

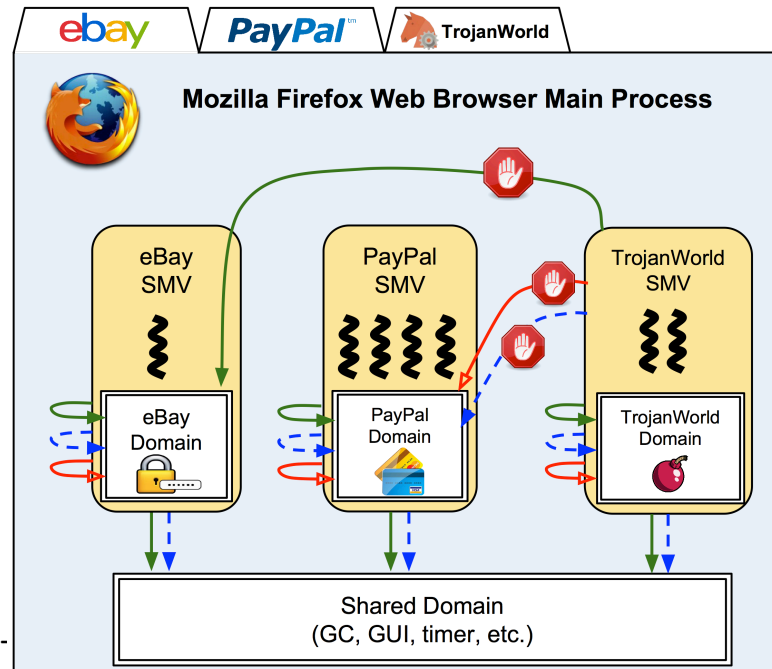
Least Privilege Enforcement with Secure Memory Views

Challenge:

- Isolation between threads is crucial in “plug-in” software, e.g., web browsers, web servers
- Currently impractical
 - HW extensions
 - High overhead
 - Specific
 - Complex application

Solution:

- Leveraging modern paging mechanisms inside (Linux) kernel
- Fine-grained application-specific sharing
 - Enforcing consistency



Scientific Impact:

- Foreign code execution is not about to disappear
- Providing programmers tools for thinking about security early-on
 - Or as simple add-on in mainstream systems
 - No more excuses with only 5% latency overhead

Broader Impact:

- Web browsing has become everyday activity
- Still WWW riddled with vulnerabilities
- Least privilege in practice
- Publicly available in Linux branch