Casing The Joint

Mencari Informasi Awal

Sebelum Menyerang Target

Cari Informasi Tentang Target

- Footprinting:
  - mencari company profile (dari sisi securitynya)
- Scanning:
  - mencari “pintu” dan “jendela” yang terbuka
- Membuat tabel tentang target
  - Nomor IP, nama, alive?, services, jenis OS

Contoh tabel target

Nama	No IP	Alive	OS	Services
www.bank.com	10.10…	ya	Windows NT SP 6	http
xyz.	10.10.10.1	Ya	Windows 2000, SP3	NetBIOS, ftp, http (IIS)
mail.bank.com				SMTP

FOOTPRINTING

- Internet/Intranet
  - Domain Name
  - TCP / UDP services pada setiap sistem
  - Arsitektur / OS
  - SNMP, routing table
- Remote access
  - Nomor telepon akses & authentication

Data-data dari domain name

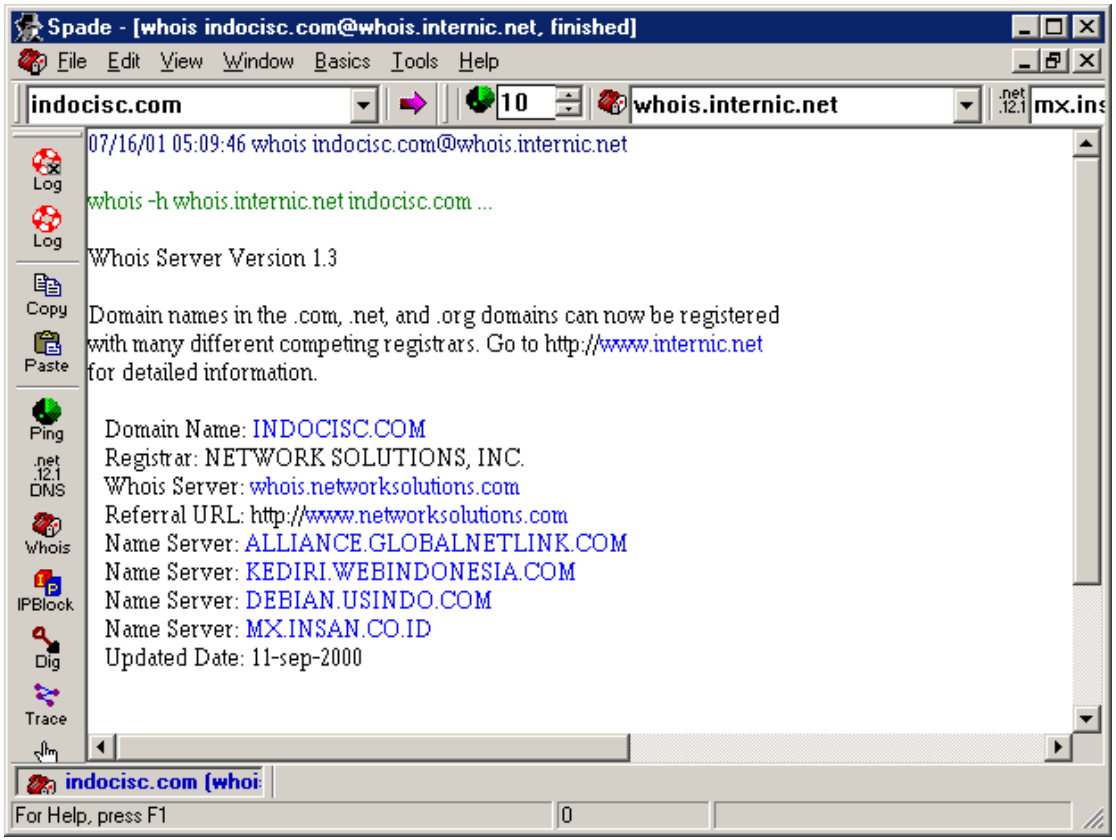
- Menggunakan whois, dig, nslookup, host, bahkan search engine
  - Data-data server dari target (Name Server), alamat kantor, nomor IP, MX record
  - Komputer-komputer dan nomor Ipnya
  - Sebagian besar dari data-data ini tersedia untuk publik (sama dengan alamat dari sebuah perusahaan)

whois

- Unix% whois “acme.”@whois.crsnic.net
- Unix% whois “acme.net”@whois.crsnic.net
- Unix% whois acme.net@whois.networksolutions.com

