GTS 2012

Efeitos do ataque LOIC.

Eduardo Bergmann

Roteiro

- LOIC: Definição, participação e ferramentas
- Cenário de testes
- Metodologia
- Resultados
- Prevenção
- Conclusão

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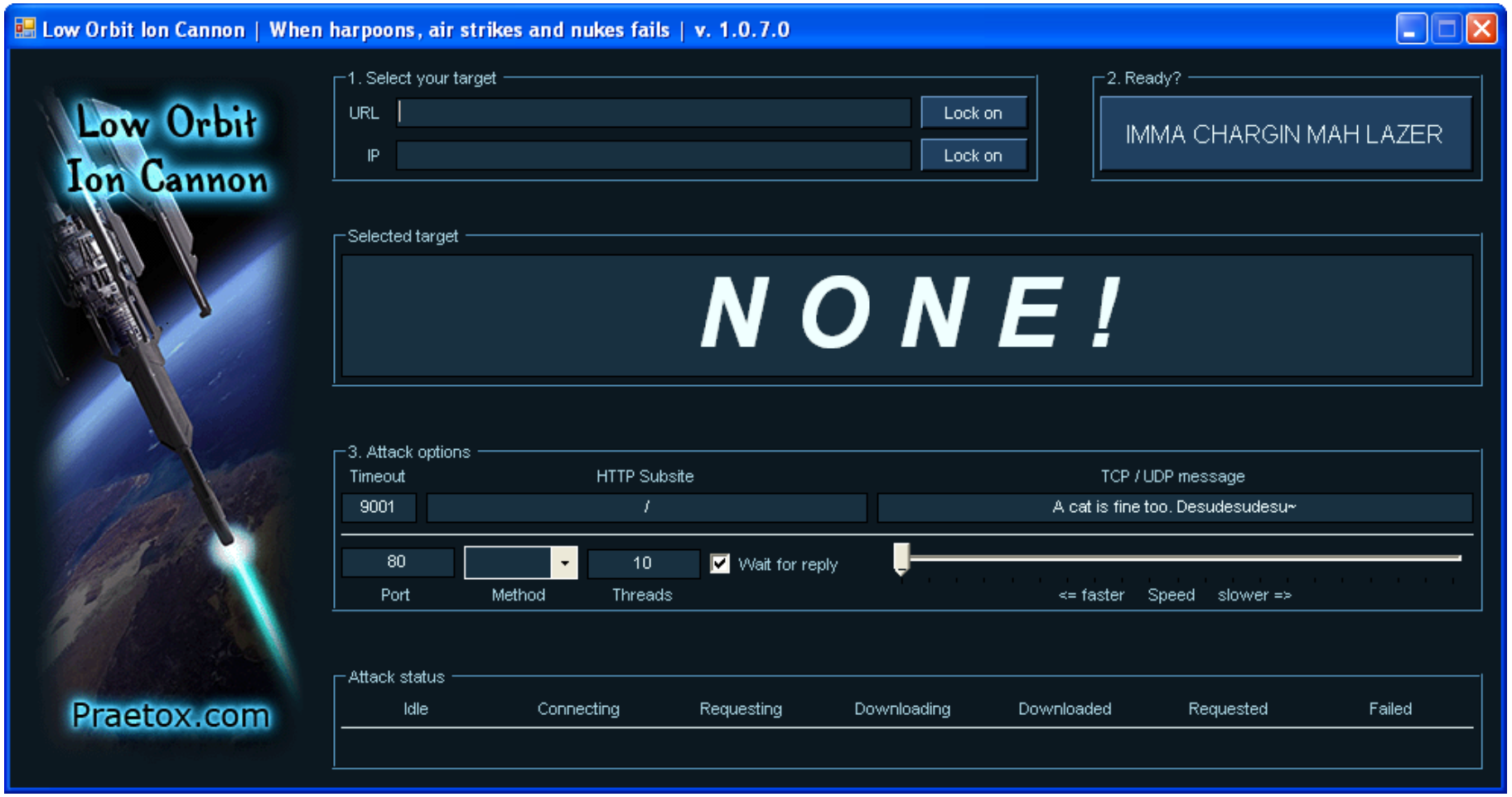
LOIC: Low Orbit Ion Cannon

- Desenvolvida pela Praetox Technologies
- Ferramenta de teste de carga
- TCP(Transmission Control Protocol),
- UDP (User Datagram Protocol)
- HTTP (HyperText Transfer Protocol)
- Disponível em: http://sourceforge.net/projects/loic/



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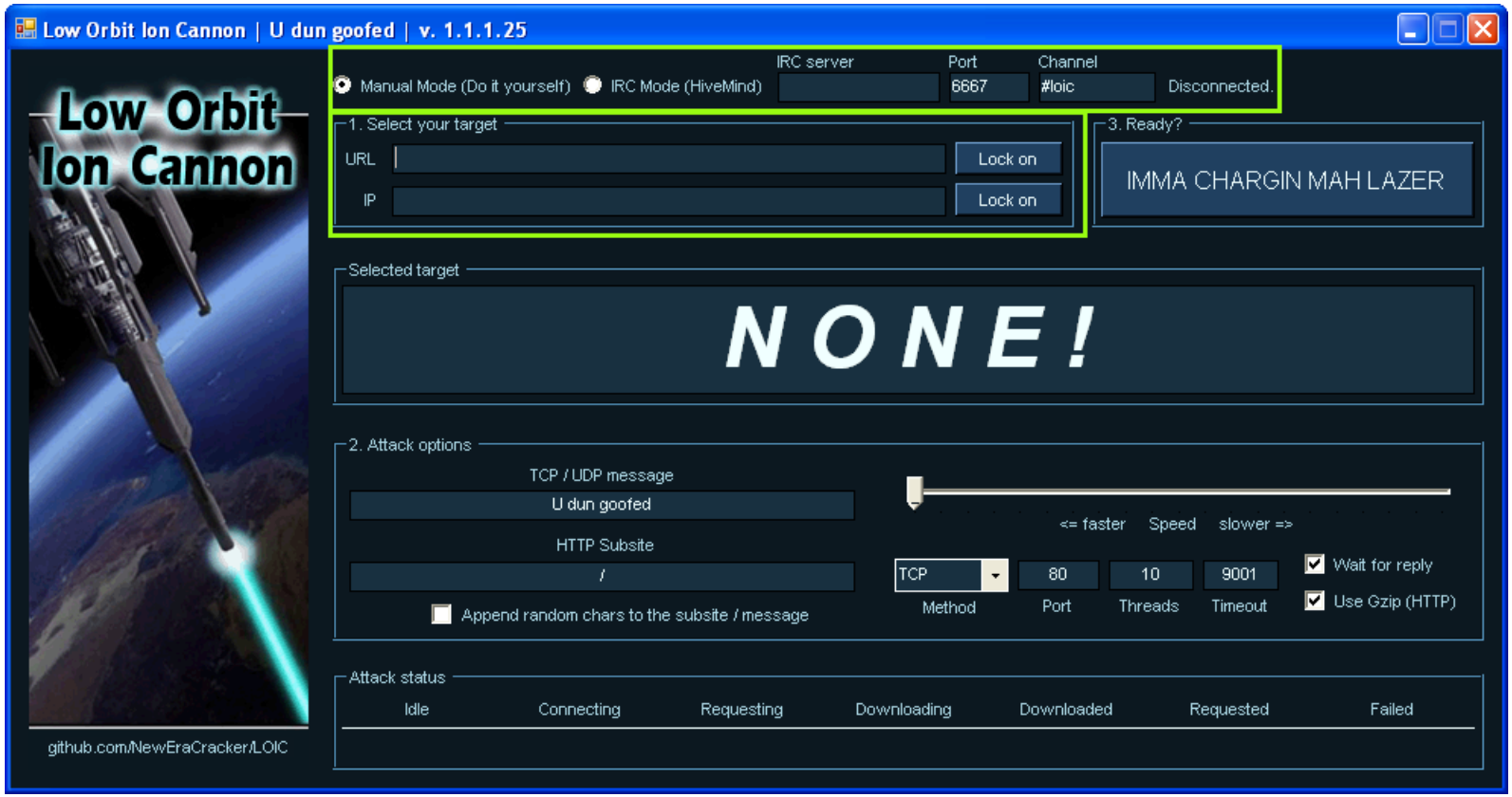
Funcionamento



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Funcionamento via canal IRC

- Iniciar ataque:

!lazor targetip=<IRC_server> message=<texto> port=80 method=http wait=false threads=15 method=tcp random=true start

- Finalizar ataque:

!lazor stop

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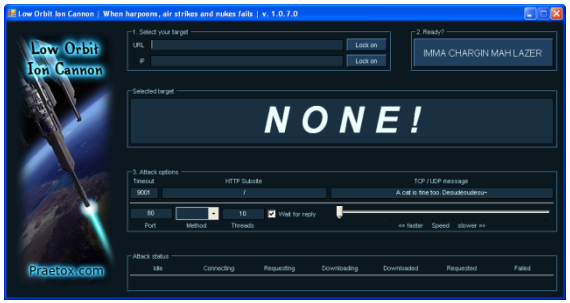
Implementações

