

# Integrating with Oracle Utilities Network Management System

With its ability to deliver efficiency gains and support enterprise-wide processes, the advanced distribution management system (ADMS) has evolved into a mission-critical “system of systems” for distribution utilities. Whether you favor a “best of breed” and a “one stop shop” approach, it’s critical to understand the integration capabilities of your ADMS before you invest.

With over 50 million meters in production across dozens of utilities worldwide, Oracle Utilities Network Management System (NMS) is that ADMS that integrates with the wide array of SCADA and other mission critical systems. Now available with the industry’s leading real-time operational technology message bus, Oracle Utilities NMS implementations are typically 6 to 12 months faster than competitor offerings with lower integration-related support costs as well.

## Multiple implementation and integration approaches

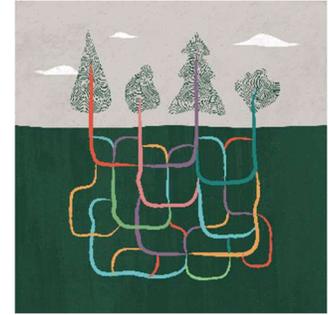
Oracle Utilities Network Management System (NMS) is recognized by industry analysts as a leading enterprise-class ADMS. When integrated with a utility’s GIS, CIS, AMI, DERMS, mobile, and distribution SCADA (D-SCADA) solutions, Oracle Utilities NMS delivers a flexible, secure, and very practical ADMS platform well suited for modern grid operations.

Oracle Utilities provides a data-model-centric approach to ADMS. This contrasts SCADA-centered approaches that are challenged to handle the flood of new edge of the grid sensors and network devices. By delivering an efficient as-operated model Oracle Utilities NMS also bypasses the limits of many GIS-centric network models that continue to rely on an as-built view of the grid.

Oracle Utilities NMS provides the applications necessary to effectively model, filter and leverage the D-SCADA data that is most relevant to safe and efficient grid operation. As such, Oracle Utilities NMS enable utilities to shed many of the market-specific application layers many D-SCADA solutions provide.

However, if already in place, many advanced SCADA applications can often continue to provide value by working in parallel with the Oracle’s ADMS. This approach allows utilities to extract more value from their existing SCADA system as they transition to a more complete ADMS solution.

As well, Oracle’s ADMS can help supplement an existing SCADA with a more modern, low-cost, and scalable SCADA system. This option ensures that ADMS benefits can be realized all the way to the grid edge without the cost of full system replacement.



## Key features

- Automated monitoring and control of high-volume data devices
- Full suite of OMS/DMS functionality on a unified platform
- Comprehensive options for SCADA
- View historical data from any historian interface
- Exception-based management of distributed data points
- Priority-driven management ensures trouble spots and alarms are identified, flagged, and elevated
- Out-of-the-box load models for storage, solar, and more

## Key benefits

- Improve asset integrity by reducing process and infrastructure weaknesses
- Harness real-time asset condition monitoring to improve capital planning
- Drive down maintenance costs by increasing proactive work levels
- Eliminate unnecessary work
- Ensure projects are prioritized and managed according to business value
- Leverage embedded best practices to enhance operational efficiency and reduce costs

Oracle has also developed Oracle Utilities Smart Grid Gateway, which can be used to communicate concurrently between Oracle NMS and multiple vendor-specific AMI head-ends. This provides system operators with a single user interface for OMS/DMS, AMI and SCADA.

## Managing the limitations of SCADA

The most significant system-based challenge utilities face when implementing an ADMS is evolving their distribution SCADA to manage the high-volume data inherent in modern, smart grids. The constraints posed by distribution SCADA will only become more pronounced as distributed energy resources (DER) increase their penetration and threaten power quality.

However, the objectives of desired ADMS functionality also need to be accounted for in D-SCADA decisions. There are certain ADMS functions that only need real-time inputs from the field, such as fault location analysis (FLA), power flow, feeder load management (FLM), and suggested switching. These functions can be supported with integration to EMS-SCADA if it has proper coverage across the distribution network.

Oracle enables utilities to navigate this complex mix of needing to evolve beyond SCADA system limitations while also considering market factors and business goals. It does so by providing the industry's widest range of choices for implementing an ADMS:

- **Option 1: Provide direct monitoring and control** within Oracle Utilities NMS
- **Option 2: Supplement distribution field SCADA** with a modern, scalable, real-time D-SCADA
- **Option 3: Support existing SCADA, AMI, or GIS investments** via pre-built Oracle Utilities NMS adapters.

### Option 1: Provide direct monitoring and control

Direct monitoring, control, and optimization via Oracle Utilities NMS delivers a unifying platform for model accuracy and scalability, core requirements for modern distribution. It enables the utility to shed reliance on siloed systems as it continues to integrate and modernize operational and customer processes.

### Option 2: Supplementing SCADA with a lower cost, scalable D-SCADA

With decades of engineering and operational experience with SCADA to draw upon in addition to significant dollars invested in these systems, some utilities prefer a more evolutionary approach to field monitoring and control. However, they still may have many of the same concerns regarding scalability, cost, and integrated operations of a legacy SCADA solution. As a result, they wish to gain operational and business improvements but desire to keep more traditional SCADA-centric operations.

To address this need, Oracle is able to embed a modern, scalable SCADA system within Oracle Utilities NMS. The combination of these two technologies results in a platform designed to meet the emerging requirements of modern utilities, providing many of the same benefits as direct control within NMS (more unified user interface, single operating model, etc.) while leveraging the utility's rich knowledge and experience with traditional SCADA systems.

### Option 3: Supporting an existing D-SCADA via productized adapters

If heavily invested in a legacy SCADA, it is often not practical to replace it every time some new application needs access to the same or similar field data. To help alleviate this problem Oracle has developed productized Oracle Utilities NMS to SCADA adapters (ICCP, MultiSpeak, Generic Database-Driven SCADA adapter) and several SCADA vendor-specific adapters.

All Oracle Utilities adapters handle typical incoming SCADA data and outbound controls. Some adapters also provide options for two-way tag synchronization, incoming SCADA alarms, bi-directional screen navigation, and other features.

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