

Source: SA5 (Telecom Management)

Title: 32.102 CR, "Regarding the Mandatory / Conditional / Optional qualifiers" (S5-000295)

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Spec	CR	Phas	Subject	Cat	Versio	Versio	Doc-2nd-
32.102	005	R99	Definition of the Mandatory/Optional/Conditional qualifiers used in the IRPs	D	3.1.1	3.2.0	S5-000295

3.1 Definitions

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

Architecture: The organisational structure of a system or component, their relationships, and the principles and guidelines governing their design and evolution over time.

Closed interfaces: Privately controlled system/subsystem boundary descriptions that are not disclosed to the public or are unique to a single supplier.

De facto standard: A standard that is widely accepted and used but that lacks formal approval by a recognised standards organisation.

Interface standard: A standard that specifies the physical or functional interface characteristics of systems, subsystems, equipment, assemblies, components, items or parts to permit interchangeability, interconnection, interoperability, compatibility, or communications.

Interoperability: The ability of two or more systems or components to exchange data and use information.

Intra-operability: The ability to interchange and use information, functions and services among components within a system.

IRPAgent: The IRPAgent encapsulates a well-defined subset of network (element) functions. It interacts with IRPManagers using an IRP. From the IRPManager's perspective, the IRPAgent behaviour is only visible via the IRP.

IRPManager: The IRPManager models a user of the IRPAgent and it interacts directly with the IRPAgent using the IRP. Since the IRPManager represents an IRPAgent user, they help delimit the IRPAgent and give a clear picture of what the IRPAgent is supposed to do. From the IRPAgent perspective, the IRPManager behaviour is only visible via the IRP.

IRP Information Model: An IRP Information Model consists of an IRP Information Service and a Network Resource Model (see below for definitions of IRP Information Service and Network Resource Model).

IRP Information Service: An IRP Information Service describes the information flow and support objects for a certain functional area, e.g. the alarm information service in the fault management area. As an example of support objects, for the Alarm IRP there is the "alarm information" and "alarm list".

IRP Solution Set: An IRP Solution Set is a mapping of the IRP Information Service to one of several technologies (CORBA/IDL, SNMP/SMI, CMIP/GDMO etc.). An IRP Information Service can be mapped to several different IRP Solution Sets. Different technology selections may be done for different IRPs.

Management Infrastructure: The collection of systems (computers and telecommunications) a UMTS Organisation has in order to manage UMTS.

Market Acceptance: Market acceptance means that an item has been accepted in the market as evidenced by annual sales, length of time available for sale, and after-sale support capability.

Modular: Pertaining to the design concept in which interchangeable units are employed to create a functional end product.

Module: An interchangeable item that contains components. In computer programming, a program unit that is discrete and identifiable with respect to compiling, combining with other modules, and loading is called a module.

Network Resource Model (NRM): A protocol independent model describing managed objects representing network resources, e.g. an RNC or NodeB.

Open Specifications: Public specifications that are maintained by an open, public consensus process to accommodate new technologies over time and that are consistent with international standards.

Open Standards: Widely accepted and supported standards set by recognised standards organisation or the commercial market place. These standards support interoperability, portability, and scalability and are equally available to the general public at no cost or with a moderate license fee.

Open Systems Architecture (OSA): An architecture produced by an open systems approach and employing open systems specifications and standards to an appropriate level.

Open Systems Strategy: An open systems strategy focuses on fielding superior telecom capability more quickly and more affordably by using multiple suppliers and commercially supported practices, products, specifications, and standards, which are selected based on performance, cost, industry acceptance, long term availability and supportability, and upgrade potential.

Physical Architecture: A minimal set of rules governing the arrangement, interaction, and interdependence of the parts or elements whose purpose is to ensure that a conformant system satisfies a specified set of requirements. The physical architecture identifies the services, interfaces, standards, and their relationships. It provides the technical guidelines for implementation of systems upon which engineering specifications are based and common building blocks are built.

Plug&play: Term for easy integration of HW/SW.

Portability: The ease with which a system, component, data, or user can be transferred from one hardware or software environment to another.

Proprietary Specifications: Specifications, which are exclusively owned by a private individual or corporation under a trademark or patent, the use of which would require a license.

Reference Model: A generally accepted abstract representation that allows users to focus on establishing definitions, building common understandings and identifying issues for resolution. For TMN Systems acquisitions, a reference model is necessary to establish a context for understanding how the disparate technologies and standards required to implement TMN relate to each other. A reference model provides a mechanism for identifying the key issues associated with applications portability, modularity, scalability and interoperability. Most importantly, Reference Models will aid in the evaluation and analysis of domain-specific architectures.

