

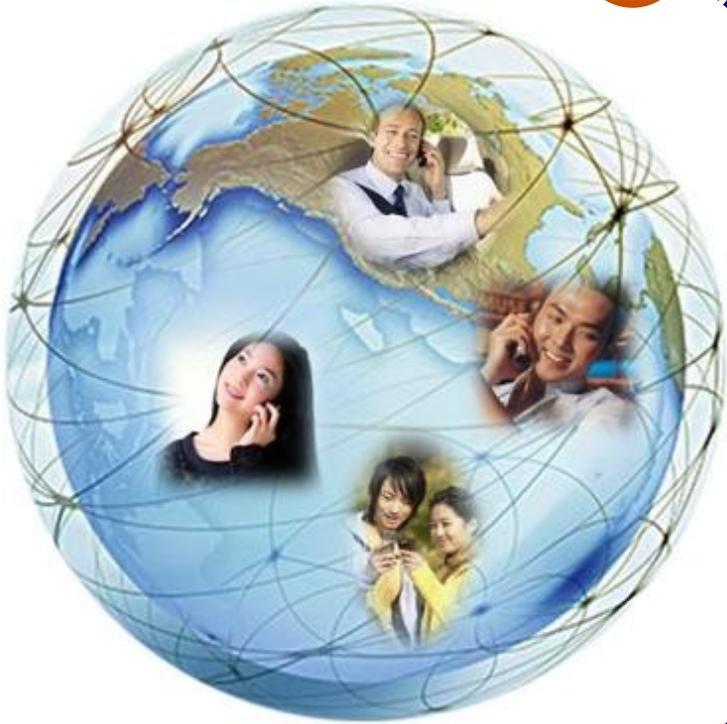
CTC's IPTV service intro & wide topics on standardization

**Workshop on Harmonization of Web and IPTV technologies
Rio de Janeiro, 21 July 2011**

**China Telecommunications Corporation
Xin Shen**

I

Brief on CTC's IPTV Service



- Some numbers from the China market.
- CTC's IPTV service: roadmap, standardization, services and the future...

Some Numbers from the China market

- **Internet : 420M**, the largest Internet population [1]
- **Broadband : 110M** [2]
- **Cable TV : 65M** [3]
- **3G Mobile : 35M** [4]

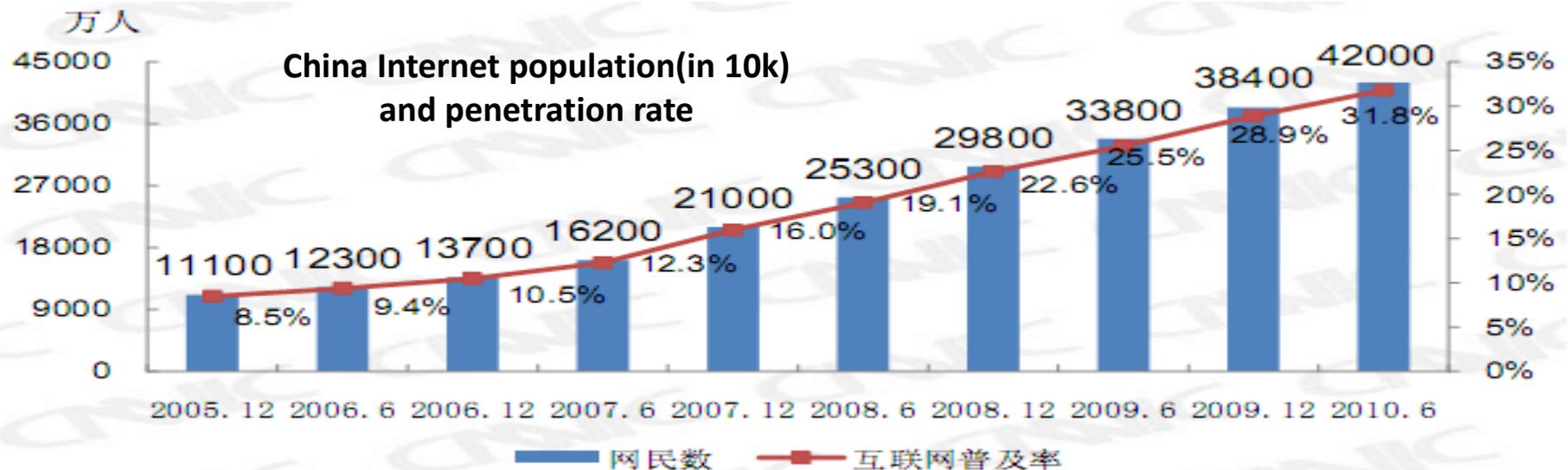
Data source:

