

# Wrapping Absolute Indices

# Reminder: What is an Absolute Index

- The absolute index of an entry is the order it was inserted into the dynamic table. The first table entry is 1, then 2, and so on
- It identifies the entry regardless of context

# Current Draft

## Prefix



- LR is the only Absolute Index on the wire
  - 1 byte encodes up to 126
  - 2 bytes encodes up to 382
  - 3 bytes encodes up to 16638
- LR is theoretically unbounded.
- Compression performance will degrade *slightly* as the number of table entries grows for long lived connections

# What can we do?

- **Observation:** the Largest Reference in a request must be within *MaxEntries* of the decoder's largest stored index
- *MaxEntries* is the maximum size of the decoder's table in bytes divided by the minimum header size (32). 128 for a 4k table.
- Solution: LR on the wire can be bound by  $2 * \text{MaxEntries}$

# Options

## **Option #1:** Do Nothing

The practical savings are measurable but not huge (<1%)

Architectural limits on integer size

## **Option #2:** Wrap LR on the wire (#1763)

It's not that much code

Does not solve integer limit

## **Option #3:** Redefine dynamic table as a ring buffer (#1657)

Same wire format as #2

Larger conceptual change in the document, removes edge case