NIPPER
ENTERPRISE

Product Overview

Foundational network configuration security for Zero Trust and PCI DSS 4.0 assurance at scale

Configuration assessment accuracy is critical

Devices, such as firewalls, routers and switches are pivotal to the security of all networks. Each device is managed through a complex configuration, and misconfigurations (either accidental or deliberate) can result in critical security risks to the network, its data, applications and ultimately the organization’s mission.

The only way to accurately detect these misconfigurations is to virtually model the configuration as a single entity to consider interdependencies across the network.

As networks can change on a daily basis, trusted compliance standards and risk management (RMF) frameworks such as PCI DSS 4.0 increasingly mandate continuous monitoring and assessment of all network devices as foundational components of delivering security from compliance. This is in line with the Zero Trust security best practice identified by NSA and DISA in the DoD’sZero Trust reference architecture.

This requires a risk-focused approach to misconfiguration detection and remediation that is accurate, timely, and scalable.

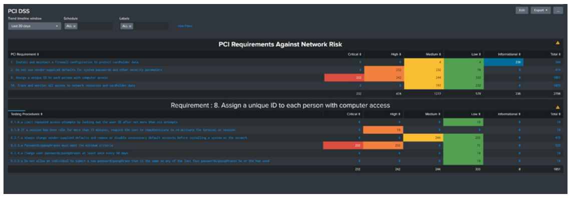
By virtually modelling configurations, Nipper Enterprise accurately assesses the security risk posture of up to 300,000 firewalls, routers and switches daily from manufacturers including Cisco, Fortinet, Juniper, Check Point and Palo Alto amongst others.The solution significantly reduces the mean time to detect and remediate vulnerabilities and misconfigurations, delivering deterministic results on an up-to-hourly basis.

Nipper Enterprise not only prioritizes security risks according to expert pentest criticality ratings, based on ease of exploitation and network impact, but also provides remediation recommendations and command line fixes where possible.

Securing your CDE and wider network by adopting PCI DSS 4.0 best practice

To help deliver security from compliance with trusted risk and control frameworks, Nipper Enterprise’s security risk assessment can be automatically overlaid onto PCI DSS 4.0 requirements, as well as NIST 800-53, NIST 800-171 and CMMC for supply chains.

Integrations with trusted SIEM, ITSM and SOAR tools enable both snapshot RMF posture assurance and/or continuous RMF monitoring of the actual state of network configuration - with results prioritized by network security risk criticality.



PCI DSS

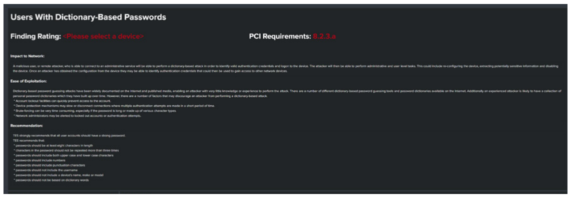
Trend timeline window: Last 30 days
Schedule: ALL
Labels: ALL

PCI Requirements Against Network Risk

PCI Requirement	Critical	High	Medium	Low	Informational	Total
1. Install and maintain a firewall configuration to protect cardholder data	0	0	4	4	236	244
2. Do not use vendor-supplied defaults for system passwords and other security parameters	0	232	232	10	0	474
8. Assign a unique ID to each person with computer access	232	242	244	333	0	1051
10. Track and monitor all access to network resources and cardholder data	0	0	797	232	0	1029
	232	474	1277	579	236	2798

Requirement : 8. Assign a unique ID to each person with computer access

Testing Procedures	Critical	High	Medium	Low	Informational	Total
8.1.6.a Limit repeated access attempts by locking out the user ID after not more than six attempts	0	0	0	10	0	10
8.1.8 If a session has been idle for more than 15 minutes, require the user to reauthenticate to re-activate the terminal or session	0	10	0	0	0	10
8.2.1.a Always change vendor-supplied defaults and remove or disable unnecessary default accounts before installing a system on the network	0	0	244	232	0	476
8.2.3.a Passwords/passphrases must meet the minimum criteria	232	232	0	71	0	535
8.2.4.a Change user passwords/passphrases at least once every 90 days	0	0	0	10	0	10
8.2.5.a Do not allow an individual to submit a new password/passphrase that is the same as any of the last four passwords/passphrases he or she has used	0	0	0	10	0	10
	232	242	244	333	0	1051



