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Technical Specification

**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
Telecommunication management;
Configuration Management (CM);
Generic network resources: Integration Reference Point (IRP):
Common Management Information Protocol (CMIP)
solution set
(3GPP TS 32.624 version 5.1.0 Release 5)**



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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
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Introduction

The interface Itf-N, defined in 3GPP TS 32.102 [2], is built up by a number of Integration Reference Points (IRPs) and a related Name Convention, which realise the functional capabilities over this interface. The basic structure of the IRPs is defined in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

1 Scope

The present document specifies the Common Management Information Protocol (CMIP) Solution Set (SS) for the Generic Network Resource Integration Reference Point (IRP): Network Resource Model defined in 3GPP TS 32.622.

This Solution Set specification is related to 3GPP TS 32.622 V5.1.x.

In detail:

- Clause 4 contains an introduction to some concepts that are the base for some specific aspects of the CMIP interfaces.
- Clause 5 contains the GDMO definitions for the Alarm Management over the CMIP interfaces
- Clause 6 contains the ASN.1 definitions supporting the GDMO definitions provided in clause 5.

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.
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- 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 32.304: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Common Management Information Protocol (CMIP) Solution Set (SS)".
- [4] 3GPP TS 32.622: "Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP): Network Resource Model (NRM)".
- [5] ITU-T Recommendation X.710 (1991): "Common Management Information Service Definition for CCITT Applications".
- [6] ITU-T Recommendation X.721 (02/92): "Information Technology - Open Systems Interconnection – Structure of Management Information: Definition of Management Information".
- [7] ITU-T Recommendation X.730 (01/92): "Information Technology - Open Systems Interconnection – Systems Management: Object Management Function".
- [8] ITU-T Recommendation X.733 (02/92): "Information Technology - Open Systems Interconnection - Alarm Reporting Function".
- [9] ITU-T Recommendation M.3100 (07/95): "Maintenance Telecommunications Management Network – Generic Network Information Model".
- [10] 3GPP TS 32.111-4: "Telecommunication management; Fault Management (FM); Part 4: Alarm Integration Reference Point (IRP): Common Management Information Protocol (CMIP) Solution Set (SS)".
- [11] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 32.600 [11] and 3GPP TS 32.622 [4] apply.

3.2 Abbreviations

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

CMIP	Common Management Information Protocol
DN	Distinguished Name
GDMO	Guidelines for the Definition of Managed Objects
IDL	Interface Definition Language
IEC	International Electro-technical Commission
ISO	International Standards Organization
ITU-T	International Telecommunication Union, Telecommunication Sector
MIB	Management Information Base
MIM	Management Information Model
MIT	Management Information Tree (or Naming Tree)
MOC	Managed Object Class
MOI	Managed Object Instance
NE	Network Element
NR	Network Resource
NRM	Network Resource Model
TMN	Telecommunications Management Network

4 Basic aspects

4.1 Explanation

A technology independent generic network resource model is defined in 3GPP TS 32.622 [4] for 3G networks. This document provides an implementation of this generic network resource model by using CMIP technology.

4.2 Void

4.3 Mapping

The semantic of the Generic Network Resource Model is defined in 3GPP TS 32.622 [4]. The specification of the information object classes defined there is independent of any implementation technology and protocol. This subclause maps these technology and protocol independent definitions onto the equivalencies of the CMIP Solution Set of the Generic Network Resource IRP.

4.3.1 Mapping from IOCs to MOCs

Table 2 maps the information object classes defined in the Generic Network Resource Model onto the equivalent MOCs of the CMIP Solution Set.

Table 2: Mapping of MOCs

Information Objects of the Generic NR IRP NRM	MOCs of this CMIP SS
ManagedElement	managedElement
SubNetwork	subNetwork
IRPAgent	irpAgent
ManagedFunction	managedFunction
ManagementNode	managementNode
MeContext	meContext
GenericIRP	no equivalence
VsDataContainer	no equivalence
Top	top (ITU-T X.721)

