

Ref#	3G Capability Requirements	Current Schedule*							Comment	TR-45.2	TR-45.3	TR-45.4	TR-45.5	TR-45.6	TR-45.7	Other	
		c	t	u	2	3	4	5									6
Phase 1 Items - Baseline by March 1999 -COMPLETE																	
1.1	Registration & Location Updating	1	1	1	1	1	1	1	x	Done	ANSI-41-D	ANSI-136	ANSI-634-B	ANSI-95-B	N/A		
1.2	Enhanced Routing	1	1	1	1	x	x	x	x	Done for circuit-switched intra system	ANSI-41-D	N/A	N/A	N/A	N/A		
1.3	Signaling Routing for International Roaming	1	2*	1	1	x	x	x	x	Done	PN-4197	N/A	N/A	N/A	N/A		
1.4	Authentication and Key Management (circuit switched)	1	1	1	1	1	1	1	x	2G Authentication will be used until the 3G version is available.	ANSI-41-D	ANSI-136	ANSI-634-B	ANSI-95-B	N/A		AHAG
1.5	Ciphering (circuit switched)	1	1	1	1	1	1	1	x	2G Ciphering will be used until the 3G version is available.	ANSI-41-D, ANSI-664	ANSI-136	ANSI-634-B	ANSI-95-B	N/A		AHAG
1.6	Broadcast Teleservice Transport Capability	1	x	1	1	1	1	1	x	Done	PN-4104	ANSI-136-A	ANSI-634-B	IS-637-A	N/A		
1.8	Numbering and Identity	1	2*	1	1	1	1	1	x	Circuit switched	IS-735, IS-751, (ANSI-41-E)	ANSI-136 (most supported, none precluded)	ANSI-634-B	ANSI-95-B	N/A		
1.14	Support of Multiple Air Interfaces	1	x	1	1	1	1	1	x	Done for Phase 1, ongoing.	ANSI-41-D	ANSI-136 (TDMA, AMPS)	ANSI-634-B	ANSI-95-B (CDMA, AMPS)	N/A		
1.15	Backwards Compatibility	1	1	1	1	1	1	1	x	Done for Phase 1, ongoing.	ANSI-41-D	ANSI-136	ANSI-634-B	cdma2000 Phase 1	N/A		
3.1.2c	Circuit Switched Data: Asynchronous Data	1	x	x	1	1	1	1	x	Done	IS-737, IS-728 (ANSI-41-E)	IS-130-A, IS-135	ANSI-634-B	IS-707	N/A		
3.3.2	G3 Fax/Voice Band Data: G3 Fax	1	1	1	1	1	1	x	Done for digital	IS-737, IS-728, (ANSI-41-E), ANSI-664	IS-130-A, IS-135, ANSI-136-A	ANSI-634-B	IS-707	N/A			
5.1	Call Transfer	1	1	1	1	x	1	1	x	Done	ANSI-41-D, ANSI-664	N/A	ANSI-634-B	ANSI-95-B	N/A		
5.4	Priority Access	1	3	1	1	1	1	1	x	Done for circuit switched ingress, Not for egress	ANSI-41-D, ANSI-664	ANSI-136	PN-4545	ANSI-95-B	N/A		
5.5	Emergency Services	1	1	1	1	x	x	1	x	Done	J-STD-034 (ANSI-41-E), PN-3890	N/A	PN-4545	ANSI-95-B	N/A		
5.7	Number Portability	1	x	1	1	1	1	1	x	Done	IS-756-A (ANSI-41-E)	ANSI-136	N/A	ANSI-95-B	N/A		
5.8	Preferred Roaming	1	x	1	1	1	1	1	x	Done	IS-725-A (ANSI-41-E)	ANSI-136	ANSI-634-B	IS-683-A	N/A		
5.9	Virtual Private Network	1	x	1	1	1	x	x	x	Done	IS-771, IS-730 (ANSI-41-E)	ANSI-136	N/A	N/A	N/A		
5.15	Closed User Group				1	x	x	x	x	Done	ANSI-41-D	N/A	N/A	N/A	N/A		
5.16	Private Numbering Plan				1	1				Done	ANSI-41-D		ANSI-634-B				
5.17	Credit Card Calling				1	x	x	x	x	Done	ANSI-41-D	N/A	N/A	N/A	N/A		
5.25	Short Message Service (SMS)	3	x	1	1	1	1	1	x	Done	ANSI-41-D, ANSI-664	ANSI-136	ANSI-634-B	IS-637, TSB79	N/A		
6.1	VHE/WIN	1	1	1	1	x	x	x	x	Done for Phase 1, ongoing	IS-771 (ANSI-41-E), ANSI-41-D	N/A	N/A	N/A	N/A		
6.2	Announcements	1	1	1	1	x	x	x	x	Done	ANSI-41-D, IS-771 (ANSI-41-E)	N/A	N/A	N/A	N/A		
6.3	WIN Service Codes	1	1	1	1	x	x	x	x	Done	ANSI-41-D, ANSI-664	N/A	N/A	N/A	N/A		
6.4	User Operation of Supplementary Services	1	1	1	1	x	x	x	x	Done	ANSI-41-D, ANSI-664	N/A	N/A	N/A	N/A		
7.2	Circuit Switched Standardized Call Detail Recording	1	x	1	1	x	x	x	x	Done	ANSI-41-D, ANSI-124	N/A	N/A	N/A	N/A		
8.1.1	Soft Handoff: Inter BSC	1	1	x	x	x	1	1	x	Done	N/A	N/A	ANSI-634-B	ANSI-95-B	N/A		
8.1.2	Soft Handoff: Inter MSC	x	1	x	x	x	1	1	x		N/A	N/A	ANSI-634-B	ANSI-95-B	N/A		
8.1.4	Soft Handoff: For Packet	x	1	x	x	x	x	1	x		N/A	N/A	N/A	cdma2000 Phase 1 (144kbps)	N/A		
8.2.1	Hard Handoff: Inter BSC	1	1	1	x	1	1	1	x	Done	N/A	ANSI-136	ANSI-634-B	ANSI-95-B	N/A		

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		c	t	u	2	3	4	5									6
8.2.3	Hard Handoff: Inter Generation	1	1	3	1	1	1	1	x	Ongoing		ANSI-136 (AMPS-TDMA, TDMA-AMPS)	PN-4545	ANSI-95-B (CDMA-AMPS), cdma2000 Phase 1 (others)	N/A		TR45.7
8.6	Efficient Link Layer Recovery	1	1	x	x	1	x	1	x	Done	N/A	ANSI-136-A (P,D,II D,E) (e.g., incremental redundancy adapt. Mod)	N/A	ANSI-95-B, IS-707	N/A		
10.3	ATM at the A Interface	1	2	x	x	x	1	x	x	Done	N/A	N/A	PN-4545	N/A	N/A		
11.1	Increased Battery Life	1	1	x	1	1	1	x	x	Circuit switched	ANSI-41-D	ANSI-136	N/A	IS-707 (packet dormant), cdma2000 Phase 1	N/A		
13.1	Over the Air Service Provisioning and Administration	1	2*	1	1	1	1	1	x	Done for circuit switched, pending additional requirements	IS-725-A (ANSI-41-E)	ANSI-136	ANSI-634-B, PN-4545	IS-683-A	N/A		
Phase 2 Items - Baseline by December 1999																	
1.9	Data Field Encoding for Multiple Character Set Support	2	1	1	2	2	2	1	x	Done	ANSI-664-A, Miscellaneous Doc (ANSI-41-E)	ANSI-136 (P)	PN-4546	cdma2000 Phase 1	N/A		
2.1	User Identification Module (UIM) Support - Integrated and Removable	x	1	1	2	1	1	2	x		PN-4582	ANSI-136	PN-4545	cdma2000 Phase 2	N/A		AHAG
3.1	Circuit Switched Data (Interworking)	2	1	x	1	2	2	2	x		IS-737 (ANSI-41-E)	UWC-136 (P)	PN-4546	cdma2000 Phase 2	N/A		
3.1.2b	Circuit Switched Data: Service Selection	2	2*	x	x	2	2	2	x	High speed data rates are air interface issues	N/APN-4616	UWC-136 (P) (e.g., how many slots)	PN-4546	cdma2000 Phase 2	N/A		
3.3.1	G3 Fax/Voice Band Data: V.90	1	1	1	1	1	1	2	x	Done except for 45.5	IS-737 (ANSI-41-E)	ANSI-136	ANSI-634-B	cdma2000 Phase 2, IS-707-B	N/A		
4.1	Packet Data Rates	x	1	x	x	2	2	1, 2	x		N/A	UWC-136 (P)	PN-4546	cdma2000 Phase 1 (144kbps), Phase 2 (>=384kbps)	N/A		
4.2	Packet Registration	x	1	x	x	1	2	x	2	Under review	N/A	ANSI-136-A (P)	PN-4546	N/A	PN-4286		
4.4	Packet Encryption	x	1	x	x	1	2	1	2	Under review	N/A	ANSI-136-A (P)	PN-4546	IS-707-A	PN-4286		
