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**3RD GENERATION
PARTNERSHIP
PROJECT 2
"3GPP2"**

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11 A Report on Issues Identified with IOS V4.1

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2 **1.0 Introduction**

3 This document contains a collection of issues identified with IOS V4.1 of the cdma2000
4 Interoperability Standard (IOS).

5 TSG-A Working Group 2 (WG2) of the Third Generation Partnership Project 2 (3GPP2)
6 and TR45.4.2 of the Telecommunication Industry Association (TIA), as a result of work
7 to evolve the cdma2000 Interoperability Standard (IOS), have identified issues with the
8 published IOS V4.1. These issues have been collected into this report that is commonly
9 referred to as the “bug list”.

10 The list was created using a consensus process. During scheduled meetings and
11 conference calls, numbered comments were discussed and resolved. The question was
12 then asked if the comment applied to the prior revision of the standard. If there was
13 consensus that the issue applied to a prior revision and there was no strong objection, the
14 issue was added to the bug list.

15 The working groups have made no attempt to incorporate corrections into a prior
16 revision. Resolution of each issue is contained in the current version of the standard.

17 **1.2 References**

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19 **1.2.1 TIA / EIA**

20 For ease of cross-referencing, the TIA / Electronics Industry Association (EIA)
21 references provided in this section are aligned with the 3GPP2 references, provided in
22 section 1.2.2.

- 23 [1] TIA/EIA/IS-2001, Inter-operability Specification (IOS) for CDMA 2000 Access
24 Network Interfaces, December 2000.
- 25 [2] TIA/EIA/IS-2001-A, Interoperability Specifications (IOS) for cdma2000 Access
26 Network Interfaces, August 2001
- 27 [3] TIA/EIA-2001.1-B, Interoperability Specification (IOS) for cdma2000 Access
28 Network Interfaces – Part 1 Overview, May, 2002.
- 29 [4] TIA/EIA-2001.2-B, Interoperability Specification (IOS) for cdma2000 Access
30 Network Interfaces – Part 2 Transport, May, 2002.
- 31 [5] TIA/EIA-2001.3-B, *Interoperability Specification (IOS) for CDMA 2000 Access*
32 *Network Interfaces – Part 3 Features*, May 2002.
- 33 [6] TIA/EIA-2001.4-B, *Interoperability Specification (IOS) for CDMA 2000 Access*
34 *Network Interfaces – Part 4 (A1, A2, and A5 Interfaces)*, May 2002.
- 35 [7] TIA/EIA-2001.5-B, *Interoperability Specification (IOS) for CDMA 2000 Access*
36 *Network Interfaces – Part 5 (A3 and A7 Interfaces)*, May 2002.
- 37 [8] TIA/EIA-2001.6-B, *Interoperability Specification (IOS) for CDMA 2000 Access*
38 *Network Interfaces – Part 6 (A8 and A9 Interfaces)*, May 2002.
- 39 [9] TIA/EIA-2001.7-B, *Interoperability Specification (IOS) for CDMA 2000 Access*
40 *Network Interfaces – Part 7 (A10 and A11 Interfaces)*, May 2002.

41 **1.2.2 3GPP2**

42 The 3GPP2 references are aligned with the TIA/EIA references of Section 1.2.1 and are
43 provided here for information and cross-reference purposes.

1 [1] 3GPP2 A.S0001.1, 3GPP2 Access Network Interfaces Interoperability
2 Specification, June 2000.
3 [2] 3GPP2 A.S0001-A v2.0, 3GPP2 Access Network Interfaces Interoperability
4 Specification, June 2001
5 [3] 3GPP2 A.S0011-0, Interoperability Specification (IOS) for cdma2000 Access
6 Network Interfaces – Part 1 Overview, May, 2002.
7 [4] 3GPP2 A.S0012-0, Interoperability Specification (IOS) for cdma2000 Access
8 Network Interfaces – Part 2 Transport, May, 2002.
9 [5] 3GPP2 A.S0013-0, *Interoperability Specification (IOS) for cdma2000 Access*
10 *Network Interfaces – Part 3 Features*, May 2002.
11 [6] 3GPP2 A.S0014-0, *Interoperability Specification (IOS) for cdma2000 Access*
12 *Network Interfaces – Part 4 (A1, A2, and A5 Interfaces)*, May 2002.
13 [7] 3GPP2 A.S0015-0, *Interoperability Specification (IOS) for cdma2000 Access*
14 *Network Interfaces – Part 5 (A3 and A7 Interfaces)*, May 2002.
15 [8] 3GPP2 A.S0016-0, *Interoperability Specification (IOS) for CDMA 2000 Access*
16 *Network Interfaces – Part 6 (A8 and A9 Interfaces)*, May 2002.
17 [9] 3GPP2 A.S0017-0, *Interoperability Specification (IOS) for CDMA 2000 Access*
18 *Network Interfaces – Part 7 (A10 and A11 Interfaces)*, May 2002.

19 **2.0 IOS V4.1 Bug List**

20 Table 2-1 contains bugs in IOS V4.1 [2] identified during the verification and validation
21 (V&V) and ballot of IOS V4.2 [3 to 9]. The issues are contained in 3GPP2 document
22 A00-20020610-030 IOS V4.1 Bugs - Revised.doc, which has been approved by a 3GPP2
23 TSG-A plenary meeting and wholly incorporated into this document. In addition, issues
24 #25 and #114 were modified editorially per A03-20020805-005.

25 Issues in Table 2-1 denoted by “applies to IS-2001” refer to IOS V4.0 [1].

26 Please note that all page, section, and line numbers refer to the publication version of [2].
27 Note that V&V comment numbers refer to the IOS V4.2 V&V comments (3GPP2
28 document A00-20011203-019 IOS V4.2 Non-editorial VV comments – Final) and Ballot
29 comment numbers refer to V4.2 ballot comment (TIA document 400-20020513-007 IOS
30 V4.2 Ballot Comments – Non-Editorial – FINAL).

