TSG-RAN Meeting #17 RP-020659
3 – 6 September 2002, Biarriz, France

Title: **Proposed SI, Distributed RAN Architecture**
Source: **Nokia**
Agenda Item **8.8**

Study Item Description

Title
Distributed RAN Architecture

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work/study items
None

3 Justification
As the mobile radio systems evolve and use of the data applications increase, there are more requirements for the high performance & cost efficient provision of the data services. This is required for commercially viable high bit rate services. The use of IP technology in UTRAN has taken its first steps along with introduction of the IP transport in Rel5. The next step is to adopt distributed architecture option for UTRAN. The use of distributed RAN architecture option where Node Bs would contain all the delay sensitive control operation can together with the use of IP transport technology provide both capacity (e.g. reduced delay) and cost benefits (e.g. improved transport capacity utilization) to the system operator.

4 Objective
The objective of this study item is to study the benefits of distributed RAN architecture option with IP transport that could be used together with the existing Release'99 based network elements. The study item should consider also impacts on the existing UTRAN interfaces and co-existence with the existing UTRAN architecture as well as potential benefits for the system performance, deployment and radio interface evolution.

The study item work includes study of the following items:

- Integration of the control functionalities in the Node B
- Necessary Iu and Iur enhancements
- Reduction of the Iu & Iur control plane protocol stack
- Other necessary enhancement of UTRAN procedure to support distributed RAN architecture

The study item methods to be considered shall be such there is no UE impacts.

5 Service Aspects

None/Text

6 MMI-Aspects

None/Text

7 Charging Aspects

None/Text

8 Security Aspects

None/Text

9 Impacts

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

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	Distributed RAN architecture	R3			RAN#20	

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
25.401				

11 Study item raporteurs

Woonhee Hwang, Nokia.

12 Study item leadership

TSG-RAN WG3

13 Supporting Companies

Nokia, H3G, NEC, T-Mobil, Sonera, mmO2, Siemens

14 Classification of the SI (if known)

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

14 The SI is a Work Task: parent Building Block

UTRAN Improvement Feature