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Preparing for the Multimedia Future-
Changing Telecomms Culture in Europe

Background

Multimedia means many things to many people. Some focus on a plethora of TV-channels + text, data and voice over cable-TV net-works. Others consider simple modem communication over copper wires enough to qualify. Obviously any digital bit-stream can com-bine voice, data, text and images. However the heart of the concept is a matter of new interactive software .enabling the synergies needed for producing really new and useful, or at least, entertaining services. On the long list of list of possible applications are enhanced education tools, tele-commuting and more efficient communication within and between businesses.

The methods used to pursue these new opportunities obviously depends on who you are. Cable companies vs. Cellular service providers have access to quite different launch pads .

Even more important, but sometimes forgotten in the race on the Information Highways, are customer reaction and willingness to
pay. In which scenarios are they to get more for less money as opposed to pay new money for new services?

Most technologies are available in any country. However, the actual service offerings and their outcome can be expected to be wildly different not only between US and Europe, but also between countries in Europe. They differ on historical levels of deployment of voice telephony, Cable TV (CTV), cellular networks etc, but also with respect to pace of liberalization. What is perfectly possible combination of services in UK or Sweden might be strictly forbidden in other European countries for some years to come. It seems premature to speak of any common European Culture in the Communication sector until1998 at the earliest.

Existing differences can prove to be a disadvantage for developments in Europe compared to US. However, even if Clinton/Gore now proposes the dismantling of historical borderlines between Voice, CTV and Cellular networks, the US still suffers from an over - abundance of regulatory distinction in services hampering the introduction of new innovative services.

It would be rather ironic if European legislators were to hardwire the markets , in a time when US legislators are working hard to get out of such a " cul-de-sac". Free competition has to able to cross any borderline.

After all, even the classical PTT-monopolies had the (at least theo-retical) virtue of not being tied to the use of any specific technology, be it copper-wire, optical fibre, cellular or satellite. That absence of competition can lead to misguided defence of sunk costs in old

tech-nology is another story. Examples can be found not only in Europe - but also in the US.

My conclusion is that a piecemeal introduction of competition can prove to be counterproductive. Introducing competition only within some segments of the market, such as only in Cellular or CTV-services , or only in long-distance as opposed to the local loop is bound to give customers less, and unduly costly choices. To remove any borderlines both for the newcomers and the incumbents will pave the way for needed innovations, as well as for more sustainable investments (as opposed to opportunistic).

The options - seen from the providers point of view

-As a CTV-operator you might prefer to add services giving extra revenues on the investments already paid for. Utilizing the same ducts means important cost savings, even where extra wiring is needed Where permitted adding not only datacomms but voice telephony are obvious candidates.

-As a POTS-operator the option to get extra revenues from your installed base of copper-wire by Video-on-demand is equally attrac-tive. After all, large portions of the pop in Europe (80% according to the recent Bangeman report) don´t have access to CTV, and many might "never" get it.

-As a Cellular Operator adding the option of one way(or even two-way) text/data incl fax communications means extra value in your race for customers. The addition of paging and text communication options are already a feature of some GSM-terminals.

This might prove to be attractive not only for those on the move, but also as a second mainline back home. In countries open for compe-tition also in the local loop (at this point of time only UK and Sweden) this version of PCN might well replace also the first main line.Given the dramatic progress of compression (bit-rate saving) technologies the prospect of providing wireless multi-media, including some two-way video communications is by no means outlandish, provided higher radio frequencies will be made available.

-As a PC , or software, vendor the provision of at least some multi-media" features are a must in your market offerings. The standard features , above CD-ROM, are 2x 64 Kbit/s desktop video plus file sharing plus voice telephony. The war between proprietary vs.open standards is on.

-As a Lap-top vendor you have reasons to provide wireless connec-tion to your computers. A good sales point at least to roving managers relieving them of the hassle of adapting to the wildly different shape of wire-line sockets(if any) in the hotel-rooms in different European countries.

-As an Alternate provider, with no costs sunk in networks already built, you might bid for more radical solutions, such as "cable-less CTV" and/or two-way broadband services over radio. Or simply
avoid any investment in physical networks, but focus on your
abilities in other areas such as content programming, billing etc.

The choices as seen from customers point of view

The choice from the customers point of view (sometimes forgotten in the Race on the Information Highways) might differ not only between individuals. The choices actually available are rather varying from country to country in Europe.

Lower price for services you already use (such as CTV+ Voice) is the easy choice. Available only in countries permitting however.
- Other options, such as enhanced ("multimedia") GSM or enhanced PC providing "desk-top multimedia" might be more widely available in Europe as part of the package to most customers, unless they insist of
getting the plain vanilla version at the lowest price.

- Asking customers to pay more and new money for new services is a different ballgame though. **Video-on-demand(** VOD**)** and **Pay-per-view** (PPV) offers added choice and convenience. The pricetag will decide whether these are mass, rather than niche, markets. "**Virtual Reality**" (VR) is still in its infancy. Perhaps creative third parties, such as ad agencies, can help financing the migration of novelties to more everyday realities.

Europe vs US

Europe has a number of disadvantages compared to US. For a start -standards still differ between countries also on small but crucial items such as plugs and sockets for telephony and electricity - making wireless communications (GSM, DECT, Hermes) even more attractive for seamless communications in Europe.

