Introduction to the CDMA Development Group

RITT/CDG Mobile Station Certification & System Test Team Meeting
6 March 2002
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Organization
To lead the rapid evolution and deployment of CDMA-based systems, based on open standards and encompassing all core architectures, to meet the needs of markets around the world in an emerging, information-intensive environment.

Our Charter...

**Information Distribution**
- Conferences
- Emails
- Website
- Etc.

**Technical Service Development**
- Wireless Local Loop
- Advanced Systems
- Evolution
- Etc.

**Deployment Assistance**
- Time-to-Market
- Int’l Roaming
- Interoperability
- Etc.
Membership

115 member companies from around the world; members are involved in many aspects of CDMA system deployment and support.

- Operators
- Subscriber Equipment
- Components and Subsystems
- Network Infrastructure
- Network Enhancement/Optimization
- Network Interface & Access

CDG is the voice of CDMA operators
Leadership

- Brian O’Shaughnessy - President
  - Vice President, Wireless Technology, Bell Mobility (Canada)
- Hiroshi Sakai - Vice President of Industry Relations
  - General Manager, KDDI (Japan)
- Greg Young - Vice President of Planning
  - Group Manager, Telstra (Australia)
- Oliver Valente - Treasurer
  - Chief Technology Officer, Sprint PCS (United States)
- Edward Salas - Secretary
  - Vice President, Network Engineering, Verizon Wireless (United States)
CDG Membership

3G Cellular, Inc.       Bell Mobility
AAPT Communications    BellSouth International
ACCESS Systems America Celletra Ltd.
Acer Communications    China Unicom
Acterna               CIBERNET Corp.
Airbiquity, Inc.       COM DEV Wireless
AirPrime Inc.          CommWorks Corp.
Airvana Inc.           Compaq Computer Corporation
ALLTEL                  Comverse
Alpine Electronics     Conductus, Inc.
Angola Telecom         CTIA
Anritsu                Denso International America Inc.
AnyData Corp.          Ditrans Corporation
ArrayCom               Ericsson, Inc.
Audiovox Communications ETRI
CDG Membership (continued)

Fujitsu Network
Gemplus Corp.
Giga Telecom Inc.
Glenayre Electronics
Grayson Wireless
GTRAN, Inc.
Himachal Futuristic Communications Ltd.
Hitachi Telecom (USA)
Hutchison Telecom (HK)
Hyundai CURITEL, Inc.
InnovICs
ISCO

IUSACELL
KDDI
Komunikasi Selular Indonesia
Korea Telecom Freetel, Inc.
Kyocera Corporation
Leap
LG Electronics, Inc.
LG Telecom, Ltd.
LinkAir Communications, Inc.
Logica
LSI Logic
Lucent Technologies, Inc.
MTNL
CDG Membership (continued)

Metawave Communications
Motorola
Nextel Communications
Nokia Corporation
Nortel Networks
Novatel Wireless
Openwave
Operadora Unefon
Pacific Bangladesh Telecom Ltd.
ParkerVision, Inc.
Pegaso PCS
Pele-Phone Communications
Pixo

QUALCOMM, Inc.
QuickSilver Technology
Qwest
Racal Instruments
Reliance Infocom Limited
Repeater Technologies
Research In Motion
Rhode & Schwarz
RITT
Samsung Electronics Co. Ltd.
Sanyo Fisher Company
Schema Ltd.
Schlumberger
ScoreBoard, Inc.
CDG Membership (continued)

Sharp Labs of America
Shinsegi Telecom, Inc.
Shyam Telelink Limited
Sierra Wireless, Inc.
SignalSoft Corp.
SK Telecom
SmartServ Online, Inc.
SmartTrust
Sony Electronics
Spirent Communications
Sprint PCS
Starent Networks Corporation
Synertek, Inc.

Tahoe Networks
Tantivy Communications, Inc.
Tata Teleservices Ltd.
TDK Corporation
Telecom Mobile Limited
Tellus Technology, Inc.
Telespree Communications
Telstra Corporation Ltd.
Telus Mobility Cellular, Inc.
Texas Instruments
U.S. Cellular
Verizon Wireless
WaterCove Networks
CDG Membership (continued)

Western Wireless
Wherify Wireless
Willtech, Inc.
Wинфhoria Networks, Inc.
Wireless Test Systems
ZTE Corporation
Organization

- Executive Board - Carrier member decision-making body that sets direction and priorities
- Leadership Council - Vendor group that works with/advises Board
- Steering Committee - Oversees technical initiatives
- Technical Teams - Execute priority initiatives as set by Board
- International interest groups (Asia Pacific, Latin America, India) - Define needs specific to the region and execute activities to meet those needs
- PEC (CDG) - Coordinates conferences, PR, and marketing activities of the CDG
- Global Strategy Team - Helps CDG determine priorities and activities for expanding cdmaOne and CDMA2000 presence
Activities
Fundamental Principles of the CDG

• Activities and requirements driven by the operators
  – Ensures standards and systems meet market need
• Operators and manufacturers work closely together
• Maintain flexibility to quickly respond to operator needs
• Keep close relationships with standards organizations and other industry associations
  – Facilitates standards development and implementation
Technical Activities

- Teams formed by Executive Board
- Active technical teams:
  - Applications
  - Evolution/3G
  - International Roaming
  - Interoperability Specification (IOS)
  - IP-Based Over-the-Air Activation Handset Management (IOTA)
  - Mobile Station Certification
  - System Test
  - Wireless Local Loop (WLL)
Evolution/3G

**Charter**
- Rapidly define requirements and standards contributions for the evolution of cdmaOne and CDMA2000
- Understand the deployment and migration issues associated with next generation systems

**Scope**
- Includes all aspects of the end-to-end system

**Team Leads**
- Co-Chair: Blake Russo, Qwest Wireless  
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- Co-Chair: Rick Ross, Sprint PCS  
  rross01@sprintspectrum.com  
  +1-913-890-4237

**Work Items**
- Support and focus on developments of 1XEV-DV specifications and standards based on new 3GPP2 schedule (Baseline test approval targeted for Mar 11, ‘02).
- Provide input to 3GPP2 in key areas (SMV, intergeneration soft handoff, etc.)

