3RD GENERATION
PARTNERSHIP
PROJECT 2
"3GPP2"

3GPP2 – From Geneva to San Francisco

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Chair, 3GPP2 Steering Committee
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2nd Informal Forum Summit

24-25 July 2003

3rd Generation Partnership Project 2 "3GPP2"

Presentation Overview

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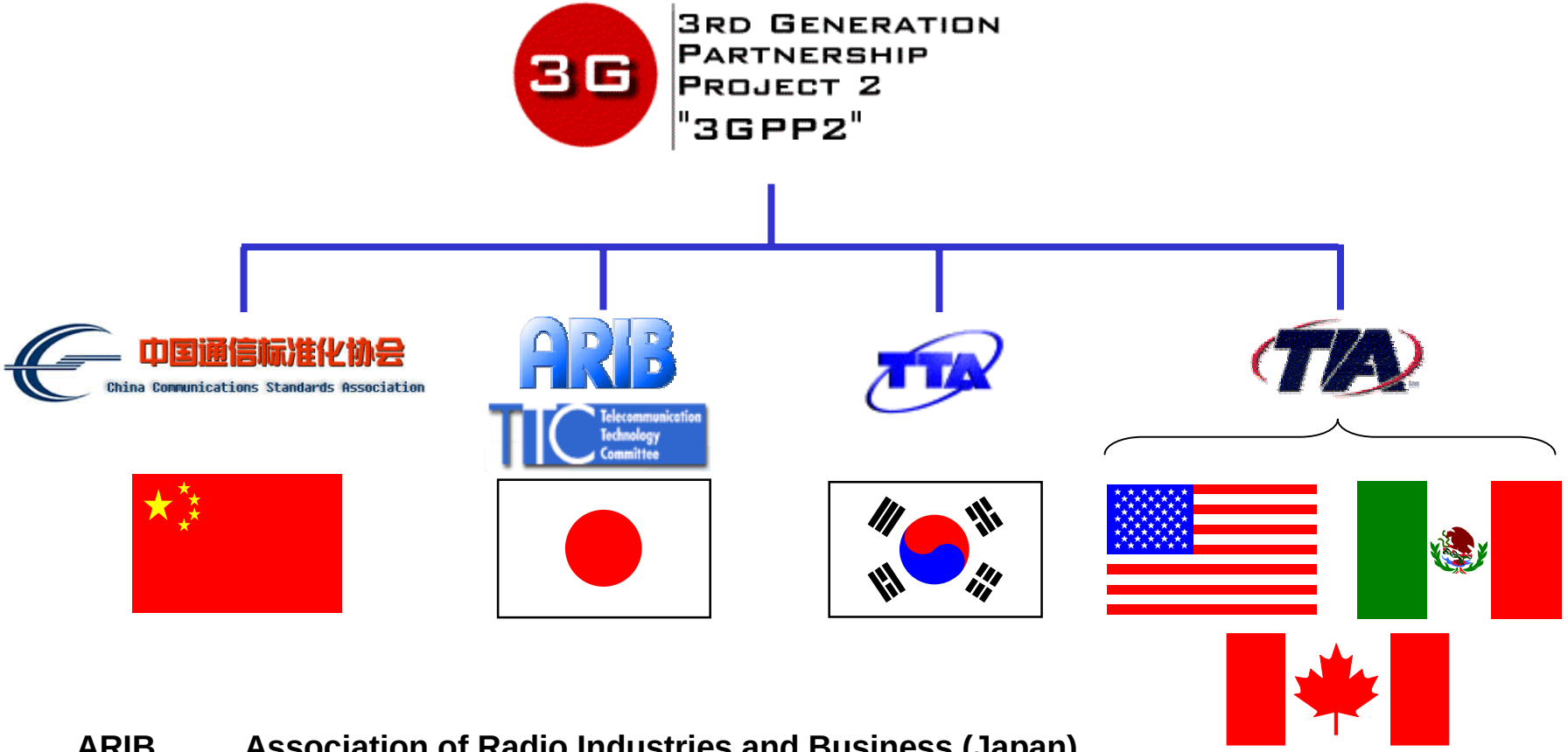
3rd Generation Partnership Project 2 "3GPP2"

What is 3GPP2?

