TSG-RAN Working Group 3 meeting#7 *TSGR3#7(99)c49*
Sophia Antipolis, France, 20rd - 24th September 1999

Agenda Item: 20

Source: Telia

Title: Routing Implementation Specific O&M outside RNC

Document for: Approval into TS 25.442

Introduction

TS 25.442 specifies the transport of Implementation Specific O&M (ISOM). Through the development phases which have formed the contents of ch. 4.3 'Routing', the routing of ISOM via the RNC has always been known as one example of how to handle this ('… via the RNC is one solution'). The other solutions are not addressed or illustrated at all. A clarification is needed.

The currently described solution example in ch. 4.3 is a good one if:

- ISOM signalling is completely transparent to the RNC.
- The aimed independence between ISOM NodeB signalling and other signalling can be guaranteed.

That is, the complete independence of ISOM to the RNC.

Therefore, we propose that TS 25.442 should show also "the other" solution. This second solution may lack som of the (aimed) advantages of the first one, but its independence of the RNC is better guaranteed.

Proposal

Attached is a proposal for ch. 4.3 of TS 25.442, namely to divide ch. 4.3 into two subsections:

- 4.3.1 'Routing via the RNC' (with current contents of ch. 4.3)
- 4.3.2 'Routing outside the RNC' (with new added contents, and a modified copy of Fig. 1 into Fig. 2)

Also proposed is a modified wording in one of the sentences in the Introduction, ch. 4.1, as shown.

4 Implementation Specific O&M Transport

4.1 Introduction

As described in [2] the O&M of NodeB is separated in two parts: Logical O&M and Implementation Specific O&M. The former is responsible for the management of logical resources of NodeB while the latter depends on the implementation of NodeB. 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~~in case the transport is 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 NodeB 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

There are two alternative architectures for the transport of Implementation Specific O&M. The first alternative is to route via the RNC, while in the second alternative Implementation Specific O&M transport is completely detached from the RNC.

4.3.1 Routing via RNC

Since the NodeB 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. But like any other router 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 NodeB 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 and do not know about each other.

