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Advanced Device Management

Manage low voltage network device configurations and their topographical relationships.

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Managing many devices

Millions of smart devices – meters, sensors, routers – are now an integral part of a Utilities low voltage network. Attempting to manage device software configuration, firmware updates, and relationships using manually executed remote commands for electric meters has shown to be error prone and difficult to audit. Adding the same manual control mechanisms to the communication network devices, gas meters, water meters and smart sensors, becomes impossible to execute efficiently, even in small electrical grids.

Advanced Device Management (ADM) is an EnergyIP platform application designed to automatically manage device configurations of all low voltage network devices with serial numbers while on line. It adds bulk transaction processing to support either one time or periodic configuration changes with simple workflows. It includes preconfigured maintenance operations such as a periodic Census of device configurations, additional steps during device provisioning to check configurations, and checks for orphaned devices. Devices found in non compliance can be upgraded automatically or flagged for review by operational personnel.

The EnergyIP Advanced Device Management platform application gives Utilities the ability to build auditable, automated device control solutions for all low voltage devices communicating with the operations center.

Advanced Device Management

Advanced Device Management feature summary

The first release of Advanced Device Manager focuses on features to add configuration control throughout online devices lifecycle:

- Presents a searchable 360 degree view of devices, their attributes, parent and child devices, and auditable transaction history. This UI includes a map view to show device topography and physical location.
- Automatically updates desired software and firmware configurations as part of the device provisioning process.
- Builds, deploys, and tracks ADM Projects for execution of device control transactions to groups of devices.
- Automatically detects and help manage orphaned devices.

Meter installation use case

Meters are installed with default software and firmware configurations at the meter shop. It may be desirable to adjust a software configuration for customer or network management reasons and new firmware may be issued by the meter vendor after the meter leaves the meter shop. ADM assures the correct configuration is installed automatically as part of the installation and provisioning process.

Meter maintenance use case

ADM Projects are used to manage bulk transactions. Projects may be set up with a fixed list of devices or a SQL statement to define the device list. Projects may be scheduled to periodically query devices for their configuration information. This query capability makes it easy to execute and maintain a Census for device configurations after installation.

Communications network parent child relationship management use case

A meter that constantly switches between communications hubs or data concentrators is susceptible to frequent communication delays, and potentially dropped communications or becoming an orphaned device. Configurable orphan meter rules in ADM can be used to report orphaned meters for immediate fix, monitor for frequently orphaned meters, and a Census used to improve communications performance.

Summary

The Siemens Advanced Device Management application gives Utilities the ability to manage low voltage network devices based on information from the source, the device itself.

- ADM automatically maintains all low voltage network device firmware and software versions.
- ADM automatically detects orphaned devices.
- ADM offers a 360 degree view of all devices including topology and physical location.
- ADM offers the capability to perform bulk transactions on any end device supported device control operation.

These features help Utilities maintain large grid and smart metering communications networks at optimal performance with minimal staffing.

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