Users With Dictionary-Based Passwords

Finding Rating: <Please select a device>

PCI Requirements: 8.2.3.a

Impact to Network:

A malicious user, or remote attacker, who is able to connect to an administrative service will be able to perform a dictionary-based attack in order to identify valid authentication credentials and logon to the device. The attacker will then be able to perform administrative and user level tasks. This could include re-configuring the device, extracting potentially sensitive information and disabling the device. Once an attacker has obtained the configuration from the device they may be able to identify authentication credentials that could then be used to gain access to other network devices.

Ease of Exploitation:

Dictionary-based password guessing attacks have been widely documented on the Internet and published media, enabling an attacker with very little knowledge or experience to perform the attack. There are a number of different dictionary-based password guessing tools and password dictionaries available on the Internet. Additionally an experienced attacker is likely to have a collection of personal password dictionaries which they have built up over time. However, there are a number of factors that may discourage an attacker from performing a dictionary-based attack.

* Account lockout facilities can quickly prevent access to the account.
* Device protection mechanisms may slow or disconnect connections where multiple authentication attempts are made in a short period of time.
* Brute-forcing can be very time consuming, especially if the password is long or made up of various character types.
* Network administrators may be alerted to locked out accounts or authentication attempts.

Recommendation:

TES strongly recommends that all user accounts should have a strong password.
TES recommends that:
* passwords should be at least eight characters in length
* characters in the password should not be repeated more than three times
* passwords should include both upper case and lower case characters
* passwords should include numbers
* passwords should include punctuation characters
* passwords should not include the username
* passwords should not include a device's name, make or model
* passwords should not be based on dictionary words

PCI DSS 4.0 compliance assessment prioritized by network risk

SOC and NOC Benefits

Deliver network security and PCI 4.0 assurance

By providing an accurate RMF snapshot of the network, as well as CDE, Nipper Enterprise empowers compliance and security teams to agree action and monitor the effectiveness of remediation plans prioritized by network risk, to deliver and maintain network security and PCI DSS 4.0 assurance.

Continuous configuration drift monitoring and management

By assessing every device daily, Nipper Enterprise quickly identifies configuration drift as it arises, allowing SOC/NOC teams to prioritize risk remediation of any critical risks detected.

Zero Trust architecture baselining

Providing both snapshot RMF assurance and continuous monitoring, Nipper Enterprise enables an organization to evidence their adherence to baseline zero trust capabilities for the network (i) being segmented with deny all/permit by exception and (ii) devices being managed and compliant to IT security policies as identified in the DoD’s 2021 zero trust reference architecture.

Significantly improved security and financial ROIs

Nipper Enterprises accuracy and risk and remediation focus significantly improves the security return from existing SOC/NOC investments. In terms of both MTTD and MTTR, as well as in financial terms, the solution saves thousands of labor years per annum through not investigating false positives and ensuring cyber teams prioritize remediation by network risk criticality.

