Hercules and Vulnerability Related Security Standards

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Where Is The Problem?

KNOCK KNOCK

WHO IS IT?

IT'S A HACKER!

HAH! NOT THIS TIME! I'M ON TO YOU! YOU'LL HAVE TO DO BETTER THAN THAT!

WEB SECURITY

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KNOCK KNOCK
Hercules in a Nutshell

- **Automated Vulnerability Remediation (AVR)**
  - World’s largest repository of tested and proven remedies
    - All 5 classes of vulnerabilities
    - In-house team of security experts
    - Automated V-Flash delivery

- **Heterogeneous platform support**
  - Windows, Solaris, HP-UX, AIX, Linux, Tru64 & Mac OS-10

- **Set and enforce security policy**
  - Policy templates
  - Scheduled compliance checks

- **ConnectGuard™ Endpoint security / NAC Support**

- **Scanner remediation**
  - Upholds separation of duties
  - Leverage existing IT investment
  - Aggregate scan data for comprehensive remediation
  - Independent vulnerability assessments

- **Zero day vulnerability remediation**
  - AssetGuard™ ‘targeted’ vulnerability management

- **Tested and certified solution**
  - Microsoft Windows 2000, 2003 certified
  - Common Criteria certification EAL 3
  - ISO 15408 Certified
Vulnerability: A weakness in process, administration or technology that can be exploited to compromise IT security – Gartner

**Five Classes of Vulnerabilities**

**Unsecured Accounts**
- Null Password, Admin no PW, no PW expiration…

**Unnecessary Services**
- VNC, PCAnywhere, KaZaa, Telnet . . .

**Backdoors**
- Spyware (KaZaa, DownloadWare, 180 Solutions, GAIN ), MyDoom.A, BACKORIFICE, SUBSEVEN . . .

**Mis-configurations**
- Netbioso shares, Anonymous FTP world r/w, hosts.equiv . . .

**Software Defects (Missing Patches)**
- Buffer overruns, RPC-DCOM, SQL Injection . . .
Hercules Supported Models of Vulnerability Remediation

**Top-down**
- Define asset baseline
- Define security baseline
- Enforce IT security configurations

**Bottom-up**
- Assess vulnerability state
- Remediate detected vulnerabilities

**Targeted**
- New, critical vulnerabilities
- Key assets

- **Check Compliance or Enforce Policy**
- **Scan Validate Remediate**
- **Near Day Mitigation**
Compliance Enforcement (Top-Down)

• Consistently Assess and Enforce Security Policy Across The Enterprise
  – Scheduled or On-demand
  – Out-of-the-box Templates
  – Custom Templates

• Detailed Compliance Assessment
  – Password settings, account privileges, event logs, audit settings, files, services, legal notices, etc.

• Bring Non-compliant Devices Back Into Compliance

Hercules Provides “Best Practices” Policy Templates:

  • GLBA
  • HIPPA
  • SOX
  • SANS Top 20
  • DISA STIGS
  • FISMA
  • MS Win2k Gold
  • NSA Security Configuration Guides
Scan and Remediate (Bottom-up)

1. Aggregate scan data
2. Correlate with remedy library
3. Fix vulnerabilities
4. Report on status
Near Day Mitigation (Targeted)

- Actionable asset intelligence
- Immediately identify and remediate vulnerabilities on key assets
  - Asset Inventory
  - Asset Query
  - ActionPacks
- Empowers policy enforcement and remediation
- Enables near day mitigation

Compiled from CERT, SANS and Microsoft websites
Extending Policy to the Endpoint

**HERCULES ConnectGuard™**
Host Quarantine & Remediation

- Host-based quarantine *and* remediation solution
- Protection for disconnected devices (laptops, desktops, servers)
- Prevents un-trusted devices that have been off the network from gaining access to the network *until* remediated

"The consistent sanitization of infected endpoint devices and enforcement of security and configuration polices before reconnecting to the network is critical to ensuring the security of enterprise networks."
- The Meta Group

**Cisco NAC Partner**
Hercules Scalability

- **Scaleable**
  - multi-tiered

- **Flexible**
  - web based

- **Secure**
  - XML / SOAP
  - SSL
  - HTTP / HTTPS

![Hercules Scalability Diagram](image-url)
RSG Remediation Development

**Security Knowledge Team**
Collects & gathers security knowledge from as many sources as possible.

**Vulnerability Data Intelligence**
Gathered from:
- OS vendor security lists
- Security web sites
- Global security mailing lists
- Vulnerability scanner vendors
- Anti-virus vendors
- Application vendor security lists
- Usenet news groups
- IRC or Chat sites
- Industry organizations (SANS, CVE, CIS, etc.)
- Our security partners

**Vulnerability Remediation Team**
Researches all vulnerabilities & possible solutions. Designs & develops all remedies. 1st line of testing.

