for Information	--	1.0.0	
Jun 2006	--	--	--	--	History box clean-up	--	1.0.0	1.0.1
Mar 2007	SA_35	SP-070058	--	--	Submitted to SA#35 for Approval	--	2.0.0	7.0.0
Dec 2008	SA_42	--	--	--	Upgrade to Release 8	--	7.0.0	8.0.0
Dec 2009	-	-	-	-	Update to Rel-9 version (MCC)	-	8.0.0	9.0.0
Mar 2011	-	-	-	-	Update to Rel-10 version (MCC)	--	9.0.0	10.0.0
2012-09	-	-	-	-	-	Update to Rel-11 version (MCC)	10.0.0	**11.0.0**