Wireless Mesh Routing in Smart Utility Networks

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Abstract

Legacy utility meters for electricity, water and gas are rapidly being replaced by highly automated and networked smart meters. The network of smart meters, collector devices and head-end systems constitute an Advanced Metering Infrastructure (AMI). The purpose of deploying an AMI is to increase the granularity of utility consumption data for demand-response applications. A data routing protocol is essential for forwarding collected information to an aggregation point. A fully functional protocol suite for networking of such smart metering devices is imperative to the success of the AMI. I will review two such data routing protocols; RPL (Routing Protocol for Low power and lossy networks) and Geographical routing; designed and deployed for the AMI. Further, I will present performance analysis of the two routing protocols specific to smart utility networks.

Bio

Gopalakrishnan Iyer is a graduate student at the Department of Electrical and Computer Engineering, Auburn University. He received his Bachelors degree in Electronics and Telecommunication Engineering from Mumbai University, Mumbai, India in 2008. He is currently pursuing his master’s degree under the guidance of his advisor, Dr. Prathima Agrawal. His active areas of research include Wireless Networking for Smart Grid and Advanced Metering Infrastructure (AMI), Latest Wireless network protocols in general and energy management schemes.