User Scenario 1: Energy Sector

Return to User Experiences

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Overview

Technology is improving lots of different areas in generation and distribution from large scale systems serving major metropolitan areas all the way to tactical microgrid. Data Distribution Service (DDS) is used in a few different areas including managing wind farms, various Microgrid management and integration functions, better management of existing Dynamic Disturbance Recording (DDR) systems and loadbal.

Smarter Grid Solutions in the United Kingdom (UK) is helping to achieve better Electric Grid management. The general goal is to reduce the amount of extra energy that is required to withstand typical usage peaks when lots of users are turning on their air conditioners, or plugging in their electric vehicles. By distributing better monitoring and control components into the grid, it is possible to quickly detect and react to demand spikes. From the Data distribution perspective, it involves distributed computing components that must reliably and robustly share information.

DDS Benefits in Energy Distribution

For other users in the energy industry, they are deriving benefits of using DDS in the Energy Distribution.

- Dynamic discovery of Endpoint
- Secure Authentication of Endpoints for example, a rogue command to a automatic, high-voltage electric switch referred to as a recloser could be catastrophic to the Electric Grid.
- Automatic Failover features
- Wide target platform support
- All aspects of data interfaces standardized, including secure communications

Why target platform supported DDS?

It is important for the variety of embedded observer components in the electrical grid. And the well specified access of interface communication allows for industry specific architectures around the DDS middleware technology. There are several examples of ths within the energy sector including tactical Microgrids and other grid management efforts.

Figure 1: