ABB NETWORK MANAGER

Advanced Distribution Management System

Operational confidence.

ABB Network Manager

Industry challenges

The continued rise in renewable distributed generation and the prosumer has made the distribution grid more complex to operate. This has created a need for increased visibility into the grid. Advanced network applications that were only found at the transmission level (state estimation, load flow, volt/VAR optimization, etc.) now need to be extended to the distribution network, to provide the operators with the situational awareness required to manage such a large and complicated system.

Solution

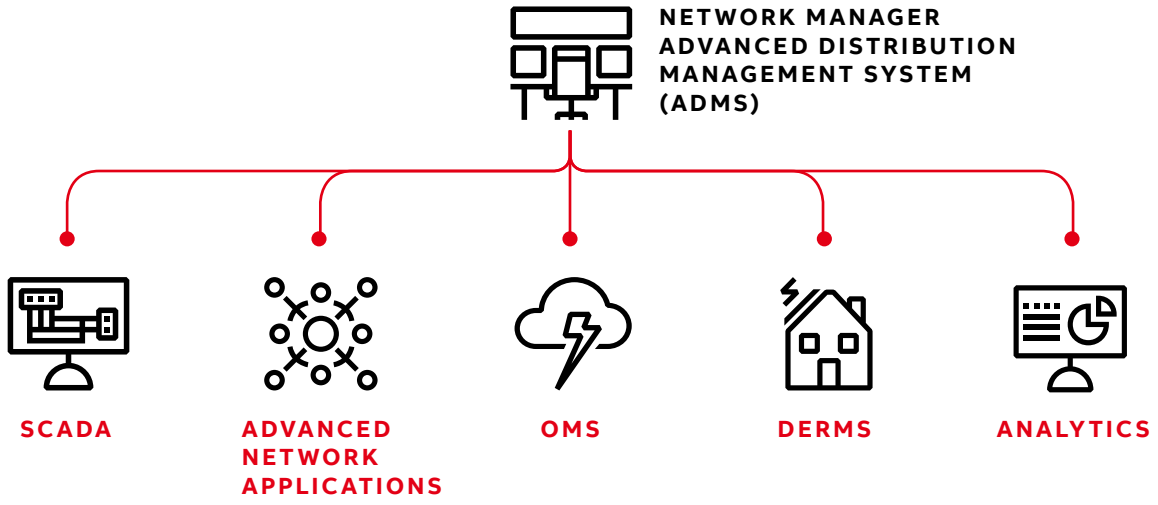
ABB Network Manager is a real-time system for managing operations in a distribution control center. It provides monitoring and control, network analysis, network optimization and outage management capabilities in an integrated software platform, developed to meet the evolving needs of distribution operators.

A key component of the distribution control room, Network Manager enables the efficient management of medium- and low-voltage distribution networks in a single unified environment.

Benefits

- A common working environment provides a seamless workflow for control room staff and increased operational awareness
- A single network model that is easy to maintain
- Advanced data engineering tools ensure higher data quality with easier data migration and integration
- A full suite of network applications including distribution state estimation, FLISR (fault location, isolation & system restoration), DERMS (distributed energy resource management system) and VVO (volt/VAR optimization)
- Advanced switching management supports complex automatic switching for planned and unplanned events
- Integrated analytics solution provides insight to all levels of the organization

The heart of the distribution control room



SCADA

- High performance, availability and cyber security
- Fully redundant, supports multiple redundant schemas
- Multi-site configuration, seamless failover with no loss of data
- Distributed architecture
- Integrated historian
- Centralized database maintenance
- Easy to implement, deploy and maintain
- Unmatched interoperability with external adapters and data exchange interfaces

Network applications

Full suite of distribution network applications including:

- Distribution state estimation
- Distribution load flow
- Volt-VAR optimization (VVO)
- Short circuit analysis
- Optimal feeder reconfiguration
- Fault location, isolation and service restoration (FLISR)

Outage management system (OMS)

- Advanced planned and unplanned switching management
- Improve crew efficiencies during outages and reduce CAIDI and SAIDI with:
  - Trouble call management and outage prediction
  - Crew and referral management
- Integrated outage and reliability reporting tool provides real-time and event-driven reporting
- Provides outage information for consumer-facing websites and mobile apps
- Operations management dashboard provides current and historical view of the outage restoration process to enable tactical and strategic decision making