**Meeting Schedule**
- Generally meet in person each month in conjunction with 3GPP2 TSG-C/TSG-S meetings
- Hold conference calls between meetings, as required
International Roaming

**Charter**
- Work to increase coverage of CDMA global roaming and support evolution of capabilities to CDMA2000 networks in an increasingly information intensive market environment

**Scope**
- Work with carriers to support deployment of international roaming service
- Promote accomplishments to date
- Submit contributions to 3GPP2 to define standards to support carrier implementations
- Participate in relevant organizations that facilitate 3G roaming evolution
- Emphasize data roaming capabilities

**Work Items**
- Form international roaming expert group to assist carriers with roaming
- Facilitate implementation of SIM card
- Promote international roaming deployments and capabilities
- Define requirements for interstandard roaming (CDMA/GSM)
- Develop data roaming
- Get involved in other 3G forums to ensure affect on roaming

**Meeting Schedule**
- Face-to-face meetings planned for:
  - May 7-9, 2002, Los Angeles
  - July 30-Aug 1, 2002, Kuala Lumpur
  - October 29-31, 2002, Sydney
- Periodic conference calls

**Team Leads**
- Co-Chair: Terry Yen, CDG
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- Co-Chair: Masaaki Koga, KDDI
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Interoperability Specification (IOS)

• **Charter**
  - Enable the continuous success of CDMA2000 by building awareness and benefits of the open A-Interface and sharing information regarding implementation of this standard. Promote openness and deployment of the CDMA interfaces and take advantage of advancing radio technologies for enhanced applications.

• **Work Items**
  - First V&V of 3.2 Test Specification scheduled for 12/11
  - In December start second round of reviews for the 4.1 new features
  - In December start work on aligning 4.0 test cases with 4.1

• **Team Leads**
  - Chair: George Turnipseed, Sprint PCS
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  - Vice-Chair: Subramanyam Ranganathan
  Motorola
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• **Meeting Schedule**
  - Continue conference call reviews through Mar ‘02
  - Possible face-to-face meeting for 4.1 V&V in Mar ‘02
IP-Based OTA Handset Management (IOTA)

- **Charter**
  - The team proposes IP-based OTA standards for CDMA Handset Configuration Management. The goal is that these standards will provide flexible, cost-effective alternatives for OTA deployments.

- **Scope**
  - Develop technical documentation and contribute standards for IOTA functionality

- **Work Items**
  - Plan to add full support for IS-683b to allow IOTA to be used in CDMA2000 networks
  - Plan to submit Stage 1 to 3GPP2 1Q2002 with appropriate worksheet (TSG-S new work item process)
  - Plan to submit Stage 2 into TSG-C late 1Q2002
  - Plan to submit Stage 3 (with IS-683b support) into TSG-C 2Q2002
  - Plan to try and baseline document in 3GPP2 2Q2002
  - Ballot and publish in TR45.5 3Q2002

- **Meeting Schedule**
  - Most recent face-to-face meeting was January 16, 2002, Kansas

- **Team Leads**
  - Chair: Roy Mira, Verizon Wireless
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  - Co-Chair: Mark Lipford, Sprint PCS
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Wireless Local Loop

**Charter**
- To champion cdmaOne, CDMA2000 and future generations of CDMA systems as the worldwide solution for WLL application

**Scope**
- Increase industry awareness of the capabilities and value of WLL application
- Promote open interfaces and interoperability of WLL network and terminal equipment
- Address challenges of deploying WLL systems
- Facilitate and sponsor necessary standard changes for WLL

**Work Items**
- Current focus will remain on three areas:
  - Docking station
  - BellSouth Int’l study
  - All-IP networks
- Team investigating interest from either the Latin America Interest Group or India Interest Group to take ownership

**Meeting Schedule**
- Future meeting schedule TBD until regional leadership is determined

**Team Leads**
- Chair: Sam Samra, CDG
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Promotional, Educational and Marketing Activities

- Includes multi-faceted marketing communications initiatives:
  - Website (for public promotion and members Intranet)
  - Public relations/press/media
  - Publications (contributed articles)
  - E-mail blasts on CDMA worldwide status
  - Conferences and forums
  - Platform presentations
  - Webcasts
  - Brochures, position papers, advertorials, advertisements
CDMA Subscriber Statistics: December 2001

**Worldwide total: 111,351,000**

<table>
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<tr>
<th>Region</th>
<th>Dec 01 Total Subscribers</th>
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<tr>
<td>Asia Pacific</td>
<td>41,380,000</td>
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<tr>
<td>North America</td>
<td>48,421,000</td>
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<tr>
<td>Caribbean &amp; Latin America</td>
<td>19,900,000</td>
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<tr>
<td>Europe, Middle East &amp; Africa</td>
<td>1,650,000</td>
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CDG Activities in China
CDG Activities in China

• Support Unicom International Roaming service deployment
• Coordinate vendor product development
• Support global implementation of China initiated innovations (e.g., UIM and UTK)
• Organize additional opportunities to conduct additional meetings in China
  – International Roaming
  – Systems Test
  – Others to be determined