Equally important is that the starting points differ quite dramatically.
Some countries, such as the Netherlands and Belgium has a historically record high Cable penetration, but relatively low use of cellular. Germany has had a rapid uptake of CTV, but until recently an almost non existing cellular use. France is low on both CTV and cellular, but among the leaders when it comes to wire-based telephony and datacomms. UK has a high penetration of cellular, but still lower compared to the Scandinavian countries. By contrast, Southern Europe has still a growth potential when it comes to basic telephony services.
In some countries, such as UK and Sweden , many customers might have a (relatively) wide choice. Selecting between operators for your voice services, and others for your datacom , cable and cellular services etc. Or a "package" deal if available (and permitted by the Competition Agencies).

Obviously, there is no one and only path in "Changing Telecommuni- cations Culture in Europe" (to refer to the title). Each country have good reasons to build on its rather unique platform/strength. It might be a highly digitized network in some countries, CTV in others, Cellular in still another etc.

Telia, for one, should know being a partner in the Unisource Alliance together with KPN in the Netherlands and Swiss Telecom.
Target is to provide " truly Pan-European services", as opposed to theoretical standards.

What is available in Sweden - l994 and beyond?

Some 60 % of the households have access to CTV, others might "never" have it. Living in a sparsely populated area implies buying your own satellite dishes as the cost-effective way to receive the full array of TV-channels.

About 30 % of the households in Sweden are already in tune with the use of a cellular terminal. In the city of Stockholm the penetration is even higher- more than 50 % of the households, or 20 % of the pop. There is a choice between three nation-wide GSM-networks, plus two nationwide analogue (NMT) -networks.

Given the continued rapid growth the idea of 9 out of 10 Stock-holmers using wireless rather than wire-line services by year 2000 is by no means unrealistic. This creates abundant opportunities to provide also data and text and at least some limited video options for those on the move.

- The progress of wireless services in Sweden are obviously not hampered by the historically record-high penetration of wire-line services- now at about 120 mainlines per 100 households. Or about 70 mainlines/100 pop.

The corresponding figures for UK are a bit lower compared to SE, but they follows a similar pattern reflecting customer choice. Mobility is key, reflecting customers preference of freedom with respect to time and space. CTV has had a quite lower take-up in UK compared to Sweden. Will Video-on-Demand and Pay-per-View provide more of the needed freedom, compared to plain and passive distribution of TV-channels? In the next phase will more truly two-way interaction between users and providers be the trigger to growt, as opposed to sheer one-to-many distribution of ready-made TV-programs?

Anyhow, markets where customers have a real choice is bound to tell more about the options for sound investments than any technology forecasting exercise.

- A case in point : How is Telia preparing for multimedia?

- For a start all the obvious measures to get its basic network up and ready for flexible service offerings. A national optical fibre back-bone (2,5 Gbits/s) plus fibre-rings in the cities already up and running. SDH plus ATM to cater for increased demand for flexible, high bit-rate capacity. VOD (Video-on-Demand) trials another obvious step, like deployment of flexible IN-nodes. By l997 this will be available to 100% of the customer, compared to about 70% by end l993.

-."Desk-top Video" over 2 x64 Kbits/s (or ISDN) has a rapid take-up, providing a basic, but workable " multi-media" option at low cost.

. Telia´s CTV subsidiary (Svensk Kabel-TV) launched Pay-per- View services in May l994 among the first i Europe.

-. Telia´s Cellular subsidiary (Mobitel) is launching integrated text and fax services as part of its GSM-offerings. Support tor wireless connections for Lap-Top Computers to cellular networks another part of the offerings , as is the Mobitex network for more specialized datacom needs.

These and other services are however only targeted to provide the needed launch pad for more truly Interactive Multimedia services , which have to be developed and marketed in close cooperation with players not in conventional telecomms. Further cooperation with software companies, computer vendors and content providers are key to any new service customers might find worth paying for. Telia, like other telecom operators working in a competitive market has good reasons to encourage partners to use its launch pads, making them as attractive and available as possible for field-trials etc.

So far planning. The market will be the judge.

Some background data.

- Sweden has a mere 9 million pop, and about 4 million households on an area of 450.000 Sqkms, which means 19 pop/ sqkm. About the same density as US, but much lower compared to UK, and most othercountries in Western Europe.

- The number of telephony mainlines is about 6 million, the number of CTV customers about 2,2 million, the number of cellular customer higher than 800.000.

- Among the Telecom Operators active on the Swedish market are not only Telia but:

- In the voice telephony and datacomms markets: BT , **France Telecom** and Tele 2 (40 % owned by C&W, 60% by the Kinnevik Group)

- In the cellular markets: **Europolitan** (51% owned by Air-Touch, 25 % by Vodaphone) and **Comviq** (mainly owned by the Kinnevik Group)

- In the cable-TV markets : **Kabel-Vision(** with TCI, Time-Warner and US West as owners together with Kinnevik), **Stjarn-TV** (with Singapore Telecom as the designate new owner, and switched voice telephony on the agenda).

Thus, Telia has a presence in all three areas, and so has its domestic and international competitors.

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