DNS – Firefox case

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DNS handling in Firefox

- Firefox has no specific code for DNS look up

  - Use OS API only via NSPR

- DNS thread for name cache

  - DNS look up is async

  - Map hostname -> IP address

Getting DNS performance

- Navigation Timing API by W3C

  - http://www.w3.org/TR/navigation-timing/

- Support various browsers

  - Android stock browser (ICS or later)

  - Chrome 6 or later (Desktop and Mobile)

  - Firefox 7 or later (Desktop and Mobile)

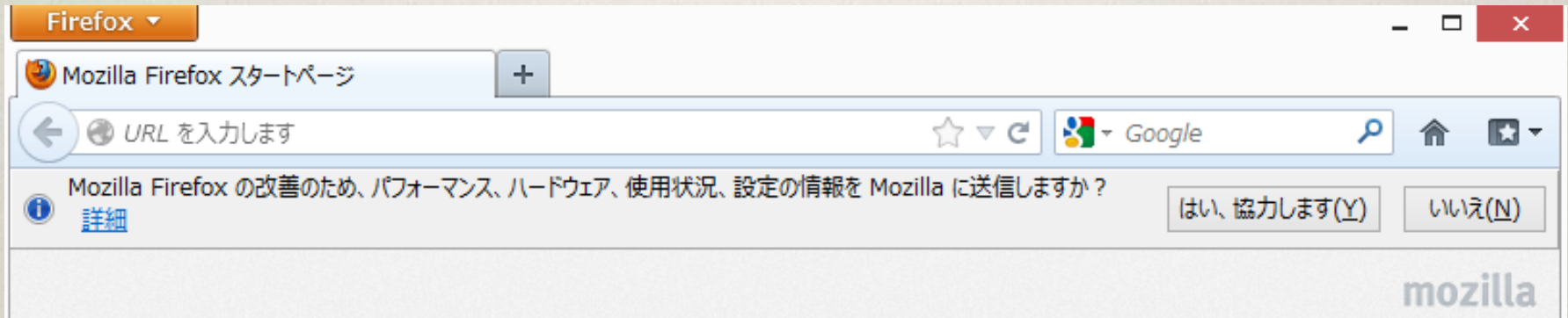 - Internet Explorer 9 or later

Navigation Timing

- domainLookupStart attribute

- domainLookEnd attribute
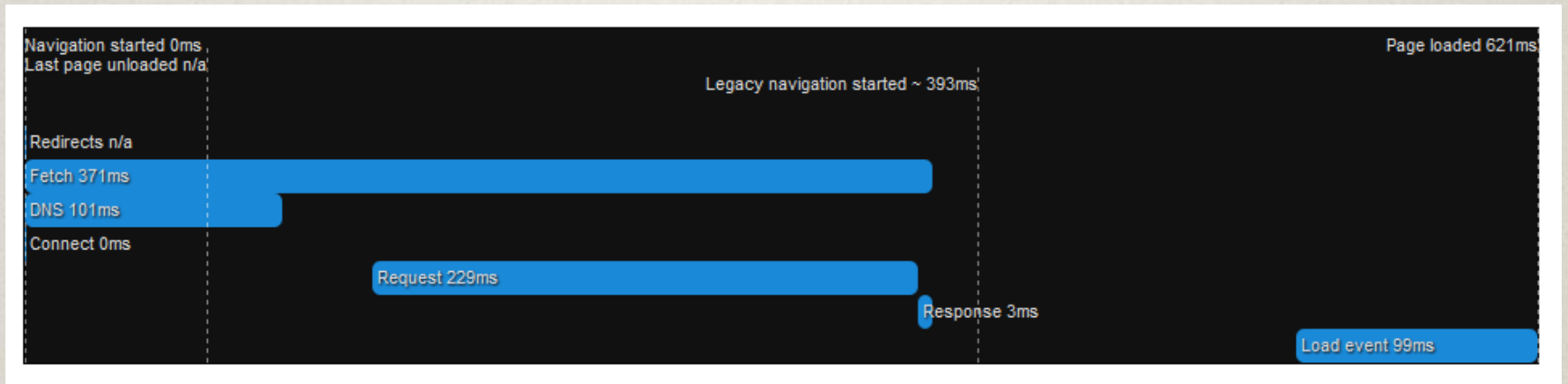
Telemetry

- No good benchmark to improve network performance

- Mozilla uses "Telemetry" to get many information on user environment

Telemetry Dashboard
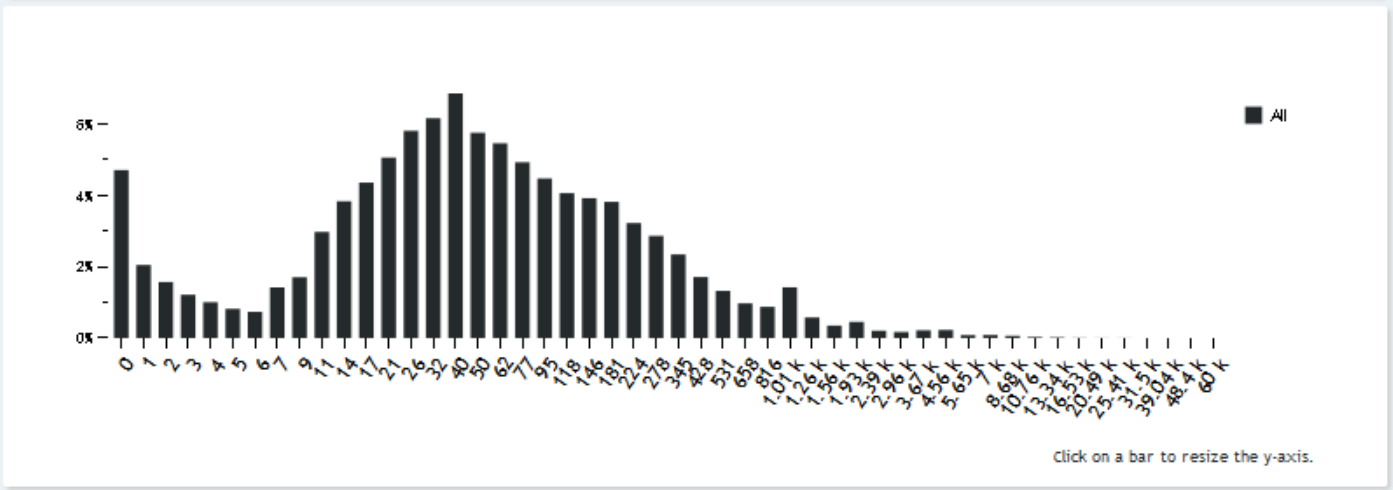
Telemetry for DNS

- DNS_CLEANUP_AGE

- DNS_FAILED_LOOKUP_TIME

- DNS_LOOKUP_METHOD2

- DNS_LOOKUP_TIME

- DNS_RENEWAL_TIME

IDN in Firefox

- IDN configuration per TLD

- network.IDN.whitelist.* for IDN white list

  - Ex. network.IDN.whitelist.xn--zckzah=true in about:config

- If using IDN with new gTLD, set it or request us via bugzilla.mozilla.org to add it to white list

Desktop Web Browser UX

- Address bar isn't only for URL

- Internet Explorer and Chrome remove search box, then merge it into address bar

  - Firefox.next might remove it?

- Safari and Opera still split search box and address bar

  - But user can search words into address bar

Mobile Web Browser UX

- Screen size is limited

  - No space for search box

  - Address bar is often hidden after completed

  - Slate device (7inch?) can have space for search box

- Difficult to input URL via Touch screen

  - Use suggestion service via Web?

  - Auto-detection whether URL or search word

Also…

- Firefox can customize UX/features via add-on

- DNSSEC Validator

  - https://addons.mozilla.org/ja/firefox/addon/dnssec-validator/

mozilla