



INTERNATIONAL TELECOMMUNICATION UNION

**TELECOMMUNICATION
DEVELOPMENT BUREAU**

**Document 006-E
28 November 2007
Original: English**

6TH WORLD TELECOMMUNICATION/ICT INDICATORS MEETING, GENEVA, 13-15 DECEMBER 2007

SOURCE: CMT, Spain

TITLE: New and emerging indicator work in Spain: mobile broadband and convergence

***New and emerging indicator work in Spain:
mobile broadband and convergence***
***6th World Telecommunication/
ICT Indicators Meeting***

13-15 December 2007, Geneva, Switzerland

Berta del Olivo, CMT Spain



Outline

- **Part I: Collection of mobile broadband data**
- **Part II: Indicators to track convergence**

Part I: Mobile broadband data collection

Outline: collection of mobile broadband data

- **Data collection: lines and subscribers**
- **Access to and usage of broadband services**
- **Data collection: transactions**
- **Data collection: a more precise definition of lines**
- **2006: the birth of mobile broadband in Spain**



Data collection: lines and subscribers

@ Number of lines associated with UMTS handsets

Definition:

Total number of active lines associated with handsets that have access to UMTS networks

- *Active lines: prepaid or postpaid lines that have made or received at least one communication subject to be billed during the last three months.*

@ Number of lines associated with computer cards (Datacards)

Definition:

Total number of active lines associated with computer cards (data cards UMTS and data cards HSDPA)

@ Number of cellular mobile subscribers with access to data communications at broadband speeds (271mb)

Definition:

Number of subscribers to cellular mobile networks with access to data communications (e.g. the Internet) at broadband speeds (greater than or equal to 256 kbit/s in one or both directions) such as WCDMA, HSDPA, CDMA2000 1xEV-DO, CDMA2000 1xEV-DV, etc.

Access to and usage of broadband

@ UMTS

Access to 3G

Possibility of using 3G networks



@ Data cards

Access to 3G

Usage of 3G networks



Measuring access ...

...measuring potential usage...

...but how to measure usage?

@ **Revenue**

@ Taking into account the effect of:

✓ Flat-rate plans

✓ Promotions (attractive pricing: introduction of a new prod)



@ **Traffic**

@ Gigabytes

@ Number of transactions



@ **Actual usage**

Definition:

Total number of transactions whereby a user accessed the internet and has used data services

...business matters!

...service targeted at business users

Definition:

Total number of transactions, breakdown by business and residential lines and by pre-paid and post-paid contract, whereby a user accessed the internet and has used data services

Data collection: transactions

Number of transactions for data services (mobile TV not in)

	Residential		Business	
	Prepaid (transactions)	Postpaid (transactions)	Prepaid (transactions)	Postpaid (transactions)
Traffic in UMTS networks				
Downloads (songs)				
Web browsing				
Others				
Total traffic				

Lines and subscribers: a measure of access

Transactions: a measure of usage



...towards a more precise definition of lines

not only a measure of access but also of usage...

***Data collection:
a more precise definition of lines***

@ Number of lines associated with UMTS handsets and data cards

Definition:

Total number of active lines that have made a transaction to use data services at broadband speed

- *FIRST DEFINITION Active lines: prepaid or postpaid lines that have made or received at least one **communication subject to be billed** during the last three months.*
- *MORE PRECISE DEFINITION Active lines: prepaid or postpaid lines, in the business and residential segment that have made a **transaction to use 3G data services** during the last three months*

2006
The birth of mobile broadband in Spain

2006
The birth of mobile broadband in Spain

UMTS terminals gathering momentum...

