Options for Stale Content

HTTP [RFC2616] requires that caches "respond to a request with the most up-to-date response held... that is appropriate to the request," although "in carefully considered circumstances" a stale response is allowed to be returned. This document defines two independent Cache-Control extensions that allow for such control, stale-if-error and stale-while-revalidate.

The stale-if-error HTTP Cache-Control extension allows a cache to return a stale response when an error -- e.g., a 500 Internal Server Error, a network segment, or DNS failure -- is encountered, rather than returning a "hard" error. This improves availability.

The stale-while-revalidate HTTP Cache-Control extension allows a cache to immediately return a stale response while it revalidates it in the background, thereby hiding latency (both in the network and on the server) from clients.

Proposal: Add a Stale-If-Error and Stale-While-Revalidate Option (both elective) to I-D.ietf-core-coap

Pro:
- Improves availability & Hides latency and errors
- Implementation experience within HTTP (Squid)
- Staleness Model useful for sleepy servers and when observing resources
- Don't implement it if you don't like it

Con:
- Two additional options