

Leverage the full power of your energy management system

PowerLogic® ION Enterprise power management software



by Schneider Electric

Manage real-time power conditions and energy efficiency



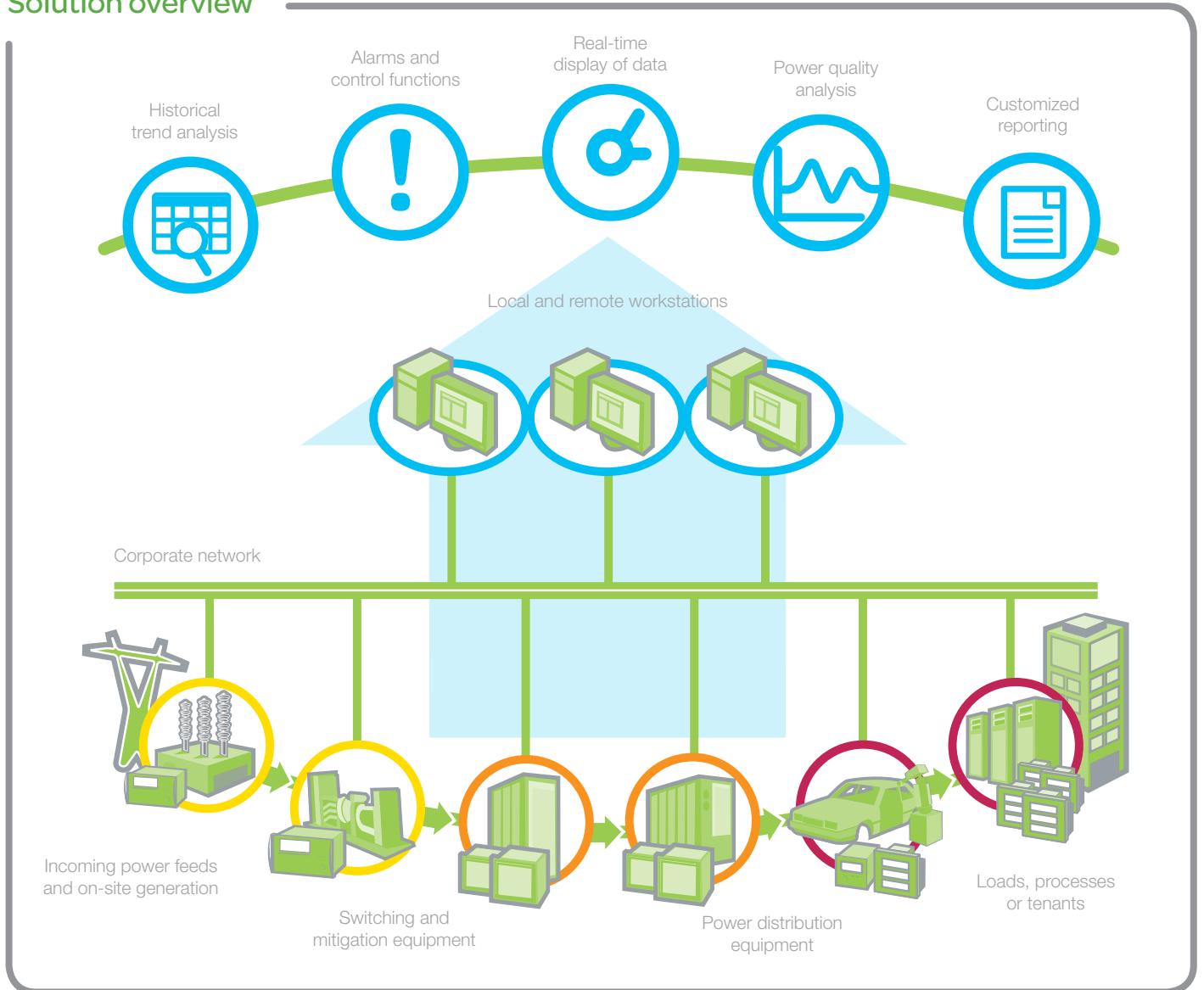
PowerLogic ION Enterprise Software is a complete power management solution for energy providers and industrial or commercial operations. It helps engineering and management personnel cut energy-related costs, avoid downtime and optimize equipment utilization.

The software uses industry-standard network technologies, including Ethernet and wireless, to automatically collect and store data from key electrical distribution points and physical assets. It forms a layer of energy intelligence across your facility, campus, service area or entire enterprise, acting as a unified interface to electric, water, gas, air and steam monitoring devices. Web-enabled monitoring and reporting gives each user personalized access to timely, relevant information.

