Chair of Network Architectures and Services
Department of Informatics
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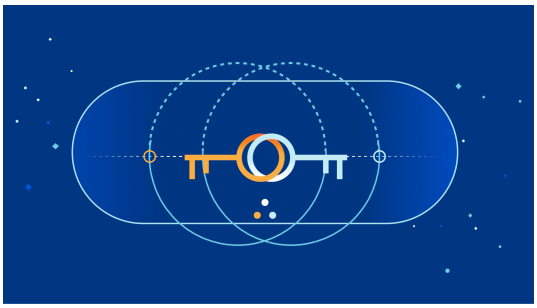
Thesis B.Sc.

Thesis M.Sc.

Oblivious HTTP: Assessing the State of the Art

Motivation

Oblivious HTTP (OHTTP) is an emerging proxy technology used to forward HTTP data while ensuring user privacy. It was recently standardized in RFC9458 [1] by the Internet Engineering Task Force IETF. HTTP is exchanged between a client and server via two proxy hops, only one of which will have access to the user's device IP address, while the other has access to the user's destination. Cloudflare has announced their service *Privacy Gateway* in late 2022 [2], which uses OHTTP to enable the pseudo-anonymous usage of supported applications. Fastly [3] and Mozilla [4] have also announced that they will use OHTTP for their services in the future. It is however unclear, if the current state of software provides a useable and scalable environment for users. An assessment of the performance and infrastructure of existing solutions is therefore expected to provide valuable insights into the future of the protocol.



Shamelessly stolen from [5]

Your Task

- Familiarize yourself with OHTTP, the existing implementations and solutions such as Privacy Gateway
- Build an environment to benchmark and evaluate existing implementations
- Analyze the infrastructure of existing solutions and conduct active measurements if needed

References

[1] https://datatracker.ietf.org/doc/rfc9458/
[2] https://blog.cloudflare.com/building-privacy-into...
[3] https://www.fastly.com/blog/enabling-privacy-on-the-internet-with-obli...
[4] https://blog.mozilla.org/en/products/firefox/partnership-ohttp-prio/
[5] https://blog.cloudflare.com/stronger-than-a-promise...

Requirements

Familiarity with GNU/Linux and network protocols, ability to read into new code in different languages.

Contact

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