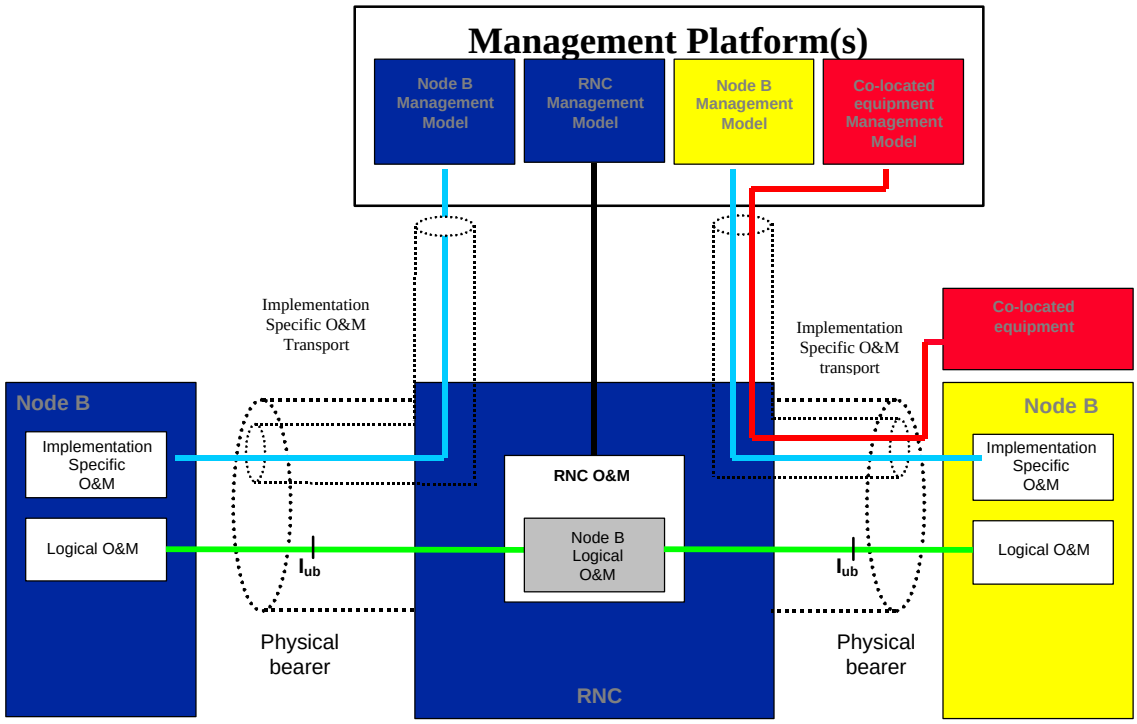

Figure 1: Implementation Specific O&M Transport via RNC

4.3.1 Routing detached from RNC

The routing of the Implementation Specific O&M completely detached from the RNC is the other solution, as shown in Figure 2.

Note that also this solution mandates most of the requirements listed in section 4.2.

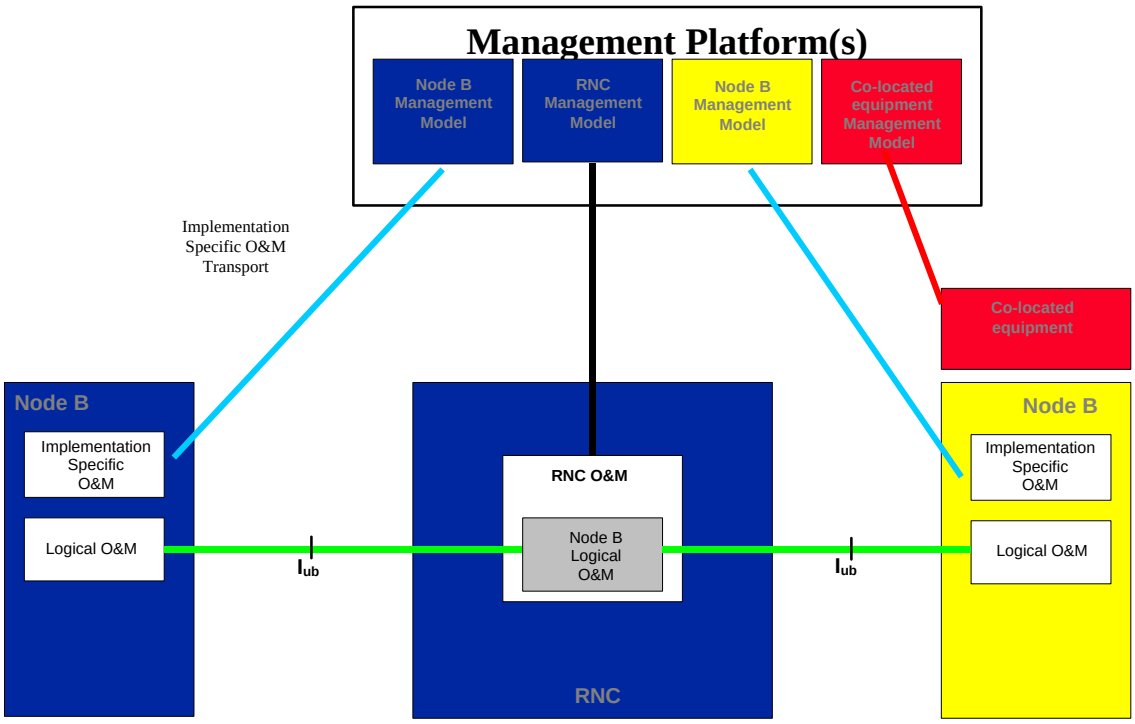

Figure 2: Implementation Specific O&M Transport routed outside RNC