



Finland-ICSI Center for Novel Internet Architectures

1 Background

As the demands on the Internet continue to grow, researchers are seeking to make the Internet more secure, reliable and flexible. Making substantial and qualitative changes in these properties may require radical, as opposed to incremental, change.

The Finland-ICSI Center for Novel Internet Architectures (FICNIA) is devoted to exploring such radical changes, covering all aspects of the emerging Future Internet. The aim of the Center is to combine the efforts of Finnish Internet research with the research conducted in the Internet research community in the USA through the International Computer Science Institute (ICSI) affiliated with the University of California Berkeley and other top tier U.S. universities: Stanford, Massachusetts Institute of Technology (MIT) and Carnegie Mellon University (CMU).

In Finland, FICNIA is closely linked with ICT SHOK Future Internet research cluster with a joint steering board. ICT SHOK FI combines the leading academic research units from University of Helsinki, Helsinki University of Technology, Tampere University of Technology, Jyväskylä University of Technology, University of Turku and VTT Technical Research Centre of Finland and with research groups from industry, currently including Nokia, Nokia-Siemens Networks, Ericsson, TeliaSonera, CSC, F-Secure, Stonesoft and Cybercube. HIIT is the academic coordinator of the programme. Through FICNIA, the entire ICT SHOK FI will be able to build and maintain a close link with the U.S. research scene. Conversely, ICSI and the other mentioned universities are centrally positioned in the USA research efforts in future networking, enabling a good link to European networking research through FICNIA.

2 Mission and Research Agenda

The mission of the Center is to conduct fundamental research in novel Internet architectures and technologies, aiming at a significant contribution towards the development of the Internet, completing and complementing the ICT SHOK FI research agenda.

To reach its mission, the work of the Center is organized according to a joint research agenda covering the main themes and expected outcomes of the research. The research agenda is implemented by coordinated research, reinforced with researcher exchange, joint events, educational activities, and face-to-face and virtual meetings. A significant aspect of the research agenda is active participation the standardization activities in IETF/IRTF and other bodies.

In addition, the Center contributes to advanced teaching in the home universities by arranging special courses and workshops primarily for doctoral students.



3 Organisation

The Center has been founded for an initial period of five years (1.6.2007-30.5.2012). It operates in both sites (ICSI and HIIT). Administratively, the Center is a part of HIIT (that provides the administrative and institutional framework for it in Finland).

The Center has two *Directors*, one at FICNIA Berkeley, Professor Scott Shenker, and one at FICNIA Finland, Professor Jussi Kangasharju. The Directors lead the work of the Center according to the research agenda and the more detailed research plans derived from it. They also represent the Center towards the scientific community, industry, and funding organizations. The *Coordinator*, Dr. Kristiina Karvonen at HIIT plans, organizes, develops and reports on the activities of the Center in collaboration with the Directors.

A *Steering Board* will contribute to the development and implementation of the research agenda. The Steering Board consists of the steering board of ICT SHOK FI SRA and the two Directors.

4 Operational Parameters

The main aim of the Center is to enhance the international dimension of the ICT SHOK FI by the following activities:

- Research visits shorter (1-6 months) or longer (6-12 months),
- Joint physical meetings of the representatives from all bodies of the Center
- Joint virtual seminars where researchers will present and discuss their current work.
- Joint public events such as seminars and workshops, possibly in association with major international conferences.
- Joint events aimed at collaborating industrial companies of the ICT SHOK FI cluster.

5 Funding

The core funding of the Center comes from TEKES. Supplementary funding will be jointly sought from available sources, including funding from the EU's 7th Framework Programme. The core funding level is 400,000 euros per year.