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Table 2-1 IOS V4.1 Bug List

ID #	Page	Line	Section	Interface (s) Impacted	Issue
1	-	-	6.1.4	A1	<p>V&V Comment #55, #77, #80 from A Interface Document: User Zone rejection by MSC and User Zone update by MSC (BS) in IOS is supposed to be done by including MS Information Records containing the User Zone Reject, User Zone Update (User Zone Update Request) IS-2000 Information Records in the Feature Notification and Flash with Information messages; however, these records have been deleted from IS-2000 in Addendum 1 (IS-2000 now uses User Zone Reject, User Zone Update, and User Zone Update Request messages for these procedures on the air interface).</p> <p>This discrepancy is corrected by adding three new messages, User Zone Reject, User Zone Update, and User Zone Update Request to the IOS. Note that these messages have been classified as Mobility Management messages, but they could also be classified as Supplementary Services messages.</p> <p>See sections 4.3.16-18 in IS-2001.4-B for the correct coding of these messages and associated information elements.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
2	*	*	*	A1	<p>Ballot Comment #44 from the A1/A2/A5 Interface Document:</p> <p>Status Request and Status Response messages have been introduced in IOS V4.2, and should be considered part of IOS V4.1. See IS-2001.3-B and IS-2001.4-B for details.</p>
3	*	*	*	A1	<p>Ballot Comments #63, 130, 150, 180 from the A1/A2/A5 Interface Document:</p> <p>Protocol Revision information element has been defined in IOS V4.2 and should be considered part of IOS V4.1. This impacts a number of A1 messages. See IS-2001.4-B for IE format and affected messages.</p>
4	xxvii	14	Foreword		<p>Ballot Comment #5 from the Features Document:</p> <p>The Features List is replaced by the Features and Functions List given in Appendix A at the end of this document.</p>
5	xxix	14	Foreword		<p>Ballot Comment #25 from the Features Document:</p> <p>Add the following text for footnote 'e': "Not applicable for DS-41 to DS-41 Handoffs."</p>
6	xxxi	7	Foreword		<p>Ballot Comment #26 from the Features Document:</p> <p>Change "will deny the request" to "may deny the request". Change "will order the mobile" to "may order the mobile".</p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
7	29	2	2.2.1.1.1	A1	<p>Ballot Comment #20 from the A1/A2/A5 Interface Document:</p> <p>Replace lines 2-4 with the following text:</p> <p>“In a mobile origination scenario, the BS transfers a CM Service Request message to the MSC in a Complete Layer 3 Information message. The BS starts timer T₃₀₃. The CM Service Request message and the subsequent MSC response are used for connection establishment.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
8	30	27	2.2.1.6.1	A1	<p>Ballot Comment #22 from the A1/A2/A5 Interface Document:</p> <p>Add the following to the end of the first sentence in line 27: “and starts timer T301 (unless the Assignment Complete message is received as part of a mobile originated call or a packet data (SO 33) call).”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
9	30	30	2.2.1.6.1	A1	<p>Ballot Comment #23 from the A1/A2/A5 Interface Document:</p> <p>Add the following to the end of line 30: “For network-initiated reactivation of packet data calls (SO 33), the BS (MSC) considers the call stable and in the conversation state after sending (receiving) the Assignment Complete message.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
10	36	1	2.2.2.2	A1	<p>Ballot Comment #164 from the Features Document:</p> <p>Add a step ‘aa’ to the Call Flow that indicates a Handoff Performed message sent from the Source BS to the MSC. Add the following text for step ‘aa’:</p> <p>aa. The source BS may send a Handoff Performed message to the MSC as explained in section 3.3.1.3 “Concept of A "Designated Cell.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
11	40	22	2.2.2.3.1	A1	<p>Ballot Comment #28 from the Transport Document:</p> <p>Add the following sentence to the end of step e in the call flow: “The MSC releases the underlying transport connection.”</p> <p><i>Note: This error also applies to IS-2001</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
12	58	1	2.3.1.6	A1	<p>Ballot Comments #31-34 from the A1/A2/A5 Interface Document:</p> <p>The procedures for the Clear Command message have been enhanced. See IS-2001.4-B for details.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
13	68	24	2.5.1.4.1	A1	<p>Ballot Comment #37 from the A1/A2/A5 Interface Document:</p> <p>Add to the end of the line: “Upon receipt of the Feature Notification Ack message the MSC stops timer T₆₃.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
14	77	42	2.6.2.2	A1	<p>Ballot Comments #55, 56, 57, 58 from the A1/A2/A5 Interface Document:</p> <p>Replace “MS” with “BS”.</p> <p><i>Insert the following sentence at the end of line 44: “This message is also used to transport authentication parameters associated with mobile originated short data bursts.”</i></p> <p>Insert the following sentence under Successful Operation: “If the ADDS Transfer is sent to MSC for authentication purposes in the case of short data burst, the BS starts timer T₆₀.”</p> <p>Insert the following sentence under Failure Operation: “If timer T₆₀ expires in the case of short data burst the BS shall discard the data.”</p> <p><i>Note: The first part of this error also applies to IS-2001.</i></p>
15	96	31	2.10.1.2.1	A1	<p>Ballot Comment #38 from the A1/A2/A5 Interface Document:</p> <p>Delete the text “if radio resources are not available for the call”.</p> <p>The BSC should always reply back with a PACA Command Ack if it received a PACA Command message from the MSC. Add following text to the end of the line: “Upon receipt of the PACA Command Ack message the MSC stops timer T_{paca1}.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
16	96	31	2.10.1.2.1	A1	<p>Ballot Comments #38, 39 from the A1/A2/A5 Interface Document:</p> <p>Delete the text “if radio resources are not available for the call”.</p> <p>The BSC should always reply back with a PACA Command Ack if it received a PACA Command message from the MSC. Add following text to the end of the line: “Upon receipt of the PACA Command Ack message the MSC stops timer T_{paca1}.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
17	98	2	2.10.1.4	A1	<p>Ballot Comments #40 from the A1/A2/A5 Interface Document:</p> <p>Add text: “The message is sent in response to a PACA Update Message.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
18	101	1	2.11	A1	<p>Ballot Comment #188 from the Features Document:</p> <p>Call flows describing Position Location Determination have been added to IOS V4.2 and should be considered part of IOS V4.1. Refer to Section 3.13 IOS V4.2 for details.</p>
19	103	-	2.12	A1	<p>V&V Comment #48 from the Features Document:</p> <p>User Zone rejection by MSC and User Zone update by MSC (BS) in IOS is supposed to be done by including MS Information Records containing the User Zone Reject, User Zone Update (User Zone Update Request) IS-2000 Information Records in the Feature Notification and Flash with Information messages; however, these records have been deleted from IS-2000 in Addendum 1 (IS-2000 now uses User Zone Reject, User Zone Update, and User Zone Update Request messages for these procedures on the air interface).</p> <p>This discrepancy can be corrected by including three new messages, User Zone Reject, User Zone Update, and User Zone Update Request, in IOS.</p> <p>See IS-2001.3-B for the correct description of this feature.</p> <p><i>Note: This error also applies to IS-2001</i></p>
20	103	1	2.12	A1	<p>Ballot Comment #41 from the A1/A2/A5 Interface Document:</p> <p>New messages and message procedures have been introduced for the support of User Zones. See IS-2001.4-B for details.</p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
21	110	38	2.14.3	A11	<p>V&V Comment #59 from the Features Document:</p> <p>Replace “For initial PDSN assignment and for PDSN reselection, the PCF shall determine which PDSN to use for a particular mobile by the following algorithm: PDSN No. = IMSI modulo N”</p> <p>With “For initial PDSN assignment and for PDSN reselection, the PCF shall determine which PDSN to use for a particular mobile by the following algorithm: PDSN No. = (truncated Mobile IMSI) modulo N Where (truncated Mobile IMSI) is defined to be the least significant 4 digits of the IMSI(or MSIN) taken as a decimal value.”</p>
22	113	28-31	2.14.4.1.2.2	A9	<p>Ballot Comment #23 from the A8/A9 Interface Document:</p> <p>Replace lines 28-31 with the following text: “If the timer T_{wait9} expires, the PCF should initiate clearing of the A8 connection by sending a A9-Disconnect-A8 to the BS. The PCF starts timer $T_{discon9}$.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
23	116	12	2.14.5.3.1	A9	<p>Ballot Comment #30 from the A8/A9 Interface Document:</p> <p>Replace text in line 12 with: “$T_{discon9}$ or timer T_{aldak}”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
24	119	19	2.14.6.1	A9	<p>Ballot Comment #34 from the A8/A9 Interface Document:</p> <p>Insert the following text in line 19: “The PCF stops timer T_{aldak} if the timer is active.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
25	120	11	2.14.6.4.1	A9	<p>Ballot Comment #35 from the A8/A9 Interface Document:</p> <p>Insert the following text into line 11: “The PCF starts timer T_{aldak}”</p> <p><i>Note: This error also applies to IS-2001.</i></p> <p>The PCF starts timer T_{aldak} for an A9-Air Link (AL) Disconnected Ack which is IOS V4.1 section 2.14.6.4.1.</p>
26	120	27	2.14.6.4.2	A9	<p>Ballot Comment #36 from the A8/A9 Interface Document:</p> <p>Insert the following text into line 27: “If timer T_{aldak} expires the PCF may send the A9-AL Disconnected Ack to the BS again.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
27	121	1	2.14.7	A9	Ballot Comment #49 from the Features Document: A8/A9 Version Control messages have been added to IOS V4.2 and should be considered part of IOS V4.1. See IOS V4.2 for details on call flows, message procedures, and message formats.
28	139	8	2.14.7.12	A1	V&V Comment #144 from the Features Document: Insert a step between steps j and k to send Release Order indicating “Service Option Rejected” from Target BS to MS to inform the mobile that the packet data session is being terminated. See Section 3.11.4.2.12 of IS-2001.3-B for details.
29	141 144	5 5	2.14.7.14 2.14.7.15	A9	Ballot Comments #200, 202 from the Features Document: Replace “deactivation” with “hard handoff”. <i>Note: This error also applies to IS-2001 (Sections 2.14.7.12 and 2.14.7.13)</i>
30	141	1	2.14.7.14	A1	Ballot Comment #279 from the Features Document: The hard handoff call flows have been modified to allow the Handoff Complete message to be sent as soon as the mobile is acquired by the Target Base Station. See IS-2001.3-B for details. Note this change also affects the procedures of the following messages: A9-Air Link (AL) Connected Handoff Complete Clear Command
31	144	11	2.14.7.15	A9	Ballot Comments #203 from the Features Document: In Figure 2.14.7.15-1 – in step ‘o’, the A11 procedures should be ‘PDSN HO Procedures’ <i>Note: This error also applies to IS-2001 (Section 2.14.7.13)</i>
32	152	17	2.14.7.18	A9	Ballot Comments #208 from the Features Document: Step ‘g’ is incorrect in the call flow. Replace the arrow in step ‘g’ with a fat arrow indicating ‘A10/A11 Release Procedures’ and replace the text in step ‘g’ (starting on line 13, pg 153) with the following: “The PCF uses the MSID received in the A9-Update-A8 message to find the corresponding A10 connection. Procedures for releasing the A10 connection and removing mobility management information from the PDSN are performed.”

