



Digital Energy

Wide Area Monitoring System (WAMS)

Effective system management through enhanced situational awareness

REAL-TIME SYNCHROPHASOR-BASED MEASUREMENT AND MONITORING

Early warning of dynamics issues not readily observed in EMS. Transforming high resolution, synchronized phasor data into actionable information enabling proactive system stability management.

KEY OUTCOMES

- Enhanced situational awareness and proactive grid management, maximizing transfer capacity
- Mitigate risks of major disturbance and blackout through enhanced monitoring and control
- Reduce time spent in emergency operational states with accelerated resynchronization and balancing
- Improved dynamic monitoring based on PMU data
- Supports synchrophasor-based protection and control and tuning of generator and load dynamic performance

KEY FEATURES

- Wide range of core and advanced applications, including Disturbance Characterization, Oscillation Source Location, Sub-Synchronous Oscillation Management, and Effective Inertia
- Coordinated EMS and WAMS for enhanced operator guidance and decision making support
- Clear and informative user interface that supports fast, targeted and efficient control room actions
- Offline engineering analytics and grid assessment tools, standardizing data from multiple sources for comparison

OVERVIEW

WAMS: Tackling the Dynamics of the Grid

Power systems are experiencing fundamental change in the way they are managed, driven by the changing energy landscape and growing demand for electricity. Increasing volumes of renewables coupled with reducing inertia and more sensitive voltage profiles are creating more complex issues for system operators.

System operators have a responsibility to balance the cost of system operation against the risks to system reliability. Managing this trade-off is becoming more complex as the ever-increasing share of intermittent generation has to be managed to meet more variable system demand. Enhanced system visibility is critical to effectively manage power system stability and respond to system disturbances.

WAMS provides this visibility based on real-time data streamed from Phasor Measurement Units (PMU). A host of WAMS software applications use this data to provide context-specific information, presented through an intuitive user interface. GE's WAMS solution complements traditional SCADA-based energy management to deliver fast and proactive grid stability management to meet the complex challenges of modern power systems.



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