



Convergence

Technologies & Broadcast/Telecoms Synergies



Jean-Jacques DELMAS
TDF Scientific Director



Regulation



Today : three separate worlds

Telecom network

- Interested mainly by the support
- International rules (ITU & WARC)
- Spectrum war (and price war ...)
- International competitive market
- Private content
- Contents not regulated (Internet)

Broadcast network

- Interested mainly by the content
- National rules
- Free spectrum allocation
- Two sectors : public/private
- Mass media content
- Contents regulated



Internet and multimedia

- Interested mainly by the content
- +/- No national rules
- Two sectors : public/private (internet/intranet)
- mass media content

2004 : new regulation environment :

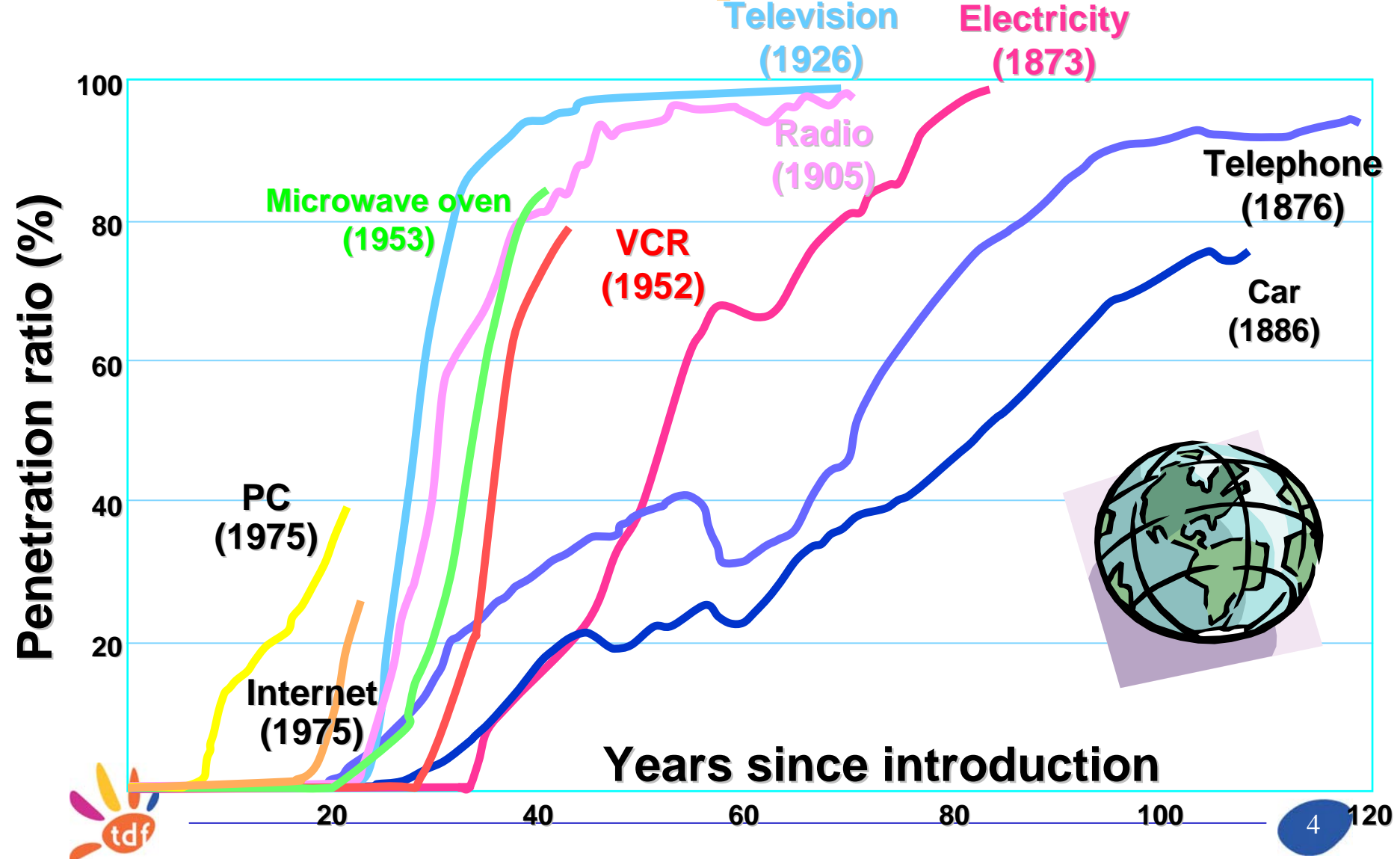
« TELECOM PAQUET »

