

Future technologies may revolutionize the usage of mobile services

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Benefiting from multiple Internet connections may revolutionize both the consumers' usage of Internet services and operator business, explains Henna Suomi, M.Sc. (Tech.) in her doctoral thesis research. If multihoming with several operators and multipath protocols get deployed on a wider scale, competition between operators will increase. This is because the user's cost of switching from one Internet service provider to another will decrease, and selecting the most appropriate network will be easier.

The growing demand for Internet services has increased the development of load balancing technologies. Using multipath protocols is one solution which enables services to benefit from a number of operators, either by switching from one to another or by connecting them simultaneously. Several implementations of those protocols have been developed, but they are not yet deployed and their [economic feasibility](#) has not been studied earlier.

"Multipath protocols enable the user's device to automatically select the best available network, improving the end-user experience when downloading, e.g., music from the Internet," says Suomi.

In her research, Suomi aims to understand the technical architecture of the technologies and identify factors affecting the deployment of multipath protocols. The thesis examines the economic feasibility of multipath protocols in mobile services from the perspectives of various market players. The research identified and analysed a wide range of

factors that affect the deployment of multipath protocols. The benefits and market impact essentially depend on the launch of devices with multihoming capability, such as multi-SIM phones.

"The thesis introduces a new approach to the economic analysis of Internet technologies. A technology-oriented approach lowers the threshold for protocol developers to identify and analyse the economic feasibility of new technical solutions," says Suomi.

The thesis offers added value to protocol developers but also will help companies and regulators make decisions by predicting the market impact of multipath protocols.

More information: "Techno-economic feasibility analysis of Internet protocols: Framework and tools." Tapio Levä, Henna Suomi. *Computer Standards & Interfaces*, Volume 36 Issue 1, November, 2013, Pages 76-88. Elsevier Science Publishers B. V. Amsterdam, The Netherlands, The Netherlands. [DOI: 10.1016/j.csi.2013.07.011](https://doi.org/10.1016/j.csi.2013.07.011)

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