

TSG CORRESPONDENCE

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Mr. Christian Toche
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RE: OAM&P Topics

Dear Mr. Toche,

First, 3GPP2 TSG-S WG5 would like to thank 3GPP SA5 for the opportunity to attend the 3GPP SA5 meeting in Fairfax, Virginia. We felt that it was very useful to our organization, both from a working point of view and a social point of view, and appreciate the opportunity. We would welcome future opportunities for our two organizations to get together.

We also have a number of liaison topics:

1 Comments on proposed IOCs of S5-061522 (area: NRM)

3GPP2 TSG-S WG5 has defined the ObservedDestination and CircuitEndpointSubgroup MOCs for a number of years, in both our Revision B (corresponding to 3GPP SA5 R5) and Revision C (corresponding to 3GPP SA5 R6) specifications. We have reviewed the proposed ObservedDestination and CircuitEndpointSubgroup MOCs into 3GPP SA5 R7. Unfortunately, there are significant differences between the 3GPP TSG-S WG5 Revision C specifications and the 3GPP SA5 proposed R7 specifications, as shown in the attached S50-20070108-012R2__Alcatel-Lucent_ObservedDestination.doc (Alcatel-Lucent Comparison Of 3GPP2 TSG-S WG5 And 3GPP SA5 Proposed ObservedDestination and CircuitEndpointSubgroup Objects).

If these objects are to be defined in 3GPP SA5, we suggest that either the 3GPP2 TSG-S WG5 definitions be used or our two organizations work together to define common definitions for these objects.

Regarding TrafficRoute and TrafficRouteSet IOCs, we are open to requirements and use case discussions on the objects (which are not currently defined in our specifications). We foresee high complexity

associated with modeling Traffic Routes and their dynamic modifications, and perhaps that would require a traffic route IRP?

If you would like to set up an initial conference call to discuss these topics, please contact Frode Nergard to find an agreed time for such a conference call.

2 IMS Harmonization Updates (area: NRM)

For your information regarding your liaison S5-061389, please see the S50-20070108-016R2__Alcatel-Lucent_IMS_Comparison.doc (Alcatel Lucent Comparison Of 3GPP SA5 And 3GPP2 IMS Object Models) contribution for an update of the comparison of 3GPP2 TSG-S WG5 and 3GPP SA5 IMS object models. The comparison was updated to reflect the updated 3GPP SA5 IMS specifications. Please note the notes in section 4 for harmonization comments and suggestions.

Please also refer to Items #5 and #6 below in regards to IMS performance measurement harmonization. One of the harmonization challenges we will need to solve is the harmonization of the call control references in the performance measurement definitions.

3 Base XSD Namespaces (area: NRM)

In 3GPP2 TSG-S WG5 Revision C (that corresponds to 3GPP SA5 R6), there is an issue with the current definition of the 3GPP SA5 R6 TS 32.615 configData.xsd XSD document. Currently, configData.xsd is defined as follows:

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

<!--
  3GPP TS 32.615 Bulk CM IRP
  Configuration data file base XML schema
  configData.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.615#configData"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  xmlns:cn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.635#coreNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
  xmlns:stn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.745#stnNrm"
  xmlns:in=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.695#inventoryNrm"
  xmlns:tn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.715#transportNrm"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
    />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.635#coreNrm"
    />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
    />
```

```

<import
  namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
/>
<import
  namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.745#stnNrm"
/>
<import
  namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.695#inventoryNrm"
/>
<import
  namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.715#transportNrm"
/>

<!-- Configuration data file root XML element -->

<element name="bulkCmConfigDataFile">
  <complexType>
    <sequence>
      <element name="fileHeader">
        <complexType>
          <attribute name="fileFormatVersion" type="string" use="required"/>
          <attribute name="senderName" type="string" use="optional"/>
          <attribute name="vendorName" type="string" use="optional"/>
        </complexType>
      </element>
      <element name="configData" maxOccurs="unbounded">
        <complexType>
          <choice>
            <element ref="xn:SubNetwork"/>
            <element ref="xn:MeContext"/>
            <element ref="xn:ManagedElement"/>
          </choice>
          <attribute name="dnPrefix" type="string" use="optional"/>
        </complexType>
      </element>
      <element name="fileFooter">
        <complexType>
          <attribute name="dateTime" type="dateTime" use="required"/>
        </complexType>
      </element>
    </sequence>
  </complexType>
</element>
</schema>

```

The issue is that configData.xsd is required for inclusion by 3GPP2 TSG-S WG5 XSD documents, but it includes namespaces that are not required for use by 3GPP2 TSG-S WG5, such as coreNrm.xsd, utranNrm.xsd, geranNrm.xsd and transportNrm.xsd. This requires 3GPP2 TSG-S WG5 to include these XSD documents in our XSD namespaces, even though we don't use them.

3GPP2 TSG-S WG5 suggests that 3GPP SA5 update the configData.xsd by separating the namespace inclusions and the element definitions into two separate XSD documents. As an example, the base for the 3GPP2 TSG-S WG5 XSD documents is called PP2ConfigData.xsd and only defines namespaces. It is defined as follows:

```

<?xml version="1.0" encoding="UTF-8"?>
<!--
3GPP2 S.S0028-C Base XSD
Bulk CM IRP Configuration data file base XML
PP2ConfigData.xsd
-->
<schema xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xx="http://www.3gpp.org/ftp/specs/archive/32_series/32.615#configData"
  xmlns:xn="http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  xmlns:sm="http://www.3gpp.org/ftp/specs/archive/32_series/32.675#stateManagementIRP"
  xmlns:xg="PP2GenericNRM" xmlns:xc="PP2CoreNRM" xmlns:xr="PP2RadioAccessNRM"
  targetNamespace="PP2ConfigData" elementFormDefault="qualified">
  <import namespace="http://www.3gpp.org/ftp/specs/archive/32_series/32.615#configData"/>
  <import namespace="http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"/>
  <import namespace="http://www.3gpp.org/ftp/specs/archive/32_series/32.675#stateManagementIRP"/>
  <import namespace="PP2GenericNRM"

```

```

schemaLocation="ftp://ftp.3gpp2.org/TSGS/Working/TSG-S_WG5/S.S0028-C_XSD/PP2GenericNRM.xsd"/>
<import namespace="PP2CoreNRM"
schemaLocation="ftp://ftp.3gpp2.org/TSGS/Working/TSG-S_WG5/S.S0028-C_XSD/PP2CoreNRM.xsd"/>
<import namespace="PP2RadioAccessNRM"
schemaLocation="ftp://ftp.3gpp2.org/TSGS/Working/TSG-S_WG5/S.S0028-C_XSD/PP2RadioAccessNRM.xsd"/>
</schema>

```

4 RET Antenna Updates (area: NRM)

For your information, please see the S50-20070108-009R1__S.S0028-004-C_v1.5_OAMP_3GPP2_RAN_NRM_IRP.doc (3GPP2 S.S0028-004-C - OAM&P for cdma2000 (3GPP2 Radio Access NRM IRP) for our latest updates on RET antennas, including descriptions of antenna manipulations resulting from management attribute updates. 3GPP2 TSG-S WG5 Revision C specifications correspond to 3GPP SA5 R6 specifications.

5 Guidelines For Establishing 3GPP SA5 and 3GPP2 TSG-S WG5 Compliant Performance Measurements (area: performance)

3GPP2 TSG-S WG5 has noticed a large variability in performance measurement definitions, especially from other standard bodies reusing our performance measurement interfaces. To help the development of consistent performance measurement definitions, we have developed guidelines for the creation of performance measurement definitions. For your review, please see Annex B in S50-20070108-010R2__S.S0093-0_v2.1_Net_Performance_Measurement_Types.doc (3GPP2 S.S0093-0 - cdma2000 Network Performance Measurement Types). 3GPP2 TSG-S WG5 would welcome comments on Annex B from 3GPP SA5 and recommends that 3GPP SA5 include a similar annex in its specifications.

6 Link Performance Measurements (area: performance)

In the proposed 3GPP SA5 R7 32.409 contribution, performance measurements are defined on Link objects (in particular, Link_Cscf_Hss and Link_As_Hss). In the examples we've seen, 3GPP2 TSG-S WG5 feels that performance measurements on the Link objects are better defined on the corresponding network element objects. As an example:

- Link objects depict the interface between two network elements and, typically, it models bidirectional traffic. From an operator's view, it could be confusing as to whether the performance measurement is from one network element or the other, or from both.
- It is strongly recommended that performance measurements from more than one network element not be added together (over the Itf-N) to come up with a combined performance measurement. Granularity period differences make this impractical.
- Performance measurements counting is typically defined based on specific specification-defined network element call control. This is reflected in the supplied definitions, which list only one of the network elements actually receiving the performance measurement call control event.
- Link objects are contained under a SubNetwork object and not under one or other of the "Function" objects. This makes the separation of like performance measurements into files more difficult.

For a particular example, the NOTIF.SuccPNA performance measurement is define as follows:

On receipt by HSS of Diameter command Push-Notification -Answer (PNA) with the result code indicating successful execution of a notification (Sh-Notif) procedure (3GPP TS 29.329 [x]) from a peer AS.

In this example, the performance measurement needs to be defined on the HssFunction object (or a contained object) instead of the Link_As_Hss object.

If it is desired that the performance measurement be separated for different AsFunction interfaces, then, for example, use ObservedDestination objects or your own contained objects to segment the different performance measurements.

7 NRM CORBA IDL Files (area: methodology)

3GPP2 TSG-S WG5 recommends that 3GPP SA5 R7 use its style of generating NRM CORBA IDL files. Similar to 3GPP SA5, we include constant strings that define the string to be used in 3GPP SA5 methods for accessing the class attributes. In addition, we specify typedefs that define each of the attributes defined in the NRM. We feel that this enhances the CORBA IDL in the following ways:

- The typedefs provide programmer convenience definitions and helps provide consistent program types.
- The typedefs help debug the solution set tables that define the attribute types. It has been our experience that the solution set tables get out of synch with other changes in the CORBA IDL. With the typedefs defined in CORBA IDL, the attribute type definitions are verified through the CORBA IDL compiler.

As an example, the 3GPP2 Revision C PP2RadioAccessNRMIRPConstDefs.idl file is listed below: Note that we have slightly changed the file from how it is currently generated, we agree that the attribute names will not have Type appended to them.