[1] CNNIC, July 2010

[2] MIIT, July 2010

[3] SARFT, Aug. 2010

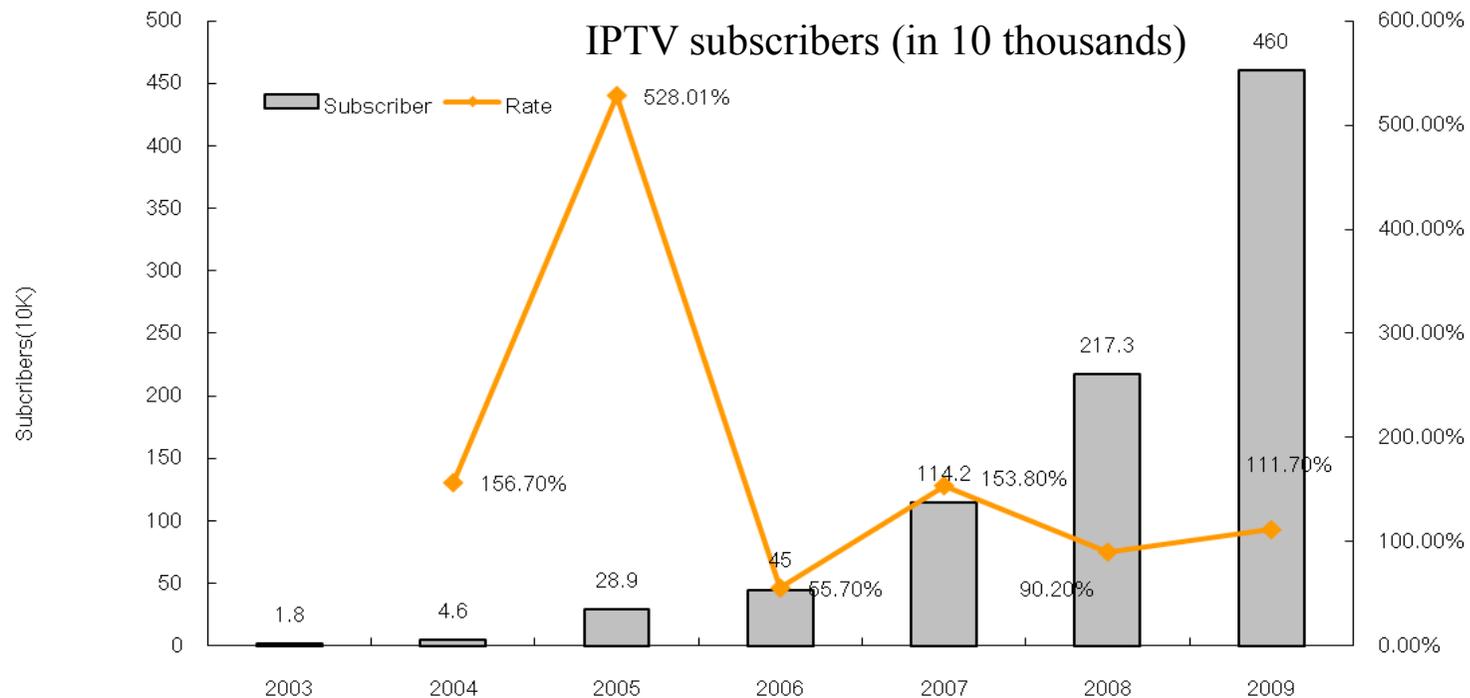
[4] MIIT, Oct. 2010



Picture source: CNNIC July 2010

Numbers on IPTV

- 4.6 M in the end of 2009. Almost 5 million, June 2010;
- The second largest number in the world and the largest one in Asia.



