OWASP LATAM TOUR 2014

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LATAM TOUR
2014

NMAP WEB HACKING 101

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Ethical Hacking

Análisis de Incidentes

Auditoría de Configuración

Revisión de Seguridad del Código Fuente de Aplicaciones

They run automated tools, We have ETHICAL HACKERS

OFFENSIVE security OSCP

C)PTC™ CERTIFIED PENETRATION TESTING CONSULTANT

C)PTE™ CERTIFIED PENETRATION TESTING ENGINEER

C|EH™ Certified Ethical Hacker

C)PEH™ CERTIFIED PROFESSIONAL ETHICAL HACKER

CERTIFIED INFORMATION SYSTEMS SECURITY PROFESSIONAL CISSP®

OSEH OP3N-53C 37H1C4L H4CK3R

OWASP LATAM TOUR 2014

http://www.owasp.org

OWASP Open Web Application Security Project

El team...

Experiencia

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

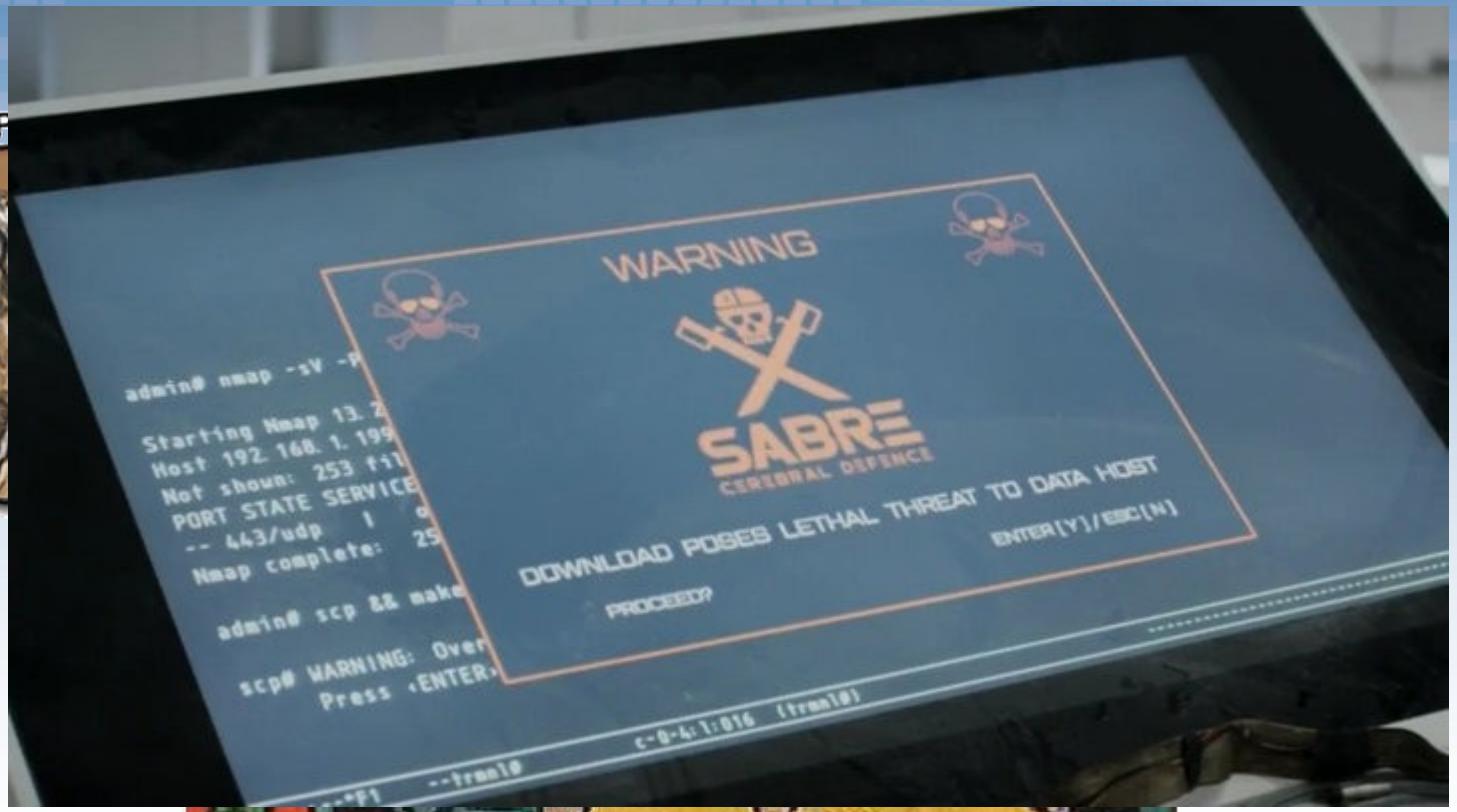
Greetings Mauricio,

Bizagi has confirmed the vulnerabilities and plans to release patches in June. This would be beyond the standard 45-day publication date, but it is common for us to delay publication until a patch is released. As the original vulnerability reporter, it is your choice whether we delay publication or stick to the standard 45-day disclosure date. Is it acceptable with you if we delay publishing the vulnerability note until the patch is released?

Best regards,

Vulnerability Analysis Team
==========
CERT Coordination Center
www.cert.org / cert@cert.org / Hotline: 1-412-268-7090
==========
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.4.5 (GNU/Linux)

NMAP ?


WARNING
SABRE
CEREBRAL DEFENCE
DOWNLOAD POSES LETHAL THREAT TO DATA HOST
ENTER(Y)/ESC(N)
PROCEED?
admin# nmap -sV
Starting Nmap
Host 192.168.1.199
Not shown: 253 filt
PORT STATE SERVICE
-- 443/udp
Nmap complete:
admin# scp && make
scp# WARNING: Over
Press <ENTER>
quickmeme.com

Quiz Time !!!

- Sí eres root, qué tipo de escaneo hace por default (la fácil!) ?
- Sí no se indica los puertos a escanear, cuáles escanea y de dónde los toma ?
- Sí le cambias el banner a un Apache usando, por ejemplo, mod_sec, NMAP la hace ?
  - SI (cuéntame cómo que no me sale!!!)
  - NO (próximo “chapter meeting” la solución)
- Puedo explotar vulnerabilidades con NMAP ?

- nmap 4.50 y posteriores
- Basados en LUA (Lightweight Scripting Language)
- Objetivo inicial : Mejorar la detección de versiones de software, detección de malware.
- Se ubican en /usr/local/share/nmap/scripts
  - /usr/share/nmap en Kali Linux
- -sC : la forma más fácil de usarlos.

NSE : NMAP Script Engine

- Los scripts requieren la instalación de LUA y LUALIB
- En el archivo script.db esta la relación y categorías de scripts :
  - Entry { filename = "ftp-anon.nse", categories = { "auth", "default", "safe", } }
  - Entry { filename = "ftp-bounce.nse", categories = { "default", "intrusive", } }
  - Entry { filename = "ftp-brute.nse", categories = { "auth", "intrusive", } }
- La categoría se puede indicar con el parámetro :

--script=CATEGORIA

NSE : Para web

- ls ***web*** ***http*** | wc -l
  - 105
- Cubren todo el “ciclo clásico” del hacking
  - Aunque no hagan todo

Footprint (fingerprint)

```
[redacted] nmap -v -p 80 --script http-email-harvest.nse www.[redacted].pe

Starting Nmap 6.46 ( http://nmap.org ) at 2014-04-26 09:35 PET
NSE: Loaded 1 scripts for scanning.
NSE: Script Pre-scanning.
Initiating Ping Scan at 09:35
Scanning www.[redacted].pe ([redacted]) [2 ports]
Completed Ping Scan at 09:35, 0.23s elapsed (1 total hosts)
Initiating Parallel DNS resolution of 1 host. at 09:35
Completed Parallel DNS resolution of 1 host. at 09:35, 0.18s elapsed
Initiating Connect Scan at 09:35
Scanning www.[redacted].pe ([redacted]) [1 port]
Discovered open port 80/tcp on [redacted]
Completed Connect Scan at 09:35, 0.02s elapsed (1 total ports)
NSE: Script scanning [redacted].
Initiating NSE at 09:35
NSE Timing: About 50.00% done; ETC: 09:36 (0:00:35 remaining)
Completed NSE at 09:36, 34.75s elapsed
Nmap scan report for www.[redacted]pe ([redacted])
Host is up (0.19s latency).
PORT   STATE SERVICE
80/tcp open  http
| http-email-harvest:
| Spidering limited to: maxdepth=3; maxpagecount=20; withinhost=www.[redacted].pe
|   marcocurricular@[redacted].pe
|   webmaster@[redacted].pe
|_  contacto@[redacted].pe

NSE: Script Post-scanning.
Read data files from: /usr/local/bin/../share/nmap
Nmap done: 1 IP address (1 host up) scanned in 35.94 seconds
```

Footprint (fingerprint)

```
$ nmap -v -p 80 --script http-xssed.nse www.info          online.org

Starting Nmap 6.46 ( http://nmap.org ) at 2014-04-26 11:04 PET
NSE: Loaded 1 scripts for scanning.
NSE: Script Pre-scanning.
Initiating Ping Scan at 11:04
Scanning www.info          online.org (                ) [2 ports]
Completed Ping Scan at 11:04, 0.19s elapsed (1 total hosts)
Initiating Parallel DNS resolution of 1 host. at 11:04
Completed Parallel DNS resolution of 1 host. at 11:04, 0.19s elapsed
Initiating Connect Scan at 11:04
Scanning www.info          online.org (            ) [1 port]
Discovered open port 80/tcp on
Completed Connect Scan at 11:04, 0.20s elapsed (1 total ports)
NSE: Script scanning .
Initiating NSE at 11:04
Completed NSE at 11:04, 2.33s elapsed
Nmap scan report for www.info          online.org (                )
Host is up (0.18s latency).
rDNS record for                : .com
PORT   STATE SERVICE
80/tcp open  http
| http-xssed:
|
|     UNFIXED XSS vuln.
|
|       http://www.info          online.org/registro/registro.php?error=%3CH1%3E%3Cscript%3Ealert(%2FXSSED%2F)<br>%3C/script%3E%3C/H1%3E
%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%<br>3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3
CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3<br>CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CB
R%3E%3CBR%3E%3CBR%<br>3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E%3CBR%3E
|
```

```
[redacted] nmap -n -v -p 80 -sV 172.28.6.254

Starting Nmap 6.46 ( http://nmap.org ) at 2014-04-26 10:17 PET
NSE: Loaded 29 scripts for scanning.
Initiating ARP Ping Scan at 10:17
Scanning 172.28.6.254 [1 port]
Completed ARP Ping Scan at 10:17, 0.03s elapsed (1 total hosts)
Initiating SYN Stealth Scan at 10:17
Scanning 172.28.6.254 [1 port]
Discovered open port 80/tcp on 172.28.6.254
Completed SYN Stealth Scan at 10:17, 0.02s elapsed (1 total ports)
Initiating Service scan at 10:17
Scanning 1 service on 172.28.6.254
Completed Service scan at 10:17, 6.02s elapsed (1 service on 1 host)
NSE: Script scanning 172.28.6.254.
Nmap scan report for 172.28.6.254
Host is up (0.00059s latency).
PORT   STATE SERVICE VERSION
80/tcp open  http    Microsoft IIS httpd 5.0
MAC Address: 08:00:27:90:73:0A (Cadmus Computer Systems)
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows

Read data files from: /usr/local/bin/../share/nmap
Service detection performed. Please report any incorrect results at http://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 6.42 seconds
           Raw packets sent: 2 (72B) | Rcvd: 2 (72B)
```

Scanning

```
[redacted]$ nmap -v -p 80 -Pn --script http-waf-detect.nse www.[redacted].pe

Starting Nmap 6.46 ( http://nmap.org ) at 2014-04-26 10:07 PET
NSE: Loaded 1 scripts for scanning.
NSE: Script Pre-scanning.
Initiating Parallel DNS resolution of 1 host. at 10:07
Completed Parallel DNS resolution of 1 host. at 10:07, 0.21s elapsed
Initiating Connect Scan at 10:07
Scanning www.[redacted].pe ([redacted]) [1 port]
Discovered open port 80/tcp on [redacted]
Completed Connect Scan at 10:07, 0.01s elapsed (1 total ports)
NSE: Script scanning [redacted].
Initiating NSE at 10:07
Completed NSE at 10:07, 4.42s elapsed
Nmap scan report for www.[redacted].pe ([redacted])
Host is up (0.012s latency).
PORT   STATE SERVICE
80/tcp open  http
| http-waf-detect: IDS/IPS/WAF detected:
|_www.[redacted].pe:80/?p4yl04d3=<script>alert(document.cookie)</script>

NSE: Script Post-scanning.
Read data files from: /usr/local/bin/../share/nmap
Nmap done: 1 IP address (1 host up) scanned in 4.84 seconds
```