Convergence & technologies

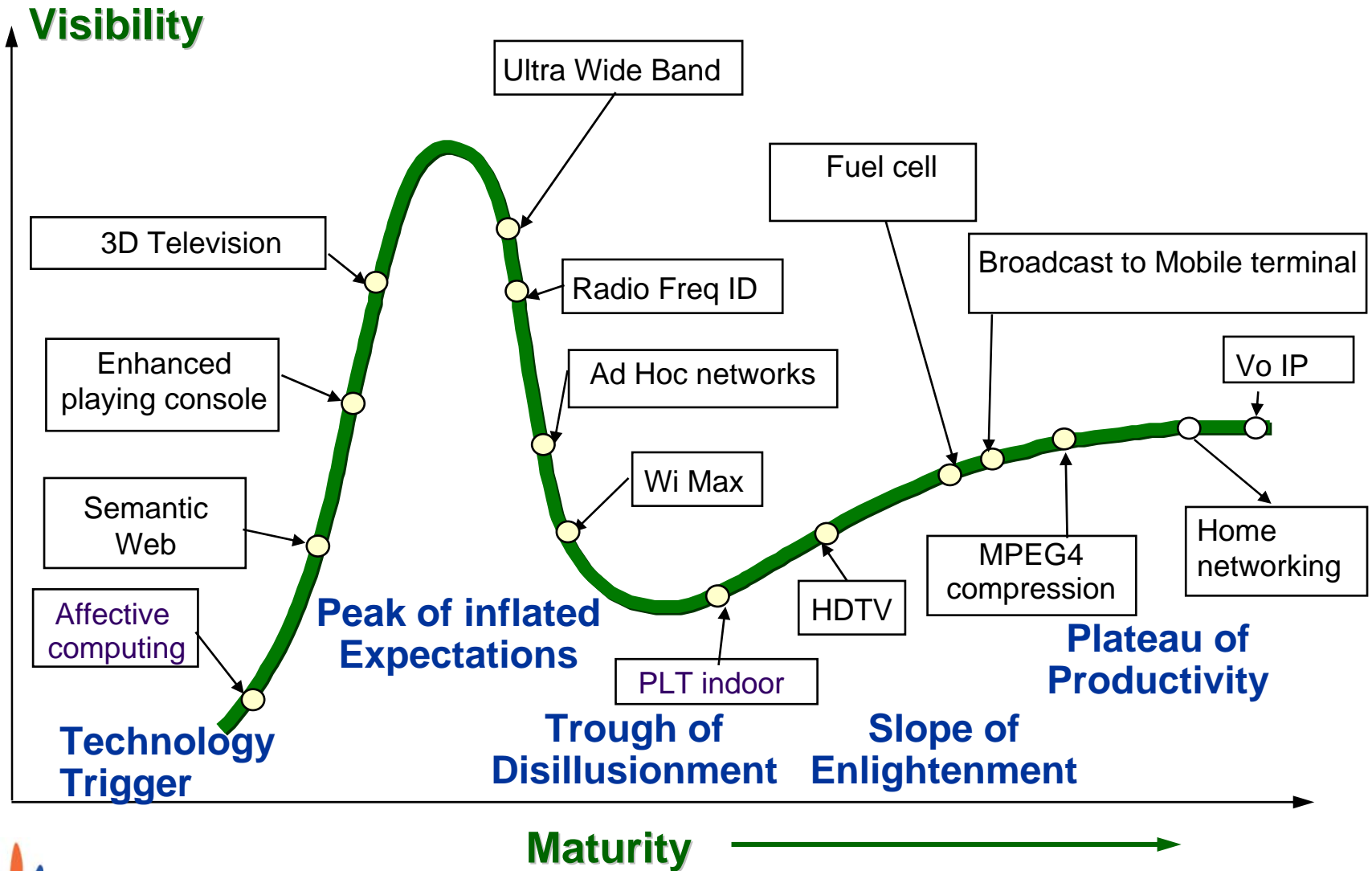


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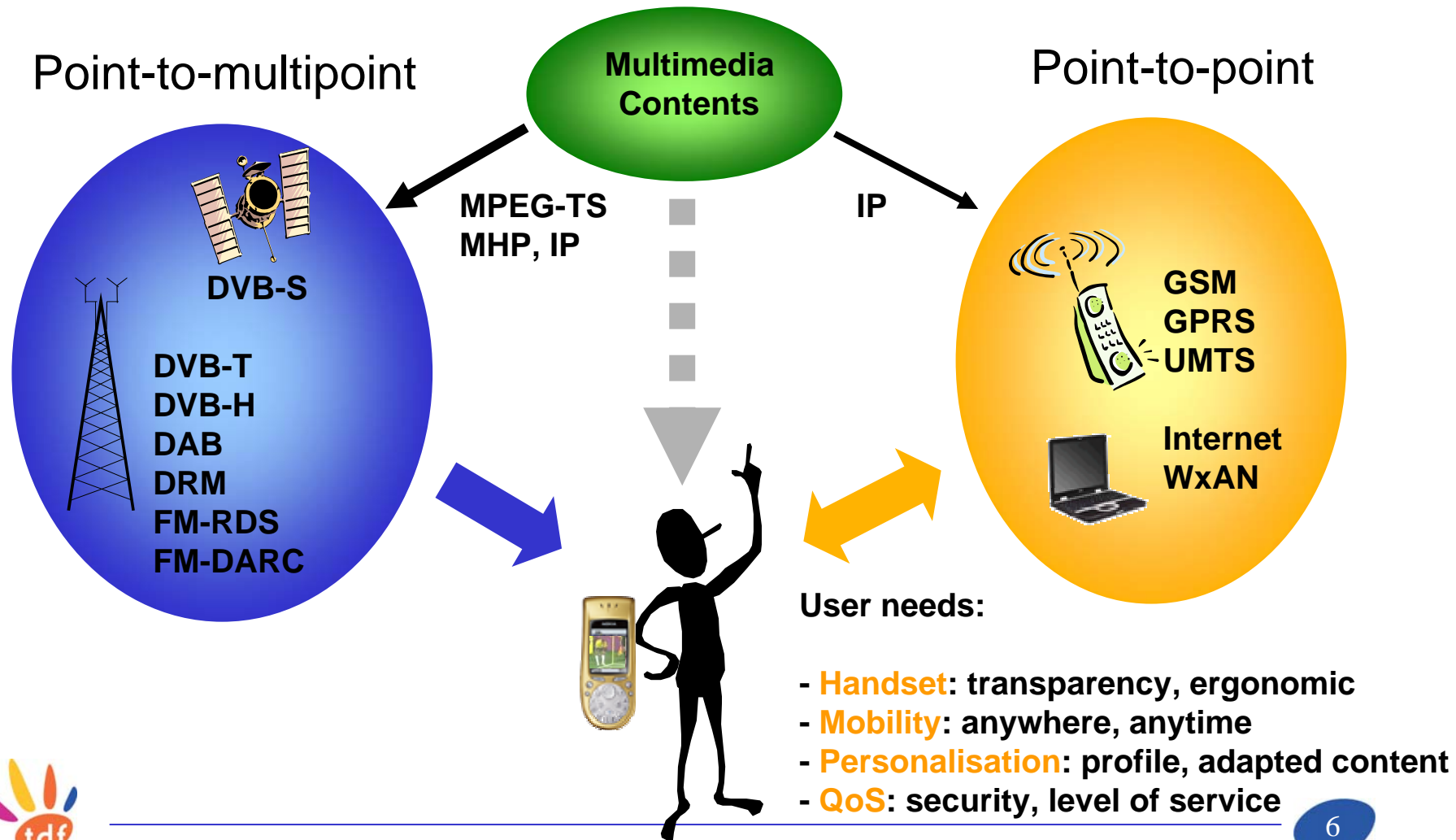
accelerated penetration



