

# ETSI TS 132 442 V7.1.0 (2008-04)

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*Technical Specification*

**Digital cellular telecommunications system (Phase 2+);  
Universal Mobile Telecommunications System (UMTS);  
Telecommunication management;  
Trace Management Integration Reference Point (IRP):  
Information Service (IS)  
(3GPP TS 32.442 version 7.1.0 Release 7)**

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## Foreword

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## Foreword

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## 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:

- 32.441 "Trace Management Integration Reference Point (IRP): Requirements".
- 32.442 "Trace Management Integration Reference Point (IRP): Information Service (IS)".**
- 32.443 "Trace Management Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)".
- 32.445 "Trace Management Integration Reference Point (IRP): eXtensible Markup Language (XML) file format definition".

The present document is part of a TS-family which describes the information service necessary for the Telecommunication Management (TM) of 3G systems. The TM principles and TM architecture are specified in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

Trace provides very detailed information on call level for a specific subscriber or MS. This data is an additional information source to Performance Measurements and allows deeper investigations in problems solving or in case of optimization.

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# 1 Scope

## 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 32.150: "Telecommunication management; Integration Reference Point (IRP) Concept and definitions".
- [4] 3GPP TS 32.152: "Telecommunication management; Integration Reference Point (IRP) Information Service (IS) Unified Modelling Language (UML) repertoire".
- [5] 3GPP TS 32.622: "Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP); Network Resource Model (NRM)".
- [6] 3GPP TS 32.302: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Information Service (IS)".
- [7] 3GPP TS 32.342: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Information Service (IS)".
- [8] 3GPP TS 32.312: "Telecommunication management; Generic Integration Reference Point (IRP) management: Information Service (IS)".
- [9] 3GPP TS 32.422: "Telecommunication management; Subscriber and equipment trace; Trace control and configuration management".
- [10] 3GPP TS 32.602: "Telecommunication management; Configuration Management (CM); Basic CM Integration Reference Point (IRP): Information Service (IS)".

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## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.150 [3] and the following apply:

**IRPAgent:** See 3GPP TS 32.102 [2].

**IRPManager:** See 3GPP TS 32.102 [2].

### 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.150 [3] and the following apply:

|     |                                  |
|-----|----------------------------------|
| IOC | Information Object Class         |
| IRP | Integration Reference Point      |
| IS  | Information Service              |
| OMG | Object Management Group          |
| UML | Unified Modelling Language (OMG) |

## 4 System Overview

### 4.1 System context

The general definition of the System Context for the present IRP is found in 3GPP TS 32.150 [3] subclause 4.7.

In addition, the set of related IRP(s) relevant to the present IRP is shown in the two diagrams below.

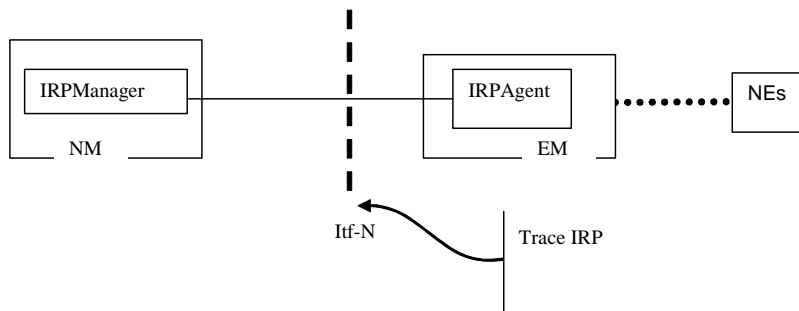


Figure 4.1.1: System Context A

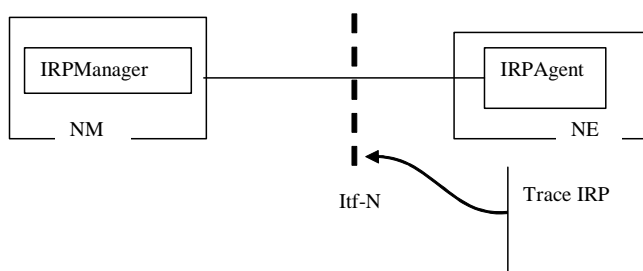


Figure 4.1.2: System Context B

### 4.2 Compliance rules

For general definitions of compliance rules related to qualifiers (Mandatory/Optional/Conditional) for *operations*, *notifications* and *parameters* (of operations and notifications) please refer to 3GPP TS 32.150 [3].