Windows
Linux
BSD



Android

Web
(JavaScript)

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Participação consciente

- Downloads:
  1. Estados Unidos
  2. França
  3. Brasil
  4. Alemanha ...

http://sourceforge.net/projects/loic/ em 26 de abril de 2012

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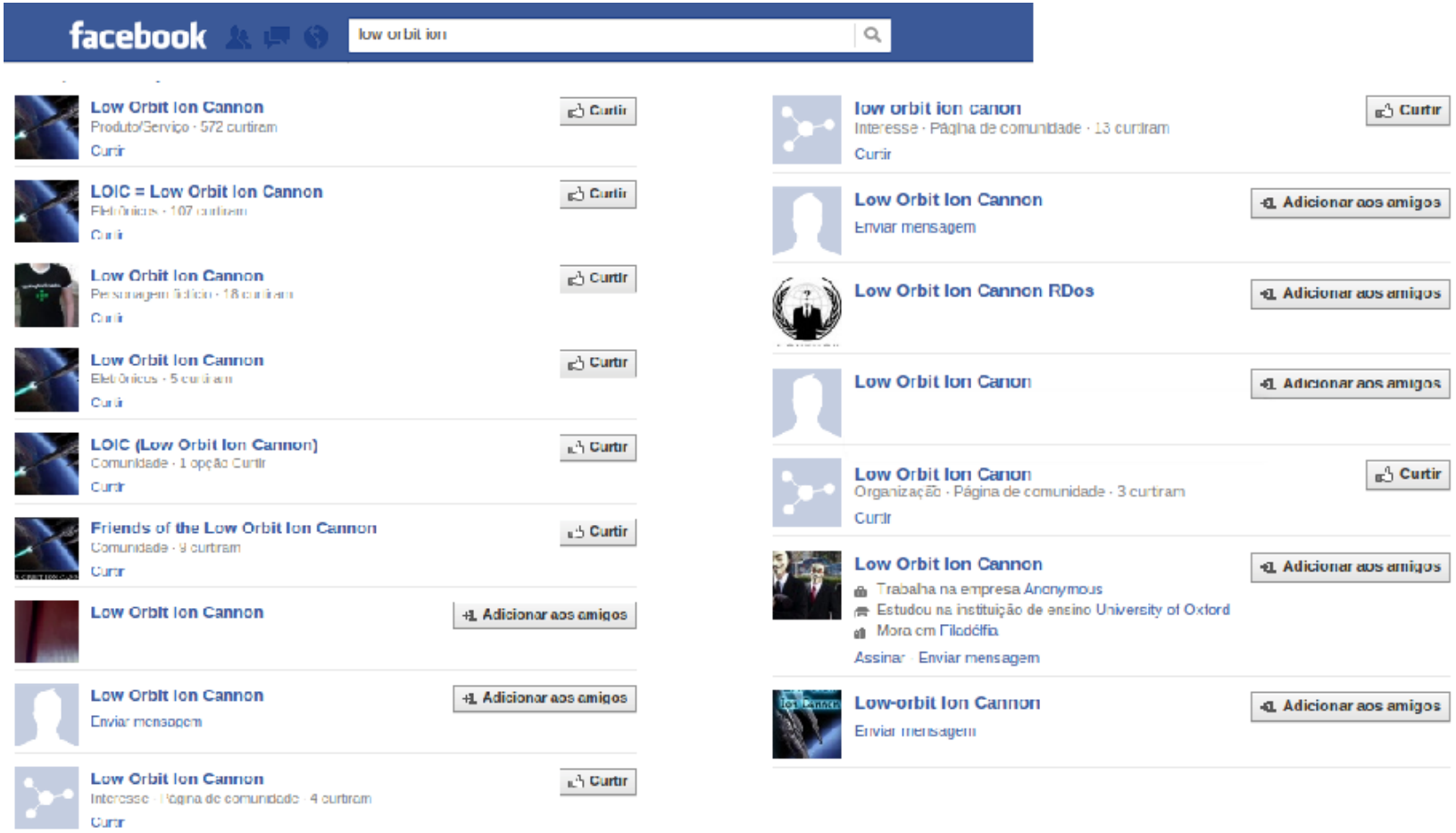
Popular e acessível



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Agendamento de ataque

```
1.  Twitter - @AnonymousWiki
2.
3.
4.  January 19th, 2012
5.
6.  Popular file-sharing website megaupload.com gets shutdown by U.S Justice - FBI and charged its founder
    with violating piracy laws. Four Megaupload members were also arrested. The FBI released a press release
    on its website which you can view here:
7.  http://www.fbi.gov/news/pressrel/press-releases/justice-department-charges-leaders-of-megaupload-
    with-widespread-online-copyright-infringement
8.
9.  We Anonymous are launching our largest attack ever on government and music industry sites. Lulz. The FBI
    didn't think they would get away with this did they? They should have expected us.
10.
11.
12.
13. #OpMegaupload
14. The following sites were taken down in response to the FBI shutting down megaupload.com
15. :) TANGO DOWN
```

http://pastebin.com/WEydcBVV em 26 de abril de 2012

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Receberam ataques

- FBI
- MPAA – Motion Picture Association of America
- Departament of Justice
- RIAA – Recording Industry Association of America
- Sony
- Visa
- MasterCard
- Paypal

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Cenário dos testes

Servidor atacado:

- Core 2 Duo 2.2 Ghz
- 2 Gb RAM
- Ubuntu 10.04
- Apache 2.2
- Conectado a um switch ethernet 100 Mbps

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Cenário dos testes

PC

Core 2 Duo 2.2 Ghz

2 GB RAM

iPad 2

Dual-core Apple A5X

512 MB RAM

Galaxy SII

Dual-core 1.2 GHz Cortex-A9

1 GB RAM

Motorola Defy

800 MHz Cortex-A8

512 MB RAM

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Cenário dos testes

Ferramentas de ataque

PC

LOIC
JSLOIC

iPad 2

JSLOIC

Galaxy SII

JSLOIC
Android LOIC

Motorola Defy

JSLOIC
Android LOIC

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Metodologia

- Ataques de trinta segundos por dispositivo.
- Dados coletados:
  - Pacotes por segundo
  - Bytes por segundo
  - Consumo de CPU servidor
  - Consumo de memória do servidor

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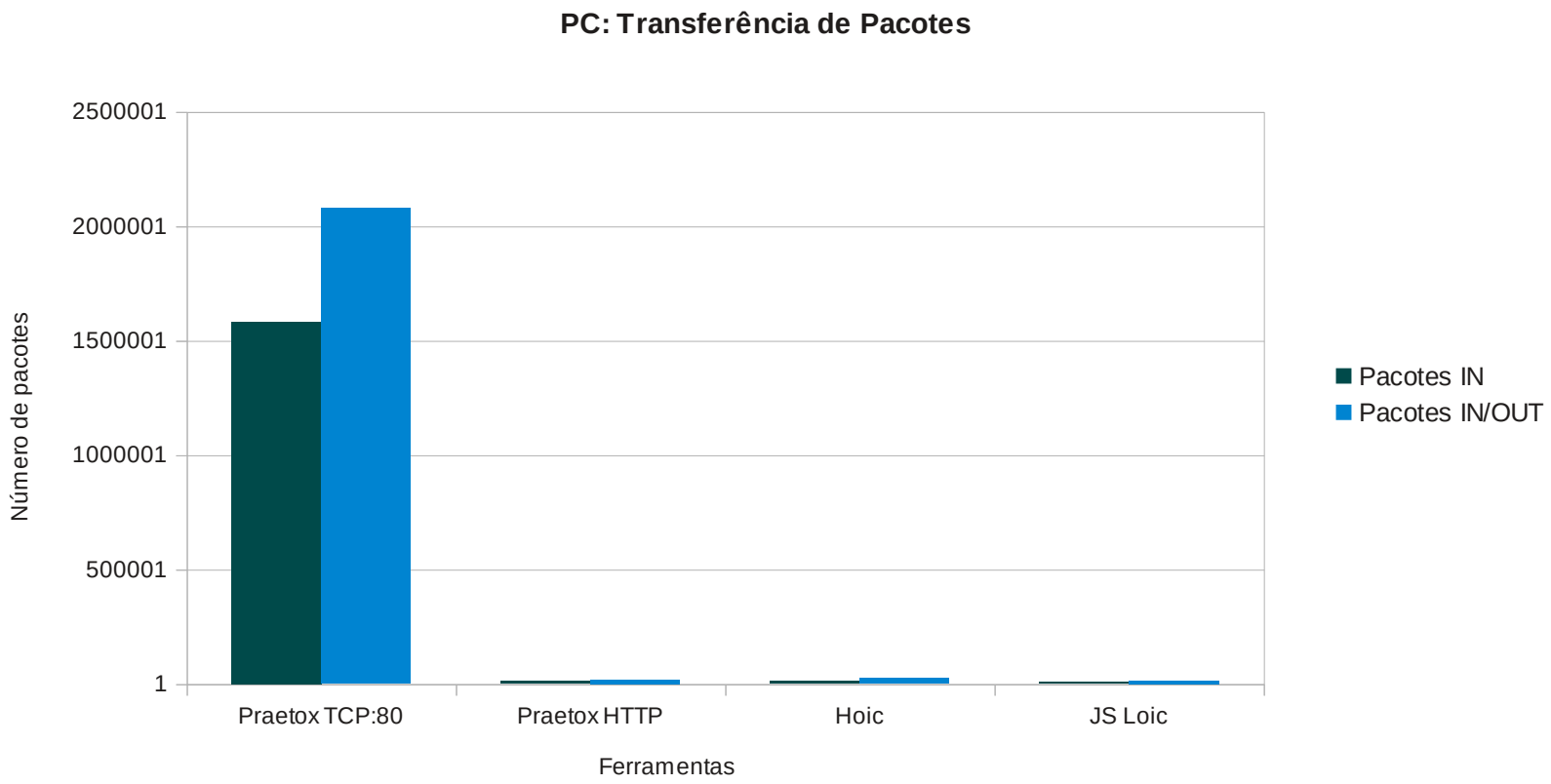
Resultado - PC