```
// File: PP2RadioAccessNRMIRPConstDefs.idl
#ifndef _PP2RadioAccessNRMIRPConstDefs_idl_
#define _PP2RadioAccessNRMIRPConstDefs_idl_

#include <GenericNetworkResourcesNRMDefs.idl>
#include <PP2GenericNRMIRPConstDefs.idl>
#include <GenericNetworkResourcesIRPSystem.idl>
#include <PP2CoreNRMIRPConstDefs.idl>

#pragma prefix "3gpp2.org"

/**
 * This CORBA IDL module defines constants for each 3GPP2 Radio
 * Access NRM IOC class name and the attribute names for each
 * defined IOC class. It also defines typedef constants for
 * each 3GPP2 Radio Access NRM attribute for each defined IOC
 * class.
 */

module PP2RadioAccessNRMIRPConstDefs
{
    /**
     * Definitions for MO class BscFunction
     */

    interface BscFunction
        : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
        const string CLASS = "BscFunction";

        // Attribute Names
        //
        const string bscFunctionId = "bscFunctionId";
        const string link_Bsc_BscList = "link_Bsc_BscList";
        const string link_Bsc_BtsList = "link_Bsc_BtsList";
        const string link_Bsc_ExternalBscList =
            "link_Bsc_ExternalBscList";
        const string link_Bsc_MscList = "link_Bsc_MscList";
        const string maxNumElTlPort = "maxNumElTlPort";
        const string maxNumSignallingPort = "maxNumSignallingPort";
        const string maxNumVocoder = "maxNumVocoder";
        const string mcc = "mcc";
        const string mnc = "mnc";
        const string numElTlPort = "numElTlPort";
        const string relatedBts = "relatedBts";
        const string relatedMsc = "relatedMsc";
        const string relatedPcf = "relatedPcf";
        const string relatedSdu = "relatedSdu";
    };

    typedef string BscFunctionId;
    typedef
        GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
        Link_Bsc_BscList;
    typedef
```

```

        GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
        Link_Bsc_BtsList;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    Link_Bsc_ExternalBscList;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    Link_Bsc_MscList;
typedef unsigned long MaxNumE1T1Port;
typedef unsigned long MaxNumSignallingPort;
typedef unsigned long MaxNumVocoder;
typedef unsigned long Mcc;
typedef unsigned long Mnc;
typedef unsigned long NumE1T1Port;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    RelatedBts;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    RelatedMsc;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    RelatedPcf;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    RelatedSdu;
typedef PP2GenericNRMIRPCConstDefs::UserLabelType
    UserLabel;

/**
 * Definitions for MO class BtsFunction
 */

interface BtsFunction
    : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "BtsFunction";

    // Attribute Names
    //
    const string btsFunctionId = "btsFunctionId";
    const string link_Bsc_BtsList = "link_Bsc_BtsList";
    const string numFa = "numFa";
    const string relatedBsc = "relatedBsc";
    const string sectorList = "sectorList";
};

typedef string BtsFunctionId;
// link_Bsc_BtsList
typedef unsigned long NumFa;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    RelatedBsc;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    SectorList;
// userLabel