# 5 Information Object Classes

## 5.1 Imported information entities and local labels

| Label reference   | Local label     |
|---|-----------------|
| 3GPP TS 32.622 [5], information object class, Top             | Top             |
| 3GPP TS 32.622 [5], information object class, IRPAgent        | IRPAgent        |
| 3GPP TS 32.622 [5], information object class, GenericIRP      | GenericIRP      |
| 3GPP TS 32.302 [6], information object class, NotificationIRP | NotificationIRP |
| 3GPP TS 32.342 [7], information object class, FileTransferIRP | FileTransferIRP |
| 3GPP TS 32.602 [10], information object class, ManagedEntity  | ManagedEntity   |

## 5.2 Class diagram

### 5.2.1 Attributes and relationships

This clause introduces the set of Information Object Classes (IOCs) that encapsulate information within the IRPAgent. The intent is to identify the information required for the TraceIRP implementation of its operations and notification emission. This clause provides the overview of all support object classes in UML. Subsequent clauses provide more detailed specification of various aspects of these support object classes.

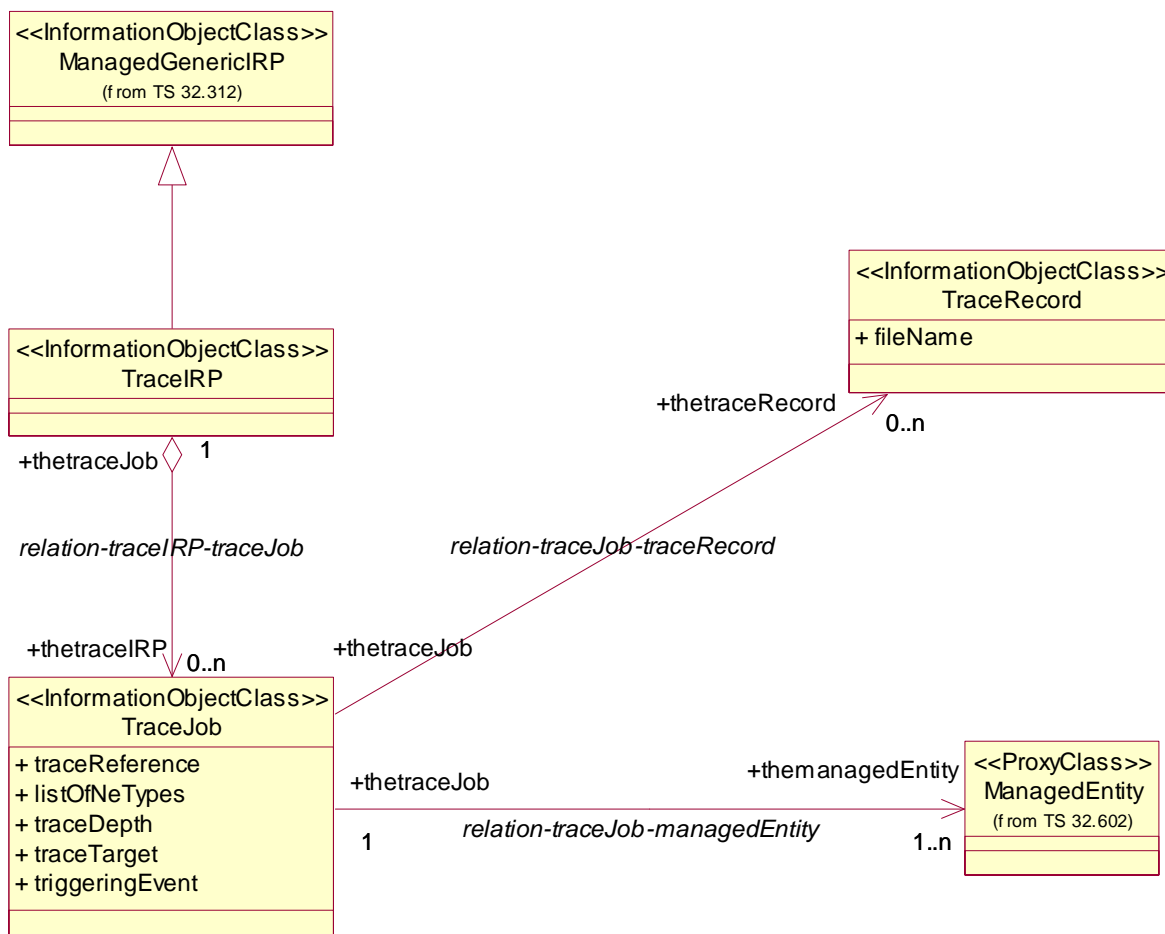


Figure 5.2.1: Information Object Class (IOC) UML diagram

## 5.2.2 Inheritance

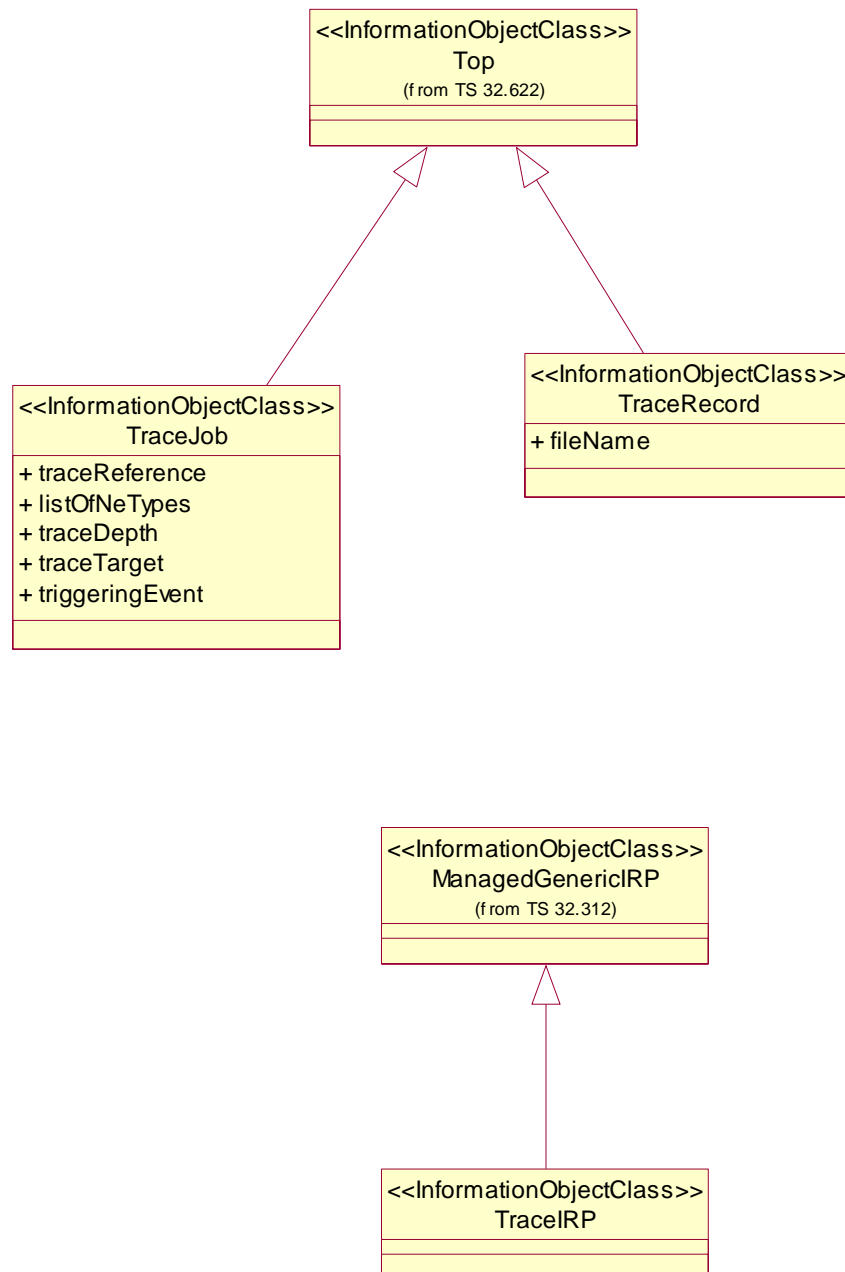


Figure 5.2.2: Information Object Class Inheritance UML Diagram

## 5.3 Information object class definitions

### 5.3.1 TraceJob

#### 5.3.1.1 Definition

It represents a task that controls the Trace Sessions and collects the trace data (i.e. collects the `TraceRecord` of multiple `ManagedEntity` instances) . The `TraceReference` is a unique ID, which identifies the Trace Session that has been created by the `TraceJob` and activated to one or multiple `ManagedEntity` instance(s).

