Technical Specification Group Services and System Aspects
Meeting #15, Cheju Island, Korea, 11-14 March 2002

TSGS#15(02)0063

Source: **SA1**

Title: **CRs to 21.905 and 22.105 related to the Streaming Service Stage 1.**

Document for: **Approval**

Agenda Item: **7.1.3**

SA Doc	Spec	CR	Rev	Phase	Cat	Subject	Old Vers	New Vers	SA1 Doc
SP-020063	21.905	031		Rel-5	B	CR 21.905 Rel. 5 Introduction of new abbreviations derived of the approval of 3GPP TS 23.236	5.2.0	5.3.0	S1-020431
SP-020063	22.105	033		Rel-5	F	End-user performance expectations-Streaming Services	5.0.0	5.1.0	S1-020635

CR-Form-v4

CHANGE REQUEST

⌘ **21.905** **CR** **031** ⌘ ev **-** ⌘ Current version: **5.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☒ Core Network ☒

Title:	⌘	Introduction of new abbreviations derived of the approval of 3GPP TS 23.236
Source:	⌘	SA1
Work item code:	⌘	PSS-E
Date:	⌘	7th February 2002
Category:	⌘	**B**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	3GPP TS 23.236 “Intra Domain Connection of RAN Nodes to Multiple CN Nodes” was approved in TSG-SA#13. The approval of this new feature in REL-5 introduces a new abbreviation, NRI = Network Resource Idenfier, and uses other abbreviations that were not included in 21.905 yet (BVCI, IDNNS). If these abbreviations are included, then a reference to 3GPP TS 21.905 can be introduced in 3GPP TS 23.236.
Summary of change:	⌘	Introduces the abbreviations: NRI, BVCI, IDNNS.
Consequences if not approved:	⌘	Risk of specifications being not aligned.

Clauses affected:	⌘	4B, 4I, 4N
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

****** First Modified Section ******

B

B-ISDN	Broadband ISDN
BA	BCCH Allocation
BAIC	Barring of All Incoming Calls supplementary service
BAOC	Barring of All Outgoing Calls supplementary service
BCC	Base Transceiver Station (BTS) Colour Code
BCCH	Broadcast Control Channel
BCF	Base station Control Function
BCFE	Broadcast Control Functional Entity
BCH	Broadcast Channel
BCIE	Bearer Capability Information Element
BER	Bit Error Ratio
BFI	Bad Frame Indication
BG	Border Gateway
BGT	Block Guard Time
BI	all Barring of Incoming call
BIC	Baseline Implementation Capabilities
BIC-Roam	Barring of Incoming Calls when Roaming outside the home PLMN country
BID	Binding Identity
BLER	Block Error Ratio
Bm	Full-rate traffic channel
BMC	Broadcast/Multicast Control
BN	Bit Number
BO	all Barring of Outgoing call
BOC	Bell Operating Company
BOIC	Barring of Outgoing International Calls
BOIC-exHC	Barring of Outgoing International Calls except those directed to the Home PLMN Country
BPSK	Binary Phase Shift Keying
BS	Base Station
	Basic Service (group)
	Bearer Service
BSG	Basic Service Group
BSC	Base Station Controller
BSIC	Base transceiver Station Identity Code
BSIC-NCELL	BSIC of an adjacent cell
BSS	Base Station System
BSSAP	Base Station System Application Part
BSSMAP	Base Station System Management Application Part
BSSOMAP	Base Station System Operation and Maintenance Application Part
BTFD	Blind Transport Format Detection
BTS	Base Transceiver Station
BVCI	BSS GPRS Protocol Virtual Connection Identifier
BWT	Block Waiting Time

****** Next Modified Section ******

I

I-Block	Information Block
I-ETS	Interim European Telecommunications Standard
I/O	Input/Output
I	Information frames (RLP)
IA	Incoming Access (closed user group SS)

