

# ETSI TS 132 435 V15.0.0 (2018-07)



**Digital cellular telecommunications system (Phase 2+) (GSM);  
Universal Mobile Telecommunications System (UMTS);  
LTE;  
Telecommunication management;  
Performance measurement;  
eXtensible Markup Language (XML) file format definition  
(3GPP TS 32.435 version 15.0.0 Release 15)**



---

Reference

RTS/TSGS-0532435vF00

---

Keywords

GSM,LTE,UMTS

**ETSI**

650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

---

**Important notice**

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:

<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

---

**Copyright Notification**

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2018.

All rights reserved.

**DECT™**, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.

**3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

**oneM2M** logo is protected for the benefit of its Members.

**GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

---

# Intellectual Property Rights

## Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

## Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

---

# Foreword

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

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under <http://webapp.etsi.org/key/queryform.asp>.

---

# Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

---

# Contents

Intellectual Property Rights .....	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	4
Introduction .....	4
1 Scope .....	5
2 References .....	5
3 Definitions and abbreviations.....	5
3.1 Definitions .....	5
3.2 Abbreviations .....	6
4 XML file format definition.....	6
4.1 Mapping table.....	6
4.2 XML schema based XML file format definition.....	8
4.2.1 Measurement collection data file XML diagram .....	8
4.2.2 Measurement collection data file XML schema .....	9
4.2.3 Measurement collection data file XML header.....	11
<b>Annex A (informative): Examples.....</b>	<b>12</b>
A.1 XML schema based XML measurement report file without use of optional positioning attributes on measurement types and results .....	12
A.2 XML schema based XML measurement report file with use of optional positioning attributes on measurement types and results .....	13
A.3 XML schema based XML measurement report file with use of optional measInfoId attribute.....	14
<b>Annex B (informative): Void .....</b>	<b>15</b>
<b>Annex C (informative): Change history .....</b>	<b>16</b>
History .....	17

---

# Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> 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 3<sup>rd</sup> Generation Partnership Project: Technical Specification Group Services and System Aspects; Telecommunication management, as identified below:

TS 32.432: "Performance measurement: File format definition";

**TS 32.435: "Performance measurement: eXtensible Markup Language (XML) file format definition";**

TS 32.436: "Performance measurement: Abstract Syntax Notation 1 (ASN.1) file format definition".

The present document is part of a set of specifications, which describe the requirements and information model necessary for the standardised Operation, Administration and Maintenance (OA&M) of a multi-vendor PLMN.

During the lifetime of a PLMN, its logical and physical configuration will undergo changes of varying degrees and frequencies in order to optimise the utilisation of the network resources. These changes will be executed through network configuration management activities and/or network engineering, see 3GPP TS 32.600 [4].

Many of the activities involved in the daily operation and future network planning of a PLMN network require data on which to base decisions. This data refers to the load carried by the network and the grade of service offered. In order to produce this data performance measurements are executed in the NEs, which comprise the network. The data can then be transferred to an external system, e.g. an Operations System (OS) in TMN terminology, for further evaluation. The purpose of the present document and the other related 3GPP TSs listed above is to describe the mechanisms involved in the collection of the data.

---

# 1 Scope

The present document describes the XML file format of performance measurement results whose semantics is defined in 3GPP TS 32.432 [5].

This specification is related to 3GPP TS 32.432 V10.2.X.

---

# 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] 3GPP TS 32.401: "Telecommunication management; Performance Management (PM); Concept and requirements".
  - [4] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".
  - [5] 3GPP TS 32.432: "Telecommunication management; Performance measurement: File format definition".
  - [6] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".
  - [7] W3C REC-xml-20001006: "Extensible Markup Language (XML) 1.0 (Second Edition)".
  - [8] W3C REC-xmlschema-0-20010502: "XML Schema Part 0: Primer".
  - [9] W3C REC-xmlschema-1-20010502: "XML Schema Part 1: Structures".
  - [10] W3C REC-xmlschema-2-20010502: "XML Schema Part 2: Datatypes".
  - [11] W3C REC-xml-names-19990114: "Namespaces in XML".
- 

# 3 Definitions and abbreviations

## 3.1 Definitions

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

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

- Element Management Functions for management of Network Elements 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 Network Elements constituting a clearly defined sub-network, which may include relations between the Network Elements. 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).