ID #	Page	Line	Section	Interface (s) Impacted	Issue
33	158	10	2.14.8.1.3.1	A9	Ballot Comment #37 from the A8/A9 Interface Document: Failure Operation of the A9-Short Data Delivery message has been clarified in IOS V4.2, and this should be considered part of IOS V4.1. See IS-2001.6-B for details.
34	164	1-27	2.14.8.5	A9	Ballot Comment #236 from the Features Document: The wording in the textual description of the call flow has been enhanced for readability. See IS-2000-.3-B for details.
35	167	34	2.15.1.1.1	A11	Ballot Comment #235 from the Features Document: Insert the following text: “In the case of Dormant Handoff, the PCF shall initiate the setup of an A10 connection and include a Mobility Event Indicator as CVSE and the PANID and CANID as an NVSE in the A11-Registration Request message.”
36	176	23	2.15.5.1	A11	Ballot Comments #213, 216 from the Features Document: Step ‘k.’ mentions the PCF sending A11-RRQ prior to Trp expiry but Trp is never set according to this flow. Insert the following text at the end of step ‘g’: “The PCF and PDSN start timer Trp.” Also add the timer to the figure. <i>Note: This error also applies to IS-2001</i>
37	184	15	2.15.5.6	A11	Ballot Comments #219 from the Features Document: Replace ‘BS’ with ‘PCF’ <i>Note: This error also applies to IS-2001</i>
38	192	20	2.15.5.9	A11	Ballot Comment #339 from the Features Document: Remove the phrase “and accounting related information to the source PDSN.” <i>Note: This error also applies to IS-2001.</i>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
39	194 197	44 40	2.15.5.10 2.15.5.11	A11	<p>Ballot Comment #225 from the Features Document:</p> <p>Add the following text to step 'm' on page 194: "(If the PDSN has data for the mobile, it responds to the PCF with a Registration Reply message with the Data Available Indicator in the Vendor/Organization Specific Extension.)".</p> <p>In step 'm' on page 197 change "... the target PDSN accepts the connection by returning an A11-Registration Reply message with an accept indication" to "...the target PDSN accepts the connection by returning an A11-Registration Reply message with an accept indication and Data Available Indicator within the Vendor/Organization Specific Extension".</p> <p><i>Note: This error also applies to IS-2001</i></p>
40	196	3	2.15.5.11	A11	<p>Ballot Comment #226 from the Features Document:</p> <p>Correct Figure 2.15.5.11-1 to show MSC timer T₁₁ between steps 'b' and 'd'.</p> <p><i>Note: This error also applies to IS-2001</i></p>
41	197	1	2.15.5.11	A11	<p>Ballot Comment #227 from the Features Document:</p> <p>Correct steps 'a' and 'b' to read:</p> <ol style="list-style-type: none"> a. On detection of a condition that a hard handoff is required, the source BS sends a Handoff Required message to the MSC with a preferred list of target cells, and starts timer T₇. <u>The source BS includes the PANID of the source PCF.</u> b. The MSC tries each of the elements in the preferred cell list until one cell is found that has an available radio channel. The MSC sends a Handoff Request message to the target BS <u>which includes the PANID and starts timer T₁₁.</u>
42	197	10	2.15.5.11	A11	<p>Ballot Comment #228 from the Features Document:</p> <p>Correct step 'd' to read:</p> <ol style="list-style-type: none"> d. The target BS returns a Handoff Request Ack message to the MSC with appropriate RF channel information to allow the mobile to be instructed to tune to the new RF channel, and starts timer T₉ to wait for the mobile to arrive on the radio channel. <u>The MSC stops timer T₁₁.</u> <p><i>Note: This error also applies to IS-2001</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
43	197	35	2.15.5.11	A11	Ballot Comment #230 from the Features Document: Correct step '1' to read: <ol style="list-style-type: none"> I. The target PCF selects the target PDSN for this call and send an A11-Registration Request message with Mobility Event Indicator within the Vendor/Organization Specific Extension to the target PDSN. <u>It also includes the PANID received and inserts its own CANID within a NVSE.</u> The target PCF starts timer T_{regreq}.
44	203	28	2.17.1.1.1	A1	Ballot Comment #36 from the A1/A2/A5 Interface Document: Change the text to : After sending this message to the MSC, the BS starts timer T_{303} and waits for the Assignment Request message. When the MSC receives this message in response to a Additional Service Notification message it stop timer T_{314} .
45	206	12	2.17.2.1		Ballot Comment #274 from the Features Document: Clarify the step 'g' text to read, "The MS responds with a Service Connect Completion Message <u>upon completion of the through</u> -service negotiation procedures." Same comment applies to other call flows in this section.
46	225	6	2.17.7.2.2	A1	Ballot Comment #284 from the Features Document: Replace "IS-95" with "IS-2000"
47	229	13	3.3.2		Ballot Comment #288 from the Features Document: Replace lines 13-14 with the following text: "For an MS operating on the CDMA traffic channel, an inter-BS hard handoff may occur while the MS is in the Conversation State or the Waiting for Answer State. All connected services that are handed off shall be handed off together to the same BS."
48	231	40	3.3.2.4.1.1	A1	Ballot Comment #46 from the A1/A2/A5 Interface Document: Add following text to the end of the line: "Upon receipt of the Handoff Command message the Source BS stops timer T_7 ." <i>Note: This error also applies to IS-2001.</i>
49	248	*	3.4.1.2	A3	Ballot Comment #28 from the A3/A7 Interface Document: Message procedures have been added to IOS V4.2 for the A3-SCH Reverse Traffic Frame, and these should be considered part of IOS V4.1. See IS-2001.5-B for details.

