Analyzing the Internet Using DNS

Initial Bachelor Talk

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Advisor: Dr. Oliver Hohlfeld

http://comsys.rwth-aachen.de

Aachen, 2016-12-12

Motivation

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Goal: Collect DNS data periodically for many domains

Seems easy...

foo.org

`dig`

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Just needed $\approx 36ms$

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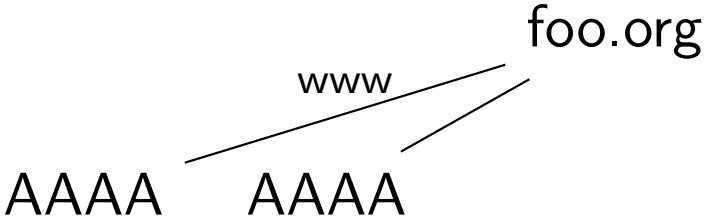

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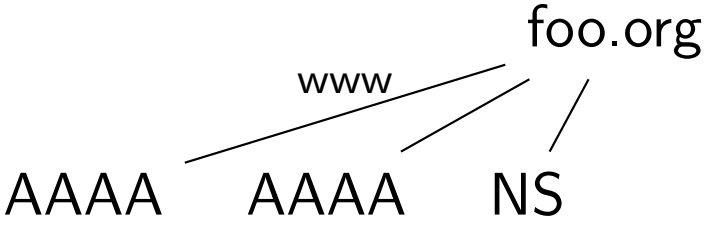

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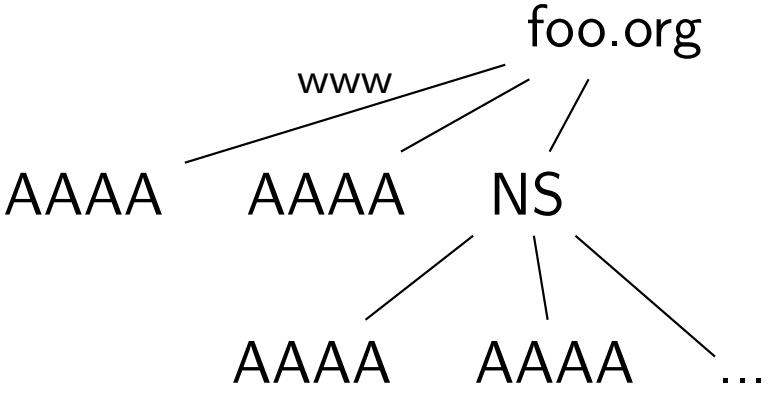

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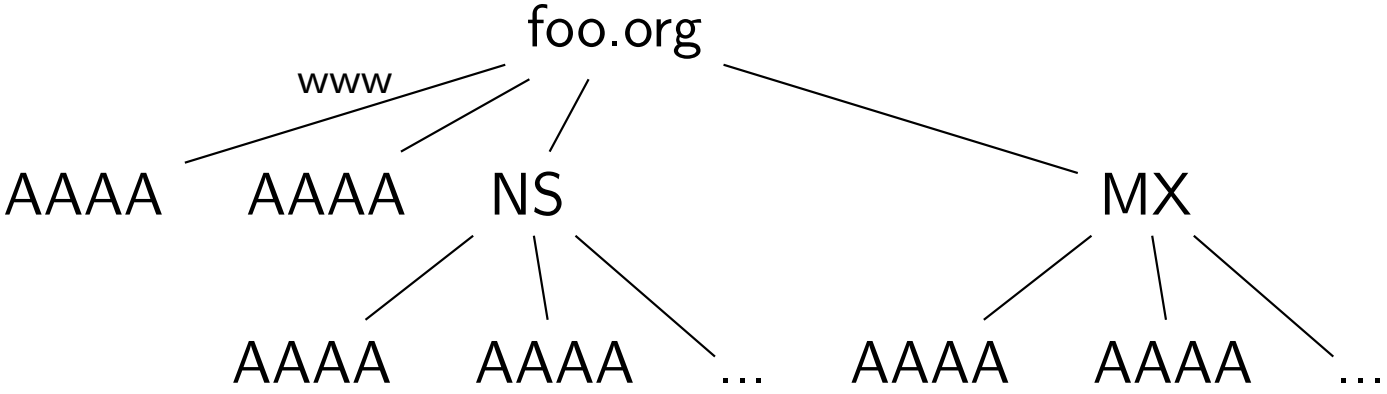