@ 3G effective take off: 3.4 million UMTS (W-CDMA) terminals

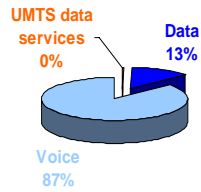


$$3G \text{ density} = \frac{UMTS \text{ lines}}{\text{mobile lines}}$$

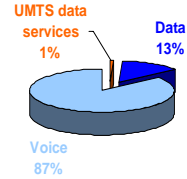
2006

The birth of mobile broadband in Spain

Mobile sector
Revenue break down
2005



Mobile sector
Revenue break down
2006

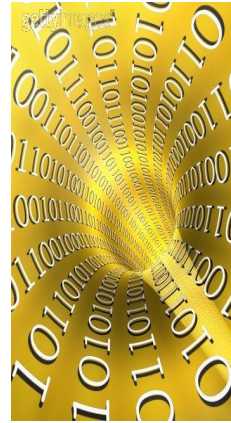


...but still a long way for 3G non-voice data revenues

Part II: Indicators to track convergence

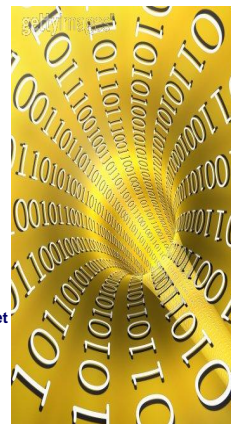
Outline: indicators to track converge

- **Convergence**
- **Network convergence**
- **Service convergence**
- **Tracking converge through revenue: revenue migration**



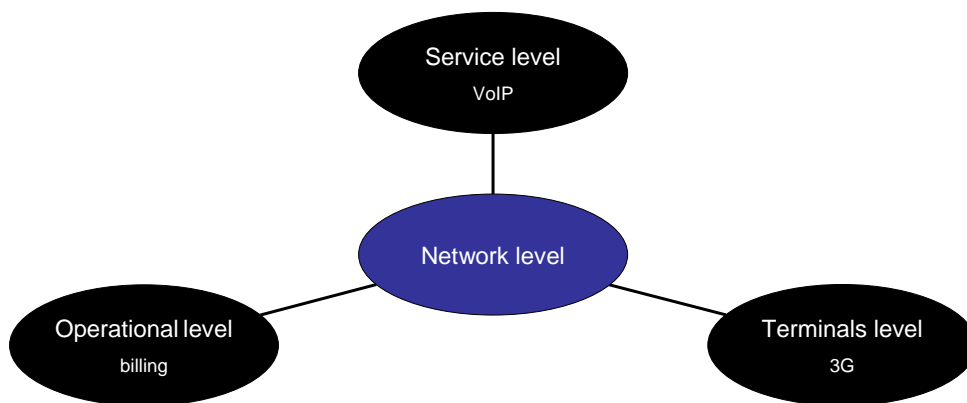
Outline: list of proposed indicators

- **Network convergence**
 - Investment in NGaNs**
 - @ Investment
 - @ Number of installed accesses of FTTx
- **Service convergence**
 - VoIP services**
 - @ Subtotal of revenue/traffic in fixed telephone market
 - Bundling**
 - @ Bundled offers subscribers
 - @ Penetration of bundled offers
 - @ Multiplatform TV
- **Tracking converge through revenue: revenue migration**



Convergence

Convergence



NGaNs: catalyst for convergence

Network convergence

NGaN

Unbundling to the limit!

IP completes a technical unbundling process:



network facilities

clear separation between



services (data, video and voice)



How to track the plans of deployment of NGN?

Investment in networks

@ Investment in NGaNs

Breakdown by fixed or mobile network no necessary

Number of accesses by technology

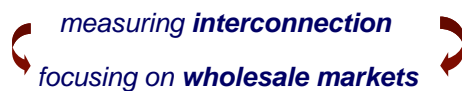
@ Number of installed **accesses** of **FTTx/Xdsl/Cable/PLC/Wifi-Wimax**

