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

TSGS#17(02)0472

Source:	**SA5 (Telecom Management)**
Title:	**Rel-5 TS 32.691-100 (Inventory Management Network Resources IRP: Requirements)**
Document for:	**Approval**
Agenda Item:	**7.5.3**

3GPP TSG-SA5 (Telecom Management) S5-026748
Meeting #30, Tampere, Finland, 19-23 August 2002

Presentation of Technical Specification to TSG SA

Presentation to:	**TSG SA Meeting #17**
Document for presentation:	**TS 32.691, Version 1.0.0** **Inventory Management Network Resources IRP: Requirements**
Presented for:	**Approval**

Abstract of document:
This Specification defines the requirements for the Inventory Management Network Resources IRP. Work done against the WID contained in SP-010461 (Work Item ID: OAM-NIM).

Purpose of These Specifications:
This Requirements Specification is intended for Release 5 and is part of the Inventory Management IRP (32.69x), which consists of this Requirements Specification (32.691) and the Network Resource Model Specification (32.692).

The purpose of this set of specifications is to provide an Inventory Management functionality for Release 5 that is basic and minimal.

Status of these Specifications:
The Inventory Management Network Resources IRP Requirements Specification (32.691) is now submitted for the first time to SA but it is ready for Rel-5 approval.

Outstanding Issues:
None.

Contentious Issues:
None.

3GPP TS 32.691 V1.0.0 (2002-09)

Technical Specification

3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Telecommunication management;
Inventory Management Network Resources IRP:
Requirements;
(Release 5)

Keywords

3GPP

Postal address

3GPP support office address

650 Route des Lucioles - Sophia Antipolis
Valbonne - FRANCE
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Internet

http://www.3gpp.org

Contents

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

Inventory Management (IM), in general, provides the operator with the ability to assure correct and effective operation of the 3G network as it evolves. IM actions have the objective to monitor the actual configuration on the Network Elements (NEs) and Network Resources (NRs), and they may be initiated by the operator or by functions in the Operations Systems (OSs) or NEs. The final goal of IM is the establishment of an accurate and timely model of the actual inventory in the NEs or NRs.

IM actions may be requested to reflect changes initiated by Configuration Management (CM) actions or to make sure that the inventory model is in synch with the actual inventory. IM actions are initiated either as single actions on single NEs of the 3G network or as part of a complex procedure involving actions on many resources/objects in one or several NEs.

1 Scope

The present document defines , in addition to the requirements defined in 3GPP TS 32.101 [1], 3GPP TS 32.102 [2] and 3GPP TS 32.600 [3], the requirements for the present IRP: Inventory Management Network Resources IRP.

2 References

The following documents contain provisions which, 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: "3G Telecom Management principles and high level requirements".

[2] 3GPP TS 32.102: "3G Telecom Management Architecture".

[3] 3GPP TS 32.600: "Telecommunication management; Configuration Management; Configuration Management (CM); Concept and main requirements".

[4] 3GPP TS 32.602: "Telecommunication management; Configuration Management (CM); Basic Configuration Management Integration Reference Point (IRP): Information model".

3 Definitions and abbreviations

3.1 Definitions

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

data: is any information or set of information required to give software or equipment or combinations thereof a specific state of functionality

Element Manager (EM): provides a package of end-user functions for management of a set of closely related types of Network Elements (NEs)
These functions can be divided into two main categories:

- *Element Management Functions:* for management of NEs on an individual basis. These are basically the same functions as supported by the corresponding local terminals.
- *Sub-Network Management Functions:* that are related to a network model for a set of NEs constituting a clearly defined sub-network, which may include relations between the NEs. This model enables additional functions on the sub-network level (typically in the areas of network topology presentation, alarm correlation, service impact analysis and circuit provisioning).

IRP: See 3GPP TS 32.101 [1].

IRP Information Model: See 3GPP TS 32.101 [1].

IRP Information Service: See 3GPP TS 32.101 [1].

IRP Solution Set: See 3GPP TS 32.101 [1].

Managed Object (MO): an abstract entity, which may be accessed through an open interface between two or more systems, and representing a Network Resource (NR) for the purpose of management
The Managed Object (MO) is an instance of a Managed Object Class (MOC) as defined in a Management Information Model (MIM). The MIM does not define how the MO or NR is implemented; only what can be seen in the interface.

Managed Object Class (MOC): description of all the common characteristics for a number of MOs, such as their attributes, operations, notifications and behaviour

Managed Object Instance (MOI): instance of a MOC, which is the same as a MO as described above

Management Information Base (MIB): set of existing managed objects in a management domain, together with their attributes, constitutes that management domain's MIB. The MIB may be distributed over several OS/NEs

Management Information Model (MIM): also referred to as NRM - see the definition below. There is a slight difference between the meaning of MIM and NRM - the term MIM is generic and can be used to denote any type of management model, while NRM denotes the model of the actual managed telecommunications Network Resources (NRs).

Network Element (NE): is a discrete telecommunications entity, which can be, managed over a specific interface e.g. the RNC

Network Manager (NM): provides a package of end-user functions with the responsibility for the management of a network, mainly as supported by the EM(s) but it may also involve direct access to the NEs
All communication with the network is based on open and well-standardised interfaces supporting management of multi-vendor and multi-technology NEs.

Network Resource (NR): is a component of a NE, which can be identified as a discrete separate entity and is in an object oriented environment for the purpose of management represented by an abstract entity called Managed Object (MO)

Network Resource Model (NRM): model representing the actual managed telecommunications Network Resources (NRs) that a System is providing through the subject IRP
An NRM describes Managed Object Classes (MOC), their associations, attributes and operations. The NRM is also referred to as "MIM" (see above) which originates from the ITU-T TMN.

Object Management Group (OMG): See http://www.omg.org.

Operations System (OS): indicates a generic management system, independent of its location level within the management hierarchy

3.2 Abbreviations

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

CM	Configuration Management
CMIP	Common Management Information Protocol
CORBA	Common Object Request Broker Architecture
EM	Element Manager
FM	Fault Management
GSM	Global System for Mobile communication
IM	Inventory Management
IRP	Integration Reference Point
IS	Information Service (see 3GPP TS 32.101 [1])
ITU-T	International Telecommunication Union, Telecommunication Standardisation Sector
MIB	Management Information Base
MIM	Management Information Model
MOC	Managed Object Class
MOI	Managed Object Instance
NE	Network Element
NM	Network Manager
NR	Network Resource
NRM	Network Resource Model
OMG	Object Management Group

OS	Operations System
PM	Performance Management
TM	Telecom Management
UML	Unified Modelling Language (OMG)
UMTS	Universal Mobile Telecommunications System

4 Requirements

The following general and high-level requirements apply for the present IRP:

1) IRP-related requirements in 3GPP TS 32.101 [1].

2) IRP-related requirements in 3GPP TS 32.102 [2].

3) IRP-related requirements in 3GPP TS 32.600 [3].

In addition to the above, the following more specific requirements apply:

a) The Network Resource Model defined by this IRP shall provide inventory data over Itf-N of network entities in the 3G network.

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Sep 2002	S_17	SP-020472	--	--	Submitted to TSG SA #17 for Approval	1.0.0	