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2 **System Release Guide for the**
3 **Release <ALPHA>**
4 **of the cdma2000® System Specifications**

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1 **Executive Summary**

2 The System Release Guide (SRG) for the Release <ALPHA> provides an overview
3 for and reference to the Release <ALPHA> of the 3GPP2 wireless telecommuni-
4 cation system (cdma2000®) capabilities, features, and services. This document
5 is intended for use by persons and /or companies who are developing and / or
6 deploying cdma2000 systems or by persons who are otherwise interested in
7 cdma2000 systems.

8 Air interface support for HRPD and enhanced IOS are included and provide
9 high-speed forward link data rate service capability up to 2.4576 Mbps in a
10 1.25 MHz. Since cdma2000 uses many IP based protocols to a large degree, it
11 offers various features of IP based services. The system in this release contains
12 support for the Legacy System, and limited support for the 3GPP2 Legacy Mo-
13 bile Station Domain, making use of IP-based transport and signaling.

14 This release covers a wide range of new feature and service capabilities. Major
15 features and/or capabilities in the release include the following:

- 16 □ Legacy MS Domain (LMSD) Step1
- 17 □ HRPD Phase-II capabilities
- 18 □ Packet data flow control and handoff capability to support high speed
19 packet data
- 20 □ BS, PCF, PDSN interface version control for the IOS standard
- 21 □ Enhanced cdma2000 Supplemental Channel operation
- 22 □ Inter-standard roaming capability between cdma2000 and GSM systems
- 23 □ Selectable mode vocoder and supporting functions
- 24 □ QoS control to support multiple service instances and IP transport
- 25 □ Header compression for voice over IP service
- 26 □ Voice over IP
- 27 □ IP Broadcast and IP Multicast
- 28 □ Other enhanced features in Revision-C of the cdma2000air interface

29 The features and capabilities provided by this cdma2000 System Release are
30 listed and provided. Also references and specifications numbers for the features
31 are provided for readers' review.

1 **Editor**

2 Kaz Ishida, QUALCOMM JAPAN Inc., +81-3-5412-8954

3 kishida@qualcomm.com

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REVISION HISTORY		
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Version 0.0.1	Initial Draft	19 November 2001
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Version 0.0.5	Adjusted headings in section 4.	5 March 2002
Version 0.0.6	Incorporated changes proposed at the 12 March 2002 meeting session.	13 March 2002
Version 0.0.7	Corrected the 3GPP2 TSG-S Document number to S.P0052.	14 March 2002
Version 0.0.8	Added feature content information in section 5 tables.	25 March 2002
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S.P0052: CDMA2000® System Release Guide - <ALPHA Release>

Version 0.0.16	<p>Added Nokia comments (S30-20021028-012/012A). Executive Summary (S30-20021028-007), WI numbers, feature descriptions, and specification numbers.</p> <p>Deleted retired and <Beta> release features (as V.0.0.16)</p>	<p>9 December, 2002 13 January, 2003 (as V.0.0.16.1)</p>
Version 0.0.17	<p>Title was changed. Features were updated in accordance with the latest Work plan (as of 2003/01/13)</p>	<p>16 January, 2003</p>
Version 0.1	<p>cdma2000 is used instead of that without ®.</p> <p>In Fig.1, ref pt# 26 is replaced by #13 as in the NAM documents.</p> <p>Feature names and descriptions, WI#, specifications in section 5 and 6 are imported from the Work plan and updated to keep consistency with it.</p>	<p>12 May, 2003</p>
Version 0.2	<p>Modified with SC comments (deletion of DV, location and security service).</p> <p>Reference section and the feature table are totally updated. Those are straightforward exported from the Work plan.</p> <p>Added acronyms from IOS docs.</p>	<p>July 14, 2003</p>
Version 0.21	<p>Incorporated TSG-X comments.</p>	<p>July 16, 2003</p>
Version 0.22	<p>Editorial update on the change in Ver.0.21</p>	<p>July 17, 2003</p>
Version 0.23	<p>TIA nomenclatures were deleted. Some feature descriptions prepared by the editor were added, except for those not having WI descriptions in the Work plan.</p>	<p>July 17, 2003</p>
Version 0.24	<p>CDMA2000® -> cdma2000® <Alpha> Release -> Release <Alpha></p>	<p>July 17, 2003</p>
Version 0.25	<p>Incorporated Motorola comments as Annex: All IP Responsibility Matrix-draft</p>	<p>July 24, 2003</p>

S.P0052: CDMA2000® System Release Guide -Release <Alpha>

Version 0.26	<p>Updated Annex according to the Conf. Call results on 07/24/'03</p> <p>Updated descriptions for TSGs-001, 002, 003.</p> <p>Cleaned up X.P00xx, except X.P(S)0017 as now pending in SC review process.</p>	August 7, 2003
Version 0.27	<p>TSG-S, X comments to feature descriptions on TSGs-001 to 003, and TSGN-005 were incorporated.</p> <p>According to <u>Workplan 3.2</u>, "Multiple Service Instances", "Fast Handoff", "Packet Prepaid Service", "Flexible Rate Data", "VoIP" are now 3GPP2-00039.1, 3GPP2-00039.2, 3GPP2-00063, 3GPP2-00065, 3GPP2-00066, respectively.</p> <p>Updated Annex, according to Motorola contribution.</p> <p>Reference version numbers are updated.</p>	August 21, 2003

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1 **1 INTRODUCTION**

2 This document is the System Release Guide (SRG) for the 3GPP2 wireless tele-
3 communication system. It is developed and maintained under the auspices of
4 3GPP2 TSG-S, the TSG for Services and Systems Aspects for 3GPP2.

5 **1.1 DOCUMENT PURPOSE**

6 The objective of this document is to provide an informative overview for
7 and reference to the Release <ALPHA> of the 3GPP2 wireless
8 telecommunication system (cdma2000) capabilities, features, and
9 services. This document is intended for use by persons and/or
10 companies who are developing or deploying cdma2000 systems or by
11 persons who are otherwise interested in 3GPP2 wireless
12 telecommunication systems.

13 In order to be compliant with this 3GPP2 System Release, mandatory
14 features must be implemented. However, the set of optional features
15 implemented in a given system is decided by the operators and
16 manufacturers. The individual specifications indicate the mandatory
17 and optional nature of features. This System Release includes only
18 features and capabilities that are part of a published 3GPP2
19 specification(s).cdma2000

1 **2 DOCUMENT REFERENCES**

2 The following documents are referenced in this document.

3 **Editor's Note:**

4 **All document need to have revision numbers.**

5 **Confirm publication of S.R0037-0, S.S0084-0, X.S0011-C and X.S0017-**
6 **0.**

7
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9 The documents in this section are the Release <Alpha> specifications and
10 reports essential to this release.

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5

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1 3 DEFINITIONS

Access Network	A network implementing a particular access technology (such as a Radio Access Network) and connecting the terminal device (mobile station) to the core network.
All-IP Network	An IP-based network that uses IP for transport of all user data and signaling between all network entities, including the user terminal equipment. The All-IP network comprises the access network and the core network.
All-IP Core Network	That part of the All-IP networks that provide control and routing of user data between the access network and the service network.
Authentication	The act of verifying the identity of an entity (e.g., a user, device).
Base Transceiver Station	A piece of radio access network equipment that contains the radios and serves a geographic area.
Call	A session between two or more network entities.
Call Control	The set of functions that allow establishment, management and release of one or more sessions between two or more callable entities.
Handoff	The process by which an air interface circuit between a mobile station and a base station is transferred from the current base station equipment and air interface channel to either a different base station equipment and air interface channel or a different air interface channel on the current base station.
Home Network	The network where the subscriber has a subscription. The concept normally refers to the network owned by a specific carrier, rather than any geographical concept. Thus, home network may be global.
Inter-Access Technology Mobility	The ability of a subscriber to move between access network technologies in real time while maintaining session continuity.