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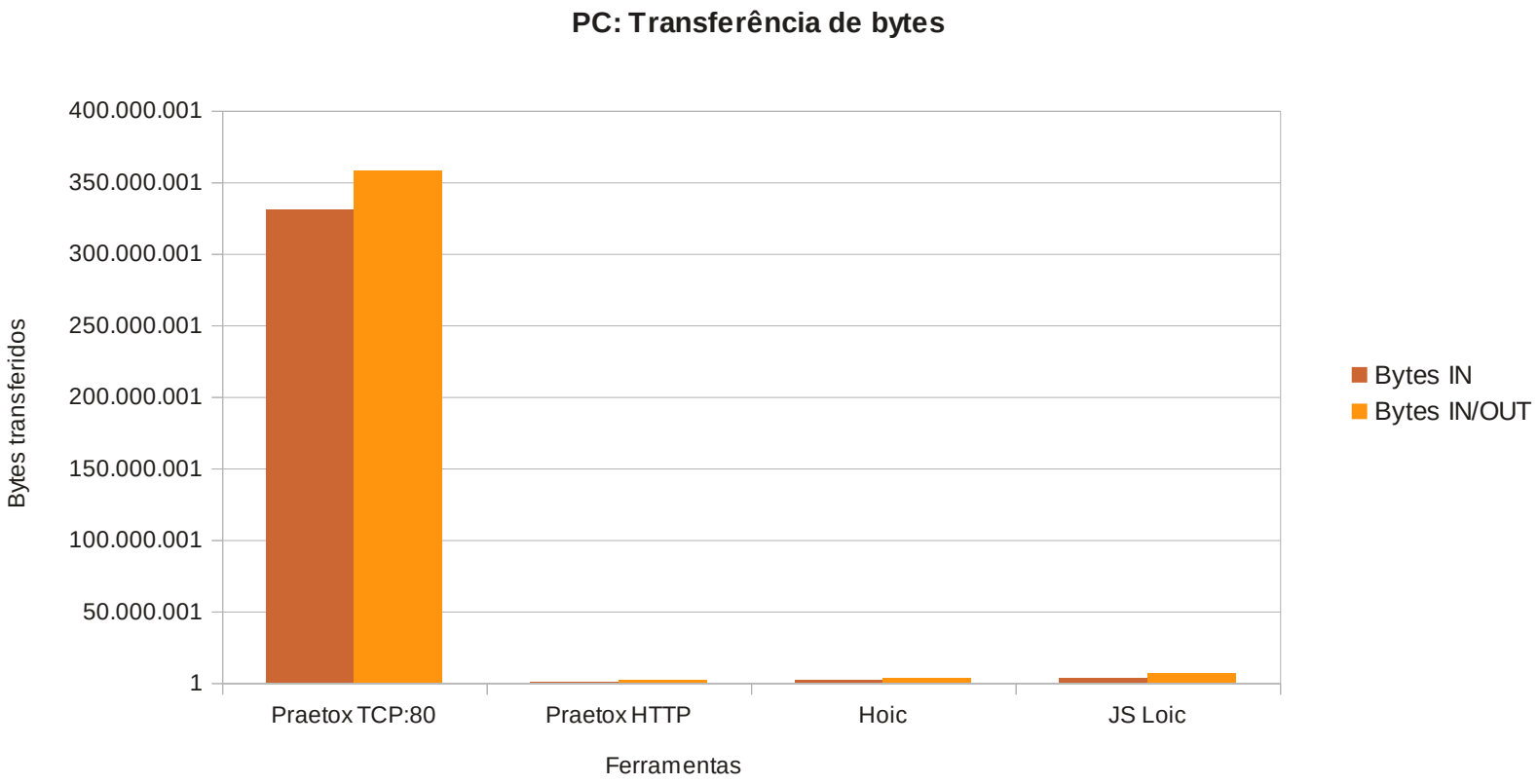
Resultado – PC



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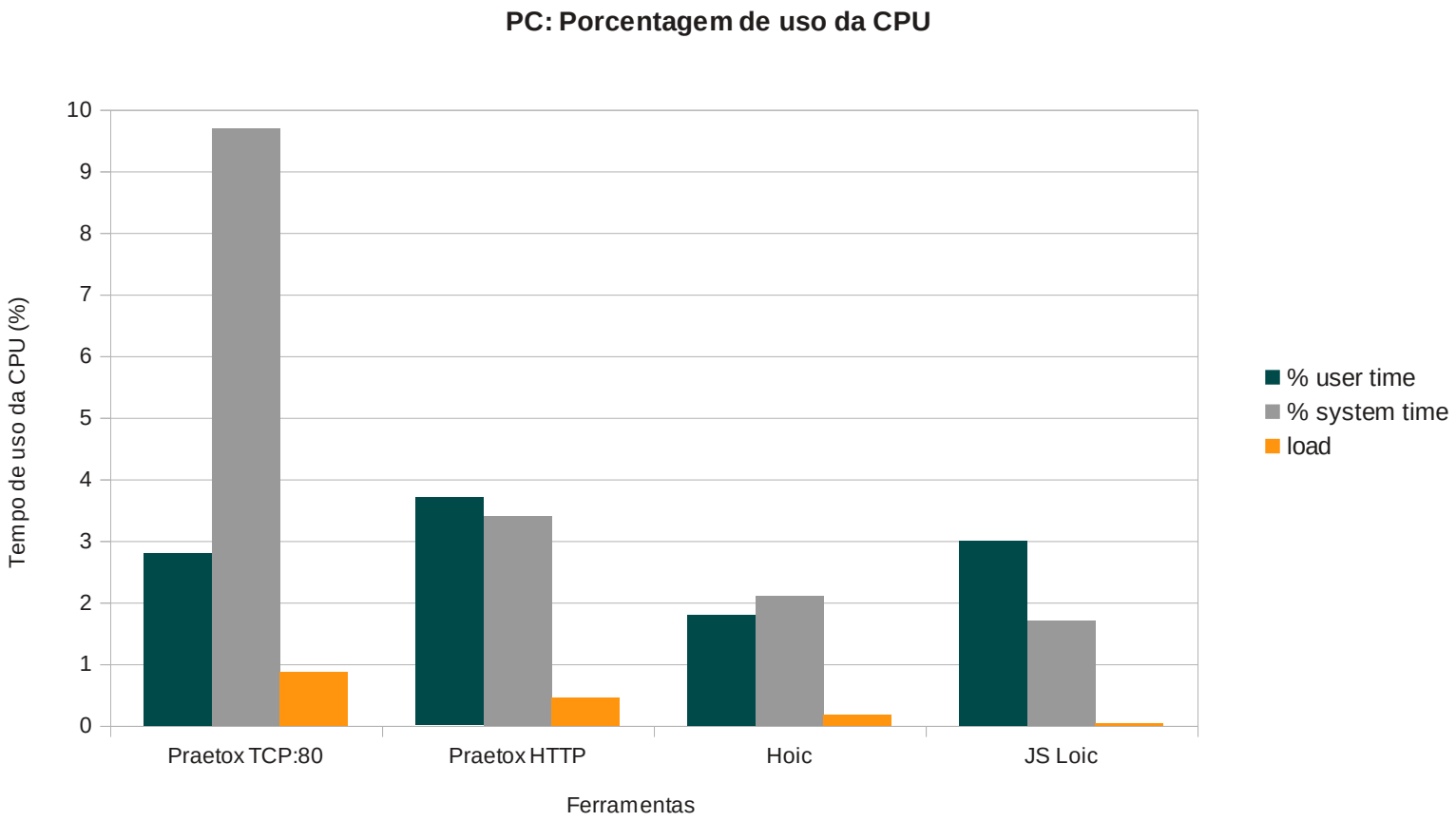
Resultado – PC



