

# Sweeping the .nz name space (zone and web scan)

.nz Registrar Conference  
Auckland - November 2014



# Agenda

- Zone scan
  - Methodology
  - A year worth of results
  - DNSSEC adoption
  - IPv6 adoption
  - Mail services market share
- Web scan
  - Methodology
  - Some early results

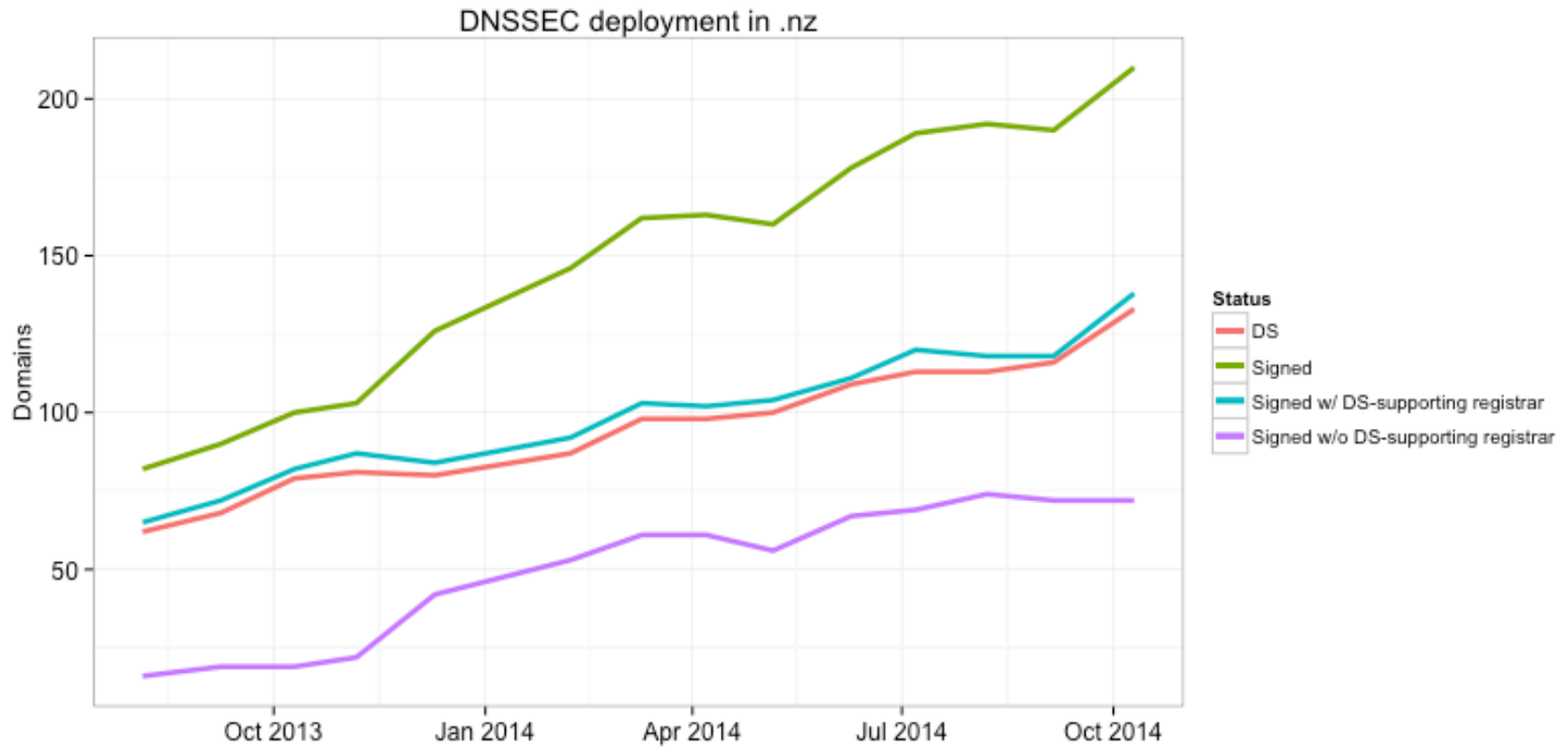


# Zone scan

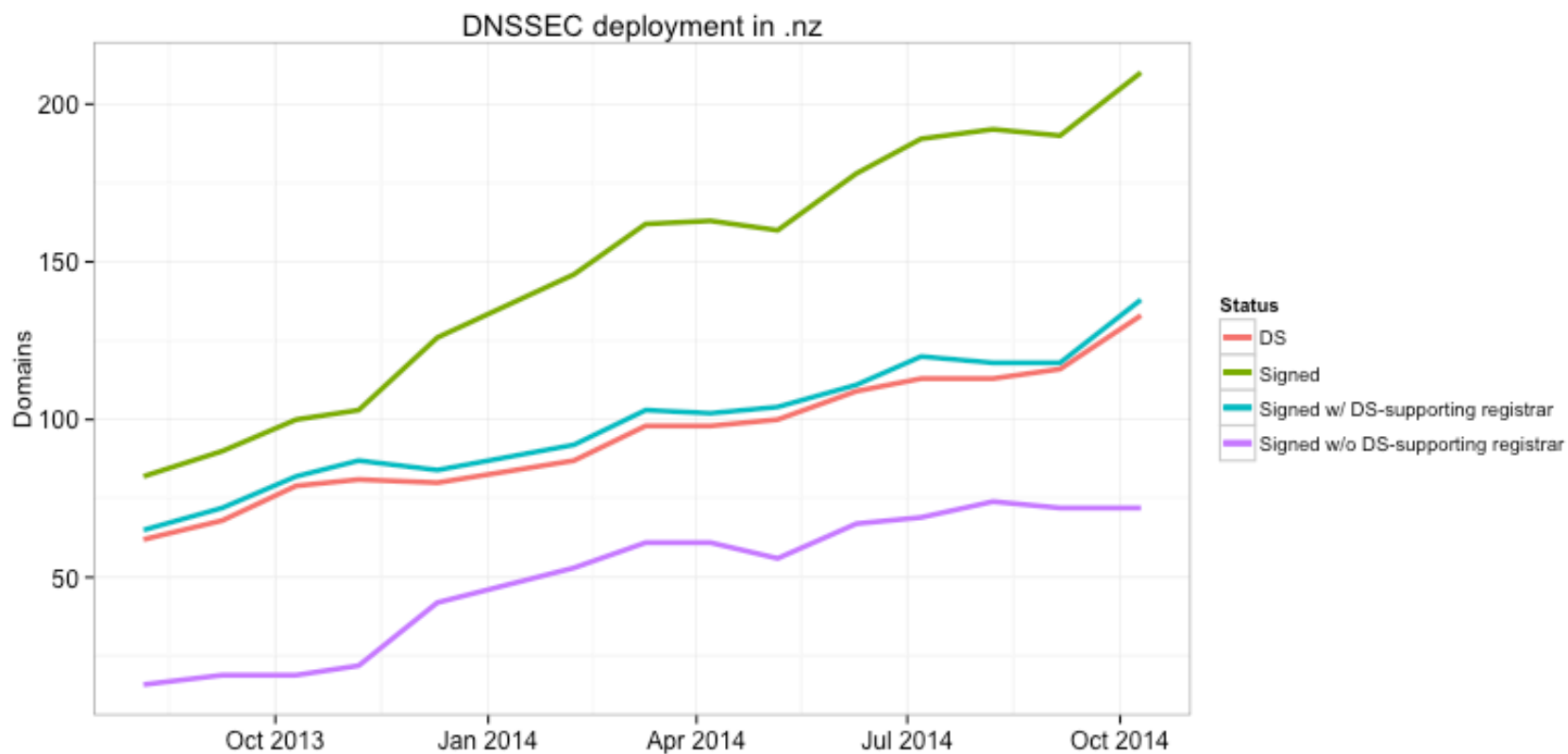
- Started on Aug 2013
- Governed by policy  
<https://nzrs.net.nz/dns/zone-and-host-scanning>
- Takes a few days to run
  - Not optimized for speed
- Several tests for correctness + data gathering
- Originated from **zonescan.nzrs.net.nz**
- Uses **dnscheck** from .SE, plus local modifications
  - Will be obsoleted by **Zonemaster**
- Stored in the Hadoop cluster: 120Gb



