Title: Evolving Networks for the Future

Abstract:

Usage models will increasingly demand higher bandwidth and throughput to carry ever larger amount of data faster while achieving lower latency for even more users and devices as we're evolving toward an environment where machines/devices initiate communications in addition to human. Early transformation of the network using architecture principals like Software Defined Networking (SDN) and Network Function Virtualization (NFV) enable the transition to a network running on high volume servers, instead of proprietary devices, thus facilitating services creation, or other architecture updates. Some of these updates addressing CAPEX/OPEX are looking to build a converged access and core combining the functionality of the cellular core and the wireline broadband gateway, looking to provide inherent support for multi-radio access technologies, etc. Additionally as it will be impractical and too costly to carry vast amount of data over the network to/from the cloud, and the need to achieve lower latency and scale to a large number of devices, processing will be split, transparently to the end users, between the client, edge(s) and cloud. Various architectures need to be explored from edge computing to information centric network enabling both the compute and the content to be as close as possible to the end users, and research needs to be performed to understand how these technologies integrate in the overall end-to-end pictures. In this presentation we'll talk about these concepts and some of the work we're doing with industry or academic partners.