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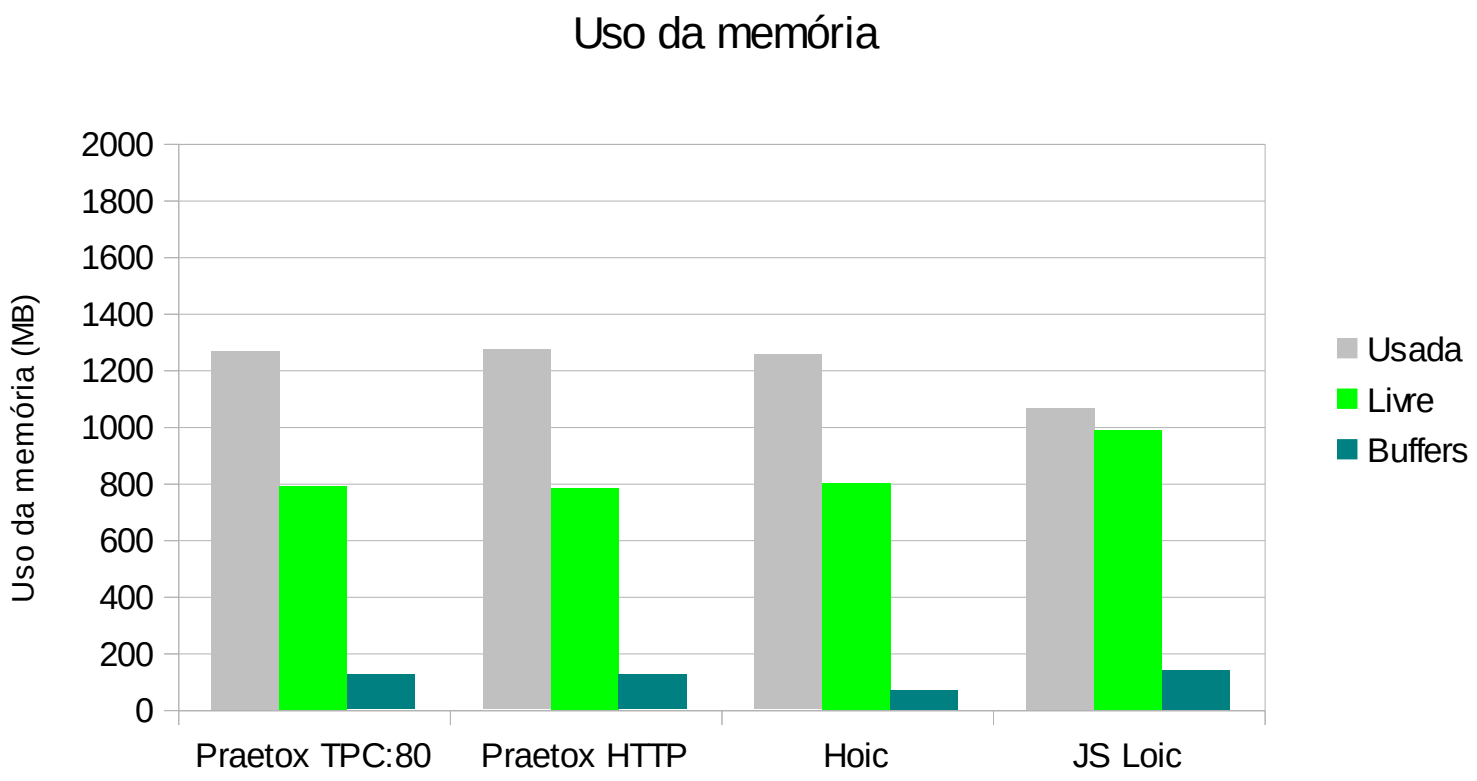
Resultado – PC



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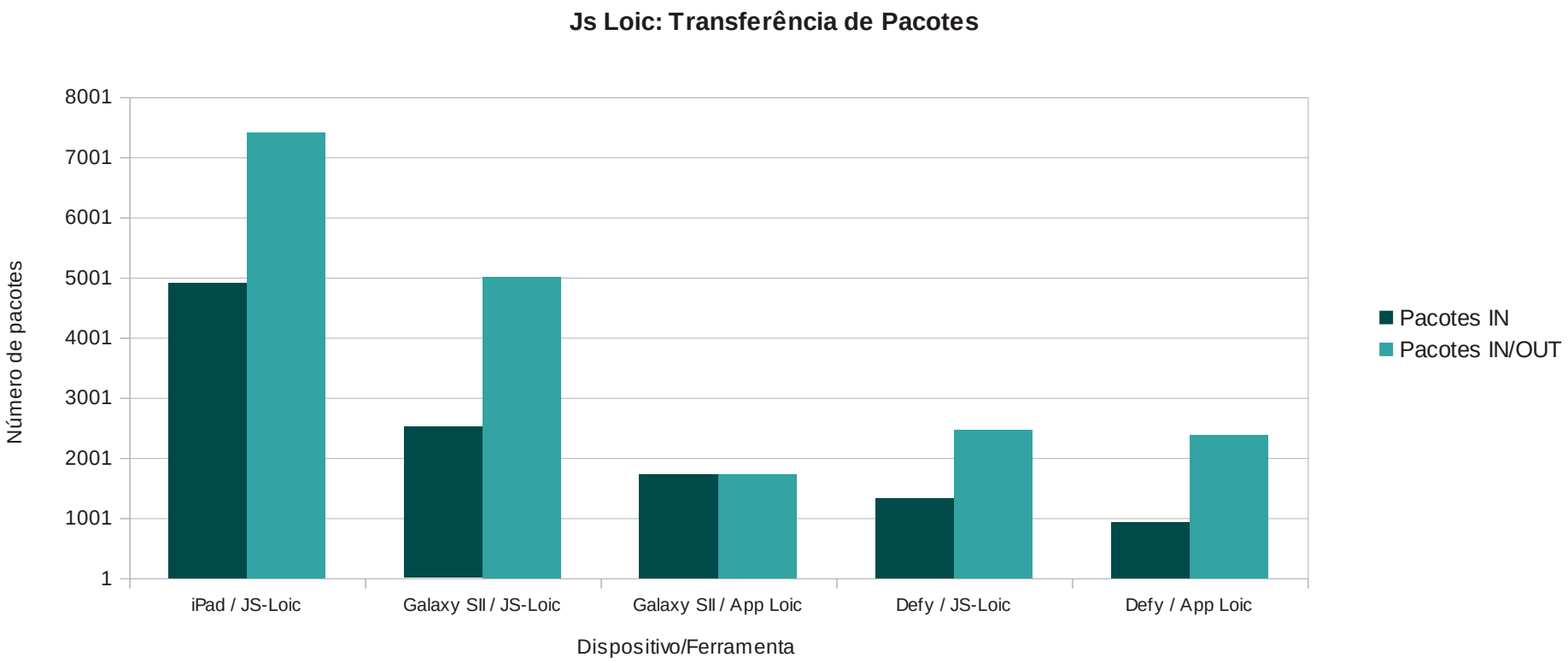
Resultado – Dispositivos móveis



