

Public DNS Resolver Usage in LAC

A follow up to OCTO-032

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IDNS Week 2024

23 September 2024



Motivation

- ⦿ OCTO published a study in 2022 “DNS Resolver Usage in the EU” OCTO-032.
- ⦿ OCTO received a request to make a follow-up study, this time focusing on other regions.
- ⦿ This work was undertaken as a response to that request.

How to Measure DNS Resolver Usage?

- DNS resolver operators do not provide statistics
 - Need external measurement system
 - Beware of selection bias!
 - Need very large number of measurements of a daily basis
- Partnership with APNIC labs

Methodology

- Based on APNIC labs / Geoff Huston data
 - From 04/01/2024 to 07/31/2024
- Different approach from the 2022 study (OCTO-032):
 - Start from list of very large operators
 - Brake it down between Broadband and Cellular
 - Compare with selected EU operators
 - Only focus on public resolvers (not in-country/out-of-country)
- Expectations going into the study:
 - similar results than in 2022 (4%, mostly to Google public DNS)
 - Maybe bumped up a little
 - Maybe derive a different profile for Cellular vs Broadband
- Pitfalls
 - Some operators use multiple ASNs due to mergers & acquisitions
 - Some operators use the same ASN for both B2C and B2B

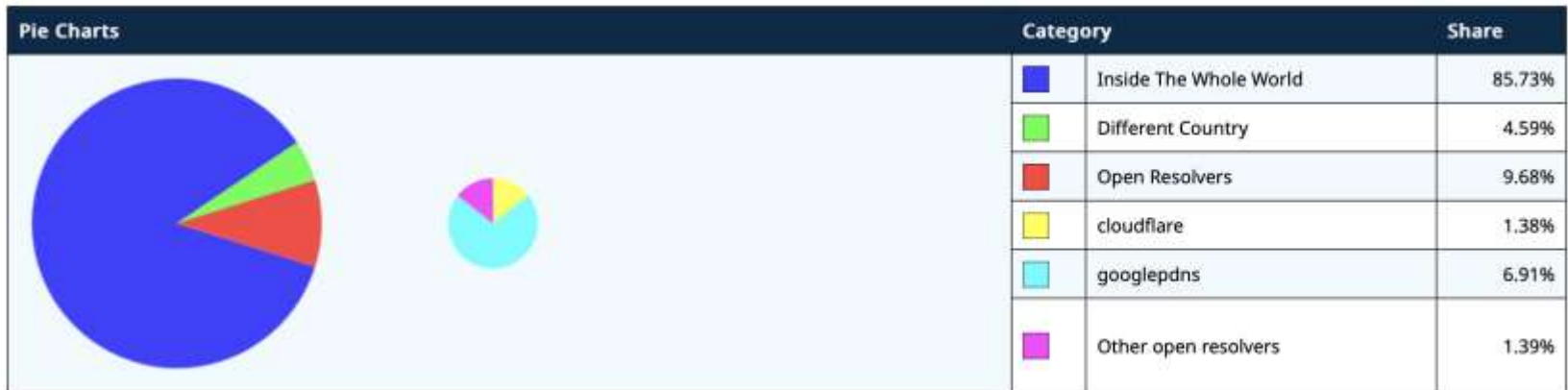
List of Public Resolvers

- 114 DNS
- AliDNS
- Alternate DNS4
- Baidu DNS
- CleanBrowsing
- Cloudflare (commonly called 1.1.1.1)
- Comodo Secure DNS
- CNNIC SDNS
- DNS PAI
- DNSPod
- DNS.Watch
- Oracle Dyn
- Free DNS
- Freenom World
- Google Public DNS
(commonly called 8.8.8.8)
- Green Team DNS
- Hurricane Electric DNS
- Level 3
- Neustar
- One DNS
- OpenDNS
- Open NIC
- puntCAT
- Quad9
- SafeDNS
- TWNIC Quad 101
(101.101.101.101)
- Uncensored DNS
- Verisign Open DNS
- Yandex DNS