Hype Cycle

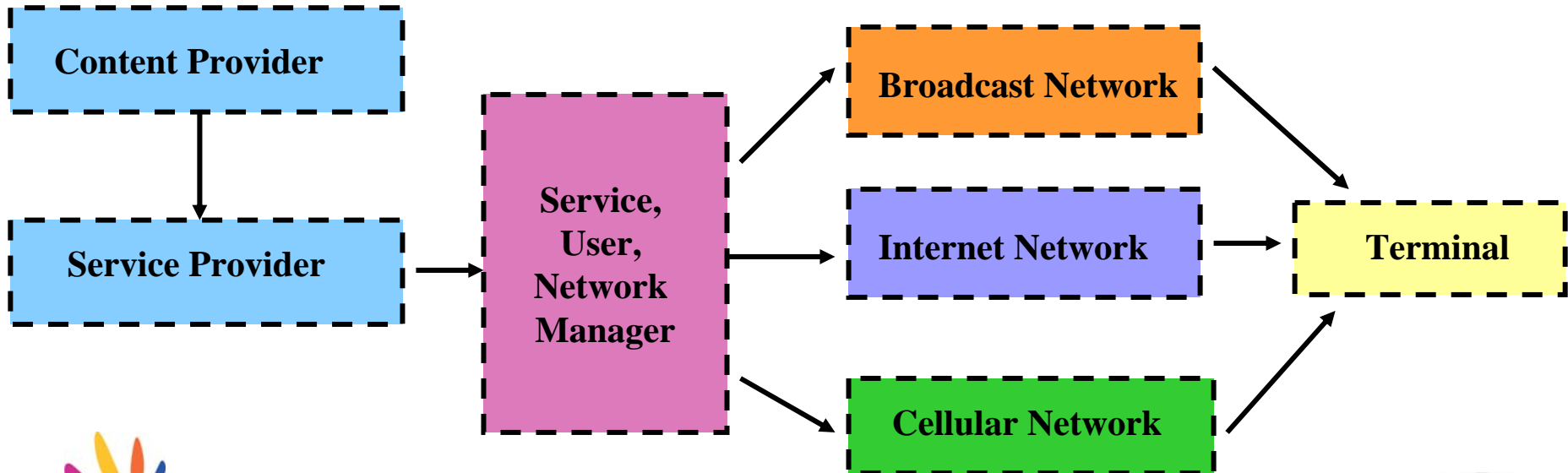


Scope of the broadcast/telecom synergy



Architecture

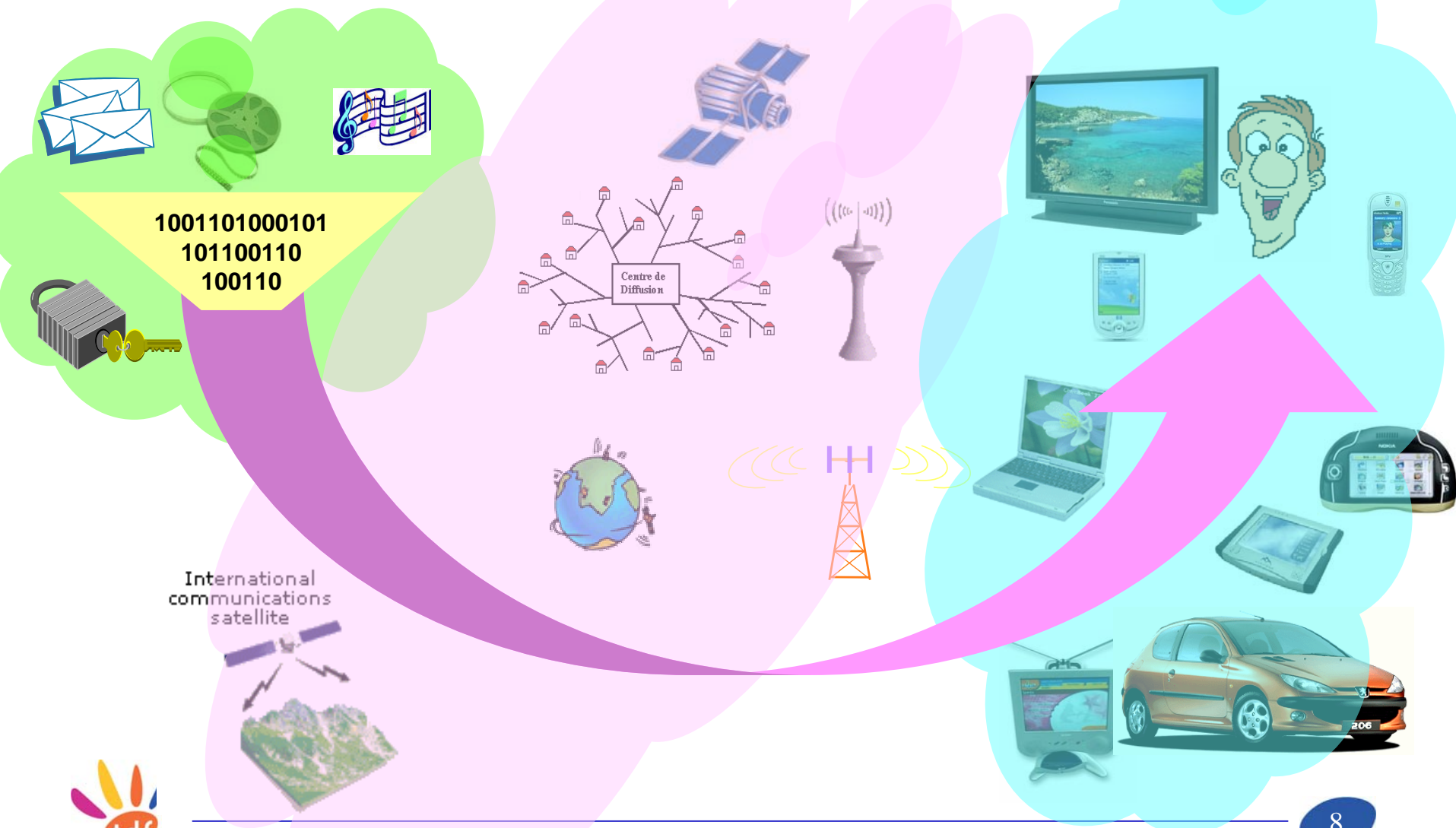
- Pragmatic end to end approach, based on present or near-future operational infrastructures
- Combination of broadcast, telecom and internet network infrastructures
 - Only multicast contents transmitted on the broadcast link
 - Legacy cellular and internet networks used for exchange of unicast contents

