

Grid Monitoring, Control and Optimization



Oracle Utilities Network Management System Distribution SCADA Oracle Utilities Analytics Insight

The electric distribution grid is changing rapidly. Whether due to weather stresses, digitalization, distributed energy resources (DERs) or electric vehicles (EVs), distribution grid management needs have outgrown the capabilities of legacy distribution management and SCADA systems. A growing number of utilities are turning to the Oracle Utilities Network Management System – the industry’s most scalable, flexible and performant ADMS for modern distribution grids.

KEY BENEFITS

- Connect grid, outage, meter, work, analytics and customer process to drive efficiency, reliability, and superior service.
- Reduce the capacity for DER intermittency to cause disruption
- Defer capital expenditure by reducing generation needs
- Easily handle data complexity and scale using a proven solution
- Simplify edge-of-grid planning

Turning complexity and massive data into flexibility and value

Traditional grid systems have been built for a largely unchanging operating environment, not the level of data-driven, complex processes necessary for modern distribution management. As a result, core systems supporting those processes – monitoring and control of field devices, load profiling, data management, reliability and outage response – are being stretched beyond their capabilities. To overcome these challenges, utilities need a modern, data-driven grid monitoring, control and optimization platform.

As a pioneer and global leader in outage and data management and analysis, Oracle designed its Oracle Utilities Network Management System (NMS) to handle and leverage all forms of modern utility data – all the way to the grid edge – to improve safety, reliability and value for grid operators.

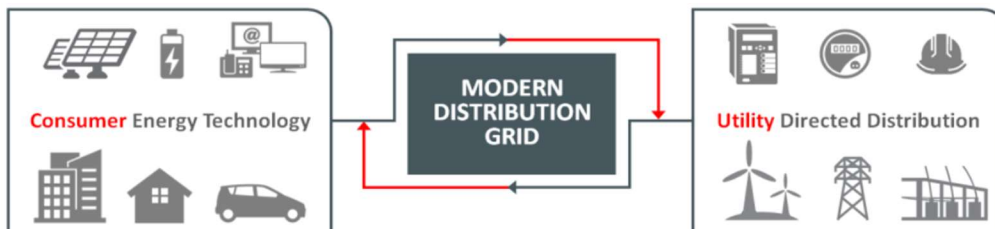


Fig.1: Support the traditional utility model while evolving to meet new distribution dynamics

Optimize your network all the way to the edge of the grid

Oracle Utilities NMS is purpose-built to support a modern utility, providing a data-centric approach to monitoring, control and optimization of both traditional distribution and edge-of-grid needs, such as the integration of rooftop solar. With it, utilities can optimize power flow and lessen emissions to provide the most reliable, cost-effective, safe and secure distribution grid by:

- Ensuring grid performance via automated monitoring and control of intelligent devices using a low-cost, distribution SCADA or by extending your existing capabilities
- Supporting exponential growth of connected devices at the edge of the grid
- Delivering out-of-the box load models for DER, including solar, storage, EVs and more
- Improving network health by continuously analyzing data across multiple systems and reporting risk
- Meeting demand at a lower cost by automating self-healing (FLISR), voltage regulation (Volt/VAR), and electricity conservation (CVR)
- Accelerating control room productivity through training, simulation, and the creation of a best practices library for grid operations and outage management
- Providing safe and fast maintenance, network reconfiguration and outage restoration through coordinated and accurate switching, both in planning and real-time

Rely on a trusted advisor to evolve your distribution SCADA

Traditional SCADA was built for a rigid operating environment and a limited array of device types, but today's distribution grids include a wide array of non-SCADA devices and DERs that are nonetheless important for real-time distribution automation. To help utilities modernize their approaches to distribution SCADA, we provide a flexible platform with the industry's leading real-time integration capabilities as well as native SCADA applications for those desiring a single integrated solution.

Our discovery and solutioning process is straightforward. We begin by examining your operations and process. Then we walk you through options to find the solution that best meets your current and future needs. Options include:

- Supplementing distribution field SCADA with a modern, scalable, real-time SCADA that is web deployable, cross-platform compatible and simple to use, allowing for exponential growth of distribution field devices
- Supporting your existing SCADA, AMI, or GIS investments via pre-built adapters while expanding management, automation and optimization to the grid edge.
- Providing direct monitoring and control to deliver a best-practices approach to grid modernization, modeling and scalability. You bypass the data constraints presented by D-SCADA, shed the cost of this continually updating this legacy system, and gain grid edge and ADMS capabilities.

KEY FEATURES

- Load profiling by device type, location and condition of use, including out-of-the-box load models for storage, solar and more
- Automated monitoring and control of high-volume data devices
- Full suite of OMS/DMS functionality on a common platform
- View historical data from any historian interface
- Enables exponential growth of connected grid devices via IP
- Exception-based management of distributed data points
- Priority-driven management ensures trouble spots and alarms are identified, flagged, and elevated
- Communicates down to the customer device

RELATED RESOURCES

- Oracle Utilities Analytics
- Oracle Utilities Operations Mobile Application
- Oracle Utilities Mobile Workforce Management
- Oracle Utilities Smart Grid Gateway
- Oracle Utilities Operational Device Management
- Oracle Utilities Meter Data Management

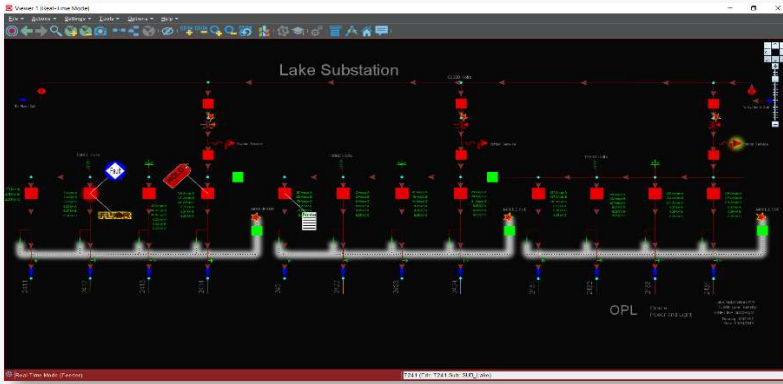


Fig 2: Oracle Utilities NMS SCADA applications are more cost-effective and flexible than traditional hardware-centric approaches

Because scalability is imperative

Oracle Utilities NMS has proven field performance with our largest customers under historically worst-case conditions. And we continue to benchmark scalability so you'll never have to worry whether you can handle volumes of data or increased operation complexity. A recent scalability test validated Oracle Utilities NMS to deliver on all aspects of ADMS performance, including :

- Supporting 5.6 million customers with 7,300 feeders
- Integrating 500 current operators and more than 300 call-takers
- Handling 118,000 calls an hour input rate
- Coordinating 3,700 crew updates and managing 2,700 device operations an hour

Take your operational technology strategy to the next level

Regardless of how quickly your distribution grid needs are changing, Oracle Utilities can give your team critical capabilities at a lower price than conventional SCADA solutions and with greater flexibility to integrate real time data flows from a wider array of grid devices and DERs. Choose Oracle Utilities NMS for the ADMS delivers both reliability and flexibility to handle the changing needs of today's distribution grids.

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