

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.
- Decrease total cost of ownership through pre-built integration adapters based on best practices and industry standards.
- Reduce outage restoration time.
- Proactively respond to forecasted load problems, thus avoiding outages.
- 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 Outage and Distribution Management System featuring a common operations model, end-user applications, and decision support environment that work with your existing SCADA, GIS, and complementary 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 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.
- Effectively utilize resources between operating regions.
- Determine when best to schedule mutual aid crews.

Reduce the Duration of Outages

- Improve the speed and accuracy of outage predictions.
- Reduce crew patrol and drive times through improved outage locating.

Increase Customer Satisfaction

- Improve outage communications for initial and follow-up customer calls, and via IVR, web sites, and other notification methods.
- Provide customers with more accurate estimated restoration times.

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-configured outage analysis rules.
- Easily define and administer filter options, user 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

- Leverage Oracle Real Application Clusters technology for high availability configurations.

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, advanced metering infrastructure (AMI), 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 IT support and administration due to common Outage Management System/Distribution Management System platform.

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.

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

- Manage relationships between operational and financial opportunities vs. risk more effectively.

Improve Service Quality

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

Defer Capital Expenditures

- Improve switching planning, real-time switching, and load balancing 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 modules you need. The integration application infrastructure supports Outage Management and Distribution Management options as an initial focus with the opportunity to expand your use of one or grow into the other. Among your Oracle Utilities Network Management System choices are:

- Oracle Utilities Outage Management System Standard Edition
- Oracle Utilities Outage Management System Enterprise Edition
- Oracle Utilities Distribution Management System Standard Edition
- Oracle Utilities Distribution Management System Enterprise Edition
- Oracle Utilities Outage Management Business Intelligence
- Oracle Utilities Outage Management Web Client
- Oracle Utilities Outage Management Storm Management
- Oracle Utilities Outage Management Call Center
- Oracle Utilities Outage Management SCADA
- Oracle Utilities Outage Management Paging
- Oracle Utilities Network Management Fault Location, Isolation, and Service Restoration

- Oracle Utilities Network Management Volt/VAr Optimization
- Oracle Utilities Network Management Fault Location Analysis

Oracle Utilities Outage Management System Standard Edition

Included in this module is the industry leading Outage Management System operations model, complete with support and administration tools, and integration to leading GIS vendors. The ability to support highly available cluster configurations is also included. The Oracle Utilities Outage Management System applications are supported with standardized application configurations for “off-the-shelf” use. Pre-built integration adapters support various Oracle Utilities products along with generic adapters for foreign CIS and IVR instances. The associated functionality includes:

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.

Oracle Utilities Outage Management System Enterprise Edition

The Oracle Utilities Outage Management System Enterprise Edition includes all of the benefits of the Oracle Utilities Outage Management System Standard Edition, plus the benefits of: a Switching Management application, support for schematic operating diagrams, and integration via WebSphere MQ to foreign systems such as CIS, IVR, Mobile, and Work Management. A generic MultiSpeak® adapter also supports integration to AMI vendors and Automatic Vehicle Location (AVL).

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.
- Allows preparation of switching plans prior to execution and plays them back in real time as they are being executed.

Oracle Utilities Distribution Management System Standard Edition

The Oracle Utilities Distribution Management System applications share the same operations model and core services as the Outage Management System applications, removing the need for model synchronization and multiple display terminals. Oracle Utilities Distribution Management System Standard Edition includes similar functionality to Oracle Utilities Outage Management Standard Edition, but includes Switching Management and omits Trouble Management and its associated adapters.

Oracle Utilities Distribution Management System Enterprise Edition

The Oracle Utilities Distribution Management System Enterprise Edition includes all of the benefits of the Oracle Utilities Distribution Management System Standard Edition, plus support for schematic operating diagrams, Power Flow Extensions, Feeder Load Management, and Suggested Switching.

Power Flow Extensions

- Interactively simulates the distribution system using an unbalanced, three-phase algorithm.
- Provides operators the expected voltage, power flow, limit violations, fault current, and losses for system equipment.

Feeder Load Management

- Analyzes the current state of distribution circuits.
- Runs cyclical power flow simulations without user intervention, through event triggers, or on demand.
- Uses real-time loading conditions and day-type load profiles with adjustable scaling to project hourly load data and forecast daily peaks for the next week.

Suggested Switching

- Generates an optimal set of switching sequences to isolate and restore system segments, or provide overload relief for a feeder.
- 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.

Oracle Utilities Outage Management Business Intelligence

Oracle Utilities Outage Management Business Intelligence provides extract, transform, and load (ETL) functionality for moving real-time trouble information to the near-real-time Data Warehouse for easy access by operations managers, storm center users, and media relations. Network Management System (NMS) extractors and reports provide outage statistics, estimated restoration times, information on feeder performance, and KPI values for regulatory reporting.

Oracle Utilities Outage Management Web Client

- Web Workspace provides remote users with access to operations maps and enables control over the service territory.
- Web Trouble provides remote users with access to outage and detailed crew information and functions, allowing decentralized support during storms.

Oracle Utilities Outage Management Storm Management

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

Oracle Utilities Outage Management Call Center

- Web Call Entry offers call taking with customer history and detailed event information including estimated restoration times and crew remarks.
- Web Callbacks support customer callbacks at alternative numbers while the customers await restoration.

Oracle Utilities Network Management SCADA Extensions

- Provides details of SCADA measurements, statuses, and alarms within the NMS operator's environment.
- Enables SCADA devices to be controlled from within NMS via standard interfaces, subject to tags and other constraints.

Oracle Utilities Outage Management Paging

- The Service Alert application provides a proactive approach for notifying utility personnel such as operations staff and account reps of unplanned outages.

Oracle Utilities Network Management Fault Location, Isolation, and Service Restoration

- Oracle Utilities Network Management Fault Location, Isolation and Service Restoration is triggered by SCADA lockouts and fault indicators. It determines options for re-energization and can execute autonomously, resulting in some customers only suffering a momentary rather than a sustained outage.

Oracle Utilities Network Management Voltage/VAr Optimization

- Determines load tap changing (LTC) transformer settings, capacitor bank switching, and switching actions to optimize voltage and reduce losses within power quality constraints.

Oracle Utilities Network Management Fault Location Analysis

- Using fault relay data, Oracle Utilities Network Management Fault Location Analysis can determine probable fault locations relative to an upstream switch, allowing more effective routing of crews.

Contact Us

For more information on Oracle Utilities Network Management System, call +1.800.ORACLE1 to speak to an Oracle representative, or visit oracle.com/industries/utilities.



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