**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 Network Elements. All communication with the network is based on open and well-standardised interfaces supporting management of multi-vendor and multi-technology Network Elements.

**Operations System (OS):** 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:

3G	3 <sup>rd</sup> Generation
EM	Element Manager
GSM	Global System for Mobile communications
IRP	Integration Reference Point
NE	Network Element
NM	Network Manager
PLMN	Public Land Mobile Network
PM	Performance Management

## 4 XML file format definition

This clause describes the format of measurement result files that can be transferred from the network (NEs or EM) to the NM. The XML file format definition is based on XML schema (see [8], [9], [10] and [11]).

The XML file format definitions implement the measurement result structure and parameters defined in clauses 5.2 and 5.3 of 3GPP TS 32.401 [3].

### 4.1 Mapping table

Table 4.1 maps the file content items in the 3GPP TS 32.432([5]) document to those used in the XML schema based file format definitions. XML tag attributes are useful where data values bind tightly to its parent element. They have been used where appropriate.

**Table 4.1 Mapping of File Content Items to XML tags**

File Content Item	XML schema based XML tag	Description
measDataCollection	measCollecFile	
measFileHeader	fileHeader	
measData	measData	
measFileFooter	fileFooter	
fileFormatVersion	fileHeader fileFormatVersion	
senderName	fileHeader dnPrefix and fileSender localDn	For the XML schema based XML format, the DN is split into the DN prefix and the Local DN (LDN) (see 3GPP TS 32.300 [6]). XML attribute specification "dnPrefix" may be absent in case the DN prefix is not configured in the sender. XML attribute specification "localDn" may be absent in case the LDN is not configured in the sender.
senderType	fileSender elementType	For the XML schema based XML format, XML attribute specification "elementType" may be absent in case the "senderType" is not configured in the sender.
vendorName	fileHeader vendorName	For the XML schema based XML format, XML attribute specification "vendorName" may be absent in case the "vendorName" is not configured in the sender.
collectionBeginTime	measCollec beginTime	
neld	managedElement	

File Content Item	XML schema based XML tag	Description
neUserName	managedElement userLabel	For the XML schema based XML format, XML attribute specification "userLabel" may be absent in case the "nEUserName" is not configured in the CM applications.
neDistinguishedName	fileHeader dnPrefix and managedElement localDn	For the XML schema based XML format, the DN is split into the DN prefix and the Local DN (LDN) (see 3GPP TS 32.300 [6]). XML attribute specification "localDn" may be absent in case the LDN is not configured in the CM applications.
neSoftwareVersion	managedElement swVersion	For the XML schema based XML format, XML attribute specification "swVersion" may be absent in case the "nESoftwareVersion" is not configured in the CM applications.
measInfo	measInfo	
measInfold	measInfold	
measTimeStamp	granPeriod endTime	
jobId	job jobId	
granularityPeriod	granPeriod duration	For the XML schema based XML format, the value of XML attribute specification "duration" shall use the truncated representation "PTnS" (see [10]).
reportingPeriod	repPeriod duration	For the XML schema based XML format, the value of XML attribute specification "duration" shall use the truncated representation "PTnS" (see [10]).
measTypes	measTypes or measType	For the XML schema based XML format, depending on sender's choice for optional positioning presence, either XML element "measTypes" or XML elements "measType" will be used.
measValues	measValue	
measObjInstId	measValue measObjLdn	
measResults	measResults or r	For the XML schema based XML format, depending on sender's choice for optional positioning presence, either XML element "measResults" or XML elements "r" will be used.
suspectFlag	suspect	
timeStamp	measCollec endTime	
There is no corresponding File Content Item.	measType p	An optional positioning XML attribute specification of XML element "measType" (XML schema based), used to identify a measurement type for the purpose of correlation to a result. The value of this XML attribute specification is expected to be a non-zero, non-negative integer value that is unique for each instance of XML element "measType" that is contained within the measurement data collection file.
There is no corresponding File Content Item.	r p	An optional positioning XML attribute specification of XML element "r", used to correlate a result to a measurement type. The value of this XML attribute specification should match the value of XML attribute specification "p" of the corresponding XML element "measType" (XML schema based).



