

Whitepaper

Top 10 Reasons NetMRI Adds More Value than Basic Configuration and Change Management Software



Introduction

When evaluating different tools to automate network configuration, change, and compliance management, the challenge for IT and network professionals is deciphering the difference between the marketing material promises and the real-life features and capabilities once a solution is deployed on the network.

Virtually every organization would benefit greatly from automating many of the components across its infrastructure and become more proactive in managing the network. Often organizations chose basic change and configuration management

software such as CiscoWorks, SolarWinds or WhatsUp Gold but later find out the basic features do not provide the critical intelligence needed to better manage the network infrastructure.

This paper will highlight the common approaches to managing network configuration and change today, the capabilities and limitations of basic configuration software tools and the top ten reasons Netcordia's NetMRI system far exceeds the capabilities of basic software and adds more value to your organization.

Current Approaches for Managing Network Change and Configuration

Even though many IT organizations are deploying new, cutting-edge technologies every year, the prevalent way of managing network change and configuration remains very old school. There are three primary approaches most organizations try before they look for a more intelligent, correlated solution to take control of network change and configuration requirements:

1. Manual processes
2. Custom scripts/Perl
3. Basic change and configuration software

The manual process is “the way we’ve always done it” approach. Every device change, update, provisioning or upgrade requires a manual log in and modification to the configuration. This process is extremely redundant, time consuming and tedious. In addition, the chance for human errors such as “fat fingering” or a “bad copy and paste” increases every time IT personnel manually touch a device.

In order to help improve from a purely manual effort, advanced IT staff started writing custom scripts often using Perl as a way to “automate” some of the basic tasks. While

this can reduce some of the time and effort, the scripts often grow a life of their own as each task either requires a brand new script or the new aspect is just tacked on to the existing script. No engineer wants to mess up something that already works, so they tend to just keep adding on which builds a bigger and bigger monster. When that Perl expert leaves the position, the entire IT organization is held hostage to the old scripts and processes.

Vendors have developed basic change and configuration software solutions as a way to improve the automation and value of managing network change and configuration requirements. While the software tends to do a good job at some of the basic requirements of automation, many times network teams are still flying blind to the impact of the updates on the network infrastructure. These basic tools tend to focus on pushing out changes quickly, but do not understand if the change was a good one and actually improved performance or consistency. This is typically caused by a device-centric view—where modifications are thought of in silos and not how there may be unintended consequences for device neighbors along a service path.

What Basic Change and Configuration Software Does Well, and What's Missing

As mentioned early, the majority of vendors in this space do a good job at several of the basic requirements for dealing with change and configuration management. These features include:

- Pushing a single or bulk change to a single or multiple device
- Backing up and restoring configurations
- Alerting of change or a change attempt failure
- Logging events across the network

When evaluating requirements, these should be mandatory in a solution—but they are just the basics. Other aspects should include the ease of use, device discovery, job creation, detailed reporting and scalability. This is where IT professionals must dig through the marketing fluff and promises to see how the solution actually works.

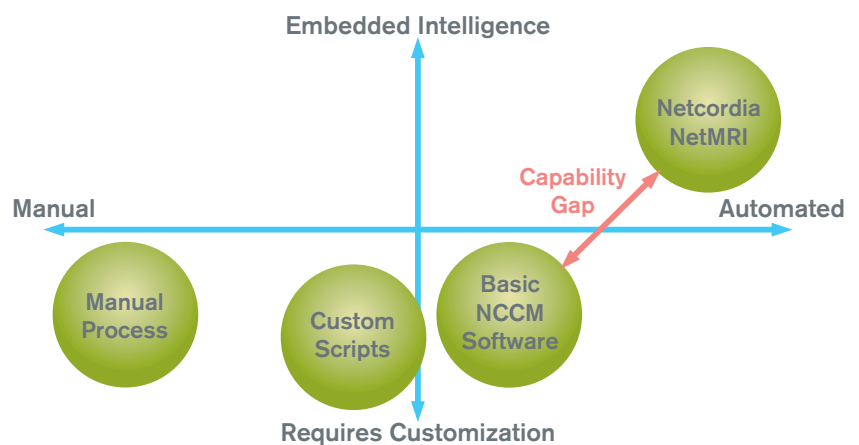
For example, every vendor promises device discovery, but there is a huge difference from a basic ping sweep to a solution that provides rich, automated and detailed analysis of the entire infrastructure. Or the promise of job creation and reporting is listed in a data sheet, but the entire process is extremely manual and provides just the most basic of reports.