4.3.2 Mapping of Attributes

Table 3: Mapping of Attributes

Attribute defined in 3GPP TS 32.622	Attribute defined in this CMIP SS
DnPrefix	systemTitle (ITU-T Recommendation X.721: 1992)
ManagedElementId	managedElementId
SubNetworkId	subNetworkId
IrpAgentId	irpAgentId
LocationName	locationName (ITU-T Recommendation M.3100: 1995)
ManagedElementType	managedElementType
ManagementNodeId	managementNodeId
irpId	No equivalence
MeContextId	meContextId
SystemDN	No equivalence
UserDefinedState	userDefinedState
UserLabel	userLabel (ITU-T Recommendation M.3100: 1995)
VendorName	vendorName (ITU-T Recommendation M.3100: 1995)
VsDataContainerId	No equivalence
VsDataType	No equivalence
VsData	No equivalence
VsDataFormatVersion	No equivalence
ObjectClass	objectClass (ITU-T Recommendation X.721: 1992)
ObjectInstance	objectInstance (ITU-T Recommendation X.721: 1992)
UserDefinedNetworkType	userDefinedNetworkType
SwVersion	swVersion

5 GDMO Definitions

5.1 Managed Object Classes

5.1.1 subNetwork

```

subNetwork MANAGED OBJECT CLASS
  DERIVED FROM
    "Recommendation X.721: 1992":top;
  CHARACTERIZED BY
    subNetworkBasicPackage;
  CONDITIONAL PACKAGES
    "Recommendation M.3100: 1995":attributeValueChangeNotificationPackage
  PRESENT IF
    "the attributeValueChange notifications defined in Recommendation X.721
    are supported by an instance of this class.",
    "Recommendation M.3100: 1995":environmentalAlarmPackage
  PRESENT IF
    "the environmentalAlarm notifications defined in Recommendation X.721
    are supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 1};

```

5.1.2 managedElement

```

managedElement MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  managedElementBasicPackage,
  managedElementAssociationPackage;
CONDITIONAL PACKAGES
  rootOptionalPackage
    PRESENT IF
      "An instance of managedElement is the accessing root of a MIB. ",
      "Recommendation M.3100: 1995":createDeleteNotificationsPackage
    PRESENT IF
      "the objectCreation and the objectDeletion defined in Recommendation
        X.721 are supported by an instance of this class.",
      "Recommendation M.3100: 1995":attributeValueChangeNotificationPackage
    PRESENT IF
      "the attributeValueChange notifications defined in Recommendation X.721
        are supported by an instance of this class.",
      "Recommendation M.3100: 1995":processingErrorAlarmPackage
    PRESENT IF
      "the processingErrorAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.",
      "Recommendation M.3100: 1995":environmentalAlarmPackage
    PRESENT IF
      "the environmentalAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.",
  communicationsAlarmPackage
    PRESENT IF
      "the communicationsAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.",
  equipmentAlarmPackage
    PRESENT IF
      "the equipmentAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 2};

```

5.1.3 managementNode

```

managementNode MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  managementNodeBasicPackage,
  managementNodeAssociationPackage;
CONDITIONAL PACKAGES
  "Recommendation M.3100: 1995":createDeleteNotificationsPackage
    PRESENT IF
      "the objectCreation and the objectDeletion defined in Recommendation
        X.721 are supported by an instance of this class.",
      "Recommendation M.3100: 1995":attributeValueChangeNotificationPackage
    PRESENT IF
      "the attributeValueChange notifications defined in Recommendation X.721
        are supported by an instance of this class.",
      "Recommendation M.3100: 1995":processingErrorAlarmPackage
    PRESENT IF
      "the processingErrorAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.",
      "Recommendation M.3100: 1995":environmentalAlarmPackage
    PRESENT IF
      "the environmentalAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.",
  communicationsAlarmPackage
    PRESENT IF
      "the communicationsAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.",
  equipmentAlarmPackage
    PRESENT IF
      "the equipmentAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 3};

```

5.1.4 irpAgent

```

irpAgent MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  irpAgentBasicPackage;
CONDITIONAL PACKAGES
  "Recommendation M.3100: 1995":processingErrorAlarmPackage
    PRESENT IF
      "the processingErrorAlarm notifications defined in Recommendation X.721
      are supported by an instance of this class.",
  communicationsAlarmPackage
    PRESENT IF
      "the communicationsAlarm notifications defined in Recommendation X.721
      are supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 4};