Reference Point: Worldwide Public Resolver Usage

9.7%

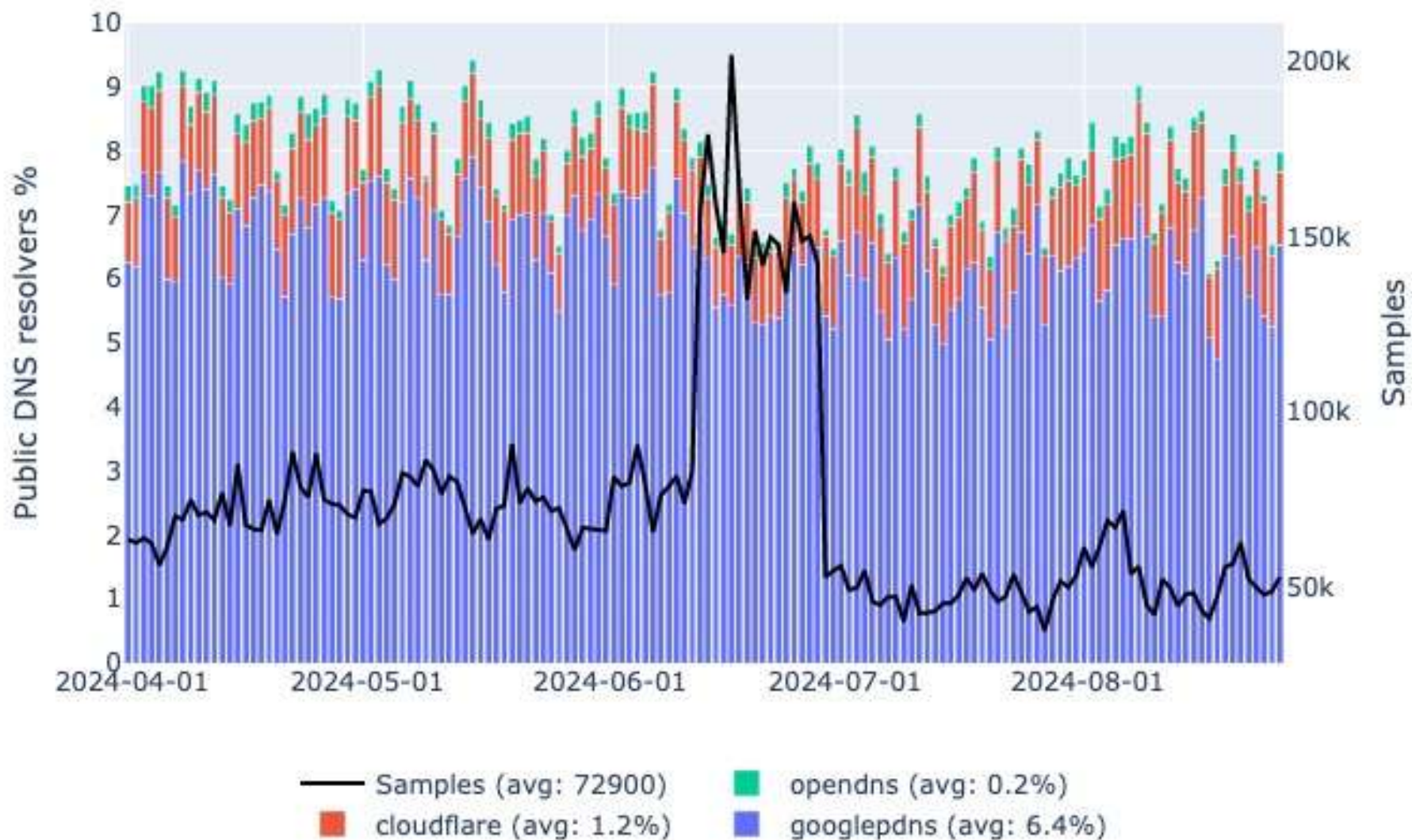
Source: <https://ithi.research.icann.org/graph-m10.html>