4.7.2	IPv6 Support	x	1	x	x	1	2	x	3	Under review	N/A	ANSI-136-A (P)	PN-4546	Not Planned			
4.8	IP Broadcast & IP Multicast Services	x	1	x	x	1	2	x	2	Under review	N/A	ANSI-136-A (P) (e.g., GPRS)	PN-4546	Not Planned	PN-4286		
4.9	Static IP Address Assignment	x	1	x	x	1	1	x	2	Under review	N/A	ANSI-136-A (P) (e.g., GPRS)	ANSI-634-B	N/A	PN-4286		
4.10	Dynamic IP Address Assignment	x	1	x	x	1	2	x	2	Under review	N/A	ANSI-136-A (P) (e.g., GPRS)	PN-4546	N/A	PN-4286		
4.11	Optimal Packet Routing	x	x	x	x	x	x	x	2	Under review	N/A	N/A	N/A	N/A	PN-4286		
4.13	Multiple Simultaneous Address Registrations (i.e., IP Addresses)	x	x	x	x	1	2	x	2	Under review	N/A PN requested	ANSI-136-A (P)	PN-4546	N/A	PN-4286		
4.15	Interworking with Internet (e.g., Tunneling, Mobile IP)	x	x	x	x	x	2	x	2	Under review by TR45.6	N/A	UWC-136	PN-4546	N/A	PN-4286		
5.2	User Selective Call Forwarding	x	1	1	2	x	2	1	x	In progress	PN-4551	N/A	PN-4546	cdma2000 Phase 1	N/A		
5.4	Priority Access	1	3	1					2	Packet					PN-4286		

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		c	t	u	2	3	4	5									6
5.6	Global Emergency Dialing Number	x	2*	1	x	1	2	2	x								IFAST
5.12	Location Based Service	2	1	1	2	1	2	1	x								
5.13	Enhanced Preferred Language				2	x	x	x	x								
5.14	Rejection of Undesired Annoying Calls				2	x	x	x	x								
5.18	FreePhone				2	x	x	x	x								
5.20	Pre-paid Charging	2	x	1	2	x	2	x	x								
5.22	Advice of Charging	2	1	1	2	1	2	1	x								
5.23	Location Dependent Charging	2	x	1	2	x	2	1	x								
8.2.2	Hard Handoff: Inter MSC	1	1	1	2	1	1	1	x								
8.4	Efficient Radio Resource Allocation	1	1	x	x	1	2	1	x								
8.5	Radio Channel and Environment Monitoring	1	1	x	x	1	2	1	x								
14.2	Internet Access	1	x	x	1	1	2	1	2								
14.3	Intranet Access	1	x	x	1	1	2	1	2								
14.4	Packet Data QoS Negotiation	2	1	x	1, ?3	1	2	2	2								
14.5	Packet Data QoS Parameters	2	1	x	1, ?3	1	2	2	2								
15.1	Vocoder Tandem Free Operation (VTFO)	x	1	x	x	x	2	x	x								
	DMH Support				2	x	x	x	x								
	Audi Path Transport of TTY signals				2												
	Minimum Performance for TTY/TDD Detector and Network Management Stage 2				2												
Phase 3 Items - Baseline after December 1999																	
1.2	Enhanced Routing	1	1	1	3	x	x	x	x								
1.17	Location - Tiered Services	x	x	x	3	x	1	1	x								
3.1.2a	Circuit Switched Data: Asymmetric High Speed Circuit Switched Data	x	3	x	x-3	2	3	2	x								
4.5	Optimization for TCP/IP and Other IETF Standards	x	2	x	x	1	3	x	x								

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		c	t	u	2	3	4	5									6
6.5	Location Registration Based IN	x	x	x	3	x	x	x	x			N/A	N/A	N/A	N/A		
6.6	Authentication Based IN Services	x	x	x	3	x	x	x	x			N/A	N/A	N/A	N/A		