The Third Generation Partnership Project 2 (3GPP2) is:

- A collaborative third generation (3G) telecommunications specifications-setting project.
- Comprised of North American and Asian interests developing global specifications for ANSI/TIA/EIA-41 "Cellular Radiotelecommunication Intersystem Operations network evolution to 3G".
- Focused on global specifications for the radio transmission technologies (RTTs) supported by ANSI/TIA/EIA-41 and the wireless IP network, particularly known as CDMA2000 family.

3GPP2 Organizational Partners



ARIB	Association of Radio Industries and Business (Japan)
CCSA	China Communications Standard Association (replaced CWTS) (China)
TIA	Telecommunications Industry Association (NAFTA countries: USA, Canada, Mexico)
TTA	Telecommunications Technology Association (Korea)
TTC	Telecommunication Technology Committee (Japan)

Other 3GPP2 Partners

Market Representation Partners

- CDMA Development Group

Observers

- ETSI
- TSACC

Individual Members: Over 70 companies

3GPP2 SC Leadership

Steering Committee

Chair: Dr. Hideo Okinaka (KDDI)

Vice Chair: Gerry Flynn (Verizon Wireless)

Vice Chair: Dr. Y.K. Kim (LG Telecom)

Vice Chair: Wan Yi (CCSA)

Secretariat: Henry Cuschieri

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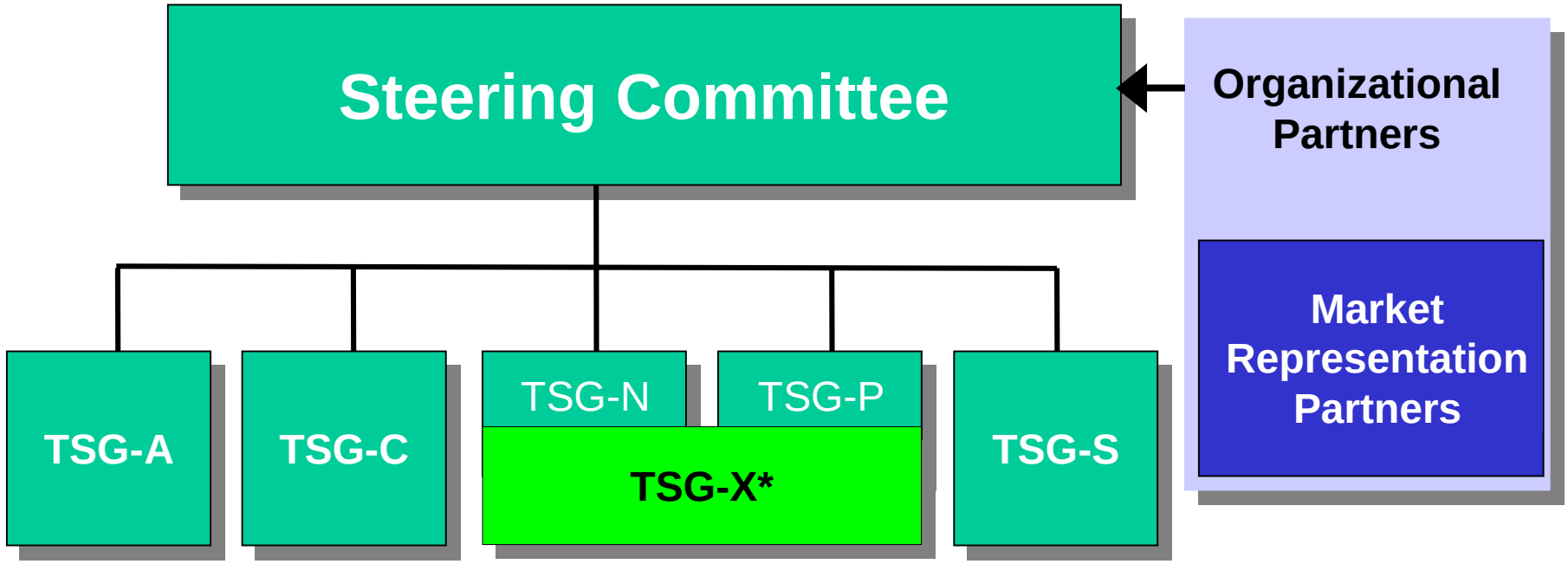
3GPP2 Structure



* TSG-N and TSG-P were merged to form TSG-X in February 2003.

