Agenda Item : 6.6
Source : NTT DoCoMo
Title : Extension of distributed implementation specific O&M architecture
Document for : Discussion

Note: This contribution may be effective only if contribution R3-99511 is accepted.

1. Abstract

This contribution proposes the extension of the "distributed implementation specific O&M architecture" that has been previously proposed.

2. Discussion

Contribution R3-99511 proposes the necessity of distributed implementation specific O&M architecture. This architecture will help reducing the burden in management platform as well as the traffic volume between UTRAN and management platform.

However, this architecture has a drawback as well. Should such architecture be introduced, all of the RNC have to be equipped with the management sub-system. These sub-subsystems may be too redundant to be equipped and may increase the cost of RNC.

To make the architecture slimmer, a new architecture is proposed. It is proposed that an RNC may, not only manage the underlying NodeB, but also be capable to manage the *neighbour* RNC with the underlying NodeB. In other words, "Slave" RNC does not have to be equipped with the management sub-system for implementation specific O&M; their "MASTER" RNC may manage the Slave RNC and the underlying NodeB. "Slave" RNCs are only required to be equipped with relay functions for transferring implementation specific O&M messages to the "Master" RNC.

Followed by this new idea, a mechanism to communicate between two RNCs shall be introduced. Either of the following option shall be adopted:
- An independent transport for implementation specific O&M signalling on *Iur* interface shall be introduced
- An implementation specific O&M messages on *Iur* interface shall be introduced as a subset of RNSAP messages

It is out of scope of this contribution which option shall be adopted.

3. Proposal

It is proposed that a transport for implementation specific O&M signalling on *Iur* interface be introduced.

10.1.1 Implementation Specific O&M

The Implementation Specific O&M functions are heavily dependent on the implementation of Node B, both for its hardware components and for the management of the software components. It needs therefore to be implementation dependent. Implementation specific O&M functions need to be performed between Node B and the management system, or among NodeB, RNC, and management system Latter case is applicable only if RNC is equipped with implementation specific management sub-system. Notice that implementation specific O&M functions between RNC may also be a possible solution. This means that the standardisation in 3GPP-TSG-RAN-WG3 should address the *transport* of O&M signalling among the management system, Node B, and RNC, as well as between plural RNC. This transport can be performed by a transport mechanism, possibly IP. The transport can be potentially across the RNC, but not necessarily. Between RNC and Node B, or between plural RNC, dedicated PVCs or SVCs could be used.

It is also proposed that the O&M diagram be replaced with the following diagram.

Management Platform(s)

Node B Management Model

RNC Management Model

RNCRNS Management Model

Node B Management Model

Co-located equipment Management Model

Co-located equipment

Node B

Implementation specific O&M

Logical O&M

Traffic Functions

I_{ub} interface

RNC O&M

Node B Implementation Specific O&M Relay function

Node B Logical O&M

Traffic Functions

RNC without O&M sub-system

I_{ur} interface

RNC O&M

Node B Implementation Specific O&M Sub-system

Node B Logical O&M

Traffic Functions

RNC with O&M sub-system

I_{ub} interface

Node B

Implementation specific O&M

Logical O&M

Traffic Functions