14.1	Data Compression	x	x	x	x	1	3	1	2		Under review	N/A	ANSI-136-A (P)		IS-707-A	PN-4286	
	Emergency Alert System				3							TSB-114					
	Automatic Code Gapping				3							PN-441					
	Emergency Services - beyond FCC				3							PN-4288					
	Electronic Surveillance				3							J-STD-025-A					
	Wireless Number Portability Phase				3							PN-4411					
	Clarifications to 136-133 Regarding				3							TSB-117					
	Clarification of Multilingual				3							TSB-118					
Scheduling Undetermined																	
1.4.1	Authentication: Enhancements				3						3G Enhancements	PN-4392, PN-4393					AHAG
1.4.2	Authentication: Exportability				3						3G Enhancements	PN-4392, PN-4393					AHAG
1.4.3	Authentication: Internationalization				3						3G Enhancements	PN-4392, PN-4393					AHAG
1.5.1	Ciphering: Enhancements				3						3G Enhancements	PN-4392, PN-4393					AHAG
1.5.2	Ciphering: Exportability				3						3G Enhancements	PN-4392, PN-4393					AHAG
1.5.3	Ciphering: Internationalization				3						3G Enhancements	PN-4392, PN-4393					AHAG
1.10	Out-of-Band Feature Activation/Deactivation Messages	x	x	x	3		2	1	x			PN-4615		PN-4546	cdma2000 Phase 1	N/A	TR45.1 (ANSI-664)
1.11	Location - Position Technology	x	x	x	x		2	1	x			N/A		PN-4546	cdma2000 Phase 1	N/A	
1.12	Sub-addressing						1							ANSI-634-B			
1.13	Automatic Roaming Agreements	x	2*	x	x		x	x	x		No requirements.	N/A		N/A	N/A	N/A	
1.16	Location - Support Services	x	x	x	3							PN requested			PN-4535		
2.2	Removable UIM	x	1	x	2		2	3	x		ISO issue - support for physically removable UIM	PN-4582		PN-4546	cdma2000 Phase 2/2+	N/A	
2.3	Personal Mobility				2					x		PN-4371				N/A	
3.1.1	Circuit Switched Data: Circuit Mode Bearer Service				3					x		PN-4616				N/A	
3.1.2	Circuit Switched Data: Modem Emulation and Interworking				x						High speed data rates are air interface issues	N/A					
3.2	Connection Oriented Constant Bit Rate	x	x	x	1	1	1			x	circuit switched	IS-737 (ANSI-41-E)	ANSI-136-A (P) for D II C,D,E	ANSI-634-B		N/A	
3.4	ISDN Internetworking	x	1	x	x	1	2			x	Requirements needed	N/A	ANSI-136-A ((P) for E III C,D,E - UWC- 136 (P) for E III A	Needs study		N/A	
4.3	Packet Authentication	x	1	x	x	1	2			2	Under review	N/A	ANSI-136-A (P)	PN-4546		PN-4286	
4.6	Multiprotocol support (e.g., X.25)	x	3	x	x	1	x			x	Under review	N/A	ANSI-136-A (P)	N/A	Not Planned	N/A	
4.7.1	IPv4 Support				x							N/A					
4.12	Dormant Mode Packet Handoff				x					2		N/A					
5.3	Answer Hold	x	1	1	2		2	1	x		In progress	PN-4550		PN-4546	cdma2000 Phase 1	N/A	
5.10	International Access Function / +Code Dialing	x	2*	1	x	x	x	x	x		Complete in 45.3	N/A	N/A	N/A	N/A	N/A	
5.11	Calling Party Pays	x	x	1	?	x	x	x	x			PN-4285	N/A	N/A	N/A	N/A	

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		c	t	u	2	3	4	5									6