ID #	Page	Line	Section	Interface (s) Impacted	Issue
50	258	5-14	3.4.3.1.17.1	A3	<p>Ballot Comment #39 from the A3/A7 Interface Document:</p> <p>Modify the existing text as follows: “A burst time that requires the message to be pending for more than $\frac{t-7}{8}$ of the modulo window in the future, from its time of arrival, <u>shall</u> be considered late and the message shall be processed immediately. Duration shall still be calculated from the start time specified in the message.</p> <p>If the A7-Burst Commit message indicates that only part of the resources reserved by the cell <u>are to will</u> be used for supporting the traffic burst, the remainder of the resources reserved by that cell may be freed by the target BS. Note that the A7-Burst Release message (not A7-Burst Commit) is sent if none of the resources that were reserved by the cell <u>are to will</u> be used to support the traffic burst. Upon receipt of the A7-Burst Commit message for a given cell, the target BS stops the corresponding timer T_{bstcom}.”</p>
51	261	29	3.4.10	A3	<p>Ballot Comment #292 from the Features Document:</p> <p>Correct the text beginning on line 29 to read: “A burst time that requires the message to be pending for more than $\frac{t-7}{8}$ of the modulo window in the future from its time of arrival <u>shall</u> be considered late and the message shall be processed immediately. Duration shall still be calculated from the start time specified in the message. ...”</p>
52	314	27	5.2.4.3.1	A1	<p>Ballot Comment #21 from the Transport Document:</p> <p>Correct the step b text to read, “Upon receipt <u>of the SCCP Connection Request message, the MSC sends</u> an SCCP Connection Confirm message, which <u>shall may</u> contain a Layer 3 application message, <u>to the BS. Upon receipt of this message, the</u> BS stops timer T_{3230} and establishes the connection.”</p> <p><i>Note: This error also applies to IS-2001</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
53	323	1	5.2.4.7-2 (Table)	A1	<p><i>V&V Comment #17 from Transport Document:</i> User Zone rejection by MSC and User Zone update by MSC (BS) in IOS is supposed to be done by including MS Information Records containing the User Zone Reject, User Zone Update (User Zone Update Request) IS-2000 Information Records in the Feature Notification and Flash with Information messages; however, these records have been deleted from IS-2000 in Addendum 1 (IS-2000 now uses User Zone Reject, User Zone Update, and User Zone Update Request messages for these procedures on the air interface).</p> <p>This discrepancy was corrected by including three new messages: User Zone Reject, User Zone Update, and User Zone Update Request, in the IOS. Note that these messages have been classified as Mobility Management messages, but they could also be classified as Supplementary Services messages. See Table 4.4.7-2 of the Part 2 – Transport in IS-2001-B.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
54	339	5	5.5.2.1.2.1	A1	<p>Ballot Comment #48 from the A1/A2/A5 Interface Document:</p> <p>Add following text to the paragraph “BS stops timer T₁ upon receipt of the Block Acknowledge message.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
55	384	1	6.1.2.4	A1	<p>V&V Comment #46 from A Interface Document: Delete “Include Priority” sub-field in Authentication Parameter COUNT IE. “Include Priority” sub-field is not defined in Authentication Parameter COUNT IE. Make Reserved field 2 bits.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
56	395	1	6.1.2.15	A1	<p>Ballot Comment #68 from the A1/A2/A5 Interface Document:</p> <p>Service options for PLD should be added: Add to Service Option IE the following:</p> <p>“0023H (PLD Rate Set 1) 0024H (PLD Rate Set 2)”</p>
57	400	1	6.1.2.16	A1	<p>Ballot Comment #69 from the A1/A2/A5 Interface Document:</p> <p>Service options for PLD should be added: Add to Service Option IE the following:</p> <p>“0023H (PLD Rate Set 1) 0024H (PLD Rate Set 2)”</p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
58	400	1	6.1.2.16	A1	<p>Ballot Comment #69 from the A1/A2/A5 Interface Document:</p> <p>Service options for PLD should be added: Add to Service Option IE the following:</p> <p>“0023H (PLD Rate Set 1) 0024H (PLD Rate Set 2)”</p>
59	401	1	6.1.2.17	A1	<p>Ballot Comment #70 from the A1/A2/A5 Interface Document:</p> <p>Add the SOCI IE to the Assignment Failure message. See IS-2001.4-B for details.</p>
60	403	1	6.1.2.18	A1	<p>Ballot Comment #72 from the A1/A2/A5 Interface Document:</p> <p>Technically, the bitmap representation of the Cause Layer 3 IE is not correct; since the first (extension) bit is set to ‘1’, the hex representations in the bitmap are not accurate. This has caused confusion and misunderstanding in the field. Change the presentation in the bitmap (not the actual values) as follows:</p> <p>Cause Value = [001 0000 (normal clearing), 001 0001 (user busy), 001 0011 (user alerting – no answer), 001 1111 (normal unspecified)]</p> <p><i>Note: This error also applies to IS-2001.</i></p>
61	406	1	6.1.2.20	A1	<p>Ballot Comment #73 from the A1/A2/A5 Interface Document:</p> <p>Technically, the bitmap representation of the Cause Layer 3 IE is not correct; since the first (extension) bit is set to ‘1’, the hex representations in the bitmap are not accurate. This has caused confusion and misunderstanding in the field. Change the presentation in the bitmap (not the actual values) as follows:</p> <p>Cause Value = [001 0000 (normal clearing), 001 1111 (normal unspecified)]</p> <p><i>Note: This error also applies to IS-2001.</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
62	408	1	6.1.2.21	A1	<p>Ballot Comment #74 from the A1/A2/A5 Interface Document:</p> <p>Technically, the bitmap representation of the Cause Layer 3 IE is not correct; since the first (extension) bit is set to '1', the hex representations in the bitmap are not accurate. This has caused confusion and misunderstanding in the field. Change the presentation in the bitmap (not the actual values) as follows:</p> <p>Cause Value = [001 0000 (normal clearing), 001 0001 (user busy), 001 0011 (user alerting – no answer), 001 1111 (normal unspecified)]</p> <p><i>Note: This error also applies to IS-2001.</i></p>
63	418	1	6.1.2.30	A1	<p>V&V Comment #48 from A Interface Document: Concurrent services is limited to voice and data service options only. Change the service options allowed in the Additional Handoff Request Message to be the following:</p> <p>8000H (13K speech) 0011H (13K high rate voice service) 0001H (8K speech) 0021H (3G High Speed Packet Data)</p>
64	422	1	6.1.3.7	A1	<p>Ballot Comment #79 from the A1/A2/A5 Interface Document:</p> <p>Add new footnote to the Called Party BCD Number: “This element will only be retained in this message in this version of the standard for the purpose of backward compatibility. It will not be supported in future versions. This element shall only be sent to a base station operating at IOS V4.0 or earlier.”</p> <p>Also, add Called Party BCD Number to the element list in footnote d.</p>
65	432	4	6.1.3.12	A1	<p>Ballot Comment #83 from the A1/A2/A5 Interface Document:</p> <p>Change footnote to 'a': “Valid Cause value is 'PACA queue overflow'. This cause value is included if the BS was unable to queue the call.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
66	438 888	1 16- 19	6.1.3.16 6.2.2.138	A1	<p>Ballot Comment #188 from the Features Document and #172 from the A1/A2/A5 Interface Document:</p> <p>The Radio Measurements for Position Response message and the PSMM Count IE have been modified to indicate a request for updated CDMA Serving One Way Delay Information. In particular:</p> <p>Change have also been made to the footnotes on information elements in the Radio Measurements for Position Response message (6.1.4.16). See IOS V4.2 for details.</p> <p>Add the text “if the BS supports a LPDE.” to the end of the line 13 on page 888.</p> <p>The PSMM Count field definition on page 888 has been modified as follows: PSMM Count: This 4-bit field contains the Pilot Strength Measurement Message Count. The PSMM Count indicates the number of PSMM Messages and is a value between '0000' and '1010'. If the PSMM Count is 0 then the BS shall calculate the location if there is LPDE at the BS. <u>If the PSMM Count is 0, and if either the BS does not support PLD; or if it does, but the LPDE is not able to compute a geographical estimate based on the available measurements, then the BS shall return the CDMAOneWayDelay information in the response.</u></p>
67	443	1	6.1.4.1	A1	<p>V&V Comment #49 from A Interface Document: IS-2000 Mobile Capabilities is missing in the BSMAP bitmap for the Authentication Request message. See section 4.3.1 of IS-2001.4-B for the correct coding of this IE.</p> <p><i>Note: This error also applies to IS-2001 In IS-2001, the IE appears incorrectly in the DTAP version of the message.</i></p>
68	451	12	6.1.4.7	A1	<p>Ballot Comment #92 from the A1/A2/A5 Interface Document:</p> <p>Technically, the bitmap representation of the Cause Layer 3 IE is not correct; since the first (extension) bit is set to ‘1’, the hex representations in the bitmap are not accurate. This has caused confusion and misunderstanding in the field. Change the presentation in the bitmap (not the actual values) as follows:</p> <p>Cause Value = [000 1111 (procedure failed), 011 1011 (SSD Update Rejected)]</p> <p><i>Note: This error also applies to IS-2001.</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
69	465	*	6.1.5.4	A1	<p>Ballot Comments #108 from the A1/A2/A5 Interface Document:</p> <p>Add the IS-2000 NonNegotiable Service Configuration Record to the Handoff Required message with the following footnote: “This element is sent if available at the source BS.” See IS-2001.4-B for bitmap details.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
70	466 476	40	6.1.5.4	A1	<p>Ballot Comment #113 from the A1/A2/A5 Interface Document:</p> <p>Replace text in footnote ‘n’ with the following: “This element indicates the protocol type that is indicated in the GRE header for the A8 and A10 interfaces. The only allowed value in this revision of the standard is 88 81H Unstructured Byte Stream.”</p> <p>On page 476, replace the value in the Protocol Type field of the Protocol Type IE with value ‘88 81H (Unstructured Byte Stream)’.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
71	476	1	6.1.5.4	A1	<p>V&V Comment #57 from the A Interface Document: Protocol Type value ‘[88 81H] (Unstructured Byte Stream)’ is missing in the Protocol Type IE in the Handoff Required message.</p> <p><i>Note: This error also applies to IS-2001</i></p>
72	477 479	*	6.1.5.4 6.1.5.5	A1	<p>Ballot Comments #114, 116, 121, 122 from the A1/A2/A5 Interface Document:</p> <p>Delete the following service options from the Service Option and Service Option List IEs:</p> <p>0022H (Test Data) 0036H (IS-2000 Markov) 0037H (IS-2000 Loopback) 801FH (13K Markov) 0009H (13K Loopback)</p> <p>Add the following service options to the Service Option IE: “0023H (PLD Rate Set 1) 0024H (PLD Rate Set 2)”</p> <p><i>Note: This error also applies to IS-2001.</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
73	477	*	6.1.5.4	A1	Ballot Comment #117 from the A1/A2/A5 Interface Document: Add new footnote to CDMA Serving One Way Delay IE in Handoff Required: "This element shall be included for CDMA-CDMA handoffs." <i>Note: This error also applies to IS-2001.</i>
74	479	*	6.1.5.5	A1	Ballot Comment #108 from the A1/A2/A5 Interface Document: Add the IS-2000 NonNegotiable Service Configuration Record to the Handoff Request message with the following footnote: "This element is sent if available at the source BS." See IS-2001.4-B for bitmap details. <i>Note: This error also applies to IS-2001.</i>
75	479	*	6.1.5.5	A1	Ballot Comment #119 from the A1/A2/A5 Interface Document: Add footnote s to IS-2000 SCR, Serving PDSN IP Address, Protocol Type, Slot Cycle Index, Access Network Identifiers.
76	482	1	6.1.5.5	A1	V&V Comment #58 from the A Interface Document: Delete Speech Encoding Algorithm/data rate + Transparency Indicator values 40H (non-transparent mode data) in Channel Type IE . Add the following footnote to the Channel Type IE: w. Channel Type is being included for historical reasons and is hard coded as shown. The BS should examine the Service Option element instead. <i>Note: This error also applies to IS-2001</i>
77	490	1	6.1.5.5	A1	V&V Comment #59 from the A Interface Document: Protocol Type value ' [88 81H] (Unstructured Byte Stream) ' is missing in the Protocol Type IE in the Handoff Request message. <i>Note: This error also applies to IS-2001</i>
78	493 503	*	6.1.5.6 6.1.5.8	A1	Ballot Comment #115, 126 from the A1/A2/A5 Interface Document: The Service Option List IE is only used to indicate a partial handoff in a concurrent services situation. The bitmap should reflect the fact only voice and 3G packet data service options are allowed. See IS-2001.4-B for details.