/**
 * Definitions for MO class PcfFunction
 */

interface PcfFunction
    : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "PcfFunction";

    // Attribute Names
    //
    const string pcfFunctionId = "pcfFunctionId";
    const string ipAddress = "ipAddress";
    const string link_Pcf_PdsnList = "link_Pcf_PdsnList";
    const string maxNumSupportedActiveSession =
        "maxNumSupportedActiveSession";
    const string maxNumSupportedSession =
        "maxNumSupportedSession";
    const string maxThroughputCapacity =
        "maxThroughputCapacity";
};

```

```

    const string relatedBsc = "relatedBsc";
    const string relatedPdsn = "relatedPdsn";
    const string relatedSdu = "relatedSdu";
};

typedef string PcfFunctionId;
typedef PP2CoreNRMIRPCConstDefs::IPAddressType IPAddress;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    Link_Pcf_PdsnList;
typedef unsigned long MaxNumSupportedActiveSession;
typedef unsigned long MaxNumSupportedSession;
typedef unsigned long MaxThroughputCapacity;
// relatedBsc
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
    RelatedPdsn;
// relatedSdu
// userLabel

/**
 * Definitions for MO class CellSite
 */

interface CellSite : GenericNetworkResourcesNRMDefs::Top
{
    const string CLASS = "CellSite";

    // Attribute Names
    //
    const string cellSiteId = "cellSiteId";
};

typedef string CellSiteId;
// userLabel

/**
 * Definitions for MO class ExternalBscFunction
 */

interface ExternalBscFunction
    : PP2GenericNRMIRPCConstDefs::ExternalIOC
{
    const string CLASS = "ExternalBscFunction";

    // Attribute Names
    //
    const string externalBscFunctionId =
        "externalBscFunctionId";
    const string link_Bsc_ExternalBscList =
        "link_Bsc_ExternalBscList";
};

typedef string ExternalBscFunctionId;
typedef PP2GenericNRMIRPCConstDefs::ExternalDNType
    ExternalDN;
typedef PP2GenericNRMIRPCConstDefs::LocationNameType
    LocationName;
// userLabel
typedef PP2GenericNRMIRPCConstDefs::VendorNameType
    VendorName;
// link_Bsc_ExternalBscList

/**
 * Definitions for MO class Sector
 */

interface Sector
    : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "Sector";

    // Attribute Names
    //
    const string sectorId = "sectorId";
    const string cellIdentifier = "cellIdentifier";
    const string ranHoRelationList = "ranHoRelationList";
    const string relatedBts = "relatedBts";
};

```

```

        const string relatedRanAntennaFunction =
            "relatedRanAntennaFunction";
        const string sectorCapacity = "sectorCapacity";
    };

    typedef string SectorId;
    typedef string CellIdentifier;
    typedef
        GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
        RanHoRelationList;
    // relatedBts
    typedef
        GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet
        RelatedRanAntennaFunction;
    typedef unsigned long SectorCapacity;
    // userLabel

/**
 * Definitions for MO class CarrierFreq
 */

interface CarrierFreq
    : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "CarrierFreq";

    // Attribute Names
    //
    const string carrierFreqId = "carrierFreqId";
    const string bandClass = "bandClass";
    const string channelNo = "channelNo";
};

typedef string CarrierFreqId;
typedef unsigned long BandClass;
typedef unsigned long ChannelNo;
// userLabel

/**
 * Definitions for MO class RanAntennaFunction
 */

interface RanAntennaFunction
    : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "RanAntennaFunction";

    // Attribute Names
    //
    const string ranAntennaFunctionId = "ranAntennaFunctionId";
    const string baseElevation = "baseElevation";
    const string bearing = "bearing";
    const string height = "height";
    const string horizBeamwidth = "horizBeamwidth";
    const string latitude = "latitude";
    const string longitude = "longitude";
    const string maxAzimuthValue = "maxAzimuthValue";
    const string maxTiltValue = "maxTiltValue";
    const string mechanicalOffset = "mechanicalOffset";
    const string minAzimuthValue = "minAzimuthValue";
    const string minTiltValue = "minTiltValue";
    const string patternLabel = "patternLabel";
    const string relatedSector = "relatedSector";
    const string retGroupName = "retGroupName";
    const string retTiltValue = "retTiltValue";
    const string vertBeamwidth = "vertBeamwidth";
};

typedef string RanAntennaFunctionId;
typedef short BaseElevation;
typedef short Bearing;
typedef short Height;
typedef short HorizBeamwidth;
typedef float Latitude;
typedef float Longitude;
typedef short MaxAzimuthValue;
typedef short MaxTiltValue;
typedef short MechanicalOffset;

```



