



Digital Energy Stability

Integrated EMS-WAMS Solution Suite for Proactive Grid Stability Management

OPERATIONALIZING SYNCHROPHASOR TECHNOLOGY TO ENHANCE GRID RELIABILITY AND ASSET UTILIZATION

Integrating WAMS into control room operation by providing operator guidance, look-ahead capability and asset utilization optimization by augmenting synchrophasor information with topology-based intelligence and model-based analysis.

KEY OUTCOMES

- Improved power system reliability and security with predictive and corrective capabilities
- Enhanced system situational awareness utilizing synchrophasor measurement along with SCADA and system topology information
- Optimize grid asset utilization and enhance grid system operation leveraging existing grid control infrastructure
- Provide real-time and predictive capabilities, operator guidance to alleviate grid stress conditions

KEY FEATURES

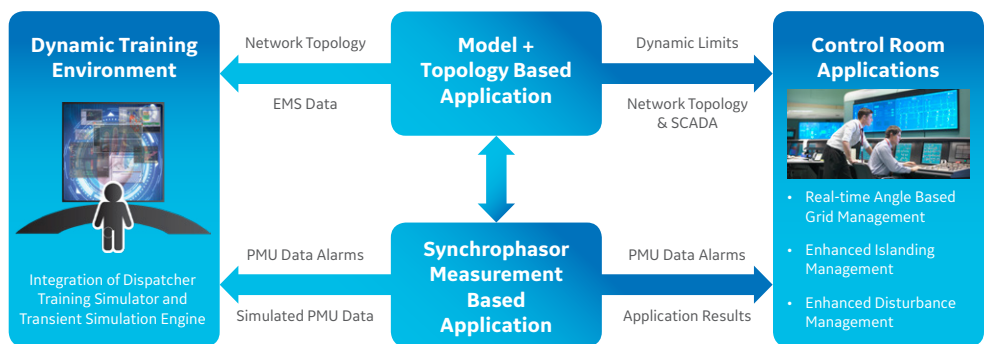
- Real-Time Angle-based Grid Management (RTAGM) to monitor, predict and provide recommended control action for grid stability
- Enhanced Islanding Management (EIM) provide real-time monitoring on island event, recommend island synchronization action and real-time tracking of island resynchronization actions
- Enhanced Disturbance Management (EDM) to more accurately detect an event, approximate the nearest event location, and characterize the event

OVERVIEW

Transforming Wide Area Monitoring to Wide Area Management in the control room

To address the ever increasing challenge of secure electricity supply, grid system operators are demanding a more proactive approach towards grid management by integrating fast synchronized phasor measurement to control room. The increasing roll-out of Wide-Area Monitoring Systems (WAMS) calls for a more unified visualization and control platform leveraging the existing 'model-based' approach with a 'measurement-based' approach for grid stability management.

GE's Stability solution is a hybrid measurement and model-based solution that combines real-time synchrophasor analytics with EMS-based network analysis and dynamic stability assessment tools, all within a unified visualization platform to better manage grid reliability and maximize transfer capacity. This gives grid operators a holistic and accurate view of current grid status, and better intelligence to understand, predict and mitigate potential developing events. The hybrid solution offers unmatched historical data quality, and also serves offline post-event analysis, model tuning, power system planning, providing the operator a training simulator which fully mimics the operational environment in control room.



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