

A man in a white t-shirt and dark jeans stands on a grassy hill, looking up with his arms raised. The background is a clear blue sky. Several glowing, semi-transparent SIM cards are floating in the air around him, some appearing to be in motion.

CDMA SIM Cards: A Market Overview by Gemplus Corp.

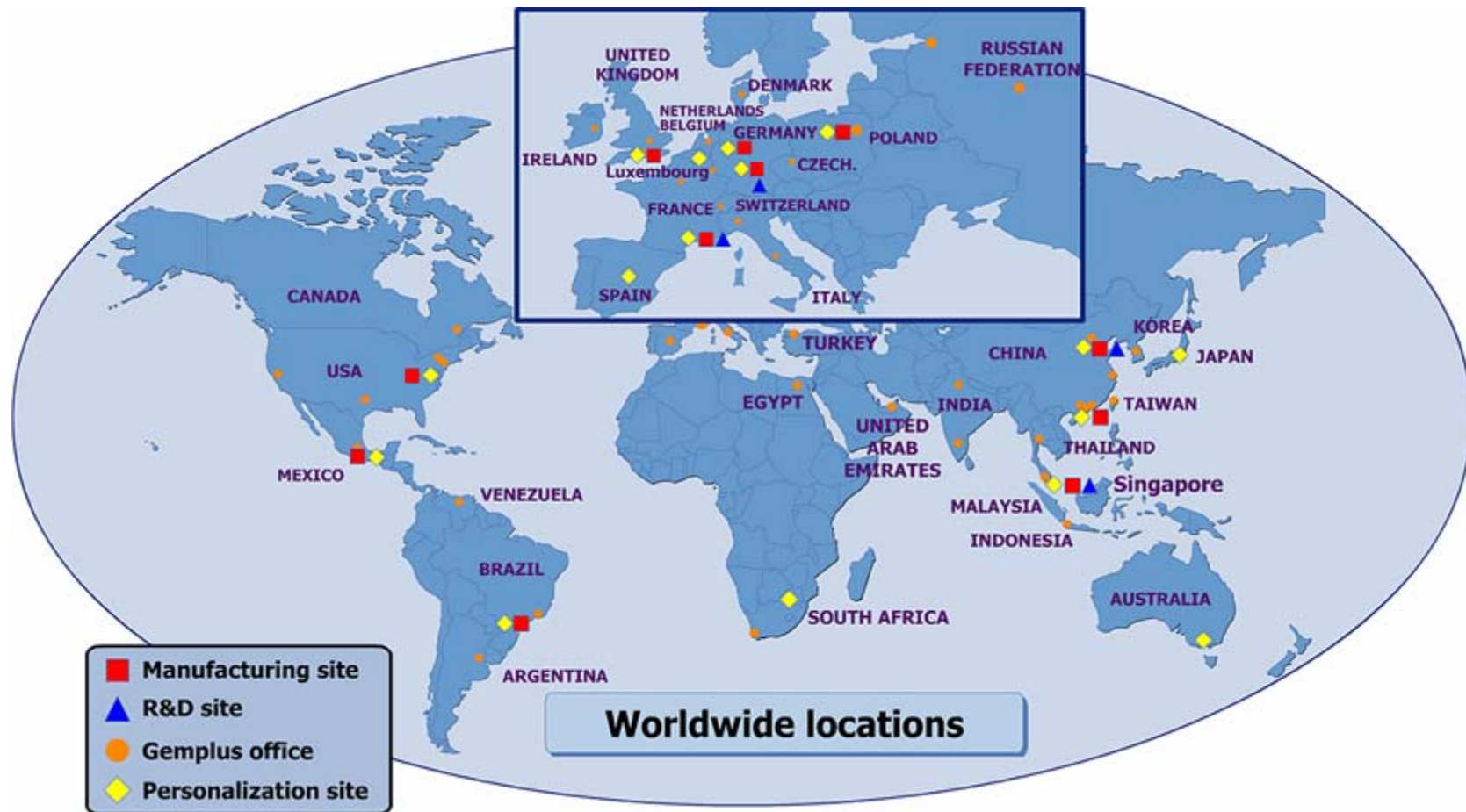
CDMA Roaming Forum
Rio de Janeiro
April 18th, 2005

Agenda

- Gemplus
- The CDMA smart card
- The Handsets
- The Market
- The Standards
- The Products
- The Trends
- PRL Storage/SMSs
- The CDMA Operators
- Inter-Standard Roaming
- Conclusion



Gemplus



CDMA SMART CARDS - A MARKET OVERVIEW

Pay-off!



