

Speech Title: Mobile Networks: Architecture, Performance and Energy Considerations

Abstract: Previous work on mobility management in data networks have mainly dealt with solutions regarding mobility of individual hosts. Various network layer and transport layer solutions have been developed. However, recently there has been strong interest in finding solutions for networks in motion, such as networks in an aircraft, train or ship. As they move, rather than handing off individual hosts on such a network, it is more efficient to handover the networks between access points. This results in the handoff being transparent to the hosts and less control traffic in the resource challenged wireless networks. The talk will provide an overview of the network layer based solution being developed by the Internet Engineering Task Force and compare with the end-to-end based solution (SINEMO) developed at University of Oklahoma in conjunction with the National Aeronautics and Space Administration for networks in motion. Issues related to architecture, performance and energy consumption of mobility protocols and future directions for research will be described. The application of networks in motion will be illustrated for both terrestrial and space environment.