Enumeración

```
[redacted]$ nmap -v -p 80 -Pn --script http-robots.txt.nse www.google.com

Starting Nmap 6.46 ( http://nmap.org ) at 2014-04-26 10:22 PET
NSE: Loaded 1 scripts for scanning.
NSE: Script Pre-scanning.
Initiating Parallel DNS resolution of 1 host. at 10:22
Completed Parallel DNS resolution of 1 host. at 10:22, 0.26s elapsed
Initiating Connect Scan at 10:22
Scanning www.google.com (74.125.131.105) [1 port]
Discovered open port 80/tcp on 74.125.131.105
Completed Connect Scan at 10:22, 0.50s elapsed (1 total ports)
NSE: Script scanning 74.125.131.105.
Initiating NSE at 10:22
Completed NSE at 10:22, 0.99s elapsed
Nmap scan report for www.google.com (74.125.131.105)
Host is up (0.49s latency).
Other addresses for www.google.com (not scanned): 74.125.131.103 74.125.131.104 74.125.131.147 74.125.131.106 74.125.131.99
rDNS record for 74.125.131.105: vc-in-f105.1e100.net
PORT   STATE SERVICE
80/tcp open  http
| http-robots.txt: 249 disallowed entries (40 shown)
| /search /sdch /groups /images /catalogs /catalogues
| /news /nwshp /setnewsprefs? /index.html? /? /?hl=*&
| /addurl/image? /pagead/ /relpage/ /relcontent /imgres /imglanding /sbd
| /keyword/ /u/ /univ/ /cobrand /custom /advanced_group_search
| /googlesite /preferences /setprefs /swr /url /default /m? /m/ /wml?
|_/wml/? /wml/search? /xhtml? /xhtml/? /xhtml/search? /xml?

NSE: Script Post-scanning.
Read data files from: /usr/local/bin/../share/nmap
Nmap done: 1 IP address (1 host up) scanned in 2.10 seconds
```

```
[redacted] $ nmap -v -p 80 -Pn --script http-enum.nse 172.28.6.254

Starting Nmap 6.46 ( http://nmap.org ) at 2014-04-26 10:32 PET
NSE: Loaded 1 scripts for scanning.
NSE: Script Pre-scanning.
Initiating Parallel DNS resolution of 1 host. at 10:32
Completed Parallel DNS resolution of 1 host. at 10:32, 1.17s elapsed
Initiating Connect Scan at 10:32
Scanning 172.28.6.254 [1 port]
Discovered open port 80/tcp on 172.28.6.254
Completed Connect Scan at 10:32, 0.00s elapsed (1 total ports)
NSE: Script scanning 172.28.6.254.
Initiating NSE at 10:32
Completed NSE at 10:32, 1.82s elapsed
Nmap scan report for 172.28.6.254
Host is up (0.0037s latency).
PORT   STATE SERVICE
80/tcp open  http
| http-enum:
|   /admin/: Possible admin folder
|   /admin/index.php: Possible admin folder
|   /admin/login.php: Possible admin folder
|   /news/readme.html: Interesting, a readme.
|   /file/: Potentially interesting folder
|   /home/: Potentially interesting folder
|   /icons/: Potentially interesting folder w/ directory listing
|   /images/: Potentially interesting folder
|   /news/: Potentially interesting folder
|_  /page/: Potentially interesting folder

NSE: Script Post-scanning.
Read data files from: /usr/local/bin/../share/nmap
```

Enumeración

```
[redacted]$ nmap -v -p 80 -Pn --script http-methods.nse www.[redacted].pe

Starting Nmap 6.46 ( http://nmap.org ) at 2014-04-26 10:51 PET
NSE: Loaded 1 scripts for scanning.
NSE: Script Pre-scanning.
Initiating Parallel DNS resolution of 1 host. at 10:51
Completed Parallel DNS resolution of 1 host. at 10:51, 0.20s elapsed
Initiating Connect Scan at 10:51
Scanning www.[redacted].pe ([redacted]) [1 port]
Discovered open port 80/tcp on [redacted]
Completed Connect Scan at 10:51, 0.02s elapsed (1 total ports)
NSE: Script scanning [redacted].
Initiating NSE at 10:51
Completed NSE at 10:51, 0.44s elapsed
Nmap scan report for www.[redacted].pe ([redacted])
Host is up (0.024s latency).
rDNS record for [redacted]: [redacted].pe
PORT   STATE SERVICE
80/tcp open  http
| http-methods: OPTIONS TRACE GET HEAD POST
| Potentially risky methods: TRACE
|_See http://nmap.org/nsedoc/scripts/http-methods.html

NSE: Script Post-scanning.
Read data files from: /usr/local/bin/../share/nmap
Nmap done: 1 IP address (1 host up) scanned in 1.62 seconds
```

