



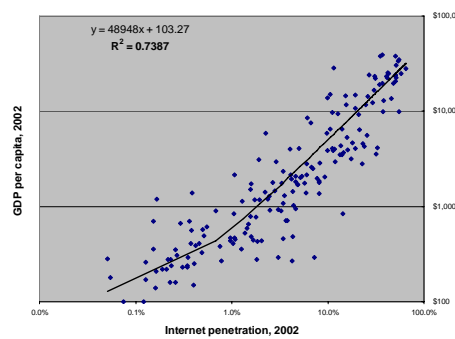
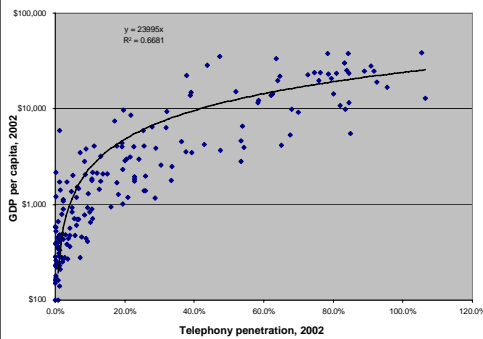
**Broadband Solutions
for Rural Areas of Developing
Countries**

6th Global Symposium for Regulators
Medina Congress Centre, Yasmine Hammamet,
Tunisia, November 14, 2005



The Value of Improving Connectivity

It's not just about voice.... It's about voice and data



For each 1% increase in telephony penetration, GDP per capita goes up by US\$240

For each 1% increase in Internet penetration, GDP per capita goes up by US\$593

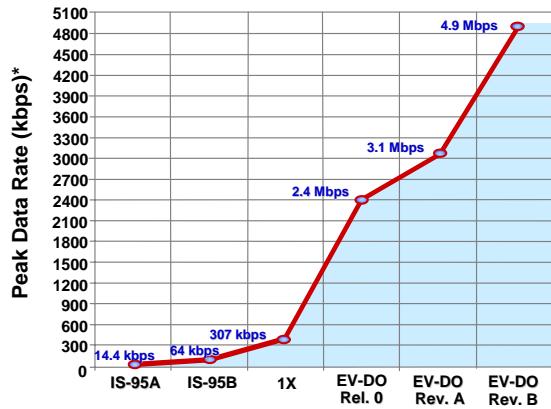
Although mobile voice communications is bridging the digital divide, Internet connectivity is equally important for economic & social development

Mobile connectivity is more valuable than fixed or portable connectivity!



What is Broadband Connectivity?

A high-speed "always on" Internet connection, ranging from 128kbps to 2Mbps, depending upon the country



73.5 Mbps** while mobile

3G CDMA is fulfilling the demand for mobile broadband connectivity

Enormous global economies of scale will be essential for providing affordable rural broadband connectivity in developing countries!

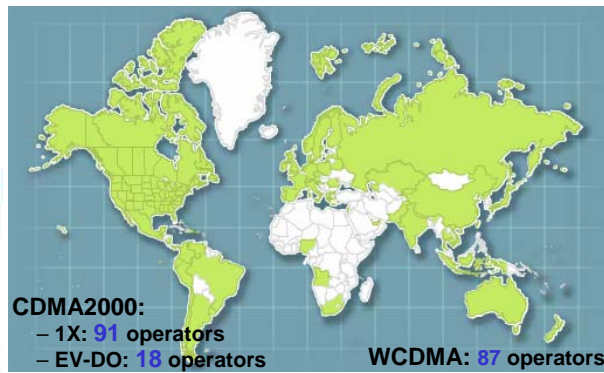
* Forward link in a mobile environment using 1.25 MHz of spectrum
 ** Using 20 MHz of spectrum



3G CDMA Today:

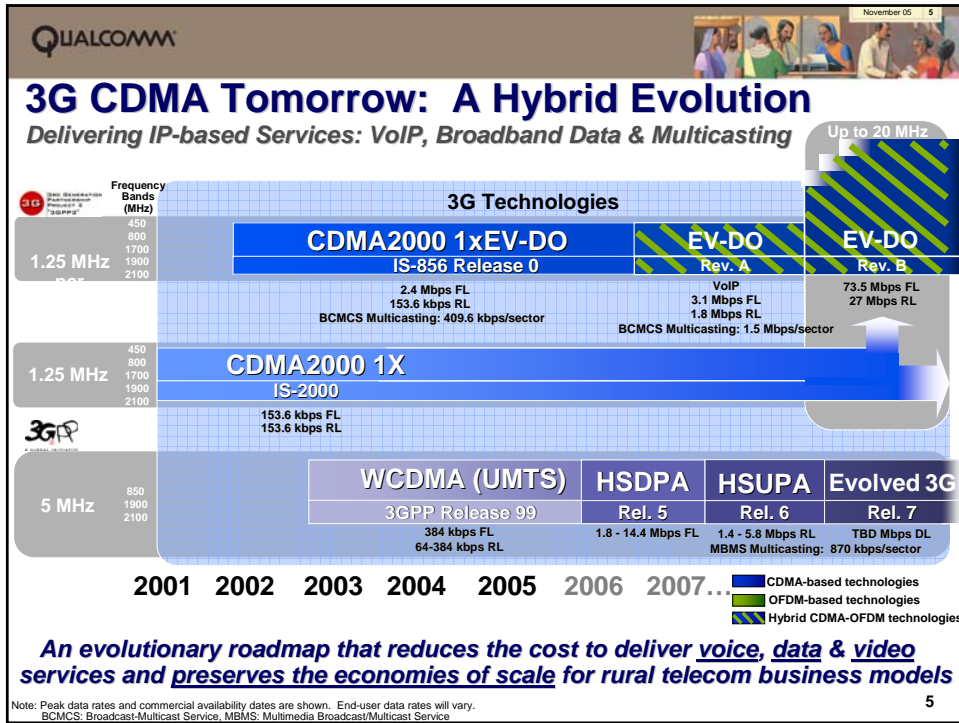
159 commercial 3G CDMA operators in 71 countries

