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Mobile Broadcast - just TV or new services?

The EU funded R&D perspective



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Demosthenes.Ikonomou@cec.eu.int
DG Information Society (INFSO)

http://www.cordis.lu/ist/directorate_d/audiovisual/index.htm

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Broadcaster and wireless operators share **common** objectives

- Reduce overall costs and maximise efficiency in terms of network;
- Spectrum efficiency;
- Increase Quality of Service (QoS);
- Make improvements on services usability and seamless experience;
- Enhance existing services and provide attractive (multimedia, MM, based) new services;



Providing rich MM service with 3G

- At least in the middle term, UMTS will not be able to provide sufficient throughput per user at a reasonable cost;
- The cost per MHz for European 3G operators is between 0.1 and 0.5 billion €;
- UMTS (Release 99 and 00) is not expected to “scale” for mass-market content delivery of rich MM services;
- The recently formed (operators- led) Super 3G group is an indication also to the above;
- According to a recent article by Nihon Keizai Shimbun, NTT DoCoMo would need to pay out some JPY100bn (\$959m) to upgrade its infrastructure for Super 3G;



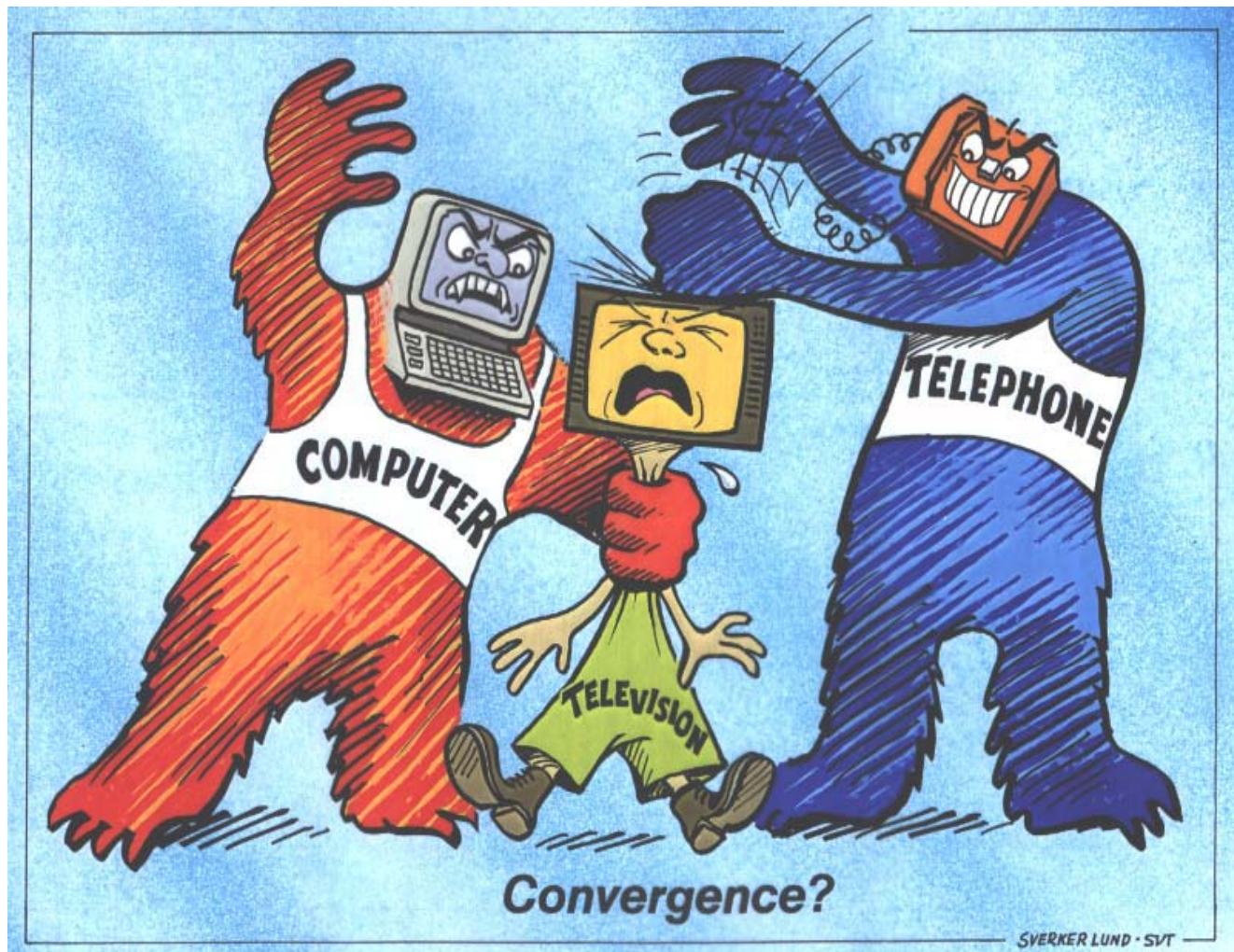
Cellular and broadcasting networks co-existence