Architected for the Enterprise

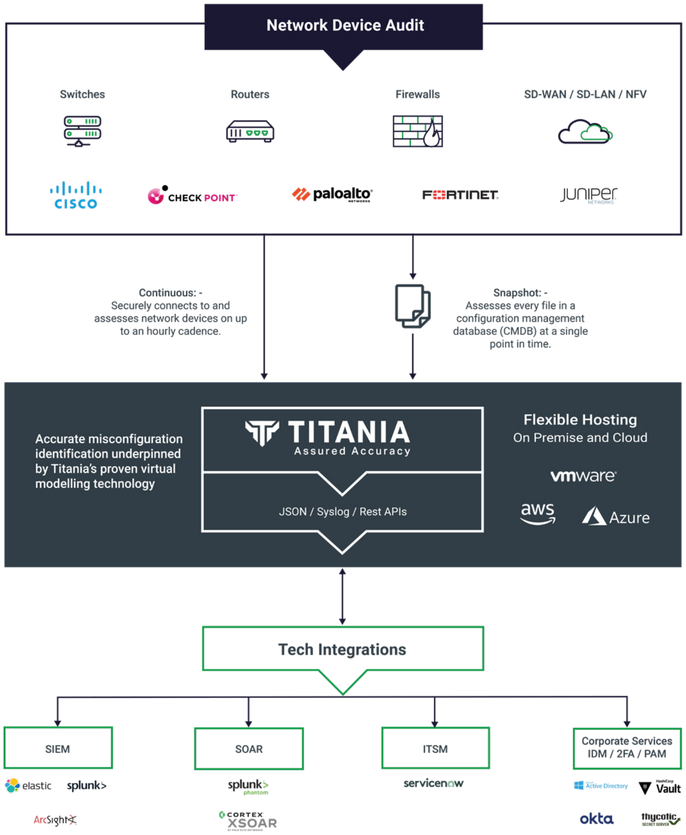
Nipper Enterprise is a horizontally scalable, agentless web-based application, hosted on a VSphere platform or AWS VPC.

The application fits easily into any corporate network infrastructure, whether on-premises or cloud-based environment. By scaling the unrivalled accuracy of Titania Nipper's proven configuration assessment virtual modelling, the solution accurately assesses a wide range of network devices against trusted risk management and control frameworks.

Nipper Enterprise is capable of directly connecting to network devices to access the configuration file or ingesting previously extracted configurations. The analysis performed is identical regardless of the configuration source. Risk findings are produced in a variety of formats, including JSON and syslog, enabling integration with existing SIEM, SOAR and ITSM SOC and NOC solutions.

Integrations with trusted Active Directory, 2FA, PAM and IDAM providers ensure Nipper Enterprise meets operational security requirements.

NIPPER ENTERPRISE: TECHNOLOGY & DEVICE INTEGRATIONS



Continuous: - Securely connects to and assesses network devices on up to an hourly cadence.

Snapshot: - Assesses every file in a configuration management database (CMDB) at a single point in time.

Accurate misconfiguration identification underpinned by Titania's proven virtual modelling technology

> "Automatically prioritize PCI DSS 4.0 remediation by security and mission risk, and reduce mean time to repair with device specific remediation advice."

Snapshot mode

Nipper Enterprise assesses every file in a configuration management database (CMDB) at a single point in time, accurately reporting actual RMF posture prioritized by network risk criticality to meet compliance assurance requirements and ensure POA&Ms deliver security from RMF compliance.

Continuous mode

By allowing Nipper Enterprise to securely connect to and assess network devices on up to an hourly cadence, critical RMF misconfigurations in particular can be identified and remediated on a daily basis in support of agreed POA&Ms.

Key Features

Secure deployment

Integrations with trusted 2FA, Active Directory, PAM and IDAM providers ensure Nipper Enterprise can meet stringent operational security requirements.

Air-gapped auditing

Nipper Enterprise can ingest device configurations from pre-extracted configuration files within repositories, to assess the security and RMF compliance of the most secure networks in the world.

Risk visualization, prioritization & exploration

Machine-readable JSON and syslog outputs enable integration with dynamic visualization, prioritization, enrichment and exploration SIEM and GRC tools.

Remediation workflow enhancement

Integrations with SOAR and ITSM platforms enable risk prioritized playbook- controlled remediation automation workflows to improve MTTR.

Flexible device labelling and audit scheduling

Devices can be labelled as required by, for example, network criticality, geographic location, manufacturer, device type, etc. Using labels then enables audit cadence scheduling flexibility based on network or device risk profiles.

About Titania

Since 2012, Titania Nipper's accurate configuration assessment has been trusted by expert vulnerability assessment, PCI QSA and ISA teams to automate security and PCI assurance. Nipper's unrivalled accuracy allows audits to be reduced by up to 3 hours per audit by not wasting time investigating false positives.

Utilizing the trusted Nipper sensor that delivers this industry-leading accuracy in configuration security and compliance assurance, Nipper Enterprise now delivers accurate security assessment and PCI DSS 4.0 monitoring and assurance at scale whilst simultaneously delivering effective foundational zero trust capabilities.

For more information on any of our products or services, visit us at: www.titania.com