PowerLogic ION Enterprise Software tracks real-time power conditions, analyzes power quality and reliability, and alerts of potential issues to avoid critical situations. The trending feature helps to reveal energy waste, allocate costs to buildings, departments or processes, as well as verify efficiency improvements.

The software includes sophisticated load aggregation that allows the user or users to totalize power consumption into specific time intervals such as days, weeks, months and years for multiple locations. When coordinated with its control capabilities, this feature can be used to manage loads, generators, and demand or power factors. Information gathered by PowerLogic ION Enterprise Software is easily shared with all stakeholders through the remote web interface for real-time monitoring or historical reporting.

Solution overview



Typical applications of PowerLogic ION Enterprise Software

PowerLogic ION Enterprise Software is the ideal power management software tool for data centers and other operations with critical power needs, large and small industrial facilities, and commercial buildings of all kinds. It's a solution that provides effective data acquisition, energy savings, avoidance of utility penalties, and overall improved efficiency and productivity.



Applications for buildings, industry and critical infrastructure

Energy efficiency and cost

- Reduce peak demand surcharges
- Reduce power factor penalties
- Enable participation in load curtailment programs (e.g. demand response)

Power availability and reliability

- Validate power quality compliance with the energy contract
- Verify reliable operation of equipment
- Improve response to power quality-related problems
- Leverage existing infrastructure capacity and avoid over-building
- Support proactive maintenance to prolong asset life

Applications for electric utilities

Power availability and reliability

- Improve transmission and distribution (T&D) network reliability
- Enhance substation automation
- Maximize the use of existing infrastructure
- Verify compliance with new power quality standards
- Analyze and isolate the source of power quality problems
- Help customers manage reliability using operational and power quality data

Data acquisition and integration



- Access all real-time and logged data, control on-board relays and digital outputs, remote configuration and firmware upgrading
- Provide standard product native support for PowerLogic ION series, PM800 series, PM700 series, PM210, CM3000 series and CM4000 series meters
- Integrate metering of WAGES (water, air, gas, electricity and steam)
- Support data access from the CM2000 series, PM600 series, multi-circuit meter (MCM), Model 98 transformer temperature controller, enercept meter, energy meter and branch circuit monitor
- Easily add support for third-party meters, transducers, PLCs, RTUs and power distribution or mitigation equipment
- Quickly add and configure remote device communication over Modbus RTU or Modbus TCP protocols
- Use MeterM@il functionality to securely access meter data via Internet within firewall restrictions
- Add devices and user clients to the scalable platform as needs grow
- Integrate other energy management or automation systems (e.g. SCADA, BAC, DCS, ERP) through ODBC, XML, OPC, email, FTP, CSV and PQDIF compliance; integrate web services via XML

Scalable, flexible architecture

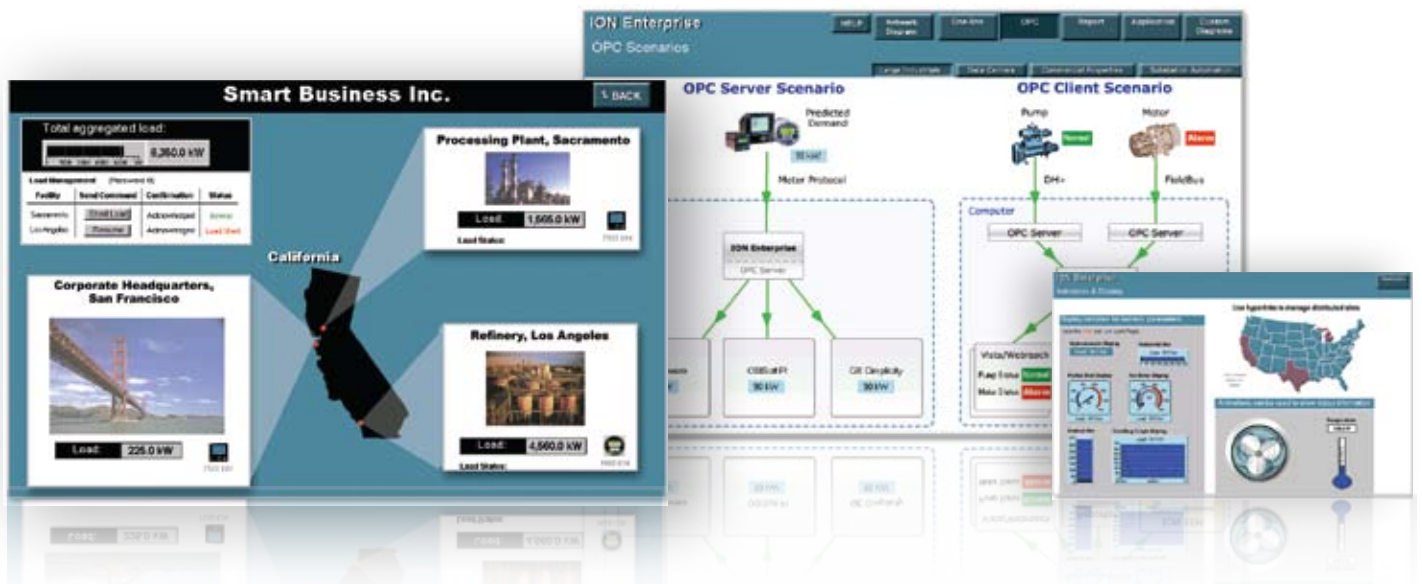
- Grow to hundreds of metering points
- Add distributed servers and clients
- Use modular programming for complex processing and control
- Integrate legacy and third-party devices
- Leverage and optimize existing infrastructure