ID #	Page	Line	Section	Interface (s) Impacted	Issue
79	503	*	6.1.5.8	A1	Ballot Comment #124 from the A1/A2/A5 Interface Document: Handoff Power Level element includes note “j” , however, this note shouldn’t apply to this element since it states that the target BS could be IS-95. This element is only used for CDMA to Analog handoffs.
80	516 755	*	6.1.5.12 6.2.2.6	A1	Ballot Comment #188 from the Features Document: In order to support delivery of required parameters for both emergency and non-emergency Location Based Services as defined in J-STD-036A and IS-801 standards, the Channel Number IE has been modified to include ARFCN. Also, the Channel Number IE and Band Class IE have been added to the Handoff Performed message. See IOS V4.2 for details.
81	524	8	6.1.6.6	A1	V&V Comment #65 from the A Interface Document: Length Indicator (LI) field is incorrect – should be “<variable>” in octet 2 of the message. <i>Note: This error also applies to IS-2001</i>
82	525	8	6.1.6.7	A1	V&V Comment #68 from the A Interface Document: Length Indicator (LI) field is incorrect – should be “<variable>” in octet 2 of the message. <i>Note: This error also applies to IS-2001</i>
83	535	3	6.1.7.2	A1	V&V Comment #71 from the A Interface Document: The “Mobile Identity (ESN)” IE should be “C” not “R” since the air interface standard allows you to specify (as part of the overhead messages) if IMSI or IMSI/ESN will be required to be send on access channel messages. See for example, in the ADDS Page message – in this case the Mobile Identity (ESN)” IE is “C”. Add to footnote b “if it is available at the base station.” <i>Note: This error also applies to IS-2001</i>
84	543	8	6.1.7.4	A1	Ballot Comment #131 from the A1/A2/A5 Interface Document: The Mobile Identity note ‘a’ should include “/Broadcast Address”. Change footnote ‘a’ to: “This element will contains <u>IMSI or Broadcast Address</u> .” <i>Note: This error also applies to IS-2001.</i>
85	546	*	6.1.7.5	A1	Ballot Comment #133 from the A1/A2/A5 Interface Document: Change value in Cause IE to “34H (MS Rejected Order)” <i>Note: This error also applies to IS-2001.</i>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
86	611	6	6.1.10.5	A9	<p>V&V Comment #28 from the Aquinter Interface Document: The current definition of A9-Release-A8 Complete does not specify how to distinguish between A8 release due to packet call going dormant and A8 release due to packet data service being rejected. Change text of footnote b to clarify:</p> <p><u>“This element shall not be included if the connection was released due to packet call going dormant. Otherwise, this element shall be included. Allowable Cause values are: "PDSN Resource Unavailable", "PCF resource unavailable", "Equipment failure ”.”</u></p> <p><i>Add Cause value for ‘10H’ (Packet Call going dormant) to the bitmap.</i></p> <p><i>Note: This error also applies to IS-2001</i></p>
87	618	2-3	6.1.10.9	A9	<p>Ballot Comment #45 from the A8/A9 Interface Document:</p> <p>Modify the text on lines 2-3: “... completion of processing the A9-AL Connected message.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
88	622	3	6.1.10.11	A9	<p>V&V Comment #30 from the Aquinter Interface Document:</p> <p>Replace “completion of the A1 ... request” with “the reception of the A9-AL Disconnect message.”</p> <p><i>Note: This error also applies to IS-2001</i></p>
89	635 637 641 644	*	6.1.11.1 6.1.11.2 6.1.11.3 6.1.11.4	A11	<p>Ballot Comment #68 from the A10/A11 Interface Document:</p> <p>In octets 16-23 of Session Specific Extension IE, all Identity Digits should be “= [0H – 09H] (BCD)”. The current coding indicates that only digits 0 and 9 are allowed.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
90	647	*	6.1.12.1	A7	<p>Ballot Comment #44 from the A3/A7 Interface Document:</p> <p>The IS-2000-NonNegotiable Service Configuration Record IE is added to the A7-Handoff Request message. See IS-2001.5-B for bitmap details. Also attach the following footnote:</p> <p>“This element shall be included if the IS-2000 Service Configuration Record element is included.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
91	700	1	6.1.12.20	A7	<p>V&V Comment #47 from the Ater Interface Document:</p> <p>Replace ‘Message Type II = [xxH]’ with ‘Message Type II = [93H]’ in the first octet of the message. Also add this message and value to Table 6.2.2.5-1 on page 754.</p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
92	703	*	6.2.1.2	A1	Ballot Comment #141 from the A1/A2/A5 Interface Document: The Cell Commitment Info List and Extended Neighbor List IEs are not used. Remove them from Tables 6.2.1.2-1 and 6.2.1.2-2 and mark their values as “Unused” .
93	704	1	6.2.1.2	A1	V&V Comment #74-75 from the A Interface Document: “Global Emergency Call Indicator” IE (6.2.2.24) should be replaced by “Special Service Call Indicator” IE (6.2.2.24) in Tables 6.2.1.2-1 and 6.2.1.2-2.
94	706	*	6.2.1.2	A1	Ballot Comment #140 from the A1/A2/A5 Interface Document: Change Target RNC to Source RNC Transparent Container 3AH from “0011 1011” to “0011 1010”.
95	711	1	6.2.1.2-2 (table)	A1	V&V Comment #76 from the A Interface Document: Delete “Service Option List” IE on this page. It is already defined on page 708.
96	723	1	6.2.1.6	A1	V&V Comment #79 from the A Interface Document: “Global Emergency Call Indicator” IE (6.2.2.24) should be replaced by “Special Service Call Indicator” IE (6.2.2.24) in Table 6.2.1.6-1. The Additional Service Request message should be added to the “Used in this Message” column.
97	778	2-5	6.2.2.19	A1	Ballot Comment #153 from the A1/A2/A5 Interface Document: Replace footnote text with “Used prior to IOS V3.0.” Also, move text in lines 3-4 to the end of the footnote ‘a’ on Assignment Failure (section 6.2.17, pg 401). <i>Note: This error also applies to IS-2001.</i>
98	779	*	6.2.2.20	A1	Ballot Comment #154 from the A1/A2/A5 Interface Document: The definition of this information element has been clarified. See IS-2001.4-B for the current description of this IE. <i>Note: This error also applies to IS-2001.</i>
99	789 794	7-8	6.2.2.27 6.2.2.34	A1	Ballot Comment #159 from the A1/A2/A5 Interface Document: “4n” and “4n+5” are wrong. These should be “k” and “k+9”. Also change on line 10. Similar changes apply to Section 6.2.2.34.

