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| 3GPP TS 28.318 V0.0.0(2023-07) | |
| Technical Specification | |
| 3rd Generation Partnership Project;  Technical Specification Group Services and System Aspects;  Management and Orchestration;  Network and services operations for energy utilities (Release 18) | |
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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.

In the present document, modal verbs have the following meanings:

**shall** indicates a mandatory requirement to do something

**shall not** indicates an interdiction (prohibition) to do something

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

**should** indicates a recommendation to do something

**should not** indicates a recommendation not to do something

**may** indicates permission to do something

**need not** indicates permission not to do something

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

**can** indicates that something is possible

**cannot** indicates that something is impossible

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

**will** indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**will not** indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**might** indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

**might not** indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

**is** (or any other verb in the indicative mood) indicates a statement of fact

**is not** (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

# 1 Scope

The present document …

Editor's Note: Mention that this specification depends on the general specification for management service exposure.

# 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 TR 21.905: "Vocabulary for 3GPP Specifications".

…

[x] <doctype> <#>[ ([up to and including]{yyyy[-mm]|V<a[.b[.c]]>}[onwards])]: "<Title>".

# 3 Definitions of terms, symbols and abbreviations

## 3.1 Terms

For the purposes of the present document, the terms given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

**example:** text used to clarify abstract rules by applying them literally.

## 3.2 Symbols

Void.

## 3.3 Abbreviations

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

<ABBREVIATION> <Expansion>

# 4 Overview

Editor's Note: This clause will provide background, motivation and references for the features added in the rest of the TS. The goal is that this TS can stand alone and not require references to TR 28.829.

# 5 Network Services and Operations Capabilities

Editor's Note: Any additional network services and operations for energy utilities that are to be specified in future releases can be added to clause 5, 6, 7 and 8.

## 5.1 Information exposure to support high availability operations

Editor's Note: This clause will contain information regarding the requirements and scenarios agreed to support from objective #1 of the FS\_NSOEU study conclusions in TR 28.829.

### 5.1.1 Description

### 5.1.2 Requirements

## 5.2 Energy utility and telecommunications coordinated recovery with redundant topology

Editor's Note: This clause will contain information regarding the requirements and scenarios agreed to support from objective #3 of the FS\_NSOEU study conclusions in TR 28.829.

### 5.2.1 Description

### 5.2.2 Requirements

## 5.3 Energy utility and telecommunications coordinated recovery with redundant topology

Editor's Note: This clause will contain information regarding the requirements and scenarios agreed to support from objective #3 of the FS\_NSOEU study conclusions in TR 28.829.

### 5.3.1 Description

### 5.3.2 Requirements

# 6 Procedures

Editor's Note: This clause will contain all stage 2 procedures needed to support the services and operations described in clause 5.

## 6.1 Information exposure to support high availability operations

Editor's Note: This clause will contain procedures to fulfill the requirements and scenarios agreed to support from objective #1 of the FS\_NSOEU study conclusions in TR 28.829.

### 6.1.1 Description

### 6.1.2 Procedures

## 6.2 Energy utility and telecommunications coordinated recovery

Editor's Note: This clause will contain procedures to fulfill the requirements and scenarios agreed to support from objective #3 of the FS\_NSOEU study conclusions in TR 28.829.

### 6.2.1 Description

### 6.2.2 Procedures

# 7 Information Elements

Editor's Note: This clause will contain NRM enhancements (both stage 2 and 3) that are required to support the procedures described in clause 6. It is expected that much of the NRM can be cited, as NSOEU relies upon the MnS generic architecture. Since the NRM enhancements proposed will be specific to energy utility support and not general for all OAM it is suggested to define them in this TS instead of others, e.g. TS 28.622 and 28.663.

