



# Problem Statement 06

## Anycast Flipping & CDN User Experience

References: [Agenda IETF122: maprg](#)

Working Group: [MAPRG](#)

### Problem Statement

Build a toolchain to simulate anycast address flipping effects on CDN-driven web performance—especially metrics like First Contentful Paint (FCP).

### Focus Areas

- **Dataset Analysis:** Use real-world flip rates (e.g., ~3.2% of vantage points) and observed RTT penalties (e.g.,  $\geq 50$  ms) to model flips.
- **Emulation Framework:** Integrate flipping probability and latency overhead into Mahimahi-based page load tests.
- **Performance Impact:** Measure changes in FCP for HTTP/1.1 and HTTP/2 across flip scenarios.
- **Mitigation Ideas:** Propose routing or caching strategies to reduce performance degradation.