

Why "Seamless" ( is important right now))

This workshop was originally conceived as a rather small-scale meeting of minds in preparation for a longer term joint research program engaging researchers from Japan, US and Scandinavia with engineering as well as more user-and market oriented backgrounds.

We are of course happy that so many from different countries and research orientations have joined, even if this means that the time schedule for presentations will be very tight indeed, especially on Saturday. We have tried however to preserve as much time for panels, dialogue and informal discussions as launching pads for further joint progress.

Why is it that "Seamless" has become so much in focus for researchers right now? No longer just an academic long-term vision - but simply a practical challenge to tackle head-on and asap in order to meet the requirements of the users and customers of today?

Possible answers can be addressed from both the supply and demand side - both of which we have tried to cover at this workshop.

To start with the supply side: New "disruptive technologies" are suddenly available world-wide, affecting the very foundation of even the most carefully crafted long term plans.

As a case in point - Public Wireless LANs (often called "Hot Spots") are now spreading like a whirl-wind at hotels, restaurants, airports, railway stations in many countries. The value for users on the move is obvious, as these Hot Spots have the potential to offer high capacity (up to 11 Mbit/s) two-way communications for users of about any kind of digital device (Laptops, PDA:s, even mobile phones). In fact, it will be available not only at central nodes and "Spots", but also inside aircrafts and trains for use during travel. It will happen fast as many laptops and PDAs are already fully equipped for using WLANs, following the same international standard (802.111.b) which is already in wide use inside offices (and universities). The same solution can even be used at home. Hence proliferation and uptake can be very rapid - with limited need for new investments.

However, access to (Public) "Hot Spots" are still rather uneven between countries - as well as inside countries. At this point of time, the exponential and virus-like spread of public WLANs at airports, hotels, restaurants etc. seems to be localized to a few regions (in the US, Scandinavia and Japan), as restrictions still apply in some countries (e.g. UK and France) on public use of the otherwise license-free radio-frequencies utilized. Another barrier to large scale uses - the price levels for laptops, and even PDAs, are still a bit above what can trigger any mass-market adoption of non-business users even if WLANs can offer access to high capacities at low cost for the communications.

The ongoing deployment of new mobile non-voice services are therefore of special interest. With I-mode in Japan as a forerunner, the operators of GSM-networks (in more than 150 countries) can now deploy 2.5G/GPRS offering a similar new service level. Even without any build-outs of new base stations the GSM operators can now rapidly offer nationwide as well as international coverage for "always on" non-voice services. The logic is not that different in the US.

Now, what if the merits of high capacity/low costs of WLANs can be combined with the merits of 2.5G networks (like GPRS) rapidly providing wide coverage inside a great number of countries and between them? This potent combination is increasingly called "4G" - which actually can be available several years before "3G" (contradicting conventional "maths".)

Will this prove to be the death-knall for the much publicized third generation of mobile services? Not necessarily - as 3G can also be combined with into the evolving networks of networks. The early combination of WLANs and 2.5G might hurt revenues for 3G-operators in the short term - but might prove to be a "blessing in disguise" in the longer perspective as any success is dependent on a healthy and dynamic content industry - which can't survive "in wait for Godot". However the historical set of applications destined for 3G appears in need of revision and update. Perhaps a new set of services, compared to what is presently labelled as 3G services have to be devised, enabling 3G to be re-launched as "5G" reclaiming its original role by adding new value above 4G-services. After all - 3G is basically "only" a matter of availability of new frequency bands, which can be used for a number of applications - some of which have not as yet been invented.

Now to the second - and equally crucial interpretation of "seamless". Whatever the efforts from the supply Side, it is finally a matter for the users/customers to decide if all these new services and applications are really worth paying good money for. They need not only be widely available, but "seamlessly" fit into the actual needs of the users working lives, including mobility - as well as their private life styles.

Concepts like "Wearable Computers" and "Calm Computing" comes to mind and will be addressed in several sessions in this workshop.

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