## 4.2 XML schema based XML file format definition

### 4.2.1 Measurement collection data file XML diagram

Figure 4.1 describes the XML element structure of the measurement collection data file.

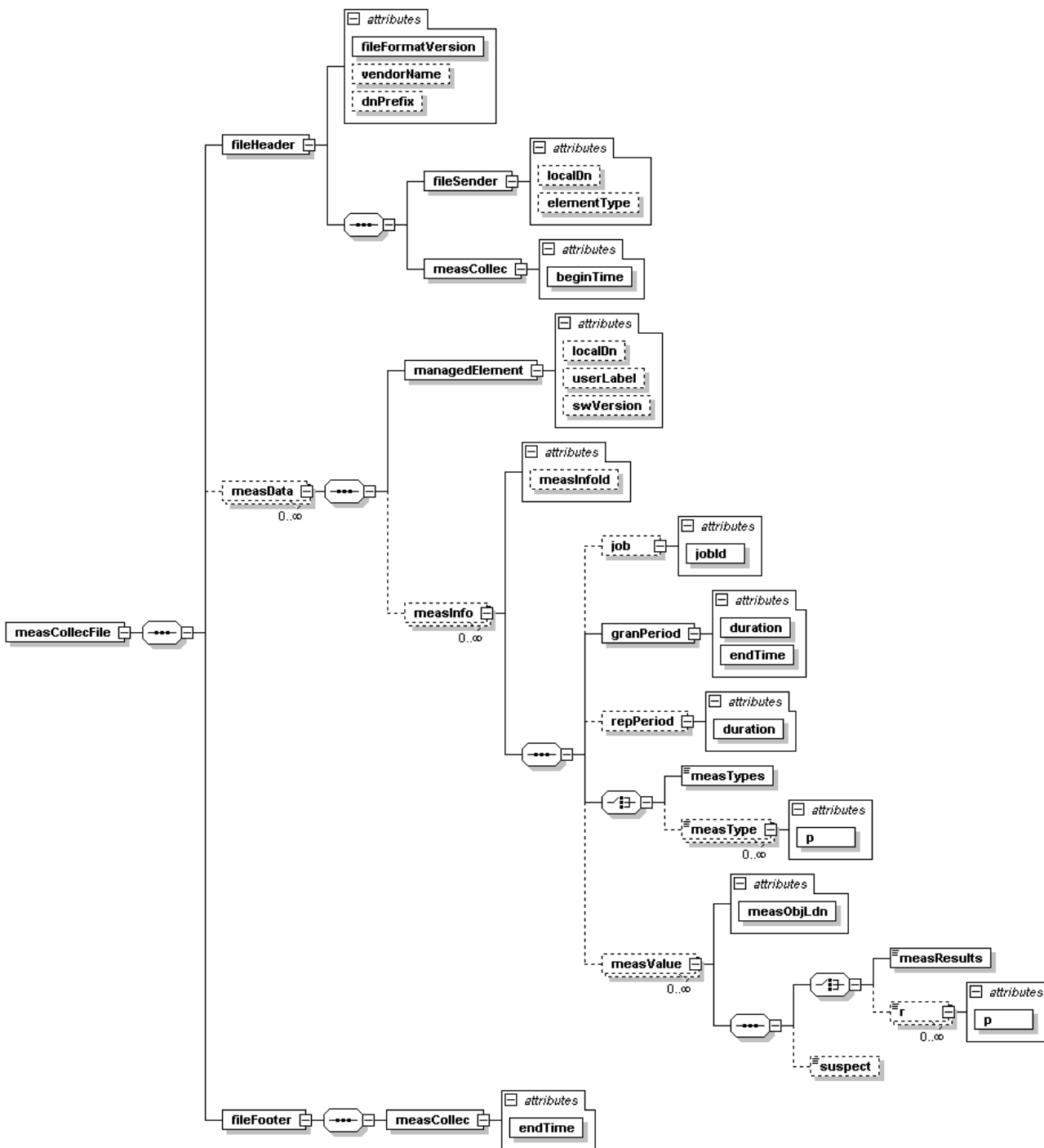


Figure 4.1: XML diagram of the measurement collection data file

## 4.2.2 Measurement collection data file XML schema

The following XML schema `measCollec.xsd` is the schema for measurement collection data XML files:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  3GPP TS 32.435 Performance Measurement XML file format definition
  data file XML schema
  measCollec.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:mc=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec"
>

