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3RD GENERATION
PARTNERSHIP
PROJECT 2
"3GPP2"

10 HRPD/1XRTT and 3GPP E-UTRAN (LTE) 11 Interworking and Inter-Technology 12 Handoff

13 14 *Stage 1 Requirements*

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6 **REVISION HISTORY**

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Table of Contents

1		
2		
3	Table of Contents	iii
4	1 INTRODUCTION AND SCOPE	1
5	2 REFERENCES	1
6	3 DEFINITIONS AND ABBREVIATIONS.....	2
7	4 GENERAL FEATURE DESCRIPTION	2
8	5 DETAILED REQUIREMENTS	2
9		
10		

1 **1 INTRODUCTION AND SCOPE**

2 This document specifies the requirements for Interworking and Inter-
3 Technology Handoff between 3GPP2 High Rate Packet Data (HRPD) [2,3] /
4 cdma2000^{®1} 1x Radio Transmission Technology (1xRTT) [1] and 3GPP
5 Evolved Universal Terrestrial Radio Access (E-UTRA) [4,5] (also known as
6 Long Term Evolution (LTE)) systems.

7

8 **2 REFERENCES**

9 Unless explicitly stated in the reference, references are to the latest
10 revision, addendum, version, or date. The document references which are
11 applicable to this specification include the following:

- 12 [1] 3GPP2: C.S0001-A~0006-A, “Radio Interface Specifications for
13 cdma2000 Spread Spectrum System”
- 14 [2] 3GPP2: C.S0024-0, “cdma2000 High Rate Packet Data Air
15 Interface Specification”
- 16 [3] 3GPP2: C.S0024-A, “cdma2000 High Rate Packet Data Air
17 Interface Specification”
- 18 [4] 3GPP: TR 25.913, “Requirements for Evolved UTRA (E-UTRA) and
19 Evolved UTRAN (E-UTRAN)”
- 20 [5] 3GPP: TS 36.300, “Evolved Universal Terrestrial Radio Access (E-
21 UTRA) and Evolved Universal Terrestrial Radio Access Network (E-
22 UTRAN); Overall description; Stage 2”
- 23 [6] 3GPP2: A.S0011~17-D v1.0, “Interoperability Specification (IOS) for
24 cdma2000 Access Network Interfaces”
- 25 [7] 3GPP2: A.S0008-C v1.0, “Interoperability Specification (IOS) for
26 High Rate Packet Data (HRPD) Radio Access Network Interfaces
27 with Session Control in the Access Network”
- 28 [8] 3GPP2: A.S0009-C v1.0, “Interoperability Specification (IOS) for
29 High Rate Packet Data (HRPD) Radio Access Network Interfaces
30 with Session Control in the Packet Control Function”
- 31 [9] 3GPP2: X.S0004-E, “Mobile Application Part (MAP)”

¹ cdma2000[®] is the trademark for the technical nomenclature for certain specifications and standards of the Organizational Partners (OPs) of 3GPP2. Geographically (and as of the date of publication), cdma2000[®] is a registered trademark of the Telecommunications Industry Association (TIA-USA) in the United States.

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3 DEFINITIONS AND ABBREVIATIONS

The terms and abbreviations which are used within this specification are defined as follows:

1xRTT	1x Radio Transmission Technology
E-UTRA	Evolved Universal Terrestrial Radio Access
E-UTRAN	Evolved Universal Terrestrial Radio Access Network (UTRAN)
HRPD	High Rate Packet Data (a.k.a 1xEV-DO)
LTE	Long Term Evolution

4 GENERAL FEATURE DESCRIPTION

This feature enables interworking and inter-technology handoff between 3GPP LTE and 3GPP2 HRPD / cdma2000-1xRTT systems.

5 DETAILED REQUIREMENTS

- ITHO-01:** The system shall support seamless voice service continuity from LTE [4,5]to cdma2000 1xRTT Revision A [1].
- ITHO-02:** The system shall support bidirectional data service continuity between LTE [4,5] and cdma2000 1xRTT Revision A [1].
- ITHO-03:** The system shall support bidirectional service continuity between cdma2000 HRPD Revision A [2] and LTE [4,5] for best effort and real-time applications.
- ITHO-04:** The system shall support bidirectional service continuity between cdma2000 HRPD Revision 0 [3] and LTE [4,5] for best effort applications.
- ITHO-05:** The system shall support all frequency bands applicable for either LTE or cdma2000 family of standards.
- ITHO-06:** The system shall support terminals with single radio and dual radio solutions.

- 1 **ITHO-07:** The solution should aim for commonality in the solution for
2 support of single radio and dual radio terminals.
- 3 **ITHO-08:** The solution should minimize the coupling between the E-
4 UTRAN and the 3GPP2 accesses (e.g. by using transparent
5 signaling through the source system) allowing independent
6 protocol evolution in each access.
- 7 **ITHO-09:** The solution shall not have any impact on deployed
8 cdma2000 1xRTT Rev A, cdma2000 HRPD Rev 0, and
9 cdma2000 HRPD Rev A terminals.
- 10
- 11 **ITHO-10:** The solutions shall be based on the principles of network
12 controlled radio access mobility.
- 13 **ITHO-11:** The solution should be transparent to E-UTRA only terminal
14 or network.
- 15 **ITHO-12:** Impact on service quality, e.g. Quality of Service (QoS),
16 interruption times should be minimized.
- 17 **ITHO-13:** Impact on legacy cdma2000 radio access network [6,7,8]
18 should be minimized.
- 19 **ITHO-14:** Impact on legacy cdma2000 circuit switched core network [9]
20 should be minimized.
- 21