

ORACLE UTILITIES NETWORK MANAGEMENT SYSTEM



KEY BENEFITS

- Increase your return on invested capital by better managing distribution assets.
- Control costs with improved visibility across the enterprise.
- Provide access to real-time, decision-driving data, thus reducing risk and uncertainty.
- Reduce outage restoration time.
- Improve operational efficiency.
- Safeguard workers and the public.

Oracle Utilities Network Management System helps you maximize the investment in your electricity distribution network. It is a comprehensive, integrated suite of real-time management applications that is designed to work with your existing SCADA, GIS, and similar systems. Oracle Utilities Network Management System accelerates network restoration, improves operational efficiency and system reliability, and better manages distribution assets.

Manage Outages

By using Oracle Utilities Network Management System, utilities can improve operational efficiency, reduce the duration of outages, increase customer satisfaction, improve asset management decisions, access information in real time, increase flexibility, speed task transitions, enhance fault tolerance, and integrate existing information.

Improve Operational Efficiency

- Determine the crew resources necessary to achieve restoration objectives.
- Balance resources between operating regions.
- Determine when to schedule mutual aid crews.

Reduce the Duration of Outages

- Improve the speed and accuracy of outage predictions.
- Improve restoration documentation and reliability indicators.

Increase Customer Satisfaction

- Assure customers that the utility is aware of the outage and is responding to it.
- Provide customers with an estimated restoration time—even before crews arrive at the site.

Improve Asset Management Decisions

- Optimize expenditures on new and existing assets.
- Improve service reliability by tracking all customers affected by an outage, determining electrical configurations of every device on every feeder, and compiling details about each restoration process.

Access Information in Real Time

- Increase crew safety and efficiency.
- Access automatically updated information via graphical maps and tabular lists.
- Empower utility operations centers to issue warnings about potential switching hazards before they are attempted by ensuring that safety tags, safety documents, and clearance records are online and readily accessible.

Increase Flexibility

- Deliver extremely accurate predictions based on utility-defined outage analysis rules.
- Easily define and upgrade switching plans, access levels, and other functions—without source code alterations.

Speed Task Transitions

- Handle multiple outages and events simultaneously.
- Speed transitions between tasks with the system's streamlined navigation through time, space, and network conditions via automated operator/system interactions.

Enhance Fault Tolerance

- Go beyond simple hardware redundancy and data replication.
- Use application redundancy to ensure system availability and continuity during interruptions.

Integrate Existing Information

- Integrate data from customer information systems (CIS), geographic information systems (GIS), supervisory control and data acquisition (SCADA) systems, interactive voice response (IVR) systems, and mobile systems into a centralized, real-time database.
- Use Oracle Utilities Network Management System's business intelligence/decision support functions to provide a comprehensive event history and ensure reporting accuracy on measures such as SAIDI, SAIFI, CAIDI, and MAIFI.¹

Manage Your Distribution Network

When you use Oracle Utilities Network Management System to manage your distribution network, you can control costs, increase operational efficiencies, improve service quality, defer capital expenditures, reduce operations and maintenance expenses, and increase customer satisfaction.

Control Costs

- Avoid incremental power purchases when prices are high.
- Reduce generation emissions and related clean-air-attainment costs by optimizing demand response.
- Improve efficiency and reduce losses with optimal delivery system configuration.

Increase Operational Efficiencies

- Operate closer to network limitations while making informed operational decisions that affect guaranteed service contracts, quality-of-service goals, and emergency response.
- Manage relationships between operational and financial opportunities and risk more effectively.

¹ Oracle Utilities Network Management System is compliant with IEEE STD P1366-2003 and similar reliability calculations standards.

Improve Service Quality

- Reduce facility overload, voltage problems, and problematic switching actions to improve reliability and minimize nonoutage complaints.
- Accelerate network restoration by optimizing switching actions to isolate/restore equipment.

Defer Capital Expenditures

- Improve switching planning, real-time switching, and load balances to prevent equipment damage and extend your equipment's operational life.
- Utilize real-time network information to reduce capacity margin.

Reduce Operations and Maintenance Expenses

- Reduce losses by optimizing equipment set points and system controls in real time.
- Spend less time developing switching actions to isolate and restore power.

Increase Customer Satisfaction

- Reduce customer complaints.
- Improve reliability indexes.

Add the Modules You Need

Oracle Utilities Network Management System provides a set of core functions to which you add the precise modules you need. Among your choices are Central Operations: Dispatch, Central Operations: Control, Customer and Field Support, and Performance Monitoring and Improvement Tools.

Central Operations: Dispatch

This module includes the following functions:

Trouble Management

- Provides the industry's largest set of analysis rules and the dynamic topology of a distribution network within a real-time operations model
- Accurately predicts the size and clearing location of outages
- Tracks every customer involved in an outage
- Reduces response times

Storm Management

- Produces accurate estimated outage-restoration times
- Uses table-driven parameters to factor in variable conditions
- Uses "what if" scenarios to improve estimates of crew staffing requirements and identify mutual aid strategies

Central Operations: Control

This module includes the following functions:

Switching Management

- Streamlines preplanning of large switching sequences in study environments and real-time models
- Provides step-by-step instructions for opening, closing, and tagging devices to achieve an isolation objective

- Eliminates paper switching forms and finger tracing of the electrical system, significantly reducing switching errors
- Lets you prepare switching plans prior to execution and plays them back in real time as they are being executed

Power Flow Extensions

- Interactively simulates the distribution system
- Provides operators the expected voltage, power flow, limit violations, fault current, and losses for system equipment

Suggested Switching

- Generates an optimal set of switching sequences to isolate and restore system segments
- Uses Power Flow Extensions to enhance validations of switching sequences that include voltage, power flow, limit violations, fault current, and losses resulting from planned switching actions

Optimal Power Flow

- Calculates control settings and actions that optimize electric system operating conditions within specified constraints

Real-Time Monitor

- Simulates the current state of distribution circuits
- Runs continuous cyclical power flow simulations without user intervention, through event triggers or on demand
- Uses real-time loading conditions to update projected hourly load data and forecast conditions based on season, day type, and temperature

Overload Relief

- Determines optimal switching actions to relieve overloads, balance equipment loading, and redistribute load from a particular device

Voltage and Loss Optimization

- Determines transformer LTC settings, capacitor bank switching, and switching actions to optimize voltage and reduce losses

Demand Management

- Works through voltage management to automatically determine voltage-control-device settings to exploit load response to voltage magnitude

SCADA Extensions

- Provides extensions (normally associated with SCADA) directly to the operator's workspace
- Enables the SCADA system to be used within the user environment of Oracle Utilities Network Management System

Customer and Field Support

- Web Trouble provides remote users with Web-based access to outage and detailed crew information.
- Web Call Entry offers either backup or primary call taking during storms.
- Web Callbacks support customer callbacks at alternative numbers while the customers await restoration.

Performance Monitoring and Improvement Tools

- Performance Mart provides extract, transform, and load (ETL) functionality for moving real-time trouble information to the Executive Dashboard for easy access by operations managers, storm center users, and media relations.
- Trouble Reporting provides outage statistics.
- Storm Reporting estimates restoration times.
- Service Alert provides a proactive approach for notifying company employees when outages occur.

Contact Us

For more information on Oracle Utilities Network Management System, visit oracle.com/industries/utilities.

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