TSG-RAN Working Group 2 (Radio layer 2 and Radio layer 3)   **_TSGR2#6(99)830_**
Sophia Antipolis, France, August 16th to 20th 1999

Agenda Item: 9

Source: Nortel Networks

Title: Clarification in S25.303 of model for RACH procedures

Document for: Approval

Introduction

At the last RANWG2#5 meeting, the interaction between WG2 and WG1 with respect to the PRACH procedures was clarified.
According to the minutes in Tdoc TSGR2#6(99)706 :

- The broadcast parameters will be defined in this group. Subchannels done in this group. The power ramp-up is processed in WG1 until the preamble is detected in the BTS. After that the control should be in WG2 for the backoff etc.

- It was confirmed that the access class selection is done in the MAC for uplink access on the random access channel. Indicated to L1 with the data request primitive. For this a parameter in the data request primitive is needed.

It was also said that "a way to divide the sub-RACH capacity is needed to be able to separate into access classes". This can be done by a partitioning using either signatures or access slots.

It was decided that a figure in 25.303 should clarify the interaction. This document proposes the corresponding Change Request to 25.303. It is based on the figure in Annex A of S25.321.

Change Request to 25.303

7.7.2 Random access transmission sequence
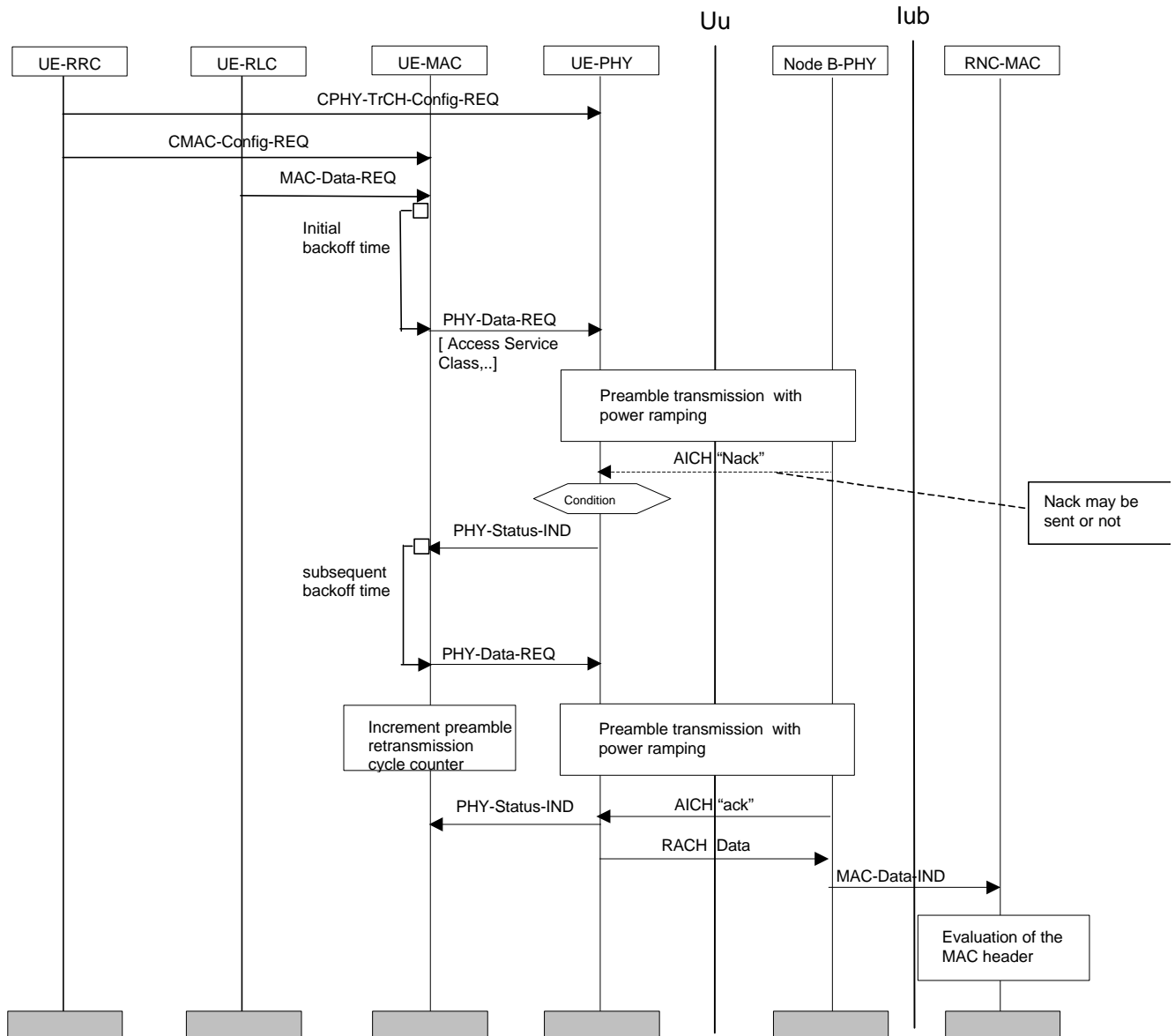
The RACH and AICH are configured once via a CPHY-TrCH-Config-REQ primitive. This primitive is issued only for initial configuration or when a parameter shall be changed, not for every RACH transmission.

The CMAC-Config-REQ primitive is used to configure MAC parameters required for the random access procedure (e.g. persistence value, maximum number of preamble ramping cycles, initial and subsequent backoff times).

When there is data to be transmitted on the RACH, i.e. reception of a MAC-Data-REQ primitive, the RACH transmission control procedure is started.

After some initial backoff, a primitive PHY-Data-REQ containing the selected Access Service Class (ASC) is sent to L1. This triggers the PRACH preamble transmission procedure, i.e. the physical layer selects a PRACH access slot and signature without further backoff delay imposed on L1, but within the ASC constraints.

If the maximum permitted transmission power was reached without receiving an acknowledgement, or a negative acknowledgement (Nack) has been received on AICH, the preamble ramping cycle is repeated. The number of preamble ramping cycles is counted in MAC.

Upon successful transmission of a preamble, MAC receives an acknowledgement via PHY-Status-IND primitive that the acquisition indicator was received and the message sent.