5.19	Air Chat		3				3										
5.21	Third Party Charging	x	x	1		x	x	x	x	Stage 1 needed	N/A	N/A	N/A	N/A	N/A		
5.24	Universal Personal Telecommunications (F.851)	x	3	x	x		3		x	No requirements.	N/A		Needs study		N/A		
7.1	Packet Charging Information																
8.1.3	Soft Handoff: Inter Generation	x	2*	1	3		2		x	Under review					PN-4546		TR45.7
8.3	TDD Physical Layer				x						N/A						
9.1.1	Multiple Simultaneous Calls: voice	2	x	x		2	3	2	x	Requirements needed - multiple call appearances per mobile		UWC-136 (P)	Needs study	cdma2000 Phase 2	N/A		
9.1.2	Multiple Simultaneous Calls: Circuit Switched Data									Requirements needed - multiple call appearances per mobile							
9.1.3	Multiple Simultaneous Calls: Packet Data									Requirements needed - multiple call appearances per mobile							
9.2	Voice and Packet Concurrent Support	x	2*	x	3	1	2	1, 2	x	Requirements needed	PN requested	ANSI-136 (packet only)	PN-4546	IS-707 (packet only), cdma2000 Phase 2 (voice+circuit)	N/A		
9.3	Multi-media Call Model	3	x	x		2	3	2	x	Requirements needed		UWC-136 (P)	Changes required	cdma2000 Phase 2	N/A		
10.1	Open A Interface				x	x		x	x		N/A	N/A		N/A	N/A		
10.2	Open Abis Interface				x	x	3	x	x		N/A	N/A	PN-4604	N/A	N/A		
11.2.1	MS Adaptor Interfaces: Voice	x	2*	x	x		x	x	x	No plan	N/A		N/A	N/A	N/A		TR45.1?
11.2.2	MS Adaptor Interfaces: TDD/TTY	x	2*	x	x		x	x	x	No plan	N/A		N/A	N/A	N/A		TR45.1?
11.2.3	MS Adaptor Interfaces: Data	x	2*	x	x		x	x	x	No plan	N/A		N/A	N/A	N/A		TR45.1?
12.1	Fixed Wireless Access				x		2			Requirements needed - A-Interface published	N/A		PN-4276				
12.1.1	FWA: Wireline Replacement				1					Requirements needed	PN-4372 (G3 Fax and Voiceband Data)						
12.1.2	FWA: Mobile Stations				x					Modifications to MS Functionality							
13.1.1	OTASPA - Mobile Initiated								x	3G Enhancements					N/A		
13.1.2	OTASPA - User Data								x	3G Enhancements					N/A		
13.1.3	OTASPA - UIM Support								x	3G Enhancements					N/A		
14.6	Connectionless Constant and Variable Bit Rate	x	x	x	x	1	x		x	packet	N/A	ANSI-136-A (P) for D II C,D,E	N/A	Clarification Needed	N/A		
15.2	Selectable Mode Vocoder Adaptive Multi-Rate Codec											SP-4027-C					
Items Outside the Scope of TR45																	
1.7	3G Mobile Equipment Identifier	x	x	x			1		x	Work on Extended ESN Manufacturer's Code is on hold by TR-45 and should not be addressed by any subcommittee	N/A	ANSI-136	ANSI-634-B	TBD	N/A		
4.14	Standalone Internet Services	x	x	x	x	x	3		2	Not defined.	N/A	Proprietary implementation	Clarification Needed	Clarification Needed	PN-4286		

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N/A - Not Applicable
(P) - Planned
blank - * Not yet in the workplan