ID #	Page	Line	Section	Interface (s) Impacted	Issue
100	791	2-3	6.2.2.31	A1	<p>Ballot Comment #160 from the A1/A2/A5 Interface Document:</p> <p>Correct the text to read, “This element contains the desired Handoff Power Level of the MS. This element is not applicable <u>when operating in a CDMA system and the target BS is in an analog (TIA/EIA-553-A) system to CDMA.</u>”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
101	820	3	6.2.2.56	A7	<p>V&V Comment #52 from the Ater Interface Document: Up to two instances of octets 3-12 are allowed. See Section 4.2.10 of IS-2001.5-B) for the proper coding of this element.</p> <p><i>Note: This error also applies to IS-2001</i></p>
102	831	*	6.2.2.66	A1	<p>Ballot Comment #169 from the A1/A2/A5 Interface Document:</p> <p>Add service options for PLD to the table: 0023H Position Location Determination (PLD) Rate Set 1 0024H Position Location Determination (PLD) Rate Set 2</p> <p><i>Note: This error also applies to IS-2001.</i></p>
103	847	*	6.2.2.75	A3	<p>Ballot Comments #78, 85 from the A3/A7 Interface Document:</p> <p>In Table 6.2.2.75-4, Frame Content ‘05’, change Number of Information Bits from ‘267’ to ‘268’, and change the Fill bits to 4. Same change applies to Frame Content ‘0FH’ in this table, and to Frame Content ‘21’ in Table 6.2.2.75-5.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
104	852	2	6.2.2.75	A3	<p>Ballot Comment #80 from the A3/A7 Interface Document:</p> <p>Replace line 2 with the following text: “This field may be used for voice calls, subject to inter-vendor agreements.”</p>
105	861	19-21	6.2.2.79	A1	<p>Ballot Comment #188 from the Features Document:</p> <p>The CDMA Serving One Way Delay Information Element description has been updated to be aligned closer with IS-2000.5-A. In particular, lines 19-21 are replaced with the following text:</p> <p><u>“The CDMA Serving One Way Delay Time Stamp is a 16-bit binary number derived from the base station’s 64-bit System Time at the time that the One Way Delay was measured. The time stamp is in units of 80 ms.”</u></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
106	861	*	6.2.2.79	A1	<p>Ballot Comment #157 from the A1/A2/A5 Interface Document:</p> <p>The text for this section has been cleaned up, and unneeded (and potentially confusing) text has been removed. See IS-2001.4-B for the current description of this IE. Also see Bug #40.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
107	879	*	6.2.2.120	A3	<p>Ballot Comment #78 from the A3/A7 Interface Document:</p> <p>In Table 6.2.2.120-3, Rate Set 2, Transmission Rate 14400, change '267' to '268'.</p> <p>In Table 6.2.2.120-4, Rate Set 2, Transmission Rate 14400, change '5' to '4'.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
108	887	4	6.2.2.134	A3/A7	<p>Ballot Comment #87 from the A3/A7 Interface Document:</p> <p>Add sentence at end line 4: "as in [ITU-T Recommendation X.25]. The polynomial representing the message over which the CRC is computed uses bit 7 of the Message Type II octet as the coefficient of the highest order term and bit 0 of the octet that precedes the CRC IE as the zero order term."</p> <p><i>Note: This error also applies to IS-2001.</i></p>
109	899	1	6.2.2.145	A3	<p>V&V Comment #54 from the Ater Interface Document:</p> <p>Missing "... " between A3 Originating ID 1 and Length of A3 Originating ID n. Need to renumber octets starting at "q+1" accordingly. See section 4.2.40 of IS-2001.5-B for details.</p>
110	913	*	6.2.2.155	A11	<p>Ballot Comment #87 from the A10/A11 Interface Document:</p> <p>Numbering of bit positions in Table 4.2.2-1 is the reverse of the numbering shown on line 5. In table 6.2.2.155-1, change the order of the numbers in the top row ("Bit Position") to go 0-7, not 7-0.</p> <p><i>Note: This error also applies to IS-2001.</i></p>
111	914	9-11	6.2.2.157	A11	<p>Ballot Comment #89 from the A10/A11 Interface Document:</p> <p>Replace lines 9-11 with the following text: "This information element does not carry valid information for this interface and is ignored. However, it must be included in all A11 messages as specified in RFC 2002."</p> <p><i>Note: This error also applies to IS-2001.</i></p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
112	916	*	6.2.2.160	A11	<p>Ballot Comment #90 from the A10/A11 Interface Document:</p> <p>RFC 2002 contains a hidden time synchronization requirement between endpoints using MIP. This is not clearly stated in the IOS, and this can lead to implementation difficulties. Insert the following text in a paragraph after line 5:</p> <p>“This information element shall carry time stamps (as specified in RFC 2002). The PCF and the PDSN should have access to an accurate time-of-day clock. The margin of error should be a configurable parameter. See RFC 2002 for more details.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
113	922	1	6.2.2.166	A11	<p>Ballot Comment #49 from the Features Document, Ballot Comment #105 from the A10/A11 Interface Document:</p> <p>The Vendor/Organization Specific Extension is replaced by the Critical Vendor/Organization Specific Extension (CVSE). New Application Types (PANID/CANID) are included in the Normal Vendor/Organization Specific Extension (NVSE). See IOS V4.2 for format and message bitmap changes. This also changes text in call flows.</p>
114	924	8-15	6.2.2.166	A11	<p>Ballot Comments #97, 98 from the A10/A11 Interface Document:</p> <p>Delete lines 1-7. This text is for Application Type 2 (Mobility Event Indicator) and Application Type 3 (Data Availability Indicator) and should not be deleted. ANID text is lines 8-15, for Application Type 04H.</p>
115	925	*	6.2.2.166	A11	<p>Ballot Comment #104 from the A10/A11 Interface Document:</p> <p>The definition of ‘BSID’ has been clarified; replace the text in footnote ‘1’ with the following text: “A number formed from the concatenation of SID+NID+ Cell Identifier (Type 2), where each item is encoded using four hexadecimal upper case ASCII characters.”</p> <p><i>Note: This error also applies to IS-2001.</i></p>
116	926	*	6.2.2.166	A11	<p>Ballot Comment #94 from the A10/A11 Interface Document:</p> <p>In the Active Stop Airlink Parameter, Active Connection Time in Seconds Type value is changed to ‘26’ and the Sub-Type value is ‘49’.</p> <p>Also note Bug #113 for new formats for the Vendor/Organization Specific Extension.</p>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
117	926	*	6.2.2.166	A11	Ballot Comments #99 from the A10/A11 Interface Document: Remove the Forward Fundamental Rate and the Reverse Fundamental Rate from the Active Start Airlink Record.
118	926	*	6.2.2.166	A11	Ballot Comments #102 from the A10/A11 Interface Document: Change the Format of 'ESN' from '15' and 'String' to '4' and 'Integer'
119	930	*	6.2.2.167	A9	Message Types for A9-Update-A8 and A9-Update-A8-Ack have changed to '0EH' and '0FH' respectively. Note this affects the message bitmaps in sections 6.1.10.14 and 6.1.10.15.
120	931	*	6.2.2.169	A9	Ballot Comment #48 from the A8/A9 Interface Document: IOS V4.2 specifies that the A9 BSC_ID will contain a Cell Identifier of Type 7. This IE has been renamed to Cell Identifier, and corresponding bitmap formats have been modified. See IS-2001.6-B for details. <i>Note: This error also applies to IS-2001.</i>
121	932	8	6.2.2.170	A9	Ballot Comment #63 from the A8/A9 Interface Document: Change text to: "This field is set to 88 81H (Unstructured Byte Stream)." <i>Note: This error also applies to IS-2001.</i>
122	946	13-23	6.2.2.182	A3/A7	Ballot Comment #89 from the A3/A7 Interface Document: Replace lines 13-23 with the following text: "This field is coded as defined in Section 6.2.2.75."
123	965	*	6.3	A1	Ballot Comments #181, 182 from the A1/A2/A5 Interface Document: Replace the following timer values in the table: T63: Default Value: 5 Range: 0-170 Granularity: 1 T3113: Default Value: 5 Range: 0-170 Granularity: 1 <i>Note: This error also applies to IS-2001.</i>