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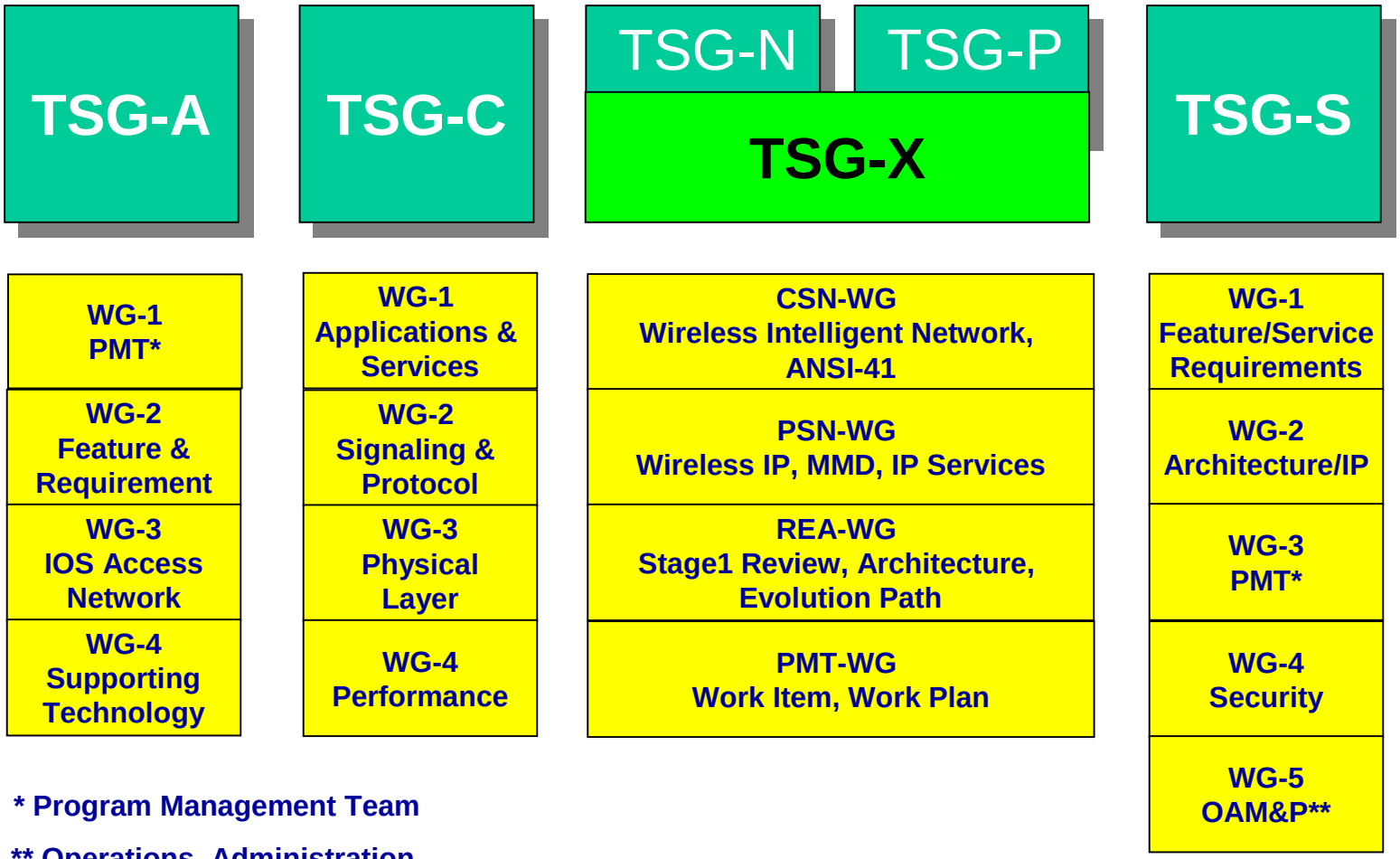
3GPP2 Structure (continued)



* Program Management Team

** Operations, Administration, Maintenance & Provisioning

TSG Activities/Status – TSG-A

Responsible for the Access Network Interface (i.e., connection between the Core Network and the Air Interface). The following specifications have been published:

- **Access Network Interfaces Inter-Operability Specifications for cdma2000® Revision 0, Revision A, Revision B, and Revision C**
- **Inter-Operability Specification (IOS) for High Rate Packet Data (HRPD) Access Network Interfaces**
- **CDMA Tandem Free Operation (TFO)**
- **BTS-BSC Interoperability (Abis Interface)**