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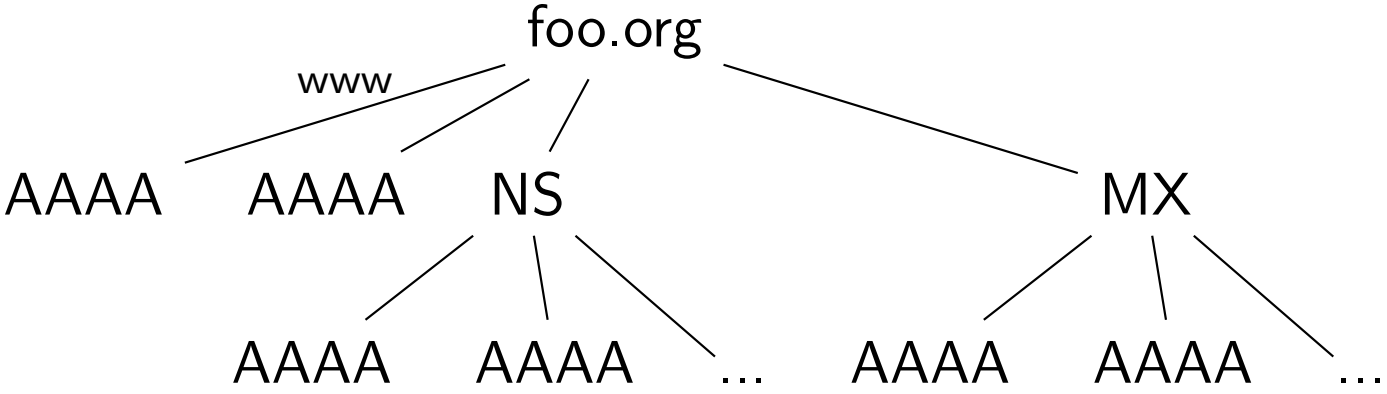

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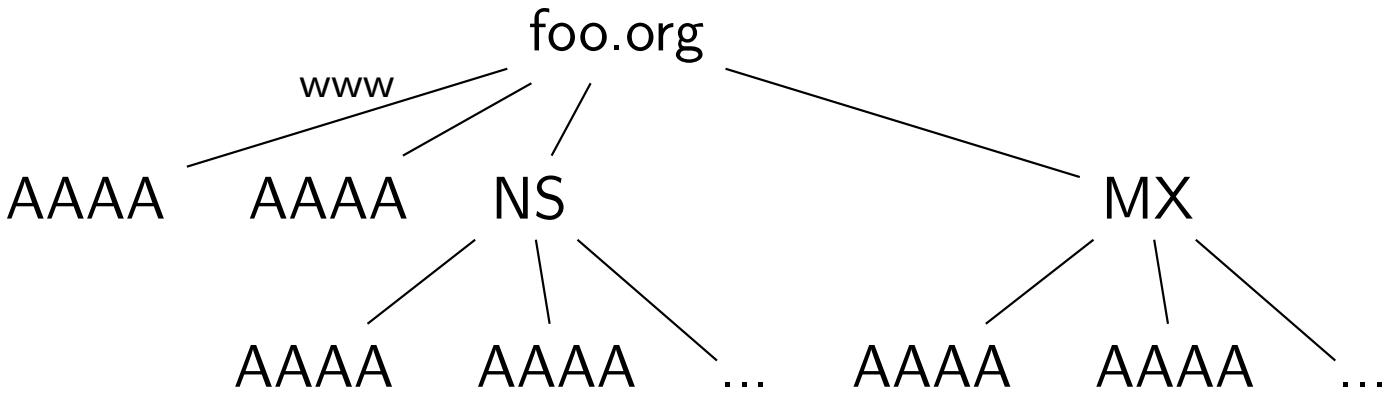

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- Millions of domains
- Different analyses (not only IPv6)

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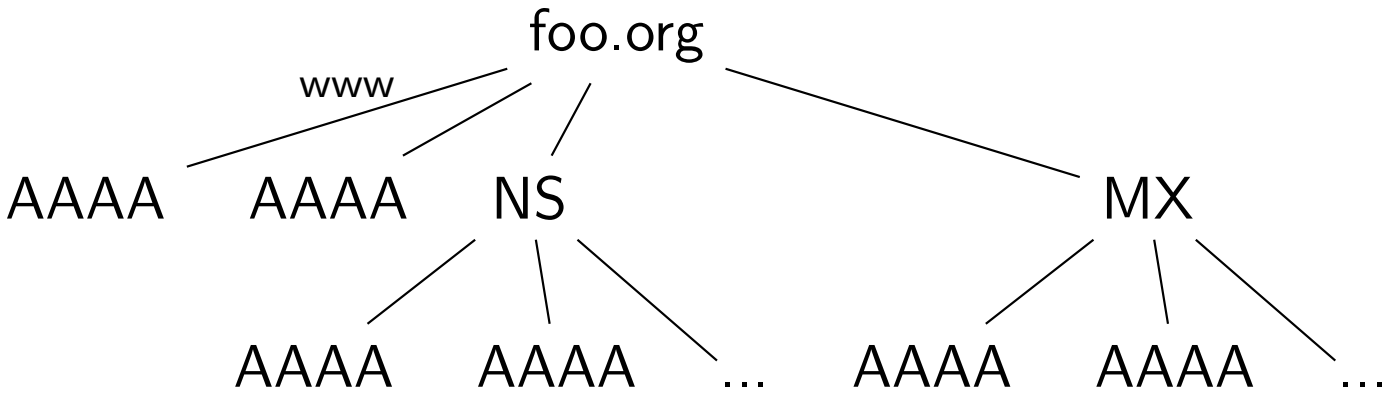