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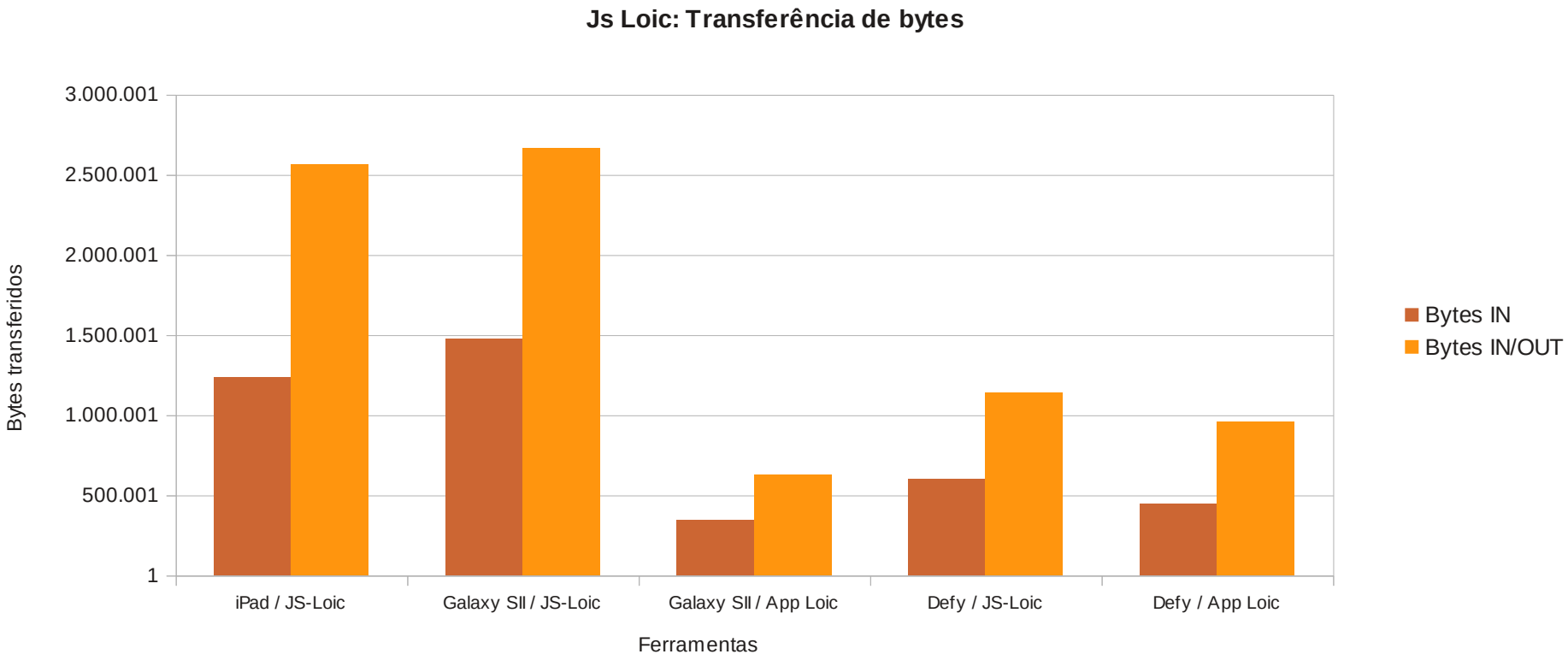
Resultado – Dispositivos móveis



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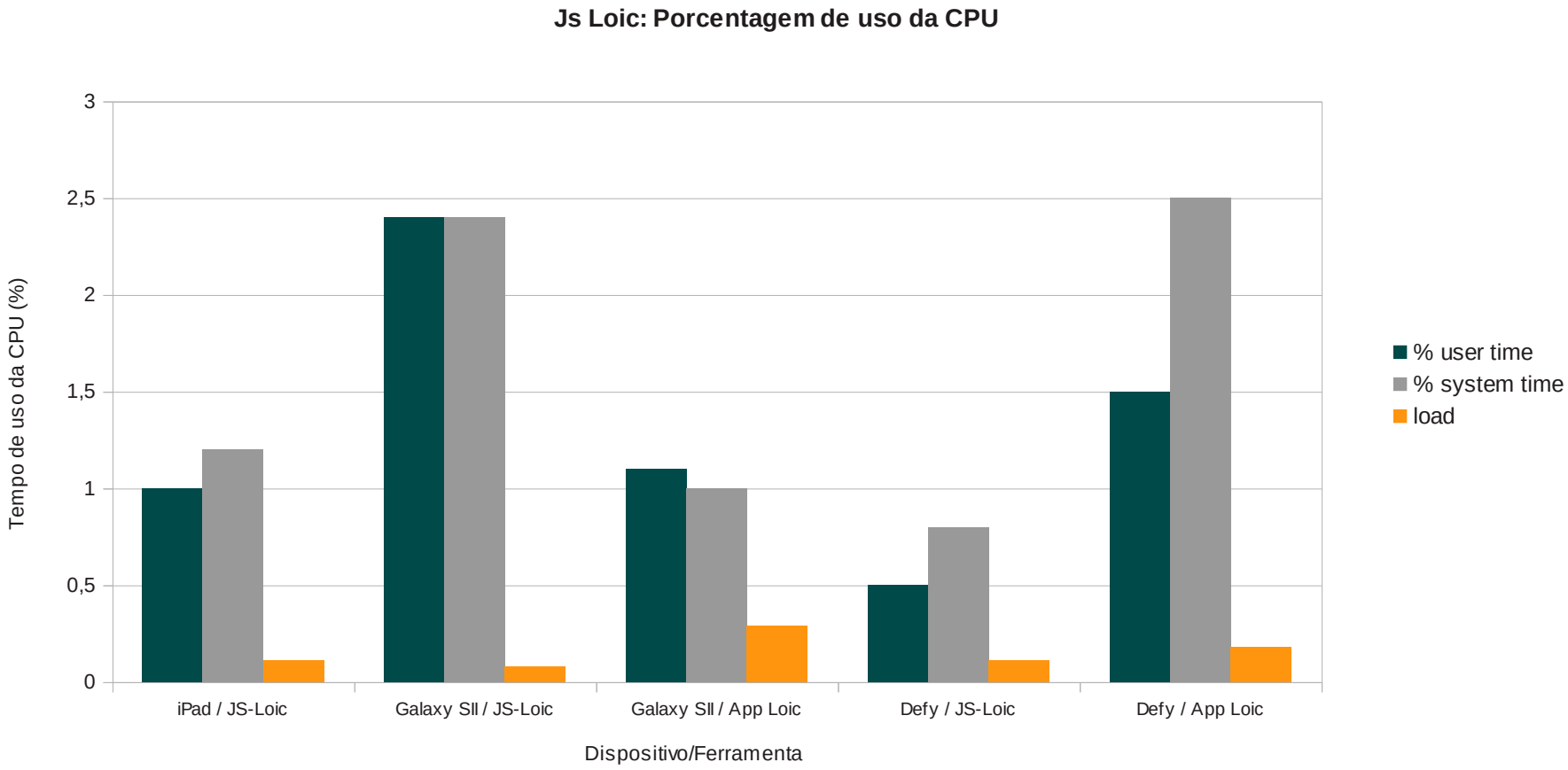
Resultado – Dispositivos móveis



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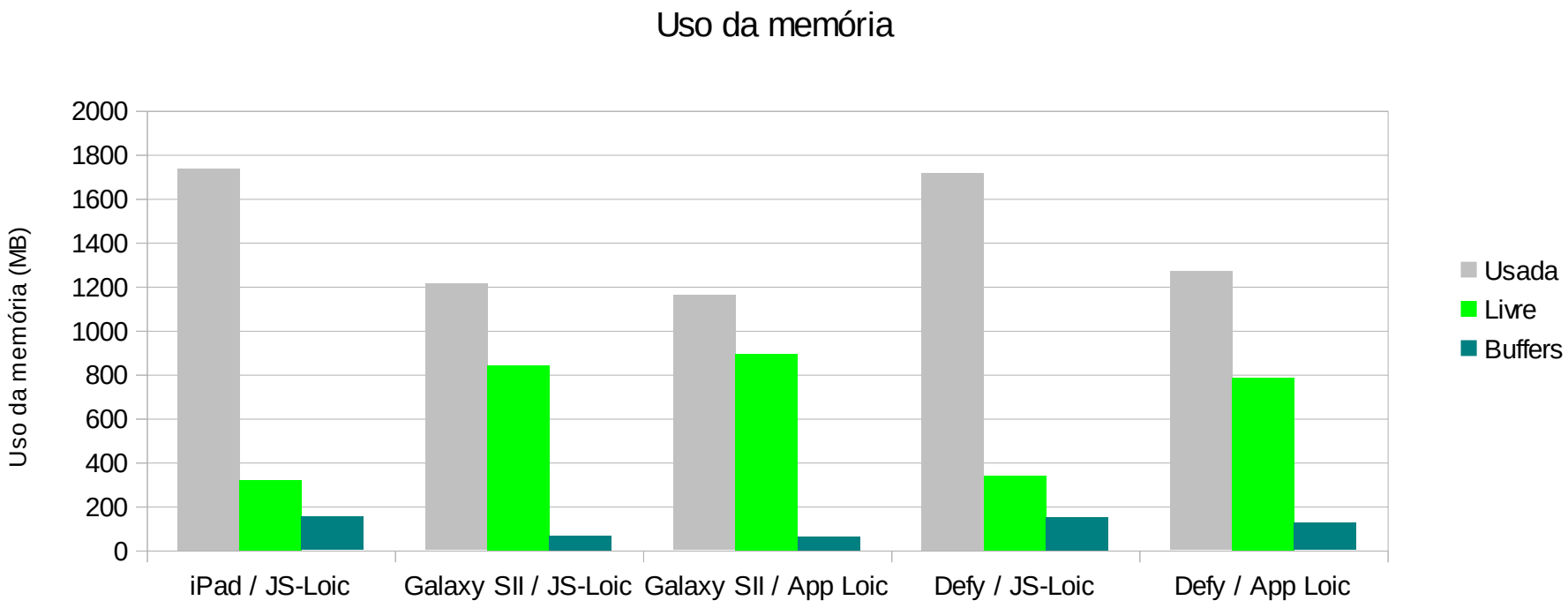