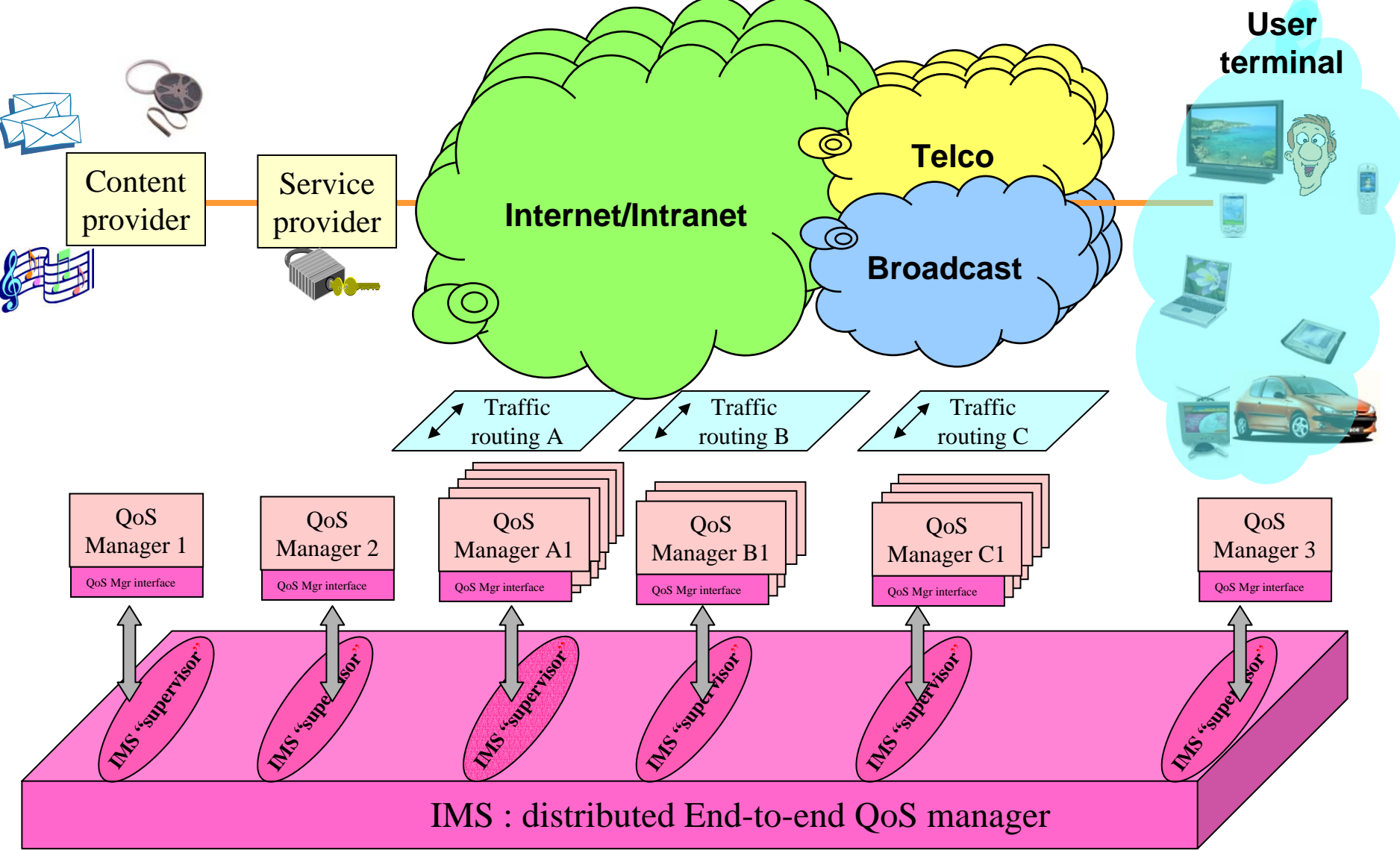


Services and content

