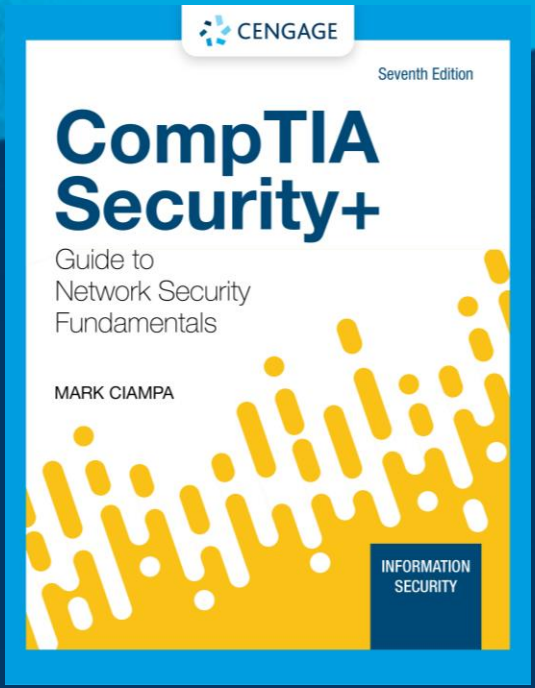

Principles of Cyber Security

Lecture 13: Vulnerability Scanning

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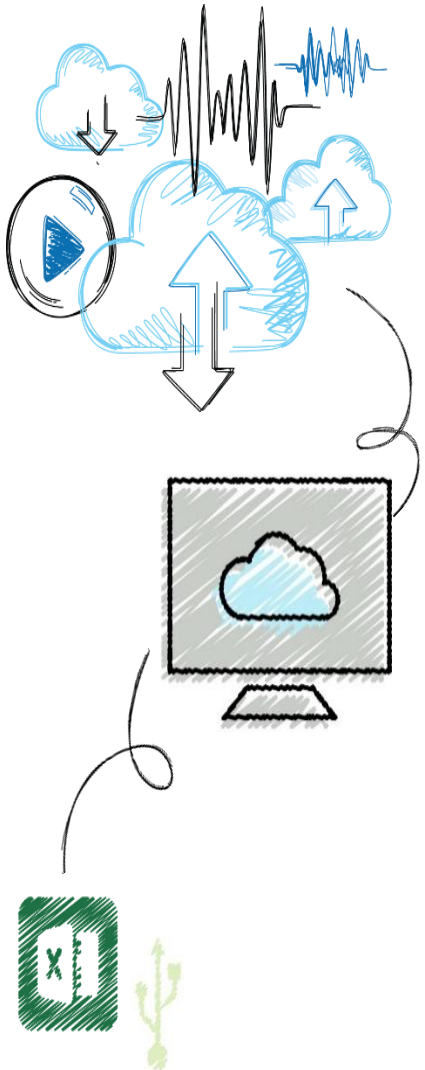


Objectives

10.1 To describe the Vulnerability Scanning and Data Management Tools.

Vulnerability Scanning

- **Vulnerability scanning** in some ways complements pen testing
- Studying vulnerability scanning involves understanding:
  - What it is
  - How to conduct a scan
  - How to use data management tools
  - How threat hunting can enhance scanning

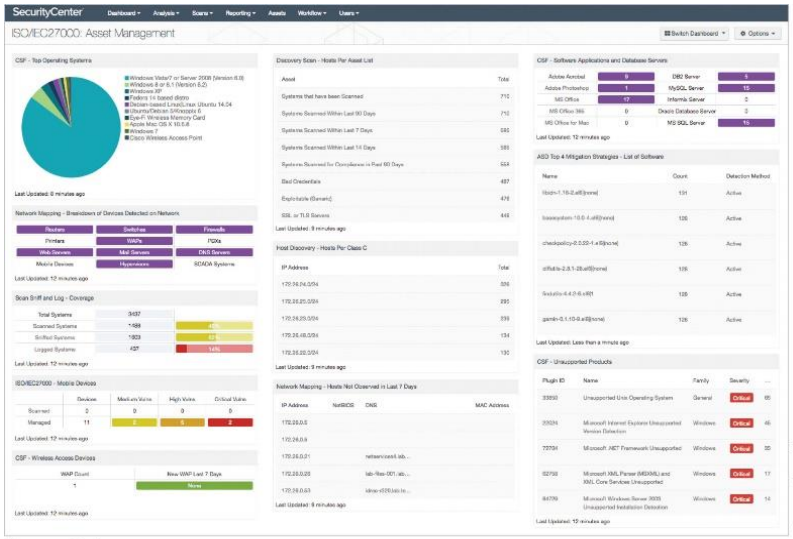
Conducting a Vulnerability Scan

- A penetration test is a single event using a manual process often performed only after a specific amount of time has passed.
- ***A vulnerability scan*** is a frequent and ongoing process that continuously identifies vulnerabilities and monitors cybersecurity progress.