<p>IP Multimedia Domain</p>	<p>The IP Multimedia Domain is an integral part of cdma2000 system that provides a comprehensive set of multimedia services via signaling and transport protocols defined by 3GPP2 and IETF. The IP Multimedia Domain consists of the services and related functions available within IP-based networks, including call control and mobility management using Mobile IP, SIP, and DIAMETER protocols.</p>
<p>Legacy MS</p>	<p>Any mobile station that supports a TIA/EIA-41 call model.</p>
<p>Legacy MS Domain</p>	<p>The Legacy MS Domain provides call control, service control, and mobility management via the current and evolved versions of the TIA/EIA-41 and TIA/EIA-835 protocols. Evolved legacy services include voice services, data services, and new and evolved interactions between voice and data services (e.g., call waiting interactions). These services and functions will be provided using the evolved cdma2000 family of standards over the air interface, IOS in the RAN, evolved TIA/EIA-41 signaling, evolved TIA/EIA-835 signaling, and IP-based bearer streams and other IP-based signaling in the Core Network. The Legacy MS Domain consists of the services and related functions provided by the call control and mobility management of the current and evolved versions of the TIA/EIA-41, TIA/EIA-835, IOS, and IS-2000 protocols.</p>
<p>Legacy Systems</p>	<p>The mobile system as defined in TSB-100A (Network Reference Model) that supports circuit-mode and packet-mode operations. For example, the network entity for the Legacy System comprises a combination of Mobile Switching Center (MSC), Visitor Location Register (VLR), Home Location Register (HLR), and Authentication Center (AC), Base Station (BS), and Mobile Station (MS). A Legacy System network entity represents a group of functions, not a physical device.</p>

Mobility	The ability to access services from any point in the network. The degree of service availability may depend on the access network capabilities, as well as any service level agreements between the user's home network and the visited network. Types of mobility include personal mobility, service mobility, and terminal mobility.
Mobility Management	The set of functions used to manage a mobile user moving while engaged in an active service and/or accessing within or outside that user's home network. These functions include handoff as well as communication with the home network for purposes of authentication, authorization, registration and transfer of user information.
Mutual Authentication	The act of two entities verifying the identity of each other.
Personal Mobility	The ability of users to change their association with one or more terminals at any point and time. The user should continue to receive subscribed and otherwise authorized services as supported by the current MS and access network.
Personalized Services	Services that need access to the subscriber profile are dependent on the overall call state (of the user) for reasons of service interaction. An example: a call termination service such as TIA/EIA-41's "Call Forward on Busy".
Point of Attachment Mobility	The ability of a subscriber to use a mobile terminal to gain access to any home or visited network (e.g., roaming).
Quality of Service	A specification of the service performance characteristics of one or more sessions between two or more network entities. QoS Specifies parameters including but not limited to data rate, latency, jitter, delivery assurance.
Radio Access Mobility	The ability of a subscriber to move within or between radio access networks in real time while maintaining a connection.
Radio Access Network	The network that connects radio base stations to the core network. The RAN provides and maintains radio-specific functions, which may be unique to a given radio access technology, that allow users to access the core network.

Roaming	User's access services while outside of their subscribed home network.
Service Creation	An environment or a set of techniques that allows a service provider to autonomously generate and deploy new network features to be offered to subscribers.
Service Mobility	The ability of a subscriber to access subscribed and otherwise authorized services from any home or visited network.
Session	A logically associated set of communication streams.
Visited Network	The visited network is a carrier's network where a subscriber currently is roaming.

1

1 **4 cdma2000 SYSTEM SUPPORT**

2 The cdma2000 System is a third generation (3G) system that employs both
3 packet based protocols and circuit based protocols for operation. The
4 cdma2000System is comprised of Legacy System support, the Legacy MS Do-
5 main (LMSD), the IP Multimedia Domain (MMD), and an IP-based Services
6 Subsystem (ISS) that is applicable to both domains. This release contains
7 support for the Legacy System, and limited support for the Legacy MS Domain.

8 cdma2000

9

10 **4.1 Release Support for Legacy, LMSD, and MMD CDMA2000® Systems**

11 **4.1.1 Legacy System Support**

12 The Legacy System provided by this cdma2000 System Release includes sup-
13 port for mobile stations (MSs) based on TIA/EIA-95 standards, and 3GPP2
14 C.S0001 through C.S0006 specifications. The Legacy System support uses cir-
15 cuit-based transport for all voice call delivery and features. The Legacy System
16 also provides packet data services that form a foundation for the packet ser-
17 vices of the Legacy MS Domain System and the Multimedia Domain System.

18 The cumulative 3GPP2 specifications included in this cdma2000 System Re-
19 lease provide the ability for an operator to use the Legacy System support to
20 deploy a cdma2000 system.

21

22 **4.1.2 LMSD Support**

23 The Legacy Mobile Station Domain (Legacy MS Domain or LMSD) provides
24 support for mobile stations that are based on IS-2000 call control and the fea-
25 ture set supported by [N. P0023, P.S0002]. This support makes use of IP-
26 based transport and signaling.

27 The figure below represents the subset of the full LMSD that is supported in
28 this cdma2000 System Release. The major feature of the LMSD added in this
29 release is the use of IP bearer for Call Delivery. Call Delivery provides the abil-
30 ity for the Originating System, through the use of inter-system IP trunking, to
31 deliver a mobile terminated voice call to a separate Serving System controlled
32 by the same operator.

33 See section 5 for a complete list of all features provided in this cdma2000 Sys-
34 tem Release.

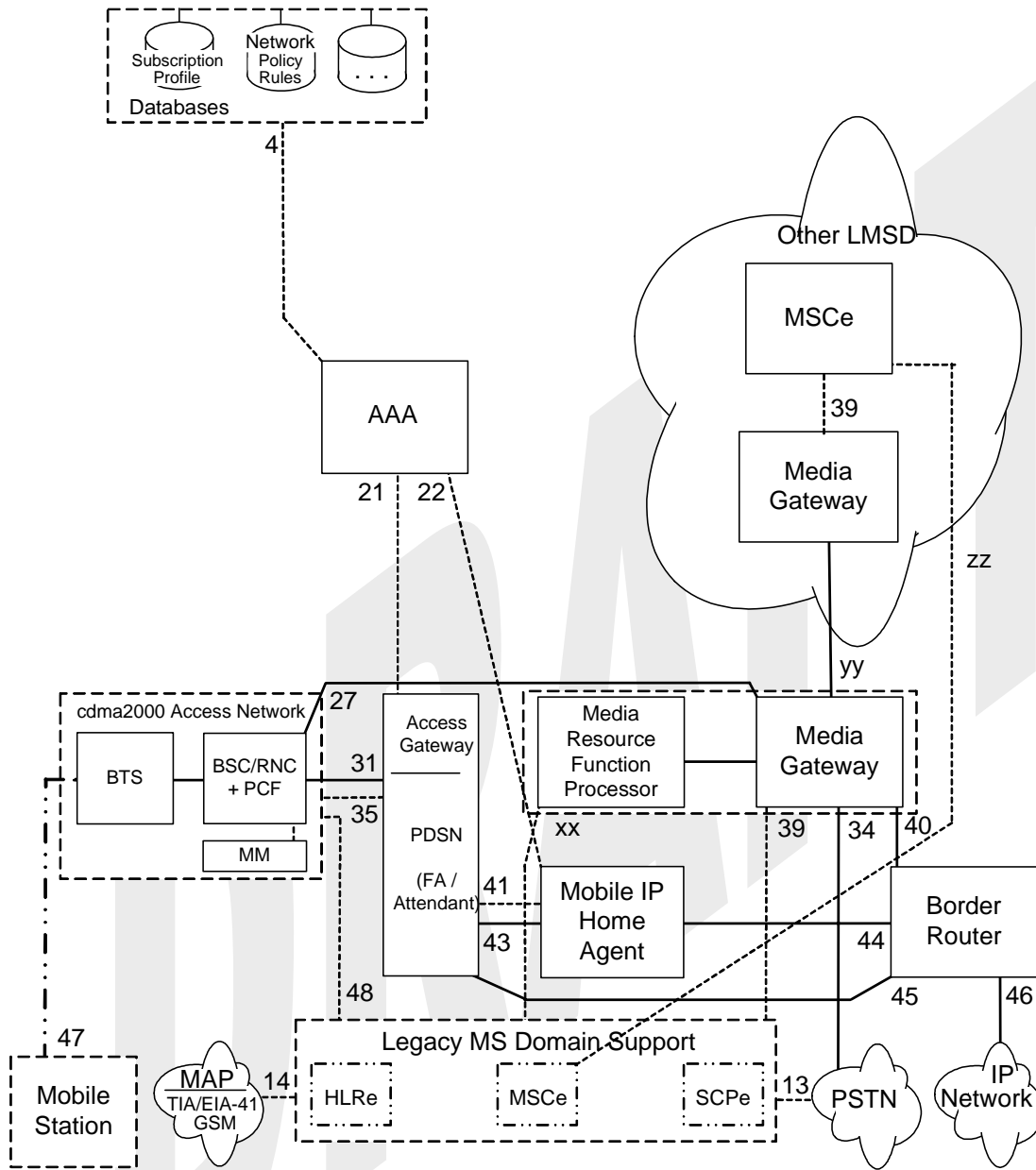


Figure 1 - cdma2000 LMSD Step 1 Network Architecture Model

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5 System Release Content and Feature Description

The features and capabilities provided by this cdma2000 System Release are listed in Table 1. This release includes new and enhanced features added since the publication of S.R0003-A: 3GPP2 System Capability Guide - Release B v1.0.; for the list of features in previous releases, please refer to S.R0003-A.

Editor's Note:

All document need to have revision numbers.

Confirm editor's descriptions for TSG-A and TSG-C.

