

# ETSI TS 132 771 V9.1.0 (2010-04)

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*Technical Specification*

**Universal Mobile Telecommunications System (UMTS);  
LTE;  
Telecommunication management;  
Home Node B (HNB) Subsystem (HNS)  
Network Resource Model (NRM)  
Integration Reference Point (IRP);  
Requirements  
(3GPP TS 32.771 version 9.1.0 Release 9)**

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## Foreword

This Technical Report 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.

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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:

- 32.771:            **Telecommunication management; Home Node B Subsystem (HNS) Network Resource Model (NRM) Integration Reference Point (IRP): Requirements****
- 32.772:            Telecommunication management; Home Node B Subsystem (HNS) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS)
- 32.773:            Telecommunication management; Home Node B Subsystem (HNS) Network Resource Model (NRM) Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)
- 32.775:            Telecommunication management; Home Node B Subsystem (HNS) Network Resource Model (NRM) Integration Reference Point (IRP): Bulk CM eXtensible Markup Language (XML) file format definition

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# 1 Scope

The document describes the requirements for Home NodeB Subsystem (HNS), which includes Home NodeB (HNB) and Home NodeB gateway (HNB GW). The HNS NRM IRP requirements are targeted on both HNB and HNB GW NRM.

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# 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 25.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 32.101: "Telecommunication management; Principles and high level requirements".
- [3] 3GPP TS 32.102: "Telecommunication management; Architecture".
- [4] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".
- [5] 3GPP TS 32.150: "Telecommunication management; Integration Reference Point (IRP) Concept and definitions".
- [6] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".
- [7] 3GPP TS 25.467: "UTRAN architecture for 3G Home NodeB; Stage 2".

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# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

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

**Integration Reference Point (IRP):** See 3GPP TS 32.150 [5].

**Information Service (IS):** See 3GPP TS 32.150 [5].

**Solution Set (SS):** See 3GPP TS 32.150 [5].

**IRP Solution Set:** See 3GPP TS 32.101 [1].

## 3.2 Abbreviations

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

CN                      Core Network

|      |                                      |
|------|--------------------------------------|
| GW   | Gateway                              |
| HNB  | Home Node B                          |
| HNS  | Home Node B Subsystem                |
| IRP  | Integration Reference Point          |
| IOC  | Information Object Class             |
| NRM  | Network Resource Model               |
| SCTP | Stream Control Transmission Protocol |

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## 4 Concepts and background

HNB Subsystem is defined in TS 23.060 [6]. According to the definition, a HNB subsystem consists of a HNB and a HNB GW. The HNB Subsystem appears as an RNS to the core network and is connected by means of the Iu-CS interface to the MSC and by means of the Iu-PS interface to the SGSN.

Detailed functions of HNB and HNB GW are described in TS 25.467 [7]. To be more specific, HNB is a Customer Premise Equipment that offers the Uu Interface to the UE. It provides RAN connectivity and supports RNC like functions as well as UE registration over Iuh. HNB Gateway (HNB-GW) terminates Iuh from HNB and appears as an RNC to the existing Core network using existing Iu interface. It supports HNB registration and UE registration over Iuh.

Based on the above characteristics, this specification defines respective HNS NRM IRP requirements.

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## 5 Requirements

The following general and high-level requirements apply for the present IRP:

- A. IRP-related requirements in 3GPP TS 32.101 [2].
- B. IRP-related requirements in 3GPP TS 32.102 [3].
- C. IRP-related requirements in 3GPP TS 32.600 [4].

In addition to the above, the following more specific requirements apply:

**REQ-HNS\_GW-CON-001** The Network Resource Model defined by this IRP shall contain HNB GW specific IOCs and related definitions.

**REQ-HNS\_GW-CON-002** The Network Resource Model defined by this IRP shall provide support for enabling consistency between HNB GW, HNB and related core network nodes.

**REQ-HNS\_GW-CON-003** The NRM specified by this IRP shall be able to view configuration information of the HNB GW entity. More detailed information is as follows:

- Shall allow for the viewing of basic configuration information including version, equipment type, equipment provider and unique identification, etc.
- Shall allow for the viewing of network configuration information including IP address, sub-network mask, default gateway and port configuration information, etc.
- Shall allow for the viewing of service related configuration information, for example the maximum number of HNB to be registered, the maximum number of packets to be forwarded, etc.

**REQ-HNS\_GW-CON-004** The NRM specified by this IRP shall capture Iuh interface information of HNB GW. More detailed information is as follows:

- Shall allow for the viewing of basic configuration information including Iuh identification etc.
- Shall allow for the viewing of network configuration information including SCTP management information, etc.

**REQ-HNS\_GW-CON-005** The NRM specified by this IRP shall capture the identity of registered HNB



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## Annex A (informative): Change history

| Change history |       |           |     |     |   |       |       |
|----------------|-------|-----------|-----|-----|---|-------|-------|
| Date           | TSG # | TSG Doc.  | CR  | Rev | Subject/Comment   | Old   | New   |
| Sep 2009       | SA#45 | SP-090548 | --  | --  | Presentation to SA for Information                          | --    | 1.0.0 |
| Dec 2009       | SA#46 | SP-090739 | --  | --  | Presentation to SA for Approval                             | 1.0.0 | 2.0.0 |
| Dec 2009       | --    | --        | --  | --  | Publication   | 2.0.0 | 9.0.0 |
| Mar 2010       | SA#47 | SP-100038 | 001 | --  | Addition of concepts and background statements in TS 32.771 | 9.0.0 | 9.1.0 |

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# History

| <b>Document history</b> |               |             |
|-------------------------|---------------|-------------|
| V9.0.0                  | February 2010 | Publication |
| V9.1.0                  | April 2010    | Publication |
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