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3GPP TSG CN WG4#03 **Tdoc N4-000547**
Helsinki, Finland (revised N4-000508)
17 - 21 July 2000

Modifications to 3GPP Project Plan for R00 v.1.3

Features, Building Blocks and Work Tasks of R00

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* **expected completion date**
Bearer and Access Stratum	**Evolution of transport**	**Evolution of the Transport in the UTRAN**[1]	**R3:** Introduction of an option allowing an IP transport in the UTRAN **R3:** new RAB support (this belongs also to the RAN Improvements) **R3:** QoS optimisation for AAL2 connections
		Evolution of the Transport in the CN[2] *** WI formulation assigned to N4**	~~**?:** User/signalling data transport on TCP/RTP/UDP/IP based bearers (Nb/Nc)~~
			~~**?:**User/signalling data transport on ATM/AAL2 bearers (Nb/Nc)~~
			~~**N4:** Separation of call and bearer control~~
			N4: IP Transport of CN protocols (e.g., CAP, MAP) *March 2001*
			S2, N4: Feasibility study for transport and control separation in the PS CN domain (WIC in SP-000293, rap. Juan-Antonio Ibanez, Ericsson Deutschland, Juan-Antonio.Ibanez@eed.ericsson.se) *March 2001*
		~~**Evolution of Bearers in the CN**~~[3] ~~*** (Combine with above for WI)**~~	~~**N4:**Evolution of the bearers inside the PLMN~~
			~~**N3:**Evolution of the bearers at the inter-working point with other types of networks~~

[1] These building blocks are considered as independent.
[2] These building blocks are considered as independent.
[3] Transport and bearers are distinguished in this proposal because it is assumed that Bearer can be provided using different transport techniques as they shall fit the requirement in terms of QoS.

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* **expected completion date**
QoS	**Real Time QoS for packet services including VoIP**	**HOs: maintenance of real-time QoS while moving between cells in the PLMN including inter-SGSN change and SRNS relocation or possibly other mechanisms (S2 writes WI Desc)**	**S2:** End-to-End multimedia QoS negotiation, *Sept* **N1:** End-to-End multimedia QoS negotiation *Nov*
			New or enhanced packet handling procedures to maintain real-time and non real-time services throughout packet session: **S2:** on QoS architecture and GPRS improvements, *July* **RAN3** handover for real time services in PS domain, *August* **N1:** on GPRS GMM and SM aspects, *July* **N4:** on GTP aspects, ~~*July*~~*March 2001* **N1:** changes to QoS re-negotiation procedure, *August*
	Non-real time QoS Enhancements for packet services	**Mapping of overall end to end QoS in each new interface (S2 writes WI Desc)**	**N4:** Impacts on QoS profile anticipated, ~~*July*~~*March 2001*
			N3: For Packet as per real time QoS, see "Real Time QoS for packet services" above.
		Evolution of maximum SDU size (S2 writes WI Desc)	**N4:** Impacts on CN protocols (e.g., GTP, MAP) anticipated, ~~*Sept*~~*March 2001*.
			N3: impact on interworking over GTP e.g. PPP, *August*

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* **expected completion date**
Call Control and Roaming	**Provisioning of IP-based multimedia services** (S1) WIC SP-000216 Rap, Mark Cataldo, Motorola	**Call control and roaming to support IP-based multimedia services in UMTS** (S2) WIC in SP-000289, Rap: Liz Daniel, Lucent	**Definition of service requirements.** *17.-21.7., S1#9* Issues include e.g.: • Roaming requirements • Requirements on supplementary services • Interworking requirements**TR22.976**
			Architecture and Stage 2 *80% complete in S2#14, i.e. in TSGS #9* **S2, N1, N3, N4:** Stage 2 description Issues include e.g.: • Mobile IP • RAB selection principles • Optimized VoIP bearer mechanisms • SIP multimedia protocol **TR23.821**
			N4: Study on impacts on HSS ~~July~~March 2001
			N1, S2: SIP Call Control protocol over Gm reference point (CSCF – UE) *Dec.* WI to be defined, one WI proposal should cover all N1 work tasks. Richard Brook , Lucent
			N1: Verify that functionality exists in SIP Call Control to support the set of SS defined in 22.976, Gm IF *Dec.* *Note: S1 to judge whether major deviations from current behaviour are acceptable*
			N4: SIP Call Control SS and relationship to Mg, Mw and Cx including verification of the functionality to support the set of SS defined in 22.976 ~~*Dec*~~*March 2001*.
			N1, T2: Multimedia Terminal capabilities, e.g. • CC version, • MS CM, etc. *Dec.*
			N1, N4: Multimedia Network capabilities, e.g. CC version, Protocol version, etc. ~~*Dec*~~*March 2001*.
			N2, N4, S2: CSCF – HSS (Cx) applications and services (SCP) ~~*Dec*~~*March 2001*.
			S2, N4 (HSS), N3 (interworking): Addressing, Identities ~~*June*~~*March 2001*