IT organizations must decide what they truly are trying to achieve, and understand the differences between the different options. For example, is the organization just trying to do the minimum to maintain the status quo, or is the staff focused on becoming more proactive and reducing the potential risk with more proactive management.

Netcordia's NetMRI Adds Intelligence and Automation to Network Change and Configuration Management

Instead of just being just another basic provider in this space, Netcordia has always focused on providing a much higher level of visibility and management requirements. Instead of just pushing changes or keeping years of configuration files, the NetMRI system focuses on the question most IT professional want to understand—Was this change successful and what is the impact on the network health and stability?

NetMRI leverages extensive embedded intelligence, best practices and analysis capabilities to answer that difficult question. When comparing NetMRI to the basic change and configuration vendors, there are numerous key differences. The top ten differences between NetMRI and the normal change and configuration vendors follow.



The embedded intelligence and enhanced automation of NetMRI provides a much higher level of capabilities and functionality when compared to manual processes and basic software options.

Reason 1: Problem Analysis

While basic software can push changes or new configs, they do not understand if the new aspects could cause a problem immediately or have an issue that could lurk within the network for days, weeks or months. Typically, users with multiple tools are forced to guess and try to decipher the different metrics and warnings which often leads to unnecessary work and false positives.

By leveraging both configuration and operational/performance data and analyzing the data with the embedded best practices and intelligence, NetMRI is unique in the industry for finding potential problems well before any “red light” may occur. Many times, the IT staff knows there are poor settings or configurations within network devices, but they do not have the time to go through each device every day to find the lurking issues. NetMRI focuses on proactive analysis and automation to find these poor settings and potential issues lurking on the network. With the automatic alerts, IT staff can focus on fixing the issue before the risk grows.

The screenshot displays the NetMRI interface for a 'Switch Port Duplex Mismatch' issue. The top section shows summary statistics: Component: Interfaces, Severity: Info, Generated: 2009-10-07 00:09:00, Stability: 0, Correctness: -0.5, Analysis Start: N/A (Realtime), Analysis End: N/A (Realtime), and Analysis Task: RealTime Analysis Issue Definitions. Below this is a table titled 'Components Affected by Issue (Unsuppressed)' showing two entries for interfaces Fa0/17 and Fa0/21. The table columns include Device, Interface, Total Packets (In/Out), % Errors, Neighbor, Timestamp, Diff, and Event Context. The Fa0/17 entry shows 1,240 In and 1,804 Out packets with 6.09058% errors. The Fa0/21 entry shows 5,268 In and 996 Out packets with 4.41459% errors. A description box at the bottom explains that the issue lists 100Mbps switch interfaces with an average error rate greater than 0.01% and provides links for further troubleshooting.

Device	Interface	Total Packets	% Errors	Neighbor	Timestamp	Diff	Event Context
220.30... DEMO...	Fa0/17 - FastEthernet0/17	In 1,240 Out 1,804	0.00000 6.09058	10.10.10.4	2009-10-07 00:01:19	Chan...	View
220.30... DEMO...	Fa0/21 - FastEthernet0/21	In 5,268 Out 996	0.00000 4.41459	10.10.10.4	2009-10-07 00:01:22	Chan...	View

NetMRI helps find hidden problems or suboptimal settings lurking in the network and alerts you of potential issues well before end users are typically impacted.

Reason 2: Embedded Policy Expertise

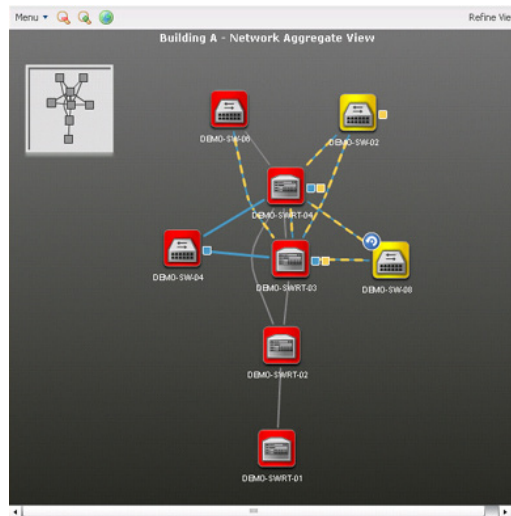
Every organization realizes a consistent and standard network is inherently most stable and predictable. Maintaining internal best practices (gold standards) and/or implementing compliance mandates across the network is a key focus for many organizations.