Real-time monitoring

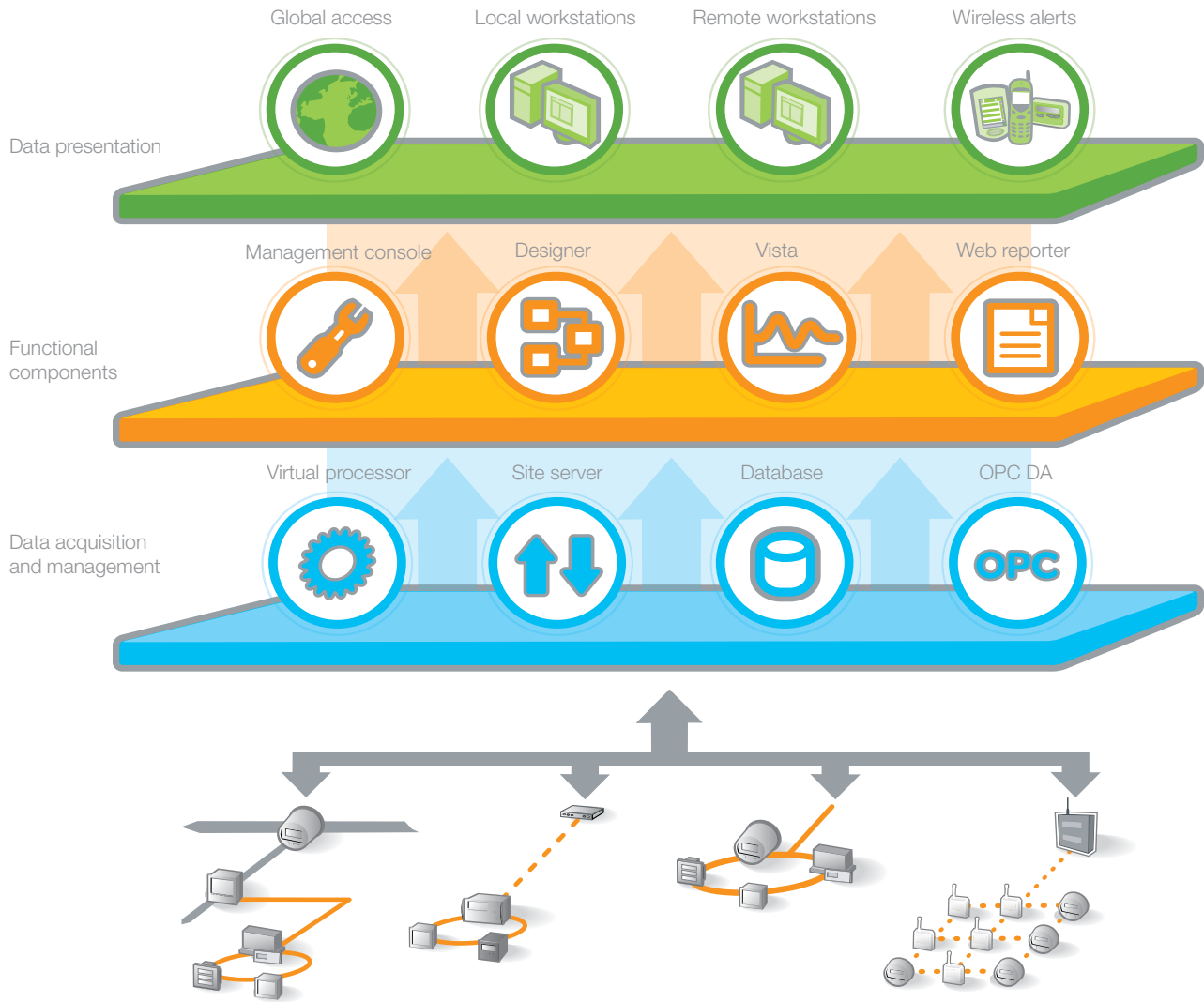
- Collect system-wide data
- Perform calculations, display and log derived data
- Customize views of data – digital figures, dials, bar or trend graphs, one-line diagrams, etc.
- Communicate over Internet, Ethernet and wireless