  <!-- Measurement collection data file root XML element -->

  <element name="measCollecFile">
    <complexType>
      <sequence>
        <element name="fileHeader">
          <complexType>
            <sequence>
              <element name="fileSender">
                <complexType>
                  <attribute name="localDn" type="string" use="optional"/>
                  <attribute name="elementType" type="string" use="optional"/>
                </complexType>
              </element>
              <element name="measCollec">
                <complexType>
                  <attribute name="beginTime" type="dateTime" use="required"/>
                </complexType>
              </element>
            </sequence>
            <attribute name="fileFormatVersion" type="string" use="required"/>
            <attribute name="vendorName" type="string" use="optional"/>
            <attribute name="dnPrefix" type="string" use="optional"/>
          </complexType>
        </element>
        <element name="measData" minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <sequence>
              <element name="managedElement">
                <complexType>
                  <attribute name="localDn" type="string" use="optional"/>
                  <attribute name="userLabel" type="string" use="optional"/>
                  <attribute name="swVersion" type="string" use="optional"/>
                </complexType>
              </element>
              <element name="measInfo" minOccurs="0" maxOccurs="unbounded">
                <complexType>
                  <sequence>
                    <element name="job" minOccurs="0">
                      <complexType>
                        <attribute name="jobId" type="string" use="required"/>
                      </complexType>
                    </element>
                    <element name="granPeriod">
                      <complexType>
                        <attribute
                          name="duration"
                          type="duration"
                          use="required"
                        />
                        <attribute
                          name="endTime"
                          type="dateTime"
                          use="required"
                        />
                      </complexType>
                    </element>
                  </sequence>
                </complexType>
              </element>
            </sequence>
          </complexType>
        </element>
      </sequence>
    </complexType>
  </element>

```

```

</element>
<element name="repPeriod" minOccurs="0">
  <complexType>
    <attribute name="duration"
      type="duration" use="required"/>
  </complexType>
</element>
<choice>
  <element name="measTypes">
    <simpleType>
      <list itemType="Name"/>
    </simpleType>
  </element>
  <element name="measType"
    minOccurs="0" maxOccurs="unbounded">
    <complexType>
      <simpleContent>
        <extension base="Name">
          <attribute name="p"
            type="positiveInteger" use="required"/>
        </extension>
      </simpleContent>
    </complexType>
  </element>
</choice>
<element name="measValue"
  minOccurs="0" maxOccurs="unbounded">
  <complexType>
    <sequence>
      <choice>
        <element name="measResults">
          <simpleType>
            <list itemType="mc:measResultType"/>
          </simpleType>
        </element>
        <element name="r"
          minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <simpleContent>
              <extension base="mc:measResultType">
                <attribute name="p" type="positiveInteger"
                  use="required"/>
              </extension>
            </simpleContent>
          </complexType>
        </element>
      </choice>
      <element name="suspect" type="boolean" minOccurs="0"/>
    </sequence>
    <attribute name="measObjLdn"
      type="string" use="required"/>
  </complexType>
</element>
</sequence>
<attribute name="measInfoId" type="string" use="optional"/>
</complexType>
</element>
</sequence>
</complexType>
</element>
<complexType>
  <sequence>
    <element name="measCollec">
      <complexType>
        <attribute name="endTime" type="dateTime" use="required"/>
      </complexType>
    </element>
  </sequence>
</complexType>
</element>
</sequence>
</complexType>
</element>
<simpleType name="measResultType">
  <union memberTypes="float">
    <simpleType>

```

```
        <restriction base="string">
          <enumeration value="NIL"/>
        </restriction>
      </simpleType>
    </union>
  </simpleType>
```

```
</schema>
```

### 4.2.3 Measurement collection data file XML header

The following header shall be used in actual XML measurement result files (cf. Annex A for examples):

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="MeasDataCollection.xsl"?>
<measCollecFile
  xmlns=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec"
>
```

