

CASE STUDY

Global Tier 1 Utility Company

Empowered Networks and Infoblox NetMRI and NetMRI Advisor
power discovery, automation and regulatory compliance

Customer Profile:

- Through mergers and acquisitions, this now global top 20 utility company generates, transmits and exchanges energy globally from electric, natural gas, hydroelectric, coal, wind, nuclear and solar, and serves 6 million customers across 8 US states

Challenge:

- Discover and remediate non-compliant, multi-vendor network devices to meet Critical Infrastructure Protection (CIP) standards and demonstrate ongoing regulatory network and cybersecurity compliance

Solution:

- Infoblox NetMRI and NetMRI Advisor Network Change and Configuration Management (NCCM) for network equipment and device inventory, policy, software and system synchronization, audit, reporting and ongoing security compliance

Result:

- Network discovery, visibility, automation and control
- Device compliance validation and security management
- Regulatory, operational policy enforcement and best practice deployment and management
- Compliance and audit validation
- Regulatory reporting for audit and compliance

Summary

Emerging to prominence through a history of mergers and acquisitions, a leading global top 20 utility company generates, distributes and exchanges international electric, hydroelectric, natural gas, coal, wind, nuclear, biomass and solar power while serving 6 million users across eight US states. With a history of utility acquisitions, their network was comprised of a multi-vendor, multi-release and energy-specialty collection of hardware, software and platforms, making it difficult to manage from an audit, security, compliance and performance perspective. Further, with heavy federal, state and local network and cybersecurity regulations, the utility had to prove ongoing compliance with the Critical Infrastructure Protection (CIP) standard. They needed automated device discovery and visibility, policy management and enforcement, compliance assessment, workflow collaboration, and reporting to ensure security, performance and regulatory compliance.

The utility chose Empowered Networks to help discover network assets, elevate device and network visibility, assess compliancy, streamline network operations, ensure network endpoints met rigid security and regulatory requirements, improve device upgrade processes and quickly resolve any adverse security audit findings.



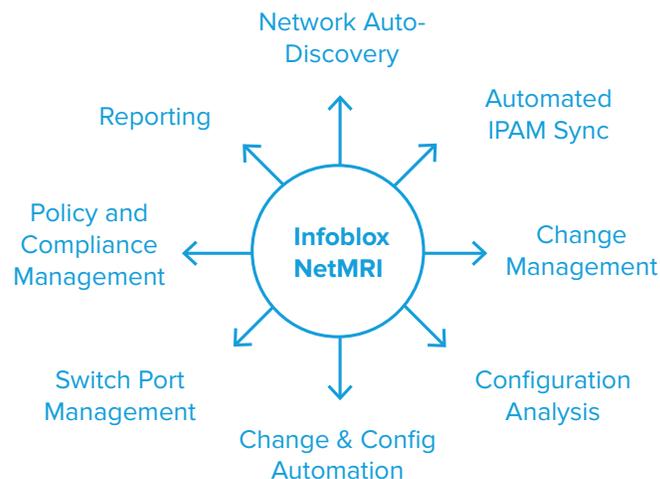
Empowered Networks deployed the Infoblox NetMRI and NetMRI Advisor Network change and configuration management (NCCM) solutions. With NetMRI, they were able to discover the entire inventory of network devices, set regulatory and corporate policies, check for compliance and violation, and expedite resolution. NetMRI delivered visibility, simplified and automated device management, and made workflow processes more efficient. NetMRI further saved costs associated with managing regionally dispersed network assets, improved policy enforcement, enabled device upgrades to meet audit requirements, and produced custom reports to meet ongoing CIP standards.

The Challenge

Beginning as a small regional utility, the company grew through a history of ongoing mergers and acquisitions into a global, tier 1 powerhouse. Technology is central to global business operations, but due to its varied acquisitions, the IT architecture and deployment of services and resources is not a single consolidated vision, but rather an amalgamation of acquired businesses, energy-specific technologies and solutions. As a result, the utility operates a diverse range of equipment, devices and software vendors, and even within single vendor solutions, a variety of inconsistent configurations are deployed across the business. Vastly complicating this scenario are the heavy federal, state and local regulations imposed on US power generation and transmission utilities. Utility operators must ensure compliance with the Critical Infrastructure Protection (CIP) standard that covers a broad range of personnel, physical, network and cybersecurity controls. While complying in general with the CIP standard, device and network configurations were not consistently aligned and optimized to meet all compliance requirements. At the minimum, the utility must demonstrate ongoing daily network security compliance to energy regulators. This necessitates an accurate, automated self-auditing and reporting network solution that can discover and interface with existing technologies to meet business regulatory, policy, security, cost and operational efficiency requirements.

The Situation

With geographically dispersed, multi-vendor, multi-version hardware, software and operating systems, constrained IT staffing and budget resources, and increasing regulatory compliance pressure, data discovery and visibility, process automation, security and compliance reporting were top priorities. To manage the situation, the utility selected Empowered Networks to implement the Infoblox NetMRI and NetMRI Advisor NCCM solutions. NetMRI applies policy rules, proactively identifies performance, configuration and policy violations based on regulatory standards, organizational requirements and industry best practices. It automates data collection, performs deep network analysis, prioritizes potential network issues and generates custom reports to meet regulatory and auditing requirements. NetMRI eliminates manual workflows, saving time and money, and enables staff deployment to higher-value projects.