Interoperability

- Share data with PowerLogic SCADA, automation and accounting systems
- Comply with ODBC, OPC and PQDIF standards
- Integrate all energy management and automation systems



Software architecture



Data presentation

- Enterprise-wide, multi-user data and control access through local server interface, thin-client web browser, or terminal services; tiered security
- Information and alerts via mobile phone, PDA and other devices

Functional components (on main server or workstations)

- Management console – configure your PowerLogic ION Enterprise Software network, including communication paths, devices and logical groups
- Designer – customize the modular functionality of ION devices and virtual processors
- Vista – real-time displays of measurements and status indicators, power quality analysis, historical trending, alarms and manual control
- Web Reporter module – predefined or custom reports; support for third-party reporting tools

Data acquisition and management

- Virtual processor – multi-site aggregation, coordinated control, complex calculations and alarming, logging for non-recording devices (e.g. interval kWh)
- Site server – continuous or scheduled retrieval of data from up to hundreds of remote devices over Internet, Ethernet, telephone, serial, wireless or satellite connections
- SQL ODBC-compliant databases – Microsoft SQL Server 2005 (with support of SQL Server 2000). Log device data, system data and events with accurate meter synchronization (± 16 ms or ± 1 ms using GPS) for precise event timestamping, power quality analysis and revenue billing; data is securely accessible using industry-standard database tools; add distributed databases and servers as required for load balancing
- OPC DA client (standard), OPC DA server (optional) and PQDIF exporter (optional) – supports data import/export with compliant devices and systems

Reporting

The powerful, intuitive Web Reporter module lets users see critical information exactly how, where, and when they need it.

- Preconfigured or fully customized
- Supports third-party reporting tools and export data to MS Excel
- Manual, scheduled, or alarm/event-triggered distribution via email or web
- Combines databases to reveal true business conditions
- Reports accessible via a web browser
- Supports WAGES (water, air, gas, electrical and steam) measurements
- Per user security model (view, edit, create and delete)
- Generates PDF format
- Exports data in XML format
- Supports remote report development and uploading

Includes

- Energy period over period comparison – compare energy consumption of different periods
- Energy by shift report – compare energy over different user-defined shifts
- Trending report – trend multiple measurements for one device or one measurement for multiple devices over time
- Tabular report – show logged measurements and associated time in a raw tabular format
- Alarm and event report – show events/alarms from specific devices based on priority level
- System configuration report – a quick system inventory: device name, group, connection and device address
- 100 ms report – show power quality millisecond time-stamped data from devices supporting millisecond logging of PQ measurements
- IEC61000-4-30 and EN50160 power quality reports
- Energy cost report – associate rates with TOU schedule to generate total cost data



Trend analysis

Trend any parameter to reveal demand peaks and track system-wide energy costs

- Graph any combination of measured parameters
- Aggregate loads
- Identify dangerous trends and redistribute loads
- Optimize network capacity, avoid over-building
- Avoid peak demand surcharges and power factor penalties

Power quality analysis

- Monitor events and waveform plotting system-wide
- Monitor harmonics, K-factor, crest factor and symmetrical components
- Diagnose and isolate power quality issues
- Benchmark performance and compare service areas
- Track contracted service compliance