Confirm publication of S.S0084-0, X.S0011-C and X.S0017-0.

Table 1. Features and Descriptions in This Release

Work Item Number	Name	Descriptions	Specs & Reports
3GPP2-00003	Enhanced International Dialing, Calling Number Identification & Callback, Calling Party Category Identification	The feature provides the enhanced international dialing and calling number identification and call back network capabilities and the inter-system operations to enable a wireless system to these capabilities. This feature also provides the inter-system operations that enable identification of the calling party category.	N.S0027-0 v1.0
3GPP2-00009	CDMA Packet Data Services, Phase 1	This feature supports inter-system hand-off of an active packet data stream.	X.S0001-0 v1.0
3GPP2-00012	Data Message Handler	This specification describes the procedures and messages necessary to provide wireless service providers the non-signaling data communications requiring interaction between different wireless systems.	N.S0026-A v1.0
3GPP2-00018	Enhancements to Roamer Database Veri-	An OA&M feature that provides more control over queries to check that roaming data is correctly provi-	N.S0025-A, v1.0

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Work Item Number	Name	Descriptions	Specs & Reports
	fication	sioned.	N.S0025-B v1.0
3GPP2-00026	Legacy MS Domain - Step 1 (LMSD-Step 1)	The LMSD Step 1 feature provides IP transport for inter-system call delivery. This is the first phase of implementation of the full Legacy MS Domain.	S.R0059-0 v1.0, X.S0018-0 v1.0, X.S0011-C
3GPP2-00039	Link Layer Assisted Robust Header Compression (LLA ROHC)	The Link-Layer Assisted Robust Header Compression (LLA-ROHC) feature provides one-way or two-way voice communications by providing for transport of header-compressed or header-removed IP/UDP/RTP packets between the Base Station and the Mobile Station.	S.R0068-0 v1.0, C.S0047-0 v1.0, A.S0011 to 17-A v1.0 (IOS v4.3), X.S0011-C
3GPP2-00049	PDSN Resource Optimization	Defines the scheme for cleanup of unused PPP contexts in the PDSN in a timely fashion. the maintenance of PPP sessions at the PDSN consumes valuable resources. From operational considerations, it is desirable to release idle/unused PPP sessions at the PDSN as soon as possible. This feature optimizes resource utilization in the PDSN by removing stale PPP sessions that are results of dormant inter PDSN handoffs.	X.S0011-C
3GPP2-00063	Packet Prepaid Service in cdma2000 Wireless IP Network	The packet prepaid service allows the subscriber to pay for packet data services prior to usage. A prepaid subscriber establishes an account with the service provider to access packet data services in the home and roaming networks. Charges for packet data services are applied to	X.S0011-C, S.S0084-0

Work Item Number	Name	Descriptions	Specs & Reports
		<p>the prepaid service account by decrementing the account ing real-time. The prepaid subscriber may be notified about the account information at the beginning, during or at the end of the packet data service. When the account balance is low, the subscriber may be notified so that the subscriber may recharge the account. When the account balance is below a pre-defined threshold, the subscriber's packet data services may be de-authorized.</p>	
3GPP2-2000-001	Support for Common Channel Only Capable Devices (e.g., Telemetry/Paging Services)	The feature provides support for packet data registration and data transmission over Common Channels using Short Data Bursts.	A.S0011 to 17-0 v2.0, C.S0005-B v1.0
3GPP2-2000-003	Rescue Channel	The Rescue Channel feature addresses a standing 4requirement of reducing dropped calls. The concept is to use pre-allocated radio resources at neighboring base stations and have the mobile station and network execute a pre-determined procedure to re-establish communication in the event of a call that is in danger of being dropped.	A.S0011 to 17-0 v2.0, C.S0002-B v1.0, C.S0005-B v1.0,
3GPP2-2000-004	Realm Configured Packet Data Session Inactivity Timer	This feature provides a timer provisioned at the AAAL as a part of the overall QoS. The PDSDT values are associated with the realms accessed by the users packet data service.	S.R0033-0 v1.0, A.S0011 to 17-A v1.0 (IOS v4.3), X.S0011-C
3GPP2-2000-005	Access Control Based on Call Type (ACCT)	Provides MS access attempt control based on SO/SO groups. ACCT MSs are not allowed to perform originations for restricted Service	A.S0011 to 17-A v1.0 (IOS v4.3),

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Work Item Number	Name	Descriptions	Specs & Reports
		Options. ACCT MSs are capable of determining when ACCT is cancelled or when the MS has moved to a location where ACCT is not active. ACCT condition is signaled on overhead - broadcast channel.	C.S0005-A Release A Addendum 2, S.R0029-0 v1.0
3GPP2-2000-006	OAM&P for cdma2000 (3GPP Delta Specification)	The purpose of this work item is to provide detailed requirements for Fault Management, Configuration Management and Performance Management for cdma2000® systems as well as to define the management interface between Element Management Systems/Functions towards OSS and Network Management Systems, based on relevant 3GPP Release 99 recommendations.	S.S0028-A v3.0
3GPP2-0065	Flexible Rate Data	Flex Rate provides the user with the ability to assign other data rates (e.g., for possible codecs) to the MS with greater granularity than previously allowed in cdma2000®.	A.S0011 to 17-0 v2.0, C.S0005-B v1.0
3GPP2-0066	Voice Over IP (VoIP) - Phase I	Voice over IP (VoIP) uses the Internet Protocol (IP) to transmit voice as packets over an IP network. VoIP can be achieved on any data network that uses IP, like Internet, Intranets and Local Area Networks (LAN). Motivations for Internet telephony include (1) demand for multimedia communication and (2) demand for integration of voice and data networks.	S.R0068-0 v1.0, C.S0047-0 v1.0, A.S0011 to 17-A v1.0 (IOS v4.3), S.R0035-0 v1.0, A.S0011 to 17-0 v2.0,

Work Item Number	Name	Descriptions	Specs & Reports
			X.S0011-C
3GPP2-0039.1	Multiple Service Instances	Ability of a cdma2000 MS to maintain multiple packet data connections simultaneously.	A.S0011 to 17-A v1.0 (IOS v4.3), S.R0035-0 v1.0, P.S0001-B v1.0, N.S0029-0 v1.0
3GPP2-0039.2	Fast Handoff	This feature provides enhancements required to support fast hand-off in intra-PDSN and inter-PDSN hand-off cases.	S.R0035-0 v1.0, A.S0011 to 17-0 v2.0, P.S0001-B v1.0, N.S0029-0 v1.0
TSGA-001	Other Enhancements to IOS v4.3	This feature provides the following enhancements: (1) IP Transport in the RAN (2) Network Directed System Selection	S.R0035-0 v1.0, A.S0011 to 17-A v1.0 (IOS v4.3)
TSGA-002	Other Enhancements to IOS v4.2	This feature provides the following enhancements: (1) A10-A11 Interface Version Control (2) A8-A9 Interface Version Con-	A.S0011 to 17-0 v2.0

Work Item Number	Name	Descriptions	Specs & Reports
		<p>trol</p> <p>(3) BI-Directional Generic Routing Encapsulation (GRE) Key Assignment over RP Interface</p> <p>(4) UIM Support</p> <p>(5) Support for Enhanced Rate Adaptation Mode</p> <p>(6) Support of Code Combining Soft Handoff</p> <p>(7) MOB_P_REV of 7 or Greater</p>	
TSGA-004	Tandem Free Operation (TFO) CDMA Only	<p>[Tentative description from the spec by Editor]</p> <p>This is CDMA Tandem Free Operation (TFO) standard version 1.0 in order to adapt the TFO to C.S000(1-6)-A.</p> <p>This feature introduces the Inband Signaling Protocol between Transcoder/Rate Adapter Units for speech traffic channels for the TFO of Speech Codecs within the digital cellular telecommunications system.</p>	A.S0004-A v2.0
TSGA-005	Tandem Free Operation (TFO-B) CDMA Only Rev B	CDMA Tandem Free Operation (TFO) standard version 1.1 contains modifications to support the Selectable Mode Vocoder (SMV) and codec mismatch resolution and optimization.	S.R0014-0 v1.0, A.S0004-B v2.0
TSGA-006	HRPD Addendum	This feature provides high rate packet data transmission to the mobile station at up to 2.4 Mbps in a single 1.25 MHz CDMA carrier.	A.S0008-0 V3.0
TSGA-007	HRPD Alternative Architecture (aka HRPD)	High Rate Packet Data (HRPD) provides packet data services at up to 2.4 Mbps on the forward link. Ser-	A.S0007-A v2.0

