



# Issues for Seamless Service Roaming

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# Today's Discussion

- ◆ The Opportunity
- ◆ Current situation
- ◆ Where should we focus?
- ◆ Bell Mobility's View



- ◆ \$1.7 billion total revenue for 2001
- ◆ 4.3 million subscribers - largest in Canada
  - 3.5 M cellular, 755K paging
- ◆ 3,000 employees
- ◆ Postpaid mix: 74%
- ◆ North American industry-leading churn at 1.5%

**First in the Americas to launch wireless internet  
& 1st in Canada to launch 1xRTT**

Note: These numbers relate to Bell Mobility, Aliant Mobility, Northern Mobility, Telebec Mobility and NorthWestel.Mobility  
\*Bell Mobility/Bell Canada internal estimate



## SMS Inter-working in Canada

- ◆ Limited SMS usage in Canada due to inter-technology complexity (TDMA, CDMA, GSM and iDEN)
  - ◆ In Q3 2001, all four Canadian carriers agreed that SMS inter-working was essential for the success of the service
  - ◆ In April 2002, SMS inter-working for all four Canadian carriers was introduced using SMS Gateway technology
- ***Result: 20% increase in SMS traffic in the 1<sup>st</sup> 20 days***

***The end of the rainbow:***

***more revenue for the entire industry...let's not stop at SMS***

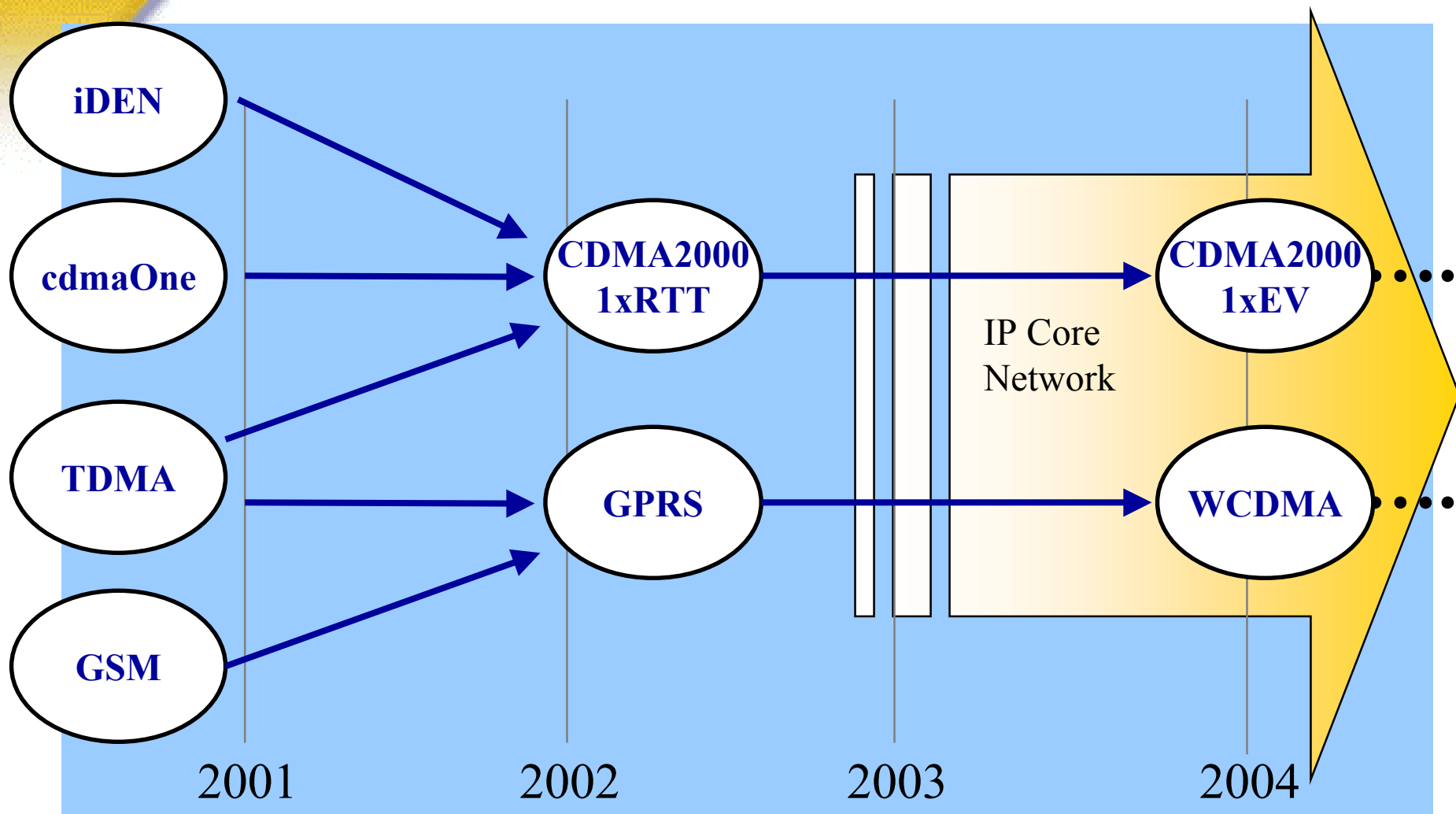


# Harmonization Benefits

- ◆ Enable common service and application development
  - provide high commonality and low complexity
  - accelerate deployment of IP multimedia services based on open service access platform
- ◆ Seamless roaming radio access technology independent
  - Service transparency and user friendly roaming experience
- ◆ Flexibility in choosing roaming partners
- ◆ Simplified network management for operators with multiple technologies
- ◆ Lower Cost via Economies-of-Scale
  - fewer protocol stacks will drive down cost of terminals
- ◆ Fixed/Mobile Convergence
  - service transparency between fixed and mobile networks