Búsqueda de

```
[redacted]$ nmap -v -p 80 -Pn --script http-sql-injection.nse 172.28.6.254

Starting Nmap 6.46 ( http://nmap.org ) at 2014-04-26 11:00 PET
NSE: Loaded 1 scripts for scanning.
NSE: Script Pre-scanning.
Initiating Parallel DNS resolution of 1 host. at 11:00
Completed Parallel DNS resolution of 1 host. at 11:00, 0.09s elapsed
Initiating Connect Scan at 11:00
Scanning 172.28.6.254 [1 port]
Discovered open port 80/tcp on 172.28.6.254
Completed Connect Scan at 11:00, 0.00s elapsed (1 total ports)
NSE: Script scanning 172.28.6.254.
Initiating NSE at 11:00
Completed NSE at 11:00, 11.49s elapsed
Nmap scan report for 172.28.6.254
Host is up (0.0013s latency).
PORT   STATE SERVICE
80/tcp open  http
| http-sql-injection:
|   Possible sqli for queries:
|     http://172.28.6.254/news.php?id=5'%20OR%20sqlspider
|     http://172.28.6.254/news.php?id=2'%20OR%20sqlspider
|     http://172.28.6.254/news.php?id=1'%20OR%20sqlspider
|     http://172.28.6.254/news.php?id=5'%20OR%20sqlspider
|     http://172.28.6.254/news.php?id=2'%20OR%20sqlspider
|     http://172.28.6.254/news.php?id=1'%20OR%20sqlspider
|     http://172.28.6.254/news.php?id=5'%20OR%20sqlspider
```

Búsqueda de

```
[redacted]$ nmap -v -p 80 -Pn --script http-comments-displayer.nse 172.28.6.254

Starting [illegible]
NSE: Loa[illegible]
NSE: Scr[illegible]
Initiat[illegible]
Complete[illegible]
Initiat[illegible]
Scanning[illegible]
Discover[illegible]
Complete[illegible]
PORT   STATE SERVICE
80/tcp open  http
| http-comments-displayer:
| Spidering limited to: maxdepth=3; maxpagecount=20; withinhost=172.28.6.254
|
|     Path: http://172.28.6.254/images/style.css
|     Line number: 1
|     Comment:
|         /* CSS Document */
|
|     Path: http://172.28.6.254/images/style.css
|     Line number: 24
|     Comment:
|         /*TEXT STYLES*/
|
|     Path: http://172.28.6.254/images/style.css
|     Line number: 3
|     Comment:
|         /*PAGE LAYOUT*/
|
|     Path: http://172.28.6.254/images/style.css
|     Line number: 19
|     Comment:
|         /*GRAY PANEL*/
|
|     Path: http://172.28.6.254/#
|     Line number: 77
|     Comment:
|_        <!--Red Servidor DMZ 172.16.1.0/24 operador:0p3r4d0r123-->
```

Búsqueda de Vulnerabilidades

- http-backup-finder.nse
- http-config-backup.nse (CMS y web servers más comúnes)
- http-default-accounts.nse
- **ssl-heartbleed.nse**

Penetración (Explotación/Ataques)

- http-axis2-dir-traversal.nse
- http-barracuda-dir-traversal.nse
- http-brute.nse
- http-cors.nse
- http-default-accounts.nse
- http-dombased-xss.nse
- http-fileupload-exploiter.nse
- http-form-brute.nse
- http-passwd.nse
- http-phpmyadmin-dir-traversal.nse
- http-slowloris.nse
- http-vuln-cve2009-3960.nse
- http-vuln-cve2010-0738.nse
- http-vuln-cve2010-2861.nse
- http-vuln-cve2011-3192.nse
- http-vuln-cve2011-3368.nse
- http-vuln-cve2012-1823.nse
- http-vuln-cve2013-0156.nse
- http-vuln-zimbra-lfi.nse

Toma de Evidencias

- Todos dejan evidencia en los reportes
  - PERO, por ejemplo, uno “no oficial” permite tomar un screenshot del web
  - http-screenshot.nse
    - wget http://wkhtmltopdf.googlecode.com/files/wkhtmltoimage-0.11.0_rc1-static-i386.tar.bz2
    - tar -jxvf wkhtmltoimage-0.11.0_rc1-static-i386.tar.bz2
    - cp wkhtmltoimage-i386 /usr/local/bin/
    - git clone git://github.com/SpiderLabs/Nmap-Tools.git
    - cd Nmap-Tools/NSE/
    - cp http-screenshot.nse /usr/local/share/nmap/scripts/
    - nmap --script-updatedb

Toma de Evidencias

Datos Adicionales

- Documentación suficiente en
  - http://nmap.org/nsedoc/
- Scripts “no oficiales” en
  - https://secwiki.org/w/Nmap/External_Script_Library

OWASP

Open Web Application Security Project

Perú Chapter

Open-Sec

They run automated tools, We have ETHICAL HACKERS