Whois dengan Sam Spade

http://www.samspade.org



Program “nslookup”

- Nslookup untuk mencari informasi domain
- `Unix% **nslookup ns @dns.server domain.name**`
- Zone transfer dengan nslookup

```
Unix% nslookup
> server 167.205.21.82
> set type=any
> ls -d Acme.net >> /tmp/zone_out
> ctrl-D

more /tmp/zone_out
```

Program “host”

- Mencari informasi mengenai name server (ns), mail record (mx), dll.
- Unix% **host www.indocisc.com**
  www.indocisc.com has address 202.138.225.178
- Unix% **host -t ns indocisc.com**
  indocisc.com name server home.globalnetlink.com.
  Indocisc.com name server mx.insan.co.id.
- Unix% **host -t mx indocisc.com**
  indocisc.com mail is handled by 5 mx.insan.co.id.
- Unix% **host -l indocisc.com mx.insan.co.id**

Masih Tentang DNS

- Zone transfer harusnya dibatasi
- Zone transfer via web

  `http://us.mirror.menandmice.com/cgi-bin/DoDig`

  `Name server:`

  `Domain name:`

  `Query type: Zone Transfer (AXFR)`

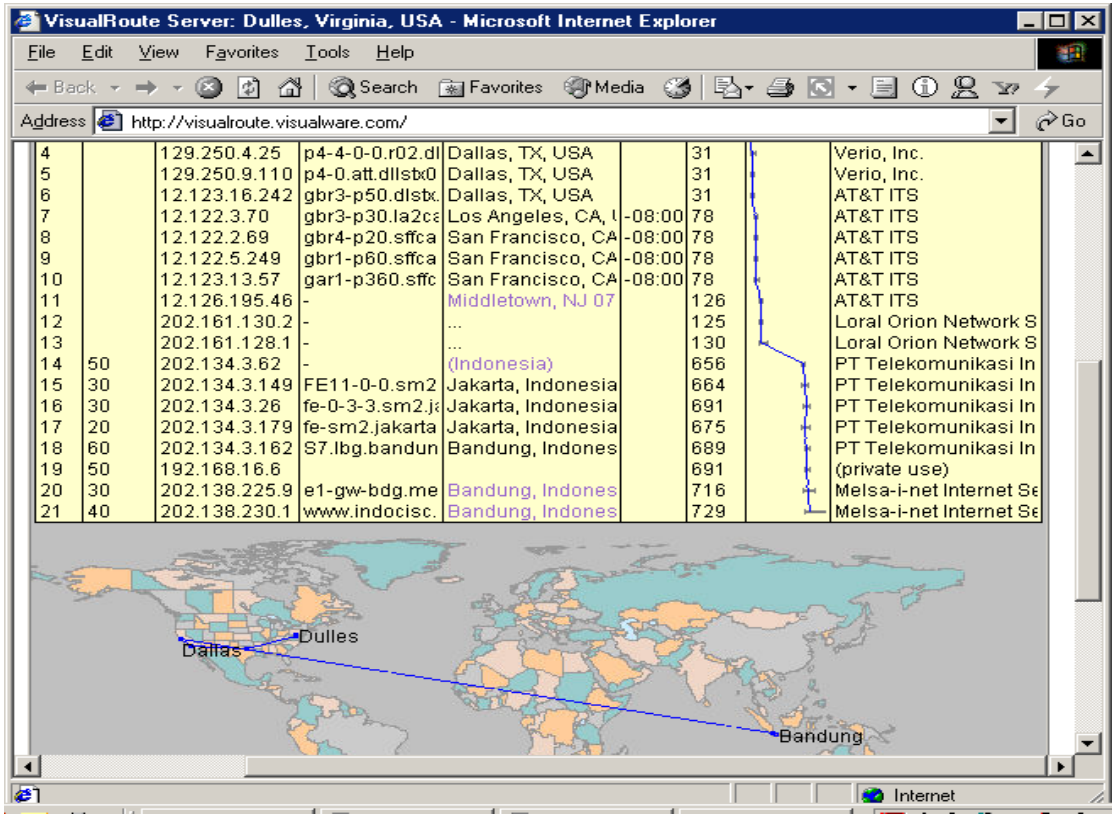
Routing

- Traceroute untuk mengetahui routing
- Unix

  `traceroute 167.205.21.82`
- Windows

  `DOS> tracert 167.205.21.82`
- Web
  - `http://visualroute.visualware.com`

http://visualroute.visualware.com



Server hidup?

- Ping, gping, hping
  mencari host yang hidup (alive)
- `Unix% gping 192 168 1 1 254 | fping -a`