```

typedef short MinAzimuthValue;
typedef short MinTiltValue;
typedef string PatternLabel;
typedef
    GenericNetworkResourcesIRPSys::AttributeTypes::MOReferenceSet
    RelatedSector;
typedef string RetGroupName;
typedef short RetTiltValue;
    // userLabel
typedef short VertBeamwidth;

/**
 * Definitions for MO class ExternalSector
 */

interface ExternalSector
    : PP2GenericNRMIRPConstDefs::ExternalIOC
{
    const string CLASS = "ExternalSector";

    // Attribute Names
    //
    const string externalSectorId = "externalSectorId";
};

typedef string ExternalSectorId;
    // externalDN
    // locationName
    // userLabel
    // vendorName

/**
 * Definitions for MO class ExternalCellSite
 */

interface ExternalCellSite
    : PP2GenericNRMIRPConstDefs::ExternalIOC
{
    const string CLASS = "ExternalCellSite";

    // Attribute Names
    //
    const string externalCellSiteId = "externalCellSiteId";
};

typedef string ExternalCellSiteId;
    // externalDN
    // locationName
    // userLabel
    // vendorName

/**
 * Definitions for MO class SduFunction
 */

interface SduFunction
    : GenericNetworkResourcesNRMDDefs::ManagedFunction
{
    const string CLASS = "SduFunction";

    // Attribute Names
    //
    const string sduFunctionId = "sduFunctionId";
    const string relatedBsc = "relatedBsc";
    const string relatedSdu = "relatedSdu";
};

typedef string SduFunctionId;
    // relatedBsc
    // relatedSdu
    // userLabel

/**
 * Definitions for MO class Link_Bsc_Bts
 */

interface Link_Bsc_Bts : GenericNetworkResourcesNRMDDefs::Link
{

```

```

    const string CLASS = "Link_Bsc_Bts";

    // Attribute Names
    //
};

typedef string LinkId;
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReference AEnd;
typedef
    GenericNetworkResourcesNRMDefs::LinkAttributeTypes::LinkTypeType LinkType;
typedef string ProtocolName;
typedef string ProtocolVersion;
    // userLabel
typedef
    GenericNetworkResourcesIRPSystem::AttributeTypes::MOReference ZEnd;

/**
 * Definitions for MO class Link_Bsc_Bsc
 */

interface Link_Bsc_Bsc : GenericNetworkResourcesNRMDefs::Link
{
    const string CLASS = "Link_Bsc_Bsc";

    // Attribute Names
    //
};

    // linkId
    // aEnd
    // linkType
    // protocolName
    // protocolVersion
    // userLabel
    // zEnd

/**
 * Definitions for MO class Link_Bsc_ExternalBsc
 */

interface Link_Bsc_ExternalBsc
    : GenericNetworkResourcesNRMDefs::Link
{
    const string CLASS = "Link_Bsc_ExternalBsc";

    // Attribute Names
    //
};

    // linkId
    // aEnd
    // linkType
    // protocolName
    // protocolVersion
    // userLabel
    // zEnd

/**
 * Definitions for MO class Link_Bsc_Msc
 */

interface Link_Bsc_Msc : GenericNetworkResourcesNRMDefs::Link
{
    const string CLASS = "Link_Bsc_Msc";

    // Attribute Names
    //
};

    // linkId
    // aEnd
    // linkType
    // protocolName
    // protocolVersion
    // userLabel
    // zEnd

```

```

/**
 * Definitions for MO class Link_Pcf_Pdsn
 */

interface Link_Pcf_Pdsn
: GenericNetworkResourcesNRMDefs::Link
{
    const string CLASS = "Link_Pcf_Pdsn";

    // Attribute Names
    //
    // linkId
    // aEnd
    // linkType
    // protocolName
    // protocolVersion
    // userLabel
    // zEnd

/**
 * Definitions for MO class RanHoRelation
 */

interface RanHoRelation : GenericNetworkResourcesNRMDefs::Top
{
    const string CLASS = "RanHoRelation";