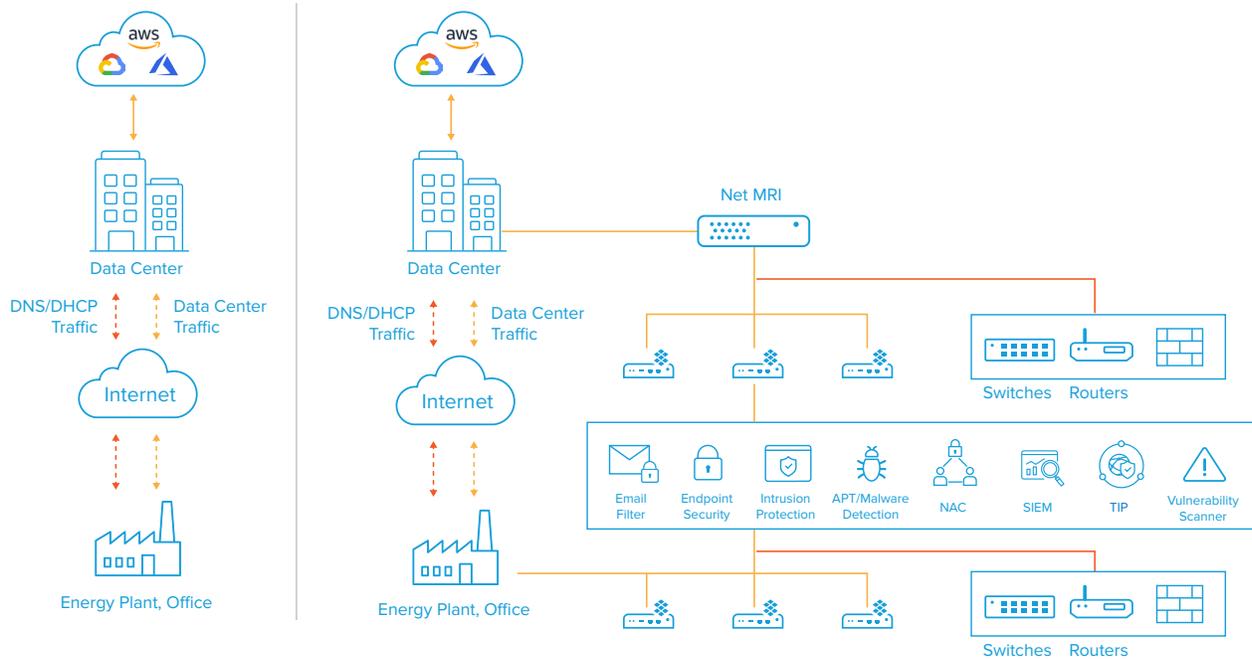
The Solution

Empowered Networks deployed NetMRI's compliance policy capabilities to develop, deploy and assess compliance across the network device inventory. An extensive set of policy rules reflecting both CIP requirements and the customer's best practices were developed and deployed to collect data. A set of custom reports were also developed to meet the utility's regulatory reporting requirements and expedite delivery of audit results. In addition, NetMRI offered a number of additional advantages:

- **Network Auto Discovery and IPAM Sync:** NetMRI automatically discovers, views and synchronizes multi-vendor infrastructure, IP addresses, end hosts, network constructs (L2 physical data, L3 logical data, routes, VLANs, virtual forwarding and routing) and topologies with current and historical information through a single control plane.
- **Change Management:** NetMRI manages change tasks with powerful but simple methods for encoding change logic. NetMRI's automatic change detection saves considerable time, and delivers historical views, side-by-side comparisons and configuration search.
- **Configuration Analysis:** NetMRI auto-detects and audits network updates, receives detailed analysis, and performs configuration backup, search and date/time stamp correlation of network problems. Analysis and alerts on network performance, configuration and problems saves time and speeds resolution.
- **Change and Configuration Automation:** NetMRI enables and embeds variable-based jobs and scripts, customizable templates, scripting (CCS, Perl and Python), user-based role access control and job scheduling for further time-saving automation.
- **Switch Port Management:** NetMRI tracks free, available and unused ports. It also provides provisioning, remediates compromised endpoints, monitors connected wired and wireless end-hosts, and supports capacity planning.

- **Policy and Compliance Management:** Another helpful provision is automatic, continuous real-time and historical tracking of network changes against multiple security policies. Embedded compliance rules, best-practice templates, violation detection and remediation tools further assist in resolving conflicts.

- **Automated Failover:** NetMRI provides redundancy and resiliency for data center collectors and appliances to support network availability requirements.
- **Reporting:** Finally, the single-click, pre-built and customizable executive and granular reports, filtering, on-demand, scheduled and role-based access enables IT management the visibility to see and share network information across the ecosystem.



NetMRI enables full discovery and visibility of network devices, network change and configuration management, automation and rapid deployment of network upgrades.

The Result

Empowered Networks used NetMRI’s discovery and compliance policy capabilities to develop, deploy and assess network device compliance across the ecosystem. As a result, the utility was able to see and prioritize several network focus areas for urgent remediation along with some general configuration updates required to align devices to CIP requirements and best practices. Further, a collection of obsolete devices presenting security risks were identified using the companion NetMRI Advisor product, enabling the

utility to take immediate action to eliminate security risks from the network. Custom reports were also developed to expedite audit and issue remediation and ensure compliance. Most importantly, Empowered Networks and Infoblox NetMRI replaced manual workflows with automated processes, saving time and money while increasing productivity and control, and enabling staff to be deployed on higher-value assignments.