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$\Rightarrow$ Multiple Queries per domain + Millions of domains

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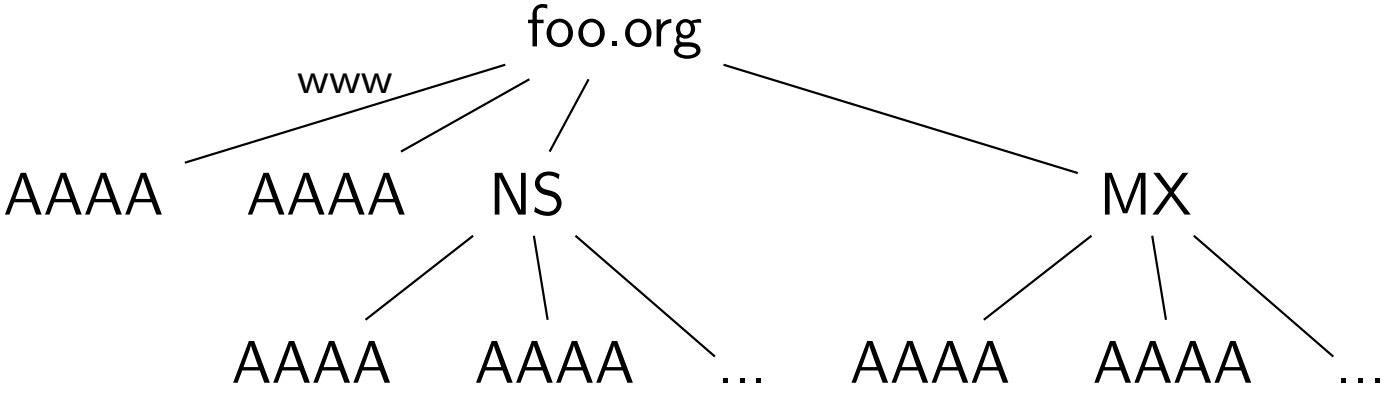

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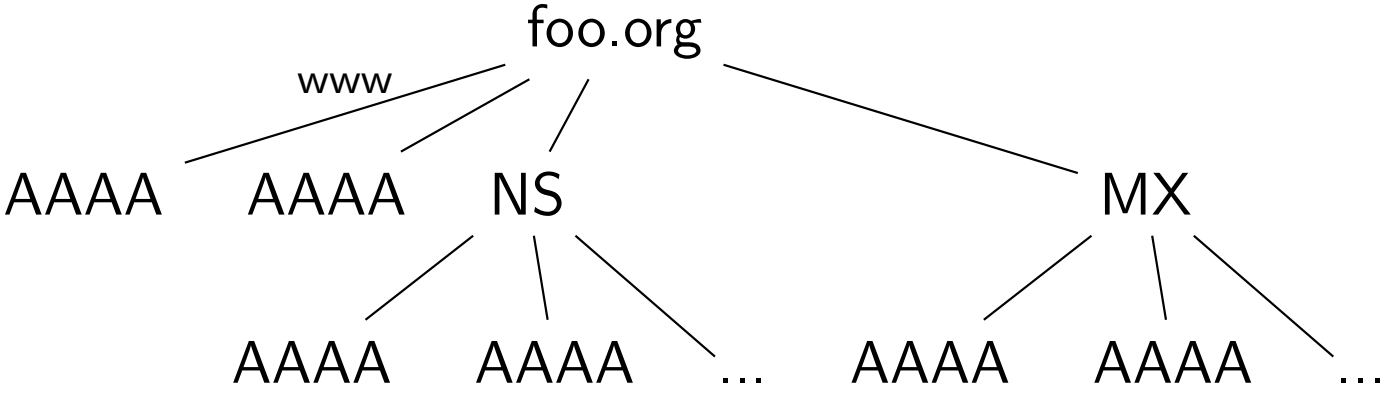

