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Brochure

AspenTech OSI Advanced Distribution Management System™

Overview

Today's electrical distribution system operators face an increasingly long set of demands and expectations from customers, regulators and public officials. The requirements are to improve the safety, reliability and efficiency of the distribution system while providing timely and reliable data about power system conditions and power outages. Meeting these demands now and into the future requires a modern, integrated and real-time solution built specifically for distribution system operations.

The integrated **AspenTech OSI Advanced Distribution Management System (ADMS)** enables utilities to improve system reliability, efficiency and safety while providing timely and reliable information to internal and external stakeholders. Incorporating a full suite of advanced applications, AspenTech OSI ADMS represents a comprehensive and modern solution to the challenges facing today's distribution system operators and offers a robust real-time platform for each utility's roadmap and vision.

AspenTech OSI ADMS enables distribution operators to:

- Model and manage the distribution network
- Monitor and control the power system
- Manage planned and unplanned outages
- Dispatch crews and manage field work
- Analyze and optimize operation of the network
- Integrate renewable and distributed generation

AspenTech OSI ADMS encompasses a complete and integrated set of functions and applications that operate on a common network model and are accessible through a shared, seamless user interface with a standardized look and feel. AspenTech OSI ADMS provides in-depth situational awareness, real-time monitoring and control, advanced analysis applications and centralized distribution automation.





The AspenTech OSI ADMS suite includes the following modular applications:

- Distribution Network Operating Model (DNOM)
- Distribution Topology Processing (DTP)
- Distribution Power Flow (DPF)
- Short Circuit Analysis (SCA)
- Distribution State Estimator (DSE)
- Volt/VAR Control/Optimization (VVC/VVO)
- Fault Location, Isolation and Service Restoration (FLISR)
- Optimal Feeder Reconfiguration (OFR)
- Switch Order Management (SOM)
- Outage Management System (OMS)
- Distribution Operator Training Simulator (DOTS)
- Short Term Load Forecast (STLF)
- Load Shed (LS)
- Historian (HIS)
- Distributed Energy Resource Management System (DERMS)
- Enterprise integration with GIS, CIS, AMI, IVR, WMS and others



AspenTech OSI ADMS is built on a real-time, high-performance and secure platform to meet the evolving needs of utilities for advanced smart grid capabilities. The benefits of the AspenTech OSI ADMS solution include:

- **Real-time integrated solution:** Built on a real-time SCADA platform using a common architecture, technology and user interface, it enables integrated advanced applications on a single network model by combining real-time data, electrical network data and connectivity data.



- **Efficient maintenance and support:** Logical design using open technologies reduces training, integration, support and maintenance costs, and enables flexible authority and role management.
- **Comprehensive security:** Provides integrated security architecture with support for real-time and corporate access.
- **Centralized distribution automation:** Provides automated applications to reduce losses, maintain power quality, improve reliability and reduce peak demand.
- **Improved reliability:** Improves situational awareness and includes applications that automatically respond to outages, minimizing the number of customers impacted.
- **Improved safety:** Increases visibility of the network status, integrates switching and tagging, and provides a single network model to reduce the risk of unsafe conditions.
- **Improved operations efficiency:** Offers simulation and analysis tools to help operators evaluate and validate options against current and future conditions, improving decision-making.
- **Improved energy efficiency:** Automates applications to reduce losses and peak demand.
- **Management of distributed energy resources (DERs):** Offers modeling, monitoring, management and control of renewable and distributed generation, energy storage, microgrids and other DER types.

Using our open interfaces and many open APIs, as well as our SCADA, DMS and OMS applications, companies obtain the greatest possible return on investment while effectively automating distribution operations and preparing for the transition to a fully integrated and automated distribution business.

Modules

AspenTech OSI ADMS - Base

Advanced Distribution Management System (ADMS) - Base is the operational model of the distribution system and the fundamental component of OMS and other applications. It encompasses a comprehensive and integrated set of powerful electric and distribution system management solutions accessible through a common user interface. ADMS provides real-time connectivity models and advanced visualization to enable operators to monitor and control the distribution system while making operational decisions.