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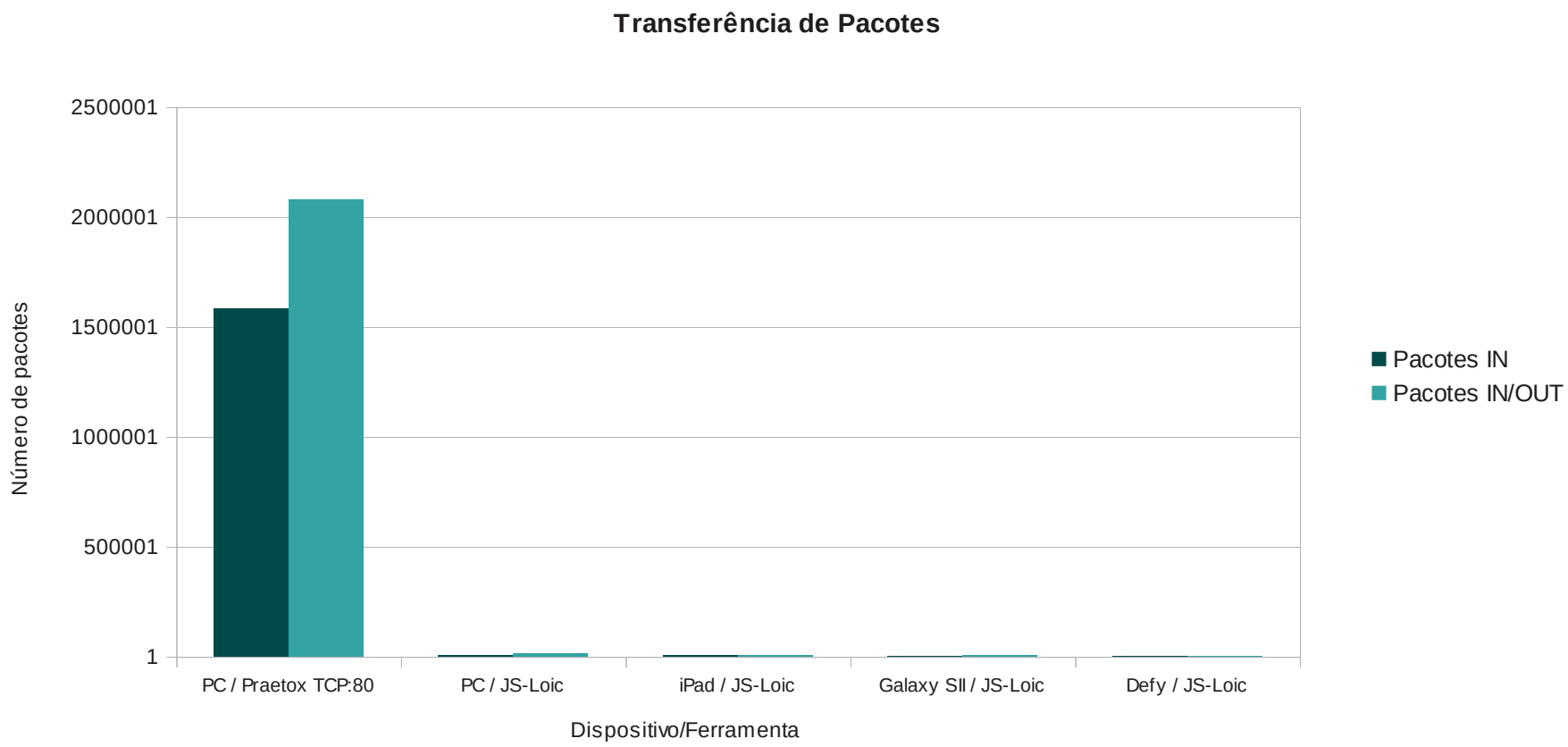
Resultado – Comparativo geral



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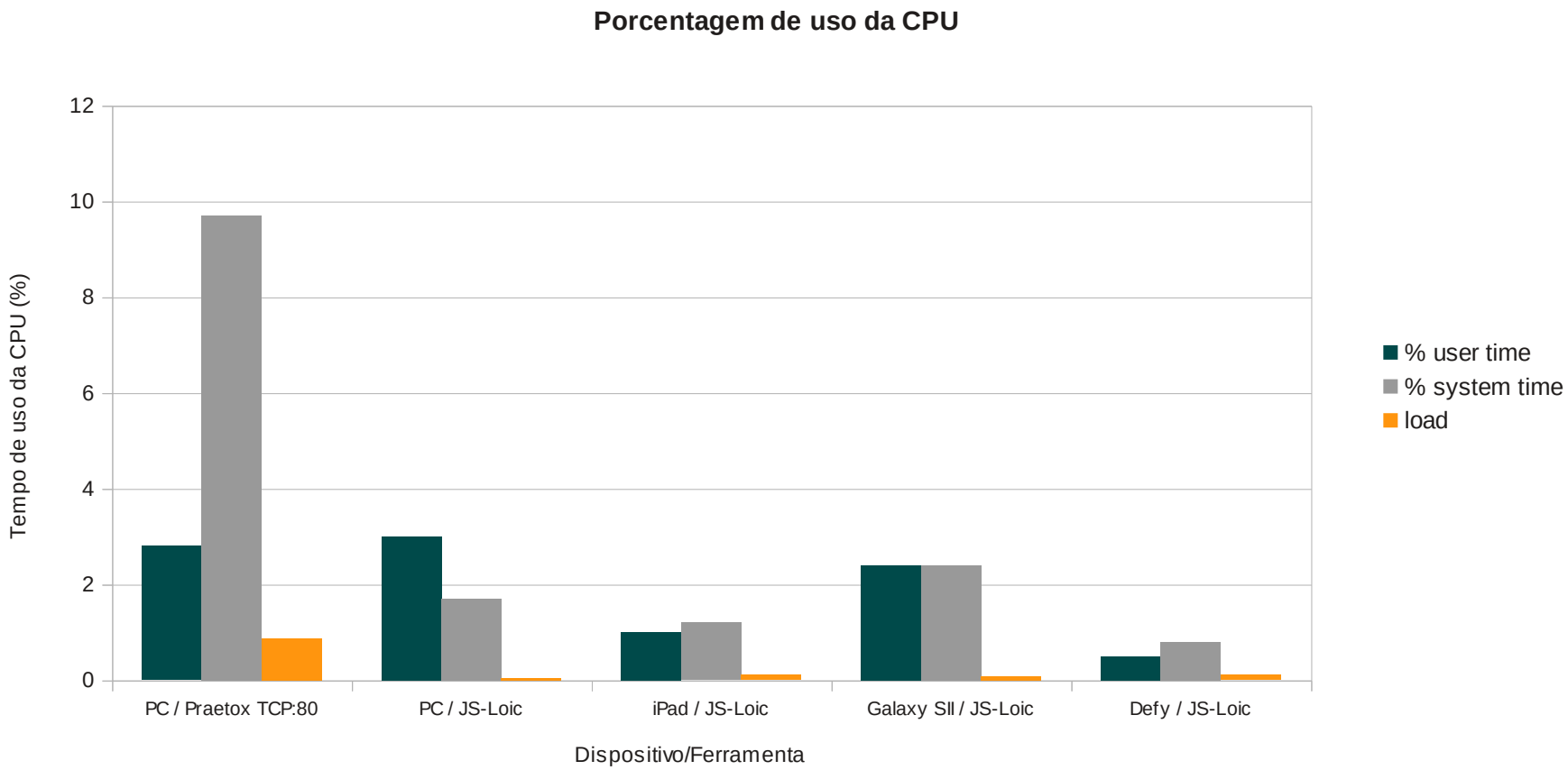
Resultado – Comparativo geral