Source: CATR Jan 2010

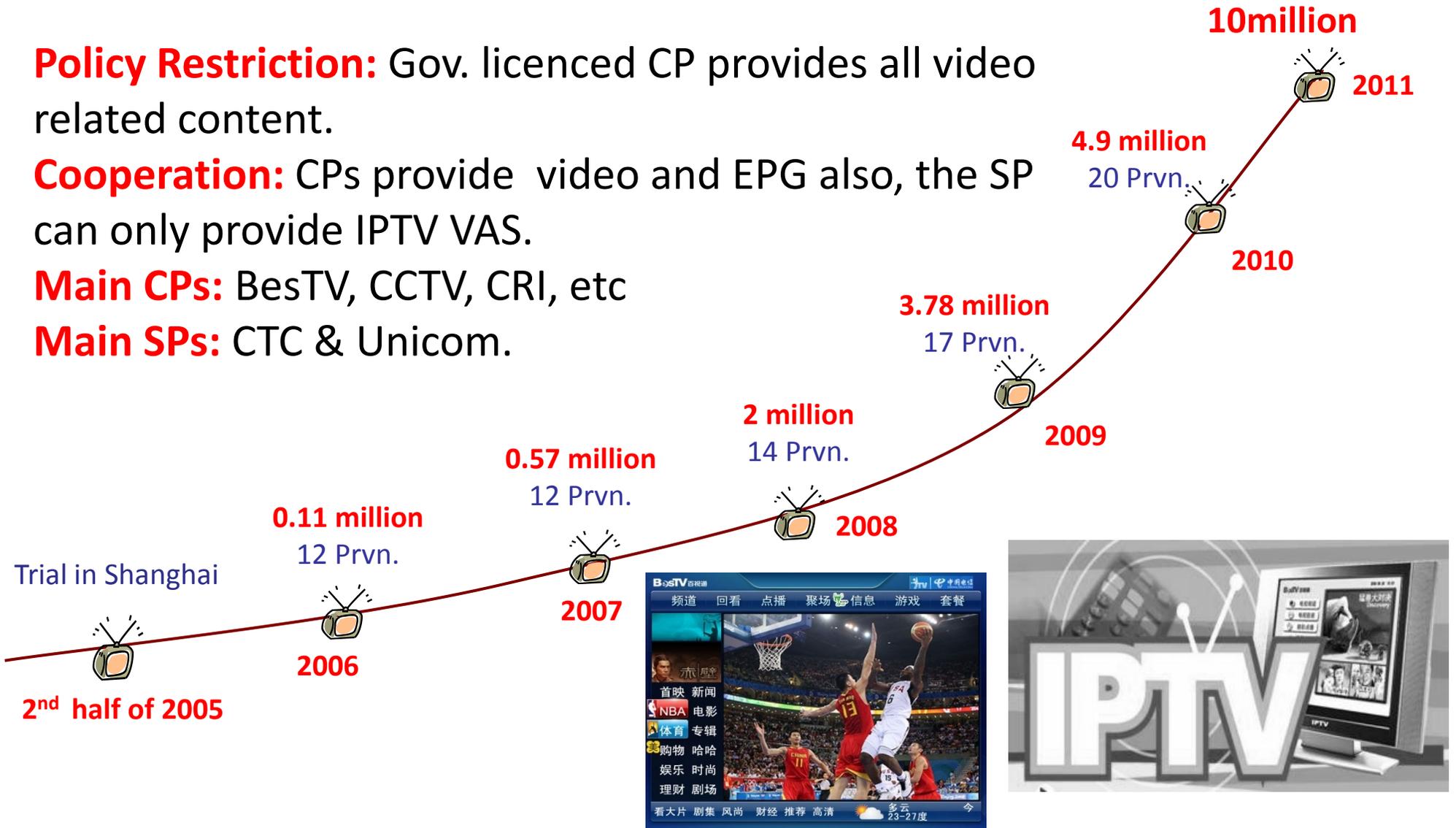
CTC's IPTV : Roadmap

Policy Restriction: Gov. licenced CP provides all video related content.