Annex <X> (informative):  
Change history

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Change history** | | | | | | | |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
| 8.23 | SA5 #150 |  |  |  |  | Skeleton | 0.0.0 |

Change history of this template:

|  |  |  |
| --- | --- | --- |
| 2001-07 | Copyright date changed to 2001; space character added before TTC in copyright notification; space character before first reference deleted. | 1.3.3 |
| 2002-01 | Copyright date changed to 2002. | 1.3.4 |
| 2002-07 | Extra Releases added to title area. | 1.3.5 |
| *2002-12* | *"TM" added to 3GPP logo.* | *1.3.6* |
| *2003-02* | *Copyright date changed to 2003.* | *1.3.7* |
| *2003-12* | *Copyright date changed to 2004. Chinese OP changed from CWTS to CCSA* | *14.0* |
| *2004-04* | *North American OP changed from T1 to ATIS* | *1.5.0* |
| *2005-11* | *Stock text of clause 3 includes reference to 21.905.* | *1.6.0* |
| *2005-11* | *Caters for new TSG structure. Minor corrections.* | *1.6.1* |
| *2006-01* | *Revision marks removed.* | *1.6.2* |
| *2008-11* | *LTE logo line added, © date changed to 2008, guidance on keywords modified; acknowledgement of trade marks; sundry editorial corrections and cosmetic improvements* | *1.7.0* |
| *2010-02* | *3GPP logo changed for cleaner version, with tag line; LTE-Advanced logo line added;  © date changed to 2010; editorial change to cover page footnote text; trade marks acknowledgement text modified; additional Releases added on cover page; proforma copyright release text block modified* | *1.8.0* |
| *2010-02* | *Smaller 3GPP logo file used.* | *1.8.1* |
| *2010-07* | *Guidance note concerning use of LTE-Advanced logo added.* | *1.8.2* |
| *2011-04-01* | *Guidance of use of logos on cover page modified; copyright year modified.* | *1.8.3* |
| *2013-05-15* | *Changed File Properties to MCC macro default.*  *Removed R99, added Rel-12/13.*  *Modified Copyright year.*  *Guidance on annex X Change history.* | *1.8.4* |
| *2014-10-27* | *Updated Release selection on cover. In clause 3, added "3GPP" to TR 21.905.* | *1.8.5* |
| *2015-01-06* | *New Organizational Partner TSDSI added to copyright block. Old Releases removed.* | *1.9.0* |
| *2015-12-03* | *Provision for LTE Advanced Pro logo  Update copyright year to 2016* | *1.10.0* |
| *2016-03-08* | *Standarization of the layout of the Change History table in the last annex.(Unreleased)* | *1.11.0* |
| *2016-06-15* | *Minor adjustment to Change History table heading* | *1.11.1* |
| *2017-03-13* | *Adds option for 5G logo on cover* | *1.12.0* |
| *2017-05-03* | *Smaller 5G logo to reduce file size* | *1.12.1* |
| *2019-02-25* | *Replacement of frames on cover pages by in-line text.*  *Clarification of help text on when to use 5G logo. Removal of defunct keywords frame on page 2. Add Rel-16, Rel-17 options, eliminated earlier, frozen, Releases (cover page, below title) Corrections to some guidance text, addition of guidance text concerning automatic page headers under Word 2016 ff. Use of modal auxiliary verbs added to Foreword. More explicit guidance on Bibliography and Index annexes. Converted to .docx format.* | *1.13.0* |
| *2019-09-12* | *Cover page table outline shown dotted for ease of logo selection. (Author to hide outline after logo selection.) User now needs to delete whole table rows instead of individual cells, which proved to be tricky.*  *Change of style for "notes" in the Foreword to normal paragraphs.*  *Insertion of new bookmarks, correction of location of existing bookmarks. (To improve navigation.)*  *Improvements to guidance text.* | *1.13.1* |
| *2021-06-18* | *Provision for 5G Advanced logo  Update copyright year to 2021 Additional guidance on the use of Heading 8/9 in annexes C, D and X.* | *1.14.0* |
| *2021-06-18* | *Provision for 5G Advanced logo Update copyright year to 2021Additional guidance on the use of Heading 8/9 in annexes C, D and X.* |  |