

Naxsi performance measurement

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Outline

- 1 Naxsi
- 2 Research questions



What is a WAF?

- Web Application Firewall
-

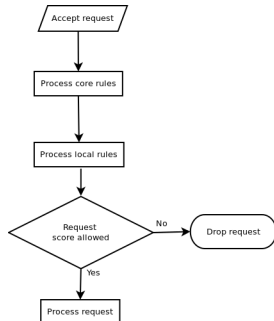


What is a naxsi?

- It's a WAF for nginx
- Nginx Anti Xss & Sql Injection
- designed as reverse proxy



Naxsi request flow

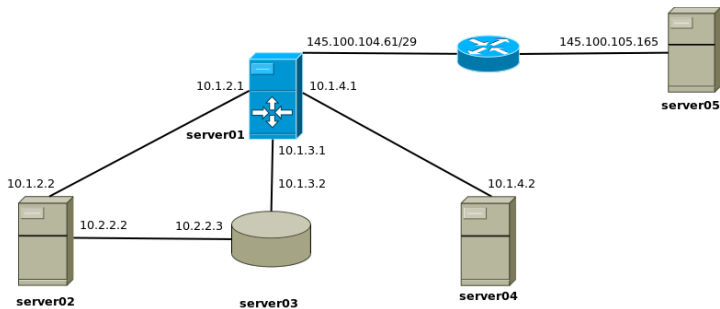


- Oui!
- Sis is mooi sjrafiek

Whitelist processing



Experimental setup



Research Question(s)

"How does a webserver perform with the use of Naxsi as the front-end firewall compared to a webserver without a Naxsi firewall?"

OR

"How does the use of Naxsi as the front-end firewall influence the performance of a webserver?"



Research Question(s)

"What is the baseline performance of the Nginx firewall without the usage of Naxsi?"

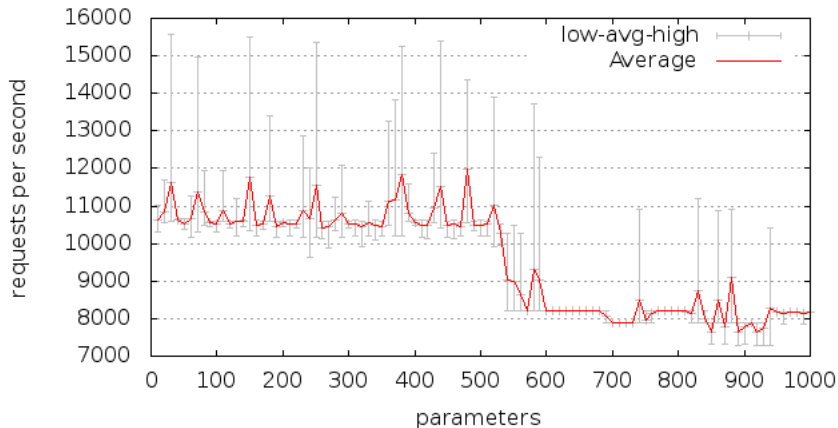


Approach

- Naxsi isolation (HTTP 200 OK)
 - Baseline performance measurement
 - Incrementing URL parameters
- Real-life scenario (Wordpress)
 - Baseline performance measurement
 - Incrementing URL parameters



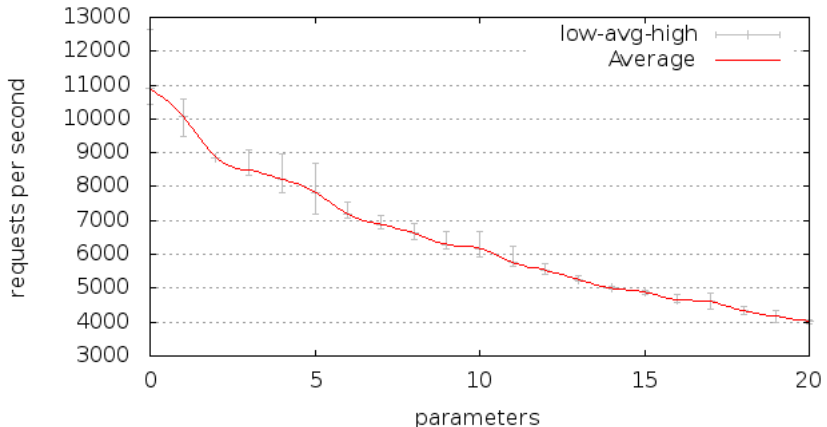
HTTP 200 OK: baseline performance measurement