```

5.1.5 managedFunction

```

managedFunction MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  managedFunctionBasicPackage;
CONDITIONAL PACKAGES
  "Recommendation M.3100: 1995":createDeleteNotificationsPackage
    PRESENT IF
      "the objectCreation and the objectDeletion defined in Recommendation
      X.721 are supported by an instance of this class.",
  "Recommendation M.3100: 1995":attributeValueChangeNotificationPackage
    PRESENT IF
      "the attributeValueChange notifications defined in Recommendation X.721
      are supported by an instance of this class.",
  "Recommendation M.3100: 1995":processingErrorAlarmPackage
    PRESENT IF
      "the processingErrorAlarm notifications defined in Recommendation X.721
      are supported by an instance of this class.",
  communicationsAlarmPackage
    PRESENT IF
      "the communicationsAlarm notifications defined in Recommendation X.721
      are supported by an instance of this class.",
  qualityOfServiceAlarmPackage
    PRESENT IF
      "the qualityOfServiceAlarm notifications defined in Recommendation X.721
      are supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 5};

```

5.1.6 meContext

```

meContext MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  meContextBasicPackage;
CONDITIONAL PACKAGES
  rootOptionalPackage
    PRESENT IF
      "An instance of meContext is the accessing root of a MIB.",
  "Recommendation M.3100: 1995":createDeleteNotificationsPackage
    PRESENT IF
      "the objectCreation and the objectDeletion defined in Recommendation
      X.721 are supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 6};

```

5.2 Packages

5.2.1 subNetworkBasicPackage

```

subNetworkBasicPackage PACKAGE
BEHAVIOUR

```

```

subNetworkBasicPackageBehaviour;
ATTRIBUTES
subNetworkId GET,
"Recommendation X.721: 1992": systemTitle GET,
"Recommendation M.3100: 1995" : userLabel GET-REPLACE,
userDefinedNetworkType GET;
REGISTERED AS {ts32-624Package 1};

```

subNetworkBasicPackageBehaviour **BEHAVIOUR**

```

DEFINED AS
"This managed object class represents collections of interconnected
telecommunications and management objects (logical or physical) capable of
exchanging information. A network may be nested within another (larger) network,
thereby forming a containment relationship.";

```

5.2.2 managedElementBasicPackage

managedElementBasicPackage **PACKAGE**

BEHAVIOUR

managedElementBasicPackageBehaviour;

ATTRIBUTES

```

managedElementId GET,
managedElementType GET,
userDefinedState GET-REPLACE,
"Recommendation M.3100: 1995" : userLabel GET-REPLACE,
"Recommendation M.3100: 1995" : vendorName GET,
"Recommendation M.3100: 1995" : locationName GET,
swVersion GET;
REGISTERED AS {ts32-624Package 2};

```

managedElementBasicPackageBehaviour **BEHAVIOUR**

DEFINED AS

```

"This managed object class represents telecommunications equipment within the
telecommunications network that performs managed element functions, i.e.
provides support and/or service to the subscriber. A managed element
communicates with a manager (directly or indirectly) over one or more standard
interfaces for the purpose of being monitored and/or controlled. A managed
element contains equipment that may or may not be geographically distributed. A
Managed Element is often referred to as a 'node' or a 'network element'.";

```

5.2.3 managedElementAssociationPackage

managedElementAssociationPackage **PACKAGE**

BEHAVIOUR

managedElementAssociationPackageBehaviour;

ATTRIBUTES

meManagedBy GET;

REGISTERED AS {ts32-624Package 3};

managedElementAssociationPackageBehaviour **BEHAVIOUR**

DEFINED AS

```

"The attribute 'meManagedBy' points to the managementNode instance which
manages this managedElement instance. It implements the attribute managedBy
of MOC ManagedElement defined in TS32.622.";

```

5.2.4 managementNodeBasicPackage

managementNodeBasicPackage **PACKAGE**

ATTRIBUTES

```

managementNodeId GET,
userDefinedState GET-REPLACE,
"Recommendation M.3100: 1995" : userLabel GET-REPLACE,
"Recommendation M.3100: 1995" : vendorName GET,
"Recommendation M.3100: 1995" : locationName GET,
swVersion GET;
REGISTERED AS {ts32-624Package 4};

