CERBERUS

Security Assessment Report

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1. Executive Summary

The security assessment of the target IP address 45.33.32.156 (scanme.nmap.org) revealed no critical vulnerabilities, high-risk security issues, security configuration problems, authentication and access control vulnerabilities, injection vulnerabilities, or potential sensitive data exposure. The nmap scan identified open ports and services, but no exploitable findings were detected. This report outlines the findings and provides recommendations for further security enhancements, integrating insights from the knowledge graph data.

2. Key Findings

The nmap scan results did not identify any vulnerabilities. However, based on the open ports and services detected, the following points are noted:

- Open Ports and Services:
- Port 22/tcp (ssh): The SSH service is open, which is standard for remote access. Ensure strong authentication mechanisms and regular updates to the SSH service.
- Port 9929/tcp (nping-echo): This port is open for nping-echo, which is typically used for network testing. Ensure this service is necessary and properly secured.
- Port 31337/tcp (Elite): This port is open for an unknown service named "Elite." Ensure this service is legitimate and properly secured.

The knowledge graph data confirms the status of these ports:

- Port 22/tcp (ssh): Open
- Port 9929/tcp (nping-echo): Open
- Port 31337/tcp (Elite): Open

3. Risk Assessment

Given the lack of vulnerabilities detected in the scan results, the risk assessment is minimal. However, the open ports and services warrant further scrutiny:

- SSH (Port 22/tcp): While SSH is a secure protocol, it is susceptible to brute-force attacks if weak passwords are used. This aligns with the OWASP Top 10 category A2:2021-Cryptographic Failures.
- Impact: Unauthorized access to the system.
- Risk: Medium to High.
- Nping-echo (Port 9929/tcp): This service is typically used for network testing and may not require open access. Ensure it is necessary and properly secured.
- Impact: Potential misuse for network scanning or attacks.
- Risk: Low to Medium.
- Elite (Port 31337/tcp): The service running on this port is unknown. Ensure it is legitimate and properly secured.
- Impact: Unknown, but could be a potential security risk.
- Risk: Medium.

4. Recommendations

To enhance the security posture of the target system:

1. SSH Security:
- Implement strong password policies and consider using SSH keys for authentication.
- Enable and configure fail2ban to protect against brute-force attacks.
- Regularly update the SSH service to the latest version.

2. Nping-echo (Port 9929/tcp):
- Assess the necessity of this service. If not required, consider disabling it.
- If necessary, ensure it is properly secured and monitored.

3. Elite (Port 31337/tcp):
- Identify the service running on this port and ensure it is legitimate.
- If necessary, ensure it is properly secured and monitored.

4. General Security Practices:
- Regularly update and patch all software and services.
- Implement a robust firewall configuration to restrict access to only necessary ports and services.
- Conduct regular security audits and vulnerability assessments.

By following these recommendations, the security posture of the target system can be significantly improved.

5. Knowledge Graph Insights

The knowledge graph data provides additional context and confirms the open status of the identified ports:

- Host scanme.nmap.org RESOLVES_TO IP address 45.33.32.156 (type: A, last seen: 2025-03-20T16:42:42.438548000)
- IP 45.33.32.156 HOSTS port 31337/tcp (status: open)
- IP 45.33.32.156 HOSTS port 9929/tcp (status: open)
- IP 45.33.32.156 HOSTS port 22/tcp (status: open)

This confirms the findings from the nmap scan and reinforces the need for the recommended security measures.

This comprehensive report integrates the findings from the security assessment with the insights from the knowledge graph, providing a holistic view of the security posture of the target system.