

Plug-and-Play Architecture Allows for Flexible Power Management

OVERVIEW

IPERC was awarded multiple Small Business Innovative Research (SBIR) grants to examine plug-and-play technologies for tactical power grids.

The IPC integrated software power management system can aid power planning, economically improve energy systems and effectively employ otherwise stranded battlefield energy. The goal is to develop a flexible Power and Information Grid, based on a scalable building block approach that embeds intelligent control, establishes secure network communications, and provides real time performance management.

SOLUTION

The challenge of the Plug-and-Play Architecture project was to employ IPERC's GridMaster™ software and firmware design and fabrication of a distributed intelligent, adaptable power management system to intelligently manage power generating sources and loads.

Our architecture allows for:

- Automated configuration of a power grid
- Intelligent management and dispatch of power sources
- Reduce overall fuel consumption through increased fuel efficiency

- Grid interface for interoperability with legacy generation, distribution and load assets
- Adaptive, active, intelligent control of grid sources and loads
- Health monitoring of sources and loads tied into the grid
- Advanced prognostics and diagnostics as they mature.

IPERC developed a prototype universal interface controller that is reconfigurable depending on the sensed equipment. The prototype includes a Graphical User Interface (GUI) which recognizes various electrical equipment within the microgrid.

RESULTS

The universal interface controller prototype was delivered in September 2013. Several options for location and use are currently being discussed and the controller will be sent to a military location for testing in 2014.

Contact IPERC

Discover how we can provide your business with the latest in microgrid technology.

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