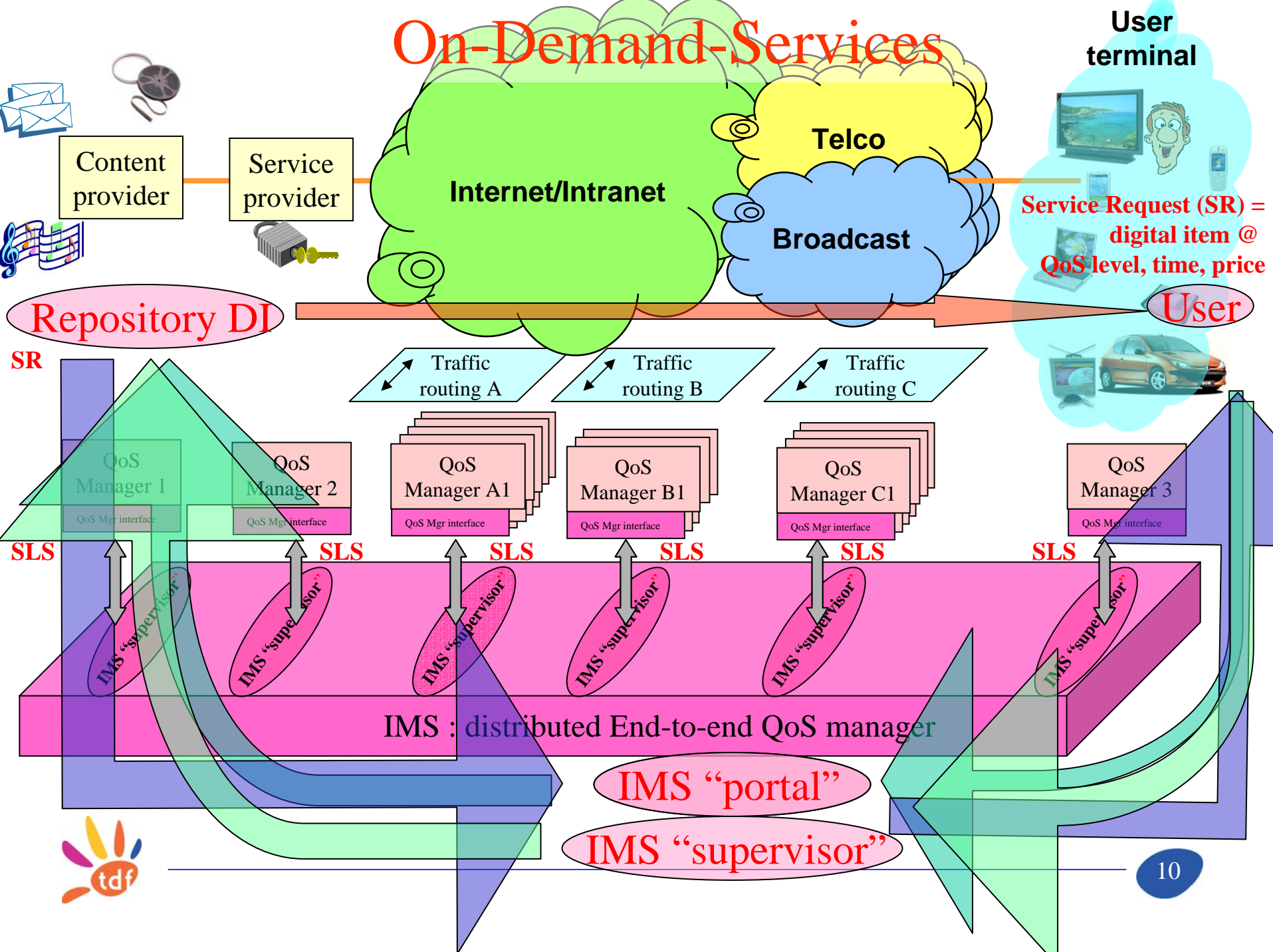
Networks

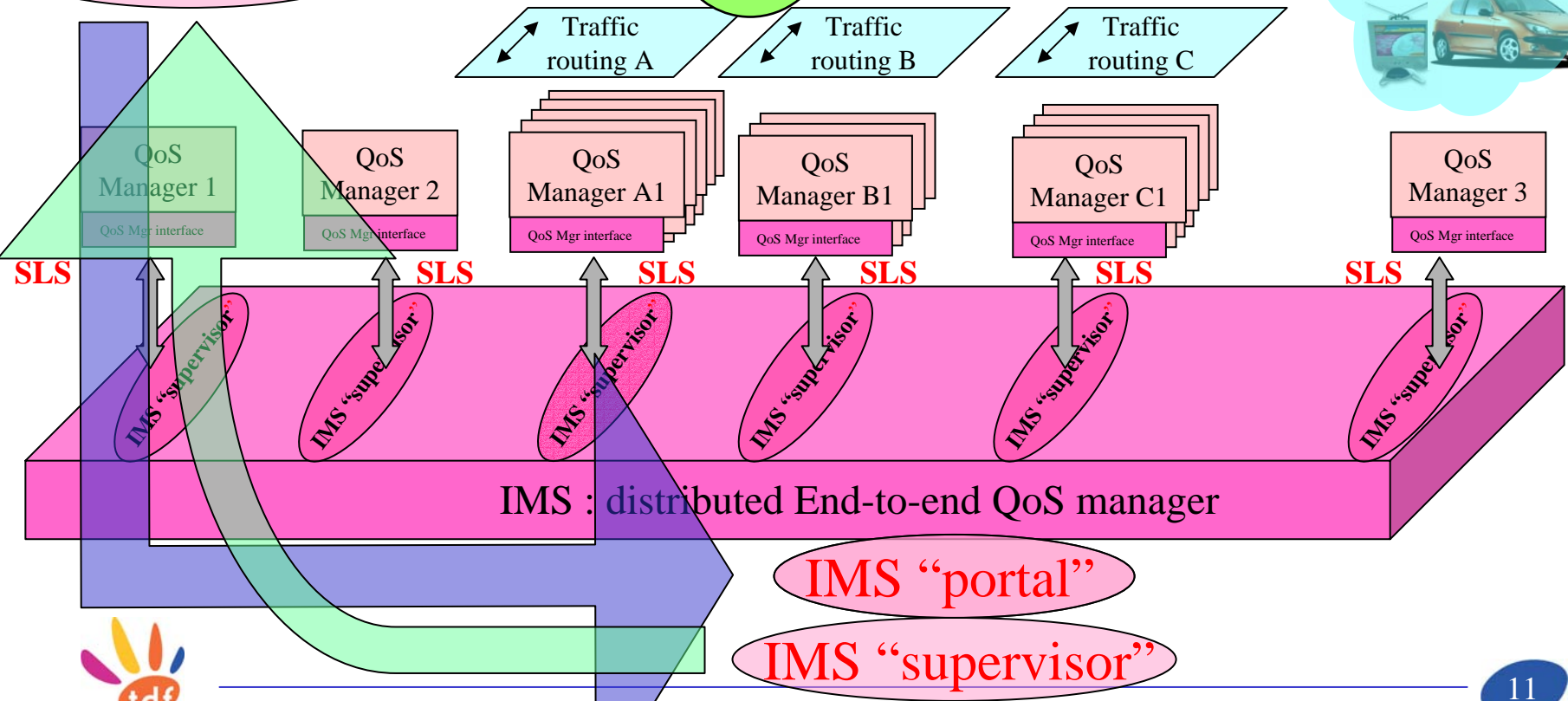
