# More reliable and secure telecommunications via the Internet

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Professor Anna Brunstrцm, Karlstad University, is heading a research project that will lead to more reliable and secure telecommunications via the Internet. Reliability is an important aspect when telephony moves over to the Internet, so-called IP-telephony.

Today there are three different nets: for telephony, for the Internet, and for cable TV. Researchers believe that all of this traffic will be using the Internet instead. The advantages of IP telephony include lower costs and greater ease in custom-tailoring new services for individuals.

"But there are difficulties as well. We don't know how the Net will cope with increased demands for performance and operational stability. And this is where our research comes in," says Anna Brunstrцm.

The current project targets how traditional telephony signaling, so-called SS7 signaling, can be transmitted over a partially IP-based net. Architecture for this has been standardized by the IETF (Internet Engineering Task Force), with a new protocol called SCTP as a key component. Traditional SS7 has built-in functionality to quickly detect faults in the net and to redirect traffic. This functionality does not exist in the IP-net, so a similar mechanism has been built into SCTP. However, it is still unclear whether the new architecture and SCTP can live up to the quality of performance and accessibility that telephone signaling requires. Both performance assessment and optimization of SCTP are included in the project. The researchers are also aiming to construct dynamic security solutions above and beyond SCTP.

One indication of how important this research is deemed to be is the fact that the Knowledge Foundation is granting the project SEK 6.5 million over a three-year period. That is the largest single grant for any research project during the period. The research is being carried out in collaboration with Tieto Enator and Ericsson.

The mission of the Knowledge Foundation is to enhance the competitiveness of Sweden by supporting research at new universities and university colleges, among other places.

Source: Swedish Research Council