Cooperation: CPs provide video and EPG also, the SP can only provide IPTV VAS.

Main CPs: BesTV, CCTV, CRI, etc

Main SPs: CTC & Unicom.



CTC's IPTV : Standardization

- Follow ITU-T non-NGN-based IPTV arch, Y.1901, H.720, H.721, H.760, H.264, etc...
- First standardized in 2005 and the second edition republished in year 2007, soon will be Ver 3.0.
- Ever since the V 2.0 standardized, more vendors join in the competition and prices of the IPTV TD and platform dramatically drop.
- V 2.0 soon becomes the main body of the national standard and the main part is contributed to ITU-T in TDES.3, MAFR.6, MAFR.10 and etc...

CTC's IPTV : Cooperators



CTC's IPTV : User Distribution

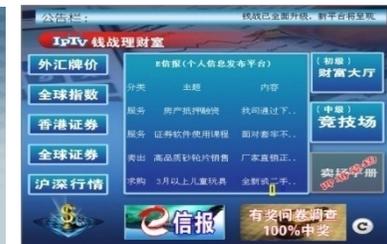
The “**DOMINATOR**” of the **SOUTHERN** part.
extremely rapid growth in Shanghai, Jiangsu, Guangdong, etc.



CTC's IPTV : Services

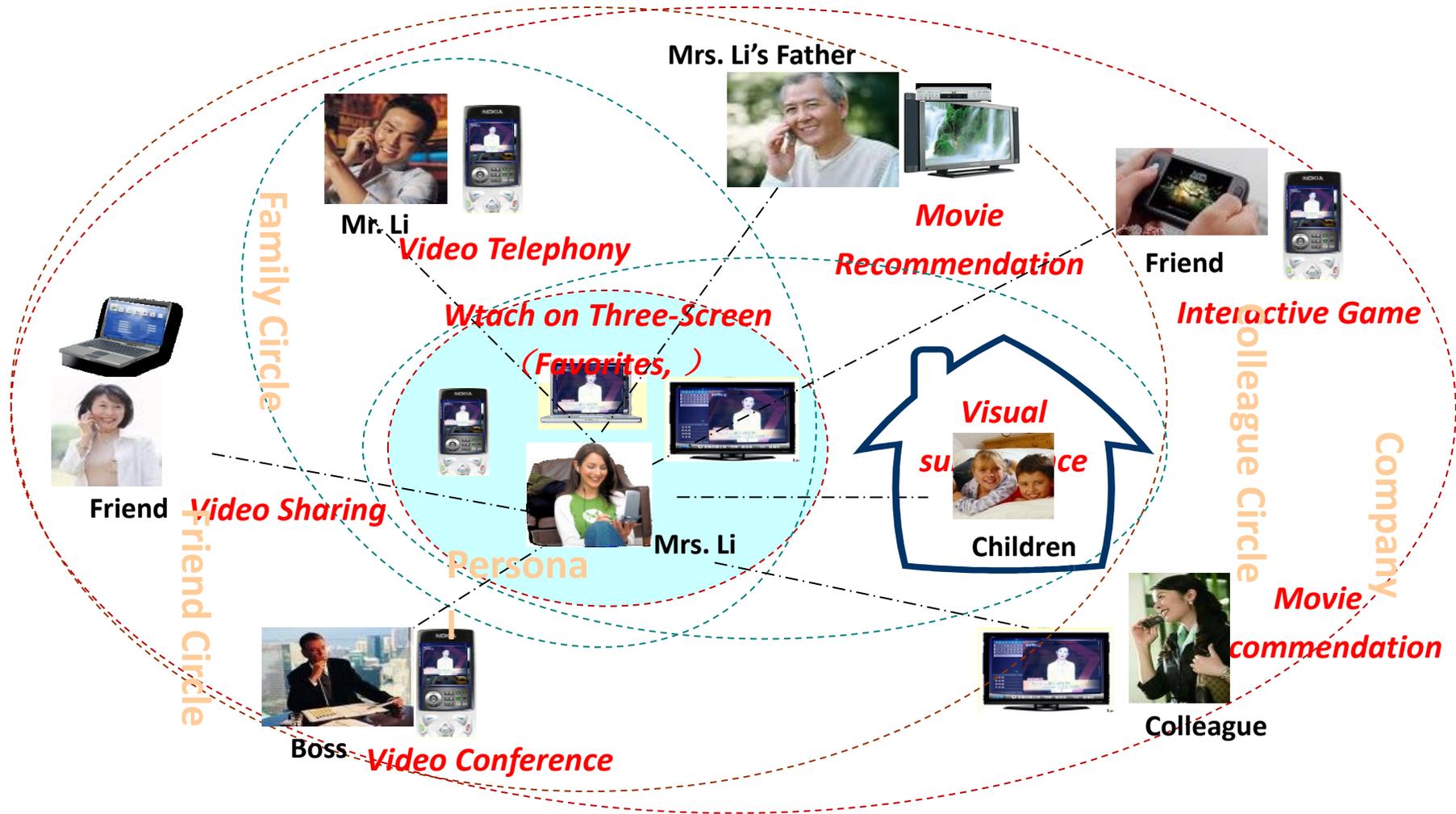


- ❑ **Live TV:** over 100 channels covers sports, news, entertainment, stock, etc.;
- ❑ **Timeshift TV:** 60min timeshift TV for all channels.
- ❑ **nVR for live TV:** 48h program recorded for all live TV.
- ❑ **VoD:** over 15,000h, including movies, TV series, live music and concert, etc.



Value-added Services

CTC's IPTV : About the future – Quad-play and more...



Facilitates customer content management of media coming **IN**, going **OUT** and **WITHIN** the home



Connecting all Appliances in the Broadband Digital Home

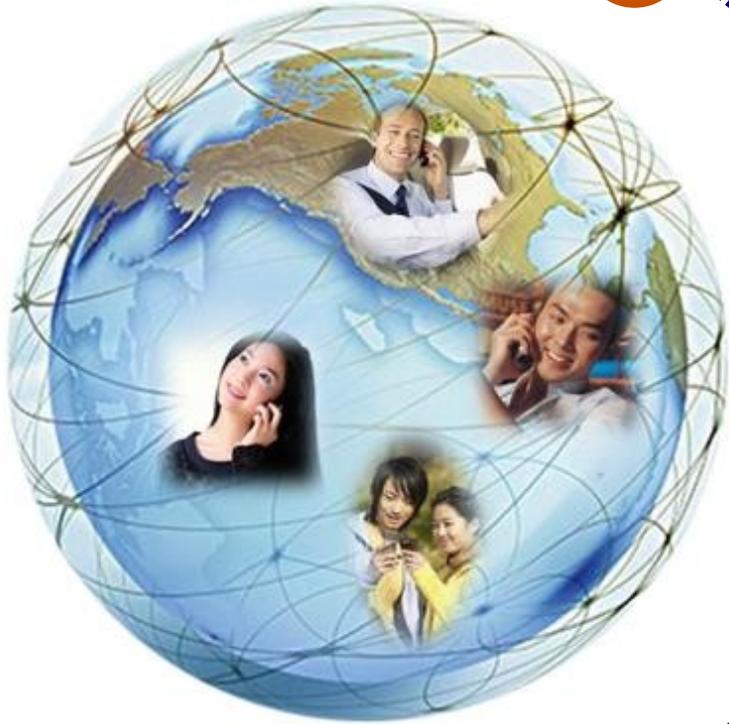
CTC's IPTV : First step in service convergence

'Surfing Video' covers mobile phone, PC, IPTV and panel devices.



