Open Source Software as Underfinanced Critical Infrastructure

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Bio: Christian Folini

- Swiss Security engineer with 20 years of experience
- Web Application Firewall specialist
- Ex-Lead OWASP CRS
- Program Chair Swiss Cyber Storm Conference
- Steering Committee
  Swiss National Cyber Strategy (NCS)
- Official moderator of a national dialogue on digitalization of political rights

Agenda

- Financial situation of open source software projects
- Example OWASP CRS
- OSS and AI
- Global infrastructure impact
- Call to action

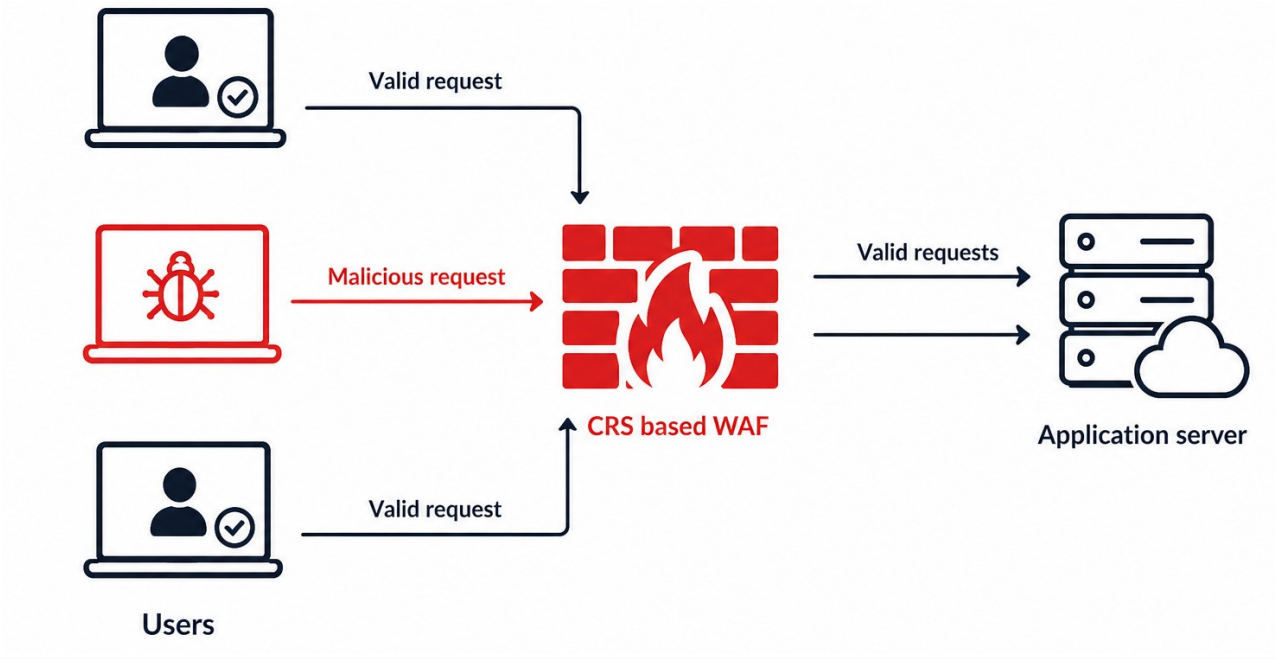
The Financial Situation of OSS

- OSS projects typically operate on a shoestring budget
- Self exploitation is the norm
- Calls for contributions or sponsoring often go unanswered
- Big OSS foundations are able to ease the pain

  (at least for the biggest players)

What is a WAF

- Filters traffic by inspecting HTTP payloads
- Protects backend applications from attacks



What is OWASP CRS

- Generic deny-list WAF rule set
- Protects against OWASP Top Ten
- Open source licensed

  (Apache license, allows for commercial usage)
- Runs on ModSecurity compatible engines

How do the rules looks like?

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Who uses OWASP CRS

- No generic open source alternative
- Base for approx. 2/3 of commercial WAFs
- Among others, OWASP CRS is sold by
  - **Google (GOLD sponsor! Thank you.)**
  - Azure (Short time sponsor until they ran out of money)
  - Cloudflare (”We don't do sponsoring”)
  - Akamai (Refuses every contact)
  - HAProxy Enterprise (Stopped responding)
  - etc.

CRS Conclusion

- OWASP CRS is critical infrastructure
- Dominant rule set in the market
- Only 8-10 active developers
- Approximately $60K annual budget
  - Used for developer retreats and to provide free 1st level support

OSS and AI

- 2025: surge in poor AI issues
- 2026: high quality AI pull requests emerging

- The LLMs become more powerful
- The agentic AI and its harnessing makes it even more powerful
- The prompts have become very simple, democratization of security research

- Amount of AI discovered bug explodes

Modern use of AI at CRS

- AI to detect rule bypasses
- AI for triage
- AI-assisted rule generation
- AI code review and acceptance tests

Other struggling projects

- cURL is limiting triage
- Ghostty is restricting submissions
- tldraw has closed submissions for non-devs
- GitHub allows for projects to block submissions

  (blocking submissions effectively closes the recruitment pipeline for an open source project)

Effects on projects

- Mental load increasing
- Developer burnout
- Review bottlenecks getting worse
- Risk of malicious contributors easing into projects growing

Global Infrastructure Risk

- Inventories are incomplete or stop at 2nd level

  (OSS dependencies are ignored despite general abundance)
- Critical part of supply chain is underfunded
- AI increases attack pressure
- Weak links threaten security of entire systems
- Meanwhile: Commercial integrators ignore the calls

Call to action

- Policies that support the financing of critical OSS projects
- Infrastructure to allow financing of critical OSS more easily
- Businesses must support their supply chain for long term sustainability
- Need to implement CRA with leverage for OSS

Q&A

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