```

managementNodeBasicPackageBehaviour **BEHAVIOUR**

DEFINED AS

```

"This managed object class represents a telecommunications management system (EM
or NM) within the TMN, that manages a number of Managed Elements. The management
system communicates with the MEs directly or indirectly over one or more
standard interfaces for the purpose of monitoring and/or controlling these MEs.";

```

5.2.5 managementNodeAssociationPackage

managementNodeAssociationPackage **PACKAGE**

BEHAVIOUR

managementNodeAssociationPackageBehaviour;

ATTRIBUTES

mnManagesList GET;

REGISTERED AS {ts32-624Package 5};

managementNodeAssociationPackageBehaviour **BEHAVIOUR**

DEFINED AS

"The attribute 'mnManagesList' points to all managedElement instances which this managementNode instance manages. It implements the attribute manages of MOC ManagementNode defined in TS32.622.";

5.2.6 irpAgentBasicPackage

irpAgentBasicPackage **PACKAGE**

BEHAVIOUR

irpAgentBasicPackageBehaviour;

ATTRIBUTES

irpAgentId GET,
 "Recommendation M.3100: 1995" : userLabel GET-REPLACE,
 supportedIRPs GET;

REGISTERED AS {ts32-624Package 6};

irpAgentBasicPackageBehaviour **BEHAVIOUR**

DEFINED AS

"irpAgent may have only one instance in R99 and R4. The instance of this MOC represents the behavior of an IRP Agent which implements one or more IRPs";

5.2.7 managedFunctionBasicPackage

managedFunctionBasicPackage **PACKAGE**

BEHAVIOUR

managedFunctionBasicPackageBehaviour;

ATTRIBUTES

"Recommendation M.3100: 1995" : userLabel GET-REPLACE;

REGISTERED AS {ts32-624Package 7};

managedFunctionBasicPackageBehaviour **BEHAVIOUR**

DEFINED AS

"This Managed Object class corresponds to the class gsmManagedFunction defined in GSM 12.20 0 and is provided for sub-classing only. It provides the attributes that are common to functional MO classes. Note that a managed element may contain several managed functions. The ManagedFunction may be extended in the future if more common characteristics to functional objects are identified.";

5.2.8 meContextBasicPackage

meContextBasicPackage **PACKAGE**

BEHAVIOUR

meContextBasicPackageBehaviour;

ATTRIBUTES

meContextId GET;

REGISTERED AS {ts32-624Package 8};

meContextBasicPackageBehaviour **BEHAVIOUR**

DEFINED AS

"This managed object class represents the Managed Element from the network perspective. It can be used to hold surveillance status information, and also planning status information for the case when the managed element is part of a planned configuration in a management system, before it has been taken into service. It can also support unambiguous naming in all cases, also for scenarios when the Managed Elements have been pre-configured where some of them may have equal names (to avoid necessary administration to make all of them globally unique at creation/installation time). Thus, by means of globally unique names for the MEContext instances, and by using these in the DN, the DNs for all MEs (and MOIs contained in them) can be assured to be globally unique, even in such a scenario as described above.";

5.2.9 communicationsAlarmPackage

```
communicationsAlarmPackage PACKAGE
  NOTIFICATIONS
    "Recommendation X.721:1992": communicationsAlarm;
  REGISTERED AS {ts32-624Package 9};
```

5.2.10 equipmentAlarmPackage

```
equipmentAlarmPackage PACKAGE
  NOTIFICATIONS
    "Recommendation X.721:1992": equipmentAlarm;
  REGISTERED AS {ts32-624Package 10};
```

5.2.11 qualityOfServiceAlarmPackage

```
qualityOfServiceAlarmPackage PACKAGE
  NOTIFICATIONS
    "Recommendation X.721:1992": qualityofServiceAlarm;
  REGISTERED AS {ts32-624Package 11};
```

5.2.12 rootOptionalPackage

```
rootOptionalPackage PACKAGE
  BEHAVIOUR
    rootOptionalPackageBehaviour;
  ATTRIBUTES
    "Recommendation X.721: 1992" : systemTitle GET;
  REGISTERED AS {ts32-624Package 12};
```

```
rootOptionalPackageBehaviour BEHAVIOUR
  DEFINED AS
    "This package shall be present in an instance of meContext or managedElement when it is
    the accessing point (root) of a MIB.";
```