IAM	Initial Address Message
IC	Integrated Circuit
	Interlock Code (CUG SS)
IC(pref)	Interlock Code of the preferential CUG
ICB	Incoming Calls Barred (within the CUG)
ICC	Integrated Circuit Card
ICGW	Incoming Call Gateway
ICM	In-Call Modification
ICMP	Internet Control Message Protocol
ID	Identifier
IDL	Interface Definition Language
IDN	Integrated Digital Network
IDNNS	Intra Domain NAS Node Selector
IE	Information Element
IEC	International Electrotechnical Commission
IEI	Information Element Identifier
IETF	Internet Engineering Task Force
IF	Infrastructure
IFS	Information Field Sizes
IFSC	Information Field Size for the UICC
IFSD	Information Field Size for the Terminal
IHOSS	Internet Hosted Octet Stream Service
IIOP	Internet Inter-ORB Protocol
IK	Integrity key
IM	Intermodulation
IMA	Inverse Multiplexing on ATM
IMEI	International Mobile Equipment Identity
IMGI	International mobile group identity
IMSI	International Mobile Subscriber Identity
IMT-2000	International Mobile Telecommunications 2000
IMUN	International Mobile User Number
IN	Intelligent Network
	Interrogating Node
INAP	Intelligent Network Application Part
INF	INFormation field
IP	Internet Protocol
IP-M	IP Multicast
IPv4	Internet Protocol Version 4
IPv6	Internet Protocol Version 6
IR	Infrared
IRP	Integration Reference Point
ISC	International Switching Centre
ISCP	Interference Signal Code Power
ISDN	Integrated Services Digital Network
ISO	International Organisation for Standardisation
ISP	Internet Service Provider
ISUP	ISDN User Part
ITC	Information Transfer Capability
ITU	International Telecommunication Union
IUI	International USIM Identifier
IWF	InterWorking Function
IWMSC	InterWorking MSC
IWU	Inter Working Unit

****** Next Modified Section ******

N

NAD	Node Address byte

NAI	Network Access Identifier
NAS	Non-Access StratumNBAP Node B Application Part
NB	Normal Burst
NCELL	Neighbouring (of current serving) Cell
NBAP	Node B Application Part
NBIN	A parameter in the hopping sequence
NCC	Network (PLMN) Colour Code
NCH	Notification CHannel
NCK	Network Control Key
NCP	Network Control Protocol
NDC	National Destination Code
NDUB	Network Determined User Busy
NE	Network Element
NEF	Network Element Function
NEHO	Network evaluated handover
NET	Norme Europeenne de Télécommunications
NEV	NEVer
NF	Network Function
NI-LR	Network Induced Location Request
NIC	Network Independent Clocking
NITZ	Network Identity and Time Zone
NM	Network Manager
NMC	Network Management Centre
NMS	Network Management Subsystem
NMSI	National Mobile Station Identifier
NNI	Network-Node Interface
NO	Network Operator
NP	Network Performance
NPA	Numbering Plan Area
NPI	Numbering Plan Identifier
NRI	Network Resource Identifier
NRM	Network Resource Model
NRT	Non-Real Time
NSAP	Network Service Access Point
NSAPI	Network Service Access Point Identifier
NSCK	Network Subset Control Key
NSDU	Network service data unit
NSS	Network Sub System
Nt	Notification (SAP)
NT	Network Termination
	Non Transparent
NTAAB	New Type Approval Advisory Board
NUA	Network User Access
NUI	National User / USIM Identifier
	Network User Identification
NUP	National User Part (SS7)
NW	Network

****** End Modified Sections ******

TSG-SA WG 1 (Services) meeting #15 **S1- 020635**
Saalfelden, Austria, 11-15th February 2002 **Agenda Item: 10.3**

CR-Form-v4

CHANGE REQUEST

⌘ **22.105** **CR** **033** ⌘ ev **-** ⌘ Current version: **5.0.0** ⌘

Spec Title: Services and Service Capabilities ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☒

Title:	⌘	End-user performance expectations-Streaming Service
Source:	⌘	SA1
Work item code:	⌘	PSS-E
Date:	⌘	5th February, 2002
Category:	⌘	**F**
Release:	⌘	REL-5

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R96	*(Release 1996)*
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R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	To make table 3 in section 5.5 more correct.
Summary of change:	⌘	Changes in table 3 to align with capabilities of streaming service.
Consequences if not approved:	⌘	The table is confusing and not correct as it is.

Clauses affected:	⌘	5.5
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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5.5 Supported End User QoS

This section outlines the QoS requirements that shall be provided to the end user / applications and describes them as requirements between communicating entities (i.e. end to end). The QoS values in the tables represent end to end performance, including mobile to mobile calls and satellite components. Delay values represent one -way delay (i.e. from originating entity to terminating entity). The values included in the following tables are commonly accepted values from an end-user viewpoint [12]. The delay contribution within the mobile network should be kept to minimum since there may be additional delay contributions from external networks.

Figure 2 below summarises the major groups of application in terms of QoS requirements. Applications and new applications may be applicable to one more groups.