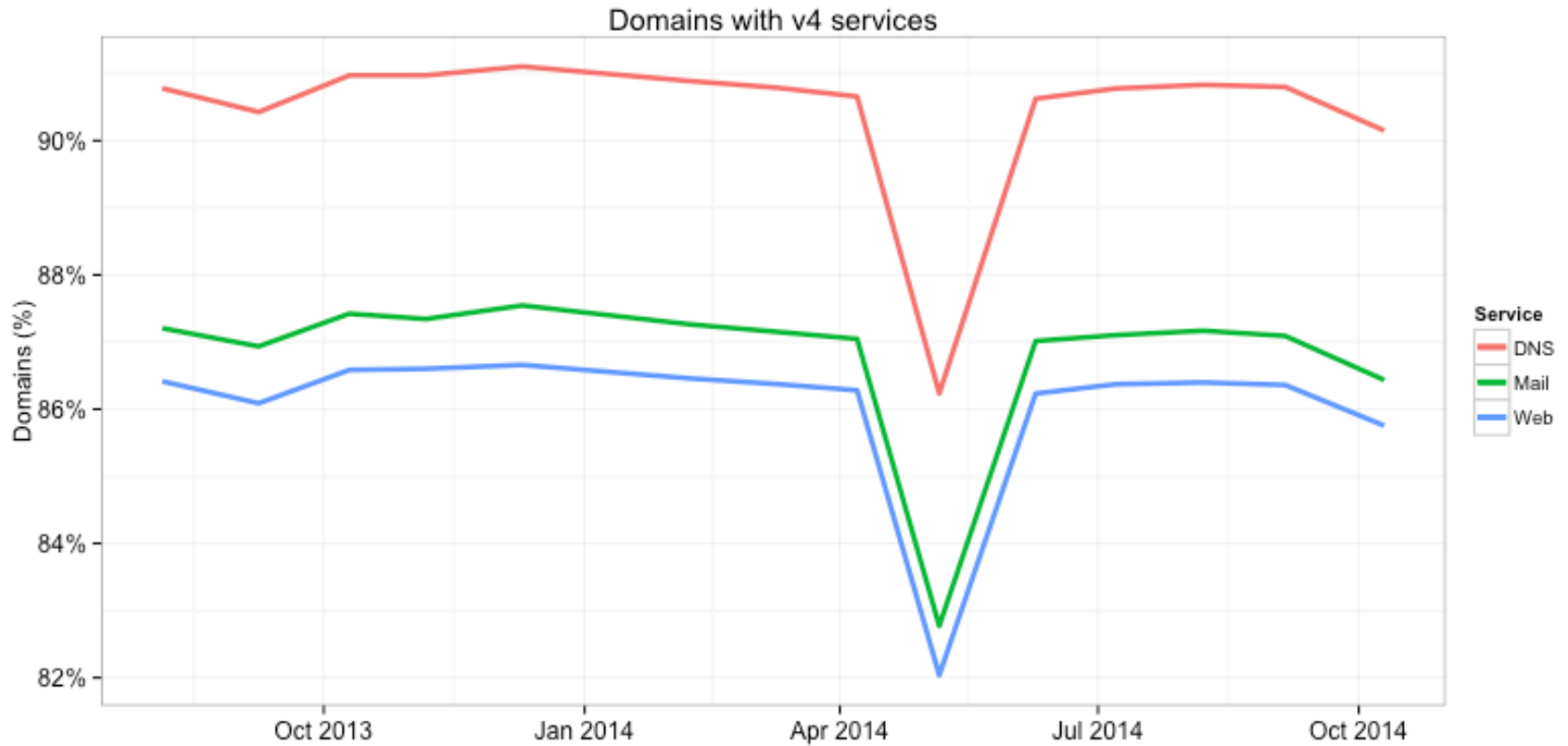
# Zone scan – General Status



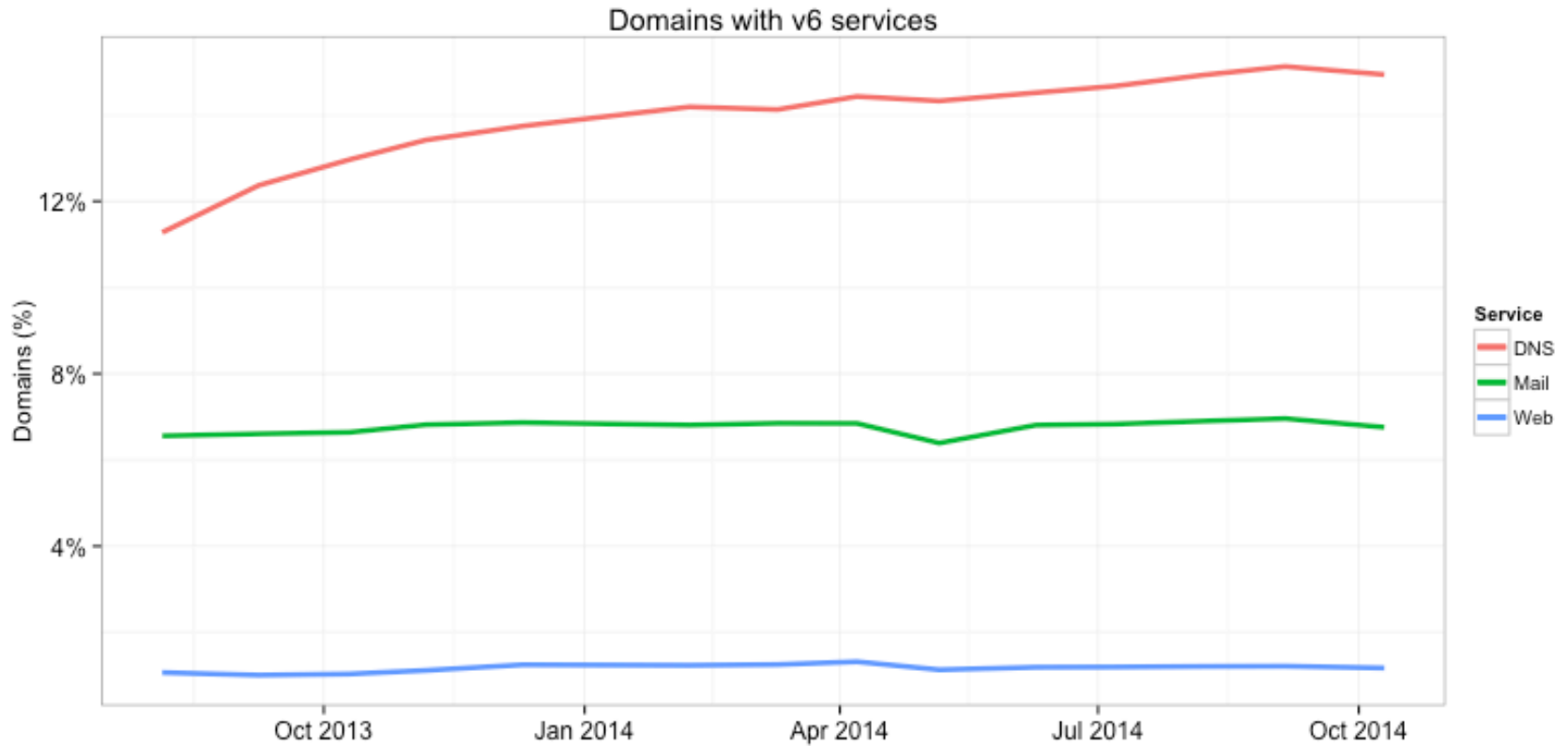
# Zone scan – DNSSEC adoption



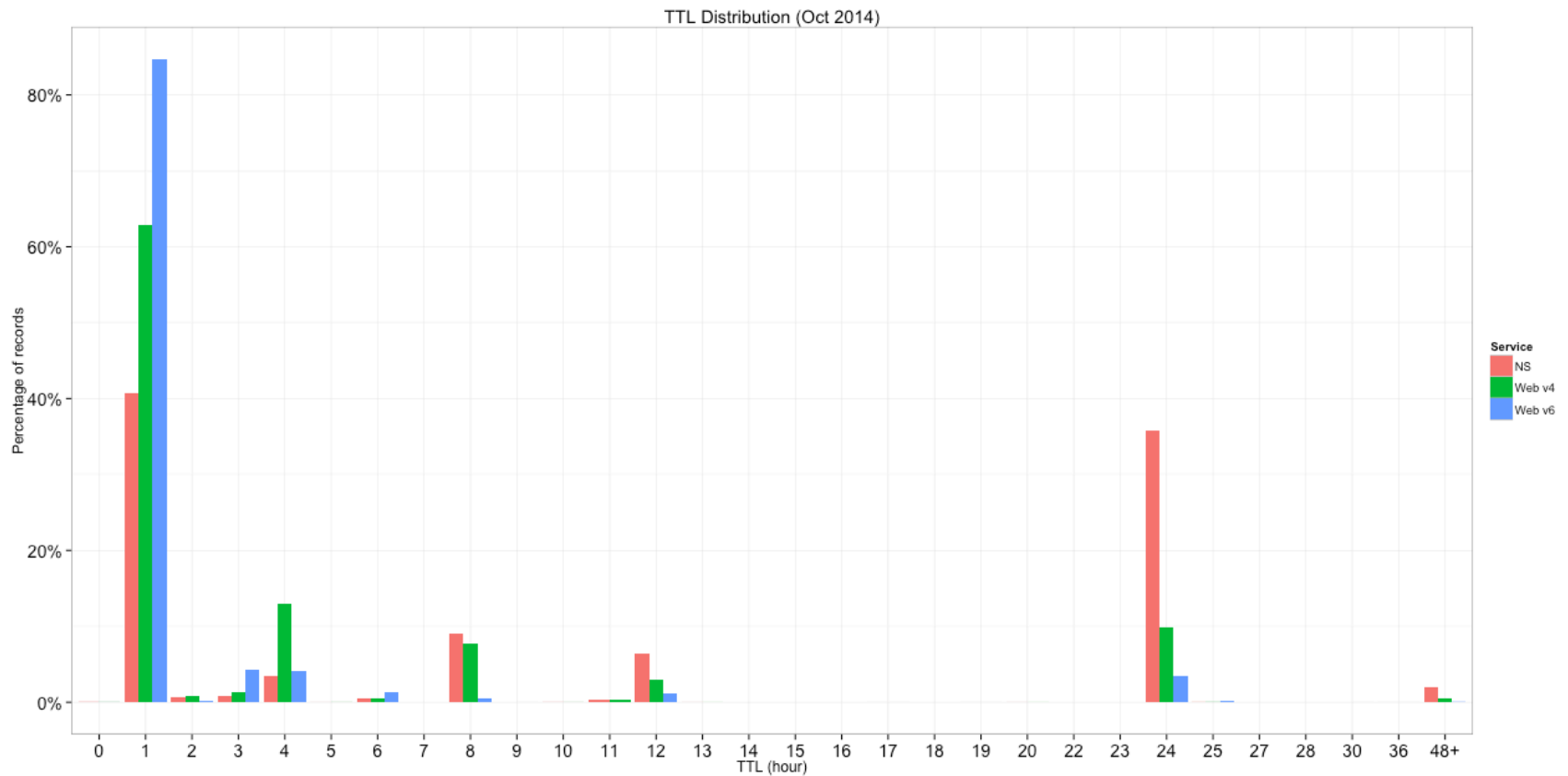