Instead of forcing users to define all of the standards themselves, NetMRI pre-packages many of the rules and policies including PCI, ISO, ITIL, NSA, DISA and others out of the box. The Policy Design Center allows users to quickly implement an embedded standard or quickly create a custom rule with the wizard interface. The pre-defined compliance reports reduce the amount of time to audit and verify compliance from days or weeks to a simple scheduled report.

Reason 3: Topology Views and Relationships

One of the main differences between NetMRI and basic software solutions is the network focused approach. Instead of being tied to a single device view with a basic software solution, NetMRI understands the network concept so users can not only see the impact on a single device, but also the impact on its device neighbors.

With the network focus, NetMRI finds issues that require a view into multiple devices that basic solutions never see. Some of these issues include HSRP errors, duplex mismatches, and VLAN configuration issues. The topology views also greatly increases the visualization ability for users—so now you can graphically see the relationships between multiple devices on a colorful, interactive view instead of trying to guess the impacted devices within your head.



The topology view helps visualize the complex relationship between device neighbors along a service path.

Reason 4: Built-in Reporting Engine

While every software vendor claims reporting capabilities, NetMRI far exceeds basic software reporting based on the data collected and the analysis calculated. Instead of reporting on basic stats or logs, NetMRI's embedded compliance expertise and detailed device information and inventory provide the most useful information for the network manager/administrator as well as management and executives.

In addition to the traditional charts on demand or via scheduled reports, NetMRI's unique graphical representation quickly shows the complex relationship between time, health, compliance and changes—all within a single correlated view.

Reason 5: Correlation to Health and Compliance

While basic configuration management software tracks and pushes changes to the network, it has little or no visibility into the impact of the changes. Typically, users assume everything worked fine unless an error message comes back or causes enough pain to trip a threshold and generate an alert.

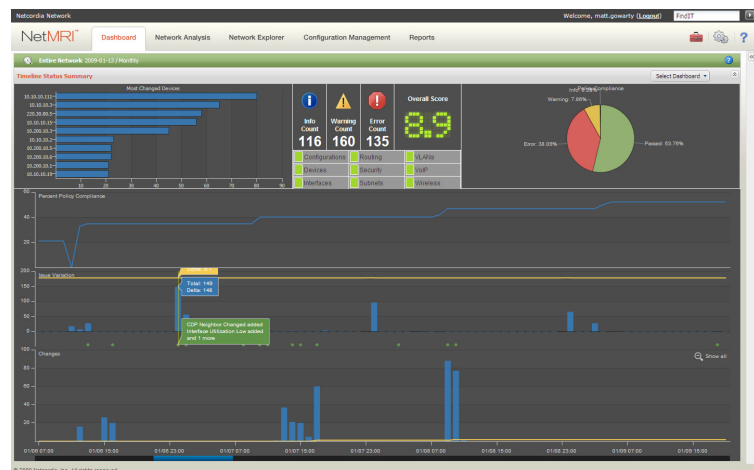
NetMRI is the only solution that identifies issues caused by network changes that are not only impacting network health, but also network compliance and standardization. By tracking policies and best practices and correlating the information with built-in analysis and intelligence, NetMRI generates detailed issues and views to solve poor settings.

NetMRI is unique in providing a correlated view between network health, performance, and change—all within a single system. If IT organizations are using basic tools, it becomes a major challenge when trying to look at multiple data sources and identify the cause quickly. NetMRI greatly reduces the time to isolate and resolve by pulling the complete view together within the platform.

Reason 6: Understand the Impact of Change Over Time

As networks change constantly, understanding what happened over time is a constant struggle for IT professionals. Often a change does not cause an immediate impact, it occurs hours, days or weeks later and then trying to go back over that time frame to pinpoint the potential issue is difficult and time intensive.

NetMRI is unique in the ability to track change, compliance and network health over time. By visualizing the complex network relationships and correlating the data with time, users can often pinpoint the hard to find issues in matter of minutes instead of hours or days. More importantly, instead of guessing, users now can quickly determine if the changes had a positive or negative impact on both health and compliance.