NGN implications

...but too soon for an economic analysis:

the effects on markets could be ignored in the short term

Challenging issues for the future:



implications of NGaNs on interconnection among

voice (fixed, mobile, VoIP),

internet access

broadcasting services

Fixed-mobile convergence

- @ EC: **separate markets** for fixed and mobile networks
 - @ **"Despite some moves towards converged offerings, the distinction between Services provided at fixed or non-fixed locations remains valid"**

- @ Call origination on fixed and mobile: **distinct markets**
 - @ **Fixed networks: can use CS or CPS for outgoing calls**
 - @ **Mobile networks: no choice of alternative operators for outgoing calls**

Services start to converge

but regulation remains network oriented

Service convergence

Voice over IP: the latest major step in a convergence process

All type of services can be provided in an integrated manner over the Internet using IP

“That’s one giant leap for convergence, but one small step for measuring”

An easy approach for tracking VoIP services:

included in the total amount of revenues and minutes

@ Subtotal of revenues in fixed telephone market due to VoIP

@ Subtotal of minutes in fixed telephone market due to VoIP

Service converge does not imply network convergence necessarily

@ Bundles already available in the market: can be provided over circuit switching technology

Operators: convergence process for providing multi-services

@ Mergers and acquisitions

- ***Analysis and comparison of converging services in each country.***
- ***Comparisons on country penetration of bundles and bundle types, in order to have a snapshot on how markets are evolving:***
 - *Service and platform description.*
 - *Service providers supplying multiple play offers.*
 - *Data regarding penetration of bundles.*
 - *Retail prices of main bundles.*

Bundled offers subscribers

•Double play bundled offers subscribers

Broadband + TV
Broadband + fixed voice
Broadband + mobile voice
TV + fixed voice
TV + mobile voice
Fixed voice + mobile voice

Total double play bundled offers subscribers

•Triple play bundled offers subscribers

Broadband+fixed voice+TV
Broadband+fixed voice+mobile voice
Broadband+mobile voice+TV
TV+fixed voice+mobile voice

Total triple play bundled offers subscribers

•Quadruple play bundled offers subscribers

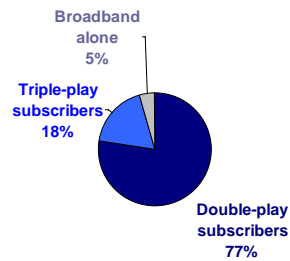
Broadband+fixed voice+mobile voice + TV

Total quadruple play bundled offers subscribers

•TOTAL BUNDLED OFFERS SUBSCRIBERS

Penetration of bundled offers

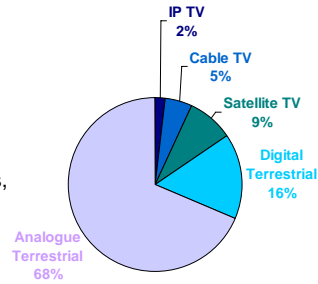
Penetration of bundled offers Spain 2006



$$\text{Bundled offers penetration} = \frac{\text{Bundled offers subscribers}}{\text{Total broadband subscribers}}$$

Broadcasting: multiplatform TV

TV Households split in Spain per platform, July 2007



A new platform! Mobile TV:

•to be measured (revenues, subscribers) from 2008 on

New platforms

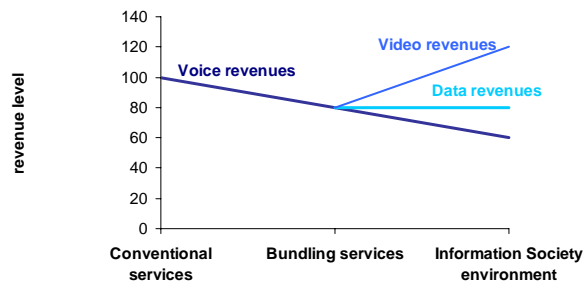
New business models

Importance of measuring: signals to the market

Revenue migration

First, from voice to data

Evolution of revenue



and then, from data to video

Many thanks!

Berta del Olivo Ferreiro

bolivo@cmt.es