Oracle Utilities Operational Device Management

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UTILITIES

As the smart grid presents opportunities and challenges to the utility industry, it has become apparent that innovative and robust tools are now required for operating and managing the associated operational technology. Oracle Utilities Operational Device Management (ODM) provides comprehensive asset management of smart grid devices through change and configuration management as well as strict inventory management of secured devices.

MANAGING SMART GRID TECHNOLOGY ELEMENTS

KEY FEATURES

- Smart device register
- Configuration management
- Firmware update management
- Serialized tracking from purchase to retirement
- Inspections and work activity management

Embedded firmware plans

KEY BENEFITS

- Provides real-time interaction with smart grid devices
- Leverages smart grid investments to optimize grid operations and customer interactions at a lower cost
- Improves safe and reliable grid operations
- Assures technical maintenance and security standards are met
- Decreases complexity of managing high-volume meter data for meter-to-cash process
- Enhances operational efficiency via built-in best practices for firmware updates

Smart Grid Challenges

Smart devices are changing business processes across the enterprise. Modern work and asset management solutions are needed to keep these critical investments operating in top condition and in sync with the rest of the infrastructure, doing so by:

- Supporting real-time rather than transactional business events
- Enabling the convergence of information technology with operational technology (IT/OT)
- Closely managing microprocessor-based devices throughout their lifecycle for configuration changes, firmware updates and security and compatibility issues, no matter where they are located
- Providing technology maintenance and security standards far beyond the traditional requirements for plant and linear assets

Supported Devices

Oracle Utilities Operational Device Management provides the ability to manage configuration changes, firmware updates, security and compatibility issues of smart devices in the operational infrastructure, including:

- Meters
- Access points or communication relays
- Communication components that are attached to various device

Lifecycle management optimizes device performance at all times
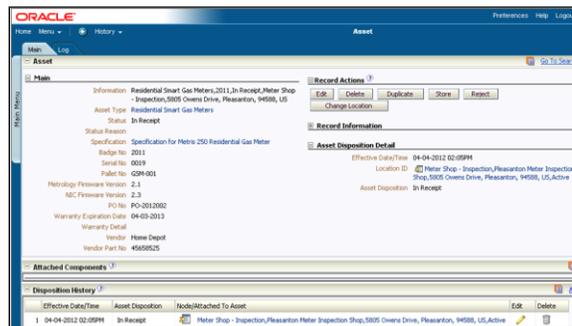
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Managing the Smart Grid Infrastructure Investment

Oracle Utilities Operational Device Management is uniquely designed to handle configuration and compliance management for smart grid components. It also addresses the strict inventory management needs of these secured devices. Critical functions are handled, such as:

- Managing and tracking firmware updates & security patches
- Supporting governance and regulatory audits
- Supporting Smart Grid Network Operations Center (NOC) processes

This focus reflects the unique characteristics inherent within smart grid elements, and the need to manage them closely. Oracle Utilities ODM recognizes the financial investment in each component, as well as providing special oversight needed to insure the real-time capacity, precision and intelligent functioning. Its unique capabilities include:

- Receiving and inspecting new devices
- Tracking the configuration of devices
- Tracking where all devices are located, whether installed or in stores, etc.
- Performing work in the field
- Scheduling and forecasting cyclical work for inspections
- Managing compliance for devices, work history, settings, configuration management, etc.
- Interacting with smart devices, updating firmware, supporting device alerts, etc.

Operational device asset record serves as a single source of data

Cost-effectively Managing Firmware Updates

One of the unique characteristics within Oracle Utilities Operational Device Management is the ability to manage an inventory of items which have firmware that must be maintained and kept in sync with the balance of the infrastructure. This assures compatibility of all smart grid elements such as meter firmware, communications software, data collector firmware, head-end system software, meter data management, and CIS/billing. The process is:

- Plans are built within Oracle Utilities ODM to roll out the firmware update, and tests are run on a small set of specified devices.
- When the test work order is activated, and commands are issued from Oracle Utilities ODM through the Oracle Utilities Smart Grid Gateway (SGG), the manufacturer's head-end system begins updating the devices' configuration and compliance information.

- Upon successful completion of the test, the upgrade for the balance of the assets within the group is scheduled, dispatched, monitored, performed and recorded.

Device Specifications

The specifications for each device type are user-defined and can be easily extended. Sample specifications are included with the application, and each specification can be used with multiple devices.

Device Locations

Oracle Utilities ODM supports detailed location management and tracking of individual devices throughout their lifecycle. Devices may have the status of "in stores" to denote they have been received, are located in a storeroom and are waiting to be put into service. This can be a central or main storeroom, or in satellite storerooms where devices are warehoused. They may also be in staging areas, repair shops or inventoried on a truck. By documenting the location of each device, security is enhanced and the asset's status is readily available.

More Efficient Meter to Cash

Oracle Utilities ODM is integrated with Oracle Utilities Meter Data Management (MDM), enabling a utility to handle high-volume meter data volume and apply data validations to convert that data into billing information as part of the meter-to-cash process.