ID #	Page	Line	Section	Interface (s) Impacted	Issue
124	966	*	6.3.	A11	Ballot Comment #114 from the A10/A11 Interface Document: Change the range of Values for Trp in Table 6.3-1 to 60-65,534. Note this also should be changed in all bitmaps that carry the Lifetime IE. <i>Note: This error also applies to IS-2001.</i>
125	971	18	6.3.1.6	A1	Ballot Comment #184 from the A1/A2/A5 Interface Document: Add the following text to the end of line 18: "This timer is only set for mobile terminated voice calls." <i>Note: This error also applies to IS-2001.</i>
126	973	2	6.3.1.18	A1	Ballot Comment #40 from the A1/A2/A5 Interface Document: Add text: "This MSC or BS timer ..." <i>Note: This error also applies to IS-2001.</i>
127	973	34-35	6.3.1.24	A11	Ballot Comment #114 from the A10/A11 Interface Document: Delete lines 34-35. <i>Note: This error also applies to IS-2001.</i>
128	983	33	6.3.7.10	A9	Ballot Comment #34 from the A8/A9 Interface Document: Modify the following text on line 33: "A9-Release A8 message <u>or A9-AL Connected message</u> is received."
129	1004	8	C.12	A1	V&V Comment #45 from the Features Document: Replace "Extended Handoff Direction Message" with "General Handoff Direction Message". <i>Note: This error also applies to IS-2001</i>

