

OpenEnterprise™ v3

Simplifies SCADA Configuration, Operations and Maintenance

OpenEnterprise v3 is Emerson's leading-edge SCADA platform designed for remote Oil & Gas mission-critical applications where data integrity and uptime are essential over complex communication networks. OpenEnterprise incorporates 20 years of experience across a global install base. This has shaped the product into a user-friendly platform that significantly lowers project lifecycle costs and increases operational efficiency compared with traditional SCADA packages.

This latest release is a game changer and takes SCADA automation to a new level. OpenEnterprise v3 offers an intelligent automation engine that doesn't require programming or scripting to manage complex sequential control. The impossibility in any other competitive SCADA is now possible in OpenEnterprise. Rapid application development tools help customers get their new system commissioned quickly and empowers users with business agility to make operational automation changes required to keep pace with changing business needs.

Unmatched ease-of-use not only saves time across configuration, installation and deployment to ongoing daily maintenance, it also improves operator learning curve and training. New customers migrating over to OpenEnterprise save on training time in the long run, because new employees can learn to operate the SCADA system faster.

As a modern SCADA system, operational data is truly open and accessible. SCADA is not meant to be an information silo. OpenEnterprise enables you to propagate data across the enterprise seamlessly with interoperability between business systems. Architectural system flexibility allows customers to deploy and manage distributed SCADA infrastructures that suit their specific site installation needs.



Key Benefits

- **Business Agility** - Rapid application development and change management ensure a competitive edge
- **Lower Lifecycle Costs** – Reusable SCADA objects enable management of very large complex field installations
- **Increased Operational Efficiency** – Ease-of-use tools and flexible distributed architecture designed for Oil & Gas applications
- **Improved Decision Making** – Connect enterprise with field operations via open standards
- **Future-Proof Investment** – Secure your automation investment for the long term with 'IT-friendly' SCADA (security, scalability, serviceability, support and upgrades/migration)



Increase Your Operational Efficiency with Unmatched Ease-of-Use

Integrated 'Multi-Grid' Engineering Environment

OpenEnterprise v3 was built with ease of use in mind from the onset. This reduces operational and maintenance lifecycle costs. The new engineering environment adds the following functionalities:

- Ability to manage multiple distributed servers from a single 'control panel' for SCADA infrastructure
- Ability to administer and configure the system locally and remotely across concurrent users
- Ability to add RTUs that are either online or off-line within the same UI
- Ability to monitor RTU diagnostics and communication statistics within the same UI
- Ability to import and export server configurations, templates, objects, calculations etc.

Non-Programmatic, Rule-Based Action Engine

Rule-based asynchronous control mechanism where events detected on OpenEnterprise SCADA host trigger sequenced "transactions" or "actions" based on "conditional decisioning" at runtime. The Action Engine serves as sequential control and event handling, by which complex host communications/ transactions and RTU data management can be automated. The Action Engine supports the creation of workflows that enable the following functionalities:

- Ability to automatically process setpoint adjustments
- Ability to download RTU configuration or recipes, gas quality as required
- Ability to trigger sequential RTU communications requests across multiple RTUs, e.g., shut-in a gathering system
- Ability to drive operator advisory and alerting
- Ability to trigger calculations

The real game changer here is that this server-side scripting engine is completely programming-free. The ability to easily change applications, control programs and workflow to respond to any operational issues requires no software programming or scripting.

Reusable Database Objects (Asset Models)

This new object-oriented information model allows operators to define all aspects of the physical equipment/assets including logic and scripts, how the data will be acquired, how the alarms, trends and reports are generated. The key functionality of the asset models is to normalize the way data is available in the database, making the field data transparent to applications and users that view them in trends, alarms or HMI displays.

- Ability to standardize on representation of physical assets (e.g., a meter) with different RTU types
- Ability to visualize sites rather than RTUs – hides the complexity of RTUs and hardware from the SCADA Operator (RTU and protocol agnostic)

The main benefit is standardization and reusability of these logical entities across the site(s) and easier management of field installations with a mixture of RTU types.

RTU Templates for Easy Replication

RTU Templates simplify the process of building the SCADA database. Development savings are gained through reuse by virtue of defining RTU Templates once, then generating "copies" from those templates multiple times. Templates provide the following:

- Ability to add identical RTU models to the database and specify the polling, communications parameters and input/output mappings
- Ability to link and propagate changes (from base templates to all instances linked from the base template)

Superior Field Connectivity for Green and Brown Fields

Remote Communications Manager

The Remote Communications Manager offers single integrated communications middleware to manage all field communications. The key benefit of the Remote Communications Manager is that it allows communications to be distributed close to your remote process, which enables OpenEnterprise SCADA Servers to be centralized for multiple fields. The distribution and management of field communications (remote from SCADA server) also reduces the database loading, hence offering scalability to support field installations that require communication to thousands of RTUs.

- Ability to support multiple protocols and applications over the same communications channel (protocol and port sharing)
- Ability to automatically recover from a failed route and connect to another active communication route – the user will be able to define primary, secondary, and tertiary routes (path failover of communications link)
- Ability to use single integrated configuration environment (RTU and protocol agnostic)
- Ability to prioritize field traffic, e.g., commands before data collection and manual requests before scheduled

Metering Export Applications

Metering provides industry standard EFM (for gas and liquids) report generation for Flow-Cal and PGAS which includes history, alarms and events collected from RTUs.

- Supports Flow-Cal versions 5 and 7
- Supports PGAS version 4.2
- Includes preconfigured report templates for ROC and FloBoss™ (Flow-Cal version 5 gas only)

Tighter Integration Emerson Controllers (ControlWave®, ROC and FloBoss™ S600+)

- Out of the box support for wireless SCADA architecture (WirelessHART and Distributed RTU™ Network)
- Support for Emerson RTU Applications (Production Manager, Tank Manager etc.)
- Ability to launch RTU Configuration tools from context menus
- Preconfigured Historian for ROC and FloBoss
- 64-bit floating point support
- ROC800L support
- FloBoss S600+ support
- Built-in support for ControlWave audits, archives, data arrays, lists and recipes

New Protocols Drivers

- Modbus master
 - ASCII
 - RTU
 - TCP
 - Enron
 - SCADAPack extended addressing
- DNP3 master

Modern SCADA Automation Offers Scalability and Reliability

Highly Scalable with Support for 64-Bit Database Engine

Built on a 64-bit database engine, OpenEnterprise v3 is a modular, highly scalable platform that addresses the needs of Oil & Gas markets from local metering, compressor station monitoring and control to Mega i-Field automation projects that is comprised thousands of meters and wells. OpenEnterprise is a highly scalable SCADA system that can operate as a single-box HMI to an enterprise-wide SCADA platform.

High Performance Calculation Server

The new calculations server can perform 1,000 calculations per second. It supports predefined out of the box mathematical and logical operations with the option to create user-defined formulas which can be reused. Supports time-based functions, e.g., accumulators and statistics with the option to save results in the calculation or to a signal (local or remote). Calculations can be scheduled or triggered on the change of a database value.

Other Technological Improvements

Microsoft Windows 64-bit operating system support such as:

- Windows 7
- Windows Server 2008 r2
- Windows Server 2012
- Session run as Windows Service
- Support for VMWare ESXi virtualization

Improved Security and Compliance

- Security-enabled installed database with restricted default user permissions
- New password prompt upon first log on
- Monitor connected workstations and database connections
- Event log – record of system and operator actions
- Historical logging of operator notes for improved auditing



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