Work Item Number	Name	Descriptions	Specs & Reports
	Phase 2)	vices included are: access authentication, data delivery, session hand-off, and status management.	
TSGC-001	Enhancements to C.S000(1-6)-B	<p>This feature provides the following enhancements:</p> <ul style="list-style-type: none"> (1) Signaling Support for Code Combining Soft Handoff (CCSH) (2) Separate Multiplex Option on Fundamental Channel (FCH) and DCCH (Dedicated Control Channel) in the Service Configuration Record (3) Record Type for Status Request Message (4) Concurrent Services Definition (5) Clarify Reverse Supplemental Channel (REV_SCH) and Forward Supplemental Channel (FOR_SCH) Number of Bits per Frame Indicator 	C.S000(1-6)-B v1.0
TSGC-002	Enhancements to C.S000(1-6)-C	<p>This feature provides the following enhancements:</p> <ul style="list-style-type: none"> (1) Reverse Link Code Assignments (2) Authentication (incorporation of 3GPP AKA) (3) QoS Support (Hooks) (4) Adaptive T_DROP (performance enhancement) 	C.S000(1-6)-C v1.0, C.S0017-A
TSGC-004	Circuit Switched Video Conferencing Service	[Tentative description from the spec by Editor]	C.S0042-0 v1.0

Work Item Number	Name	Descriptions	Specs & Reports
		<p>This specification defines the functional characteristics and requirements of the circuit switched video conferencing services. The service features and system requirements are defined to provide video conferencing services in 3GPP2 wireless telecommunications networks.</p>	
TSGC-005	CDMA Card Application Toolkit (CCAT, in support of R-UIM)	<p>[Tentative description from the spec by Editor]</p> <p>CDMA Card Application Toolkit (CCAT) is a set of commands and procedures for use during the network operation phase of CDMA, in addition to those defined in C.S0023-A (R-UIM). Specifying the interface is to ensure interoperability between an R-UIM and an ME independently of the respective manufacturers and operators. CCAT will allow Service Providers to offer unique services to their subscribers by placing applications they have designed (or third party applications) on the R-UIM that would function on any particular manufacture's ME that supports the Toolkit features.</p>	C.S0035-0 v1.0
TSGC-006	Broadcast SMS	<p>The Broadcast SMS feature provides content providers with the ability to send short messages to all eligible receivers within a certain area by use of SMS messages broadcast on appropriate radio channels. Example uses of Broadcast SMS include: advertising, weather, traffic, stock quotes, parking availability, etc.</p>	C.S0015-A v1.0

Work Item Number	Name	Descriptions	Specs & Reports
TSGC-007	Data Services (technical updates)	<p>[Tentative description from the spec by Editor]</p> <p>This document specifies procedures for Radio Link Protocol Type 3 (RLP). Radio Link Protocol Type 3 is used with a cdma2000 Traffic Channel to support CDMA data services.</p>	C.S0017-0-2 v5.0
TSGC-008	R-UIM, Revision A	UIM support provides the ability to move a user's identity from one mobile device to another by removing and inserting a chip into the handset.	C.S0023-A v1.0, N.S0003-0 v1.0
TSGC-009	Test Data Service Option (TDSO) Revision 0, Point Release v2.0	<p>[Tentative description from the spec by Editor]</p> <p>This document specifies procedures for the Test Data Service Option (TDSO). The TDSO is used to allow verification of the physical layer performance frame error rate (FER) and protocol data unit (PDU) error rate (PER) of cdma2000 physical channels.</p>	C.S0026-0 v2.0
TSGC-010	TAS Revision 0, Point Release 3.0	<p>[Tentative description from the spec by Editor]</p> <p>This standard is a companion to the cdma2000 high rate packet data standards. This specification provides a set of procedures that the access terminal and the access network can use to conduct the access terminal minimum performance tests in a factory/laboratory environment. It also allows measurements of certain forward and reverse link performances in a field</p>	C.S0029-0 v3.0

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Work Item Number	Name	Descriptions	Specs & Reports
		environment.	
TSGC-012	Parameter Value Administration, Revision D	<p>[Tentative description from the spec by Editor]</p> <p>This document assigns parameter values (e.g., service options and <i>Data Burst Message</i> burst types) within certain cdma2000 specifications for standard and for proprietary usage.</p>	C.R1001-D v1.0
TSGN-005	Open Service Access (OSA)	<p>The OSA specifications define an architecture that enables application developers to make use of network functionality through an open standardized interface, i.e. the OSA Application Programming Interfaces (APIs). These APIs are applicable to the 3GPP2 network architecture described in P.S0001-B, S.R0037-0, X.S0013. It is intended that all upgrades to the 3GPP TS 29.198 series Release 5 specification will also apply.</p>	X.S0017-0
TSGP-001	Ipv6 Mobility Support	<p>Simple IPv6 (RFC 2460) Service refers to a service in which an MS is assigned an IP address and is provided IP routing service by an access provider network. The MS retains its IP address as long as it is served by a radio network that has connectivity to the address assigning PDSN. There is no IP address mobility beyond this PDSN.</p>	P.S0001-B v1.0
TSGP-003	Flow Mapping and Treatment	<p>This optional feature adds signaling to control the flow of packets between the PDSN and the MN in order to help minimize performance impacts due to packet losses. Flow</p>	X.S0011-C

Work Item Number	Name	Descriptions	Specs & Reports
		control is triggered through the use of high/low watermarks for the PCF/SDU buffer. It also provides a feedback mechanism to the PDSN when packet loss occurs. This is beneficial when used to help resynchronize state information for data compression protocol.	
TSGP-004	Other Enhancements to P.S0001-B	Includes: Header Compression, 1xEV-DO, IP Reachability Service, Accounting Enhancements	X.S0011-C
TSGS-001	Common Cryptographic Algorithms	This document provides detailed cryptographic procedures for wireless system application. The document details specification for CAVE algorithm, A-Key procedures, SSD Generation and Update, CMEA/ECMEA Encryption Key, VPM generation Procedures, WIKEY procedures, Enhanced Voice and Data Privacy (SCMEA key generation code and Enhanced Voice Privacy). Text Vectors for above are also specified.	S.S0053-0 v1.0
TSGS-002	Interface Specification for Common Cryptographic Algorithms	This specifications document details the interfaces to cryptographic procedures for 3GPP2 wireless system applications. These procedures are used to perform the security services of mobile station authentication, subscriber message encryption, encryption key and subscriber voice privacy key generation within wireless equipment. This document is a companion document to S.S0053 , where the cryptographic procedures are described in details.	S.S0054 –0 v1.0

Work Item Number	Name	Descriptions	Specs & Reports
TSGS-003	Enhanced Cryptographic Algorithms	<p>This specifications document details the enhanced cryptographic procedures for 3GPP2 wireless system applications. These procedures are used to perform the security services of mutual authentication between mobile stations and base stations, subscriber message encryption, and key agreement within wireless equipment. The following cryptographic procedures are detailed: Enhanced Hash Algorithm (SHA-1 based), Authentication and Key Agreement procedures (AKA), Enhanced Voice and Data Privacy (ESP Rijndael based cryptographic procedures). In addition, this specification documents provides reference implementation for CDMA Enhanced Privacy (ESP procedures) and SHA-based AKA functions (f0-f5). Test Vectors for the above are also specified.</p>	S.S0055-0 v1.0
TSGX-001	Wireless IP Network Standard	<p>This provides the following features:</p> <ul style="list-style-type: none"> (1) Simple IP and Mobile IP Access services (2) Packet Data Mobility and Resource management (3) Quality of Service and Header Reduction (4) Accounting Services and RADIUS VSAs 	X.S0011-C

