NOMADS

Navy Operational Machine Auditing Development Suite
Team MAN^2

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Project Background

The Problem

- Cybercrime presents a clear danger to any organization
- Leaky networks can cause a lot of damage if they are exploited
- Large organizations need automation to cover all devices
- Human security teams are better utilized for analysis than data collection

Project Background

Issues with Existing Solutions

- Many, many endpoint detection and response tools
- What is the problem?
  - **Expensive**
  - **Non-specialized**
  - **Time-intensive**
  - **Large footprint**
  - **Third-party**
- Manual data collection is too slow

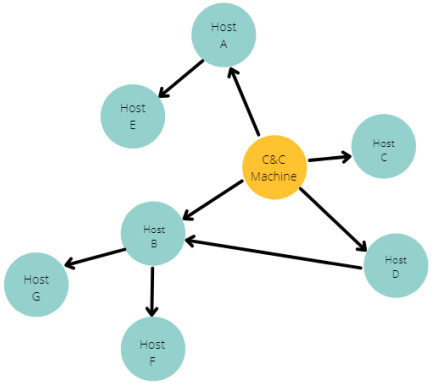
NOMADS

An automated, low-cost, small-footprint network auditor and visualizer.

How it Works (FP2)

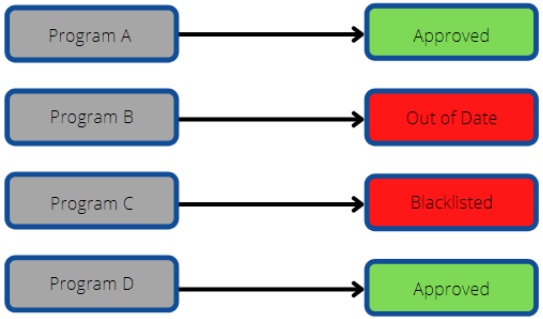
Fetch

- **Collect Data From Hosts**
  - Host Discovery Scan
  - Network Audit



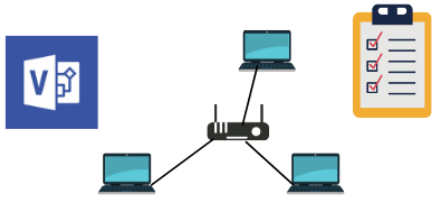
Process

- **Create Insights, Find Liabilities**
  - Approved Program Search
  - Neighbor Graph Generation



Present

- **Share Insights with Ease**
  - Interactive Network Topology Diagram
  - Visual Network Summary



Project Technologies

Fetch, Process

- **Ansible/ansible-runner**
- **Nmap**, Ncat, Paramiko
- Windows Remote Management
- Python

Present

- Flask
- Microsoft Visio
- Vis.js
- Vue

Demo

Conclusion

NOMADS Benefits

- Expedites process of manually compiling hardware and software lists for large networks
- Notifies administrators of questionable programs and computers
- Provides multiple visualization methods for report generation and easy understanding of issues
- Exports into numerous formats
- Fast, cheap, scalable, and easy

Conclusion

Applications of NOMADS

- Naval Air Warfare Center Weapons Division (NAWCWD)
- Naval Surface Warfare Center

Future Work

- Advanced software filtering features
- Continuous network monitoring
- Increased diagrams customizability

Special Thanks

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Any Questions?