Analytics

- Integrated outage and reliability reporting tool provides real-time and event-driven reporting
- Provides outage information and maps for consumer-facing websites and mobile apps
- Operations management dashboard provides current and historical view of the outage restoration process to enable tactical and strategic decision making
- KPIs and IEEE reliability indices

Distributed energy resource management system (DERMS)

- Supports active power management and volt/VAR optimization of millions of DERs
- Provides insights to DER events for monitoring and control of assets downstream of the substation and behind the meter
- Maintains grid reliability and performance for significantly reduced voltage excursions and higher network stability
- Significantly increase network hosting capacity for DERs to achieve regulatory targets for renewable generation, with minimal network investments

DERMS registration

- Collect and store installation data of small-scale DERs for communication, control, forecasting and optimization
- Easy device registration from built-in catalog that includes smart inverters, solar panels, batteries, etc.
- Display details of individual DER Installations, including electrical parameters, configuration of the entire installation and devices installed

DERMS forecasting

- Provide distribution operators with visibility and information on DERs below the substation and behind the meter
- High quality forecasts of true demand and DER generation using machine learning algorithms such as neural networks
- Use AMI data to generate accurate forecasts, which are used by advanced power applications

Unmatched interoperability

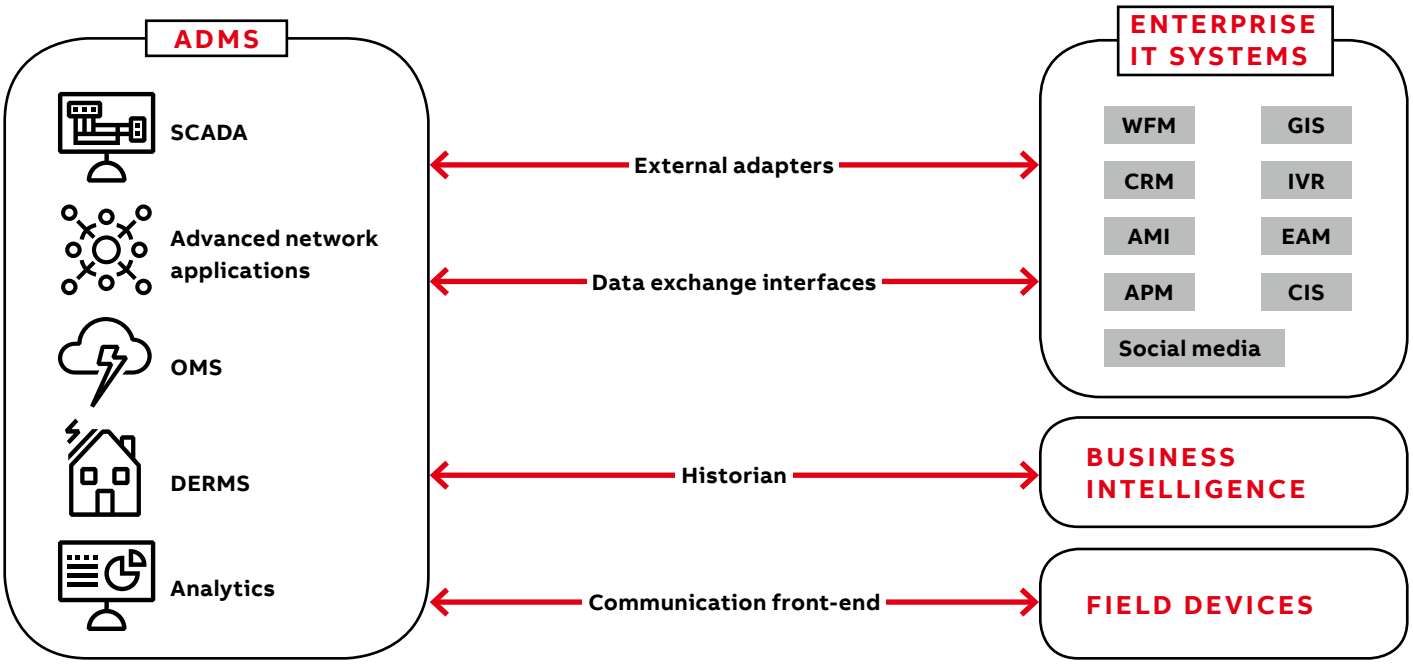


ABB Network Manager makes it easy to integrate both ABB solutions and third party data sources via common data exchange interfaces and external adapters.

Have absolute confidence in your system with ABB.

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