Conducting a Vulnerability Scan

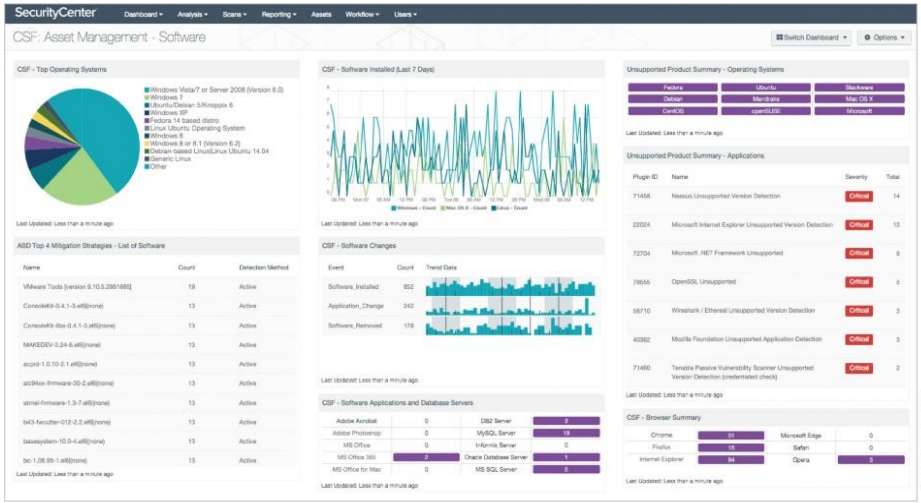
- Conducting a vulnerability scan involves:
  - Knowing what to scan and how often
  - Selecting a type of scan
  - Interpreting vulnerability information
- When and What to Scan
  - Two primary reasons for not conducting around-the-clock vulnerability scans:
    - *Workflow interruptions*
    - *Technical constraints*
  - A more focused approach is to know the location of data so that specific systems with high-value data can be scanned more frequently

Conducting a Vulnerability Scan



Source: Tenable

Figure 2-4 Nessus hardware asset management



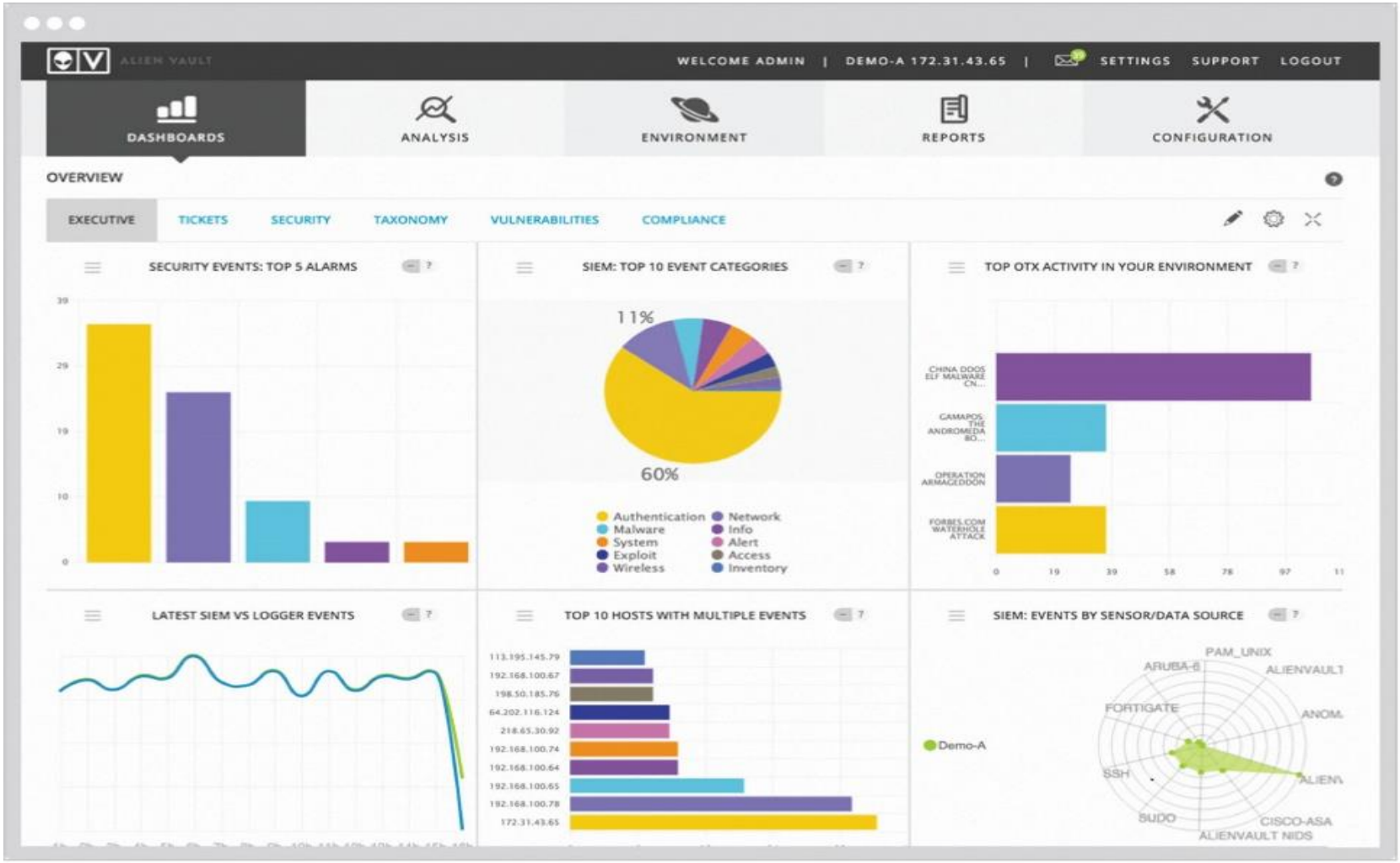
Source: Tenable

Figure 2-5 Nessus software asset management

Data Management Tools

- Two data management tools are used for collecting and analyzing vulnerability scan data:
  - **Security Information and Event Management (SIEM)**
  - **Security Orchestration, Automation, and Response (SOAR)**
- Security Information and Event Management (SIEM)

Data Management Tools



Source: Alien Vault

Figure 2-8 SIEM dashboard

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Summary

- Two data management tools are used for collecting and analyzing data: the Security Information and Event Management (SIEM) tool and a Security Orchestration, Automation, and Response (SOAR) tool.

Thank you

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