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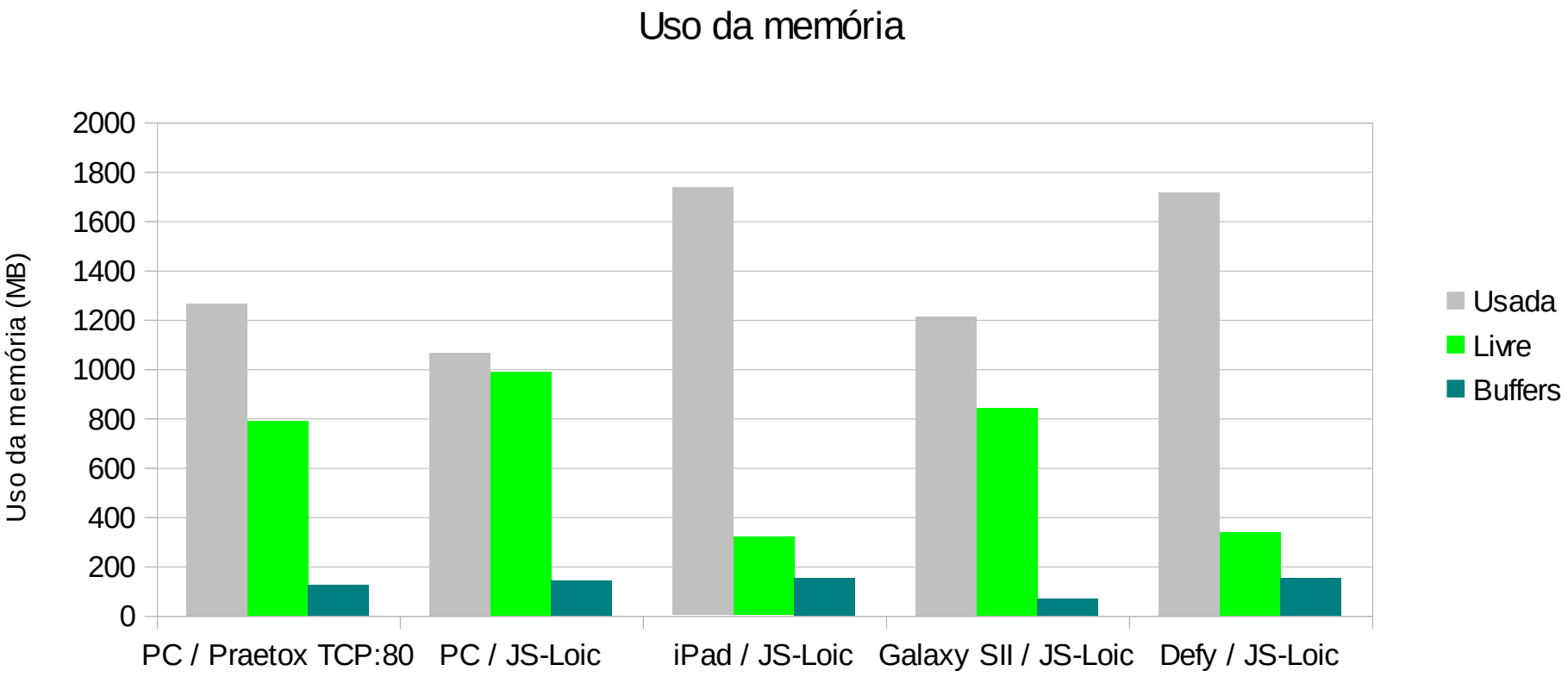

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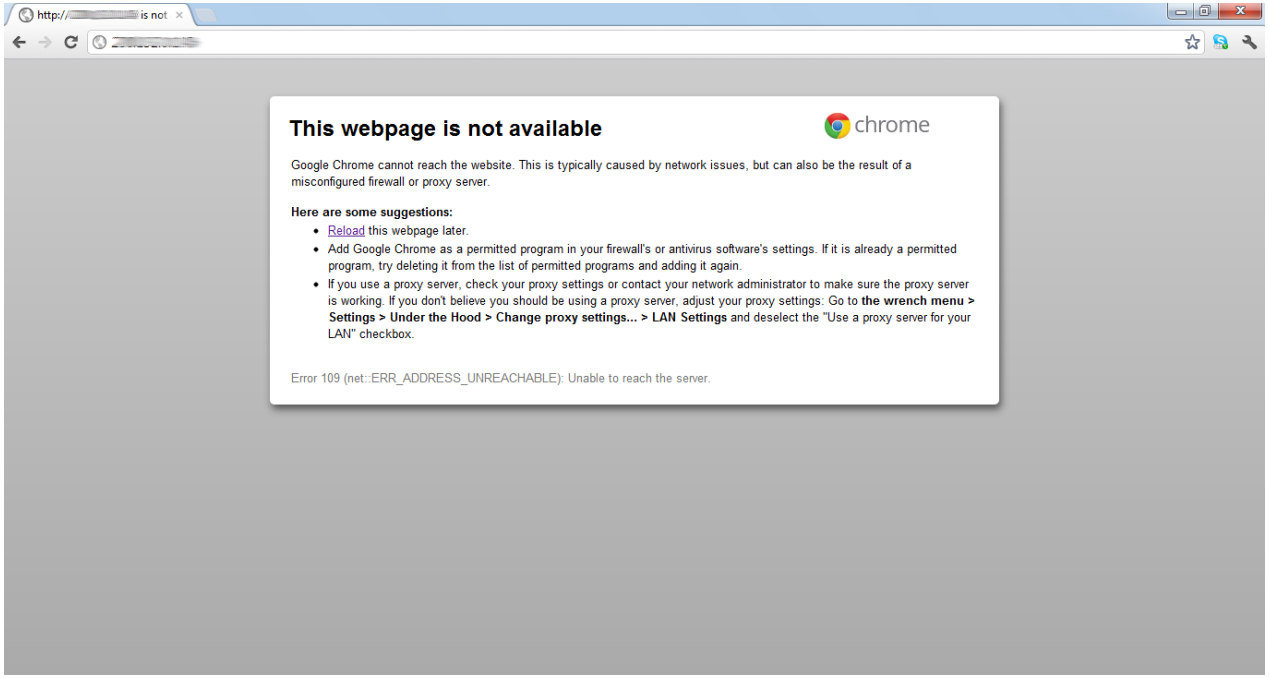
Resultado – Apache

Tango Down



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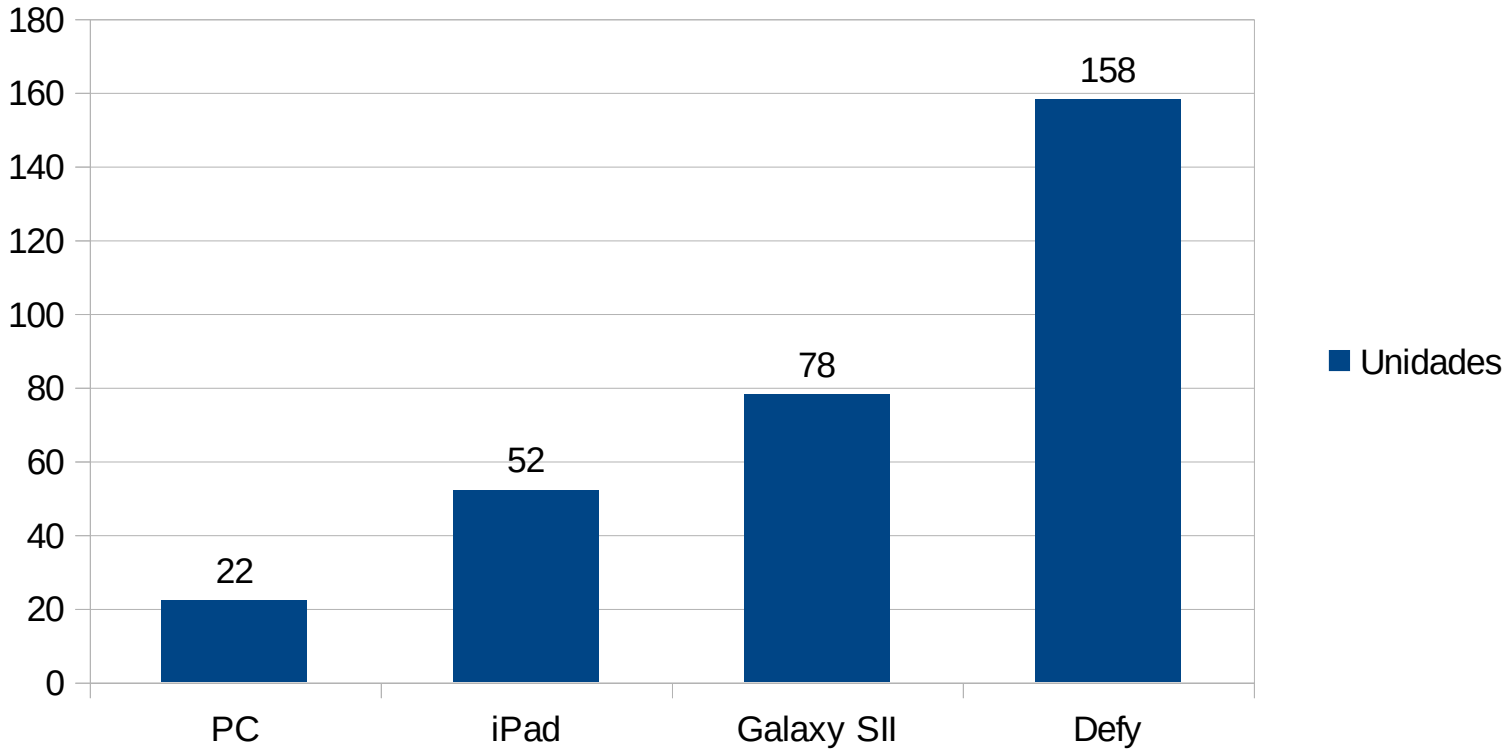
Resultado – Apache



