

Network Manager

Industrial^{IT} for Energy System Operation



The right information at the right time –
Network Manager, your tool to profitability

Your continued success demands flexible IT-solutions and competent support. That is why ABB develops and supplies network management solutions tuned to user requirements and international standards.

Network Manager is a control center solution, supporting a safe and efficient energy system operation. Network Manager is also an energy information system, providing decision makers with reliable process information.

Network Manager offers a full range of solutions that enhances efficiency and reliability of power systems, in deregulated as well as traditional electricity markets. Its modular functionality can be tailored to the needs of each company, from small distributors to large power utilities. And it provides a smooth migration path, allowing the addition of new functions when needed, to fulfill future requirements.

Network Manager's open and versatile platform allows for easy integration of utility information systems while maintaining IT-security levels. It provides an optimal solution for coordinated monitoring and control, from power generation to transmission and distribution. Its integration capabilities make it a seamless part of an enterprises' total IT solution.

Network Manager is based on ABB's global experiences as the supplier with the most extensive reference list.



ABB

Network Manager's applications are built on an open platform in a component structure and can be tuned for real-time control and analysis as well as for optimization and planning purposes. These powerful network operation tools facilitate safe and efficient day-to-day operation while minimizing long-term capital expenditure.

Network Manager can be tuned to each utility objective, in any combination thereof:

- Network Manager/Generation
- Network Manager/Transmission
- Network Manager/Distribution

Organizations that choose ABB as a partner benefit from our professional project management, continuous support and in-depth understanding of power systems. ABB's long-term commitment to Industrial^{IT} solutions enhances your organization's competitive strength and profitability, allowing your Network Manager investment to pay dividends well into the future.



Network Manager/Generation is the solution for optimizing total generation and meeting contractual sales. It performs real-time control of dispersed generation systems while maintaining reserve margins. It provides for scheduling of a variety of generation resources, thermal, hydro, etc. It integrates with function modules for wholesale trading and minimizing of financial risk.

- Supervisory monitoring and control
- Optimal use of generation resources
- Generation control tuned to market demands
- Storing of operational results and contractual agreements in a data warehouse
- Savings in fuel consumption
- Reducing need for generation reserves
- Interacts with wholesale trading

Network Manager/ Transmission is the optimum solution for transmission network operations in a deregulated market as well as for combined network and power generation operations in a traditional market. It provides functions and tools for the analysis and optimization of day-to-day operations. It enables operating costs to be reduced while increasing system security.



- Supervisory operation and control
- Accurate scheduling – loadings and generation
- Statistical information - data warehousing
- HV network monitoring in real-time
- Security analysis of operational states
- Enhancement of operations, optimization
- Interfaces Market Operations

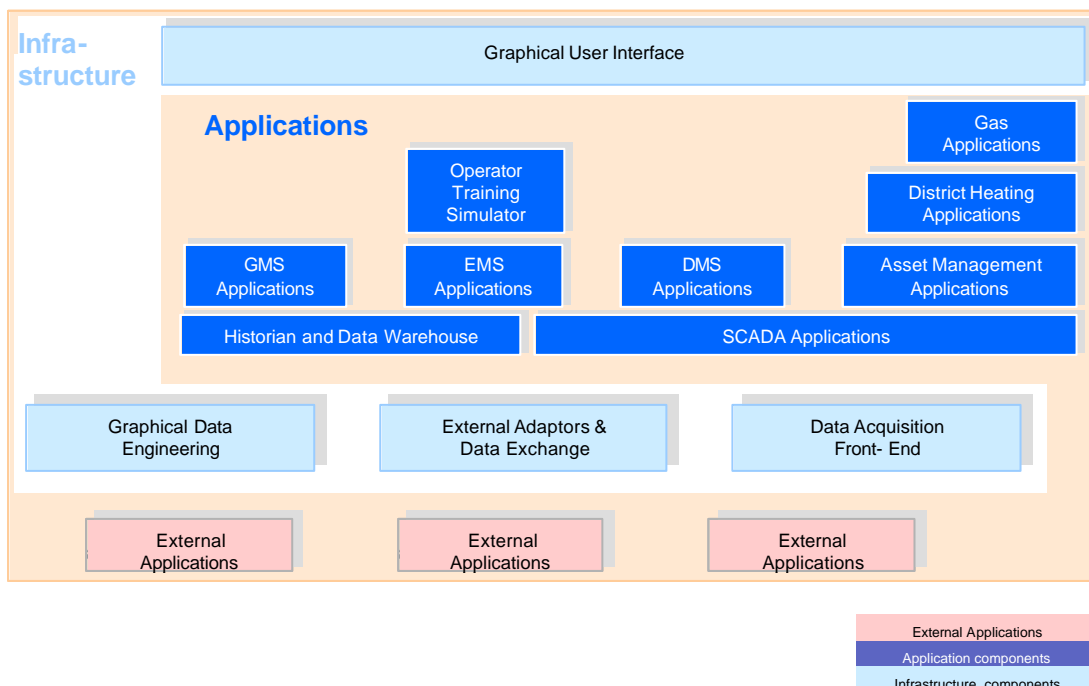
Network Manager/ Distribution provides functions that enhance operation of medium and low voltage power distribution networks. It makes work scheduling easier and improves customer service by providing accurate and prompt information about maintenance and outages.



- Real-time monitoring and control
- MV network operations and analysis
- Operational information in data warehouse
- Optimal network utilization and loading
- Outage management incl. trouble call interface
- Work Management for smooth scheduling
- Crew and resource management

The modular structure of Network Manager is based on components that act like building blocks in a large modular system. They are all fully integrated, but implemented separately and used individually to fit current needs and to provide a migration path for future expansion:

- **GDE Graphical Data Engineering**
An integrated environment with tools for specifying the contents of the database. Graphical Data Engineering utilizes standard interfaces. Support for import of data from Graphical Information Systems (GIS) exists also.
- **GUI Graphical User Interface**
Operator interface for all the applications of a Network Manager system utilizing rich MS Windows based clients and thin web based clients. The operator interface also provides for integration with other software applications offering Industrial IT navigation.
- **External Adaptors and Data Exchange**
Communication interfaces to external systems and applications via message oriented middleware. Network Manager offers a full set of standard data communication.
- **Data Acquisition Front-End**
The Data Acquisition Front-End connects the RTU's to the Network Manager system. International standard, industry standard as well as proprietary protocol solutions are handled.
- **SCADA Applications**
The basic functions for supervisory control of the power system. A package consists of a comprehensive set of real-time monitoring and control and support functions that has evolved from over 40 years of experience in the real-time control systems business.
- **EMS Applications**
Advanced HV network applications and optimization of power flows in transmission systems, including State Estimation, Security Analysis, Optimal Power Flow, etc.
- **Operator Training Simulator**
An environment for training of operators of the system including process simulation.
- **GMS Applications**
Advanced generation management applications including optimal scheduling of mixed generation resources and control according to specific market rules.
- **DMS Applications**
Comprehensive MV network applications for optimal loading and rapid fault detection and service restoration. Trouble calls are matched with the network structure to identify error locations and to direct work crews.
- **Asset Management Applications**
Management of equipment owned by the enterprise, essential for its energy operations and focused on minimizing maintenance costs.
- **District Heating Applications**
Applications for managing of district heating systems.
- **Gas Applications**
Applications for managing of gas distribution systems.



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