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* **expected completion date**
			N1, N3,(S1 for requirements): Interworking with other multimedia protocols *Dec.* • Legacy systems (e.g., H.323, 3GH.324/M, H.320, H.248) • PSTN • GSM PLMN • (Should be extensible to other protocols)
	Emergency call enhancements **N1 to define WI (Rouzbeh / Ericsson)**	**IP&PS based Emergency call enhancements** (N1) WIC in NP-000380	**S1:** creation of 22.976 on Service Requirements for IP-based emergency calls: *July*
			N1: SIP emergency calls and packet emergency calls in general (S1 requirements needed) *Dec.*
			S2: Stage 2 for emergency calls and packet emergency calls in general *80% stable: Sept.This is critical task – it does not leave too much time for stage 3 work on .*
			S1, N1, N4, T3: Distinction of emergency call types to different emergency services. ~~*August*~~*Dec 2000*
			Someone (IETF, N1): Stage 3 for emergency calls and packet emergency calls in general. Dec
		CS based Emergency call enhancements (N1) WIC in NP-000379	**S1, N1, N4, T3:** Distinction of emergency call types to different emergency services in CS domain. ~~*August*~~*September*
			S1, N1: Emergency call recalling capability enhancement. *Dec.*
		Roaming support within and between IP Multi-media network and CS Domain networks	**S2, N4:**Stage 2 *80% stable: June* Covered by work item in SP-000150 TR23.821
			N3: Internetwork roaming aspects
			S1: Roaming requirements *July* Covered by work item proposed in S1-000290 TR22.976

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* **expected completion date**
	Enable bearer independent Circuit-switched network architecture • **WIC in SP-000288** • Rapporteur Alexander Milinski, Siemens	**Enable bearer-independent call control** • **WIC in N4-000512 (N4)** • Rapporteur Heinz-Peter Keutmann, Ericsson, Heinz-Peter.Keutmann@eed.ericsson.se	**S2:** Architecture and Stage 2 description on **23.821** *80% complete in S2#14, i.e. in TSGS #9*
			N3: Standardisation of protocols (control & user plane) over reference points between MGWs ~~*Dec*~~*March 2001*.
			N4: Standardisation of protocols over reference points between MSC server and Gateway MSC server ~~*Dec*~~*March 2001*.
			~~[additional work tasks possible as architecture evolves] *Dec.*~~**N4:** • Standardization of detailed stage 2 description, *December 2000*
			S3, N4: • Impacts from lawful interception, *March 2001*
			N4: ~~Bearer control~~Standardization of protcols over reference points between MSC server and MGW (stage 3 - protocol issues~~, stage 2~~) ~~*Dec*~~*March 2001*.
			N3: Standardization of protcols over reference points ~~Bearer control~~ between MSC server and MGW (stage 3 - parameter value issues~~, stage 3~~) ~~*Dec*~~*March 2001*.
			~~**N3: Bearer control (control plane, e.g., Q.AAL2) between MGWs** *Dec.*~~
	Bearer Modification without pre-notification (S1) WIC in SP-000216, Rap. Wayne Ashwell, BT	**Service Modification without pre-notification between** Objectives include modification not using BICC (between Speech and Fax, Speech and Modem, and Speech and Multimedia using ISUP) and using BICC. **WIC in NP 000224 (N3), Rap.** Masahiko Yahagi (m_yahagi@mcs.abk.nec.co.jp)	**N1:** in call modify procedure *Dec.*
			N3: interworking function, TAF *Dec.* Preliminary as no official work item exists on the issue
			N4: Out of band Transcoder Control ~~*Dec*~~*March 2001* Preliminary as no official work item exists on the issue
			T2: AT commands *Dec.* Preliminary as no official work item exists on the issue