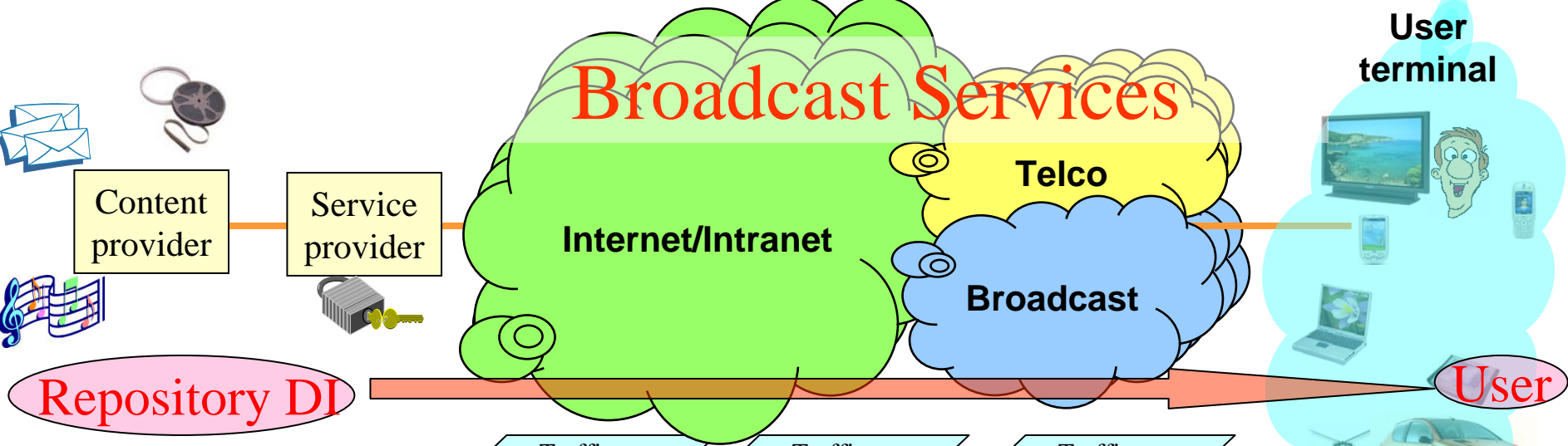
User terminals