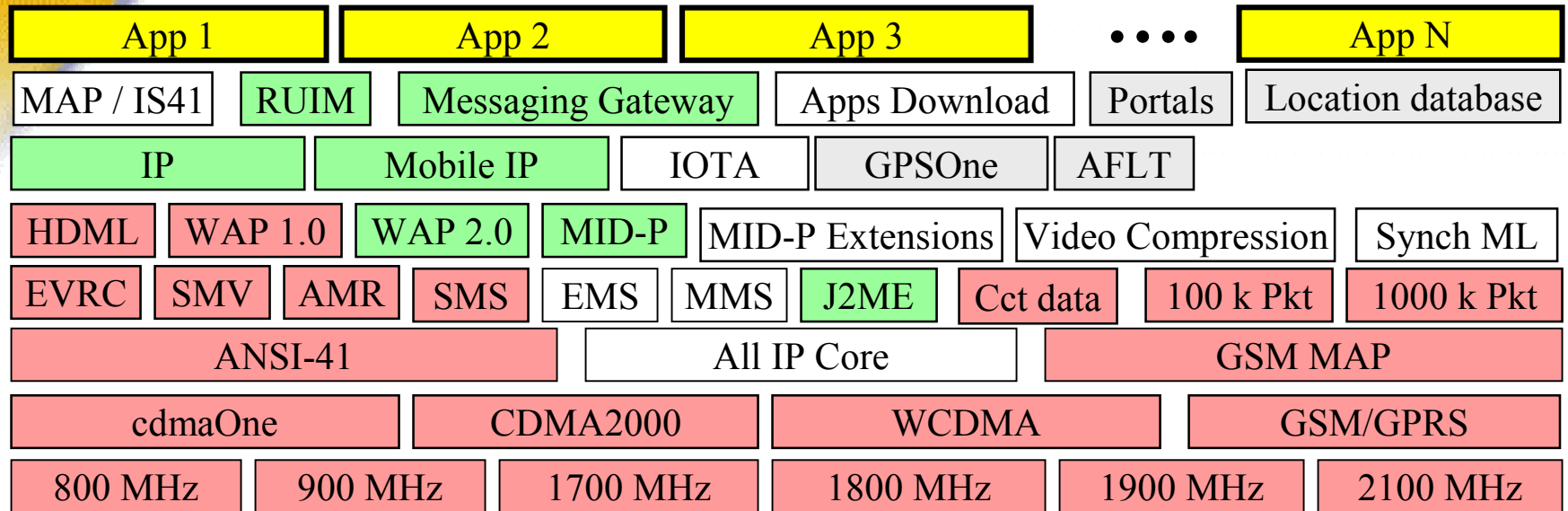
# Network Evolution Convergence



- ◆ WCDMA & CDMA2000 have a few access technology differences
  - Physical Layer: Chip Rate and Pilot Channel Structure
  - Vocoder : EVRC / SMV and AMR
  - *Minimal differences simplify multi-mode terminals*
- ◆ WCDMA and CDMA2000 evolutions are not converging
  - WCDMA -> HSDPA
  - CDMA2000 1xRTT -> 1xEV DV
- ◆ Optimistic start to IP Multimedia Core Networks
  - Toronto OHG's IP Harmonization meeting April 02
- ◆ Some protocol alignments are occurring (WAP, JAVA...)



# Service Roaming Building Blocks



- Single industry implementation today
- Opportunity for common industry implementation
- Requires multi mode terminals to allow service roaming

***Significant opportunity still exists for making the lives of application developers as well as customers a lot easier***



# Areas Requiring Focus

- ◆ Codec (voice and multimedia) inter-working
- ◆ Authentication and Security inter-working
- ◆ Service negotiation and transparency
  - consistent support for key local services, 911, location services
- ◆ IPv4 and IPv6 inter-working
- ◆ End to end QoS management
- ◆ Billing records management and reconciliation
- ◆ Application enablers standardization
- ◆ Application API standardization

- ◆ Radio Access Technologies Goals:
  - Near Term: continue minimal differences
  - Long Term: work towards a single access technology
  - harmonization will allow operators to choose narrow or wideband CDMA technology depending on radio spectrum availability
  
- ◆ One common IP Core Network should be developed for all future radio access standards
  
- ◆ Key application enablers require immediate attention to make sure the industry does not diverge

**The end of the rainbow:**

***More revenue for the entire industry at the lowest cost!!!!***