HTTP 200 OK: incrementing allowed URL parameters

`http://example.com/?foo1=bar1`

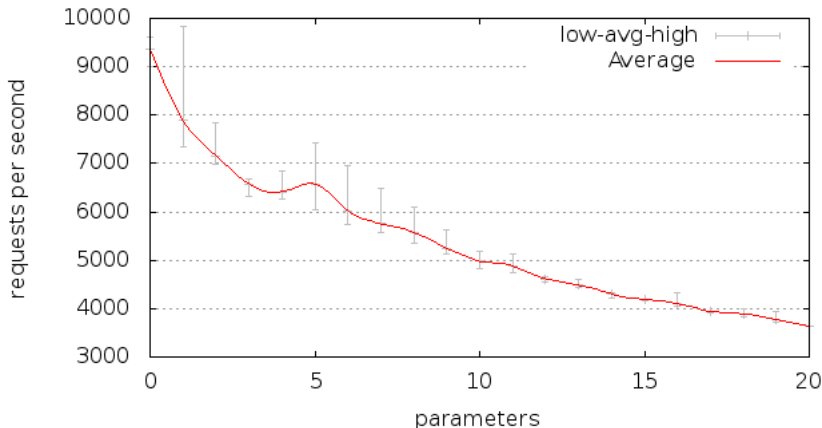
`http://example.com/?foo1=bar1&foo2=bar2`



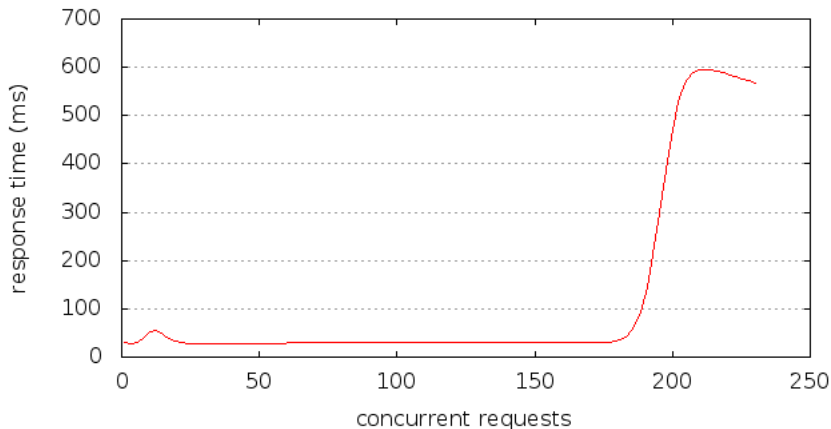
HTTP 200 OK: incrementing disallowed URL paramters

`http://example.com/?../`

`http://example.com/?foo1=bar1&../`



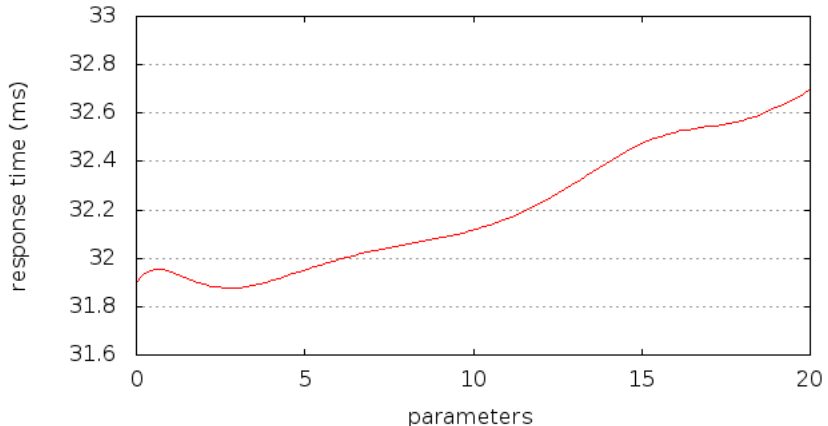
Wordpress: baseline performance measurement



Wordpress: incrementing allowed URL parameters

`http://example.com/?foo1=bar1`

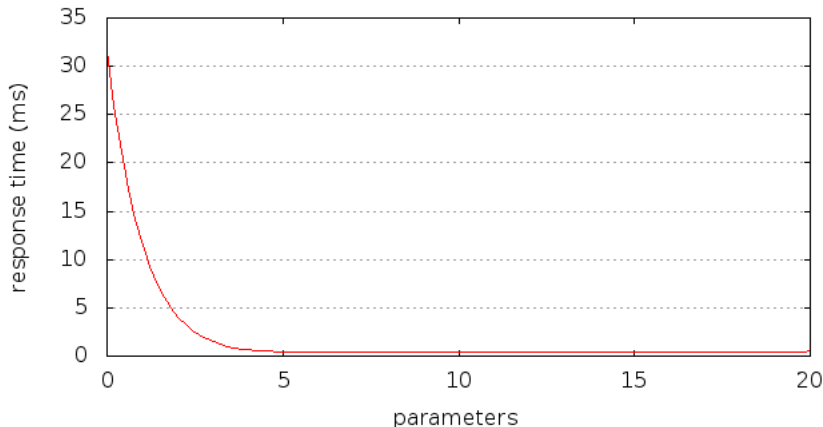
`http://example.com/?foo1=bar1&foo2=bar2`



Wordpress: incrementing disallowed URL parameters

`http://example.com/?../`

`http://example.com/?foo1=bar1&../`



Conclusion

- Naxsi has a low overhead on system resources
- The value of Naxsi depends on the application that needs to be protected
- Naxsi is flexible and allows for different applications to be protected with a different rule set



Questions

Questions?