Forty two (42) mobile operators voted Gemplus
TOP Smart Card Supplier in five (5) categories

The CDMA Smart Card



The CDMA Smart Card is the first step towards seamless inter-standard roaming

CDMA SMART CARDS - A MARKET OVERVIEW

The Handsets

- Kyocera, Nokia, and ZTE have CDMA SIM-enabled handsets available for use in Latin America
- China Unicom uses “World Wind”: a dual-mode (GSM-CDMA) phone used with an CDMA SIM card (LG, Samsung, Motorola)
- Dual-mode CDMA-GSM handsets with only a SIM on the GSM side



China Unicom's "World Wind"



中国联通
CHINA UNICOM

掌控通信
是一种超越

跨越曾经不可逾越的网络障碍。
在CDMA和GSM两网之间自由穿梭。
充分体味移动通信带来的无限精彩。
从此拥有覆盖全球的通信网络。
掌控通信，是一种超越……

世界风
真正全球漫游

全国统一客服热线：10010

CDMA SMART CARDS - A MARKET OVERVIEW

The World Market

Australia
Bangladesh
Belize
Brazil
Canada
Guam
Japan
Kenya
Korea
Norway
Pakistan
Venezuela



Cambodia
China
Hong Kong
India
Indonesia
Kazakhstan
Laos
Mongolia
Nigeria
Russia
Taiwan
Thailand
Vietnam

The Standards

- TIA-820-C is available (www.3gpp2.org)
- Topics under discussion
 - CDMA SIM Card Lock
 - Stores personalization information in the handset that limits the CDMA SIMs with which it will work
 - Protects operator's investments in handsets
 - MEID support
 - ESN/UIM-ID exhaustion issue
 - CDMA SIM card can authenticate with ESN or with UIM-ID
 - UTK/CCAT
 - GHRC Doc. 90 (www.cdg.org)

The Products

- High-end and low-end cards
 - Capable of storing large PRLs
- OTASP and OTAPA support
- HRPD (EV-DO)
- Mobile IP
- Voice and data authentication
- 128K/256 KB, 1MB memory size
- Multiple applications



The Trends

- Three profiles in one card for inter-standard roaming
 - e.g. Asian country (CDMA, GSM, WCDMA)
- Larger files and memory size increase for multimedia support
- DRM – to control digital rights and increase operators' revenues
- Contact-less, mobile proximity services
- Third parties using rented space
 - Unique security domain



Common Misconceptions

- W: The smart card can not be locked to the network
- W: Smart cards and handsets do not have to be locked together
- W: Operators lose track of the handset (asset) because ESN is no longer in the billing system.
 - CDMA SIM card sends a message with the ESN + Card number combination
- W: Incremental cost on handset pricing
 - It is almost \$0
 - Some vendors are building the CDMA SIM card into the handset already and hiding the slot

PRL Storage/SMSs

- No issues
- You can have any size of PRL you want
- Different memory size cards in the market
- You can exchange SMSs with other technologies
 - Check www.mobile365.com
 - Syniverse

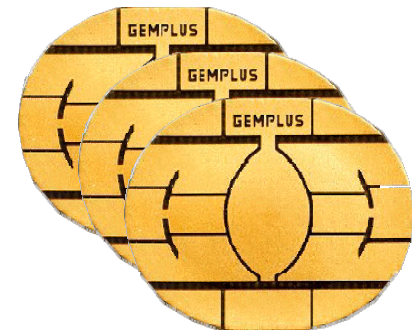


The CDMA Operators say...

- Worldwide roaming
- "Reduces service transaction time at POS by 75%"
- Portability (services, phonebook, all data)
- Service differentiation
- New business models
 - Partnership with banks, credit card companies, merchants (contact-less, mobile proximity, etc.)
- Secure high-end business users
- Eliminate subscriber association with the handset
 - In some regions, the operators do not want to associate with the handset after sales
- "CDMA SIM replacement is quicker and cheaper than handset replacement"
- "Shorter and simpler activation process at POS"
- "Drives down customer care costs"
- "Reduces costs of \$0.43 per subscriber per year"


Inter-Standard Roaming

- Vodafone + VZW + Gemplus + Syniverse
- Dual-mode cards for use in GSM and CDMA
 - Currently being used with both paid subscriptions
- Gemplus has successfully tested dual-mode cards around the world
 - Dedicated team to this effort
 - Expertise in each region including Brazil



Conclusion

- CDMA operators worldwide are either currently implementing or evaluating CDMA SIM cards for their networks
 - SEA, Eastern Europe, Africa, Latin America, North America
- Implementing CDMA SIM cards - with or without a multimode handset - is a first step towards inter-standard roaming
- It's not: what can I do with the card that I can't do with my phone? It's more...how much money can I save once I implement it?

A man in a white t-shirt and dark jeans stands on a grassy hill, arms raised in a gesture of freedom or achievement. The background is a clear blue sky. Several glowing, semi-transparent CDMA smart cards are floating in the air around him, suggesting a sense of liberation from traditional carriers.

Gemplus: Your CDMA Smart Card Provider...

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