II

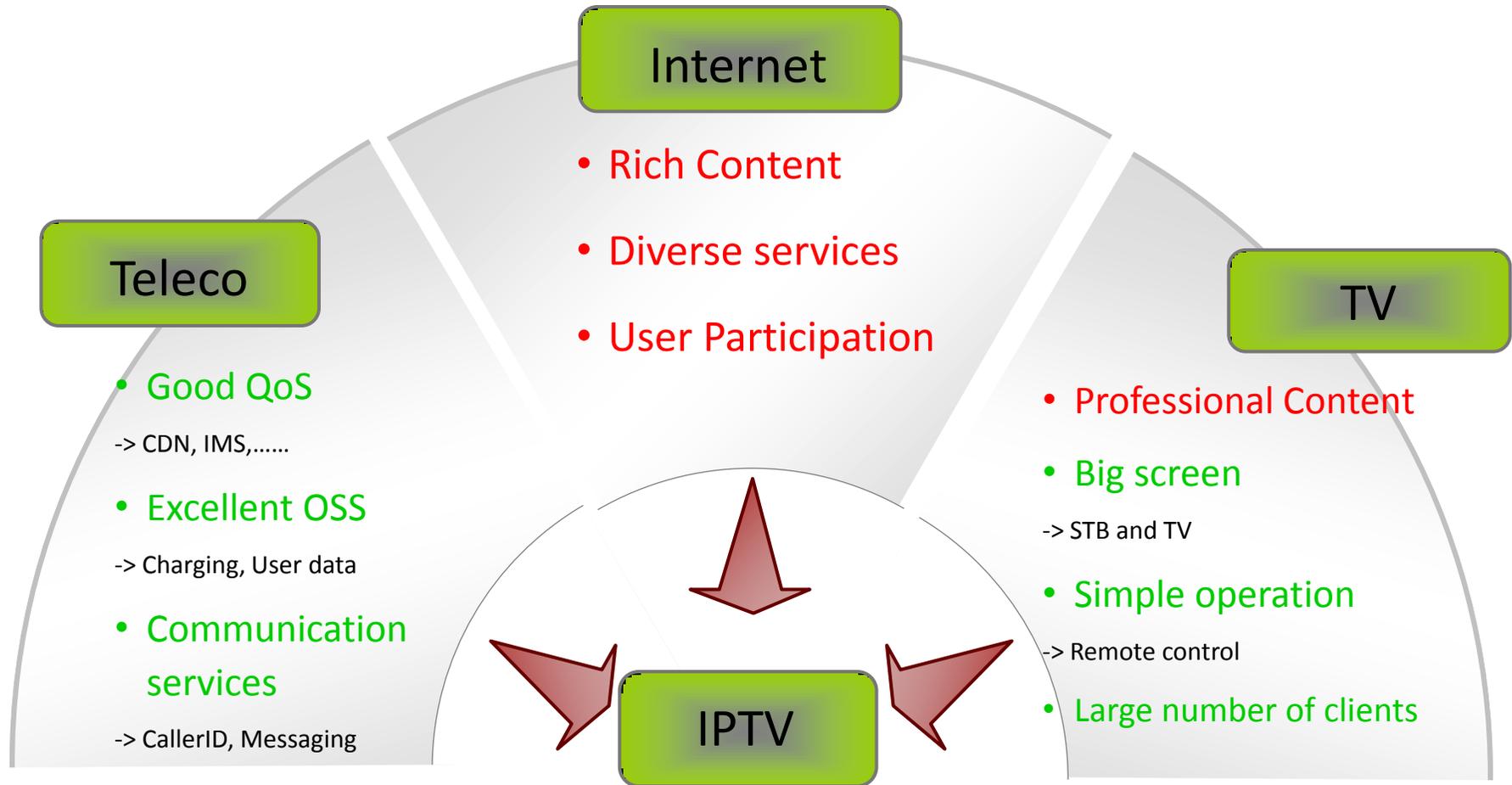
Something about the Web & IPTV std.



- web-tech used in IPTV.
- ITU-T's IPTV standardization

IPTV : a convergent service

Converged Telecom, TV, and Internet... provides advantages in IPTV.



