

Green Energy Corp's GreenBus is a middleware product that enables Smart Grid operations and back-office applications to interoperate in a data-driven, secure and highly scalable open architecture. GreenBus comes with 100's of customized protocol adapters and is packaged with the industry standard DNP3, an Application Programming Interface (API) and a Software Development Kit (SDK).

The GreenBus Advantage

Integrate with High Speed Field I/Os

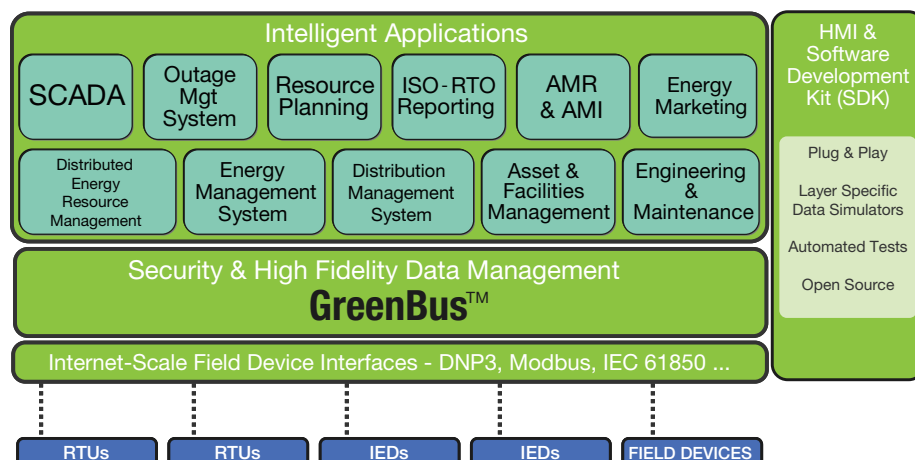
Using GreenBus, legacy and new grid operations systems can share and access data from the same field I/O resources over a standard API. GreenBus supports a persistent operational model for field equipment and includes core services like measurement processing and event/alarm management for real time operational systems.

Integrate with other Applications

GreenBus enables packaged applications (SCADA, AMI, Outage Management, CIS, IVR, AVL, etc.) to share data over a standard API and industry standard interfaces like MultiSpeak™. Each application can access data from many other applications using the single GreenBus API instead of developing and configuring multiple custom connectors.

Thin Client Development

Application developers can now focus on thin clients that provide user-friendly presentation of data instead of building complex data gathering and management tools. This allows faster development, smoother deployment and better alignment of user needs and application features.



GreenBus Platform Capabilities

DNP3 Protocol Support

GreenBus fully supports the DNP3 Protocol for field device communications and is globally recognized as an industry-wide standard, and the Smart Grid standard for the U.S. Market.

Modeling

XML Modeling Configuration Files are used to create the system's logical network model for communicating with attached remote devices (e.g., IEDs, RTUs). Also included is support for run time modeling changes.

Common Security Platform

Strong authentication and security policy controls for services on the GreenBus are included.

Data Historian

Supports archival of continuous time series and logging data in a distributed and scalable architecture. Can be used by other applications for various beneficial purposes (trending, analytics, auditing, and more).

Application Programming Interfaces

GreenBus includes programmatic interfaces that facilitate interaction with other systems and applications. APIs include access to real-time measurement processing, alarm/event triggering for normal/abnormal states, alarm/event triggering for limit processing, and operational data model interrogation and definition, and historical access.

GreenBus Graphical User Interface

Web Services Interface: A user interface accessible through a web browser using data push technology. Multiple simultaneous windows are supported. Secure connections provide data integrity and confidentiality.

Visualization Dashboards: Includes a geographical view of network components, system and platform event summaries, and configurable visualization components.

Informational Views: Provides system and platform informational logs to support reporting and auditing.

Automation Views: Field level monitoring and control support.

Management Views: Process related functions like event and alarm management.

GreenBus Services Offering

IT Managed Services: Includes public and private hosting models, remote user access and authentication, audits and compliance monitoring, system upgrades and updates of new and improved technology, and license and subscription fee consolidation.

Engineering Services: Field and internal communications assessments and optimization of configuration and performance, application integration analysis and optimization, system configuration and validation, and protocol development and integration support for legacy and new field telemetry devices.

Operational Services: 24x7 support with Service Level Agreement (SLA), power system modeling, customer user interface support (including end-user service portals), virtual control center with fault tolerance, high availability, and disaster recovery procedures and support, and a test system for training and verification of new models.

Compliance Monitoring: Support for state and federal operational and reporting requirements, renewables integration targets, and security and process performance audits.

Total Grid Open Source Community

Green Energy Corp is proud to sponsor the Total Grid Open Source Community — an open source community dedicated to modernizing national power systems and microgrids while driving the development of the Smart Grid.

The GreenBus is the foundation of the Total Grid Community. As part of the Community, Green Energy Corp contributed an open source DNP3 protocol stack which fully supports the DNP3 Protocol and will continue to contribute new projects as they become available.

Visit the Total Grid Community at www.totalgrid.org

Contact Us

For more information about our Smart Grid and utilities solutions, please visit greenenergycorp.com or call 303-453-8338 to speak to a Green Energy Corp representative.

If you are interested in developing applications for the GreenBus, or for more info on the **GreenBus Alliance Program**, contact us at 303-453-8380

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