Proposal Draft - Impacts of the HTTP/2 protocol for large scale web environments

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February 20, 2015

1 Introduction

Recently, the specifications for the new HTTP protocol HTTP/2 (and HPACK), the successor of the HTTP/1.1 protcocol have been formally approved by the IESG and will become an RFC standard soon. The main focus during the implementation period of the protocol was to improve the performance, and thus providing a better user experience. The performance improvement is mainly based on how the packets are send over the wire within a HTTP/2 session. HTTP/2 data is send in binary format and is based on multiplexing mechanism that allows a single connection for parallelism.
There are already web client and server implementations that support the final HTTP/2 specification.

2 Research Questions

How do the new features of the HTTP/2 protocol improve the performance for high frequently visited webpages/webserver?

- Are there specific usecases where the new features of the HTTP/2 protocol will provide major enhancements compared to the HTTP/1 protcol in large scale environments?
- How can we measure such performance improvements that are proposed by the new protocol?
- What are possible drawbacks that can occur for large web service providers when switching from HTTP/1.1 to HTTP/2 ?

- What are predictable impacts that are related to changes in the infrastructure of Web service provider?

3 Related work

4 Requirements

5 Scope

6 Method

7 Expected results

References