Agenda Item: 6.6

Source: DoCoMo/NEC/Fujitsu

Title: **Proposed VHE Requirements For 3GPP SA VHE Document.**

Document for: **Include in phase 1 baseline document**.

The following are important general requirements that have been identified in the TTC document GSM evolved network requirements v.0.3.5 and proposed to be included in the agreed baseline document for phase 1.

VHE Requirements

The Virtual Home Environment supports:

- **Service transparency** between different second and third generation networks.

- **Transparent execution** of the "*Virtual Home Environment*" service features:

  - Services may be executed without necessary sharing of service and subscriber information.

- **Customised Services:** the means for network operators service providers and users to define their own specific features/services

- **A personalised service set:** with user personalisation of features/services.

- **Provisioning of subscriber specific services:**

- **Limited network load:** The current mobile network already contains a considerable signaling load to handle a mobile call. These signaling are required to maintain the mobility information of the mobile subscriber up to date. Therefore, the signaling load of new features must be limited as much as possible to ensure that the mobile network will not be overloaded its signaling capacity.

- **Activation of mobile related call events:** This enables the operators to provide mobile specific services such as Call Forwarding Not Reachable, message delivery when terminal is activated, and registration restriction.

- **Perform charging activities**

- **Perform In-Band User Interaction:** The VHE shall provide the capabilities to order the playing of announcements and tones towards calling/called subscribers during the call-setup, call disconnection, unsuccessful call establishment, and incoming call procedures.

- **Allow for Subscriber Interaction**

- **Interaction with the Supplementary Services:** The mobile network already provides a number of standardized supplementary services. The interaction with these services needs to be considered.

Service Capability Requirements

VHE should support following service capabilities:

- Support of standardized GSM supplementary services (switch based services)

- Support of existing PDC operator specific services

- Called user hunting

- Messages/data storage service

- Message waiting indication

- Support of standardized IN services

- UPT

- Freephone

- Calling Name Identification Presentation

- Support of Multimedia services

- Point-to-point communication service control shall only be supported;

- QoS control

- Support of various addressing scheme (e.g. ISDN address string, packet, ATM, IP addressing)

- Support of operator specific MMI

- Support of service execution MT to control MMI

- Download mechanism of announcements and software logic for MMI

- Support of supplementary service control by the subscriber (e.g. Registration, Deregistration, Activation, Deactivation, and SS data modification)

  - from the subscriber with his own terminal

  - from the authorized user via PLMN/PSTN/ISDN

The following table shows the benchmark services to be considered in the VHE

TABLE Prioritization of benchmark services

Benchmark Services	Abb	GSM	Camel ph2	Priority
Abbreviated Dialling	ABD		X	A
Account Card Calling	ACC			B
Automatic Alternative Billing	AAB			A
Call Distribution	CD	X		A
Call Forwarding	CF	X		A
Call Hold	CH	X		A
Call Rerouting Distribution	CRD	X	X	A
Call Transfer	TRA	X		A
Call Waiting	CW	X		A
Completion of Call to Busy Subscriber	CCBS	X		A
Conference Calling	CON	X		A
Credit Card Calling	CCC			B
Destination Call Routing	DCR		X	A
Follow-Me Diversion	FMD		X	A
Freephone	FPH			A
Global Virtual Network Service	GVNS			A
Hot Line	HOT		X	A
International Telecommunication Charge Card	ITCC			B
Internetwork Freephone	IFPH			A
Internetwork Mass Calling	IMAS			A
Internetwork Premium Rate	IPRM			A
Internetwork Televoting	IVOT			A
Malicious Call Identification	MCID			A
Mass Calling	MAS	X		A
Message store and forward	MSF			A
Multimedia	MMD			B
Originating Call Screening	OCS		X	A
Premium Rate	PRM		X	A
Security Screening	SEC			A
Selective Call Forward on Busy / Dont' answer	SCF		X	A
Split Charging	SPL		X	A
Televoting	VOT			A
Terminating Call Screening	TCS		X	A
Terminating Key Code Protection	TCKP			B
Universal Access Number	UAN			B
Universal Personal Telecommunication	UPT			A
User-Defined Routing	UDR		X	B (FFS)
Virtual Private Network	VPN		X	A

Proposal: For inclusion in the VHE R99 Phase 1 and 3GPP SA VHE (UMTS 22.21 equivalent).