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* **expected completion date**
Codecs	**Transcoder-Free Operation (TrFO)** SP-000094	**OoBTC**[4] ***July 2001*** • **WIC in N4-000531 (N4)** • Rapporteur: Toshiyuki Tamura, NEC, tamurato@elsf.ncos.nec.co.jp	**N1:** Adding new codecs and the signalling mechanism to negotiate the activation of the fcodecs should be studied for . Codec Negotiation between UE and MSC. Signalling for See NP-000085 24.008, 23.009, 23.108 (29.002) Assumption for **R99**: As there is only one Codec, AMR, this does not need to be signalled.
			N4: Codec Negotiation inter MSC, Bearer establishment inter MSC. TS 23.153 **R99** part complete. capabilities moved to annex. See NP-000127 **Open issues:** Handling of Conference Calls; Handling of Multi Party Supplementary Services; Handling of Handover UMTS to GSM; Handling of Sending a tone or Announcement; Protocol between MSCs (i.e. Iu UP Framing versus I.366). Harmonization of TFO and TrFO
			S2 Principles and Terminology, e.g. cascading TrFO/TFO/TrFO
			R2: Bearer establishment between UE and RAN, TFC control by RRC
			R3: Bearer establishment between MSC and RNC as well as RNC and Node B, Notification of the Codec mode to RAN, Iu UP control procedure (rate control, initialization, time alignment)
			S3, N4: • Prevention of user fraud, • Impacts from lawful interception
			S4 26.103 Codec list, 3G equivalent of GSM 08.62

[4] The Out of Band Transcoder is deleted from the TSG RAN Work Programme as the solution does not involve the UTRAN (i.e. it is not proposed to delete the Out of Band Transcoder function). TSG RAN will not work on this unless it is found to be necessary, at which time a Work Item will be established to deal with this.

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* **expected completion date**
		~~**TrFO specification**~~	~~**N1:**~~
			~~**N4** N4**: decided to standardise TrFO for R00.**~~
			~~**R3** R3**: User & Control Plane procedures related to the Codec Commands to UE**~~
			~~**S3** Prevention of user fraud~~
			~~**S4** 26.103 Codec list, 3G equivalent of GSM 08.62~~
			~~**WG** ? Harmonization of TFO and TrFO may be required~~

Inter Group Co-ordination		*Building block*	*WG: work task* **expected completion date**
Security	**Core network security** (S3) WIC in SP-000299, Rap. Robert Lubarsky, T-Mobil, Robert.Lubarsky@T-Mobil.de	**MAP application layer security, S3**	**S3:** • Integration of security architecture • Complete CRs, N4 , Jun • CRs approved at TSG level, Jun • Definition of security architecture CRs approved at TSG level Sep
	Evolution of GSM PS algorithms (e.g. GEA 2 deployment) (S3) WIC in SP-000307, (no rap nor sup. Company!)		**S3** • Decision to createCRs making GEAx support optional also for R97 to preserve commonality between R97 and R98 and to allow for early roll-out of GEA2 in R97 terminals. Companies to check that no backward compatibility issues exist: CN/S3 ad hoc, Jun • Final decision on whether GEAx support is optional also for R97: CN#8, Jun • Definition of security architecture • CRs approved at TSG/SMG level, Jun • Integration of security architecture • Concept presented to S2 and CN, Aug • Complete CRs with S3 review, Sep • CRs approved at TSG level, Sep
			N4: • Impacts to GTP
			N1: • GEA capability indication in MS CM

Inter Group Co-ordination		*Building block*	*WG: work task* **expected completion date**
	FIGS **S3**:	**FIGS**	**S2, N24, N4,** **S3:** Identification of milestones for extending FIGS to PS domain: S3#14 (Aug 00) Requirements capture: S3#15 (Sep 00) Security feature specification: S3#16 (Nov 00) Feasibility study (Jan 01) Definition of security architecture - CRs approved at TSG level (Mar 01) Integration of security architecture - Concept presented to S2 and CN (Apr 01) - First draft CRs (Jul 01) - Complete CRs with S3 review (Oct 01) CRs approved at TSG level (Dec 01)

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* **expected completion date**
Location related issues	**Support of Localized Service Area (SoLSA) (S1)** ~~**WIC in SP-000216, Rap. ?, Nokia**~~	**Basic concept of SoLSA (broadcast LSA ids, zone tariffing)**	Creation of Work Item for UTRAN-SoLSA (This was supported only by one company in the S1 April meeting)
			S1: Development of SoLSA service descriptions
			S1, RAN: LSA definition
			S1, RAN: LSA selection
			R2: LSA information broadcast
			R3: Iu signalling support for SoLSA
			R3: Possible Iur signalling support for SoLSA
			R3: Possible Iub signalling support for SoLSA
			S2, R2: Adapt GSM stage 2 SoLSA for UTRAN
			CN WGs : Adapt SoLSA core network CRs
			RAN WGs: SoLSA specifications for UTRAN
			T WGs: Adapt SoLSA UE and USIM specifications
			S1: Study the usage of geographical information for SoLSA
		Preferential access (cell access priority for LSA users)	**SA, CN and RAN WGs:** Iu interface and MAP signalling
		Active mode support (favouring LSA cells in active mode)	**SA, CN, RAN and T WGs:** Adapt GSM specifications for UMTS, UTRAN and UE:

Inter Group Co-ordination	***Feature***	***Building block***	***WG: work task*** **expected completion date**