Oracle Utilities Smart Grid Gateway is a compliment to both of the applications. Oracle Utilities SGG allows Oracle Utilities ODM and Oracle Utilities MDM, and many other non-Oracle systems to communicate to each of these various vendor devices in an agnostic way. This communication relieves these other systems from the burden of learning different, often proprietary protocols. Accordingly, virtually any meter and device type can be selected or supported, from the latest smart meter to AMR systems, based on both current and future business goals.
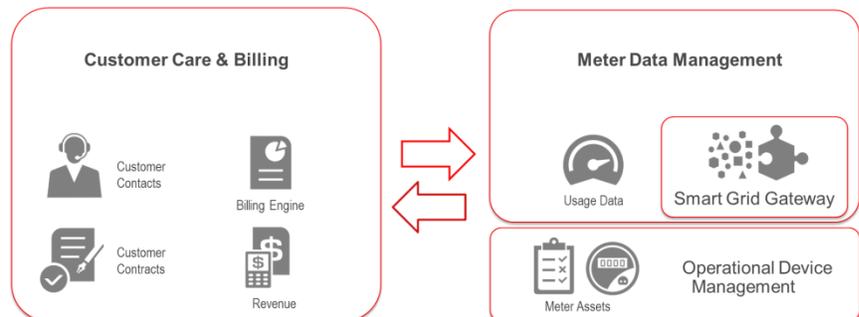

Provides flexibility and scalability for meter to cash by supporting any device or meter

The result is support for meter-to-cash process that is flexible and configurable as the meters themselves. Customer information systems no longer need to handle meter asset management as it is all done in Oracle Utilities ODM, with its ability to scale to support the huge data volumes required in today's environment. This flexibility and scalability allow for growth and adaptation to current market demands, and those not even created yet.

Oracle Utilities Operational Device Analytics

Oracle Utilities Operational Device Analytics provides pre-built dashboards that help managers and executives:

- Improve overall device management
- Improve organizational readiness
- Make informed investment decisions
- Enhance organizational efficiency
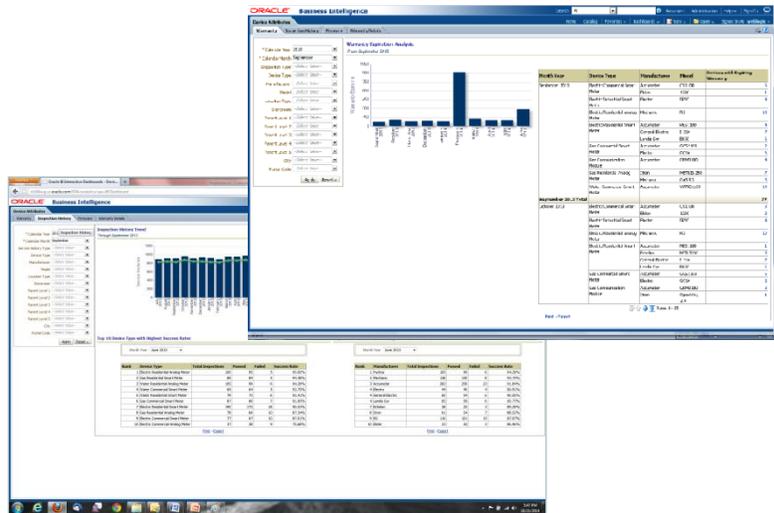
Warranty and inspection results provide quickly provide actionable insight

Prebuilt dashboards can be used by the Utilities to provide information about:

- Reliability of the devices - Failure rates
- Effectiveness of the purchasing process - Number of Devices moved through various states
- Device warranties and expirations
- Service history
- Device acceptance testing results - Identify bad supply source
- Device counts at various locations and grouping codes
- Reliability of the devices - Durations that devices stay in any one location
- Age of Infrastructure in order to initiate prompt replacement action

KEY CAPABILITIES

Common Register for Smart Devices and Related Equipment

- *Captures device attributes and supports any type of device*
- *Supports integration with other utility applications requiring device information and configuration*
- *Specifically supports detailed smart device attributes*

Device Location

- *Supports detailed location management and tracking of individual devices throughout their lifecycle*

Device Configuration & Compliance

- *Captures device configurations, settings and calibrations*
- *Tracks firmware on smart devices*

- *Validates devices at the time of receipt*
- *Schedules and captures data related to periodic inspection history over time*

Device Inspections

- *Defines cycle information to schedule inspections*
- *Defines Procedures to follow when performing an inspection*

Work Activities

- *Uses work orders to track and manage the electronic or in-field maintenance of devices*
- *Creates a work order document to be used in the field for Inspection work*
- *Defines a work order life cycle*

CONTACT US

For more information about Oracle Utilities Operational Device Management, visit oracle.com/industries/utilities or call +1.800.275.4775 to speak to an Oracle representative.

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Oracle is committed to developing practices and products that help protect the environment