- Although the benefits of such a co-operation (or **co-existence**) are/were obvious, but...
- Broadcasters tried to defend their UHF spectrum (e.g. WRC 2000 results);
- Cellular was/is perceived as a "convenient" return channel that will enable the broadcasters to enhance their service offering;
- While the mobile operators are mainly devoted to UMTS deployment;
- trying at the same time to recover the huge licensing costs of 3G;
- However, pressure on broadcasters to give up part of the UHF spectrum (in relation to the analogue switch-off) may increase;



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Co-existence instead of convergence



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Delivering TV services to handheld devices

- 3G subscribers can already watch some video clips;
- Too early to say whether it will be a “killer application”;
- Trials by Nokia and Vodafone, indicate that 80% (40% in surveys conducted by Sony Ericsson) of users were willing to pay up to 12 €/month for such a service;
- Consultancy A.T. Kearney estimates that consumer spending will be up to \$20/month for mobile TV in the US while the estimates by Yankee Group are less optimistic;
- On average, people are expected to watch 3-15 minutes of mainly news, sports and music TV mostly while commuting;
- Asian users have been quicker to embrace mobile TV;
- Recent research by Jupiter suggested that only 13% of Europeans wanted to watch video while on the move.
- The fact that Europeans are far larger public transport users than Americans is one reason why portable media may take off;



Objectives of a mutual beneficial co-existence

- Take advantage of the existence of various bearer services selecting the most appropriate combination of networks to provide the requested service at the best cost;
- Complex decision making process based on user and networks requirements such as load, QoS, cost, etc.
- Improving the user experience will contribute to the benefit of all sector actors;
- By the definition the "composite networks" concept favours open service instead of vertical models;
- Enabling an optimum use of spectrum aiming towards flexible spectrum allocation in the long term;
- Increased ability to cope with the creation of traffic hotspots (e.g. emergencies, sporting events, etc.);



Challenges ahead

- Create an effective network co-operation framework;
- The role of middleware is crucial in order to ensure the seamless service provision user experience;
- Need for an independent distributed management architecture;
- Need for a change of commercial practices by wireless operators and broadcasters (e.g. network traffic information)
- Regulatory framework and spectrum licensing;