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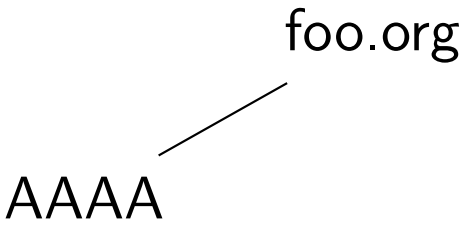

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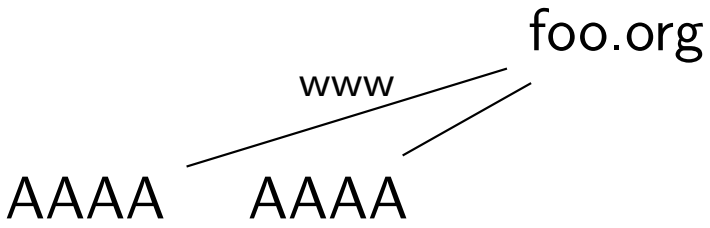

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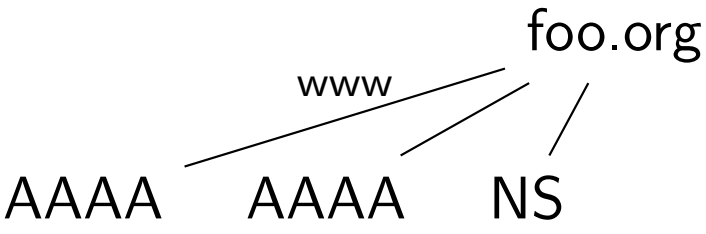

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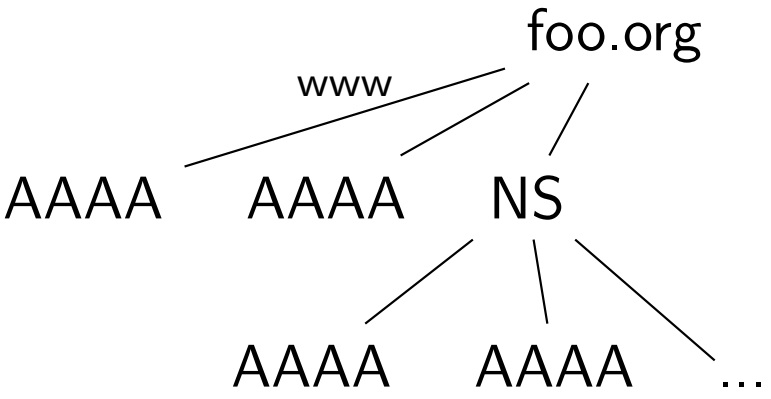

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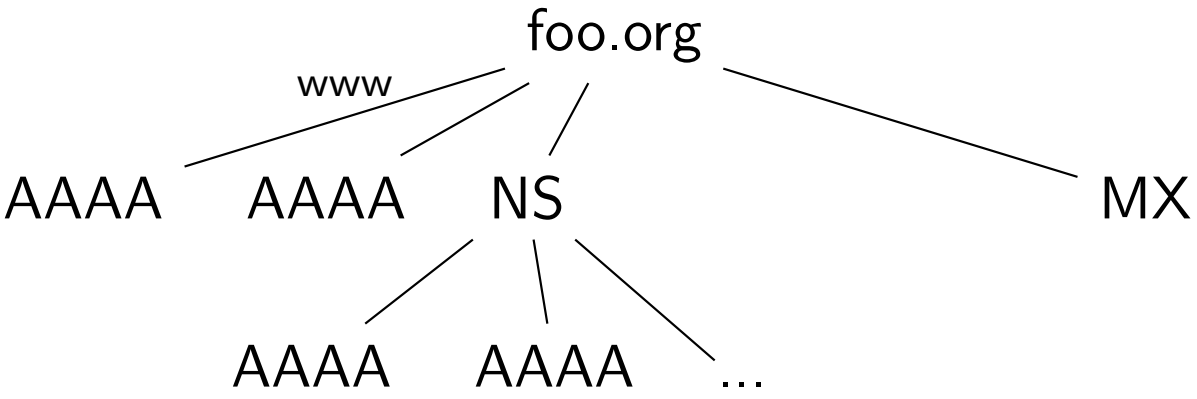

