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Contents

Foreword

This Technical Specification (TS) 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:

28.624 State Management Data Definition Integration Reference Point (IRP); Requirements;

28.625 State Management Data Definition Integration Reference Point (IRP); Information Service (IS) ;

28.626 State Management Data Definition Integration Reference Point (IRP); Solution Set (SS) definitions.

This specification is part of a set that has been developed for converged management solutions.

1 Scope

The present document specifies the State Management Data Definition IRP Information Service that can be communicated between an IRPAgent and an IRPManager for telecommunication network management purposes, including management of converged networks.

The present document specifies the semantics and behaviour of information object class attributes and relations visible across the reference point in a protocol and technology neutral way. It does not define their syntax and encoding.

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: "Telecommunication management; Principles and high level requirements".

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

[3] Void

[4] Void

[5] Void

[6] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

[7] ITU-T Recommendation X.731: "Information technology - Open Systems Interconnection - Systems Management: State management function".

[8] ITU-T Recommendation X.733: "Information technology - Open Systems Interconnection - Systems Management: Alarm reporting function".

[9] Void

[10] Void

[11] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the abbreviations given in TR 21.905 [11], 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.600 [6] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [11], 3GPP TS 32.101 [1], 3GPP TS 32.102 [2] and 3GPP TS 32.600 [6].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [11], and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [11].

CM	Configuration Management
IOC	Information Object Class

4 Model

4.1 Information entities imported and local labels

Label reference	Local label

4.2 Class diagram

4.2.1 Relationships

There is no relationship.

4.2.2 Inheritance

There are no inheritance relationships.

4.3 Class definitions

4.3.1 StateManagementEntity

4.3.1.1 Definition

StateManagementEntity is an Archetype, that may represent any IOC defined in the Network Resource Models, e.g. Generic Network Resource Model, Core Network Resource Model, UTRAN Network Resource Model or GERAN Network Resource Model.

The attributes defined for this Archetype can be imported and used in any IOC of the Network Resource Models, where such attributes are needed. These attributes shall be used in the same way as defined in the ITU-T Recommendation X.731 [7] and ITU-T Recommendation X.733 [8], unless otherwise stated. That document gives also examples of state diagrams, defining possible state transitions when one or more of the state attributes defined here are used in a class.

4.3.1.2 Attributes

The following attributes are defined for this Archetype.

Attribute Name
operationalState
usageState
administrativeState
alarmStatus
proceduralStatus
availabilityStatus
controlStatus
standbyStatus
unknownStatus

4.3.1.3 Attribute constraints

None.

4.4 Attribute definitions

4.4.1 Attribute properties

The following table gives the definition and legal values for each attribute.

Attribute Name	Documentation and Allowed Values	Properties
operationalState	It indicates the operational state of the object instance. "It describes whether or not the resource is physically installed and working." [7] This attribute is READ-ONLY. The meaning of these values is as defined in ITU-T Recommendation X.731 [7]. allowedValues: “Enabled”, “Disabled” .	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False
usageState	It indicates the usage state of the object instance. "It describes whether or not the resource is actively in use at a specific instant, and if so, whether or not it has spare capacity for additional users at that instant." [7] This attribute is READ-ONLY. The meaning of these values is as defined in ITU-T Recommendation X.731 [7]. allowedValues: "Idle", "Active", "Busy".	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False
administrativeState	It indicates the administrative state of the object instance. "It describes the permission to use or prohibition against using the resource, imposed through the management services." [7] The meaning of these values is as defined in ITU-T Recommendation X.731 [7]. allowedValues: "Locked", "Shutting down", "Unlocked".	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False
alarmStatus	It indicates the alarm status of the object instance. This is mapped to the perceived severity of the most severe active alarm associated to the object instance. The meaning of these values is as defined for the attribute perceived severity in ITU-T Recommendation X.733 [8]. allowedValues: "Cleared", "Indeterminate", "Warning", "Minor", "Major", "Critical".	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False
proceduralStatus	It indicates the procedural status of the object instance. The meaning of these values is as defined in ITU-T Recommendation X.731 [7]. allowedValues: "Initialisation required", "Not initialised", "Initialising", "Reporting", "Terminating". The meaning of NULL value is the same as "empty set" defined in ITU-T Recommendation X.731 [7]: "If the value of this attribute is an empty set the managed object is ready, for example, the initialization is complete”.	type: String multiplicity: 1..* isOrdered: False isUnique: True defaultValue: None isNullable: True
availabilityStatus	It indicates the availability status of the object instance. The meaning of these values is as defined in ITU-T Recommendation X.731 [7]. allowedValues: "In test", "Failed", "Power off", "Off line", "Off duty", "Dependency", "Degraded", "Not installed", "Log full".	type: String multiplicity: 1..* isOrdered: False isUnique: True defaultValue: None isNullable: True
controlStatus	It indicates the control status of the object instance. The meaning of these values is as defined in ITU-T Recommendation X.731 [7]. allowedValues: "Subject to test", "Part of services locked", "Reserved for test", "Suspended".	type: String multiplicity: 1..* isOrdered: False isUnique: True defaultValue: None isNullable: True
standbyStatus	It indicates the standby status of the object instance. The meaning of these values is as defined in ITU-T Recommendation X.731 [7]. allowedValues: "Hot standby", "Cold standby", "Providing service".	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False

Attribute Name	Documentation and Allowed Values	Properties
unknownStatus	It indicates whether the state of the resource represented by the managed object is unknown. "True" (state is unknown, the values of the state attributes may not reflect the actual state of the resource); "False" (state is known, the values of the state attributes reflect the actual state of the resource). allowedValues: "True", "False".	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
2014-06	SP-64	SP-140332	001	-	Add definition of NULL for proceduralStatus	11.0.0	11.1.0
		SP-140358	002	-	remove the feature support statements		
2014-09					Upgrade to Rel-12	11.1.0	12.0.0
2016-01	SP-70				Upgrade to Rel-13 (MCC)	12.0.0	13.0.0

Change history							
Date	**Meeting**	**TDoc**	**CR**	**Rev**	**Cat**	**Subject/Comment**	**New version**
2017-03	SA#75					Promotion to Release 14 without technical change	14.0.0
2018-06	-	-	-	-	-	Update to Rel-15 version (MCC)	**15.0.0**
2019-09	SA#85	SP-190751	0003	-	F	Remove not used abbreviation to avoid misalignment with RAN2	**15.1.0**
2020-07	-	-	-	-	-	Update to Rel-16 version (MCC)	**16.0.0**
2022-03	-	-	-	-	-	Update to Rel-17 version (MCC)	**17.0.0**

History

Document history		
V17.0.0	April 2022	Publication