  `192.168.1.254 is alive`
  `192.168.1.227 is alive`
  `192.168.1.1 is alive`
  `192.168.1.190 is alive`
- Membutuhkan ICMP traffic
- `Unix% hping 192.168.1.2 -S -p 80 -f`

Masih tentang ping

- `Unix% nmap -sP 192.168.1.0/24`
- Kalau ICMP diblokir
  `nmap -sP -PT80 192.168.1.0/24`
  mengirimkan paket ACK dan menunggu paket RST untuk menandakan host alive
- Windows: pinger dari Rhino9
  http://www.nmrc.org/files/snt

ICMP Query

- Mencari informasi dengan mengirimkan paket ICMP
  - `Unix% icmpquery -t 192.168.1.1`
    `192.168.1.1 : 11:36:19`
  - `Unix% icmpquery -m 192.168.1.1`
    `192.168.1.1 : 0xFFFFFFE0`

Servis di Internet

- /etc/services

```
echo            7/tcp
echo            7/udp
discard         9/tcp           sink null
discard         9/udp           sink null
systat          11/tcp          users
ftp             21/tcp
ssh             22/tcp
telnet          23/tcp
```

- Dijalankan melalui inetd atau sebagai daemon (di belakang layar)

Servis via inetd

- Serivis dicatat dalam berkas `/etc/inetd.conf` :

```
# contoh
# <service_name> <sock_type> <proto> <flags> <user>
<server_path> <args>

ftp             stream  tcp     nowait  root    /usr/
sbin/tcpd  /usr/local/sbin/proftpd

pop-3           stream  tcp     nowait  root    /usr/
sbin/tcpd  /usr/sbin/ipop3d
```