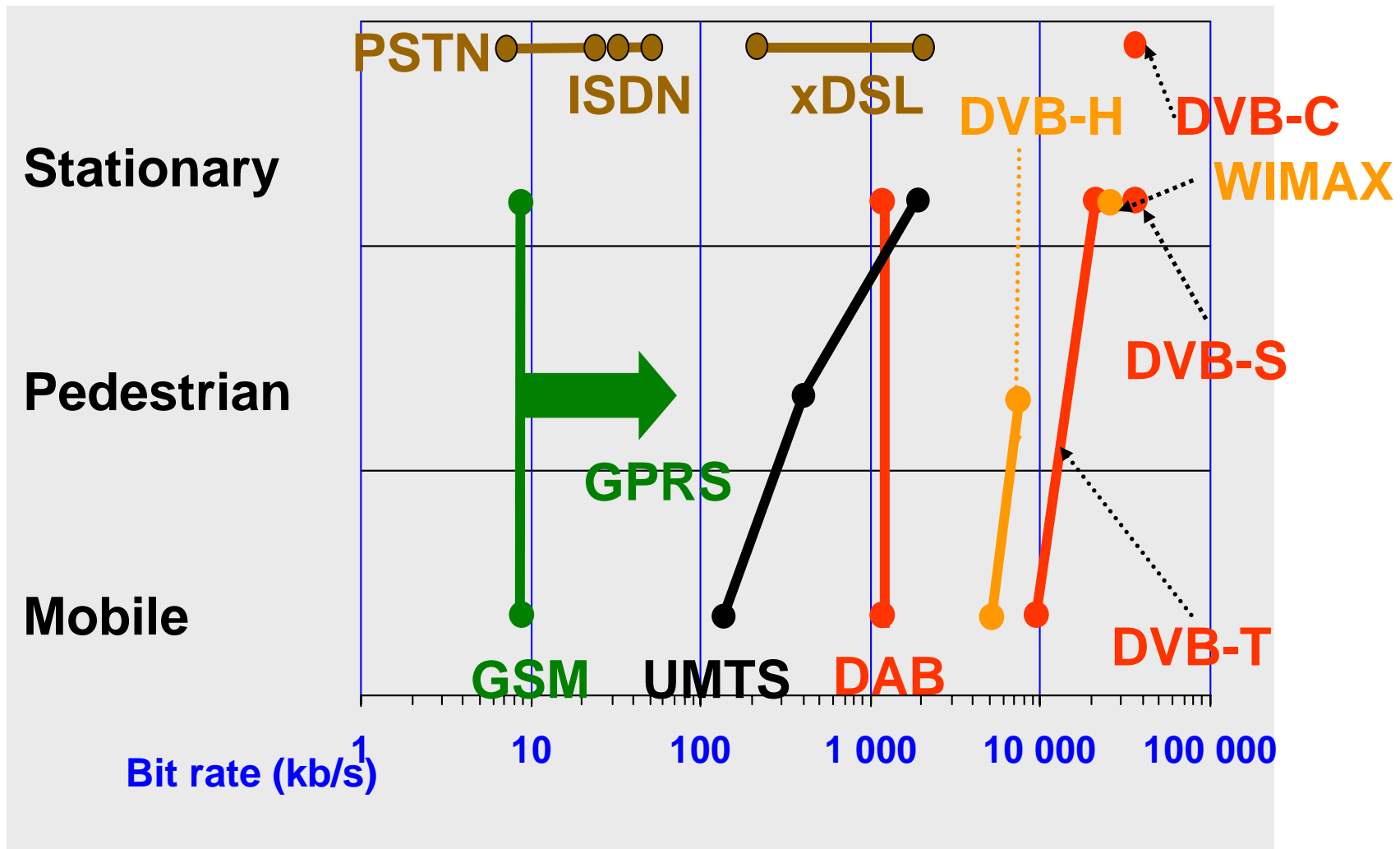
On-Demand-Services



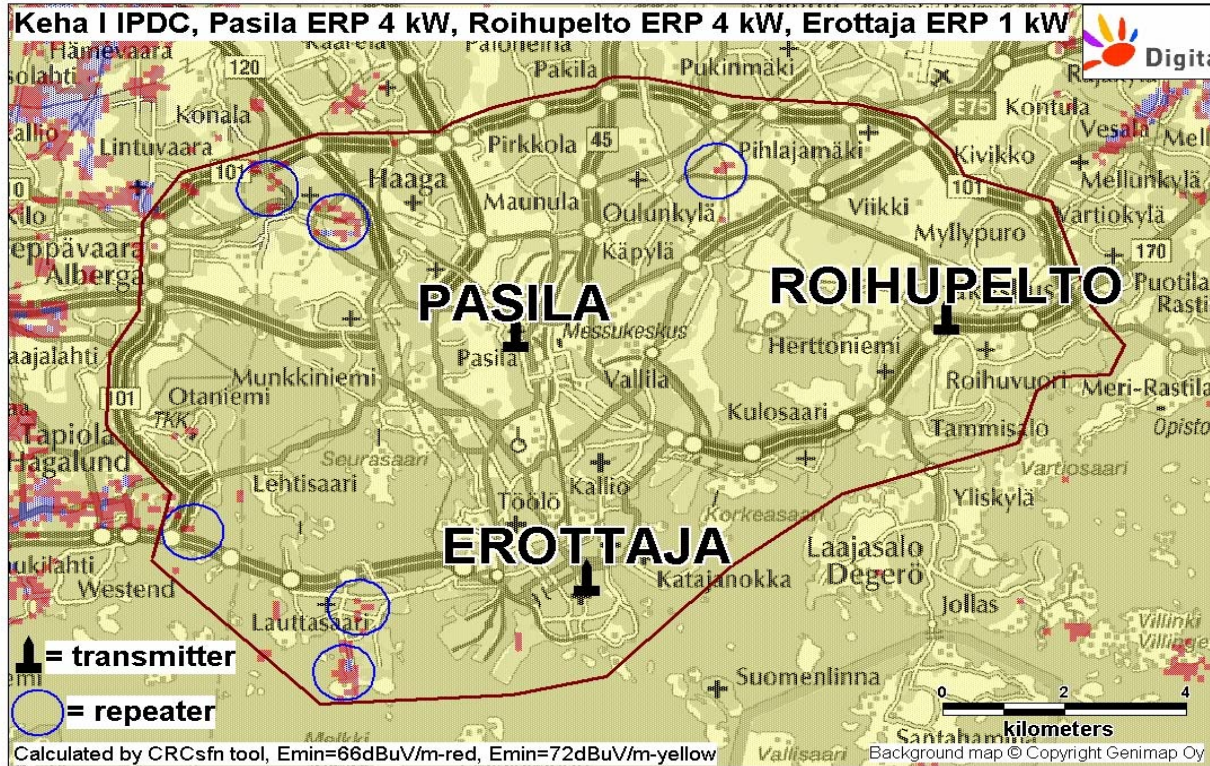


digital item, service level, time, geographic area

Convergence



Finnish Mobile TV DVB-H case



NOKIA

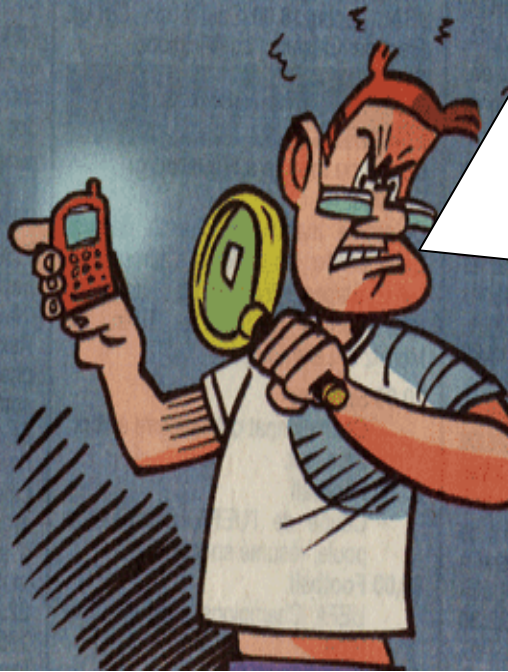


15 km



Conclusions

- **Convergence : networks collaboration for services dedicated to mobile and nomadic terminals**
 - DVB-T, H, DAB, DMB ; GSM, GPRS, UMTS ; Wifi, Wimax ; ...
 - Display formats for rich media services (join “production world” and “display world”)
- **End to end QoS**
 - e2e QoS : end to end approach of an enhanced concept of the QoS (including, QoS evaluation, mapping with network configuration, DRM , ...)
- **Intelligent Transport**
 - EFCD (Enhanced Floating car Data), collaborative systems, ...
- **Beyond 3G**
 - New methods and technologies for optimum spectrum management at the analogue TV switch-over and the migration to the Digital TV, ...
 - Software radio (polyvalence of networks and terminal and dynamic frequency allocation) more effort to put on physical layers for intelligent networks
