



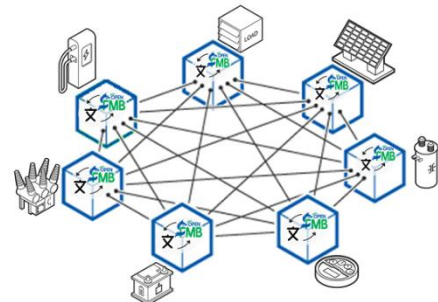
## OES Achieves Another Milestone with the Release of its first Open Field Message Bus (OpenFMB) Software

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SANTA CLARA, CA - Open Energy Solutions (OES) has just completed an open-source release of its OpenFMB Adapter and supporting software. Developed in partnership with Charlotte, N.C.-based Duke Energy (NYSE: DUK), this marks the first product available in the marketplace to employ OpenFMB-compliant solutions for electric grid integration and secure communications. The adapter provides bi-directional translation between standard industry protocols (e.g., DNP3, Modbus) and OpenFMB, which was ratified by the North American Energy Standards Board (NAESB) as its standard for grid edge interoperability and distributed intelligence in 2016. OpenFMB provides a consistent view and context of data to all interconnected points on a given network.

This is a culmination of several milestones that have contributed to the development of these products: an industry-wide plugfest, organized by the UCA<sup>®</sup> International Users Group (UCAIug), where the adapter enabled interoperability with equipment from different vendors and preliminary compliance testing. “The open-source release of the adapter is a critical step towards true grid equipment interoperability,” according to Laurence Lackey, Senior Director, Architecture for OES. “It opens new possibilities for operating a grid that is being changed by a proliferation of consumer devices, such as electric vehicles and Internet of Things (IoT) devices, along with the integration of renewable resources and microgrids. The adapter is a key component in achieving better control of a changing power grid.”

With the increased proliferation of microgrids, electrification, renewables, and energy storage, there is a need for distributed intelligence being applied at any point on the grid for purposes of handling increased data volumes in faster response times with improved quality and granularity of analysis and action. The OpenFMB standard is foundational to unlocking proprietary and siloed devices and applications. “The ability to securely access and quickly federate data at the grid-edge fundamentally enables a more efficient, flexible, and scalable data integration architecture needed for our future



utility automation systems.” stated Dr. Stuart Laval, Director of Technology Development at Duke Energy: “We welcome this contribution to the industry, not only as an early step, but as a catalyst for realizing and accelerating the concept of distributed intelligence that we have been touting in the industry for years. It will also serve as a building block for security enhancements and modular use-case applications that can collectively deliver stacked operational benefits.”

The release itself includes the following products:

- OpenFMB Adapter – provides translation of legacy protocols to/from OpenFMB and publishes and subscribes messages to other adapters, OpenFMB-native devices, and applications
- Adapter Configuration Graphical User Interface (GUI) – a data integration tool to assist individuals in setting up the configuration files for their OpenFMB solution
- Human Machine Interface (HMI) – a situational awareness tool that allows users to model electric grid circuits or create other representations to display sub-second OpenFMB messages

The products themselves are hosted at (<https://openfmb.openenergysolutions.com/>) along with information, links, source code, precompiled versions, and a simple demo to help people familiarize themselves with the concept of OpenFMB. The open-source community will be able to use these products to configure, deploy, and support their OpenFMB solutions.

Michael Burck, Vice President, Technology Integration for OES noted: “In conjunction with the release, OES is establishing services to help utilities and product vendors who want support for their OpenFMB projects. From assessments to pilots to full deployments to support, OES has individuals with the experience, expertise, and skills to support industry needs as it relates to grid interoperability with OpenFMB and distributed intelligence.”

The OpenFMB standard can be acquired through NAESB (<https://www.naesb.org>). Also, a User’s Group for OpenFMB is operated by UCAIug (<https://www.ucaiug.org/aboutUCAIug/default.aspx>)

#### About Open Energy Solutions Inc. (OES)

Open Energy Solutions Inc. provides a variety of advanced technology services and development for regulated and unregulated energy suppliers and their customers. Founded in late 2016, OES is headquartered in Santa Clara, California with staff situated throughout the United States. More information is available at [openenergysolutionsinc.com](http://openenergysolutionsinc.com).

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