

HeaderDiff

draft-ruellan-headerdiff-00

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Overview

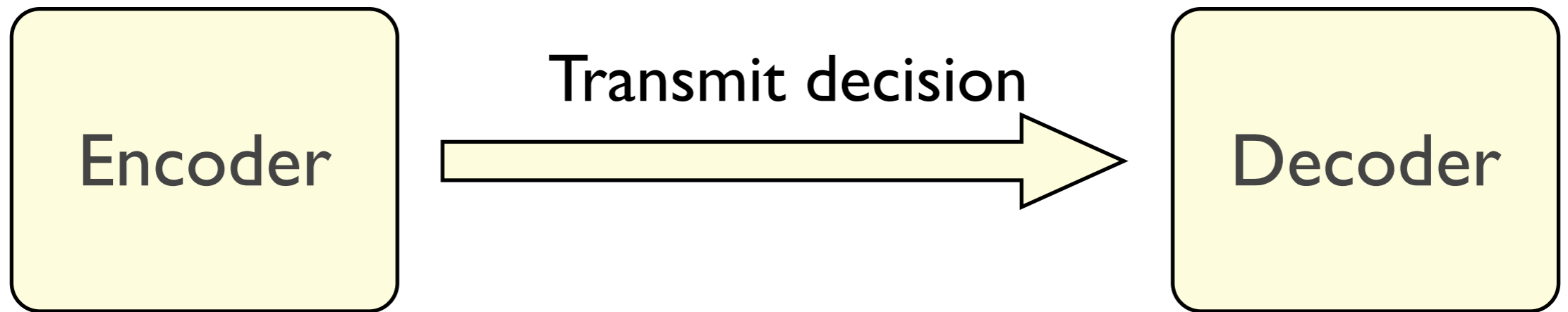
- Compact encoding of HTTP headers
 - Take advantage of similarities between header sets
- Encoder driven
 - Simple and “generic” decoder
 - Encoder can be simple or very complex
 - Adaptable to different scenario
 - Adaptable to HTTP usage evolution

Index Tables

- Name Table
 - Index of all the header names
 - Pre-populated with common entries
- Header Table
 - Index of (name, value) pairs
 - Three choices for a new pair
 - Not added to the table
 - Added to the table
 - Replace an existing pair

Table Management

- Table management decided by encoder
 - Simpler decoder
 - Support any table management algorithm



Decide value indexation:

- Not indexed
- Added
- Replace old value

Apply decision

Header Representation

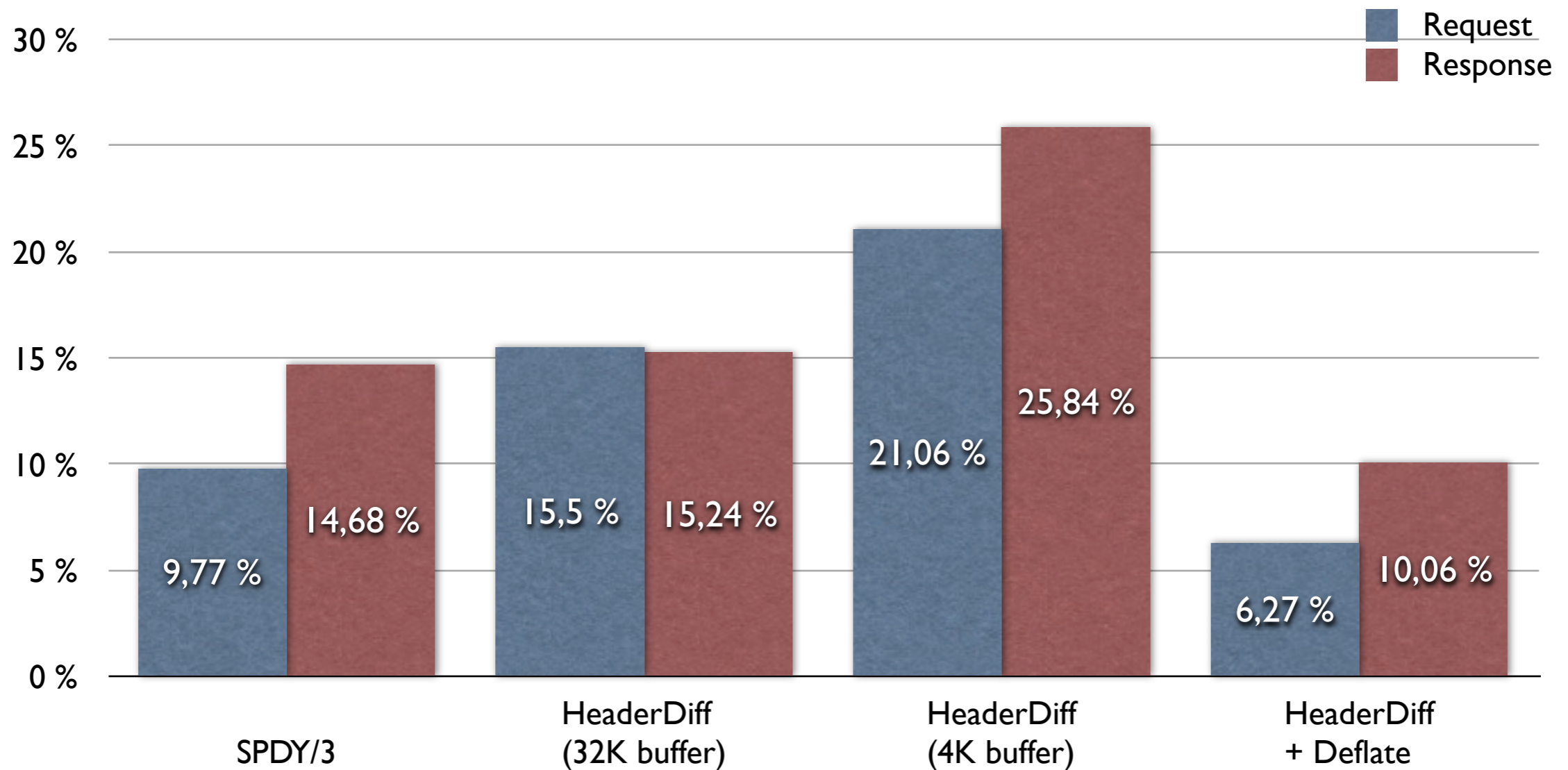
- Index
 - Reference to a (name, value) pair
- Literal
 - Existing or new name
 - New value
- Delta
 - Reference to a (name, value) (same name)
 - Value has a shared prefix + new suffix

Deflate

- Post-processing of encoded headers
 - More compact and faster than SPDY/3
- Optional Step
 - Too costly in some setups
 - Can be source of security risks
 - Subject to CRIME attacks

First Results

Codec size relative to HTTP size



Summary

- Compact HTTP Header representation
 - Controller by Encoder
 - Very adaptable
 - Simple Decoder
- Good compaction results
 - Can adapt to small buffer
- Combine well with Deflate
 - Optional step

Questions?

Spec: draft-ruellan-headerdiff-00

Code: <https://github.com/http2/compression-test>