Scanning / Probing

- UNIX
  - Strobe

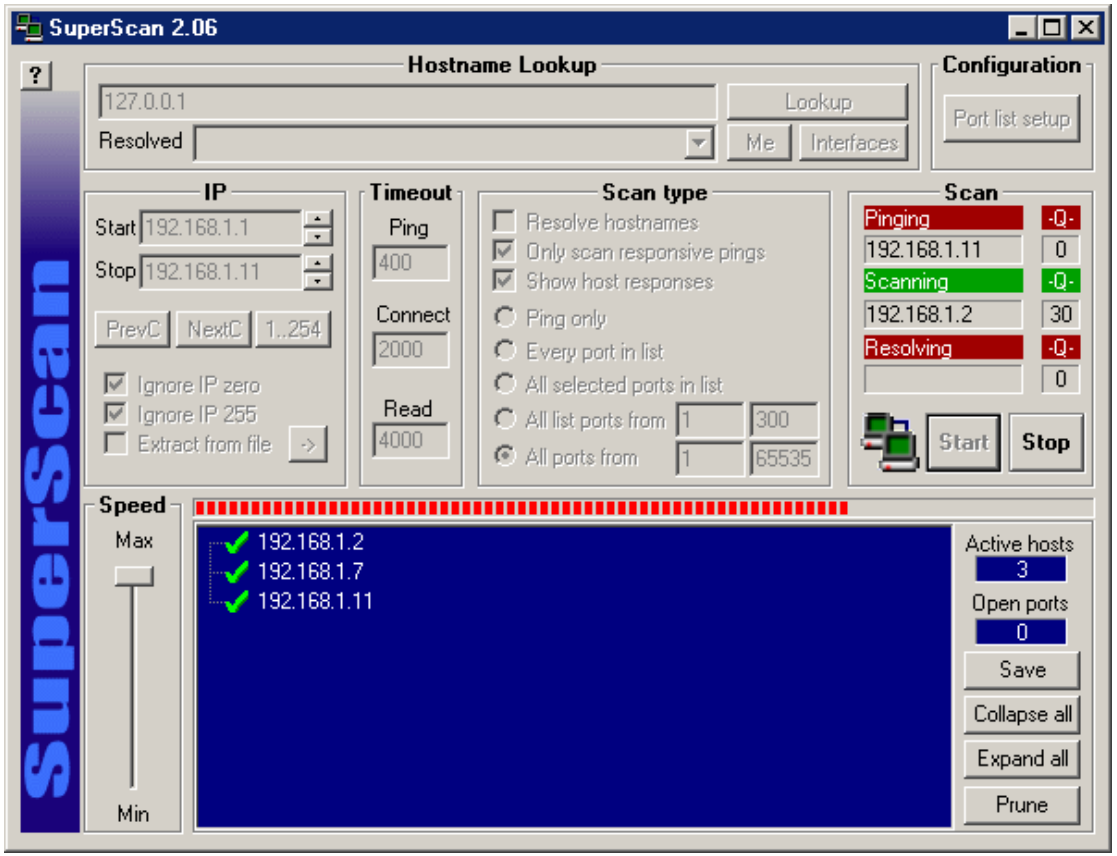
    ```
    strobe 192.168.1.10
    ```
  - Nmap

    ```
    nmap -sS 192.168.1.1
    nmap -sF 192.168.1.0/24 -oN outfile
    ```
  - Netcat:

    ```
    nc -v -z -w2 192.168.1.1 1-140
    nc -u -v -z -w2 192.168.1.1 1-140
    ```
  - udp_scan

Scanning Tools: Windows

- NetScan Tools Pro 2000
- SuperScan



Jenis Scan

- TCP connect scan
- TCP SYN scan
- TCP FIN scan
- TCP Xmas Tree scan
- TCP Null scan
- TCP ACK scan
- TCP Window scan
- TCP RPC scan
- UDP scan

Deteksi Scanning

- Syslog, icmplog
- root# tail /var/log/syslog

```
May 16 15:40:42 epson tcplogd: "Syn probe"
notebook[192.168.1.4]:[8422]>epson[192.168.1.2]:[635]
May 16 15:40:42 epson tcplogd: "Syn probe"
notebook[192.168.1.4]:[8423]>epson[192.168.1.2]:ssl-
ldap
May 16 15:40:42 epson tcplogd: "Syn probe"
notebook[192.168.1.4]:[8426]>epson[192.168.1.2]:[637]
May 16 15:40:42 epson tcplogd: "Syn probe"
notebook[192.168.1.4]:[8429]>epson[192.168.1.2
```

Penangkal Scanning

- Langsung melakukan pemblokiran
  - access control list (/etc/hosts.deny)
  - mengubah routing table (drop)
  - mengubah rule dari firewall
  - Contoh software: portsentry

OS Fingerprinting

- Menentukan jenis OS dengan melihat implementasi TCP/IP stack
  - Queso
  - Nmap
    nmap –O 192.168.1.1
  - ICMP
  - X (passive OS detection)