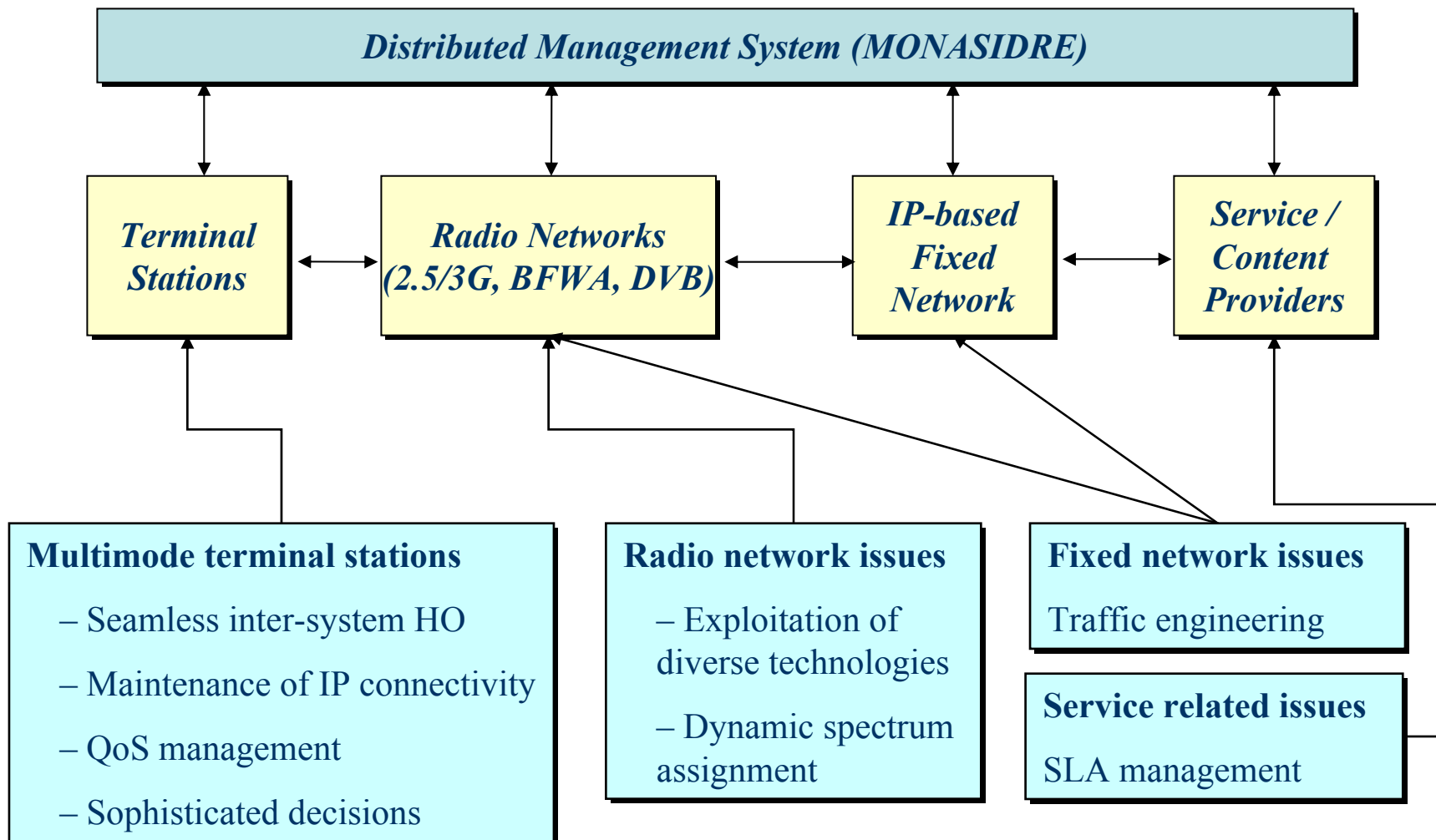


EU funded R&D on composite networks

- Since the 4th Framework Program (ACTS) R&D projects are investigating the main aspects of composite networks (e.g. MEMO, M3A, MCP);
- Research work continued in the context of FP5 (CAUTION++, MONASIDRE, DRIVE, OverDRIVE) and continues until today (e.g. INSTINCT);
- Starting from investigations of vertical handover research evolved to dynamic RRM, dynamic spectrum management and sharing/pooling;



An example: IST MONASIDRE (FP5)



Conclusions



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- Although the market success of TV services to mobile terminals is yet to be proven the co-operation of broadcasting and cellular bearers is expected to enhance the wireless user experiences and improve/optimize the network operation for both cellular operators and broadcasters;
- It will enable the provision of good quality rich MM to large user groups;
- Moreover, it will open in the future opportunities for advanced and dynamic RRM and even flexible spectrum allocation;
- The research investment in the area by EU funded programmes is significant;
- Traditional business approaches and regulatory regimes may pose obstacles;

Relevant information



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Audio
Visual News



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http://www.cordis.lu/ist/directorate_d/audiovisual/pub/newsletter.htm



14th IST Mobile & Wireless Communications Summit Dresden 19 – 22 June 2005

<http://www.mobilesummit2005.org/>

- The closing date of 4th Call for proposals of the IST program is 22/3/2005.
- An information day for Strategic Objectives addressing the area of Communications, Networks, Security and Software applications will take place in Brussels on 17th January 2005.

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