5.3 Attributes

5.3.1 managedElementType

```
managedElementType ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.ManagedElementType;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    managedElementTypeBehaviour;
  REGISTERED AS {ts32-624Attribute 1};

managedElementTypeBehaviour BEHAVIOUR
  DEFINED AS
    "This attribute specifies which managed functions a managed element contains.";
```

5.3.2 subNetworkId

```
subNetworkId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    subNetworkIdBehaviour;
  REGISTERED AS {ts32-624Attribute 2};

subNetworkIdBehaviour BEHAVIOUR
  DEFINED AS
    "This attribute identifies a subNetwork instance.";
```

5.3.3 Void

5.3.4 Void

5.3.5 Void

5.3.6 Void

5.3.7 Void

5.3.8 Void

5.3.9 userDefinedNetworkType

```
userDefinedNetworkType ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.UserDefinedNetworkType;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    userDefinedNetworkTypeBehaviour;
REGISTERED AS {ts32-624Attribute 8};

userDefinedNetworkTypeBehaviour BEHAVIOUR
DEFINED AS
  "Textual information regarding the type of network, e.g. UTRAN.";
```

5.3.10 swVersion

```
swVersion ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.SwVersion;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    swVersionBehaviour;
REGISTERED AS {ts32-624Attribute 9};

swVersionBehaviour BEHAVIOUR
DEFINED AS
  "The software version of the managed element (this is used for determin which version of
  the vendor specific information that is valid for the managed element).";
```

5.3.11 managedElementId

```
managedElementId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    managedElementIdBehaviour;
REGISTERED AS {ts32-624Attribute 10};

managedElementIdBehaviour BEHAVIOUR
DEFINED AS
```

"This attribute names an instance of the '3gManagedElement' object class.";

5.3.12 userDefinedState

```
userDefinedState ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.UserDefinedState;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    userDefinedStateBehaviour;
REGISTERED AS {ts32-624Attribute 11};

userDefinedStateBehaviour BEHAVIOUR
DEFINED AS
  "This attribute specifies an operator defined state for operator specific usage.";
```

5.3.13 meManagedBy

```
meManagedBy ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectPointer;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    meManagedByBehaviour;
REGISTERED AS {ts32-624Attribute 12};

meManagedByBehaviour BEHAVIOUR
DEFINED AS
  "This attribute points to the managementNode instance which manages the
  related 3gManagedElement instance.";
```

5.3.14 managementNodeId

```
managementNodeId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    managementNodeIdBehaviour;
REGISTERED AS {ts32-624Attribute 13};

managementNodeIdBehaviour BEHAVIOUR
DEFINED AS
  "This attribute names an instance of the 'managementNode' object class.";
```

5.3.15 mnManagesList

```
mnManagesList ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectPointerList;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    mnManagesListBehaviour;
REGISTERED AS {ts32-624Attribute 14};

mnManagesListBehaviour BEHAVIOUR
DEFINED AS
  "This attribute points to all 3gManagedElement instances which this
  3gManagementNode instance manages.";
```

5.3.16 irpAgentId

```
irpAgentId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectId;
  MATCHES FOR
    EQUALITY;
```



```

    BEHAVIOUR
    irpAgentIdBehaviour;
REGISTERED AS {ts32-624Attribute 15};

irpAgentIdBehaviour BEHAVIOUR
DEFINED AS
    "This attribute identifies an irpAgent instance.";

```

5.3.17 supportedIRPs

```

supportedIRPs ATTRIBUTE
    WITH ATTRIBUTE SYNTAX
        TS32-624TypeModule.SupportedIRPs;
    MATCHES FOR
        EQUALITY;
    BEHAVIOUR
        supportedIRPsBehaviour;
REGISTERED AS {ts32-624Attribute 16};

supportedIRPsBehaviour BEHAVIOUR
DEFINED AS
    "This attribute provides the information about IRPs an IRPAgent supports.";