**Hercules Server at Client Site**

**Citadel's V-Flash Server**
Maintains the library of all Remedies

**Quality Assurance Team**
Extensively tests all remedies before making them available to customers.

**28,000 + Remedies**
Required Data Stream Management

• New Scanner IDs Associated with Hercules IDs
• Updated Scanner Information
• Vendor Alerts (HP, AIX, Apple, Sun, RedHat, Microsoft, etc.)
• IAVA Alerts
• OVAL and CVE Updates
• Industry advisories (Secunia, BugTraq, CERT, IT-ISAC, etc.)
• Patch URL Updates
• Policy and Hardening Guide Updates
• Industry Checklists
RSG Scanner Support

Incorporating Daily Scanner Updates

• eEye
  – Retina
  – REM

• Harris
  – STAT
  – STAT Guardian

• ISS
  – Internet Scanner
  – System Scanner
  – SiteProtector

• McAfee Foundstone
  – Foundscan

• Microsoft
  – Baseline Security Analyzer 1.2 and 2.0

• OVAL
  – OVAL Reference / ThreatGuard

• Qualys
  – QUALYSGUARD

• netVigilance/NextaniS
  – SecureScout

• Saint
  – Saint Scanner

• Tenable
  – Nessus
  – NeWt

• OpenSource
  – Nessus

• OS2A
  – Nessus

• nCircle
  – IP360
Additional RSG Initiatives

- OVAL / CVE / CCE
- Exploit Library
- Remediations Operations Center
- IAVM Support and DB
- XCCDF
- Security Research
- DISA STIG Remedy Enhancements
Bringing Together Security Information Streams

Security Content Integration

Serious and Secure.
Daily Security Content Issues

- Data streams are rapidly growing
- Only way to keep up is automating the tasks
- Correlate information using industry standard reference information (CVE, BID, Vendor IDs, etc)
- Making heavily content-based products possible and more useful
Participation in the Security Industry

- **Cyber Security Industry Alliance**
  - Advocacy group dedicated to the improvement of cyber security through public policy, education and technology-focused initiatives

- **OVAL (Open Vulnerability & Assessment Language)**
  - Carl Banzhof, Kent Landfield OVAL Board Members
  - Hercules certified as OVAL Results Schema Compatible

- **CVE (Common Vulnerabilities & Exposures) Standard**
  - Kent Landfield early CVE Editorial Board Member
  - Hercules certified as a CVE Compatible product

- **CCE**
  - Participating in initial CCE foundation work

- **OASIS**
  - Application Vulnerability Description Language Standard
  - Web Application Security XML (WAS) Technical Committee

- **NIST**
  - The Vulnerability Management solution compliant with NIST Pub 800-70 requirements as defined by the Cyber Security Research and Development Act of 2002
  - Participating in NIST/NSA’s Extensible Checklist Configuration Description Format (XCCDF) effort
  - Participated in the NIST “Workshop on State of the Art in Software Assurance Tools”
Foundation Tools

Vulnerability and Compliance Related Standards efforts

- CVE (Common Vulnerabilities and Exposures)
- OVAL (Open Vulnerability and Assessment Language)
- XCCDF (The Extensible Configuration Checklist Description Format)
- CVSS (Common Vulnerability Scoring System)
- NVD (National Vulnerability Database)
- CCE (Common Configuration Enumeration)
Information Exchange (or why are we here?)

• Purpose:
  – Provide the community with the ability to exchange security, system state and vulnerability related information within the networked community and security products

• Standards:
  – CVE
  – OVAL
  – XCCDF
  – CVSS
  – CCE (an early work in progress)

• Repositories:
  – CVE
  – OVAL
  – NVD
Security Standards Development Models

- **IETF Approach**
  - Can be effective, can easily fail
  - Can take a great deal of time to produce results
  - Can be swayed by a small group of vocal participants

- **OASIS Approach**
  - Pay to vote

- **Vertical Special Interest Group**
  - Pay to vote (sometimes)
  - Focus only on the interest of a specific group

- **CVE/OVAL Model**
Whether intended or just by accident, the CVE/OVAL Model is working.

- Focuses on the end goal
- Listening to the community directions and desires
- Hard to be taken over by a single company or individual
- Hard to be ignored by vendors over the long run
- Educates the community at the same time promoting the standard
- Moderated/Managed with the end customer community at large in mind

*Marketing to the Security Vendor and end user community at trade shows and conferences has a real impact.*
But the reality as I see it is…

While we are all excited about what we can accomplish, we need help to make the entire XCCDF/OVAL vision succeed…

Funding history for these valuable efforts has not had a good history. Vendors are being asked to invest in these efforts. The government needs to step it up as well so more vendors and customers feel comfortable in investing in the efforts. Nothing is free.

The XCCDF Editor is CRITICAL. Without it modifying XCCDF documents for local use will be extremely time consuming and laborious. The success of the XCCDF Editor Project could end up being the enabler allowing organizations to adopt XCCDF/OVAL Checklist usage in the near future. We can either speed up the availability of that enabling tool or we can wait and potentially loose momentum.

We need to look at the overall efforts and apply the resources where we can truly benefit the community at large.
We have come a long way in a year. Let’s not stumble now.

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See y’all at the Third Annual Security Automation Conference.