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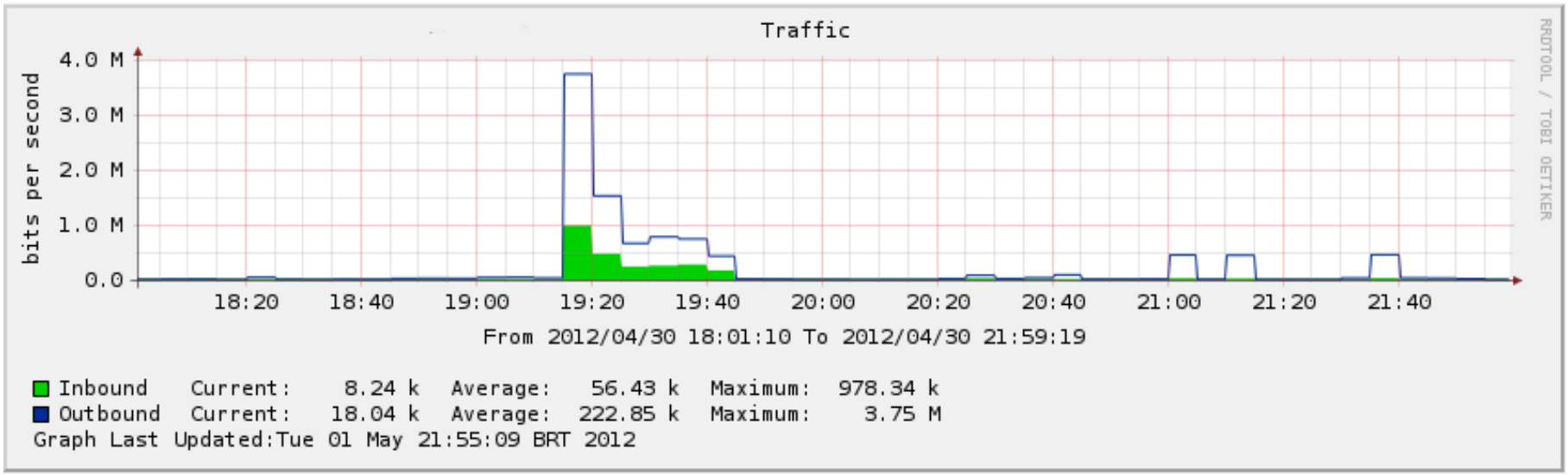

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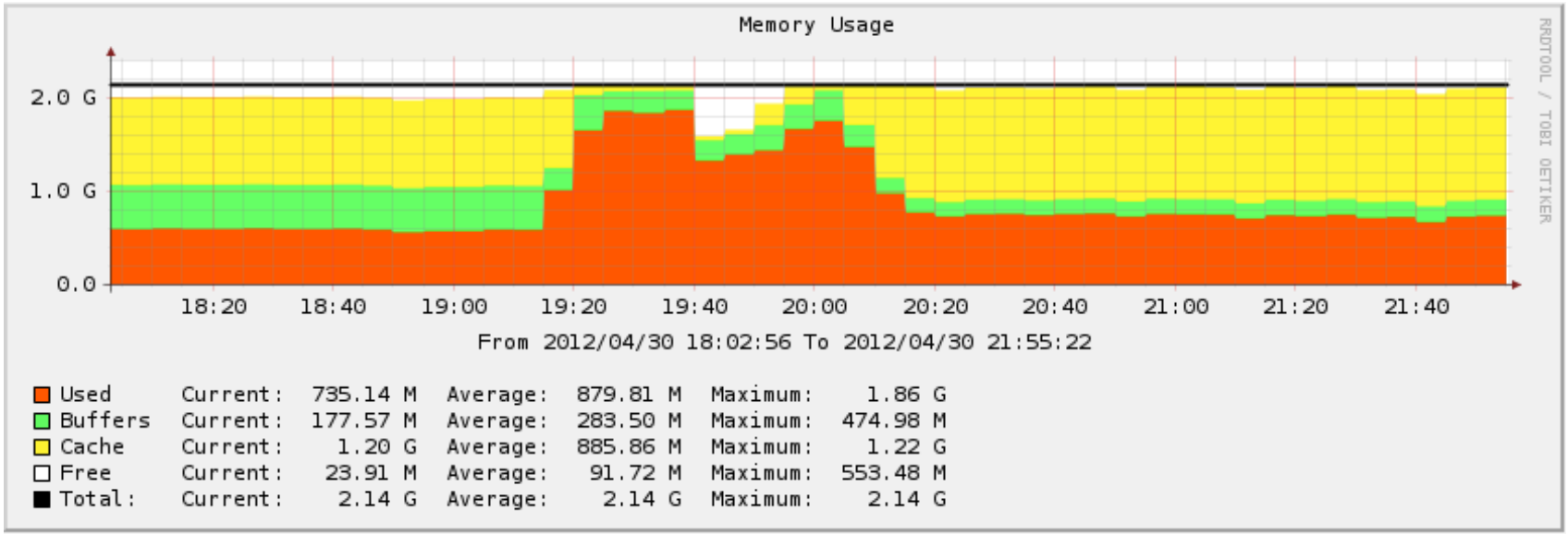

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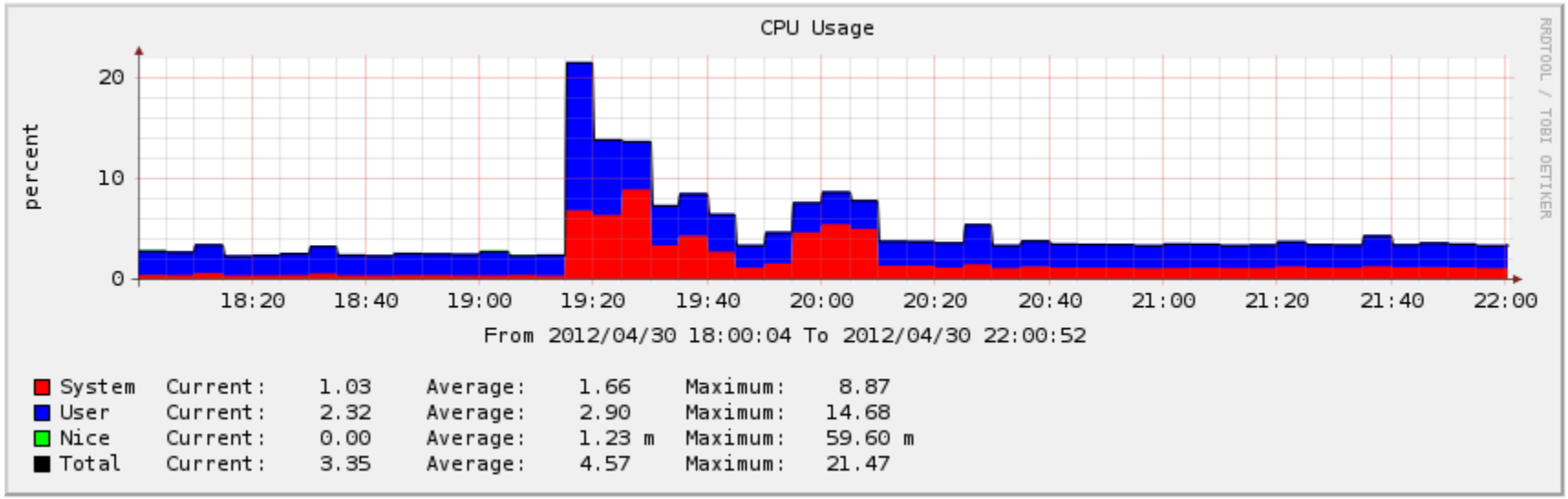

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Prevenção

- Snort como NIDS (Network Intrusion and Detection System)

TCP

```
alert tcp $EXTERNAL_NET any -> $HOME_NET $HTTP_PORTS
(msg:"SLR - LOIC DoS Tool(TCP Mode) - Behavior Rule (tracking/threshold)";
flow: established,to_server;
flags:A;
dsize:1448<>1448;
threshold: type threshold, track by_src, count 10 , seconds 10;
```

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Prevenção

HTTP

```
alert tcp $EXTERNAL_NET any -> $HOME_NET $HTTP_PORTS
(msg:"SLR - LOIC DoS Tool (HTTP Mode)";
flow: established,to_server;
content:"|A cat is fine too. Desudesudesu~|";
threshold: type threshold, track by_src, count 10 , seconds 10;
```

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Referências

Attacks by “Anonymous” WikiLeaks Proponents
not Anonymous. http://eprints.eemcs.utwente.nl/19151/01/2010-12-CTIT-TR.pdf

Effectiveness of Defense Methods Against DDoS Attacks by Anonymous
http://referaat.cs.utwente.nl/TSConIT/download.php?id=1085

DDoS: threats and mitigation
http://www.sciencedirect.com/science/article/pii/S1353485811701283

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Perguntas?

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