



## POWER ANALYTICS

*Foresight as accurate as hindsight.*

# Paladin® Live™

Next Generation Real-Time Power Analytics Platform

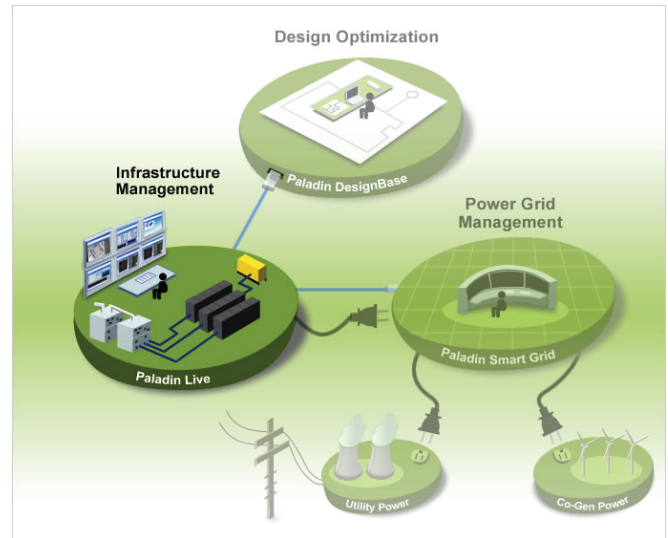
**Paladin® Live™** is the only electrical power system management platform capable of maintaining an uninterrupted, 360° view of your electrical power infrastructures. It intelligently predicts when and where vulnerabilities have the potential to occur, and sends proper notifications to the right people at the right time.

Paladin® Live™ treats energy as a business-critical commodity, giving facility operators the means to manage the cost, quality, capacity, and reliability of energy. It assists users in implementing capacity planning, energy efficiency, load curtailment, and power quality programs to protect failsafe business activities.

Once deployed, Paladin® Live™ protects business continuity by relentlessly probing power systems infrastructure for potential anomalies to ensure their resiliency. Using the design specifications encoded in the original power systems model, it can accurately predict the precise nature and location of potential failures, diagnose them, and ultimately devise their resolution. The system can then be instructed to preempt potential failures on its own, or make intelligent recommendations to operators.

### Unique features and benefits:

- **Heterogeneous consolidation of assets**, including the seamless integration of hardware, software, equipment, meters, sensors, and other infrastructure that typically function in a proprietary environment. Direct analog and digital inputs from sensors and control systems where intelligent interfaces are not available.
- **Ultra-secure web-based access** through a fully-integrated, non-Microsoft® ISS server that employs full 128bit encryption technology and security that goes beyond commercial HTTPS and HTTP implementations. No application can launch unless it is directly and explicitly required.
- **Enterprise-class scalability** enables a single Paladin® Live™ Enterprise Server to be configured to manage up to 250,000 data channels per second at one millisecond resolution.
- **Reliability-centered maintenance** of infrastructure based upon real-time actual operating conditions, not just scheduled or preventative measures.
- **Prioritization of electrical assets** around processes that carry the highest business values. Revenue generating and critical activities, rather than non-essential internal processes, can now be intelligently prioritized in the event of a predicted problem.
- **Fault tolerance**, redundancy, and automatic backup locally and across the enterprise. In the event of electrical power problems, users can immediately retrieve and analyze historical data from everywhere in the system... not just local values, or just those pre-selected by the operator.
- **Paladin® BlackBoard™** enables users to take a snapshot of their current state off-line, to conduct detailed "what if" simulations impacting their present electrical infrastructure. This enables testing of real-time configuration, maintenance, repair, and other procedures, before attempting them on live systems.





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- **“Black Box” data restoration and analysis** - Like the flight recorder on aircraft, Paladin stores all values from all sources: in the event of electrical power problems, users can retrieve and analyze all historical data from everywhere in the system.
- **Intelligent alarm management** - Paladin’s model-based approach understands the interconnectedness of all equipment, and focuses on only core problems (e.g. loss of utility power) rather than the hundreds of resulting alarms (e.g. every device reporting its own loss of power) that overwhelm conventional systems and human users.
- **Capacity and resources management** - Whether consolidating, expanding, or moving facilities, Paladin allows users to know precisely how much power systems overhead they are using – and more importantly, how much capacity remains –which is crucial in driving operational, technical, and financial planning.
- **Ease of deployment** is achieved by virtue of Paladin Live’s built-in knowledge of the user’s electrical infrastructure, via the embedded design model. This eliminates the need for extensive on-site custom configuration, and the setting of alarm parameters by the user.

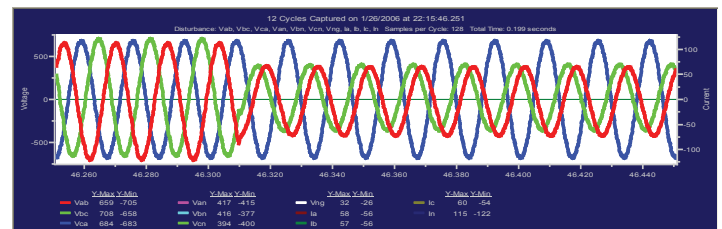
**Paladin® Live™ Standard Configurations**

Class 1.....	500 channels
Class 2.....	1,000 channels
Class 3.....	2,000 channels
Class 4.....	4,000 channels
Class 5.....	8,000 channels
Class 6.....	15,000 channels
Class 7.....	25,000 channels
Class 8.....	40,000 channels
Class 9.....	60,000 channels
Class 10.....	100,000 channels

(1 channel = 1 data point = 1 tag)

**Paladin® Live™ Options**

- **Custom reporting** provides users with the ability to create personalized reports appropriate to the informational needs and technical knowledge of each recipient. For example, engineering and facilities personal can receive custom reports with detailed technical information whereas reports for finance and operations would contain largely business-level data (operating expenses, energy costs, service levels, etc.)
- **Capacity management** via insight into when and how to manage facility planning, e.g. the number of servers in a data center, the amount of equipment on a plant floor, or the peaks-and-valleys of electrical loads.
- **Energy management** gives users the ability to accurately track energy usage, validate utility billings, and determine the cost implication of effect of facilities expansion and consolidation.
- **Vendor-independent waveform analysis** through hundreds of manufacturer-specific “agents” that interface natively with equipment. Features the most robust waveform viewer technology that communicates to the most advanced power quality meters, such as:
  - Square D CM4000 and 4000T meters
  - Square D ION meters
  - GE Nexus meters
  - Electro Industries meters
  - Eaton Power Xpert meters



Thin Client Internet Explorer Viewer with actual CM4000T Waveform displayed