# Zone scan – v4 status



# Zone scan – v6 status



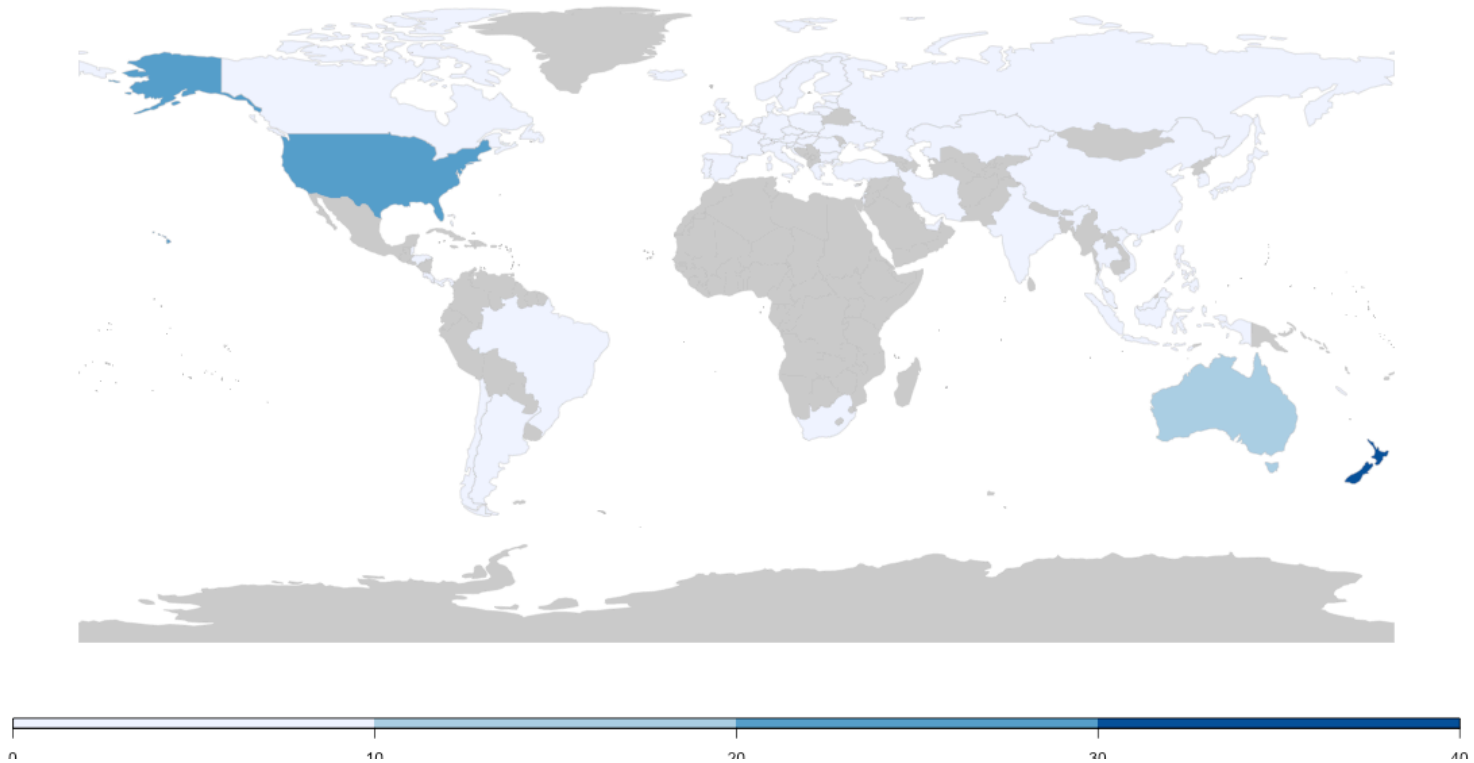
# Zone scan - TTLs





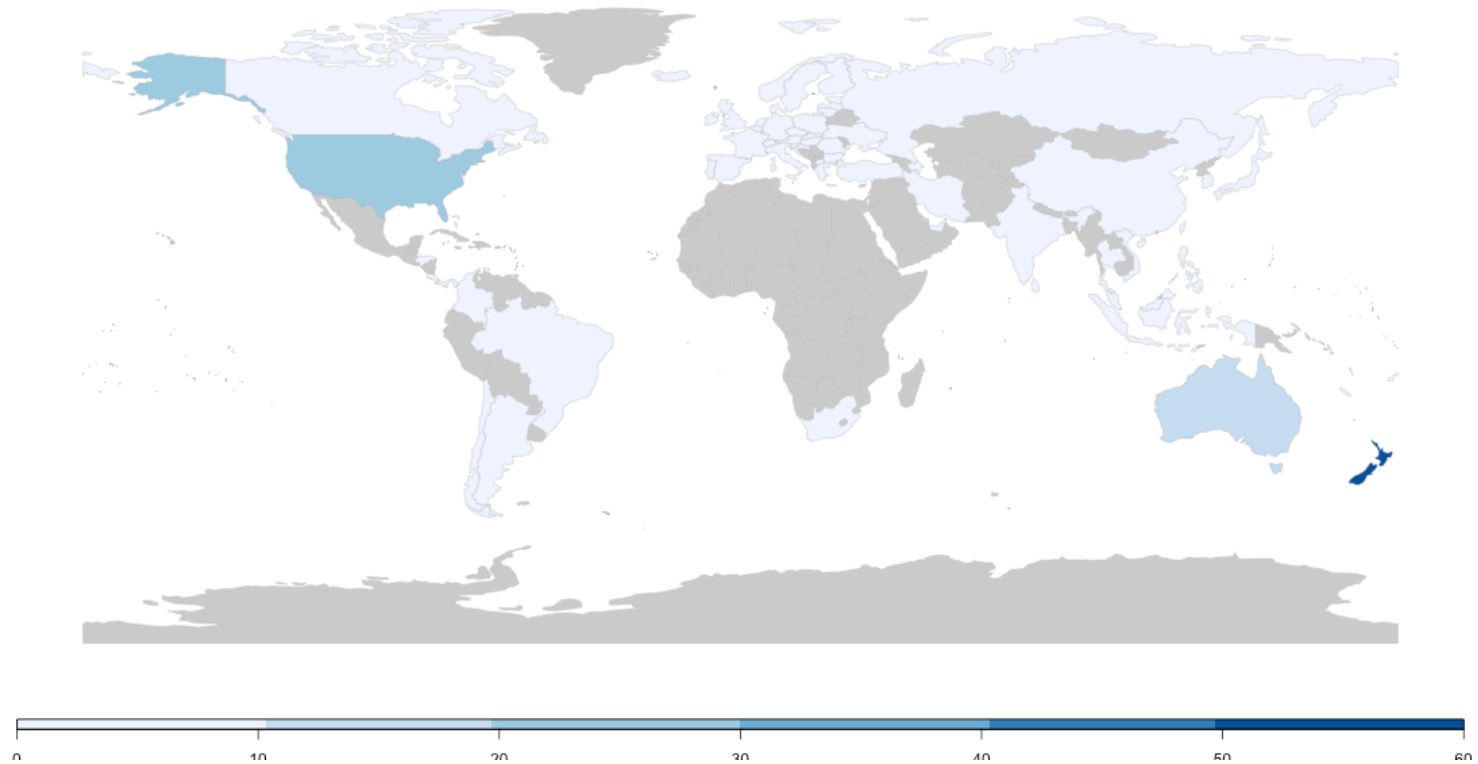
# Zone scan – Maps!

