

Modernize Distribution Grid Performance

With Oracle Utilities Network Management System

New technologies, climate change, customer expectations, and regulatory mandates place greater demands on grid operators. Distributed Energy Resources (DERs) and other grid-edge innovations are adding new capabilities and complexities to grid management. For instance, solar PV and wind additions are forecast to more than double by 2028 compared with 2022, continuously breaking records over the forecast period to reach almost 710 GW.¹ In addition, the increasing severity of weather events have an economic impact on businesses across the globe. For example, the Joint Economic Committee reports that power outages cost the U.S. economy approximately \$150 billion each year.² How can grid operators ensure safe and reliable service in this time of unprecedented change?

Modernize your distribution network all the way to the edge

Oracle Utilities Network Management System (NMS) is an advanced distribution management system (ADMS) that unifies grid operations capabilities to shorten outage durations, optimize distribution grid operation, manage distributed energy resources (DERs). Chosen by Gartner Research as a leader in over 3 consecutive years, NMS is an industry proven, trusted, and leading solution to solve critical challenges of energy and water distribution networks.

Advanced Distribution Management

Utilities grid operations rely on Oracle Utilities NMS to effectively respond to outages, integrate emergency and mutual-aid crews, and get accurate information to customers faster. Utilities need to be measured through reliability metrics by regulators that identify how long it took to restore power and impact to their customers. Grid operators can utilize advanced analytics and business intelligence to stay on top of reporting reliability. In addition, they:

- Improve network health by continuously analyzing data across multiple systems and reporting risk
- Reduce the cost of demand by automating voltage regulation and electricity conservation
- Accelerate control room productivity through a single pane of glass network view, training, simulation, and best practices
- Provide safe and fast maintenance, network reconfiguration, automated self-healing, and outage restoration through coordinated and accurate switching, both in planning and real-time

Key capabilities:

- Unified network model eliminates data silos, improves situational awareness, and enhances decision-making across operational use cases — from outage response to DER integration
- Perform at over 90% reliability in any condition to restore service safely and on a timely basis
- Reduce switching errors by over 50% and improve network performance
- Communicate proactively with customers

Key Benefits:

- Gain complete network visibility within a single pane of glass
- Reduce unplanned work
- Identify faults accurately and quickly
- Avoid safety hazards caused by voltage fluctuations
- Reduce the impact of customer outages
- Exceed reliability metrics such as CAIDI
- Increase customer satisfaction

¹ International Energy Agency, Renewables 2023, <https://www.iea.org/reports/renewables-2023>

² Joint Economic Committee, How Renewable Energy Can Make the Power Grid More Reliable and Address Risks to Electricity <https://www.jec.senate.gov/public/index.cfm/democrats/2024/1/how-renewable-energy-can-make-the-power-grid-more-reliable-and-address-risks-to-electricity-infrastructure>

1 Modernize Distribution Grid Performance with Oracle Utilities Network Management System

DER Management

With Oracle Utilities NMS, grid operators model the entire DER network. They can register the DER assets and make accurate network plans with numerous inputs from systems such as weather and Advanced Metering Infrastructure. While Oracle Utilities NMS manages all these inputs, operators are well on their way for near-term and long-term planning. Oracle Utilities provides a complete lifecycle for DER asset management and customer communication on top of grid operations.

Customer Communications

With Oracle Utilities Opower Digital Self Service customers get a real-time view of outage status. Utilities can convey estimated restoration times as well as proactive updates. This improves customer satisfaction and time spent with CSRs that in turn translates in savings to the customer care organization. Utilities can extend different demand response programs in times of grid resource constraints via Oracle Utilities Opower Peak Management.

Related Solutions:

- Oracle Utilities Flex Operations
- Oracle Utilities Flex SCADA
- Oracle Utilities Field Service
- Oracle Utilities Operations Mobile Application
- Oracle Utilities DERMS

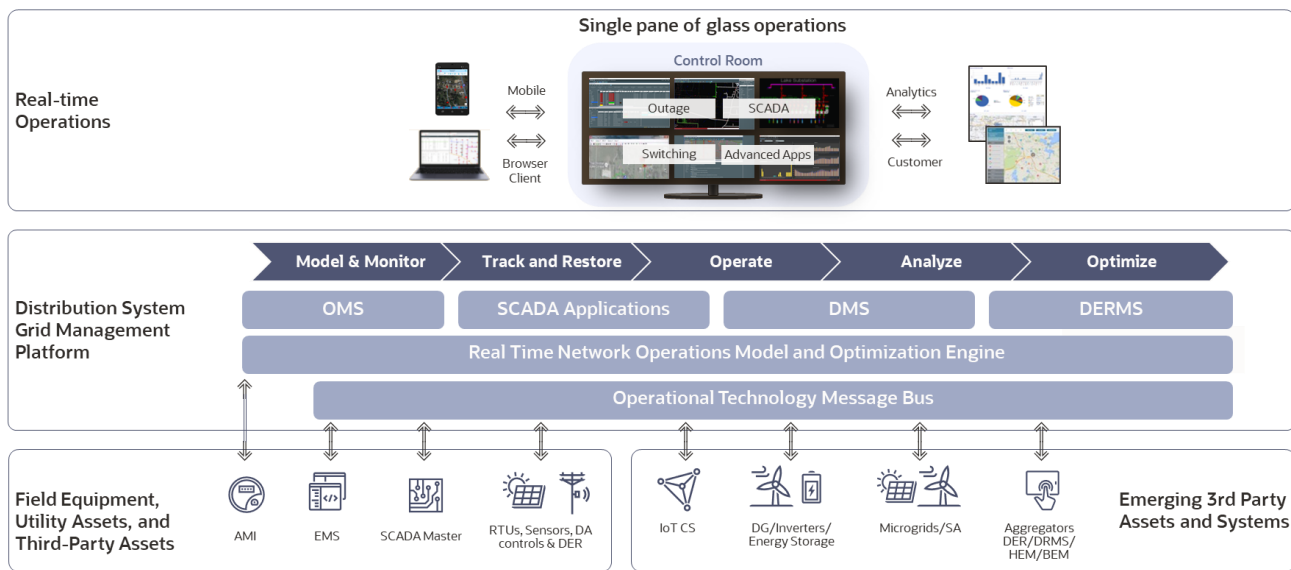


Figure 1. Transform field data into information and actionable insights and optimize your network performance. From customer to control room, Oracle Utilities Network Management System enables end to end grid management within a single pane of glass.

Oracle Utilities NMS has field proven performance managing distribution grids for millions of electricity consumers globally. We continue to benchmark that scalability so you can rest assured you’ll have the capacity to handle data and operations when it counts.

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