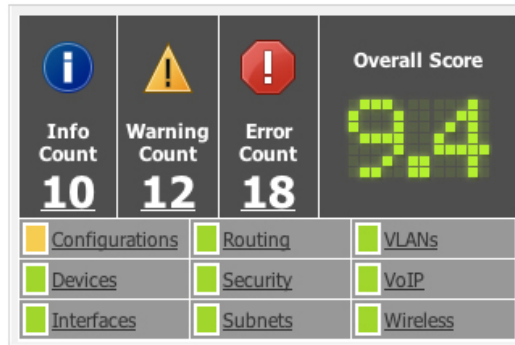


The NetMRI dashboard quickly shows the relationship between time, changes, compliance, and network health so users can pinpoint the potential impact on the overall network.

Reason 7: Network Scorecard

A huge challenge for IT managers is proving success to management in a quantifiable manner. Too often, the measurements are qualitative such as “things appear better” or “not as many issues.”

The network scorecard within NetMRI tracks positive or negative trends in an easy to understand format. By tracking stability and correctness of the network infrastructure, the network scorecard provides a high-level view of overall performance. If a negative trend or aspect is detected, users can easily drill down into more detailed views and issues to solve the culprits.



The NetMRI Network Scorecard quickly quantifies the stability and correctness of the network devices so users can track if the network is getting better or worse.

Reason 8: Auto-Remediation and Job Creation

While basic software solutions discuss automation when dealing with making changes or saving files, there is another huge savings opportunity those solutions do not address—automating corrective actions if there is a problem.

With NetMRI, users can automate the basic tasks, but more importantly leverage auto-remediation and job creation to solve issues or problems from a single screen.

By leveraging built-in jobs and scripts, users can schedule jobs immediately and execute commands. By taking advantage of built-in jobs and scripts, users can schedule jobs during maintenance windows or execute immediately to solve issues. In addition, jobs can be triggered and auto-remediation started if certain criteria are met.

Reason 9: Discovery and Network Knowledge

As mentioned earlier, there is much more to discovery than a ping sweep provided by basic software vendors. NetMRI provides a much richer and detailed analysis of the devices within the network. With the enhanced network knowledge, users can now understand specific device aspects and service paths across the infrastructure.

In addition, detailed asset tracking and monitoring of in use devices greatly improves the time and cost when dealing with maintenance renewals. The automated and custom reporting capabilities allow users to slice and dice the detailed data into the specific reports they need instead of just getting the highest level overview.

Reason 10: Ease of Use and Fast Time to Value

Many IT professionals think about ease of deployment solely in regards to the time to set up a new tool. They tend to forget how long it takes to get actionable information and the amount of customization required to get any useful data.

NetMRI is a leader in the space because the solution can deploy in less than an hour, but more importantly, actionable information flows in less than a day. NetMRI provides the most useful information in the shortest amount of time because of the embedded expertise and analysis out of the box. The scalable architecture grows to meet the needs of customers and the multi-user roles and views ensure each user has the right level of access and visibility without giving full administration rights to everyone.

Key Takeaways

Often software vendors try to lull IT professionals into a false sense of security by promising the world and only scratching the surface on the majority of the most useful aspects. Instead of just doing enough to get by, NetMRI has always been about the network and helping IT and network professionals take control of change, configuration and compliance management requirements.

While basic software claims to meet your needs, in the real world, the risk of unintended consequences is huge for most organizations. NetMRI provides the intelligence, analysis and embedded expertise to solve the hardest problems for IT professionals today—and the basic software solutions would never see. NetMRI helps you stop being reactive and chasing problems after the fact—and isn't that what every networking professional really wants?

Try NetMRI and see for yourself at www.netcordia.com/eval.

To learn more, call **+44.207.127.4856** or visit www.netcordia.com.

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Netcordia is a leading provider of network automation software to the world's most complex and mission-critical networks. Its award-winning NetMRI network change and configuration management (NCCM) solution continuously audits multi-vendor infrastructures, identifies anomalies early, and speeds resolution.

Netcordia helps more than 300 leading healthcare, financial services, academic, service and government organizations stretch IT budgets, improve overall performance, meet corporate policy, and comply with stringent federal regulations. Founded in 2000, Netcordia is headquartered in Annapolis, Maryland.