



Network Configuration & Change

Vendor- & Technology-Independent **Network Automation:** A next-generation, unified solution to automated Network Configuration & Change Management (NCCM)

See how StableNet® continues to set the industry standard for secure network automation by offering a vendor-independent NCCM solution that is both automated and customizable.

Background & Motivation

Network Configuration and Change Management is the backbone of any dedicated Network Management Software. It addresses the fundamental need for network operators to make proactive changes (for example, when equipment or software is nearing the end of its lifecycle) or reactive changes to their networks. There are countless horror stories of network downtime having devastating consequences for corporations, both in financial terms and consumer trust. For example, in March of 2019 a server configuration error at Facebook led to 14 hours of downtime and is estimated to have cost the company around \$100 million along with a 2.3% drop in its share price.¹ Human error is generally identified as the primary culprit, with estimates putting it as high as 70-75%.² But lack of a successful NCCM solution can have more subtle effects in regards to vulnerability and lifecycle management, configuration backup and tracking, and policy compliance.

The primary benefit that NCCM software seeks to deliver is automation of these redundant activities. Automation not only reduces the risk of human error, but can lead to reductions in costs and inconsistencies, as well as improvements in KPI-performance and delivery of your Service Level Agreements (SLAs). However, as there is no standardized syntax for network element configurations, even first-level engineering teams have to be proficient in a number of vendor-specific implementations and terminologies in order to achieve even the simplest of tasks.

StableNet® Solution

As the name implies, NCCM incorporates those processes that impact changes to the network infrastructure. This starts with identifying relevant information about the devices, modules and software. Modern enterprise and telco networks are built atop multiple technologies from a variety of vendors. Since we can only change and manage what we can see, it is critical to find a flexible platform that not only integrates these technologies and vendors, but can enrich the kinds of information that we are able to extract through the integration of external databases.

With StableNet®, the entire logic for configuration generation and maintenance is automated and steered by XML templates. Pre-defined command line building blocks - so called snippets - can be even enriched by variables to include external data sources. Those components comprise the NCCM framework, making every configuration change a reliable and repeatable process. A powerful Configuration Difference Analysis tool visualizes comparisons and tracks every modification that has been made. StableNet® NCCM templates, snippets, workflows and audit logs are maintained and stored in a central database repository together with version control, role-based access, and tracking updates. User-friendly Configuration Jobs deploy required changes or updates to one device or countless devices in your network quickly and with relative ease.

The consolidated solution that StableNet® offers to NCCM goes far beyond automated configuration changes. The graphic „StableNet® Automated NCCM Solution“ shows an overview of what really sets it apart.

¹N. Bougourd, „How much did the Facebook outage really cost?“ (*Technology Services Group*, March 2019)

²A. Patrizio, „The biggest risk to your uptime? Your staff“ (*NetworkWorld*, Oct. 2019)

NCCM	Legacy Tools	The StableNet® Automated Solution
 Discovery & Inventory	Discovery of supported vendors with basic information on hardware and software	XML Discovery Engine Automated discovery, tagging and enriching, integration of external databases, support of multiple technologies and vendors
 Configuration Backup	Ability to make config changes assuming protocol and vendor support	Config Backup Engine Multiple-protocol and vendor support, automated backup jobs, track config changes, fully customizable reports
 Compliance	Checking supported network infrastructure against industry standards	Policy and Compliance Engine Along with automated checks against industry standards, ability to customize policies and End-to-End services
 Change Management	Make changes to discovered infrastructure through various proprietary GUIs	Configuration Change Manager „On-the-fly“ changes simplified with Config Jobs, full audit-trail of changes, automated alerts for new devices & changes
 Vulnerability	Ability to manually check for vulnerabilities in each vendor user interface	Vulnerability Scanning Engine Automated common vulnerability exposure (CVE) scans entire infrastructure, define compliance policies & identify security weaknesses
 EoX (Lifecycle Management)	Identify End-of-Life on supported hardware and software	Lifecycle Maintenance Service Automated scanning of hardware and software for EoL and EoS, auto-announcements, dashboard for visualization

The StableNet® Automated NCCM Solution: All of the unified features listed above are vendor-independent, support multiple technologies, and can take full advantage of the StableNet® Reporting Engine for dissemination and effective decision-making.

Benefits & Results

Network configuration and change encompasses a wide variety of critical, security-related tasks that must be performed regularly in order to ensure that companies can achieve excellence in their day-to-day business operations. StableNet® has been designed from the ground as an automated, customizable management platform which enables your network infrastructure to be reliably managed in today’s multi-vendor and -technology environment. It is an integral part of any organization’s management infrastructure and a critical step in the StableNet® Service Assurance and Fulfillment Solution.

As important as it is, NCCM is but one piece in a larger puzzle that makes up network & service management. Discovery, Fault Management, and Performance Management, along with NCCM, are best achieved when they are seen holistically as deriving from the same infrastructure and database. StableNet® stands apart from the crowd by offering a unified solution which is built upon a single code base and is accessible from a single GUI. This facilitates workflows, frees up critical resources and gives you the peace of mind in knowing that you have found a single solution to your network and services management needs.

Key Benefits

- Part of a single, unified solution for network & services management
- High degree of automation for increased performance (KPIs and SLAs)
- Integrated support of: Configuration & Change, Policy & Compliance, Configuration Backup, Vulnerability & Lifecycle, EoX and Reporting
- Customizable templates for integration of firm-specific requirements
- Reliable, consistent StableNet® support for End-of-Life and Vulnerability Updates
- Simplified process of change management with predefined Configuration Jobs
- The ability to define compliance policies in order to identify security weaknesses

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