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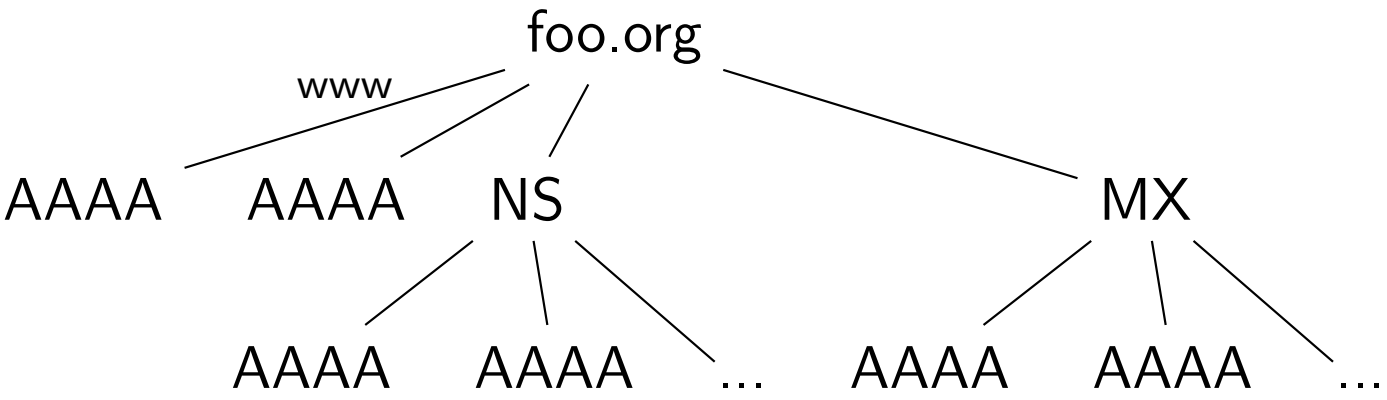

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Can we do better?

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- Long term evolution:
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- Performance:
  Be much faster than dig

Roadmap

- Enable performant DNS resolution in large scale

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- Analyze current IPv6 deployment
- (Optional) analyze further aspects (e.g. Junk Analysis)

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Compared results with those obtained from own tool.

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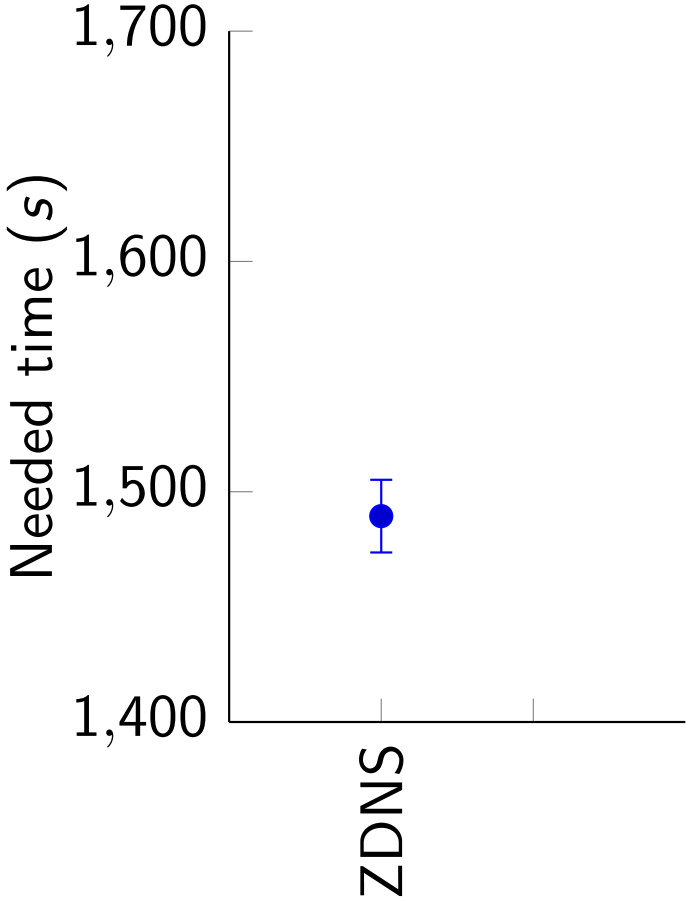