Location of name servers



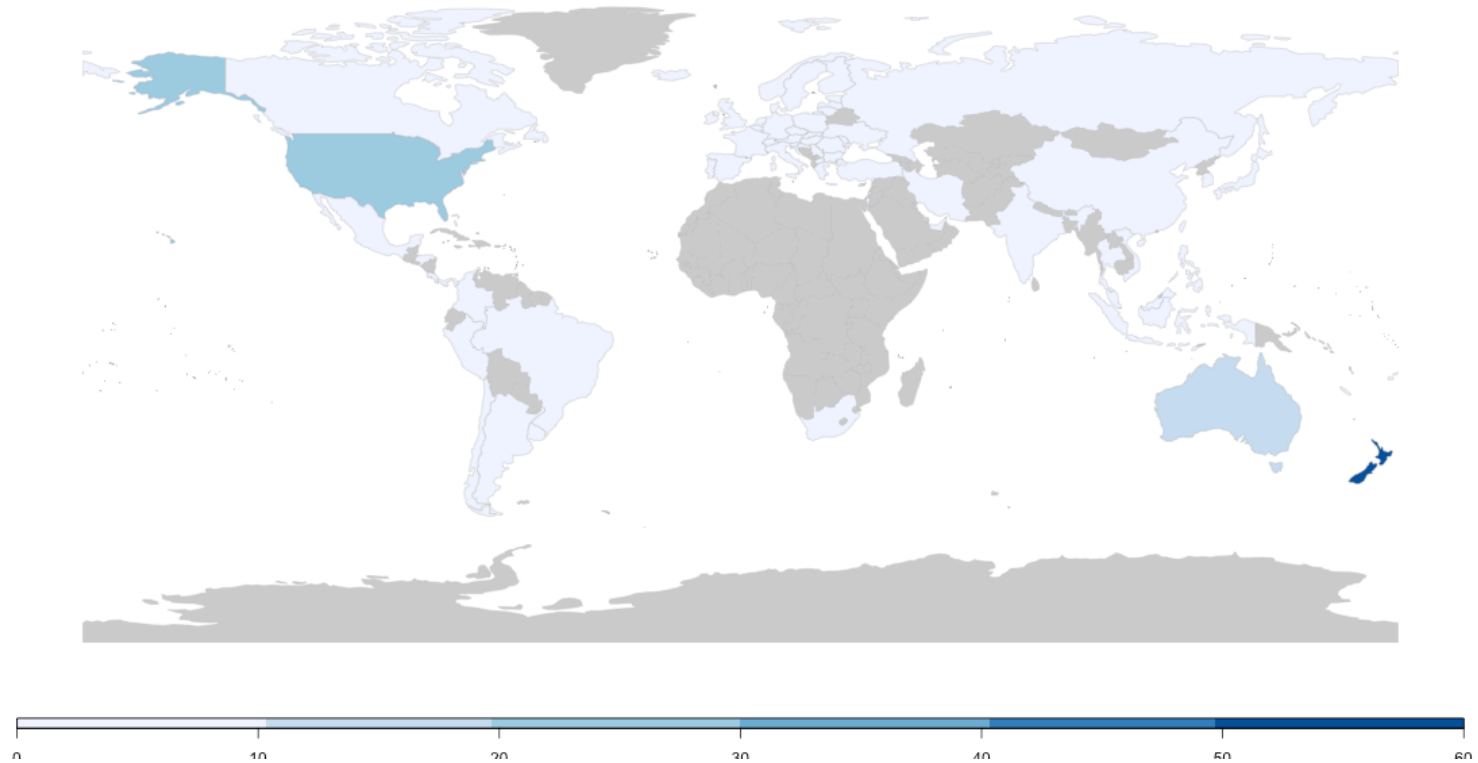
# Zone scan – Maps!

Location of mail servers

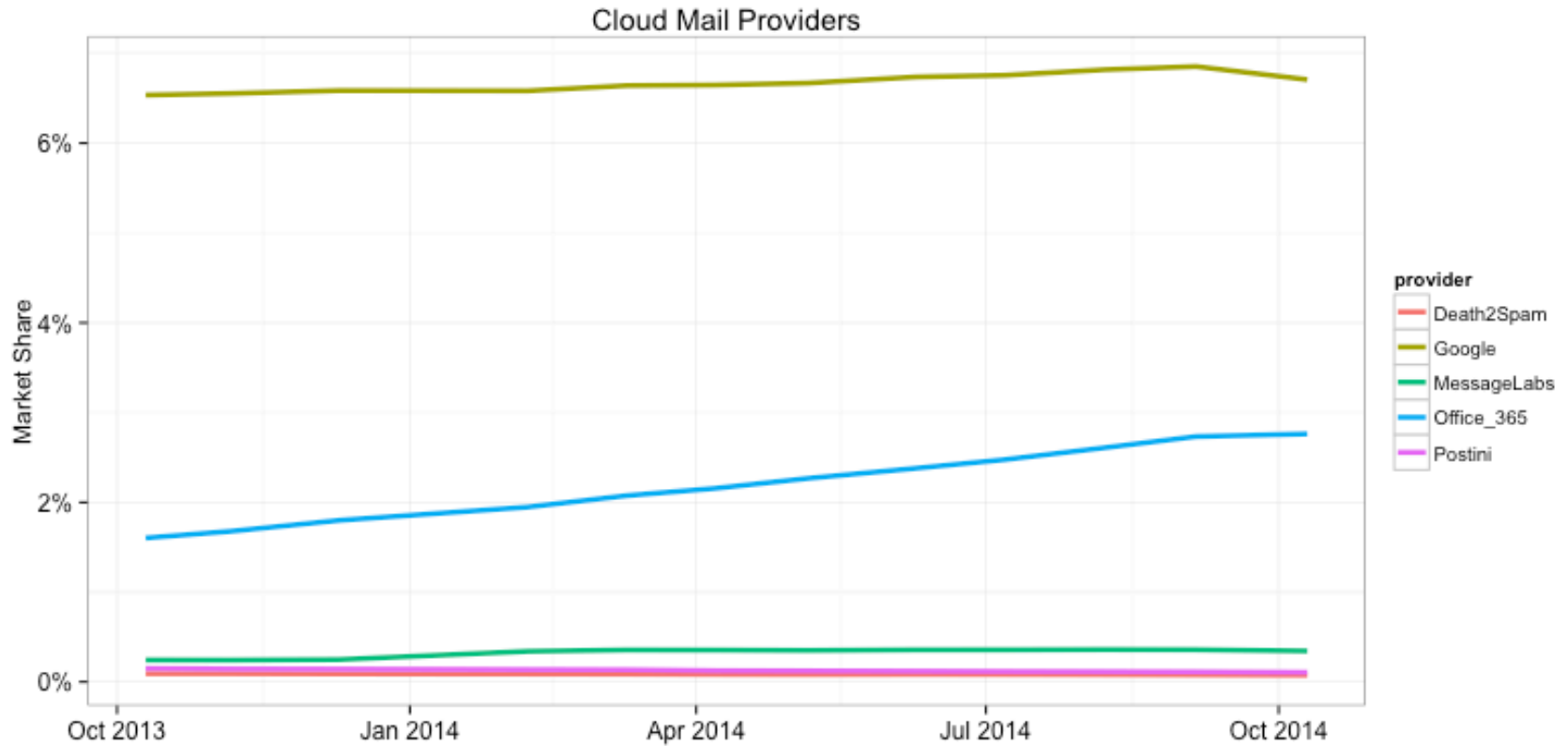


# Zone scan – web servers

Location of web servers



# Zone scan – mail services market share



# Zone scan - future

- Keep the gathering, make some of the data publicly available
- Fetch more interesting stuff, like DANE adoption
- Analysis of Geo-location of services