When a `TraceJob` is created the following attributes cannot be modified via the Itf-N:

- `TraceReference`
- `ListOfInterfaces`
- `ListofNeTypes`
- `TraceDepth`
- `TraceTarget`
- `TriggeringEvent`

If for any reason the `TraceIRP` determines that a Trace Session has been activated in its `ManagedEntity`(ies) the `TraceIRP` shall emit the "notifyTraceSessionLocalActivation" notification to the subscribed `IRPManagers` to inform the active Trace Sessions. The `IRPManagers` can decide whether they deactivate the Trace Session or keep the Trace Session active. (E.g. if the `TraceReference` is colliding with an existing `TraceJob`'s `TraceReference`, the `IRPManager` may decide to immediately deactivate the Trace Session in that `ManagedEntity`.)

The `TraceJob` shall use its information to activate and configure Trace Session(s) in the requested `ManagedEntity` instance(s). When the `TraceIRP` determines that there are available `TraceRecord` files, it shall emit a notification to all subscribed `IRPManagers` informing the availability of the files. The method and the notification of the available files is described in the File Transfer IRP (3GPP TS 32.342 [7]).

If a `TraceJob` receives an indication from one of its `ManagedEntity` that starting a Trace Recording Session is failed for any reason, the "notifyTraceRecordingSessionFailure" notification may be emitted to inform all subscribed `IRPManagers` that there was a Trace Recording Session that was not started in the `ManagedEntity`.

#### 5.3.1.2 Attributes

| Attribute name                | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|-------------------------------|------------|-------------------|----------------|-----------------|
| <code>traceReference</code>   | +          | M                 | M              | -               |
| <code>listOfInterfaces</code> | +          | O                 | O              | -               |
| <code>listOfNeTypes</code>    | +          | CM                | M              | -               |
| <code>traceDepth</code>       | +          | M                 | M              | -               |
| <code>traceTarget</code>      | +          | M                 | M              | -               |
| <code>triggeringEvent</code>  | +          | M                 | M              | -               |

#### 5.3.1.3 Attribute constraints

The `listOfNeTypes` attributes shall be present only for Signalling Based Activation.

The `traceTarget` shall be public ID in case of a Management Based Activation is done to an `ScscfFunction`.

The `TraceTarget` shall be cell only in case of the cell traffic trace function.

The `traceTarget` shall be either IMSI or IMEI(SV) if the Trace Session is activated to any of the following `ManagedEntity`(ies):

- HssFunction
- MscServerFunction
- SgsnFunction
- GgsnFunction
- BmscFunction
- RncFunction

## 5.3.2 TraceRecord

### 5.3.2.1 Definition

TraceRecord is the representation of the XML files containing the logged information from the Trace Recording Sessions.

#### 5.3.2.2 Attributes

| Attribute name | Visibility | Support Qualifier | Read Qualifier | Write Qualifier |
|----------------|------------|-------------------|----------------|-----------------|
| fileName       | +          | M                 | M              | -               |

## 5.3.3 TraceIRP

### 5.3.3.1 Definition

TraceIRP is the representation of the trace management capabilities specified by the present document. This IOC inherits from ManagedGenericIRP IOC specified in 3GPP TS 32.312 [8].

## 5.3.4 ManagedEntity

### 5.3.4.1 Definition

In case of Signalling Based Activation the ManagedEntity represents the role that can be played by an instance of one of the following IOCs:

- HssFunction
- MscServerFunction
- SgsnFunction

In case of Management Based Activation the ManagedEntity represents the role that can be played by an instance of the following IOCs:

- HssFunction
- MscServerFunction
- SgsnFunction
- GgsnFunction
- BmscFunction
- RncFunction

- CscfFunction

In case of Cell Traffic Trace the ManagedEntity represents the role that can be played by an instance of the of the following IOCs:

- UtranCell

## 5.4 Information relationship definitions

### 5.4.1 relation-traceIRP-traceJob (M)

#### 5.4.1.1 Definition

This represents the relationship between TraceIRP and the TraceJob.

#### 5.4.1.2 Roles

| Name            | Definition                     |
|-----------------|--------------------------------|
| theTraceIRP     | It represents the TraceIRP     |
| theTraceJobList | It represents the TraceJobList |

### 5.4.2 relation-traceJob-managedEntity (M)

#### 5.4.2.1 Definition

This represents the relationship between TraceJob and the ManagedEntity.

#### 5.4.2.2 Roles

| Name             | Definition  |
|------------------|---|
| theManagedEntity | The ManagedEntity, when playing this role, represents the actual network resource instance, where a Trace Session is activated. |
| theTraceJob      | It represents the TraceJob  |

### 5.4.3 relation-traceJob-traceRecord (M)

#### 5.4.3.1 Definition

This represents the relationship between TraceJob and the TraceRecord.