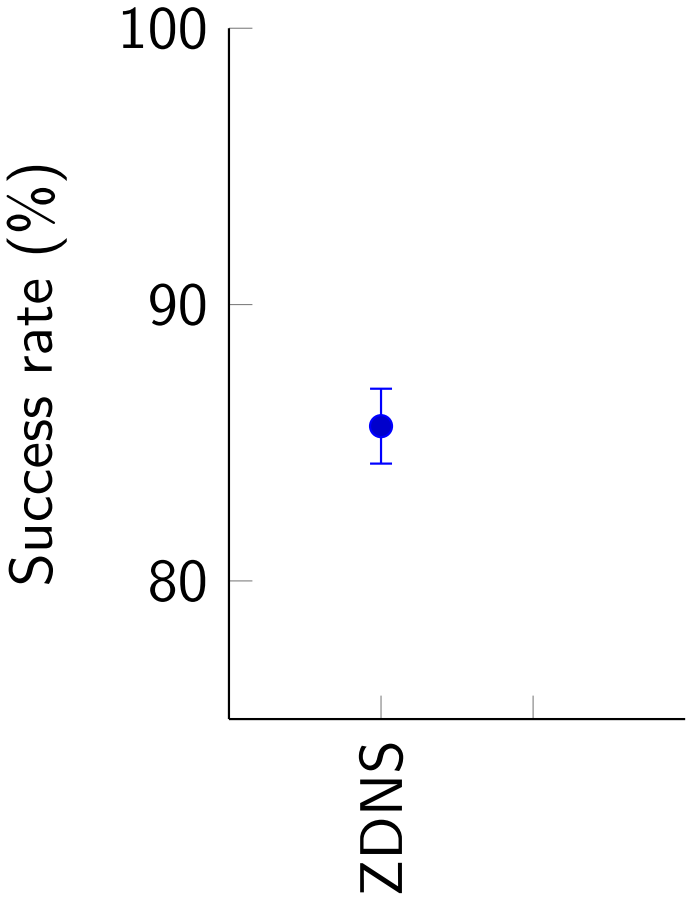

Figure: Test results for ZDNS (1.000.000 queries)

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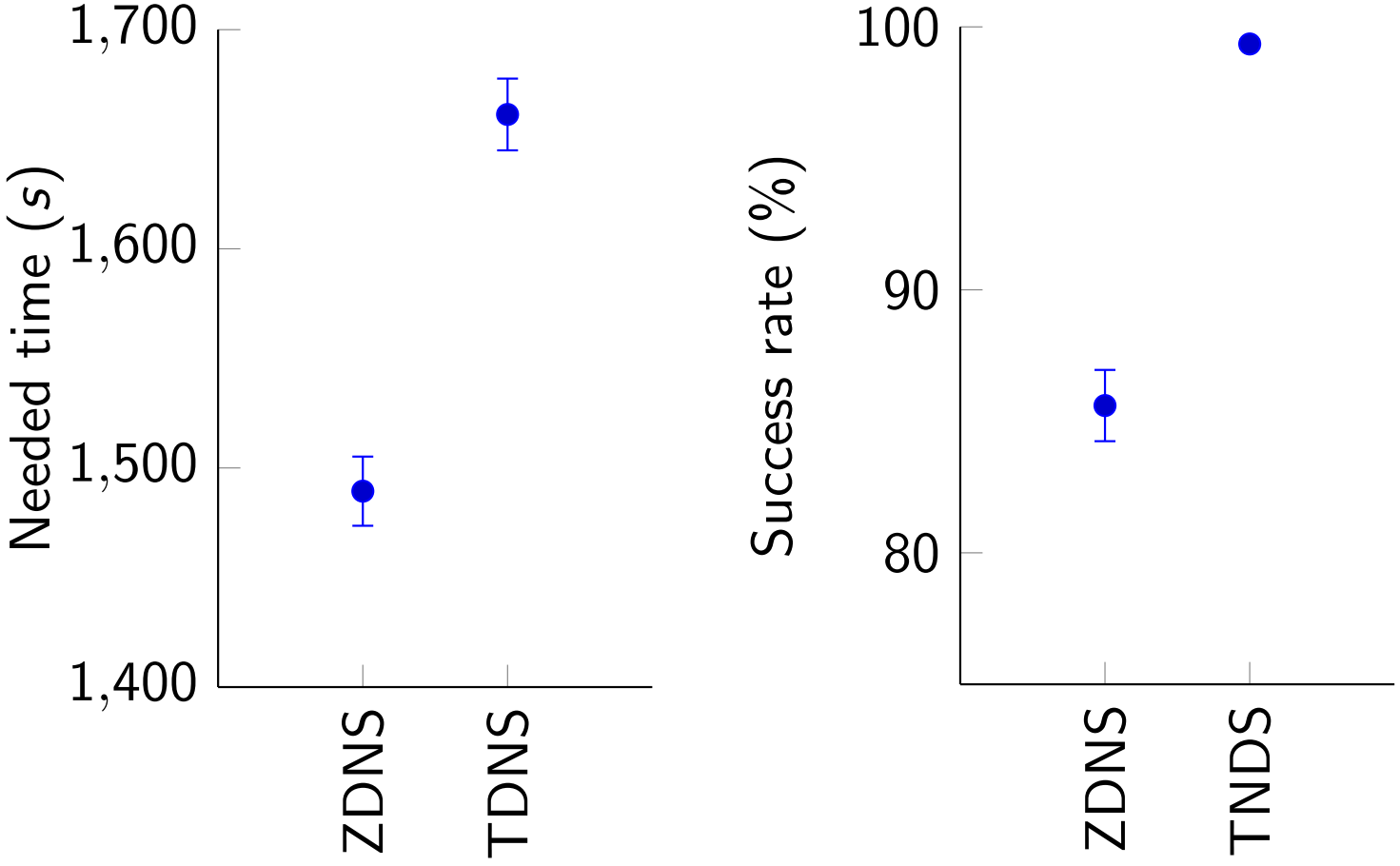