    // Attribute Names
    //
    const string ranHoRelationId = "ranHoRelationId";
    const string relatedSector = "relatedSector";
};

typedef string RanHoRelationId;
// relatedSector

}; // End of module PP2RadioAccessNRMIRPCConstDefs

#endif // _PP2RadioAccessNRMIRPCConstDefs_idl_

```

We recommend the following changes to 3GPP SA5 R7 32.150:

D.4 NRM IRP

Use one module to define the IDL constructs for the managed object classes. The name of this module is XxxNRIRPCConstDefs where Xxx is the name of the subject NRM IRP. An example is UtranNRIRPCConstDefs.

Deleted: ¶

Within the module, define a set of IDL interfaces each of which corresponds to a managed object class specified. The interface definition respects the inheritance relation specified. In addition, following the interface definition, the types for each attribute defined for the managed object class (including inherited attributes) are defined. The types are either defined via a typedef of the type that matches the attribute definition in the NRM Information Object Class (IOC) mapping table or via a CORBA IDL comment if the same attribute name is already defined in managed object classes already defined in this NRM.

An example of managed object class RncFunction, which inherits from GenericNRIRPCConstDefs::ManagedFunction, is shown below.

Deleted:

```

module UtranNRIRPCConstDefs
{
    ...

/**
 * Definitions for MO class RncFunction
 */

```

```

interface RncFunction : GenericNRIRPConstDefs::ManagedFunction
{
    const string CLASS = "RncFunction";

    // Attribute Names
    //
    const string rncFunctionId = "rncFunctionId";

    const string mcc= "mcc";
    const string mnc= "mnc";
    const string rncId= "rncId";
};

typedef string rncFunctionId;
typedef long mcc;
typedef long mnc;
typedef long rncId;
// userLabel
};

```

For your review, please refer to the S50-20070108-017-S5-xxxxxx 3GPP2 CR 32150-720 Inclusion of typedef in CORBA IDL.doc (Inclusion of typedefs in CORBA IDL) proposed R7 Change Request on this topic.

8 Polymorphism and Inheritance on the Itf-N (area: methodology)

Please refer to the S50-20070108-014 __Alcatel-Lucent_Polymorphism.doc (Alcatel-Lucent Notes On Polymorphism and Inheritance On The Itf-N) document for a discussion on the use cases for interfacing with subclasses based on their direct or indirect parent objects, where a possible solution could be to include an attribute in Top that contains the class hierarchy. This is in regards to an action item received during the review of S5-061419 (Draft Definition for IOC Property, Inheritance and Import).

9 Use Of Point Codes in Signalling Transport Network (area: NRM)

3GPP2 TSG-S WG5 is awaiting the response for the open item discussed in the S5-060126 liaison response. Is any additional clarification needed from 3GPP2 TSG-S WG5?

10 InventoryUnit use of String attribute types versus Date attribute types (area: NRM)

3GPP2 TSG-S WG5 is awaiting the response for the open item discussed in the S5-060126 liaison response. Is any additional clarification needed from 3GPP2 TSG-S WG5?

If you have additional questions, please contact: Frode Nergard (frode.nergard@ericsson.com) +1 514 345 7900 extension 42551.

Regards,



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Attachments

S50-20070108-015A__TSG-S_corr_to_3GPP_SA5 (S00-20070108-107).zip, which contains the following documents:

- S50-20070108-009R1__S.S0028-004-C_v1.5_OAMP_3GPP2_RAN_NRM_IRP.doc (3GPP2 S.S0028-004-C - OAM&P for cdma2000 (3GPP2 Radio Access NRM IRP)
- S50-20070108-010R2__S.S0093-0_v2.1_Net_Performance_Measurement_Types.doc (3GPP2 S.S0093-0 - cdma2000 Network Performance Measurement Types)
- S50-20070108-012R2__Alcatel-Lucent_ObservedDestination.doc (Alcatel-Lucent Comparison Of 3GPP2 TSG-S WG5 And 3GPP SA5 Proposed ObservedDestination and CircuitEndpointSubgroup Objects)
- S50-20070108-014__Alcatel-Lucent_Polymorphism.doc (Alcatel-Lucent Notes On Polymorphism and Inheritance On The Itf-N)
- S50-20070108-016R2__Alcatel-Lucent_IMS_Comparison.doc (Alcatel Lucent Comparison Of 3GPP SA5 And 3GPP2 IMS Object Models)
- S50-20070108-017-S5-xxxxxx 3GPP2 CR 32150-720 Inclusion of typedef in CORBA IDL.doc (Inclusion of typedefs in CORBA IDL)