#### 5.4.3.2 Roles

| Name           | Definition                     |
|----------------|--------------------------------|
| theTraceJob    | It represents the TraceJob     |
| theTraceRecord | It represents the TraceRecord. |

## 5.5 Information attribute definitions

### 5.5.1 Definition and legal values

| Attribute Name   | Definition   | Legal Values   |
|------------------|--|--|
| listOfInterfaces | It specifies the interfaces that needs to be traced in the given <code>ManagedEntityFunction</code>                      | See 3GPP TS 32.422 [9]   |
| listOfNETypes    | It specifies in which type of <code>ManagedFunction</code> the trace should be activated.                                | See 3GPP TS 32.422 [9]   |
| traceDepth       | It specifies the trace depth of the <code>ManagedEntityFunction</code> instances.  | See 3GPP TS 32.422 [9]   |
| traceReference   | A globally unique identifier, which uniquely identifies the Trace Session that is created by the <code>TraceJob</code> . | Any positive integer value   |
| traceTarget      | It specifies what is the target object of the Trace  | IMSI, IMEI, IMEISV, Public ID, Private ID, Cell(identified by its DN id) |
| triggeringEvent  | It specifies the triggering event parameter of the trace session.  | See 3GPP TS 32.422 [9]   |

## 6 Interface Definition

### 6.1 Class diagram representing interfaces

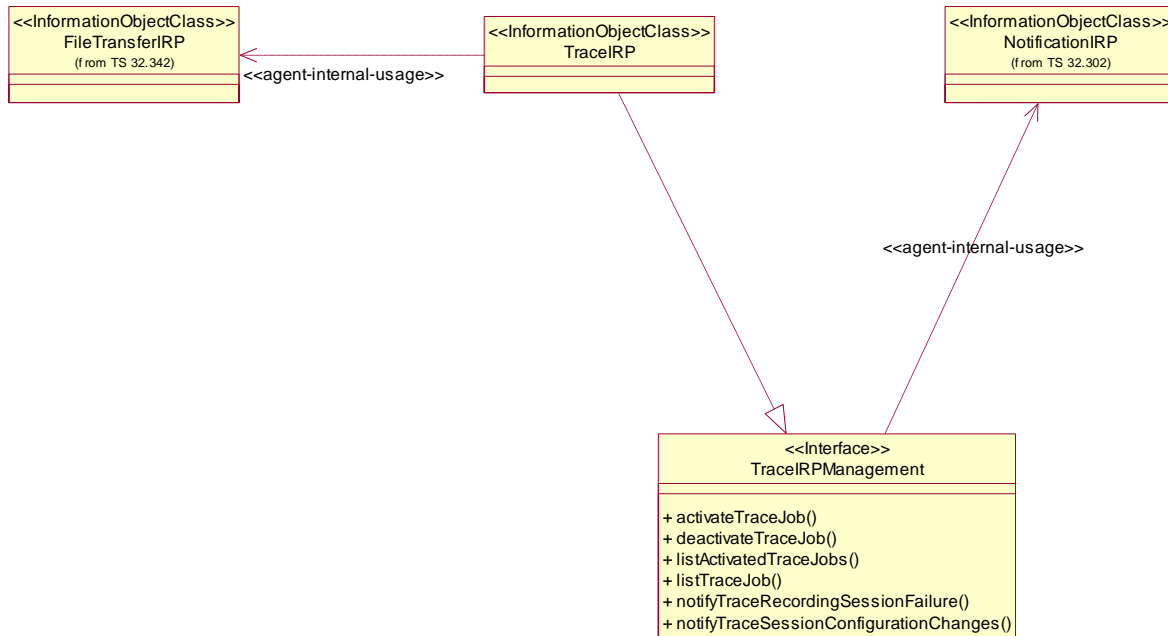


Figure 6.1: Class Diagram

### 6.2 Generic rules

- **Rule 1:** each operation with at least one input parameter supports a pre-condition `valid_input_parameter` which indicates that all input parameters shall be valid with regards to their information type. Additionally, each such operation supports an exception `operation_failed_invalid_input_parameter` which is raised when pre-condition `valid_input_parameter` is false. The exception has the same entry and exit state.
- **Rule 2:** each operation with at least one optional input parameter supports a set of pre-conditions `supported_optional_input_parameter_xxx` where "xxx" is the name of the optional input parameter and the pre-condition indicates that the operation supports the named optional input parameter. Additionally, each such operation supports an exception `operation_failed_unsupported_optional_input_parameter_xxx` which is raised when (a) the pre-condition `supported_optional_input_parameter_xxx` is false and (b) the named optional input parameter is carrying information. The exception has the same entry and exit state.
- **Rule 3:** each operation shall support a generic exception `operation_failed_internal_problem` which is raised when an internal problem occurs and that the operation cannot be completed. The exception has the same entry and exit state.