```

5.3.18 meContextId

```

meContextId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX
        TS32-624TypeModule.GeneralObjectId;
    MATCHES FOR
        EQUALITY;
    BEHAVIOUR
        meContextIdBehaviour;
REGISTERED AS {ts32-624Attribute 17};

meContextIdBehaviour BEHAVIOUR
DEFINED AS
    "This attribute names an instance of the 'MEContext' object class.";

```

5.3.19 Void

5.4 Name Binding

5.4.1 managedElement - meContext

```

managedElement-meContext NAME BINDING
    SUBORDINATE OBJECT CLASS
        managedElement;
    NAMED BY SUPERIOR OBJECT CLASS
        meContext;
    WITH ATTRIBUTE
        managedElementId;
    BEHAVIOUR
        managedElement-meContextBehaviour;
    CREATE
        WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
    DELETE
        ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 1};

managedElement-meContextBehaviour BEHAVIOUR
DEFINED AS
    "The name binding represents a relationship in which a meContext contains and
    controls a managedElement. When automatic instance naming is used, the choice
    of name bindings left as a local matter.";

```

5.4.2 managedElement - subNetwork

```

managedElement-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    managedElement;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    managedElementId;
  BEHAVIOUR
    managedElement-subNetworkBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 2};

```

```

managedElement-subNetworkBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a subNetwork contains and
  controls a managedElement. When automatic instance naming is used, the choice
  of name bindings left as a local matter.";

```

5.4.3 meContext - subNetwork

```

meContext-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    meContext;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    meContextId;
  BEHAVIOUR
    meContext-subNetworkBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 3};

```

```

meContext-subNetworkBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a subNetwork contains and
  controls a meContext. When automatic instance naming is used, the choice
  of name bindings left as a local matter.";

```

5.4.4 Void

5.4.5 irpAgent - subNetwork

```

irpAgent-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    irpAgent;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    irpAgentId;
  BEHAVIOUR
    irpAgent-subNetworkBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 5};

```

```

irpAgent-subNetworkBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a subNetwork contains and
  controls a irpAgent. When automatic instance naming is used, the choice of name
  bindings left as a local matter.";

```

5.4.6 irpAgent - managementNode

```

irpAgent-managementNode NAME BINDING
  SUBORDINATE OBJECT CLASS
    irpAgent;
  NAMED BY SUPERIOR OBJECT CLASS
    managementNode;
  WITH ATTRIBUTE
    irpAgentId;
  BEHAVIOUR
    irpAgent-managementNodeBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 6};

```

```

irpAgent-managementNodeBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a managedNode contains and
  controls a irpAgent. When automatic instance naming is used, the choice
  of name bindings left as a local matter.";

```

5.4.7 managementNode - subNetwork

```

managementNode-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    managementNode;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    managementNodeId;
  BEHAVIOUR
    managementNode-subNetworkBehaviour;
  CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 7};

```

```

managementNode-subNetworkBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a subNetwork contains and
  controls a managementNode. When automatic instance naming is used, the choice
  of name bindings left as a local matter.";

```

5.4.8 irpAgent - managedElement

```

irpAgent-managedElement NAME BINDING
  SUBORDINATE OBJECT CLASS irpAgent;
  NAMED BY SUPERIOR OBJECT CLASS managedElement;
  WITH ATTRIBUTE irpAgentId;
  BEHAVIOUR
    irpAgent-managedElementBehaviour;
  CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 8};

```

```

irpAgent-managedElementBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a managedElement contains and
  controls an irpAgent. When automatic instance naming is used, the choice of name
  bindings left as a local matter.";

```

5.4.9 Void

5.4.10 Void

5.4.11 subNetwork - subNetwork

```
subNetwork-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    subNetwork;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    subNetworkId;
  BEHAVIOUR
    subNetwork-subNetworkBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 11};
```

```
subNetwork-subNetworkBehaviour BEHAVIOUR
```

```
DEFINED AS
```

```
"The name binding represents a relationship in which a subNetwork contains and controls another
subNetwork. When automatic instance naming is used, the choice of name bindings is left as a
local matter.";
```