Web portal

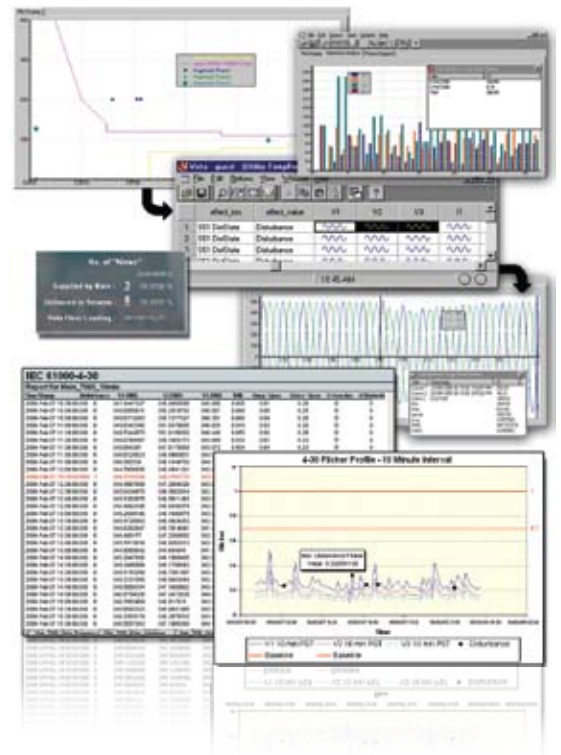
- Allow multi-user access
- Use multi-level security checks

Alarms and events

- Trigger on complex conditions
- Generate and distribute alarm notifications
- Log all relevant data sequence of events for diagnosis
- Flag and avert potential problems
- Alert key personnel 24/7
- Optimize maintenance scheduling

Manual and automated control

- Perform manual or setpoint-triggered functions
- Coordinate control of multiple loads, generators, relays, etc.
- Support energy-saving applications
- Manage distributed energy assets
- Automate substations and reduce service time



Enhance your PowerLogic solution

Support or expand your PowerLogic solution with matched accessories and complementary products or systems. Integrate with other Schneider Electric products or with third-party products through industry-standard protocols.

PowerLogic EGX Ethernet gateways

Access devices on downstream serial networks through fast Transparent Ready® Ethernet communications featuring customized web pages.

PowerLogic ION 7550, RTU option

Remote terminal unit for transducer and equipment monitoring.

T1 current transformers

Ratio of Ip/5 for use with measurement devices, relays, etc.

Sepam® protective relays

Monitoring, protection and control of substations, busbars, transformers, motors and capacitors.

Masterpact® breakers

Equipped with Micrologic control units, offering protection for LV networks.

Modicon® programmable logic controllers

Small-scale distributed control to robust, powerful stand-alone PLCs.

Altivar® variable frequency drives

Match motor output to required loads to reduce energy consumption and extend motor life.

TeSys® motor controllers

Motor branch short-circuit protection, manual disconnect, remote power circuit switching and thermal overload protection.

Power factor correction and harmonic filtering solutions

Reactive capacitors, Varlogic™ controllers, detuned reactors, modules, Varset™ cubicles, Accusine™ filters and much more.

Services

Our extensive engineering and support services ensure you leverage the full capabilities of your PowerLogic solution and benefit from a low total cost of ownership. Our experts can help with system selection, project management, integration, custom reporting, documentation and training to meet your organization's unique needs.

| Features | Standard | Optional |
|---|----------|----------|
| Automated data acquisition from sites/devices | ✓ | — |
| SQL 2005 Express Edition database | ✓ | — |
| SQL 2005 Standard Edition database | — | ✓ |
| Web-enabled real-time monitoring | ✓ | — |
| Web-enabled reporting | ✓ | — |
| Trend analysis | ✓ | — |
| Power quality analysis, compliance reporting | ✓ | — |
| Alarms and events | ✓ | — |
| Manual and automated control | ✓ | — |
| OPC DA client | ✓ | — |
| OPC DA server | — | ✓ |
| PQDIF data export | — | ✓ |

| PowerLogic power and energy meters | Circuit breaker control units |
|------------------------------------|-------------------------------|
| ION8600 | Micrologic; Type A, P and H |
| ION7550/7650 series | |
| PM800 series | Protective relays |
| ION7300 series | Sepam series 20, 40 and 80 |
| PM700 series | Other |
| ION6200 | |
| PM210 | |
| CM4000 series | |
| BCPM | Modbus-compatible devices |
| | Other devices through OPC |



For ordering information, please contact your local sales representative. For more information on other PowerLogic products, applications and system solutions visit www.powerlogic.com.

As standards, specifications and designs develop from time to time, always ask for confirmation of the information given in this publication. PowerLogic, ION, ION Enterprise, MeterM@il and Modbus are either trademarks or registered trademarks of Schneider Electric.

Schneider Electric – North American Operating Division

295 Tech Park Drive
LaVergne, TN 37086
Tel: 615-287-3500
www.powerlogic.com