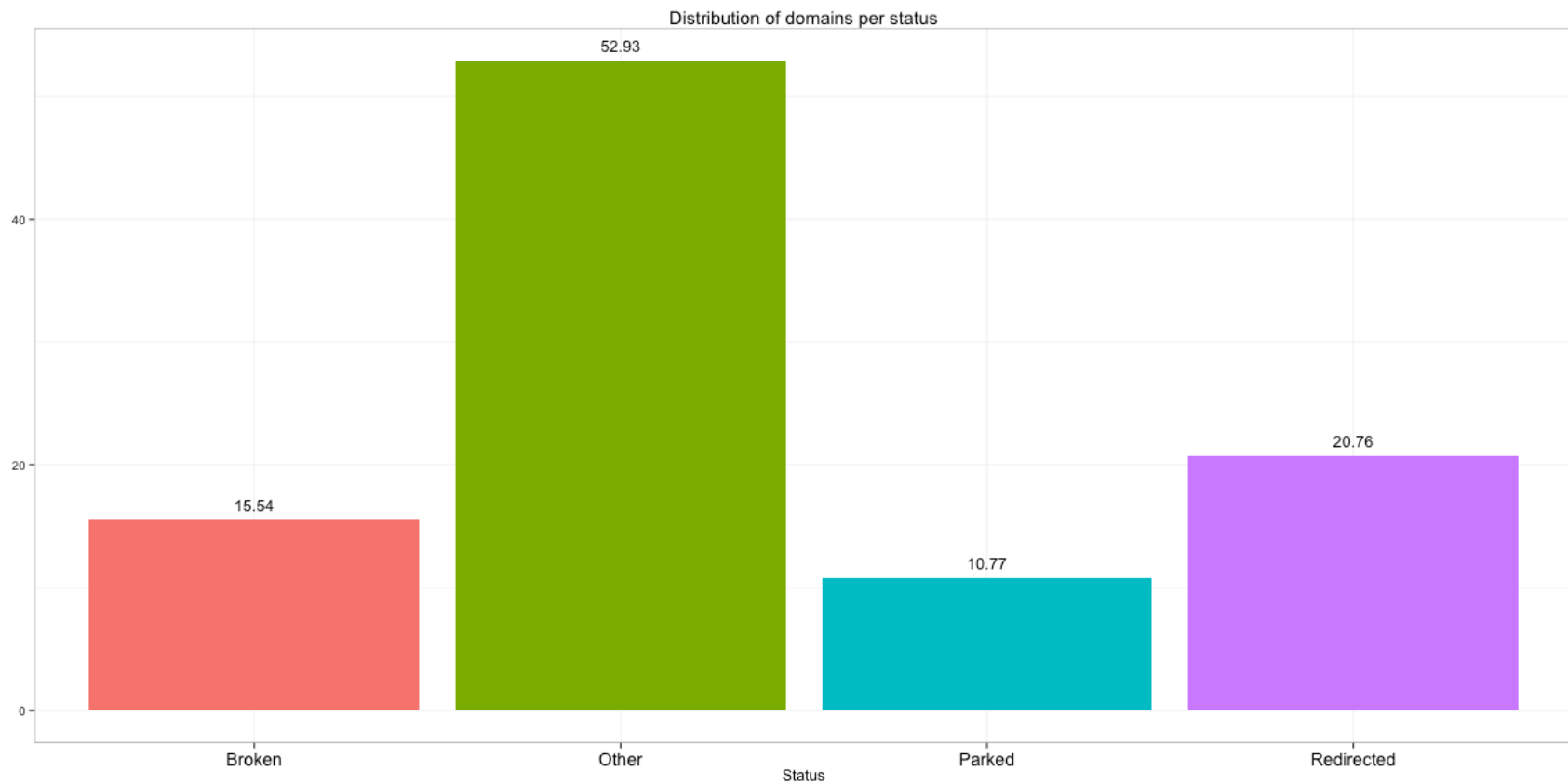


# Web scan - Introduction

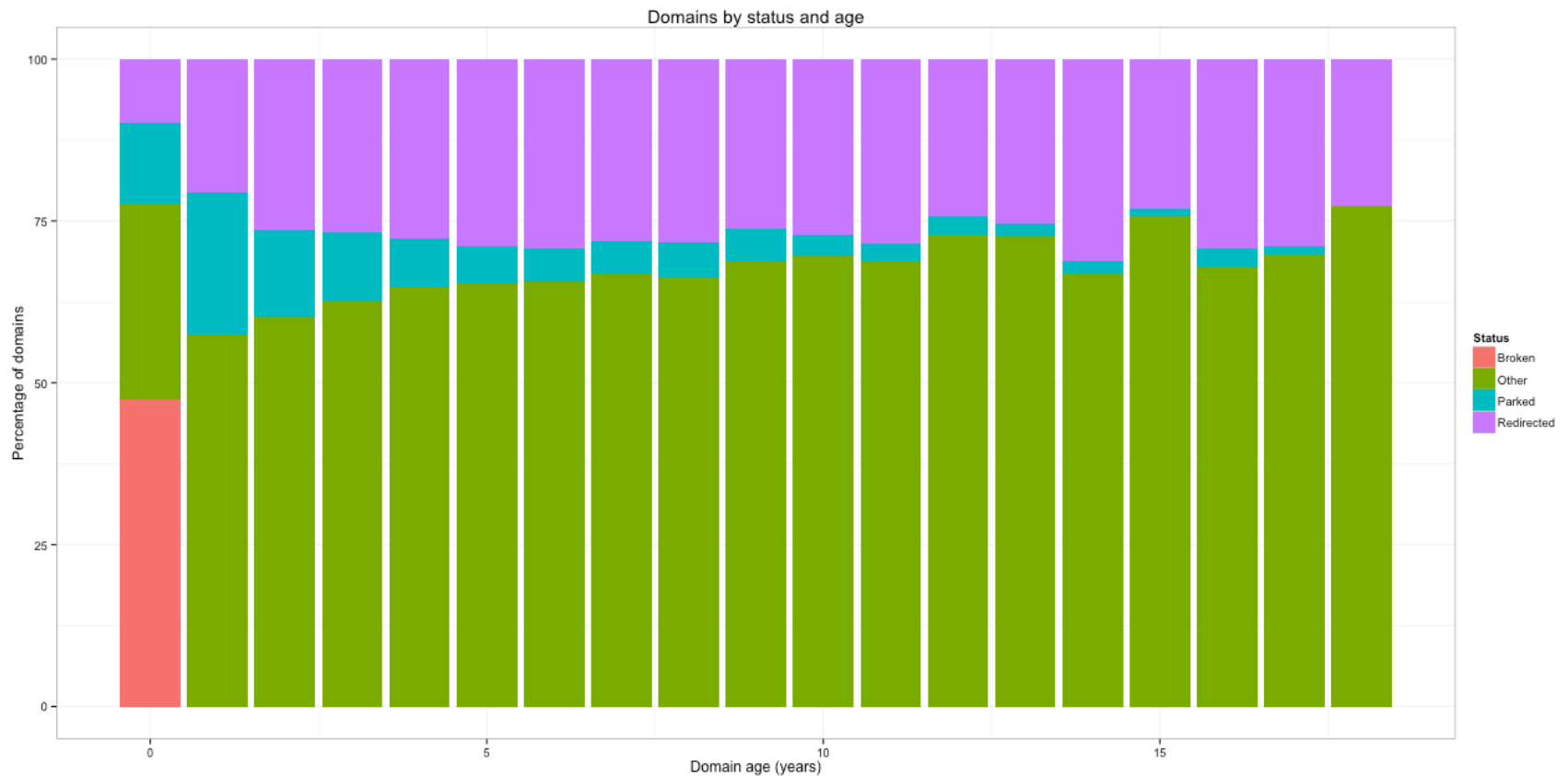
- For all .nz domains, tries to fetch the main page (www.\$domain)
- Implemented internally in Python
- First test run using random 10% sample of domains in September 2014
- Objective: Understand more about what domains are used for