Figure: Test results for ZDNS and TDNS (1.000.000 queries)

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Implementation

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Tool Analyses
Implementation
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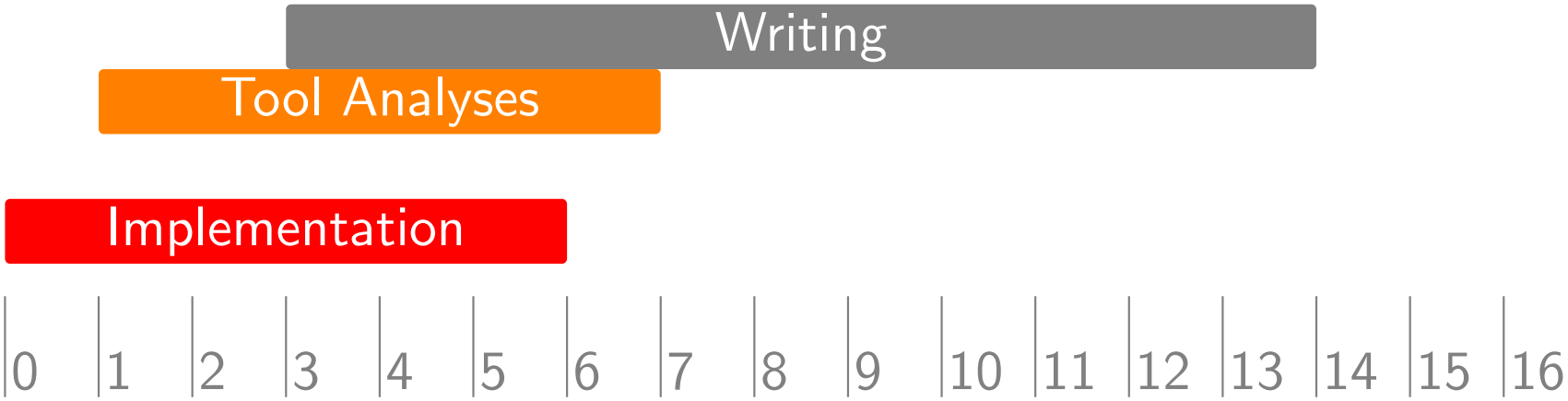
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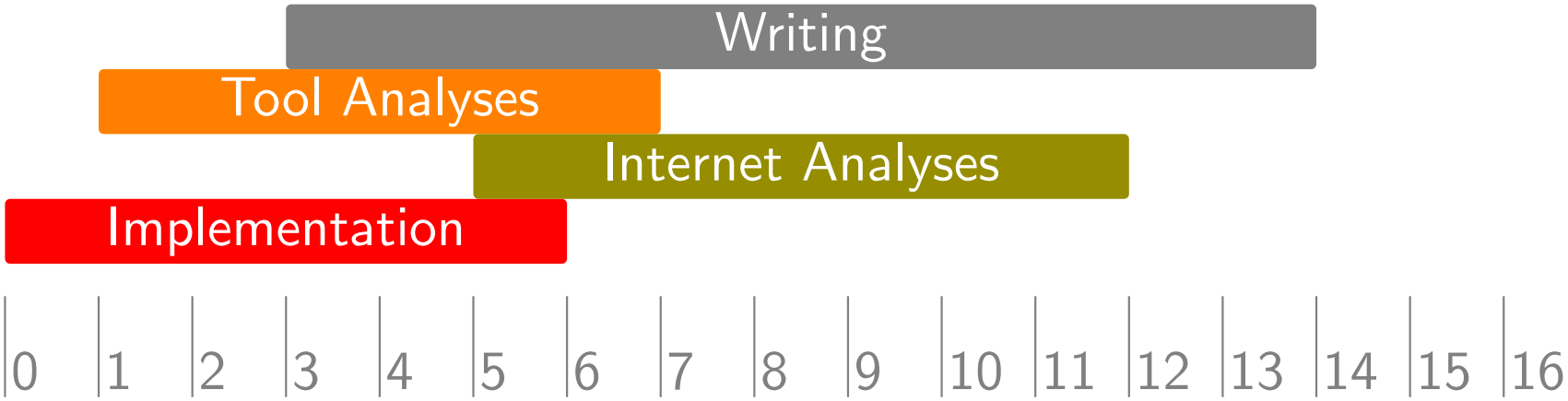