NOTE: These rules are mapped at the solution set level. Pre-conditions and exceptions, generated by these rules, need not appear explicitly in the present document.

## 6.3 TraceIRPManagement (M)

### 6.3.1 Operation activateTraceJob (M)

#### 6.3.1.1 Definition

This operation support IPRManager"s request to create a TraceJob through Itf-N.

Once the TraceJob has been created, the attributes of the TraceJob will not be modified during the lifetime of the TraceJob.

One TraceJob can manage Trace Sessions in one or more ManagedEntity.

#### 6.3.1.2 Input parameters

| Parameter Name   | Qualifier | Information type             | Comment  |
|------------------|-----------|------------------------------|--|
| iOCInstance      | M         | ManagedEntity.objectInstance | It specifies the DN of ManagedEntity instance where Trace Session is to be activated.                          |
| listOfInterfaces | O         | TraceJob.listOfInterfaces    |  |
| listOfNeTypes    | M         | TraceJob.listOfNeTypes       | It specifies the type of ManagedFunctions where tracing is needed in case of Signalling Based Activation.      |
| traceDepth       | M         | TraceJob.traceDepth          | It shows the traceDepth set to the Trace Session.  |
| traceReference   | M         | TraceJob.traceReference      | It identifies the TraceSession.  |
| traceTarget      | M         | TraceJob.traceTarget         | It specifies whether the trace shall be activated by IMSI, IMEI(SV), Public ID, Cell(identified by its DN id). |
| triggeringEvent  | CO        | TraceJob.triggeringEvent     |  |

#### 6.3.1.3 Output parameters

| Parameter Name  | Qualifier | Matching Information   | Comment  |
|-----------------|-----------|--|--|
| status          | M         | ENUM (Success, Failure, PartialSuccess)                                    |  |
| unsupportedList | M         | List of <ManagedEntity, TraceDepth, ListOfInterfaces, TraceTarget, reason) | It specifies what attributes are not supported when a Trace Session is activated. The list can contain one or all of the elements and relevant only for error cases. |

#### 6.3.1.4 Pre-condition

validTraceReference AND validTraceDepth AND validTraceTarget

| Assertion Name      | Definition  |
|---------------------|---|
| validTraceDepth     | The TraceDepth input parameter is valid.  |
| validTraceReference | The TraceReference given is not matching to any existing TraceReference value in the activated TraceJobs. |
| validTraceTarget    | The TraceTarget input parameter is valid.   |



### 6.3.1.5 Post-condition

traceSessionActivated

| Assertion Name        | Definition  |
|-----------------------|---|
| traceSessionActivated | The Trace Session identified by the TraceReference is activated in the given ManagedEntity instances. |

### 6.3.1.6 Exceptions

| Exception Name          | Definition  |
|-------------------------|---|
| invalidTraceDepth       | <b>Condition:</b> (validTraceDepth) is false.<br><b>Returned Information:</b> output parameter status is set to "Failure".<br><b>Exit state:</b> Entry State.     |
| invalidTraceTarget      | <b>Condition:</b> (validTraceTarget) is false.<br><b>Returned Information:</b> output parameter status is set to "Failure".<br><b>Exit state:</b> Entry State.    |
| notuniqueTraceReference | <b>Condition:</b> (validTraceReference) is false.<br><b>Returned Information:</b> output parameter status is set to "Failure".<br><b>Exit state:</b> Entry State. |

## 6.3.2 Operation deactivateTraceJob (M)

### 6.3.2.1 Definition

This operation supports IPRManager"s request to stop a TraceJob through Itf-N. When this operation is received in the TraceIRP the TraceJob shall deactivate the requested Trace Session in the requested ManagedEntity instances.