AspenTech OSI OMS

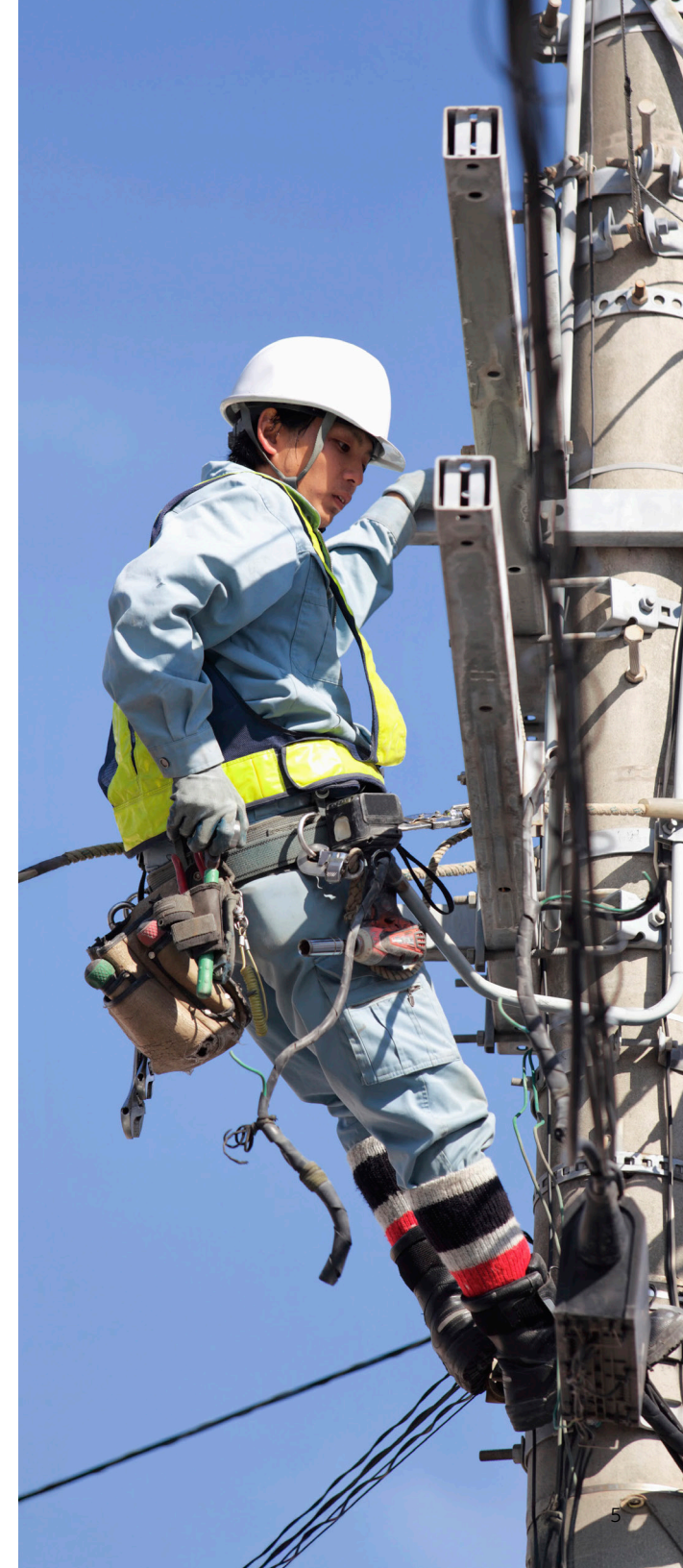
Outage Management System (OMS) is a next-generation, state-of-the-art outage management solution that empowers utilities to better manage outage response times and keep customers, management and regulators well informed about the scope, status and forecast of restoration efforts while improving overall system reliability. OMS also enables the assignment of work to field technicians.