Argentina

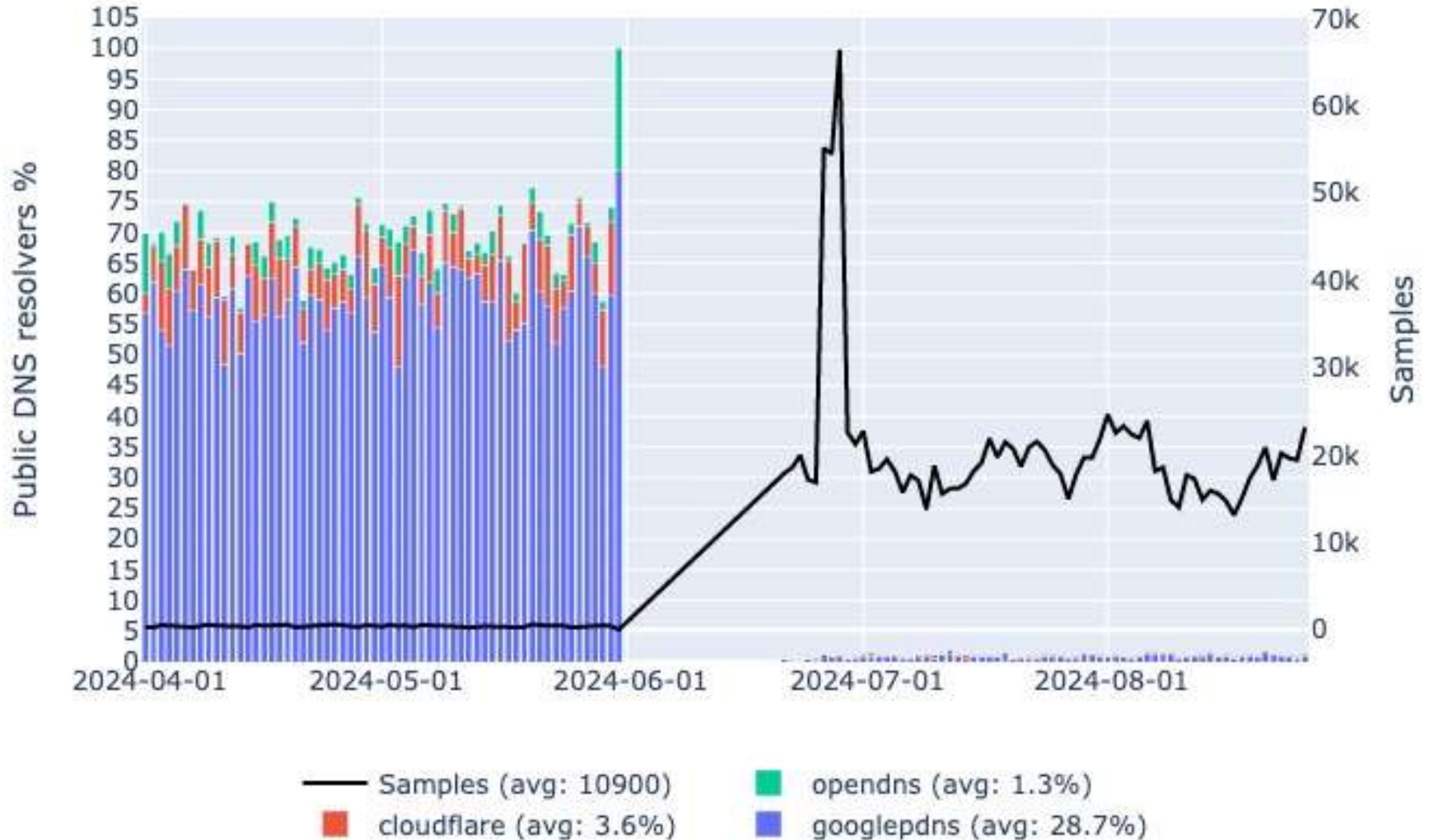
Telecom Argentina: 7.8%

AS7303 Telecom Argentina S.A. Broadband: 7.8%