### 6.3.2.2 Input parameters

| Parameter Name | Qualifier | Information type        | Comment  |
|----------------|-----------|-------------------------|--|
| traceReference | M         | TraceJob.traceReference | This is a unique ID of the TraceJob  |
| traceTarget    | M         | TraceJob.traceTarget    | It specifies whether the trace shall be deactivated by IMSI, IMEI(SV), Public ID, Cell(identified by its DN id). |

### 6.3.2.3 Output parameters

| Parameter Name                 | Qualifier | Matching Information    | Comment   |
|--------------------------------|-----------|-------------------------|---|
| status                         | M         | ENUM (Success, Failure) | The operation may fail because of a specified or an unspecified reason.                                   |
| traceRecordingSessionReference | CM        |                         | This would indicate if a Trace Recording Session is ongoing when the deactivation command has been given. |

### 6.3.2.4 Pre-condition

validTraceReference

| Assertion Name      | Definition  |
|---------------------|---|
| validTraceReference | The TraceReference input parameter is valid, which means that the TraceIRP is aware of such TraceJob, which has this TraceReference value and is aware of the ManagedEntity holding such Trace Session. |

### 6.3.2.4 Post-condition

TraceSessionisdeactivated

| Assertion Name           | Definition   |
|--------------------------|--|
| TraceSessionisdeactivate | The Trace Session identified by the TraceReference is deactivated in the requested ManagedEntity instance and the TraceJob is stopped. |

### 6.3.2.6 Exceptions

| Exception Name          | Definition  |
|-------------------------|---|
| notuniqueTraceReference | <b>Condition:</b> (validTraceReference) is false.<br><b>Returned Information:</b> output parameter status is set to "Failure".<br><b>Exit state:</b> Entry State. |

## 6.3.3 Operation listTraceJob (M)

### 6.3.3.1 Definition

This operation support IPRManager"s request to list the parameters of a specific TraceJob through Itf-N.

### 6.3.3.2 Input parameters

| Parameter Name | Qualifier | Information type        | Comment   |
|----------------|-----------|-------------------------|---|
| traceReference | M         | TraceJob.traceReference | It specifies the Trace Session that is requested for interrogation. |

### 6.3.3.3 Output parameters

| Parameter Name                 | Qualifier | Matching Information           | Comment  |
|--------------------------------|-----------|--------------------------------|--|
| iOCInstance                    | M         | ManagedElement.object Instance | It specifies the DN of ManagedElement instance where a Trace Session is activated.   |
| listOfInterfaces               | O         | TraceJob.listOfInterfaces      | It specifies the list of interfaces trace control and configuration parameter that is associated with the TraceJob. See 3GPP TS 32.422 [9] |
| Status                         | M         | ENUM (Success, Failure)        | The operation may fail because of a specified or an unspecified reason.  |
| traceDepth                     | M         | TraceJob.traceDepth            | It shows the traceDepth trace control and configuration parameter that is associated to the TraceJob.                                      |
| traceRecordingSessionReference | CM        |                                | This would indicate if a Trace Recording Session is ongoing when the deactivation command has been given.                                  |
| traceTarget                    | M         | TraceJob.traceTarget           | It specifies whether the Trace Session was activated by IMSI, IMEI(SV), Public ID, Cell(identified by its DN id).                          |
| triggeringEvent                | O         | TraceJob.triggeringEvent       | It specifies the triggering event trace control and configuration parameter that is associated to the TraceJob. See 3GPP TS 32.422 [9].    |

### 6.3.3.4 Pre-condition

validTraceReference

| Assertion Name      | Definition  |
|---------------------|---|
| validTraceReference | The TraceReference input parameter is valid, which means that the TraceIRP is aware of such TraceJob, which has this TraceReference value and is aware of the ManagedEntity holding such Trace Session. |

### 6.3.3.5 Post-condition

TraceSessionFound

| Assertion Name    | Definition  |
|-------------------|---|
| TraceSessionFound | The TraceIRP has found the requested TraceJob with the TraceReference and can read the configured parameters. |

### 6.3.3.6 Exceptions

| Exception Name          | Definition   |
|-------------------------|--|
| notuniqueTraceReference | <p><b>Condition:</b> (validTraceReference) is false.</p> <p><b>Returned Information:</b> output parameter status is set to "Failure".</p> <p><b>Exit state:</b> Entry State.</p> |

## 6.3.4 Operation listActivatedTraceJobs (M)

### 6.3.4.1 Definition

This operation support IPRManager"s request to list all the activated TraceJobs through Itf-N.

### 6.3.4.2 Input parameters

No input parameters for this operation.

### 6.3.4.3 Output parameters

| Parameter Name     | Qualifier | Matching Information                             | Comment   |
|--------------------|-----------|--|---|
| traceReferenceList | M         | List of <TraceJob.traceReference.objectinstance> | The TraceReferenceList provides the identification of each activated Trace Session.<br>If no TraceReference can be found, then this list is empty and status is "Success" |
| status             | M         | ENUM (Success, Failure)                          | The operation may fail because of a specified or an unspecified reason.   |

## 6.3.5 Notification notifyTraceRecordingSessionFailure (O)

### 6.3.5.1 Definition

The TraceIRP notifies all subscribed IRPManagers if a Trace Recording Session in a ManagedEntity has not been started due to any problem.