# Web scan – Result overview

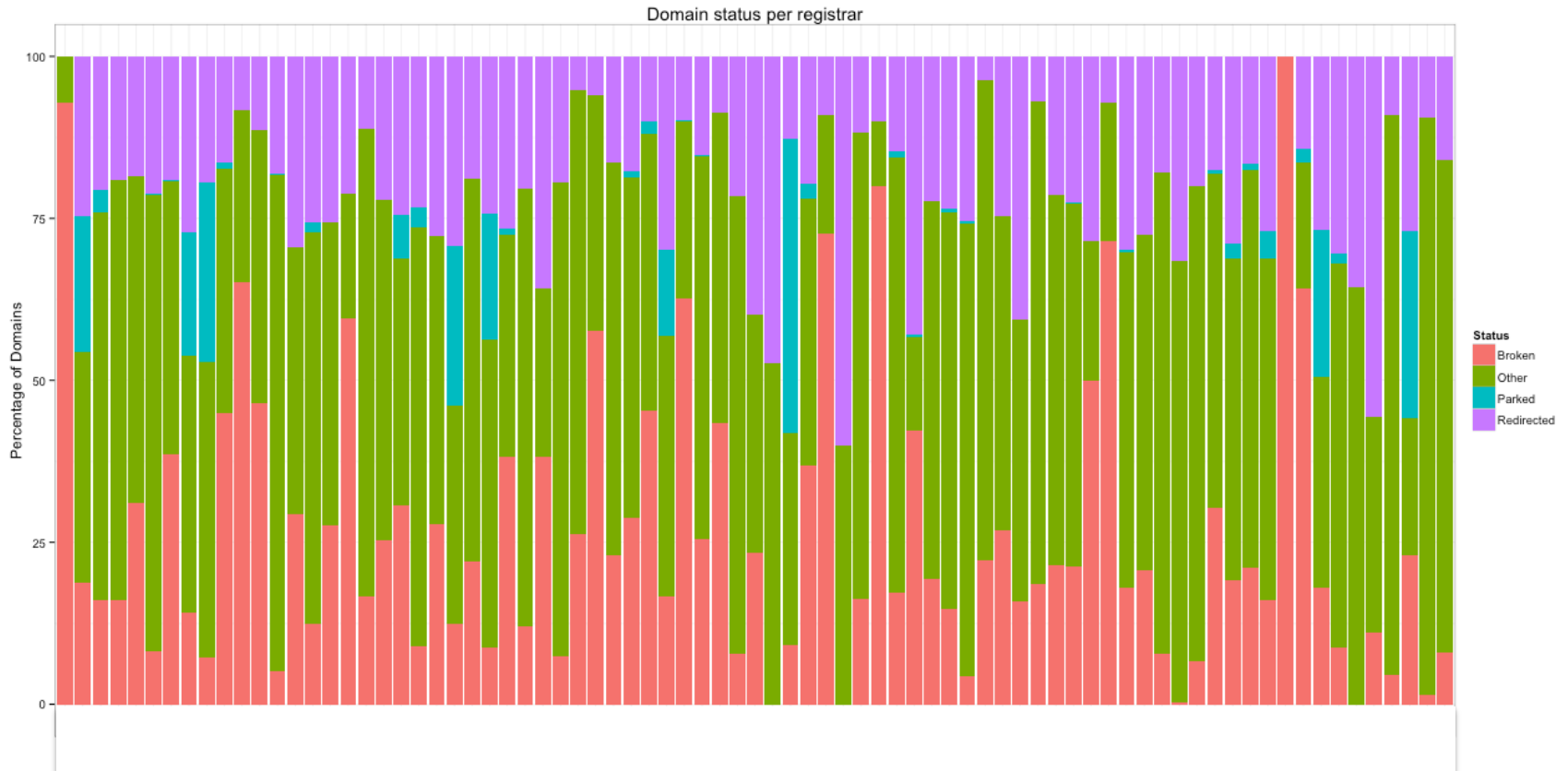


# Web scan – Status vs. age

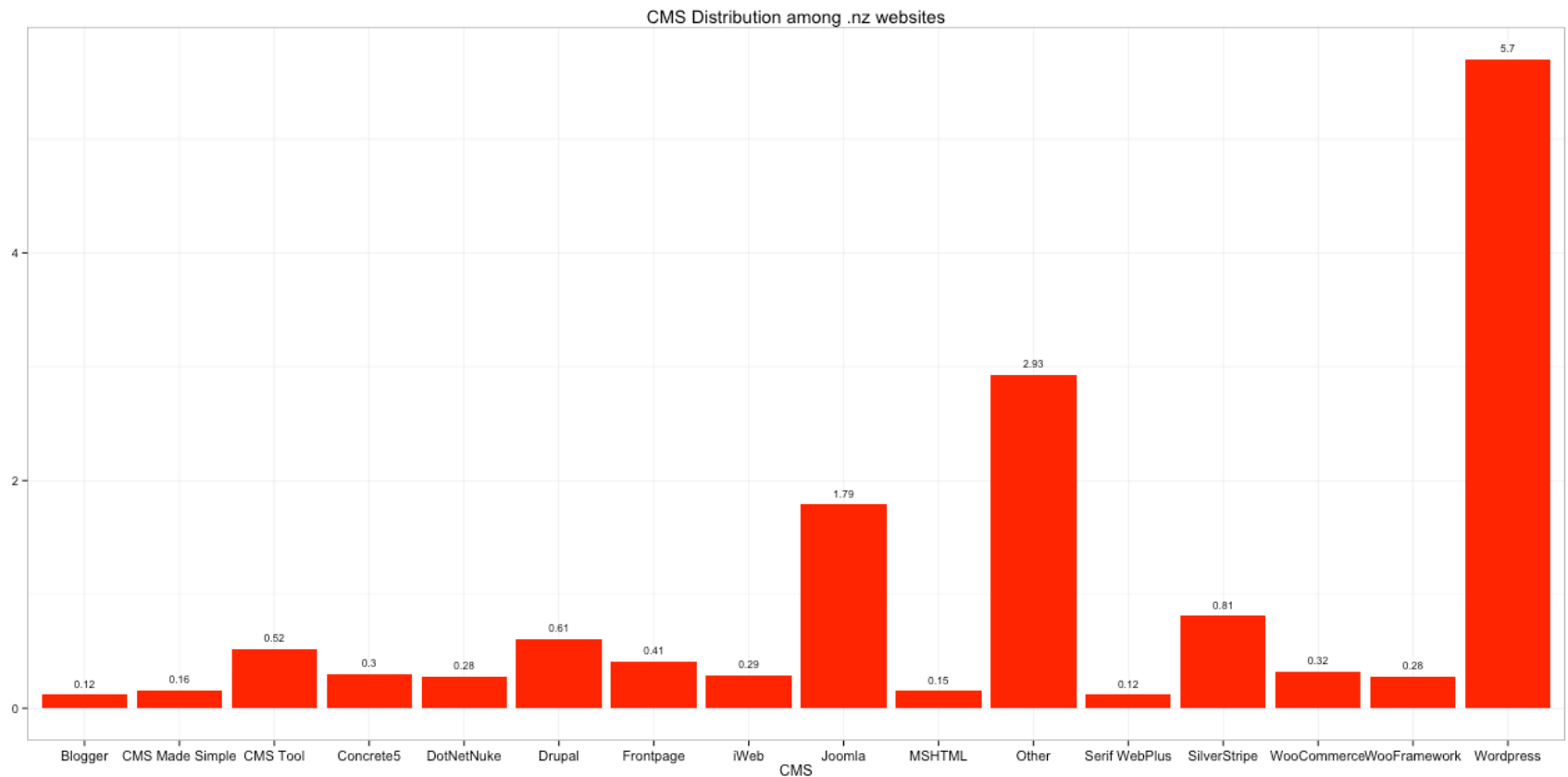




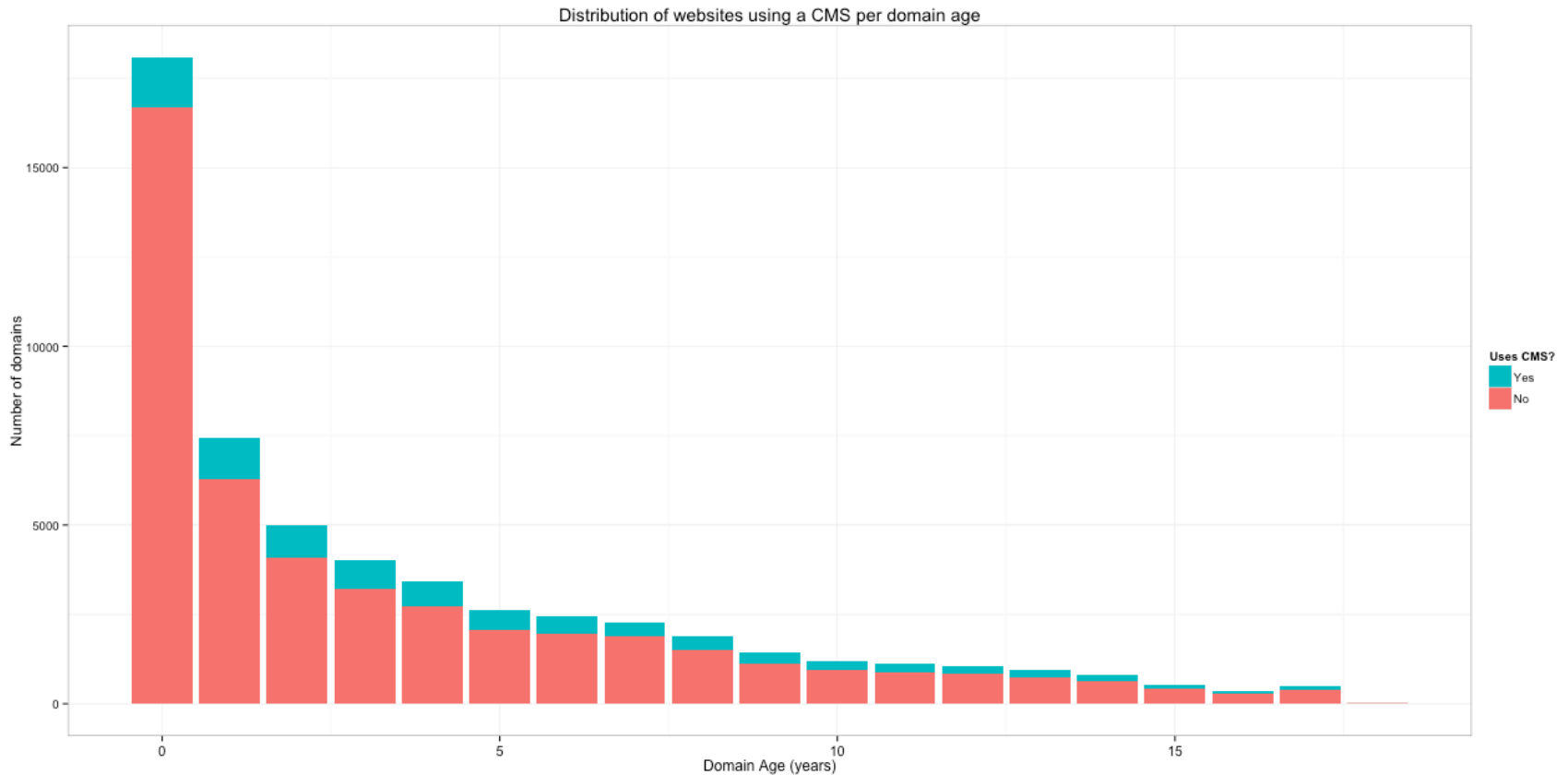
# Webscan – Status vs. registrar



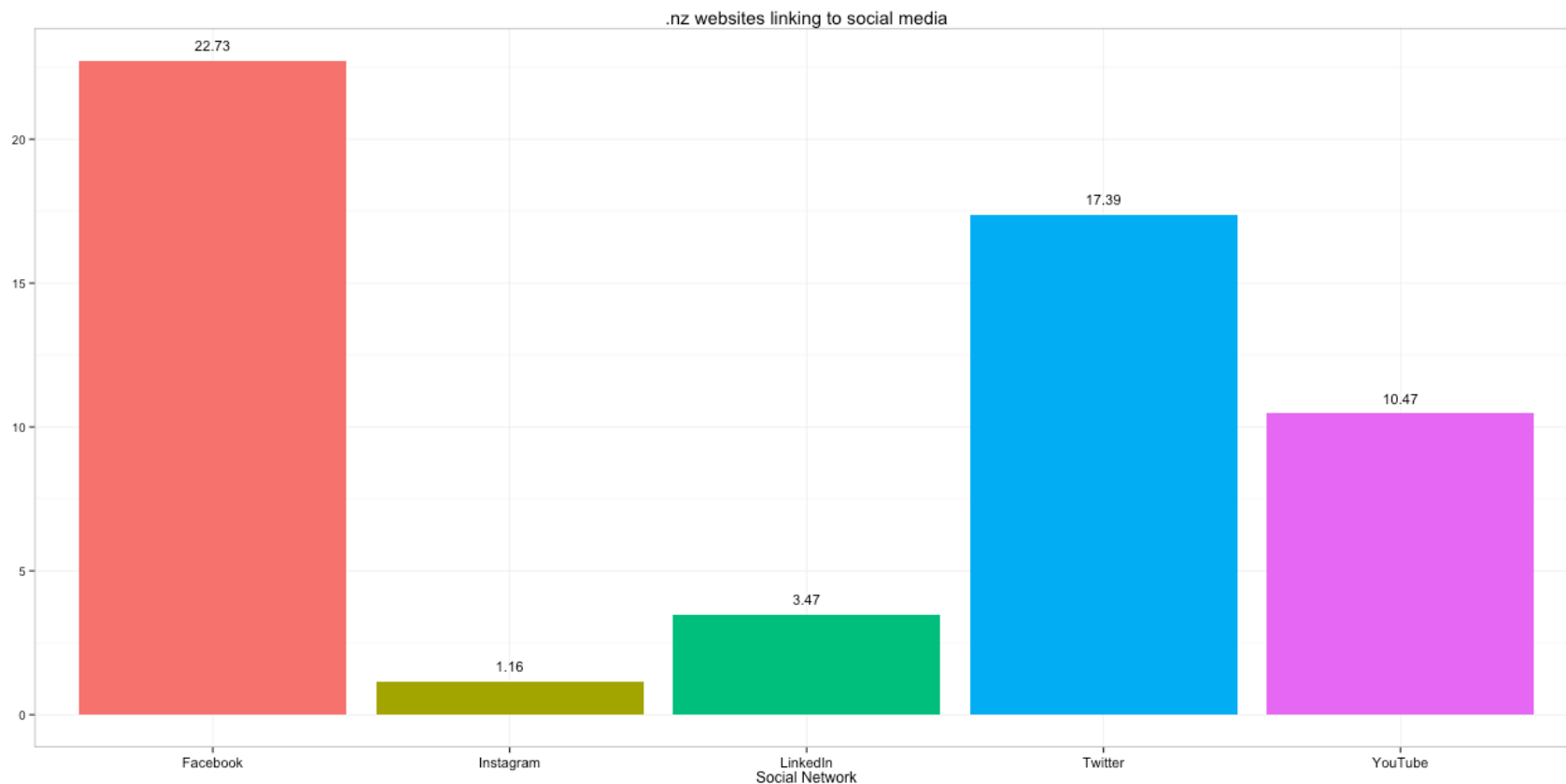
