TSG-RAN Meeting #19 ***RP-030193***
Birmingham, United Kingdom, 11th – 14th March 2003

Work Item Description

Title: Remote Control of Electrical Tilting Antennas

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

None identified

3 Justification

Because of the interference limitation property of the CDMA based UTRAN, the tilting of antennas is essential for the successful operation and optimisation of UMTS network coverage. It would be very beneficial if it were possible to remotely control the tilting of antennas in order to optimise radio coverage areas.

The ability for the operator to control the electrical tilt of the antennas remotely from the O&M Network is currently possible via the implementation-specific interfaces between Node B Element Manager and Node B. A "remote control" mechanism would decrease the costs incurred on the operator for site visits to change the tilt of the antennas manually and simplify the redeployment of antennas in a large network.

Remote electrical tilting (RET) solutions to date are proprietary and hence interfacing a mix of antennas and Node Bs from different vendors is not possible without a standardised interface. Therefore, in order to enable flexibility for the operator in choosing their antenna supplier(s), a new interface is required between RET antenna and Node B to control the electrical tilting.

Additionally, RET functionality in the UTRAN accompanied by an appropriate set of signalling commands and control parameters from the Network Manager over the Ift-N interface would allow the operator to optimise the whole network using consistent commands – even in a multi-vendor environment.

4 Objective

The objectives of this work item are:

- Specifying a standardised open interface to enable local RET antenna-controlling functionality situated in the Node B to allow the RET antenna system being provided by a third party vendor .
- Be able to control the antenna from the Network Manager, so that the operator is able to control the RET antenna remotely and consistently across the network.

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects:	USIM	ME	AN	CN	Others
Yes			X		X
No	X	X		X	
Don't know					

a) Work for TSG RAN WG 3

- Definition and inclusion of the relevant items in the TSG RAN WG3 specification in order to control electrical tilting antennas

b) Work for TSG SA WG 5

- Provision of the parameters / functionality across the Itf-N interface needed for a network wide controlling of RET antenna devices

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
TR 25.xyz	Remote control of Electrical Tilting Antennas	RAN3		RAN#21	RAN#22	

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
25.401		UTRAN architecture description; stage 2	RAN#22	

11 Work item rapporteur

Andreas Hauser, Vodafone D2 GmbH, Düsseldorf, Germany

12 Work item leadership

TSG-RAN WG 3

13 Supporting Companies

Vodafone Group, **3,** Lucent Technologies, Nortel Networks, Siemens AG, Telefonica, Telecom Italia, Alcatel

14 Classification of the WI (if known)

	Feature (go to 14a)
	Building Block (go to 14b)
X	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: Parent Feature: RAN Improvement

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)