AMX Argentina: 65% to 1%

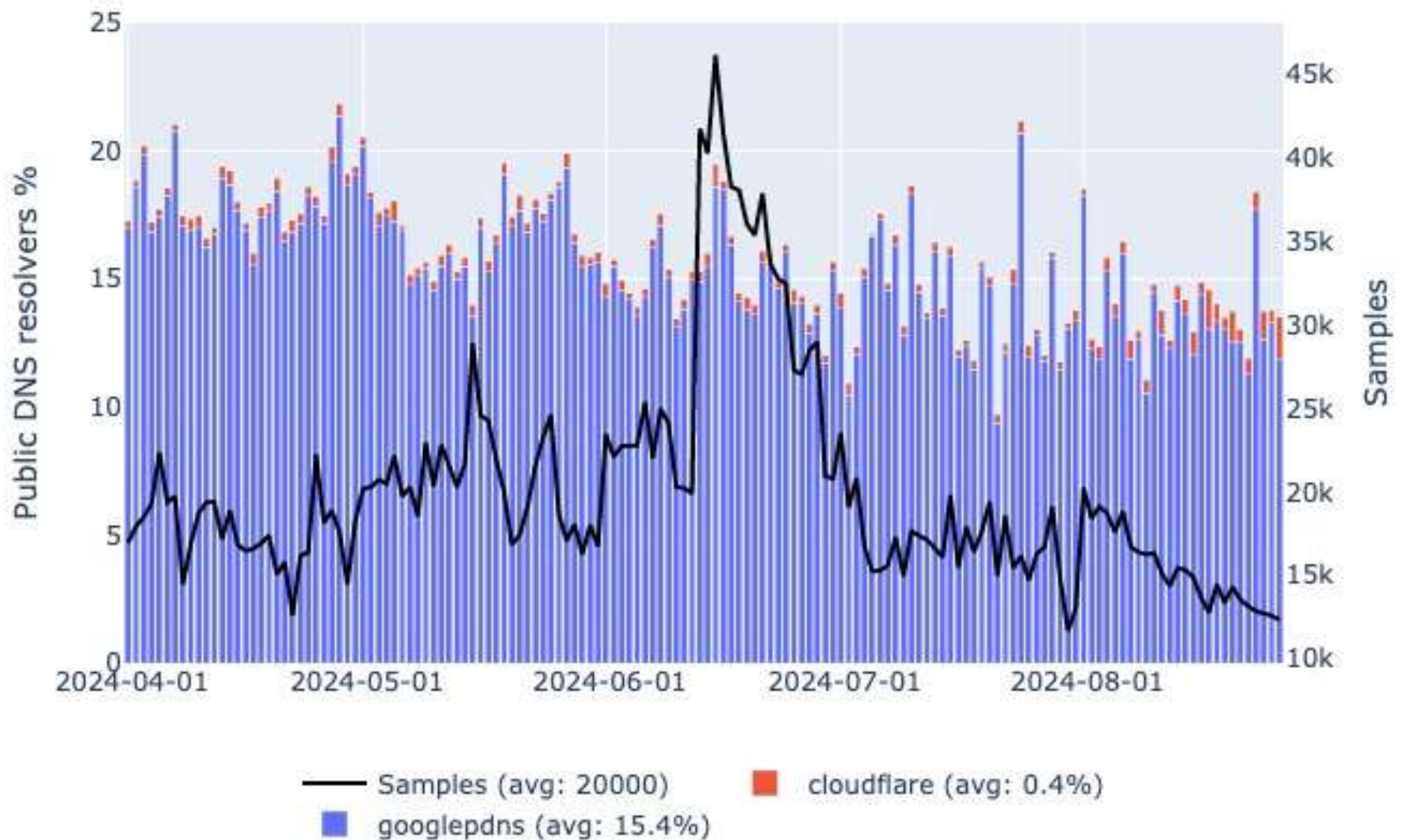
AS19037 AMX Argentina S.A. Cellular: 33.6%