TSG Activities/Status – TSG-C

Responsible for the Air Interface including associated terminal capabilities, performance requirements, and ancillary specifications. The following air interface specifications have been published:

- **cdma2000® Revision 0, Revision A, Revision B, and Revision C (1xEV-DV)**
- **High Rate Packet Data (HRPD)**
- **Direct Spread Specification for Spread Spectrum Systems on ANSI-41 (DS-41)**
- **Multi-Carrier Specification for Spread Spectrum Systems on GSM MAP (MC-MAP)**
- **Data Service Options**

TSG Activities/Status – TSG-S

Responsible for Systems and Service Aspects including the following:

- Stage 1 specifications
- 3GPP2 NAM (Network Architecture Model) and 3GPP2 Evolution document.
- 3GPP2 Program Management activities including process guidelines
- 3GPP2 Network Security specifications
- 3GPP2 OAM&P (Operation, Administration, Maintenance and Provisioning) specifications

TSG Activities/Status – TSG-X

Responsible for all Core Network specifications including the legacy circuit switched network platform, the new All IP network platform, and the evolution path between the two. The primary specifications which have been published include:

- **Cellular Radiotelecommunications Intersystem Operations (ANSI/TIA/EIA-41) and enhancements**
- **Wireless IP Network Standard and enhancements**
- **Legacy MS Domain**
- **Multimedia Messaging Service**

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3GPP2 Release Alpha

- **Historically, 3GPP2 has released specifications whenever they are developed by the TSGs.**
- **Release Alpha is:**
  - **The first coordinated 3GPP2 system release.**
  - **Defined in detail in cdma2000 System Release Guide (under development)**
  - **Includes cdma2000® Revision D 1xEV-DV Reverse Link air interface enhancements. Network support will follow in a later release.**
  - **Targeted for publication in August 2003**

Primary Release Alpha Features and Service Capabilities

- Legacy MS Domain (LMSD) Step 1
- HRPD Phase-II capabilities
- Packet data flow control and handoff capability to support high speed packet data
- BS, PCF, PDSN interface version control for the IOS standard
- Enhanced cdma2000® Supplemental Channel operation
- Selectable mode vocoder and supporting functions
- QoS control to support multiple service instances and IP transport
- Header compression for voice over IP service
- Voice over IP
- IP Broadcast and IP Multicast
- Other enhanced features in Revision C of the cdma2000® air interface

1xEV-DO (HRPD) Overview

- 1xEV-DO = 1x Evolution – Data Only
- HRPD = High Rate Packet Data
- HRPD Rev. 0 Stage 1 requirements (S.R0023) are:

	Forward Link	Reverse Link
Vehicular Peak Data Rate	1.25 Mbps	144 kbps
Vehicular Average Data Rate	600 kbps	144 kbps
Fixed/Pedestrian Data Rate	2 Mbps	144 kbps

- HRPD specification was originally published in Oct. 2002 (C.S0024-0).
- HRPD Rev.A is under development. Primary focus of HRPD Rev. A is to incorporate technologies developed for 1xEV-DV and to improve Reverse Link Performance.