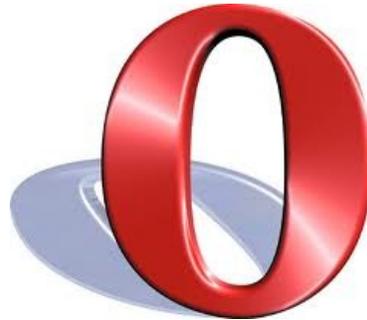
IPTV : web-tech plays an important role

■ The MAFR series:

- ✓ **MAFR.2(H.762):** Lightweight interactive multimedia framework (LIME) for IPTV services
- ✓ **MAFR.4:** Cascading Style Sheet for IPTV services
- ✓ **MAFR.5:** Document object model for IPTV services
- ✓ **MAFR.6:** ECMAScript for IPTV services
- ✓ **MAFR.10:** Scalable Vector Graphics for IPTV services
- ✓ **MAFR.11:** Worldwide TV markup language for IPTV services
- ✓ **MAFR.13:** HTML for IPTV services
- ✓ **MAFR.14:** Lua for IPTV services
- ✓ **WBTM:** Web-based terminal middleware for IPTV services

Yet..... It's hard to be harmonized

■ **Loose language organization:** without considering different web languages, even the same standard causes trouble in implementation and UE.



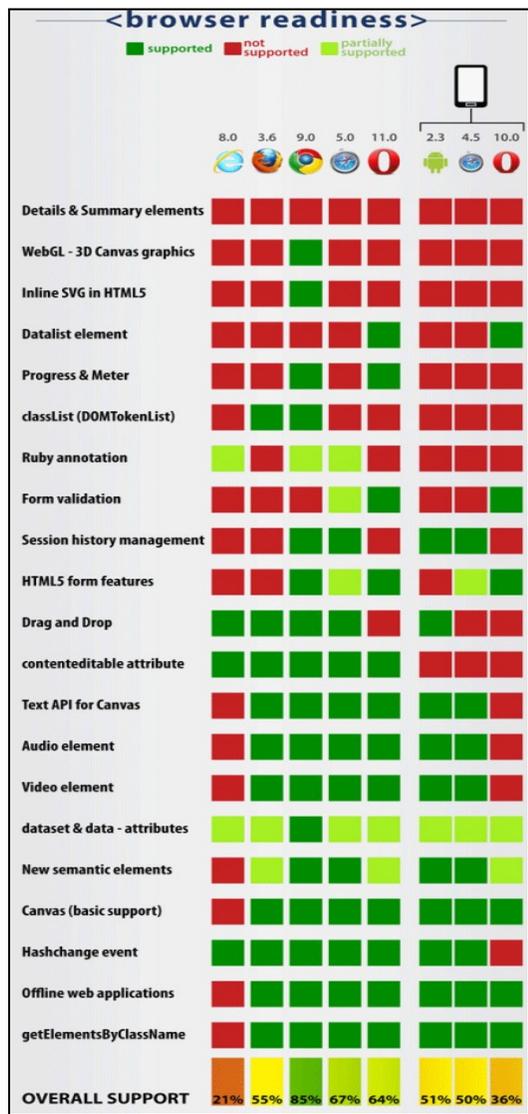
New challenges are coming in the way

■ HTML 5, CSS 3, Widget, etc. new techs bring better UE, but higher requirements than ever.



- Video/Audio
- database
- websocket
- WebGL
- Canvas
- SVG

- Animation
- Transition
- Text Shadow
- Multi font



Android: What can I do for you?

- Android provides an open environment for Application Developers, Service Providers , end-users.....
- Natural born web tech supporting due to the WEBKIT core...

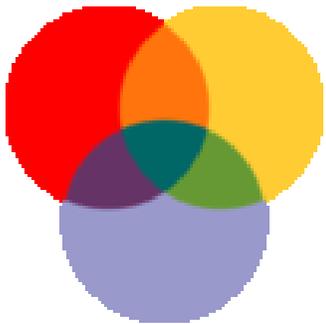


Honeycomb's supporting GoogleTV, will it be revolution in IPTV just like in mobile phones?

Standardization: It's just the beginning, never the end.



- Great job that ITU-T is standardizing the IPTV service related issues.
- Covering guideline for IPTV arch and detailed implementation too.



IPTV Interops

- Interops is the first step for standards' harmonization, but still long long way to go...
- More samples? More tools? Standard validator?

Anyway, IPTV is a BIG Challenge – yet Opportunity



Any Questions? Anything to SHARE?