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2 **6 ACRONYMS**

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µs	Microsecond (10 ⁻⁶ second).	BGCF	Breakout Gateway Control Function.
2G	Second Generation	B-ISDN	Broadband-Integrated Services Digital Network
3G	Third Generation.	BLOB	Block of Bits
3G-IOS	Third Generation InterOperability Specification	bps	Bits per second.
3GPP	Third Generation Partnership Project (ETSI driven)	BPSK	Biphase shift keying.
3GPP2	Third Generation Partnership Project (ANSI driven)	BR	Border Router
AAA	Authentication, Authorization and Accounting	BRAID	The Motorola data encryption algorithm's name refers to braiding, as in hair.
AAL	ATM Adaptation Layer.	BS	Base Station
AAL2	ATM Adaptation Layer type 2	BSAP	Base Station Application Part
AAL5	ATM Adaptation Layer type 5	BSC	Base Station Controller
ABR	Average Bit Rate.	BSMAP	Base Station Management Application Part
AC	Authentication Center	BSMC	Base Station Manufacturer Code
ACCOLC	ACCess Over Load Class.	BSMCS	BSMC Status Parameter
ACCT	Access Control based on Call Type	BTA	Basic Trading Area
ACELP	Adaptive Code Excited Linear Prediction.	BTS	Base Transceiver System
ACF	Authentication Control Function	BTTS	Broadcast Transport Teleservice Capability
ACH	Access Channel	BULKDISCONN	Bulk Disconnection INVOKE
Ack	Acknowledgement	bulkdisconn	Bulk Disconnection RETURN RESULT
ACP	Adjacent Channel Power	C/I	Carrier/Interference ratio
ACRE	Authentication & Call Routing Equipment	e2KAN	cdma2000® Access Network
AD	Abbreviated Dialing	CAC	Carrier Access Code
ADDS	Application Data Delivery Service	CACH	Channel Assignment Channel
ADPCM	Adaptive Differential Pulse Code Modulation	CALEA	Communication Assistance to Law Enforcement Act.
ADS	Asynchronous Data Service	CAPCS	Cellular Auxiliary Personal Communications Service
AGW	Access Gateway (including mobile IP foreign	CAVE	Cellular Authentication & Voice Encryption
agent)AH	Authentication Header	CBR	Constant Bit Rate
AH	Answer Hold	CC	Connection Confirm
AHAG	Ad Hoc Authentication Group (TR45)	CC	Call Control
AHG	AdHoc Group	CCA	Common Cryptographic Algorithm
AI	Air Interface.	CCCH	Common Control Channel
AIN	Advanced Intelligent Network	CCDIR	Call Control Directive INVOKE
AK	Acknowledge (Data)	ccdir	Call Control Directive RETURN RESULT
A-key	Authentication key.	CCDT	Call Control Directive Timer
AL	Air Link	CCF	Call Control Function
AM	Amplitude Modulation.	CCITT	The International Telegraph and Telephone Consultative Committee. Now called the ITU.
AMA	Automatic Message Accounting	CCM	Control Channel Mode Parameter
AMPS	Advanced Mobile Phone System.	CCPD	Common Channel Packet Data
ANID	Access Network Identifiers	CCSH	Code Combining Soft Handoff
ANLYZD	Analyzed Information INVOKE	CDCP	Call Data Collection Point
ANSI	American National Standards Institute	CDG	CDMA Development Group
ANZT	Analyzed Information Timer	CDGP	Call Data Generation Point
AOC	Advice of Charge	CDIS	Call Data Information Source.
AON	All Or None parameter	CDMA	Code Division Multiple Access
ARIB	Association of Radio Industries and Businesses (Japan)	CDMABC	CDMA Band Class parameter
ARQ	Automatic Repeat Request	CDMABCI	CDMA Band Class Information parameter
ASR	Automatic Speech Recognition	CDMABCL	CDMA Band Class List parameter
Async	Asynchronous	CDMACR	CDMA Connection Reference parameter
ATIS	Alliance for Telecommunications Industry Solutions	CDMACRINFO	CDMA Connection Reference Information parameter
ATM	Asynchronous Transfer Mode	CDMACRLIST	CDMA Connection Reference List parameter
AUTHR	Authentication Response	CDMAS	CDMA State parameter
AWGN	Additive White Gaussian Noise	CDMASCM2	CDMA Station Class Mark 2 parameter
AWI	Alert With Information.	CDMASCR	CDMA Service Configuration Record parameter
BCCH	Broadcast Control Channel	CDMASERCONF	CDMA Service Configuration Record parameter
BCD	Binary Coded Decimal	CDMASEROPT	CDMA Service Option parameter
BCH Code	Bose-Chaudhuri-Hocquenghem Code	CDMASEROPTLIST	CDMA Service Option List parameter
BCM	Basic Call Manager	CDMASO	CDMA Service Option parameter
BCSM	Basic Call State Model	CDMASOL	CDMA Service Option List parameter
BDISCT	Bulk Disconnection Timer	CDPD	Cellular Digital Packet Data
BER	Bit Error Rate.		
BFI	Bad Frame Indicator		
BFT	Binary File Transfer.		

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CDR	Call Detail Record	DDR	Document Discrepancy Report
CDRP	Call Data Rating Point	DECT	Digital European Cordless Telephone
CE	Channel Element	DFP	Distributed Functional Plane
CELP	Code Excited Linear Prediction.	DISCO	Domestic-International Satellite service Consolidation.
CFRT	Connection Failure Report Timer	DKEY	DataKey parameter
CHANGE	Change parameter	DLCI	Data Link Connection Identifier
CHAP	Challenge Handshake Authentication Protocol	DLR	Destination Local Reference
CHGSRVAT	Change Service Attribute parameter	DMH	Data Message Handler
CI	Cell Identity	DN	Directory Number.
CIC	Carrier ID Code	DO	Data Optimization DOI Domain of Interpretation
CIC	Circuit Identity Code	DP	Detection Point
CID	Connection Identifier (used with reference to AAL2)	DPC	Destination Point Code
CIE	Content of Information Element	DPP	Data Privacy Parameters
CITEL	Commission InterAmericanna de Telecommunications Association	DQPSK	Differential Quadrature Phase Shift Keying
CL	Connectionless	DRAM	Dynamic Random Access Memory
CLASS	Custom Local Area Signaling Services.	DRS	Data Ready to Send
CLI	Calling Line Identity	DS	Direct Spread
CM	Connection Management	DS-41	Direct Spread (ANSI)-41. DS0
CMEA	Cellular Message Encryption Algorithm	DSS2	Digital Subscriber Signaling Number 2
CMODES	Confidentiality Modes parameter	dsch	Dedicated Signaling Channel
CMRS	Commercial Mobile Radio Service.	DT1	Data Transfer 1
CNAP	Calling NAME Presentation	DT2	Data Form 2
CNAR	Calling Name Restriction	DTAP	Direct Transfer Application Part
CNID	Control Network ID parameter	DTC	Digital Traffic Channel
CNIP	Calling Number Identification Presentation	dtch	Dedicated Traffic Channel
CO	Connection Oriented	DTE	Data Terminal Equipment
COUNT	Call History Count	DTMF	Dual Tone Multi-Frequency
CPCCH	Common Power Control Channel	DTV	Digital Television
CPE	Customer Premise Equipment	DTX	Discontinuous TransmissionE1 E1-type
CR	Connection Request	E2E	End-to-End
CRC	Cyclic Redundancy Code	E911	Enhanced 911
CREF	Connection Refused	EA	Entropy Accumulator
CRID	Call Recovery ID parameter	Eb	The energy of an information bit.
CRIDLIST	Call Recovery ID List parameter	E_b/N_t	The ratio in dB of the combined received energy per bit to the effective noise power spectral density.
CRL	Certificate Revocation List	E_c/I_0	The ratio in dB between the pilot energy accumulated over one PN chip period (E_c) to the total power spectral density (I_0) in the received bandwidth.
CRM	Circuit Reservation Message	ECI	Error Concealment Indicator
CRRT	Call Recovery Report Timer	ECR	Enhanced Call Routing
CS	Cryptosync	ECSP	Electronic Communications Service Providers
CS-2	Capability Set 2	ED	Expedited Data
CSC	Customer Service Center	EDACP	Enhanced Digital Access Communications System
csch	Common Signaling Channel	EDP	Event Detection Point
CS-n	Capability Set n	EDP-N	Event Detection Point - Notification
CT	Cypher Text	EDP-R	Event Detection Point - Request
CTIA	Cellular Telecommunication Industry Association	EIA	Electronics Industry Association
CTIA	Cellular Telecommunications Industry Association	EIB	Erasure Indicator Bit
CTO	Chief Technical Officers	EIR	Equipment Identity Register
CTS	CDMA Tiered Services	EIRP	Effective Isotropic Radiated Power
CVSE	Critical Vendor/Organization Specific Extension	EPSMM	Extended Pilot Strength Measurement Message
CW	Call Waiting CWTS China Wireless Telecommunication Standard Group	ER	Enhanced Roaming
DAE	Data Access Element parameter	ERAM	Enhanced Rate Adaption Mode
DAEL	Data Access Element List parameter	ERI	Enhanced Roaming Indicator
DAI	Data Available Indicator	ERMES	European Radio Messaging System
D-AMPS	Digital Advanced Mobile Phone System.	ERP	Effective Radiated Power
DB	DatabasesdBc The ratio (in dB) of the sideband power of a signal, measured in a given bandwidth at a given frequency offset from the center frequency of the same signal, to the total inband power of the signal. .	ESA	Enhanced Security Algorithm
dBm	Decibels referenced to one milliwatt	ESC	Extended Spectrum Capacity
dBm/Hz	Decibels per Hertz - a measure of power spectral density	ESI	Electronic Surveillance Interface
dBW	A measure of power expressed in terms of its ratio (in dB) to one Watt.	ESMR	Enhanced Specialized Mobile RadioESN Electronic Serial Number
DCC	Digital Control Channel.	ESN	Electronic Serial Number
DCCH	Dedicated Control Channel	ESP	Encapsulating Security Payload
DCDC	Desired Characteristics & Decision Criteria	ESP	Enhanced Subscriber Privacy
DCE	Data Circuit-terminating Equipment	ETACS	Extended Total Access Communications Systems
DCS	Digital Cellular System (1800)		

