Lab 3
Smart grid technologies to manage energy generation

Kiran Prabhakar | UBIT: kprabhak | Person No: 50287403

Shishir Suvarna | UBIT:shishirs | Person No: 50290573

Abstract

Since the invention of energy generation, there was only one way transmission of energy from the sources to consumers, which doesn't provide any streaming information of the energy consumption. Smart Grid technology provides two way power and data transmission, to balance between real time production, regulation and transmission of energy sources. The generation is monitored using Apache Spark leveraging the polled data from smart meters which form an Advanced Metering Infrastructure (AMI). The connected utilities in smart grid network forms a graph, which allows to use page rank technique to determine optimal transmission with minimum cost. To solve real time transmission failure, based on existing data, a Machine Learning model is used to determine the next optimal path.