5.4.12 Void

5.4.13 Void

5.4.14 Void

6 ASN.1 Definitions

```
TS32-624TypeModule {ccitt (0) identified-organization (4) etsi (0) mobileDomain (0) umts-Operation-
Maintenance (3) ts32-624 (624) informationModel (0) asnlModule (2) version1 (1)}
```

```
DEFINITIONS IMPLICIT TAGS ::=
BEGIN
```

```
--EXPORTS everything
```

```
IMPORTS
```

```
ObjectInstance
```

```
FROM CMIP-1 {joint-iso-ccitt ms(9) cmip(1) modules(0) protocol(3)};
```

```
-- 3GPP TS 32.624 related Object Identifiers
```

```
baseNodeUMTS          OBJECT IDENTIFIER ::= {itu-t(0) identified-organization(4)
                                         etsi(0) mobileDomain(0)
                                         umts-Operation-Maintenance(3)}

ts32-624              OBJECT IDENTIFIER ::= {baseNodeUMTS ts32-624(624)}
ts32-624InfoModel    OBJECT IDENTIFIER ::= {ts32-624 informationModel(0)}

ts32-624ObjectClass  OBJECT IDENTIFIER ::= {ts32-624InfoModel managedObjectClass(3)}
ts32-624Package      OBJECT IDENTIFIER ::= {ts32-624InfoModel package(4)}
ts32-624Parameter    OBJECT IDENTIFIER ::= {ts32-624InfoModel parameter(5)}
ts32-624NameBinding  OBJECT IDENTIFIER ::= {ts32-624InfoModel nameBinding(6)}
ts32-624Attribute    OBJECT IDENTIFIER ::= {ts32-624InfoModel attribute(7)}
ts32-624Action       OBJECT IDENTIFIER ::= {ts32-624InfoModel action(9)}
ts32-624Notification OBJECT IDENTIFIER ::= {ts32-624InfoModel notification(10)}
```

```
-- Start of 3GPP SA5 own definitions
```

```
ManagedElementType ::= GraphicString
```

```
GeneralObjectId ::= INTEGER
```

```
UserDefinedState ::= GraphicString
```

```
GeneralObjectPointer ::= ObjectInstance
```

```
GeneralObjectPointerList ::= SEQUENCE OF ObjectInstance
```

```
IRPNames ::= SET OF ENUMERATED
```

```
{
  notificationIRP      (1),
  alarmIRP             (2),
  basicCmIRP           (3),
  bulkCmIRP            (4),
  genericNRM           (5),
  cnNRM                (6),
  utranNRM             (7),
  geranNRM             (8)
}
```

```
SupportedIRPs ::= SET OF IRPNames
```

```
UserDefinedNetworkType ::= GraphicString
```

```
SwVersion ::= GraphicString
```

```
END -- of TS32-624TypeModule
```

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Sep 2001	S_13	SP-010478	001	--	Correction due to TS renumbering	4.0.0	4.1.0
Sep 2001	S_13	SP-010479	002	--	Change the attribute "systemTitle" from mandatory to optional	4.0.0	4.1.0
Dec 2001	S_14	SP-010648	003	--	Change to Read/Write the attribute "userDefinedState" in MOC "ManagementNode"	4.1.0	4.2.0
Mar 2002	S_15	SP-020021	004	--	Removal of redundant GDMO/ASN.1 Code	4.2.0	4.3.0
Mar 2002	S_15	SP-020021	005	--	Making 'elementType' consistent	4.2.0	4.3.0
Mar 2002	S_15	SP-020021	006	--	Change the attribute "userLabel" from Read-Only to Read-Write	4.2.0	4.3.0
Jun 2002	S_16	SP-020300	007	--	Making 32.624 (CMIP SS) consistent with 32.622 (IS) and 32.623 (CORBA SS)	4.3.0	4.4.0
Jun 2002	S_16	SP-020300	008	--	Align with 32.622 (IS) by changing "userDefinedState" from read-only to read-write	4.3.0	4.4.0
Sep 2002	S_17	SP-020488	009	--	Upgrade the NRM CMIP Solution Set to Rel-5	4.4.0	5.0.0
Sep 2003	S_21	SP-030417	011	--	Rel-4/5 alignment of OIDs of some attributes and name bindings	5.0.0	5.1.0

History

Document history		
V5.0.0	September 2002	Publication
V5.1.0	September 2003	Publication