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Network Security Equipment Combination Configuration Scheme



Overview

Automatic Configuration Scheme of Network Security Protection Automatic Configuration Scheme of Network Security Protection Based on Configuration Manageme.

Key Takeaways

A secure network equipment combination configuration scheme integrates baseline-hardened devices, strict change management, and adherence to NESAS and CIS Control 11 standards.Core Principles

1. Baseline-Hardened Configurations All network devices—including firewalls, routers, switches, and IDS/IPS systems—should start from a secure baseline configuration. Default settings from manufacturers are often optimized for ease of deployment, not security, and may include open ports, default accounts, or outdated protocols, which can be exploited by attackers (CIS Control 11) . 2. Layered Security Integration Combine devices in a defense-in-depth architecture:

• Firewalls enforce perimeter and internal segmentation.

• Routers and switches implement VLANs, ACLs, and traffic filtering.

• IDS/IPS monitor and block suspicious activity.

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• NAC and DHCP/DNS appliances enforce endpoint compliance and network access policies. Each device's configuration should complement others, avoiding redundant or conflicting rules while maintaining visibility and control over traffic flows . 3. Change Management and Continuous Monitoring Secure configuration is not a one-time task. Implement a rigorous configuration management process:

• Document all deviations from baseline configurations.

• Require approval from a change control board for any modifications.

• Use automated tools to detect unauthorized changes and log all configuration updates . 4. Compliance with NESAS Standards The Network Equipment Security Assurance Scheme (NESAS) provides a framework for evaluating security across the development lifecycle and operational processes of network equipment. Vendors and operators should ensure that devices meet NESAS requirements, including secure development practices, vulnerability management, and audit readiness . 5. Vendor and Product Lifecycle Considerations When combining equipment from multiple vendors, ensure:

• Each product is NESAS-certified or meets equivalent security assurance standards.

• Firmware and software updates are applied consistently.

• Security policies are harmonized across devices to prevent gaps or conflicts .
Implementation Steps
• Inventory and Classification: Identify all network devices and classify them by function and criticality.

• Baseline Configuration Deployment: Apply hardened configurations according to CIS and NESAS guidelines.

• Integration Testing: Validate that combined devices enforce security policies without disrupting business operations.

• Continuous Monitoring: Use automated tools to track configuration changes, detect anomalies, and generate alerts.

• Periodic Review and Audit: Regularly review configurations, update baselines, and ensure compliance with NESAS and internal security policies.
Key Takeaways
• Start with secure, standardized configurations for all devices.

• Apply defense-in-depth principles to integrate multiple security devices.

• Maintain strict change management and monitoring to prevent configuration drift.

• Ensure NESAS compliance for vendor products and lifecycle processes.

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• Regularly audit and update configurations to adapt to evolving threats and business needs. This approach ensures that a network's security equipment combination is robust, compliant, and resilient against attacks while maintaining operational efficiency.

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