Over 203 million 3G CDMA subscribers



- Toll-quality Voice communications
- Mobile broadband data rates
- Excellent coverage
- Secure transmissions
- Global economies of scale
- Commercial-grade infrastructure
- Thousands of applications
- Lowest cost per minute, megabyte or message

Source: 3Gtoday.com (as of October 2005)



November 05 6

3G is fulfilling Universal Service Obligations

Connecting citizens to voice & Internet services

Rainbow Chalta Firta PCO

- In **India**, Reliance will meet universal service obligations by providing 3G service to 48,310 villages that don't have public phone facilities¹
- In **India**, Shyam Telecom has equipped a fleet of around 200 self-employed rickshaw drivers with a mobile calling office, including fax²
- In **Dominican Republic**, Tricom deployed over 1,700 public pay phones in underserved rural areas. These phones will eventually be used for high-speed Internet access³
- In **Brazil**, Anatel & Lucent provided universal broadband (800kbps @ 45km) access with 3G
- In **Ecuador**, Edumasters installed 3G kiosks at several public schools to provide free Internet access. Panama is next.⁴
- In **Chile**, BellSouth provided 3G broadband access to 667 schools nationwide⁵

1. <http://www.thehindubusinessline.com/2004/09/20/stories/2004092002090100.htm>
 2. <http://www.hellorainbow.com/aboutus.asp>
 3. BNAmericas.com, "GEC-Tel, Tricom Partner for wireless Network - Dominican Republic, November 20th, 2004"
 4. <http://www.edumasters.com.br>
 5. www.edumasters.net
 6. http://www.subitei.cl/servlet/page?_pageid=57&_dad=portal308&_schema=PORTAL308p_language=es, Sept. 3, 2003

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3G is fulfilling Healthcare Initiatives

Keeping citizens healthy and alive

Diabetes Phone:

- Monitors and sends glucose data to a doctor's online database
- Patients can get medical attention without visiting the hospital
- Includes a blood sugar reader and calorie meter



LGE KP8400
BREW Phone



Mobile Mammography Service

- BreastScreen Australia mobile screening vans capture mammography images in rural and remote areas
- Images are sent to Victorian Regional Health Alliance assessment centres via Telstra's EV-DO broadband network



BreastScreen Australia
Mammography Screening Van

MRI & CT Scan Medical Diagnostic System

- KDDI EV-DO phone transmits MRI & CT images to remote specialists in an emergency



PocketMIMAS
EV-DO Phone

CardioNet: Cardiac Monitoring Service

- Mobile 3G CDMA outpatient cardiac telemetry service
- Continuously monitors patient's electrocardiogram (ECG)
- Collects and sends ECG diagnosis data to the cardiologist
- Calls for emergency medical attention upon a life-threatening condition



CardioNet

1. <http://cellphones.engage.com/entry/1511741306340486/>
 2. <http://www.breastscreen.info.au/>
 3. <http://www.kddilabs.jp/eng/tech/application.html>
 4. <http://cardionet.com/>

3G is fulfilling Public Safety Initiatives

Protecting & saving lives

- In the **U.S.**, 3G carriers offer E911 services with accurate (5-30m) position location capabilities¹
- In **Japan**, SECOM launched a nationwide location-based security service²
- In **China**, Unicom donated 150 kid tracker devices to the Beijing School of the Blind³
- In **Korea**, SKT and National Police Agency introduced a Missing Children Service⁴
- In **Canada**, the Ontario Police quickly access vital information (including fingerprints IDs) and respond to emergencies instantly with position location dispatch⁵
- In **Florida**, the Broward County Sheriff's Office uses 3G for child protection services⁵



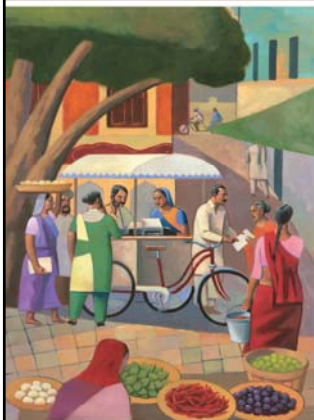
1. www.fcc.gov/911/enhanced/
 2. www.secom.co.jp
 3. www.chinaunicom.com.hk
 4. www.cnn.com, Friday October 1st, 2004
 5. CDMA A-List Award Winners



Conclusion

3G CDMA is the best alternative for providing wireless broadband to rural areas in developing countries

- The combination of voice & data network connectivity is needed to sustain rural broadband access business models -- to drive economic growth
- Mobile connectivity is more valuable than fixed or portable connectivity
- Enormous global economies of scale will be essential for providing affordable rural broadband connectivity in developing countries
- 3G CDMA offers the most robust and affordable solution for rural voice, data & video services, while preserving global economies of scale
- 3G CDMA is already empowering governments and citizens to transcend the social and economic challenges that they face today!



Thank You

