ECH Update

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Ongoing ECH Experiments

- Firefox Nightly since 104
- Chrome Canary since 105
- Cloudflare on a subset of domains since Dec ‘21

Telemetry from Firefox Nightly and Beta is public at telemetry.mozilla.org
Connection Success Rate by Type

- **ECH Nightly**
- **ECH GREASE Nightly**
- **Release Baseline**

The diagram shows the connection success rate across different Firefox versions. The success rate is highest for ECH Nightly, followed by ECH GREASE Nightly, and then Release Baseline. The success rate for ECH Nightly is consistently above 97.50%, with a significant drop around version 114, while ECH GREASE Nightly and Release Baseline show lower rates, with ECH GREASE Nightly slightly higher than Release Baseline.
Connection Latency by Type

![Connection Latency by Type](image)

- ECH
- ECH GREASE
- Baseline
ECH Retry Rate

![Graph showing ECH retry rate with connection outcome percentage versus version number. The graph includes data on retry without, retry with, and success categories. The graph highlights a 90.00% connection outcome at a specific version number.]
Site Incompatibility

- In April we switched Firefox Nightly into hard-fail mode.

- We are aware of 2 sites, operated by the same entity, in the Tranco top 50k which reject connections with ECH GREASE Xtns.

- Testing confirms they fail with any unrecognized extension due to a faulty TLS 1.2 implementation. Not ECH specific.

- Operator has committed to fixing issue and rolling out TLS 1.3 by September
Next Steps

● Investigating the ECH Retry issue

● Small-scale release experiments
  ○ Chrome announced a 1% trial between now and December
  ○ Firefox will be starting a 1% trial next week
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