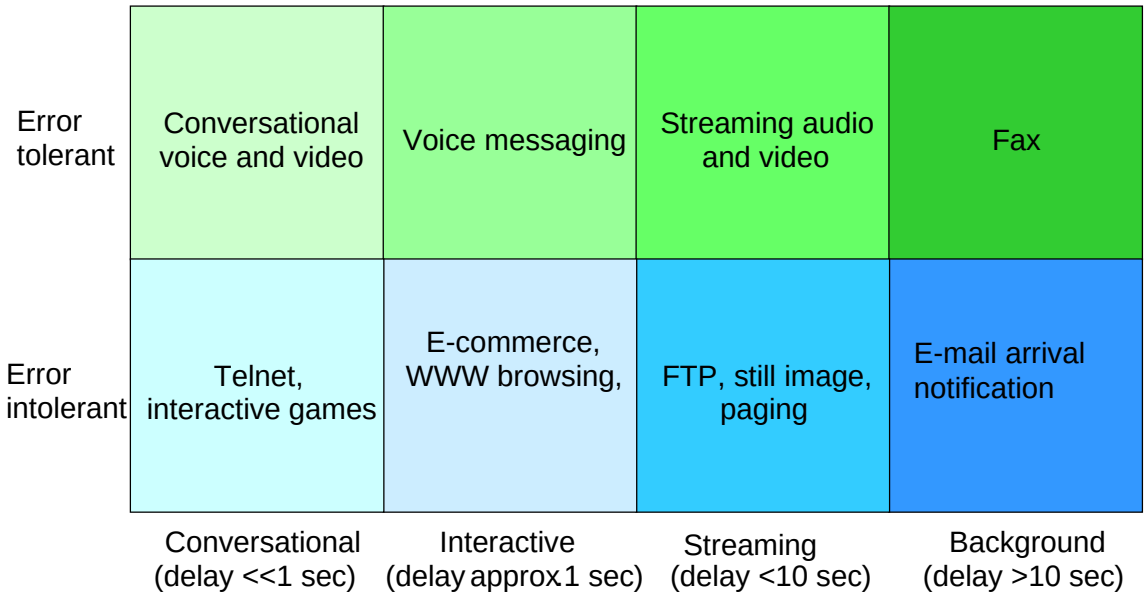

Figure 2: Summary of applications in terms of QoS requirements

The following tables further elaborate end user / application QoS requirements.

Table 1: End-user Performance Expectations - Conversational / Real-time Services

Medium	Application	Degree of symmetry	Data rate	Key performance parameters and target values		
				End-to-end One-way Delay	Delay Variation within a call	Information loss
Audio	Conversational voice	Two-way	4-25 kb/s	<150 msec preferred <400 msec limit Note 1	< 1 msec	< 3% FER
Video	Videophone	Two-way	32-384 kb/s	< 150 msec preferred <400 msec limit Lip-synch : < 100 msec		< 1% FER
Data	Telemetry - two-way control	Two-way	<28.8 kb/s	< 250 msec	N.A	Zero
Data	Interactive games	Two-way	< 1 KB	< 250 msec	N.A	Zero
Data	Telnet	Two-way (asymmetric)	< 1 KB	< 250 msec	N.A	Zero

Note 1: The overall one way delay in the mobile network (from UE to PLMN border) is approximately 100msec.

Table 2: End-user Performance Expectations - Interactive Services

Medium	Application	Degree of symmetry	Data rate	Key performance parameters and target values		
				One-way Delay	Delay Variation	Information loss
Audio	Voice messaging	Primarily one-way	4-13 kb/s	< 1 sec for playback < 2 sec for record	< 1 msec	< 3% FER
Data	Web-browsing - HTML	Primarily one-way		< 4 sec /page	N.A	Zero
Data	Transaction services – high priority e.g. e-commerce, ATM	Two-way		< 4 sec	N.A	Zero
Data	E-mail (server access)	Primarily One-way		< 4 sec	N.A	Zero

Table 3: End-user Performance Expectations - Streaming Services

Medium	Application	Degree of symmetry	Data rate	Key performance parameters and target values		
				Start-up~~One-way~~ Delay	Transport d~~D~~elay Variation	Packet loss at session layer~~Information loss~~
Audio	Speech, mixed speech and music, medium and h~~H~~igh quality music ~~streaming audio~~	Primarily one-way	5~~32~~-128 kb/s	< 10 sec	< 2~~1~~ msec	< 1% Packet loss ratio~~FER~~
Video	Movie clips, surveillance, real-time video~~One-way~~	Primarily o~~O~~ne-way	20~~32~~-384 kb/s	< 10 sec	<2 sec	< 2~~1~~% Packet loss ratio~~FER~~
Data	Bulk data transfer/retrieval, layout and synchronisation information	Primarily one-way	< 384 kb/s	< 10 sec	N.A	Zero
Data	Still image	Primarily o~~O~~ne-way		< 10 sec	N.A	Zero
~~Data~~	~~Telemetry - monitoring~~	~~One-way~~	~~<28.8 kb/s~~	~~< 10 sec~~	~~N.A~~	~~Zero~~