Unlock network efficiency and streamline operations with automation

"We simplify our customer IT processes with intelligent automation platforms, improving their operational resiliency and speed."

—
Alberto Valero
Head of IT Infrastructure
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NTT DATA

NTT DATA helps customers with complex hybrid IT environments move from complicated individual network tasks to an intelligent network self-service catalog by using an intelligent automation platform.

Addressing network management challenges through automation

As essential elements of IT infrastructure, the effective management of load balancers, Domain Name Systems (DNS), and Dynamic Host Configuration Protocols (DHCP) are crucial for maintaining the reliability, performance, and security of network environments.

However, the manual and repetitive processes involved in configuring, monitoring, scaling, and troubleshooting each component can lead to prolonged work hours and a higher risk of errors. Consequently, organizations are looking to unlock efficiency and streamline operations by automating these tasks, freeing networking teams to focus on strategic projects that drive business value.

An intelligent, modular approach to network automation

NTT DATA delivers intelligent automation solutions to deliver meaningful business outcomes and competitive advantage for customers.

Its Ansible Automation Portal application, built on Red Hat Ansible Automation Platform, can unlock efficiency in network management by providing a centralized system that simplifies tasks such as DNS registrations and VIP activations.

Customers can choose from a range of ready-to-deploy network automation modules, designed to interface with and integrate into existing applications and environments.

VIP module

By automating Virtual IP (VIP) related tasks, organizations can improve network performance, reduce operational costs, and improve the overall reliability of the IT infrastructure.

The Virtual IP (VIP) automation module facilitates the automated handling of various VIP requests within the network environment, including creation, removal, and querying.
It offers for example:

▸ Easy management of network devices configurations.

▸ Facilitation of SSL configurations for Layer 7 VIPs.

▸ Efficient removal of VIP-related resources to free up used IPs for future use.

▸ Information retrieval for detailed insights into VIP configuration and usage.

DNS module

Automating DNS management reduces the risk of manual errors, speeds up changes and updates, and makes sure DNS configurations are applied consistently across IT environments.

This module of NTT DATA's Ansible Automation Portal application automates record query, addition, and deletion requests to ensure process security and integrity, as every data operation is meticulously logged to maintain an audit trail.

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CORE module

Both Cisco Application Centric Infrastructure (ACI) and legacy network devices require a comprehensive set of operations to function well and stay secure.

The CORE module automates VLAN port enabling, disabling, extension, de-extension, and querying, as well as port extension, de-extension, and reset on both ACI and legacy network devices to enhance reliability and error prevention by ensuring necessary validations are passed before executing any request.

DHCP module

The DHCP module facilitates the automated and consistent handling of various DHCP requests within the network environment including activation, deactivation, and queries, as well as providing insights into configurations and usage.

SSL certification renewal automation module

As SSL certification plays a vital role in securing communications over a network, the prompt renewal of SSL certification is essential for the uninterrupted security and encryption of data.
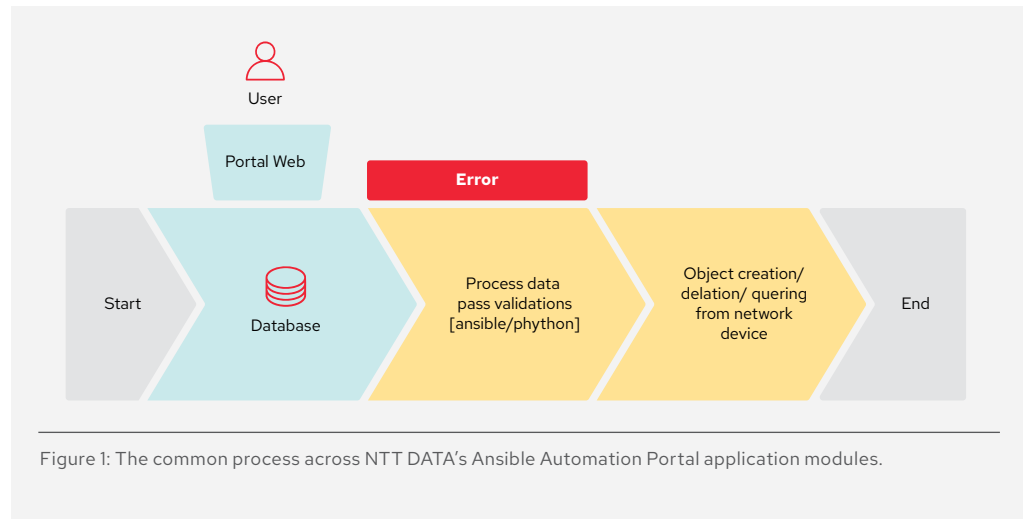
This module of NTT DATA's Ansible Automation Portal application automates the renewal process for SSL certificates on network devices nearing expiration within the next 30 days, providing users with for example:

▸ Process security and integrity through data operations logging.

▸ Failure handling mechanisms with rollback procedures to revert changes and recovery procedures to log warnings for manual intervention if rollback is not feasible.

Automate network management in four steps

The implementation of NTT DATA's Ansible Automation Portal application involves four key steps to efficiently automate user requests and network operations:

1. Initially, users manually enter data through the web portal, which is then stored in a database.

2. Using Ansible and/or custom scripts, the data undergoes processing and validation to ensure it fits the specific criteria of each module.

3. Once validated, the automation system executes the user-requested operations on network devices, such as creating, deleting, or querying objects.

4. Execution results are logged in the database for tracking and information control purposes, providing a detailed record of both successful execution and errors encountered.

Figure 1: The common process across NTT DATA's Ansible Automation Portal application modules.

Improve network efficiency and productivity with automation

NTT DATA's Ansible Automation Portal application simplifies tasks, improves accuracy, and optimizes the management of network operations. As well as freeing networking teams to focus on building NetOps processes and more resilient networks, the portal provides valuable insights and analytics to help them make informed decisions and improve network performance.

Through its network automation experience and dedicated technical and customer support, NTT DATA creates adaptable solutions based on customers' individual environment and requirements. Discover how you can improve the efficiency and security of your network through automation:

▶ Contact the team.

▶ Learn more about network automation.

▶ Request a demo.