## Annex A (informative): Examples

### A.1 XML schema based XML measurement report file without use of optional positioning attributes on measurement types and results

```

<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="MeasDataCollection.xsl"?>
<measCollecFile xmlns="http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec
http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec">
  <fileHeader fileFormatVersion="32.435 V7.0" vendorName="Company NN"
dnPrefix="DC=al.companyNN.com,SubNetwork=1,IRPAgent=1">
    <fileSender localDn="SubNetwork=CountryNN,MeContext=MEC-Gbg-1,ManagedElement=RNC-Gbg-1"
elementType="RNC"/>
    <measCollec beginTime="2000-03-01T14:00:00+02:00"/>
  </fileHeader>
  <measData>
    <managedElement localDn="SubNetwork=CountryNN,MeContext=MEC-Gbg-1,ManagedElement=RNC-Gbg-1"
userLabel="RNC Telecomville"/>
    <measInfo>
      <job jobId="1231"/>
      <granPeriod duration="PT900S" endTime="2000-03-01T14:14:30+02:00"/>
      <repPeriod duration="PT1800S"/>
      <measTypes>attTCHSeizures succTCHSeizures attImmediateAssignProcs
succImmediateAssignProcs</measTypes>
      <measValue measObjLdn="RncFunction=RF-1,UtranCell=Gbg-997">
        <measResults>234 345 567 789</measResults>
      </measValue>
      <measValue measObjLdn="RncFunction=RF-1,UtranCell=Gbg-998">
        <measResults>890 901 123 234</measResults>
      </measValue>
      <measValue measObjLdn="RncFunction=RF-1,UtranCell=Gbg-999">
        <measResults>456 567 678 789</measResults>
        <suspect>true</suspect>
      </measValue>
    </measInfo>
  </measData>
  <fileFooter>
    <measCollec endTime="2000-03-01T14:15:00+02:00"/>
  </fileFooter>
</measCollecFile>

```

## A.2 XML schema based XML measurement report file with use of optional positioning attributes on measurement types and results

```

<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="MeasDataCollection.xsl"?>
<measCollecFile xmlns="http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec
http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec">
  <fileHeader fileFormatVersion="32.435 V7.0" vendorName="Company NN"
dnPrefix="DC=al.companyNN.com,SubNetwork=1,IRPAgent=1">
    <fileSender localDn="SubNetwork=CountryNN,MeContext=MEC-Gbg-1,ManagedElement=RNC-Gbg-1"
elementType="RNC"/>
    <measCollec beginTime="2000-03-01T14:00:00+02:00"/>
  </fileHeader>
  <measData>
    <managedElement localDn="SubNetwork=CountryNN,MeContext=MEC-Gbg-1,ManagedElement=RNC-Gbg-1"
userLabel="RNC Telecomville"/>
    <measInfo>
      <job jobId="1231"/>
      <granPeriod duration="PT900S" endTime="2000-03-01T14:14:30+02:00"/>
      <repPeriod duration="PT1800S"/>
      <measType p="1">attTCHSeizures</measType>
      <measType p="2">succTCHSeizures</measType>
      <measType p="3">attImmediateAssignProcs</measType>
      <measType p="4">succImmediateAssignProcs</measType>
      <measValue measObjLdn="RncFunction=RF-1,UtranCell=Gbg-997">
        <r p="1">234</r>
        <r p="2">345</r>
        <r p="3">567</r>
        <r p="4">789</r>
      </measValue>
      <measValue measObjLdn="RncFunction=RF-1,UtranCell=Gbg-998">
        <r p="1">890</r>
        <r p="2">901</r>
        <r p="3">123</r>
        <r p="4">234</r>
      </measValue>
      <measValue measObjLdn="RncFunction=RF-1,UtranCell=Gbg-999">
        <r p="1">456</r>
        <r p="2">567</r>
        <r p="3">678</r>
        <r p="4">789</r>
        <suspect>true</suspect>
      </measValue>
    </measInfo>
  </measData>
</fileFooter>
  <measCollec endTime="2000-03-01T14:15:00+02:00"/>
</fileFooter>
</measCollecFile>