- **Universal protocol**
 - IP, extended addressing, security, mobility, QoS management,...



Could you please switch off your mobile phone when I am watching TV ?

It is sufficiently difficult to see picture on such a small screen ...

Conclusion : still some work to be performed

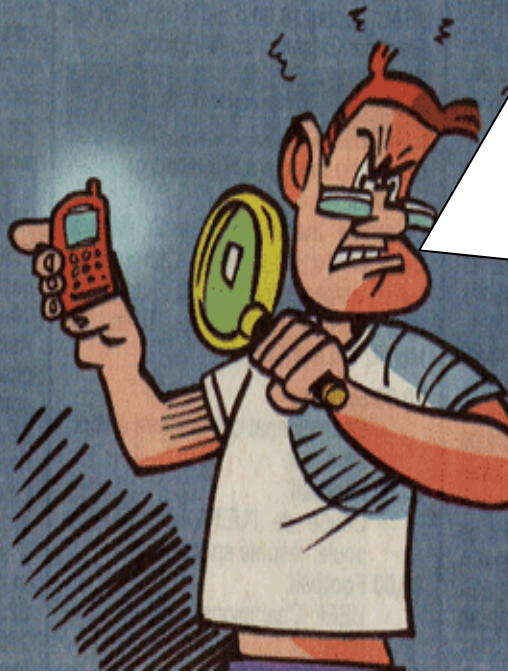
Thank you for your attention



TDF Expression of Interest

- **Convergence : networks collaboration for services dedicated to mobile and nomadic terminals**
(DVB-T, H, DAB, DMB ; GSM, GPRS, UMTS ; Wifi, Wimax ; ...)
- **End to end QoS**
(including DRM, content management, HD, MPEGxx, metadatas, ...)
- **Intelligent Transport** (Enhanced Floating car Data (EFCD), collaborative systems, ...)
- **Beyond 3G** (new methods and technologies for optimum spectrum management at the analogue TV switch-over and the migration to the Digital TV, smooth transition analogue to digital, ...)





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& Thank you for your attention

Contact person : Dr Denis ABRAHAM
denis.abraham@tdf.fr