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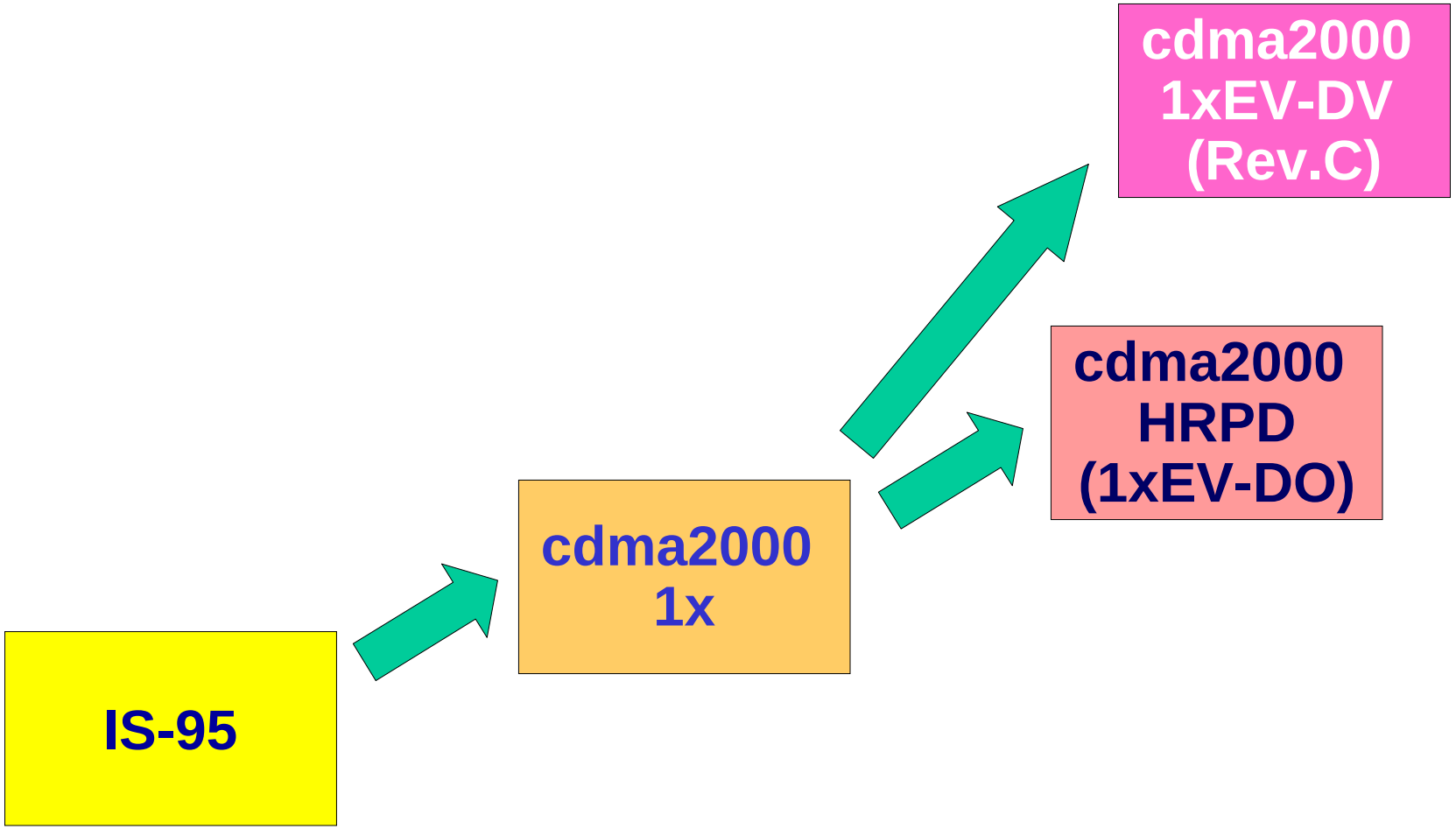
1xEV-DV Overview

- **1xEV-DV = 1x Evolution – Data and Voice (on the same channel)**
- **1xEV-DV Stage 1 requirements (S.R0026) are:**

	Forward Link	Reverse Link
System Wide Average Data Throughput – Full Buffer *Pedestrian Speed	1.7 Mbps*	285 kbps
System Wide Average Data Throughput – Mixed Traffic/Mixed channel	420 kbps	90 kbps
Packet Data Peak Data Rate	3 Mbps	450 kbps
All data rates calculated based on procedures in the 3GPP2 1xEV-DV Evaluation Methodology.		

- **1xEV-DV specifications were published as cdma2000 Rev.C in June 2002:**
  - C.S0001-C Introduction
  - C.S0002-C Physical Layer
  - C.S0003-C MAC
  - C.S0004-C LAC
  - C.S0005-C Layer 3 Signaling
  - C.S0006-C Analog
- **cdma2000 Rev.D is under development. Its primary focus is to improve Reverse Link Performance.**

cdma2000 Evolution



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Harmonisation Momentum

- 3GPP2 & 3GPP Harmonisation
  - cdma2000-UMTS interoperability – "Hooks & Extensions" (1999)
  - All IP network – Harmonisation Meeting (2002)
  - 1xEV-DV-HSDPA – Harmonisation Meeting (2001)
  - OSA/API JWG (3GPP/ETSI/Parlay/3GPP2)
  - UIM
  - MEID
- ITU Support
  - Inputs to ITU-R Rec. M.1457 (ITU-R WP8F)
  - Inputs to ITU-T Rec. Q.1741 (ITU-T SSG)
- IETF Coordination
- OMA Coordination

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Thank You!

For more information, please visit

http://www.3gpp2.org