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ETSI	European Technical Standards Institute.	ICS	Incoming Call Screening
EVM	Error Vector Magnitude	IDEN	Integrated Digital Enhanced Network
EVRC	Enhanced Variable Rate Codec	IE	Information Element
EXESCR	Execute Script parameter	IEI	Information Element Identifier
FA	Foreign Agent	IETF	Internet Engineering Task Force
FAC	Foreign Agent Challenge	IFAST	Formerly "International Forum on AMPS Standards Technology"; recently changed to "International Forum on ANSI-41 Standards Technology"
FACCH	Fast Access Control Channel	IIF	Interoperability and Interworking Function
F-ACH	Forward Access Channel	IKE	Internet Key Exchange
FAILCAUSE	Failure Cause parameter	ILEC	Incumbent Local Exchange Carrier
FAILTYPE	Failure Type parameter	IM	InterModulation
FAM	Fleet and Asset Management	IMBE	Improved Multi-Band Excitation
FAMOUS	Future Advanced MOBILE Universal Service	IMHO	In My Humble Opinion
F-BCCH	Forward Broadcast Control Channel	IMS	Intersystem Messaging Security
FBI	Federal Bureau of Investigation	IMSCCID	Inter MSC Circuit Identification
F-CACH	Forward Common Assignment Channel	IMSI	International Mobile Station Identifier
FCC	Federal Communications Commission	IMT	International Mobile Telecommunications
F-CCCH	Forward Common Control Channel	IMT-2000	International Mobile Telecommunications – 2000
FCH	Fundamental Channel	IMTA	International Mobile Telecommunications Association
F-CPCCH	Forward Common Power Control Channel	IN	Intelligent Network
F-CPSCCH	Forward Common Power Control Sub-channel	INAP	Intelligent Network Application Protocol
f-csch	Forward Common Signaling Channel	IOS	Interoperability specification
F-DCCH	Forward Digital Control Channel.	IP	Internet Protocol
FDD	Frequency Division Duplex	IP	Intelligent Peripheral
FDMA	Frequency Division Multiple Access.	IPCP	IP Control Protocol
f-dsch	Forward Dedicated Signaling Channel	IPE	In Path Equipment
f-dtch	Forward Dedicated Traffic Channel	IPR	Intellectual Property Rights
FE	Functional Entity	IPMMC	IP Multimedia Client
FEATIND	Feature Indicator parameter	IRM	International roaming MIN
FER	Frame Error Rate	IRT	Instruction Request Timer
FHMA	Frequency Hopping Multiple Access	IS	Interim Standard
FIM	Feature Interactions Manager	ISAKMP	Internet Security Association and Key Management protocol
FM	Feature Manager	ISD	International Standards Development
FM	Frequency Modulation	ISDN	Integrated Services Digital Network
FNPRM	Future Notice of Proposed Rule Making	ISLP	InterSystem Link Protocol
FOCC	Forward Analog Control Channel	ISLPINFO	ISLP Information
FPC	Forward Power Control	ISMA	Interference Sense Multiple Access
F-PCH	Forward Paging Channel	ISO	International Standards Organization
FPH	FreePhone	ISP	Internet Service Provider
FPLMTS	Future Public Land Mobile Telecommunications Systems – now IMT-2000	IT	Inactivity Test
FQI	Frame Quality Indicator	ITAR	International Traffic in Arms Regulations
FSK	F Shift Keying	ITU	International Telecommunications Union
FSLP	Feature Service Logic Program	ITU-R	International Telecommunications Union - Radio
FSN	Frame Sequence Number	ITU-T	International Telecommunications Union - Telephone
FTAG	Fraud Technical Advisory Group	IWF	Interworking Function
FTP	File Transfer Protocol	JPC	Joint Projects Committee
FVC	Forward Analog Vice Channel	JTACS	Japan Total Access Communications Systems
FWA	Fixed Wireless Access	JTC	Joint Technical Committee
FWI	Flash With Information	kbps	Kilobits (10 ³) bits per second
GAOM	Global Action Overhead Message	kHz	KiloHertz (10 ³ Hertz)
GECO	Global ECO (Emergency Call Origination)	KSG	Key Stream Generator
GEO	Geostationary Orbit	ksp	Kilo-symbols per second (10 ³ symbols per second)
GHz	GigaHertz (10 ⁹ Hertz)	L1	Layer 1
GMSK	Gaussian Minimum Shift Keying (GSM)	L2	Layer 2
GPS	Global Positioning System	L3	Layer 3
GR	Gain Ratio	LAC	Link Access Control
GRE	Generic Routing Encapsulation	LAES	Lawfully Authorized Electronic Surveillance
GSM	Formerly: Group Special Mobile. Now: Global System for Mobile Communications	LAN	Local Area Network.
GT	Global Title parameter	LATA	Local Access Transport Area
HA	Mobile IP Home Agent	LBC	Location-Based Charging
HAC	Hearing Aid Compatibility	LBSS	Location Based Services System
HCO	Hearing Carry Over	LCM	Long Code Mask
HDML	Handheld Device Markup Language	LEC	Local Exchange Carrier
HLR	Home Location Register	LEO	Low Earth Orbit
HMAC-SHA	Hash-based Message Authentication Code - SHA	LI	Length Indicator
HO	Hand Off	LLA-ROHC	Link Layer Assisted Robust Header Compression
HRPD	High Rate Packet Data		
ICGI	IS-41 whole Cell Global Identification		
ICO	Intermediate Circular Orbit		

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LMCC	Land Mobile Communications Council	NIST	National Institute for Standards and Technology.
LMDS	Local Multipoint Distribution Service	NMAG	Network Management Ad Hoc Group.
LMSD	Legacy Mobile Station Domain	NMSI	National Mobile Station Identity
LPC	Linear Predictive Coding	NMT	Nordic Mobile Telephone
LPDE	Location Position Determining Equipment	NNI	Network to Network Interworking
LPM	Logical-to-Physical Mapping	NP	Non-Public Service Mode
LRF	Location Registration Function	NPDATA	Non Public Data Parameter
LRFH	Location Registration Function – HLR	NPN	Network Provided Number
LRFv	Location Registration Function – VLR	NPR	Noise Power Ratio
LSB	Least Significant Bit	NRM	Network Reference Model
LSI	Location-Based Information Service	ns	Nanosecond (10 ⁻⁹ second)
LTU	Logical Transmission Unit	NSA	National Security Agency
MAC	Media Access Control	NSMA	National Spectrum Management Association
MAC	Medium Access Control	NTIA	National Telecommunication Industry Association
MACF	Mobile Station Access Control Function	NVSE	Normal Vendor Specific Extension
MAP	Mobile Application Part	OA&M	Operations, Administration, and Maintenance
MC	Multi-Carrier	OAM&P	Operations Administration, Maintenance and Provisioning
MC	Message Center.	OATS	Over-the Air Activation TeleService
MC-41	Multi-Carrier (ANSI)-41	OC3	Optical Carrier Level 3
MCC	Mobile Country Code	OLC	Overload Class
Mcps	Megachips per second (10 ⁶ chips per second)	OLT	Outer Loop Threshold
MCSB	Message Control and Status Block	OMT	Overhead Message Train
MDN	Mobile Directory Number	ORYX	AT&T data algorithm - according to Jim Reeds (AT&T-WS), it stands for a goat-like animal with long and sharp horns. SM.
MGCF	Media Gateway Control Function	OS	Operations System
MGW	Media Gateway	OSA	Open Service Access
MHz	Megahertz (10 ⁶ Hertz)	OSA-AS	OSA-Application Server
MIN	Mobile Identification Number	OSA-SCS	OSA-System Capability Server
MIP	Mobile IP	OSF-EML	OSF-Element Management Layer OSF-NML/OSS OSF-Network Management Layer / Operations Support System
MIPS	Millions of Instructions Per Second	OTA	Over-the-Air
MM	Mobility Management	OTAF	Over-the-Air Function
MMD	Multimedia Domain	OTAPA	Over the Air Parameter Administration
MNC	Mobile Network Code	OTASP	Over-the-Air Service Provisioning
MNE	Mobile Network Entity	OTD	Orthogonal Transmit Diversity
MODRQ	Modification Request parameter	PACA	Priority Access Channel Assignment
MODRQL	Modification Request List parameter	PACS	Personal Access Communications System
MODRSL	Modification Result List parameter	PAMR	Public Access Mobile Radio
MOPS	Millions of Operations Per Second.	PANID	Previous Access Network Identifiers
MOS	Mean Opinion Score	PAP	Password Authentication Protocol
MoU	Memo of Understanding	PATE	Packet Arrival Time Error
MPEG	Motion Picture Expert Group	PC	Power Control
MRFC	Media Resource Function Controller	PCF	Packet Control Function
MRFP	Media Resource Function Processor	PCH	Paging Channel
ms	Millisecond (10 ⁻³ second)	PCI	Protocol Control Information
MS	Mobile Station	PCIA	Personal Communications Industry Association
MSA	Metropolitan Statistical Area	PCM	Pulse Coded Modulation
MSB	Most significant bit	PCMCIA	Personal Communications Manufacturer's Industry Association.
MSC	Mobile Switching Center	PCS	Personal Communications Services
Msg	Message	PCS	Personal Communications System
MSID	Mobile Station Identifier	PCSC	Personal Communications Switching Center
MSIN	Mobile Station Identifier Number	PDA	Personal Digital Assistant
MT	Mobile Terminal	PDE	Positioning Determining Element
MT	Modify Timer	PDF	Portable Document Format
MTA	Major Trading Area	PDF	Policy Decision Function
MTn	Mobile Terminal n	PDN	Packet Data Network (Internet/Intranet/Enterprise)
MTP	Message Transfer Part	PDNR	Preliminary Draft of New Recommendation
MTSO	Mobile Telephone Switching Office	PDSDT	Packet Data Session Dormancy Timer
MUX	Multiplexer	PDSN	Packet Data Serving Node
MWI	Message Waiting Indication	PDU	Protocol Data Unit
MWIF	Mobile Wireless Internet Forum	PFC	Paging Frame Class Parameter
NADC	North American Digital Cellular	PHS	Personal Handyphone System
NAG	Network Reference Model (NRM), Acronyms & Definitions Group	PIC	Point In Call
NAI	Network Access Identifier	PIMM	Point In Mobility Management
NAM	Number Assignment Module	PIN	Personal Identification Number
NAMPS	Narrowband Advanced Mobile Phone Service	PL	Physical Layer
NANP	North American Numbering Plan		
NCG	Numbering Consulting Group		
NDSS	Network Directed System Selection		
NE	Network Entity		
NID	Network Identification		

