

Nessus Lab

Open Source Security Tools for Information Technology Professionals

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Class 12 December 12th, 2005

FOSS Vulnerability Scanners

- Nessus — Version 3 will be closed source
- OpenVAS — New FOSS version of Nessus
- ATK — Attack Tool Kit for Windows

Nessus Controversy

- Tenable Network Security commercial company behind Nessus
- “Customer and regulatory demands limit GPL usefulness” — multiple licensing is an option used in these cases; rarely problem
- “Want to make money” — SNORT had commercial support and signature subscription and is GPL and will remain so under Check Point ownership
- “Little contribution by community” — 50 developers have already signed up for OpenVAS project
- Past controversies — Sendmail, SSH, XFree86 have all been eclipsed by subsequent forks

Client / Server Architecture

- Server runs tests
- Client configures and controls the session
- Scanning server can sit outside your network yet be locally accessible
- Server can be at point in network which gives it maximum bandwidth or access to rest of network
- Multiple OSes supported by server regardless of client
- Web client available

Installation

- `apt-get install nessus nessusd`
- `nessus — client`
- `nessusd — server`
- Debian installation automatically creates certificate
- If not run: `nessus-mkcert`
- Set up user: `nessus-user`

Nessus User

- Can use rules to restrict what tests can run
- Can restrict which IPs can login from
- Need at least one user with no rules

Running Nessus

- `nessusd &` — start server
- `nessus` — start client

Nessus Login Page

- `Server`: use localhost if running on same host as server
- `Port`: 1241 (standard)
- `Login`: username created when setting up `nessus`
- `Password`: password created when setting up `nessus`
- If running server elsewhere provide IP address
- You can look at previous scans without being logged in

Feed Types for Plugins

- Direct Feed — paid subscription — 9692 plugins
- Registered Feed — non-GPL but free with 7 day delay — 9664 plugins
- GPL (non-registered) — 1051 plugins
- Debian/Ubuntu — 2000+ plugins; not dependent on Tenable

Plugin Categories

- AIX Local Security Checks
- Backdoors
- Brute force attacks
- CGI abuses
- CGI abuses : XSSCISCO
- Debian Local Security Checks
- Default Unix Accounts
- Denial of Service

- Fedora Local Security Checks
- Finger abuses
- Firewalls
- FreeBSD Local Security Checks
- FTP
- Gain a shell remotely
- Gain root remotely
- General
- Gentoo Local Security Checks
- HP-UX Local Security Checks

- MacOS X Local Security Checks
- Mandrake Local Security Checks
- Misc.
- Netware
- NIS
- Peer-To-Peer File Sharing
- Port scanners
- Red Hat Local Security Checks
- Remote file access
- RPC

- Service detection
- Settings
- Slackware Local Security Checks
- SMTP problems
- SNMP
- Solaris Local Security Checks
- SuSE Local Security Checks
- Useless services
- Web Servers
- Windows

- Windows : Microsoft Bulletins
- Windows : User management

Nessus Attack Scripting Language (NASL)

- Allows for writing custom security plugins
- Don't have to know internal workings of Nessus
- Allows for independent development of plugins

Plugins Configuration

- Can selectively enable or disable groups as well as individual plugins
- Click on category to see sub-category of plugins
- Plugins that can cause servers to crash are highlighted with triangular exclamation symbol
- Dangerous plugins off by default
- Can enable all, all but dangerous, disable all or load custom plugins
- Can filter by name, description, summary, author, id number or category

Preferences — Nessus Integration with Other Tools

- Can use Nmap for port scanning
- Nikto and Whisker — testing web servers
- Hydra — brute force password attacks
- CGI programs — tests your Web servers CGIs
- Use Nessus client to configure
- Not all tools available on all platforms

Preferences — Nmap Configuration

- Access to most of Nmap's builtin options
- Can use an existing Nmap results file so don't have to run new scan

Preferences — Login Configuration

- By default Nessus operates as if you are a “stranger”
- If want it to perform deeper tests can provide service passwords
- Can also give a specific HTTP login page with associated form fields and password
- If Hydra is available can configure for brute force login attempts (not an Ubuntu/Debian option)

Preferences — Service Configuration

- Used for testing SSL services
- Can specify certificates to get reports on level of encryption web server supports
- Can be used to see if your web server still accepts 40-bit certificates (not safe)

Preferences — News Server Configuration

- Checks for possibility for spamming or other misuse of NNTP servers

Scan Options — Port Range

- By default checks ports 1-15000 which covers most services
- Can have it check all 65, 535 ports to look for Trojans
- Consider unscanned ports as closed — allows for faster check

Scan Options — Number of Hosts / Checks to Test / Perform at the Same Time

- If do too many at once may actually slow down testing
- Set to about 10 on a normal server (instead of default of 20)
- Very fast server on large network may try more simultaneously

Scan Options — Miscellaneous

- Path to the CGI — can change path if CGIs in non-standard place
- Do reverse lookup — to get host names
- Optimize — Nessus won't perform tests that don't apply to a particular host
- Shut off optimize if want to apply every possible test regardless
- Safe checks — doesn't actually run tests that may crash a server
- Designate hosts by MAC address — useful in environment where IP is assigned by DHCP

Scan Options — Port Scanner

- May vary on different platforms
- SYN Scan — if don't use Nmap can use built in SYN scanner
- LaBrea tarpitted hosts — set up to catch port scanners; check in order to detect and avoid

Target Options — Target Selection

- Single IP — 192.168.1.100
- IPs separated by comma — 192.168.1.1,192.168.1.2
- IP range — 192.168.1.1-192.168.1.100
- CIDR — 192.168.1.0/24
- Hostname — www.cuny.edu
- Any combination of above
- Can also read from a text file

Target Options — Miscellaneous

- Perform a DNS zone transfer — for a DNS configured domain
- Save this session — so can be used again
- Save empty session — sessions with no live hosts
- Previous sessions — can reload in future

User Tab

- Shows all users and associated rules
- Can edit and add rules here

Knowledge Base

- Can store scan results in a database
- Can use results of past scans to make current scan more “intelligent”
- Can avoid doing a port scan each time run Nessus
- Only tests found hosts and open ports
- Shouldn't always use it as new hosts may be added and new ports opened up

Reporting

- Can save in multiple formats
- NBE is native format
- HTML provides well-formatted report