AspenTech OSI GIS interface

Geographical Information Systems Interface provides a standard configuration interface to the utility's GIS system to retrieve network models and system maps (electrical, geographical, other information). GIS interface APIs are designed to enable interfacing to common GIS products and can be tailored to specific needs. GIS interface supports incremental updates to the model on demand or on a periodic basis, such as daily or weekly.

AspenTech OSI Compass Mobile Outage and Switch Order Management

AspenTech's mobile solution, Compass, offers utilities a mechanism for extending the as-operated view of the electrical network to their field employees. Through Compass, field personnel are able to receive outage jobs to quickly and efficiently work on outages, with their actions being mirrored back to the operational system. Field personnel are able to receive and execute switching instructions as part of Switch Order Management to improve efficiency and reduce back and forth calls between the control center and the field. Lastly, with Damage Assessment, troubleshooters can identify damage on the system and list the repairs or materials that may be needed, with all information syncing back to the control center for action by operators and/or others.



AspenTech OSI Distribution Power Flow

Distribution Power Flow provides operators with visibility into the electrical state of the distribution system. Distribution Power Flow features a robust, three-phase, unbalanced power flow algorithm that calculates real-time voltage and loading violations, as well as situations nearing operational limits. Distribution Power Flow can also be executed in study mode to simulate what-if scenarios.

Short-circuit analysis is part of OSI Distribution Power Flow. It analyzes faults in radial or looped feeders and calculates per-phase values for fault conditions, including fault contributions from motors and distributed generation (DG) sources. It can be used in a real-time model to query the fault capacity at selected points or in study mode to analyze the currents and voltages in all parts of the network, given fault conditions.

AspenTech OSI ADMS - State Estimator

ADMS - State Estimator is a robust, high-performance application that calculates per-phase values for the entire distribution network in real time. It takes into account all available measurements, including redundant or partial measurements. As the number and variety of real-time data increases, ADMS - State Estimator provides a more accurate network state for advanced DMS applications.

AspenTech OSI VVC and CVR

Volt Var Control/Optimization and CVR empowers utilities to reduce system losses, release system capacity, improve voltage levels and implement conservation voltage reduction (CVR) with intelligent and optimal management of reactive resources. It monitors distribution system voltage profiles and power flows, and controls capacitor banks, voltage regulators and LTCs to achieve the desired objectives.





AspenTech OSI FLISR

Fault Location, Isolation and Service Restoration (FLISR) enables utilities to reduce outage duration and avoid loading and voltage violations when restoring faults. FLISR utilizes fault data and the real-time network model to locate faults and determine the switching steps required to isolate faulted distribution system equipment and restore service to un-faulted sections of the system.

AspenTech OSI Feeder Reconfiguration

Feeder Reconfiguration is an advanced switching solution that determines optimal load transfer to improve the overall performance of the distribution system. Feeder Reconfiguration enables operators to respond quickly with switching solutions to relieve overload situations and minimize damage to system assets, correct unacceptable voltage conditions, reduce system losses through load balancing and improve customer service.

AspenTech OSI Forecast

Short-Term Load Forecast is a simple and reliable short-term load forecasting tool that relies on neural network techniques to predict loads with extraordinary accuracy. Forecast supports multiple load areas or feeders and has the ability to forecast up to 35 days into the future. A feature-rich user interface is supported, consisting of various tabular and graphical representations.

AspenTech OSI Switch Order Management

Switch Order Management provides the tools necessary to formulate safe and effective switching procedures. This is done interactively through a graphical user interface, enabling the operator to verify actions in study mode before the order is dispatched. Switch Order Management provides configurable templates to support various switch order types and utility practices.



About Aspen Technology

Aspen Technology, Inc. (NASDAQ: AZPN) is a global software leader helping industries at the forefront of the world's dual challenge meet the increasing demand for resources from a rapidly growing population in a profitable and sustainable manner. AspenTech solutions address complex environments where it is critical to optimize the asset design, operation and maintenance life-cycle. Through our unique combination of deep domain expertise and innovation, customers in asset-intensive industries can run their assets safer, greener, longer and faster to improve their operational excellence.

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