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PL	Programming Lock	RF	of Radio Transmission Technologies for FPLMTS
PLD	Position Location Data	RFC	Radio Frequency
PLMN	Public Land Mobile Network	RLC	Request For Comment
PLMTS	Public Land Mobile Telecommunications Systems	RLC	Release Complete (SCCP)
PM	Phase Modulation	RLP	Radio Link Protocol
PMC	Packet Mode Channel	RLSD	Release (SCCP)
PN	Project Number	RMS	Root Mean Square
PN	Pseudo Noise	RN	Radio Network
POP	Point of Presence	RNC	Radio Network Controller (DS-41)
POPs	Persons of Population	ROLR	Receive Objective Loudness Rating
POTS	Plain Old telephone Service	RPE-LTP	Regular Pulse Excited LPC with Long Term Protection
P-P	PDSN-PDSN	RPC	Reverse Power Control
PPC	Pre-Paid Charging	RRC	Radio Resource Control Function
PPDN	Public Packet Data Network	RRP	Mobile IP Registration Reply
PPM	Parts per million	RRQ	Mobile IP Registration Request
PPP	Point-to-Point Protocol	RSA	Rivest, Shamir and Adleman – public key algorithm
PRC	Premium Rate Charging	RSA	Rural Service Area
PRINFO	PSID/RSID Information Parameter	RSAG	Radio Spectrum Advisory Group
PRLIST	PSID/RSID List Parameter	RSC	Reset Confirm
PS	Position Server	RSID	Residential System Identifier
PSAP	Public Safety Answering Point	RsMA	Reservation Multiple Access
PSI	PACA Supported Indicator	RSR	Reset Request
PSID	Private System Identifier	RSSI	Received Signal Strength Indicator
PSPDN	Public Switched Packet Data Network.	RTF	Radio Terminal Function
PSTN	Public Switched Telephone Network	RTT	Radio Transmission Technology
PT	Plain Text	RUAC	Rejection of Undesired Annoying Calls
PUB	Post Usage Billing	R-UIM	Removable User Identity Module
PUF	Power Up Function	RVC	Reverse Analog Voice Channel
PVC	Permanent Virtual Circuit	SA	Security Association
PWR	Power	SAC	Subscriber Access Control
PZID	Packet Zone Identifier	SACCH	Slow Access Control Channel
Q13	Speech Codec Service Option for ANSI-95 at 13.3 Kbps	SAP	Service Access Point
Q8	Speech Codec Service Option for ANSI-95 at 8 Kbps	SAR	Segmentation and Reassembly
Q-FIN	ITU equivalent to TIA Stage 1.	SAT	Supervisory Audio Tone
QCELP	QUALCOMM Code Excited Linear Prediction	SBSL	Switch-Based Service Logic
QIB	Quality Indicator Bit	SC	Smart Card
QOF	Quasi-Orthogonal Function	SCCH	Supplemental Code Channel
QoS	Quality of Service	SCCP	Signaling Connection Control Part
QPCH	Quick Paging Channel	SCD	Satellite Communications Division
QPSK	Quadrature phase shift keying	SCE	Service Creation Environment
R&O	Report & Order (FCC)	SCEF	Service Creation Environment Function
RAAC	Reverse Analog Control Channel	SCF	Service Control Function
RACF	Radio Access Control Function	SCFT	Service Control Function Timer
R-ACH	Reverse Access Channel	SCH	Supplemental Channel
RADIUS	Remote Authentication Dial In User Service	SCI	Synchronized Capsule Indicator Bit
RAM	Random Access Memory.	SCM	Station Class Mark
RAN	cdma2000® Radio Access Network	SCM	Session Control Manager
RAND	Random Variable	SCP	Service Control Point
RANDBS	Random Variable – BS Challenge	SCRARG	Script Argument parameter
RANDC	Random Confirmation	SCRNAME	Script Name parameter
RANDSSD	Random SSD	SCRRESULT	Script Result parameter
RANDU	Random Variable - Unique Challenge	SDAE	Service Data Access Element parameter
RAST	RAdio STandards	SDAEL	Service Data Access Element List parameter
RBOC	Regional Bell Operating Company	SDB	Short Data Burst
RC	Radio Configuration	SDBTS	Short Data Burst Tele-Service
RC-PDSDT	Realm Configured Packet Data Session Dormancy Timer	SDCC	Supplementary Digital Color Code
R-CCCH	Reverse Common Control Channel	SDF	Service Data Function
RCD	Resource Configuration Database	SDR	Service Data Result parameter
RCF	Radio Control Function	SDRL	Service Data Result List parameter
r-csch	Reverse Common Signaling Channel	SDU	Service Data Unit (ATM)
RDA	Rate Determination Algorithm	SDU	Selection/Distribution Unit
R-DCCH	Reverse Digital Control Channel	SEAD	Software Encryption Algorithm for Data
r-dsch	Reverse Dedicated Signaling Channel	SERVSLT	Services Result Parameter
r-dtch	Reverse Dedicated Traffic Channel	SG	Study Group
R-EACH	Reverse Enhanced Access Channel.	SHA-1	Secure Hash Algorithm -1
REVAL	Recommendations on the Procedures for Evaluation	SID	Silence Descriptor
		SID	System Identification
		SIM	Service Interactions Manager
		SIM	Subscriber Identity Module

