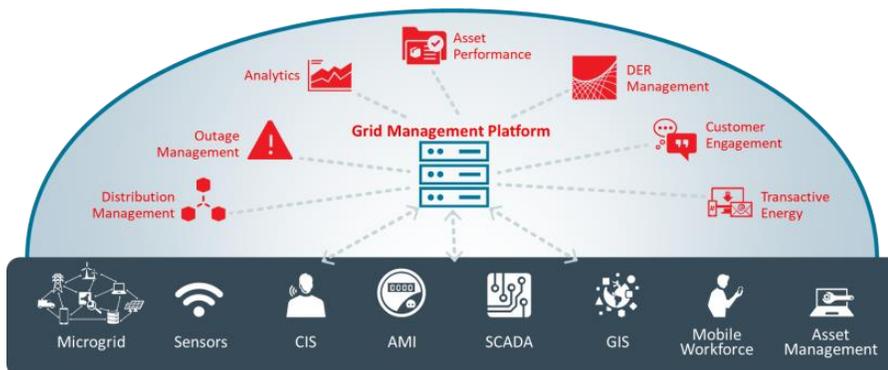


ADMS & DERMS with Oracle Utilities Network Management System

The combination of intense economic, regulatory and customer pressures are making a significant impact on the utility industry landscape. Led by the adoption of distributed energy resources (DERs), this industry transformation requires increasing transparency and visibility to areas of the network where it was once unnecessary. In today's market, future success depends on the ability to accelerate innovation - opening new revenue streams while exceeding customer expectations and optimizing network operations. With this customer to grid convergence, utilities are turning to Oracle Utilities Network Management System (NMS).

A MODERN APPROACH TO DISTRIBUTION GRID MANAGEMENT

Since the birth of the modern utility industry, utilities have been built around parallel tracks – from distribution, outage, and asset management to customer response and engagement. Over time, those individual tracks have evolved, but evolution of utility systems, teams, and strategy have remained in parallel – separate and siloed. Today, however, those parallel tracks are converging and creating an opportunity to evolve comprehensively, optimizing from network to customer, and supporting a cohesive value chain across the enterprise with a reliable, flexible and scalable architecture.



Oracle Utilities NMS leads modern distribution grid management within this new paradigm. Unifying essential ADMS functions with the rising need for enhanced visibility and management of DERs, NMS provides the platform-based approach to extend visibility down to the customer, enhance reliability and efficiency through SCADA and IoT enabled equipment, and optimize the network with automated, cost-driven decision-making. Oracle Utilities NMS empowers utilities to take full advantage of multi-tiered switching, energy storage, demand response programs and much more.



In the new, DER-driven utility landscape utilities use Oracle Utilities NMS as the distribution grid management platform to:

- Reduce disruption and safety issues due to renewable generation variability and intermittency
- Eliminate the need to bring additional, costly generation resources online
- Minimize customer minutes of interruption (CMI) via improved load profiling
- Improve resource planning to support this DER growth
- Inform customer engagement and demand response with deep insight into network-wide DERs

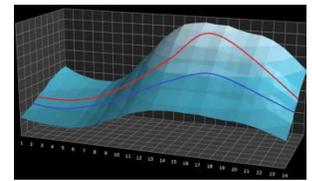
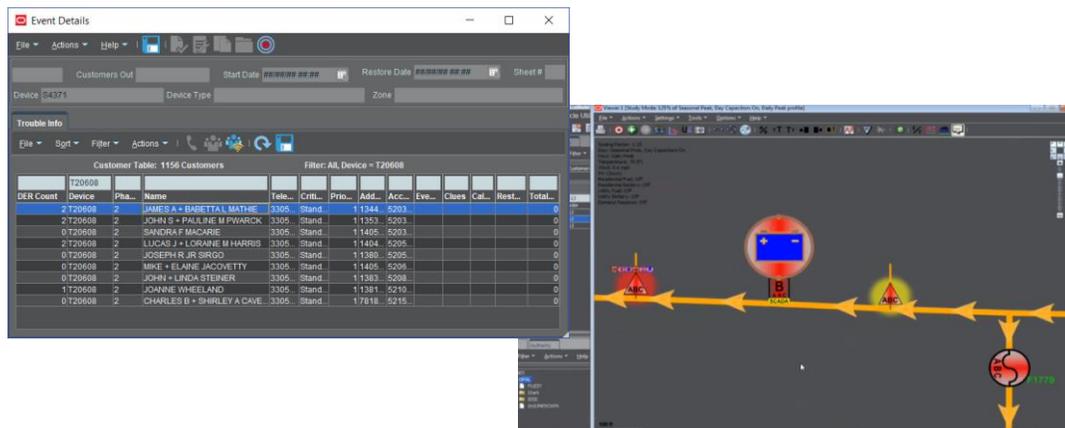
NMS DERM combines optimized grid performance with customer experience by:

- Creating rate structures for any level of program complexity and dynamically communicate to the DER owner
- Directly connecting customers with the 3rd party energy services they value
- Reaching and communicating to customers when and how they prefer

ORACLE UTILITIES DISTRIBUTED ENERGY RESOURCE MANAGEMENT MODULE: A CRITICAL PIECE OF THE MODERN ADMS

The Distributed Energy Resource Management (DERM) module of Oracle Utilities NMS, whether leveraged as a standalone solution or as an integrated part of NMS, offers utilities the lowest risk, lowest cost and fastest time to value by:

- Capturing individual DER and IoT details aggregated for operator display to support DERMS within a common ADMS, real-time operating network model
- Optimizing control actions for Active Network Management to maintain system parameters within appropriate limits through switching actions and/or DER dispatch
- Forecasting individual loads and DER for integrated distribution resource planning aggregated to transmission connections
- Enhancing Demand-Side Management (DSM) for Bring Your Own Device (BYOD) and Behavioral Demand Response (BDR) programs to manage grid constraints
- Leveraging industry proven deployments for scalability during extreme weather events and intelligent device growth to perform when it matters most
- Simplifying projects for best practice implementations and upgrades based on “across the board” product improvements vs customized, one-off efforts.



Generate 3-Dimensional Load and DER Output Profiles with real-time forecast information used in the power flow analysis:

- Based On:
 - Weather conditions and forecasts including temperature, cloud density and wind speed
 - Time of Day
 - Day Types including weekday/weekend, seasonal peak or custom
- Graph generated for each supply point per day type
- Considers DERs down to the customer location
- Apply and view in real-time or study mode

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ARCHITECTED TO DELIVER FAST, ACCURATE INSIGHTS WITH YOUR DATA

With more devices comes massive data volumes. Utilities must be prepared to ingest, normalize, curate and analyze data from a variety of sources at unprecedented speeds. Deepening grid, asset and customer awareness to drive key outcomes requires effective data management. Leveraging the value from all data is the difference between a paralyzed vs proactive workforce. Oracle Utilities brings it all together – grid, asset and field service management in the new customer-centric world architected with the flexibility to prioritize use cases of highest value.

Integrated Cloud Applications & Platform Services

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