1
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3

1 **ADDENDIX A, IOSv4.1 Features and Functions**

2

3

Features and Functions Explicitly Supported in this Standard:

4

3G Packet Data Calls

5

- Call Setup (Mobile Originated)

6

- Reactivation (Mobile Initiated and Network Initiated)

7

- Handoffs (Dormant , Hard)

8

- Call Clearing (Mobile Initiated and Network Initiated)

9

- Transition to Dormancy

10

- Accounting

11

- Short Data Bursts

12

3X Multi-Carrier

13

5ms Messaging

14

Call Clearing of Voice and Circuit Data Calls (Mobile Initiated and Network Initiated)

15

Call Setup for Voice and Circuit Data Calls (Mobile Originated and Mobile Terminated)

16

17

Circuit Data Calls (Asynchronous Data and Group-3 Fax)

18

E911 Phase 1 and Phase 2

19

Global Emergency Call Origination

20

Handoff

21

- Handoff via MSC

22

- Handoff via direct BS-to-BS signaling

23

- Hard Handoff into Soft Handoff

24

- Intergenerational Packet Data Handoff

25

ISDN Interworking

26

Mobile Position Determination

27

Mobile Registration (Mobile Originated)

28

Over the Air Service Provisioning (OTASP)

29

Over the Air Parameter Administration (OTAPA)

30

Priority Access and Channel Assignment (PACA)

31

Security Features

32

- Terminal Authentication

33

- Signaling Message Encryption

34

- Voice/Data Privacy

35

Short Message Service (Mobile Originated, Mobile Terminated, and Broadcast) (SMS)

36

Support of DTMF

37

Support for DS-41 base stations

38

Support of Supplementary Services

39

- Feature Activation/Deactivation: Idle and In-Call

40

- Call Waiting

41

- Three-Way Calling

42

- Message Waiting Notification

43

- **Call Barring**

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- Calling Number ID Presentation (CNIP)/ Calling Number ID Restriction (CNIR)

45

- Distinctive Ringing

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- Answer Holding

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1	Vocoder Support
2	Voice and Packet Data Concurrent Services
3	Features and Functions Transparently Supported in this Standard:
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5	Call Delivery
6	Call Forwarding
7	· Call Forwarding Unconditional (CFU)
8	· Call Forwarding When Busy (CFB)
9	· Call Forwarding - No Answer (CFNA)
10	· Call Forwarding Default
11	Call Transfer
12	Carrier Access
13	Emergency Service (Basic) via specific dialed number (e.g., "911")
14	Lawfully Authorized Wiretap
15	