```

## A.3 XML schema based XML measurement report file with use of optional measInfold attribute

```

<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="MeasDataCollection.xsl"?>
<!-- Sample PM File. All values are hypothetical but syntactically correct -->
<measCollecFile xmlns="http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec
http://www.3gpp.org/ftp/specs/archive/32_series/32.435#measCollec">
  <fileHeader fileFormatVersion="32.435 v6.1" vendorName="Company NN" dnPrefix="SubNetwork=1">
    <fileSender elementType="Element Manager" localDn="OMC_PS=10"/>
    <measCollec beginTime="2005-06-09T13:00:00-05:00"/>
  </fileHeader>
  <measData>
    <managedElement localDn="ManagedElement=PS_Core" userLabel="SGSN" swVersion="R30.1.5"/>
    <measInfo measInfoId="Category A">
      <job jobId="01"/>
      <granPeriod endTime="2005-06-09T13:15:00-06:00" duration="PT900S"/>
      <repPeriod duration="PT1800S"/>
      <measTypes>MM.AttGprsAttach MM.SuccGprsAttach MM.AbortedGprsAttach
MM.AttIntraSgsnRaUpdate</measTypes>
      <measValue measObjLdn="SgsnFunction=1">
        <measResults>10 20 30 40</measResults>
      </measValue>
    </measInfo>
    <measInfo measInfoId="Category B">
      <job jobId="02"/>
      <granPeriod endTime="2005-06-09T13:15:00-06:00" duration="PT900S"/>
      <repPeriod duration="PT1800S"/>
      <measTypes>MM.AttCombiAttach MM.SuccCombiAttach MM.
MM.AbortedCombiAttachMM.AttCombiDetachMs</measTypes>
      <measValue measObjLdn="SgsnFunction=2">
        <measResults>10 20 30 40</measResults>
      </measValue>
    </measInfo>
    <measInfo measInfoId="Category C">
      <job jobId="03"/>
      <granPeriod endTime="2005-06-09T13:15:00-06:00" duration="PT1800S"/>
      <repPeriod duration="PT900S"/>
      <measTypes>MM.AttPsPagingProcIu MM.SuccPsPagingProcIu</measTypes>
      <measValue measObjLdn="SgsnFunction=3">
        <measResults>25 25</measResults>
      </measValue>
    </measInfo>
  </measData>
  <fileFooter>
    <measCollec endTime="2005-06-09T13:15:00-06:00"/>
  </fileFooter>
</measCollecFile>

```

Annex B (informative):  
Void



## Annex C (informative): Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Cat	Old	New
Sep 2004	S_25	SP-040579	--	--	Draft created based on 32.401 V6.1.0 and submitted to SA#25 for Information	--	1.0.0	
Dec 2004	S_26	SP-040787	--	--	Submitted to SA#26 for Approval	--	2.0.0	6.0.0
Sep 2005	SA_29	SP-050585	0001	--	Enhance PM XML file format with measInfo	C	6.0.0	7.0.0
Dec 2005	SA_30	SP-050707	0003	--	Inconsistent support for measurement values of type real between XML and ASN.1	A	7.0.0	7.1.0
Jun 2006	SA_32	SP-060251	0005	--	Correction of fileFormatVersion, namespace and link	A	7.1.0	7.2.0
Dec 2008	SA_42	--	--	--	Upgrade to Release 8	--	7.2.0	8.0.0
Dec 2009	SA_46	SP-090719	0006	--	Discontinue from Rel-9 onwards the XML schema extraction and storage	F	8.0.0	9.0.0
Mar 2011	-	-	-	-	Update to Rel-10 version (MCC)	--	9.0.0	10.0.0
Dec 2011	SA_54	SP-110706	0007	--	Correction of stage-2 TS reference	F	10.0.0	10.1.0
March 2012	SA_55	SP-120043	0010	-	Add missing elements and content in XML measurement report file	A	10.1.0	10.2.0
2012-09	-	-	-	-	Update to Rel-11 version (MCC)		10.2.0	<b>11.0.0</b>
2014-10	-	-	-	-	Update to Rel-12 version (MCC)		11.0.0	<b>12.0.0</b>
2016-01	-	-	-	-	Update to Rel-13 version (MCC)		12.0.0	<b>13.0.0</b>
2017-04	SA#75	-	-	-	Promotion to Release 14 without technical change		13.0.0	<b>14.0.0</b>

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2018-06						Update to Rel-15 version (MCC)	15.0.0

---

# History

<b>Document history</b>		
V15.0.0	July 2018	Publication