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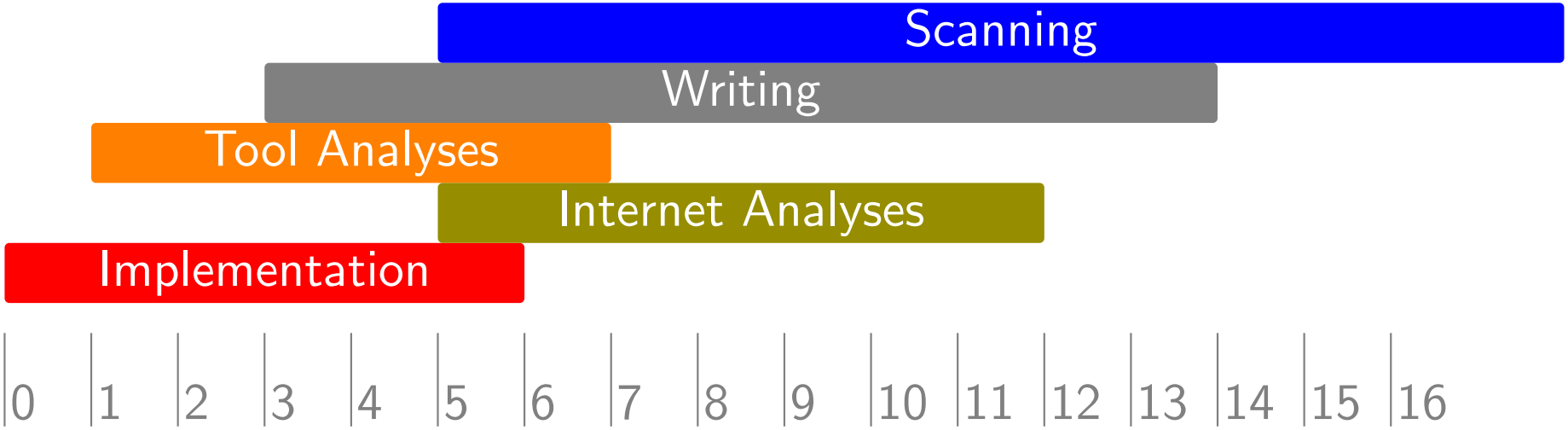
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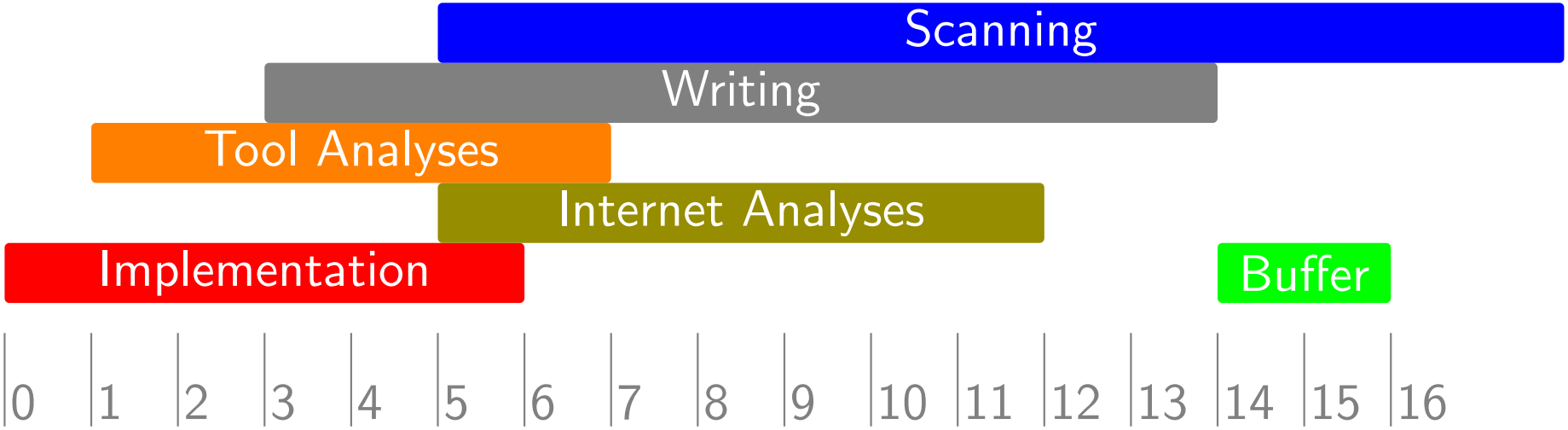
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References

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  A high-performance, scalable infrastructure for large-scale active dns measurements.
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