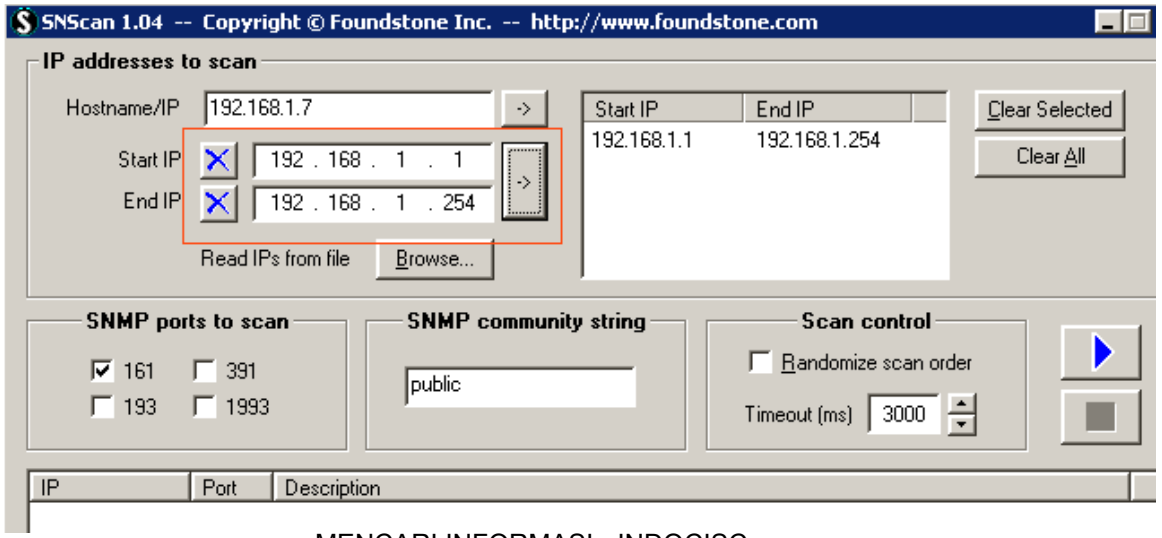
Application fingerprinting

- Banner grabbing: dari aplikasi (misal SMTP) telnet server.name 25
- `echo -e "GET /index.html HTTP/1.0\n\n" | nc 192.168.1.3 80 | less`

```
Date: Sat, 27 Apr 2002 02:34:10 GMT
Server: Apache/1.3.24 (Unix) Debian GNU/Linux
PHP/4.1.2
Last-Modified: Thu, 19 Jul 2001 13:21:07 GMT
ETag: "fa59-ffe-3b56dec3"
Accept-Ranges: bytes
Content-Length: 4094
Connection: close
Content-Type: text/html; charset=iso-8859-1
```

Deteksi melalui SNMP

- `indocisc% **snmpget 192.168.0.1 public system.sysDescr.0**`
  `system.sysDescr.0 = Linux agumon 2.4.18 #1 SMP Web Apr 24 04:33:13 WIT 2002 i686`
- *`Syntax: snmpwalk target community oid`*
- `indocisc% **snmpwalk 192.168.0.1 public system**`
  `indocisc% **snmpwalk 192.168.0.1 public interfaces.ifTable.ifEntry.ifDescr**`
  `interfaces.ifTable.ifEntry.ifDescr.1 = lo`
  `interfaces.ifTable.ifEntry.ifDescr.2 = eth0`



Enumerasi di sistem Windows

- C:\WINDOWS> **net view**
  \\KOMPUTERKU Pentium III
  C:\WINDOWS> net view \\komputerku
  Sharename Type Comment

  C Disk
- C:\WINDOWS> **nbtstat -a 192.168.1.1**
- C:\WINDOWS> **nbtscan 192.168.1.0/24**

Langkah Selanjutnya?

- Memenuhi “tabel” target data-data

Nama	No IP	Alive	OS	Services
www.bank.com	10.10…	ya	Win NT SP 6	http
xyz.	10.10.10.1	Ya	Win 2000,	NetBIOS, ftp, http (IIS)
mail.bank.com			SP3	SMTP

- Melakukan searching untuk membandingkan target dengan daftar eksploitasi. Atau melakukan vulnerabiliy mapping
- Selanjutnya: initial access (mulai masuk)
- Issues
  - Security policy. Apakah scanning termasuk hal yang illegal? Di beberapa tempat: ya