# Webscan – CMS detection



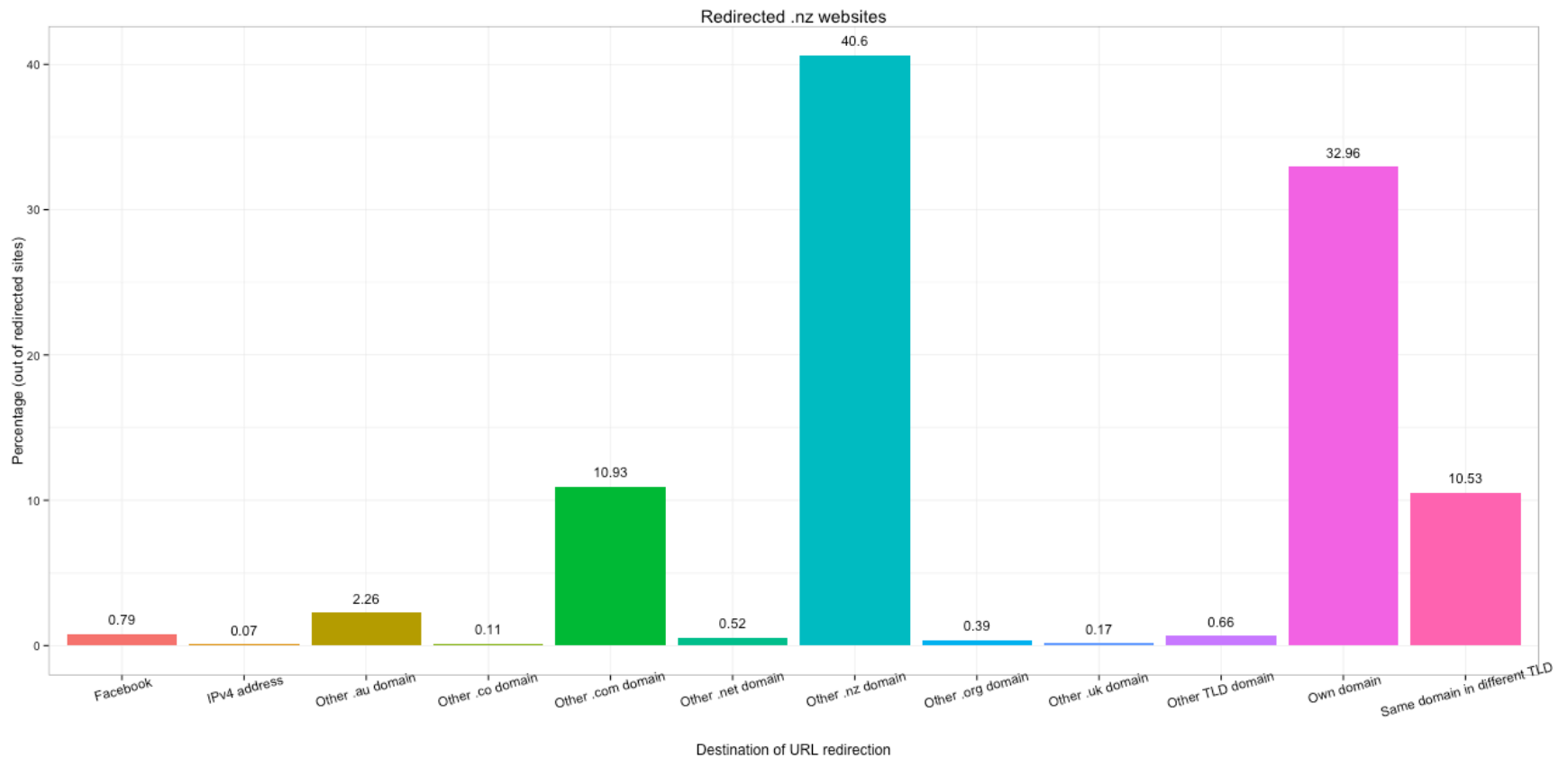
# Web scan – CMS vs Age



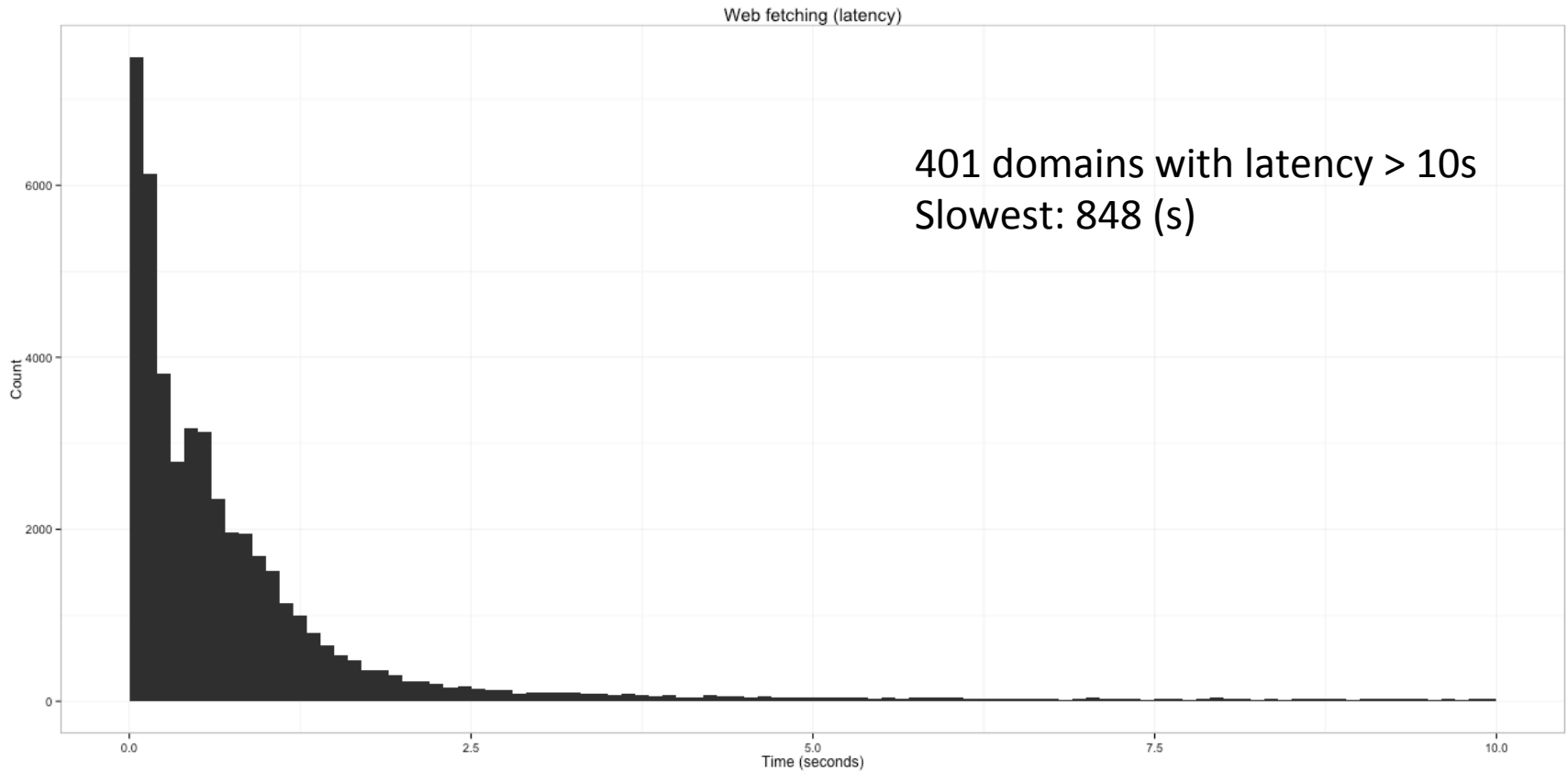
# Web scan – Social Media



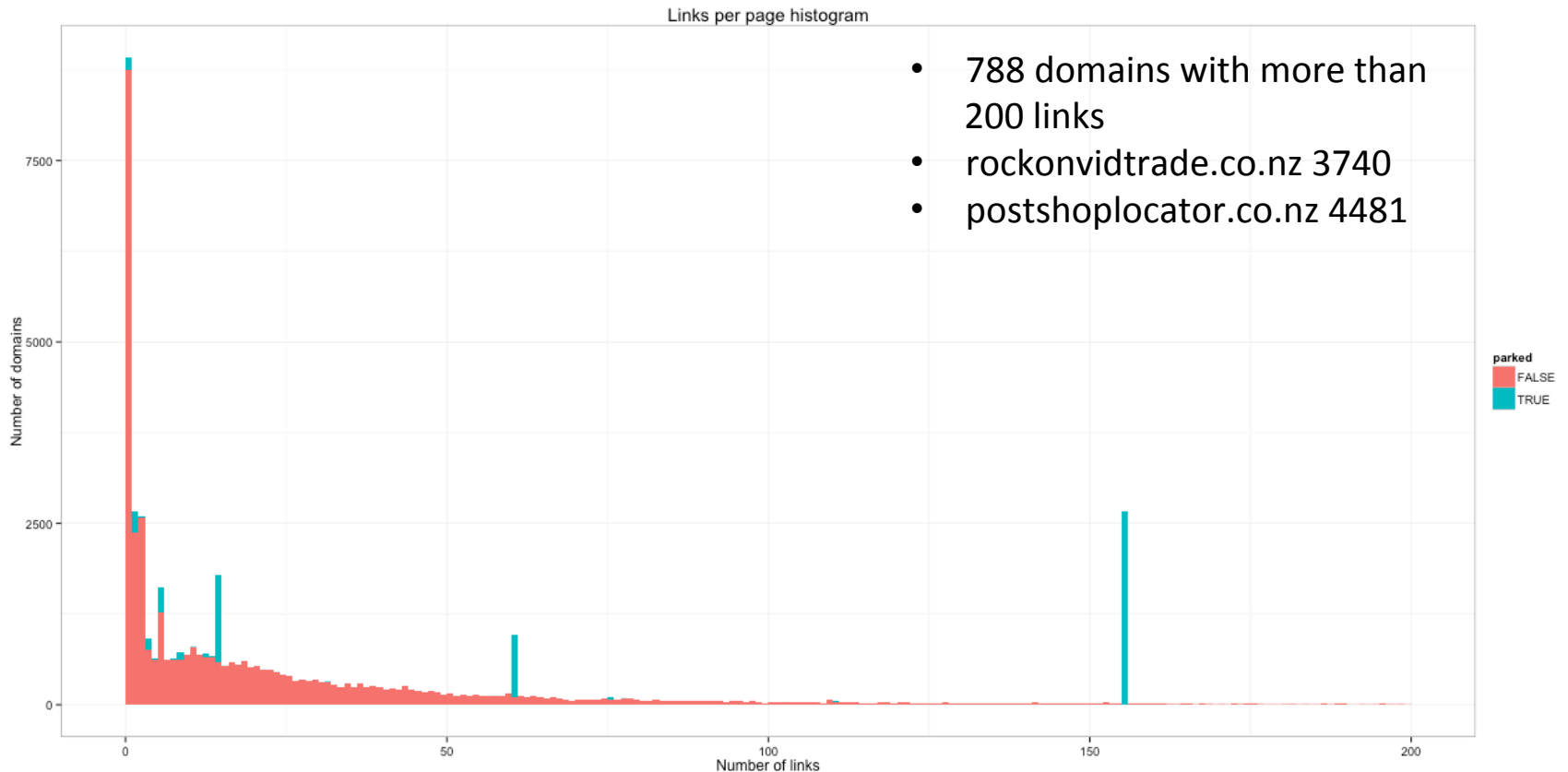
# Web scan - Redirection



# Web scan – Page latency



# Web scan – Number of links



# Web scan - future

- Run with the full list of domains
- Technical improvements
  - Split latency by DNS + HTTP
  - Follow iframes
  - Understand more of domains by text analysis
  - Visualization of page interlinking
- Focus in the deep web scan

