

Agenda Item:

Source: T-Mobil, Mannesmann Mobilfunk, Vodafone, GSM Association
VPT

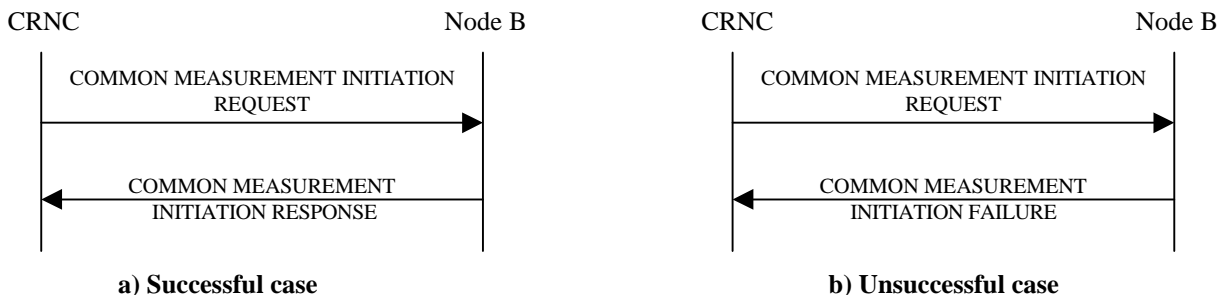
Title: Measurement Initiation Request

Document for: Approval

To get the NBAP specification ready in more detail the following changes in chapter 8.1.4.1, 9.1.18, 9.1.19 and 9.1.20 are proposed:

8.1.4.1 Common Measurement Initiation Request

For requesting measurements, the RNC use the following procedure:



Common Measurement Initiation Request Procedure

The COMMON MEASUREMENT INITIATION REQUEST message includes the following information:

- **Measurement Id:** This is a RNC defined identifier that uniquely identifies the measurement.
- **Measurement Object:** This defines on which resource the measurement should be performed. For example might this identifier point out a cell or a carrier within the Node B. Possible measurement objects are:
 - Cell
 - Carrier
 - Baseband Transceiver
- **Measurement Type:** This defines what measurement ~~that~~ should be performed. Possible measurement types are:
 - This could for example be “uplink interference level on the uplink”
 - Undecoded RACH frames
 - DL Cell Power Load output power within the measurement object (i. e. either cell or carrier output power)
 - distribution function of Uplink DCH power within the measurement object
 - distribution function of Downlink DCH power within the measurement object

• distribution function of the used channelization codes within the measurement object

• distribution function of the used frequency within the measurement object

• Overload

• Used Rake Fingers

Performance threshold crossing: The event and the value of the threshold have to be transmitted. Possible events are Eb/Io, Interference level, Tx power, Rx power, BER, FER, NodeB output power. Different kinds of counters are possible:

No. of events (every time the event occurs the counter goes one step up)

Time counter (counts the no. of threshold crossings and the time how long the threshold is crossed.)

- **Measurement Characteristics:** This defines how the measurements should be performed. ~~For example~~ Possible measurement characteristics are:

• measurement frequency (e. g. once per second)

• averaging duration (e. g. 15 minutes)

• timing information

• filtering information

• averaging type

• counter information

±

~~The exact structure and contents of this parameter is dependent on the Measurement Type and is FFS.~~

- **Report Characteristics:** The reporting could be any of the following classes:

Periodic: Reports should be delivered in a periodic matter with some frequency. In this case the update frequency have to be specified. A periodic report should be send until the RNC sends a “measurement termination request”

Event Triggered: Reports should be delivered upon a specific event in Node B. Possible events are:

Performance threshold crossing. In this case the event have to be specified. The event and the value of the threshold have to be transmitted. Possible events are Interference level, NodeB output power, no. of used RAKE Fingers, processing power

Immediate Reporting: A report should be delivered immediately. Only one measurement report should be sent and after that the measurement is automatically cancelled.

The possibility to request several measurements for the same event is FFS.

The COMMON MEASUREMENT INITIATION ~~RESPONSE REQUEST~~ message is used to accept a requested measurement and it includes the following information:

- **Measurement Id:** This is the same Id that was used in the request.

The COMMON MEASUREMENT INITIATION FAILURE message is used to reject a requested measurement and it includes the following information:

- **Measurement Id:** This is the same Id that was used in the request.
 - **Cause:** This states the cause for the reject. ~~The exact content of this parameter is FFS.~~

- Processor overload
- Hardware failure
- O&M intervention
- measurement not initiated by Network Management Platform (e.g. in case of real time measurements)
- Measurement not supported
- Abnormal failure

9.1.18 COMMON MEASUREMENT INITIATION REQUEST

Information Element	Reference	Type
Message Discriminator		M
Message Type		M
Transaction ID		M
Measurement ID		M
Measurement Object		M
<u>Cell</u>		<u>O</u>
<u>Carrier</u>		<u>O</u>
<u>Baseband Transceiver</u>		<u>O</u>
Measurement Type		M
<u>uplink interference level</u>		<u>O</u>
<u>undecoded RACH frames</u>		<u>O</u>
<u>distribution function of uplink DCH power</u>		<u>O</u>
<u>distribution function of downlink DCH power</u>		<u>O</u>
<u>distribution function of channelization codes</u>		<u>O</u>
<u>distribution function of used frequency</u>		<u>O</u>
<u>distribution function "nr. of used RAKE fingers"</u>		<u>O</u>
<u>overload</u>		<u>O</u>
<u>performance threshold crossing</u>		<u>O</u>
Measurement Characteristic		M
<u>measurement frequency</u>		<u>O</u>
<u>averaging duration</u>		<u>O</u>
<u>averaging type</u>		<u>O</u>
<u>timing information</u>		<u>O</u>
<u>filtering information</u>		<u>O</u>
<u>counter information</u>		<u>O</u>

Report Characteristics ¹		M
<u>periodic</u>		<u>O</u>
<u>event triggered</u>		<u>O</u>
<u>immediate Reporting</u>		<u>O</u>

9.1.19 COMMON MEASUREMENT INITIATION RESPONSE

Information Element	Reference	Type
Message Discriminator		M
Message Type		M
Transaction ID		M
Measurement ID ²		M

9.1.20 COMMON MEASUREMENT INITIATION FAILURE

Information Element	Reference	Type
Message Discriminator		M
Message Type		M
Transaction ID		M
Measurement ID ³		M
Cause		O
<u>processor overload</u>		<u>O</u>
<u>hardware failure</u>		<u>O</u>
<u>O&M intervention</u>		<u>O</u>
<u>measurement not initiated by NMP</u>		<u>O</u>
<u>measurement not supported</u>		<u>O</u>
<u>abnormal failure</u>		<u>O</u>

Furthermore we propose to add the new causes to the table “cause value” in the NBAP specification in subchapter 9.4.33.

¹ Can be periodic, event triggered or immediate.

² This is the same measurement ID as that sent in Request message.

³ This is the same measurement ID as that sent in Request message.