Scalability: The capability to adapt hardware or software to accommodate changing workloads.

Specification: A document that prescribes, in a complete, precise, verifiable manner, the requirements, design, behaviour, or characteristics of a system or system component.

Standard: A document that establishes uniform engineering and technical requirements for processes, procedures, practices, and methods. Standards may also establish requirements for selection, application, and design criteria of material.

Standards Based Architecture: An architecture based on an acceptable set of open standards governing the arrangement, interaction, and interdependence of the parts or elements that together may be used to form a TMN System, and whose purpose is to insure that a conformant system satisfies a specified set of requirements.

System : Any organised assembly of resources and procedures united and regulated by interaction or interdependence to accomplish a set of specific functions.

System Architecture: A description, including graphics, of systems and interconnections providing for or supporting management functions. The SA defines the physical connection, location, and identification of the key nodes, circuits, networks, platforms, etc., and specifies system and component performance parameters. It is constructed to satisfy Operational Architecture requirements per standards defined in the Physical Architecture. The SA shows how multiple systems within a subject area link and inter-operate, and may describe the internal construction or operations of particular systems within the architecture.

UMTS Organisation: A legal entity that is involved in the provisioning of UMTS.

10.5 Mandatory, Optional and Conditional qualifiers

This sections defines a number of terms used to qualify the relationship between the ‘Information Service’, the ‘Solution Sets’ and their impact on the IRP implementations. The qualifiers defined in this section are used to qualify IRPAgent behaviour only. This is considered sufficient for the specification of the IRPs.

The table below defines the meaning of the three terms Mandatory, Conditional and Optional when they are used to qualify the relations between operations, notifications and parameters specified in ‘Information Service’ documents and their equivalents in Solution Set (SS) documents.

Table 1: Definitions of Mandatory, Optional and Conditional Used in Information Service Documents

	<u>Mandatory (M)</u>	<u>Conditional (C)</u>	<u>Optional (O)</u>
<u>Operation and Notification</u>	<u>Each Operation and Notification shall be mapped to its equivalents in all SS’s. Mapped equivalent shall be M.</u>	<u>Each Operation and Notification shall be mapped to its equivalents in at least one SS. Mapped equivalent can be M or O.</u>	<u>Each Operation and Notification shall be mapped to its equivalents in all SS’s. Mapped equivalent shall be O.</u>
<u>Input and output parameter</u>	<u>Each parameter shall be mapped to one or more information elements of all SS’s. Mapped information elements shall be M.</u>	<u>Each parameter shall be mapped to its equivalent in at least one SS. Mapped equivalent can be M or O.</u>	<u>Each parameter shall be mapped to its equivalent in all SS’s. Mapped equivalent shall be O.</u>

The table below defines the meaning of the two terms Mandatory and Optional when they are used to qualify the relations between operations, notifications and parameters equivalents specified in Solutions Sets and their impact on IRPAgent implementation. The terms are used in Solution Set documents.

Table 2: Definitions of Mandatory and Optional Used in Solution Set Documents

	<u>Mandatory</u>	<u>Optional</u>
<u>Mapped notify equivalent</u>	<u>IRPAgent shall generate it. IRPManager should be prepared to receive and process it.</u>	<u>IRPAgent may generate it. IRPManager should be prepared to receive it but can ignore it.</u>
<u>Mapped operation equivalent</u>	<u>IRPAgent shall have an implementation. IRPManager may use (e.g., invoke) it.</u>	<u>IRPAgent may have an implementation. IRPManager may use (e.g., invoke) it and should be prepared that IRPAgent may not have an implementation.</u>
<u>input parameter of the mapped operation equivalent</u>	<u>IRPAgent shall accept and behave according to its value. IRPManager should use it with a legal value.</u>	<u>If the optional parameter is present the IRPAgent may reject the invocation or the IRPAgent may accept the invocation but ignore the parameter. IRPManager may use it but should be prepared that IRPAgent may reject or ignore it.</u>
<u>Input parameter of mapped notify equivalent</u> <u>AND</u> <u>output parameter of mapped operation equivalent</u>	<u>IRPAgent shall generate it with a legal value. IRPManager should be prepared to receive it but can ignore it.</u>	<u>IRPAgent may generate it. If IRPAgent generates it, it shall use a legal value. IRPManager should be prepared to receive it but can ignore it.</u>