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SIP	Session Initiation Protocol	SZRT	Seize Resource Timer
SIP-AS	SIP Application Server	T1	T1-type Digital Carrier
SIR	Signal to Interference Ratio	T3	T3-type Digital Carrier
SLC	Sector Link Count	T_Bits	Time Alignment Bits
SLP	Service Logic Program	TA	Terminal Adapter
SLPI	Service Logic Program Instance	TACS	Total Access Communications Systems
SLR	Source Local Reference	TCAP	Transaction Capability Application Part
SLS	Signaling Link Selection	TCAU	Telecommunications Contract & Audit Unit (FBI)
SLTM	Signaling Link Test Message	TCH	Traffic Channel
SM	Switching Manager	TCME TFO	Circuit Multiplication Equipment
SMAF	Service Management Access Function	TCP	Transmission Control Protocol
SME	Short Message Entity	TCP/IP	Transport Control Protocol / Internet Protocol
SME	Signal Message Encryption	TD	Transmit Diversity including OTD and STS
SMF	Service Management Function	TDD	Telecommunications Device for the Deaf
SMR	Specialized Mobile Radio.	TDD	Time Division Duplex
SMS	Service Management System	TDP	Trigger Detection Point
SMS	Short Message Service	TDP-N	Trigger Detection Point - Notification
SMS-MO	SMS Mobile Originated	TDP-R	Trigger Detection Point - Request
SMS-MT	SMS Mobile Terminated	TDSO	Test Data Service Option
SMV	Selectable Mode Vocoder	TDT	T Disconnect Timer
SN	Service Node	TE	Terminal Equipment
SNAP	Sub Network Attachment Point	TEn	Terminal Equipment n
SNHC	Synthetic/Natural Hybrid Coding	TETRA	Terrestrial Trunked Radio
SO	Service Option	TFA	Transfer-Allowed Signal
SOC	System Operator Code	TFO	Tandem Free Operation
SOCI	Service Option Connection Identifier	TFP	Transfer-Prohibited Signal
SOCS	SOC Status Parameter	TFR	Transfer-Restricted Signal
SOG	Subsystem Out-of-service Grant	TG	Task Group
SOM	Start of Message (bit).	TIA	Telecommunications Industry Association
SOR	Subsystem Out-of-service	TILU	Telecommunications Industry Liaison Unit (FBI)
SP	Standards Proposal	TINA-C	Telecommunications Information Networking Architecture Consortium
SP	Signaling Point	TLDN	Temporary Local Directory Number
SPASM	Subscriber Parameter Administration Security Mechanism	TLV	Type Length Value
SPC	Service Programming Code	TMSI	Temporary Mobile Station Identification
SPI	Security Parameter Index	TOD	Time of Day parameter
SPL	Service Programming Lock.	TOI	Third Order Intercept.
sps	Symbols per second	TOLR	Transmit Objective Loudness Rating
SR	Spreading Rate	TR	Transmit-Receive (as in TR45)
SR1	Spreading Rate 1	TRAU	Transcoder and Rate Adaptor Unit
SR3	Spreading Rate 3 (3X)	TRIGADDRLIST	Trigger Address List parameter
SRAM	Static Random Access Memory	TRIGCAP	Trigger Capability parameter
SRBP	Signaling Radio Burst Protocol	TRIGLIST	Trigger List parameter
SRD	Standards Requirements Document	TRIGTYPE	Trigger Type parameter
SRF	Specialized Resource Function	TRS	Telecommunication Relay Service.
SRFDT	SRF Directive Timer	TRU	Transmit-Receive Unit
SRNC-ID	Source Radio Network Controller Identifier	TSB	Telecommunications Systems Bulletin
S-RNTI	Source Radio Access Network Temporary Identifier	TSSC	Technical Standards Subcommittee
SS7	Signaling System 7	TTA	Telecommunications Technology Association (Korea)
SSADT	Service Specific Assured Data Transfer	TTC	Telecommunication Technology Committee (Japan)
SSD	Shared Secret Data	TTL	TRAU-TRX-Link
SSF	Service Switching Function	TTL	Transistor-Transistor Logic
SSFT	Service Switching Function Timer	TTY	Teletype
SSM	Switching State Model	UDI	Unrestricted Digital Information
SSN	Sub-System Number	UDP	User Datagram Protocol
SSP	Service Switching Point	UDR	Usage Data Record
SSPR	System Selection for Preferred Roaming	UDT	Unit Data (SCCP)
SSSAR	Service Specific Segmentation and Reassembly	UDTS	Unit Data Service (SCCP)
SSTED	Service Specific Transmission Error Detection	UG	User Group
SSUI	Standard Subscriber Unit Interface.	UIM	User/Universal Identity Module
ST	Search Timer	UMAC	Universal Mobile Attenuation Code
STG	Science & Technology Group (CTIA)	UMTS	Universal Mobile Telecommunication System
STP	Signaling Transfer Point	UNI	User Network Interface
STS	Space Time Spreading	UPN	User Provided Number
STU	Secure Telephone Unit	UPT	Universal Personal Telecommunications
SVC	Switched Virtual Connection	URCDT	Unreliable Call Data Timer
SWG	Sub-Working Group	US1	US 1 Codec (12.2 Kbps)
SYSCAP	System Capabilities	USCF	User Selective Call Forwarding

USNC	United States National Committee
UTC	Universal Temps Coordiné (Universal Coordinated Time)
UTRA	UMTS Radio Terrestrial Access
UWCC	Universal Wireless Communications Consortium
UZ	User Zone
UZDATA	User Zone Data Parameter
UZID	User Zone ID
V&V	Verification & Validation
VBR	Variable Bit Rate
VC	Virtual Circuit
VCCI	Virtual Channel Connection Identifier
VCO	Voice Carry Over
VCS	Voice Controlled Services
VHE	Virtual Home Environment
VLR	Visitor Location Register
VMAC	Voice Mobile Attenuation Code
VoIP	Voice over IP
VP	Voice Privacy
VPM	Voice Privacy Mask
VSC	Vertical Service Code
VSE	Vendor Specific Extension
VSELP	Vector Sum Excited Linear Prediction
VSWR	Volt Standing Wave Ratio
WAN	Wide Area Network
WAP	Wireless Application Protocol
WARC	World Administration Radio Conference
WBSS	WideBand Spread Spectrum
WCAT	Wireless Cellular Action Team
W-CDMA	Wideband Code Division Multiple Access
WCS	Wireless Communications Service
WG	Working Group
WIF	Wireless Interconnect Forum
WIN	Wireless Intelligent Network
WINCAP	WIN Capability parameter
WINOPCAP	WIN Operations Capability parameter
WINRT	WIN Response Timer
WLL	Wireless Local Loop
WMOPS	Weighted Millions of Operations Per Second
WNO	Wireless Network Operator
WNP	Wireless Number Portability
WP	Working Party
WRE	Wireless Residential Extension
wrt	with respect to
WTRIGLIST	WIN Trigger List parameter

1 **Annex**

2 **A-1 Supporting Specifications in Network Architecture Model**

3

4 Network Architecture Model Reference Points and their related supporting specifications for the Alpha
 5 System Release are as follows. Reference Points are depicted in Section 4.1.2 Figure 1 and/or the Net-
 6 work Architecture Model [59].

Reference Points	Supporting Specifications
4 AAA – DB	Not Specified
6 LMSD – DB	[51] N.S0029-0 v1.0, <i>TIA/EIA-41-D Based Network Enhancements for CDMA Packet Data Service (C-PDS), Phase 1, Revision: 0</i> , June, 2002 [66] X.S0001-0, v1.0, TIA/EIA-41-D Based Network Enhancements for CDMA Packet Data Service (C-PDS), Phase-1
8/OSA-API OSA-AS – OSA-SCS	[68] X.S0017 v1.0.0 <i>Open Service Access (OSA) Application Programming Interface (API)</i> , August, 2003
10 OSA-SCS – PS	[68] X.S0017 v1.0.0 <i>Open Service Access (OSA) Application Programming Interface (API)</i> , August, 2003
11/Sh OSA-SCS – AAA & OSA-SCS - PS	[68] X.S0017 v1.0.0 <i>Open Service Access (OSA) Application Programming Interface (API)</i> , August, 2003
12/ISC OSA-SCS – SCM & OSA-SCS – SIP-AS	[68] X.S0017 v1.0.0 <i>Open Service Access (OSA) Application Programming Interface (API)</i> , August, 2003
13 LMSDS - PSTN	[81] ANSI T1.611-1991 Signaling System Number 7 (SS7) – Supplementary Services for Non-ISDN-Subscribers, American National Standards Institute, Inc.: 1991
14 LMSDS – MAP	[73] N.S0005-0 Cellular Radiotelecommunications Intersystem Operations, December 1997
21 AGW – AAA	[67] X.S0011-C v1.0 <i>Wireless IP Network Standard</i> , August, 2003
22 HA – AAA	[67] X.S0011-C v1.0 <i>Wireless IP Network Standard</i> , August, 2003

Reference Points	Supporting Specifications
27 c2KAN – MGW	Not Specified
31 c2KAN – AGW	[19] A.S0017-A v1.0 <i>Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 7 (A10 and A11 Interfaces) (IOSv4.3)</i> , October 2002
34/Mb MGW – PSTN	Not Specified
35 c2KAN – AGW	[19] A.S0017-A v1.0 <i>Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 7 (A10 and A11 Interfaces) (IOSv4.3)</i> , October 2002
39 MGW – LMSDS	[69] X.S0018-0 v1.0, <i>Legacy MS Domain (LMSD) – Step 1</i> , March 2003
40/Mb MGW – BR	Not Specified
41 AGW – HA	Not Specified
43/Mb AGW – HA	Not Specified
44/Mb HA – BR	Not Specified
45/Mb AGW – BR	Not Specified
46/Mb BR– IPN	Not Specified
47/Um MS – c2KAN	Not Specified
48 c2KAN – LMSDS	[16] A.S0014-A v1.0 <i>Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 4 (A1, A2 and A5 Interfaces) (IOSv4.3)</i> , October 2002
yy MGW – MGW	Not Specified
zz LMSD - LMSD	[69] X.S0018-0 v1.0, <i>Legacy MS Domain (LMSD) – Step 1</i> , March 2003
m1 NME – OSF-EML	[61] S.S0028-A v2.0 <i>OAM&P for cdma2000® (3GPP Delta Specification)</i> , January 2003
m2 OSF-EML – OSF-NML/OSS	[61] S.S0028-A v2.0 <i>OAM&P for cdma2000® (3GPP Delta Specification)</i> , January 2003