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To the Media
To Do with as you Wish

Will wireless Internet replace the mobile telephone in the future?
Future data transfer today - Finns spearheading the development of wireless Internet connections

Finnish companies are world leaders in developing the technology for wireless Internet communication. Headed by Managing Director Panu Pietikäinen, the Espoo-based NetSeal Technologies company has developed the RoamMate software suite which allows the user to use the Internet in the same way that he/she uses his/her mobile phone. This is a unique technological innovation, making the wireless use of the Internet a practical proposition.

When using a mobile phone, the user does not consider whether the connection will be lost taking a few steps or sits down in a car. He or she need not think which network cell to use when travelling from one city to another. The phone will automatically handle transfers within the network and the connection is never interrupted.

Similarly, the mobile phone user does not have to think about and change base transceiver stations when travelling; the phone handles this automatically. The telephone number remains the same even if locations and countries change. When the user travels to Auckland, New Zealand, on business, the phone number will be the same as at home. All this is made possible by the advanced technology that Finns nowadays take for granted.

Demise of the Voice Mobile?

NetSeal Technologies, the company specialising in network traffic management and security of mobile units and fixed workstations, is a pioneer in its field. The next version of RoamMate software, developed by NetSeal, will enable the safe movement of various terminal devices between different networks, such as GSM, WLAN, GPRS, and different devices, such as PDA and PC. From the practical point of view, the most relevant issue is that RoamMate creates a network which is seen as fixed and safe by the user. The software converts the mobile units into permanent parts of the network.

"For instance, if a company operates a Bluetooth network, facilitating short-range wireless connectivity, then, when a person steps outside the range of this network, RoamMate will automatically transfer the connection of his portable device from the Bluetooth to the public Internet network. The connection transfer occurs smoothly, without interruption, and the user can still send vital messages from a taxi on his way to the airport", Pietikäinen visualises.

The developer of the RoamMate software, Panu Pietikäinen M.Sc., together with his partner, Juhani Talvela, spent over four years developing the program.

The RoamMate software is installed in mobile units and the home server, after which it will handle the management of IP addresses as the mobile unit moves around the sub-networks. The program can be commissioned using existing hardware. The RoamMate software has been designed to master different networks but it is also good at matching different devices. For people using a continuous Internet connection, it creates many new possibilities which are not bound by hardware or locations.

At this stage, the MD of NetSeal Technologies, Panu Pietikäinen, refuses to coin a new phrase to name the future palm computer-phone hybrids.

Pietikäinen has a vision: "The mere voice mobile is bound to disappear at some stage, and has in fact already done so to a certain extent. Today's mobile phone has many functions other than voice transfer. In the future, we may see a device combining voice and data. My ideal device would be one that would allow me to speak from Singapore to a participant in the same meeting, physically sitting in Espoo, and to simultaneously book a conference room for next week's meeting in our network calendar back at the office".

Consumers can look forward to continuous connections and good user and data security

A mobile Internet connection is in principle similar to a mobile phone connection. So far major telephone operators are merely trying to get a feel for the future, as are the different PDA and mobile phone manufacturers, who are mainly concentrating on developing third-generation digital phones. However, the mobile Internet connection will clearly be as important an innovation in the future as the mobile phone was in its day. Could the mobile phone be used as the first test laboratory, then?

"No-one else has come up with an innovation similar to ours. There may have been some sketchy designs, but they have failed to address questions such as user identification, operation in different networks and implementing the roaming function between different operators", clarifies Pietikäinen.

There are three factors which can be classified as extremely important from the point of the usability of a mobile Internet connection. Firstly, there is the management of the IP connection of the mobile user (the 32-bit address of the computer connected in the TCP/IP network), i.e. maintaining a continuous connection. In future, the IP address will be the same as the telephone number, and it will create a permanent identity for the user, thus ensuring continuous connection to the correct line. The software must handle the required transfers between base stations, e.g. from a LAN to a public network.

The program must also take care of the continuous identification of the user as he/she moves around. This is particularly important for future ISP (Internet Service Provider) operators. If user identification is not carried out securely and without loopholes, Mr. Smith may well end up receiving Mr Jones' Internet connection bill.

The third important feature is the data security of the mobile connection user. Without sufficient protection, the information could, in principle, be captured by anyone with suitable equipment, and this would naturally be unacceptable, not least when dealing with a company's strategic information.