### 6.3.5.2 Input parameters

| Parameter Name                 | Qualifiers | Matching Information                 | Comment   |
|--------------------------------|------------|--------------------------------------|---|
| objectClass                    | M,Y        | TraceIRP.objectClass                 | Notification header   |
| objectInstance                 | M,Y        | TraceIRP.objectInstance              | Notification header   |
| eventTime                      | M,Y        | --                                   | Notification header   |
| notificationType               | M,Y        | "notifyTraceRecordingSessionFailure" | Notification header   |
| systemDN                       | M,Y        | --                                   | Notification header   |
| notificationID                 | O,Y        | --                                   | Notification header   |
| traceRecordingSessionReference | O,N        | --                                   | The Trace Recording Session Reference may be visible only in signalling based activation. |
| traceReference                 | M,Y        | TraceJob.traceReference              |   |
| reason                         | O,N        | --                                   |   |

### 6.3.5.3 Triggering event

#### 6.3.5.3.1 From state

internalProblemInManagedEntity

| Assertion Name                 | Definition   |
|--------------------------------|--|
| internalProblemInManagedEntity | Because of an internal problem the ManagedEntity cannot start a Trace Recording Session. |

#### 6.3.5.3.2 To state

newNotificationReported

| Assertion Name          | Definition  |
|-------------------------|---|
| newNotificationReported | The "notifyTraceRecordingSessionFailure" notification is emitted to the subscribed IRPManager(s). |

## 6.3.6 Notification notifyTraceSessionLocalActivation (M)

### 6.3.6.1 Definition

The TraceIRP notifies all subscribed IRPManagers if a Trace Session is configured by the Element Manager.

### 6.3.6.2 Input parameters

| Parameter Name   | Qualifiers | Matching Information                | Comment             |
|------------------|------------|-------------------------------------|---------------------|
| objectClass      | M,Y        | TraceIRP.objectClass                | Notification header |
| objectInstance   | M,Y        | TraceIRP.objectInstance             | Notification header |
| eventTime        | M,Y        | --                                  | Notification header |
| notificationType | M,Y        | "notifyTraceSessionLocalActivation" | Notification header |
| systemDN         | M,Y        | --                                  | Notification header |
| notificationID   | O,Y        | --                                  | Notification header |
| traceReference   | M,Y        | TraceJob.traceReference             |                     |
| traceTarget      | M,Y        | TraceJob.traceTarget                |                     |
| iOCInstance      | M,Y        | ManagedEntity.objectInstance        |                     |

### 6.3.6.3 Triggering event

#### 6.3.6.3.1 From state

unknownTraceReference

| Assertion Name        | Definition   |
|-----------------------|--|
| unknownTraceReference | The TraceIRP has detected a TraceReference associated to a Trace Session in a ManagedEntity that is not initiated via the ltf-N. |

#### 6.3.6.3.2 To state

newNotificationReported

| Assertion Name          | Definition   |
|-------------------------|--|
| newNotificationReported | The "notifyTraceSessionLocalActivation" notification is emitted to the subscribed IRPManager(s). |

## Annex A (informative): Change history

| Change history |       |           |      |     |  |     |       |       |
|----------------|-------|-----------|------|-----|--|-----|-------|-------|
| Date           | TSG # | TSG Doc.  | CR   | Rev | Subject/Comment  | Cat | Old   | New   |
| Apr 2007       | S5_52 | S5-070445 | --   | --  | Submitted by SA5 prior SA#36 for Information with the intention to get SA#36 Rel-7 Approval for this TS and the CORBA Solution Set TS 32.443 | --  | 1.0.0 |       |
| Jun 2007       | SP-36 | SP-070288 | --   | --  | Submitted to SA#36 for Approval  | --  | 1.0.0 | 7.0.0 |
| Mar 2008       | SP-39 | SP-080058 | 0001 | --  | Standardize the DN id of UTRAN cell as the identification for the trace target in case of cell traffic trace                                 | F   | 7.0.0 | 7.1.0 |
|                |       |           |      |     |  |     |       |       |
|                |       |           |      |     |  |     |       |       |
|                |       |           |      |     |  |     |       |       |

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# History

| <b>Document history</b> |            |             |
|-------------------------|------------|-------------|
| V7.0.0                  | June 2007  | Publication |
| V7.1.0                  | April 2008 | Publication |
|                         |            |             |
|                         |            |             |
|                         |            |             |