TESTING

SECURITY INNOVATION
A BUREAU VERITAS COMPANY

NETWORK SEGMENTATION VALIDATION METHODOLOGY

ENSURING PROPER NETWORK SEGMENTATION SECURITY

Effective network segmentation is essential to reducing the spread of cyber attacks within your infrastructure. At Security Innovation, we implement a comprehensive, two-level penetration testing methodology to assess and validate your network segmentation controls. This approach ensures that your security measures are not only functional but also robust enough to prevent unauthorized access between different network zones.

METHODOLOGY

Our penetration testing methodology includes two levels of assessment to thoroughly evaluate the strength of your network segmentation.

LEVEL 1: BASIC NETWORK SEGMENTATION TEST

In this phase, we simulate a rogue attacker operating within one of your network segments. Our testers position themselves logically within each network zone and attempt to communicate with other networks by addressing packets to IPs and services in adjacent segments.

- **Objective:** Detect any basic flaws in segmentation that allow communication across network boundaries.
- **Outcome:** This basic test reveals whether segmentation controls prevent unauthorized access between zones, commonly used for PCI compliance. However, it may not uncover deeper vulnerabilities caused by protocol exceptions or device-specific firewall rules.

While this test is valuable for identifying obvious weaknesses, it does not guarantee the complete security of your segmentation controls. More thorough testing is needed to identify risks related to services running within the network.

LEVEL 2: ADVANCED SERVICE-LEVEL SEGMENTATION TEST

This advanced phase takes a deeper dive into the services and devices within each network segment. Our testers evaluate whether vulnerabilities in services—such as SSH, SMTP, or web applications—could allow attackers to bypass segmentation controls and gain access to other networks.

- **Objective:** Assess potential security gaps within each service that may facilitate unauthorized access across network segments.
- **Examples of Vulnerabilities:**
  - Use of default credentials
  - Insecure cryptographic algorithms
  - Existence of root user accounts
  - Use of outdated or vulnerable libraries

This level of testing provides a thorough evaluation of the segmentation controls' effectiveness by considering the potential compromise of services within a segment..

WHY SECURITY INNOVATION?

COMPREHENSIVE TESTING ACROSS ENVIRONMENTS

Security Innovation secures software across all environments—Web, Cloud, AI, IoT, mobile, and desktop. Our penetration testing methodology integrates seamlessly with your development process, safeguarding your software from the design phase through to deployment. With our precision-driven approach, you can ensure that your network segmentation is secure and effective.

PRECISION-DRIVEN, ACTIONABLE RESULTS

We eliminate security noise by delivering clear, actionable results with zero false positives. Our tailored remediation guidance enables your team to swiftly address vulnerabilities and fortify your network segmentation controls.

WORK WITH INDUSTRY EXPERTS

Security Innovation has been a leader in software security since 2002. Backed by the global expertise of Bureau Veritas, a leader in Testing, Inspection, and Certification, we bring unparalleled insight and experience to every engagement. Partner with us to ensure your network segmentation—and overall cybersecurity posture—is solid, comprehensive, and effective.

ABOUT SECURITY INNOVATION

Security Innovation provides comprehensive software security solutions, specializing in securing software across all environments, including Web, Cloud, IoT, mobile, and desktop. As part of Bureau Veritas, we combine decades of expertise with a commitment to precision, ensuring zero false positives and actionable security insights.

Visit **securityinnovation.com** to learn how we can help secure your software and protect your business.

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