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This document contains the latest version 0.1.2 of 25.442 UTRAN Implementation Specific O&M Transport. A list of open issues has been added. The text has been slightly modified in order to make it more specification like.

## **3<sup>rd</sup> Generation Partnership Project (3GPP); Technical Specification Group (TSG) RAN;**

### **Implementation Specific O&M Transport**



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# Intellectual Property Rights

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## Foreword

This Technical Specification (TS) has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

The contents of this TS are subject to continuing work within 3GPP and may change following formal TSG approval. Should the TSG modify the contents of this TS, it will be re-released with an identifying change of release date and an increase in version number as follows:

Version m.t.e

where:

- m indicates [major version number]
- x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- y the third digit is incremented when editorial only changes have been incorporated into the specification.

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# 1 Scope

The present document specifies the transport of implementation specific O&M signalling between Node B and the Management Platform.

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## 2 References

- [1] 3GPP TS 25.413, UTRAN Iub interface Layer 1
  - [2] 3GPP TS 25.401, UTRAN Overall Description
- 

## 3 Definitions and abbreviations

### 3.1 Definitions

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

**Logical O&M:** Logical O&M is the signalling associated with the control of logical resources owned by the RNC but physically implemented in Node B.

**Implementation Specific O&M:** Implementation Specific O&M functions depend on the implementation of the Node B, both for it's hardware and software components.

### 3.3 Abbreviations

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

AAL5	ATM Adaptation Layer type 5
ATM	Asynchronous Transfer Mode
IP	Internet Protocol
O&M	Operation and Maintenance
RNC	Radio Network Controller

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## 4 Implementation Specific O&M Transport

### 4.1 Introduction

As described in [2] the O&M of Node B is separated in two parts: Logical O&M and Implementation Specific O&M. The former is responsible for the management of logical resources of Node B while the latter depends on the implementation of Node B. The purpose of this split is to ensure that the scope of O&M functions over the Iub interface is sufficient to allow a multi-vendor environment to be deployed. In this sense the Implementation Specific O&M part allows the manufacturer to integrate proprietary O&M functions in addition to standardised functions in the logical O&M part. But apart from the Iub O&M functions a standardised transport of the Implementation Specific O&M part is crucial for the realisation of a multi-vendor environment and it is an essential pre-requisite to be supported by the same bearer as the Iub interface. The transport mechanism described in the following should neither limit the vendor's freedom to provide proprietary O&M capabilities nor limit the operator's freedom to design the network in an appropriate manner.

### 4.2 Requirements

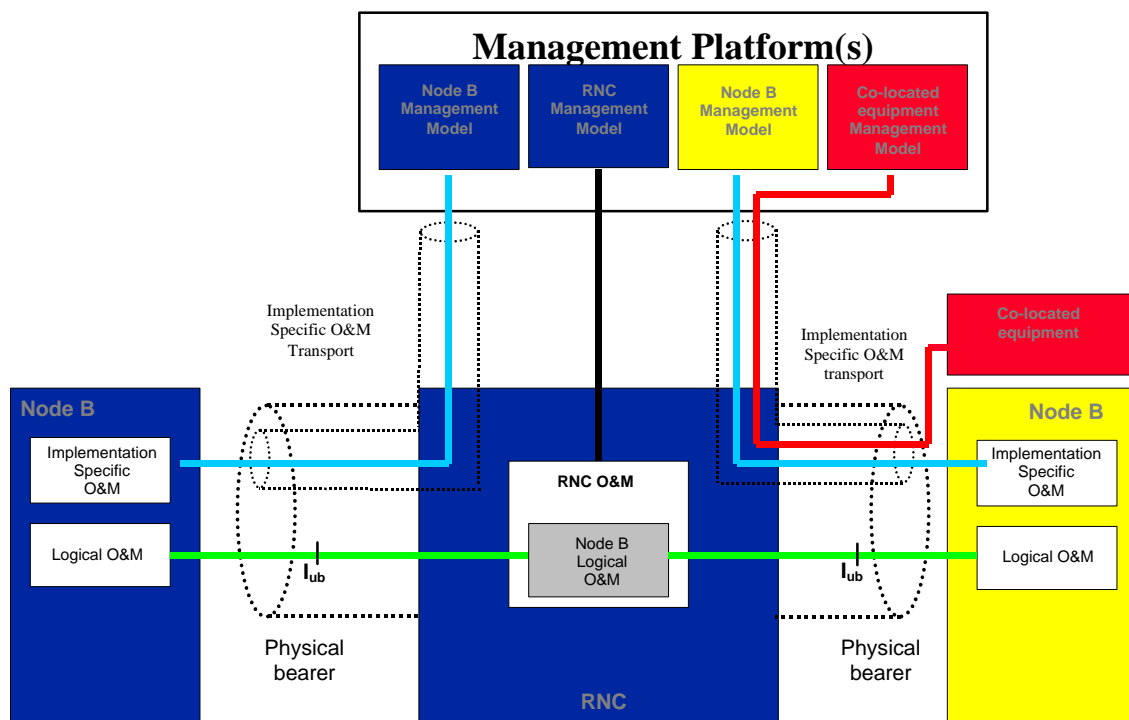
While this specification only addresses the transport of Node B Implementation Specific O&M signalling, many of the following requirements are derived from generic requirements for O&M of UMTS network elements:

- Common O&M infrastructure for all network elements
- Independence from various data link protocols
- Support of various higher layer protocols and applications
- Secure transmission
- No Impact of O&M transport on traffic transport and signalling
- Re-use of existing transport facilities, i.e. co-existence of Iub and Implementation Specific O&M on the same bearer

### 4.3 Routing

Since the Node B is connected to the RNC the routing of the Implementation Specific O&M via the RNC is one solution. In this case it is the responsibility of the RNC to route Implementation Specific O&M signalling traffic. The traffic exchanged over this signalling link is completely transparent to the RNC.

The O&M signalling for co-located equipment can be treated as a special kind of Implementation specific O&M. This means that Implementation Specific O&M signalling of Node B and O&M signalling for co-located equipment should be able to share the same physical transport channels. However both O&M signalling links are completely independent.



**Figure 1: Implementation Specific O&M Transport via RNC**

### 4.4 Transport Bearer

An appropriate transport bearer for Implementation Specific O&M depends on the routing and should consider the requirements listed in section 4.2. IP should be the transport mechanism in order to allow a data link independent support of a variety of O&M applications and protocols for the Implementation Specific O&M of the Node B. This includes the provision of an IP forwarding function for IP-based O&M signalling for the management of co-located equipment.

In case of routing of Implementation Specific O&M via the RNC IP datagrams containing O&M signalling have to be carried over the same bearer as Iub. Since ATM will be used on Iub, IP over ATM should be the bearer for O&M signalling.

The following figure shows the protocol stack Implementation Specific O&M transport between Node B and RNC:

IP
AAL5
ATM

One or several AAL5/ATM permanent or switched Virtual Connections should be used as layer 2 resources between RNC and Node B.

## Annex A Document Stability Assessment Table

Section	Content missing	Incomplete	Restructuring needed	Checking needed	Editorial work required	Finalisation needed	Almost stable	Stable
1								√
2								√
3								√
4						√		

## Annex B List of open issues

Transport Bearer details regarding the use of IP over ATM.



# History

Document history		
V0.0.1	1999-05	Initial Specification Structure
V0.0.2	1999-06	Integration of agreed changes from RAN WG3#4
V0.1.0	1999-07	Approved by RAN WG3
V0.1.1	1999-08	Stability Table added
V0.1.2	1999-09	Editorial Changes and List of open Issues added
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