Bolivia

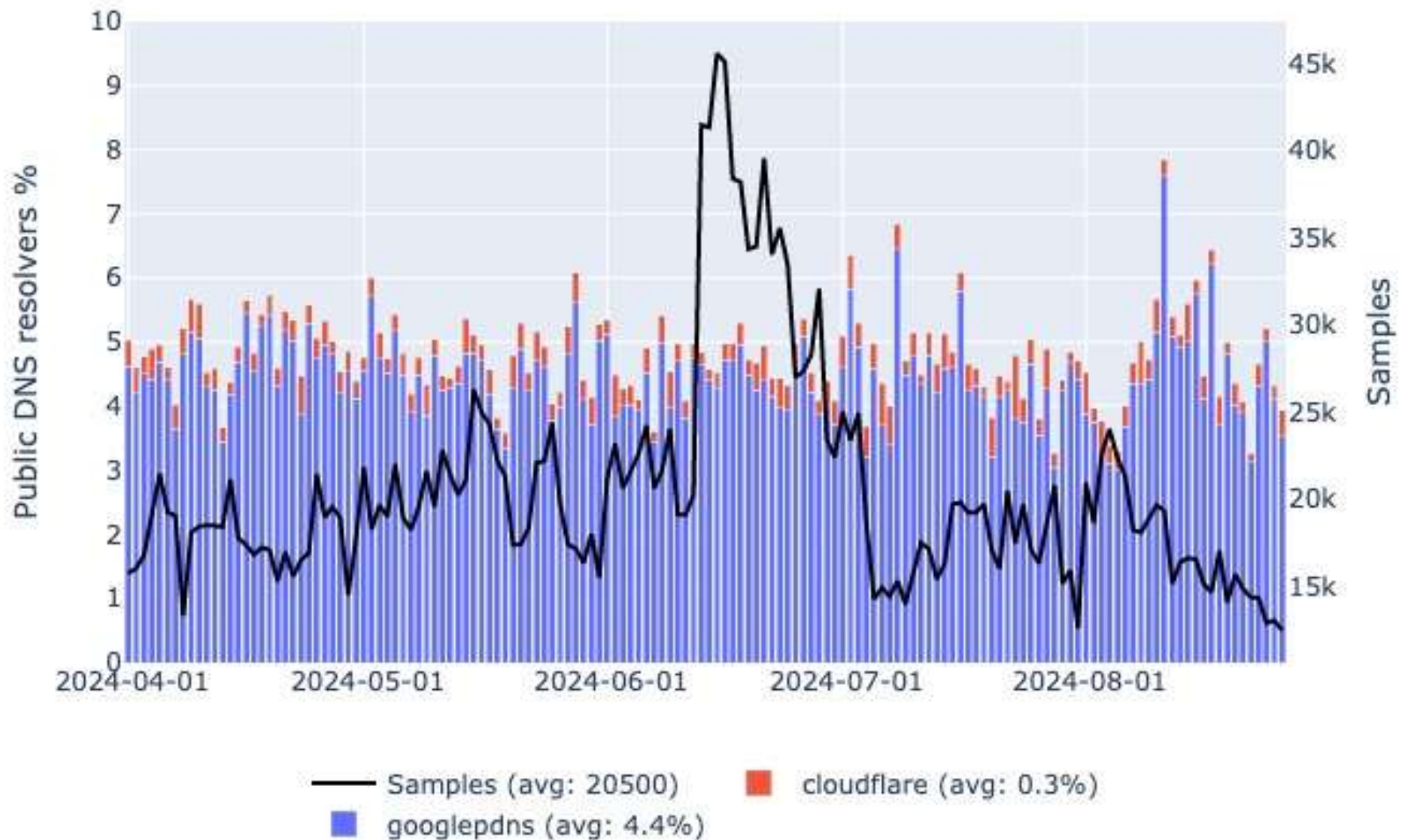
Entel: 15.8%

AS6568 Entel S.A. - EntelNet Broadband: 15.8%



Telefonica Bolivia: 4.8%

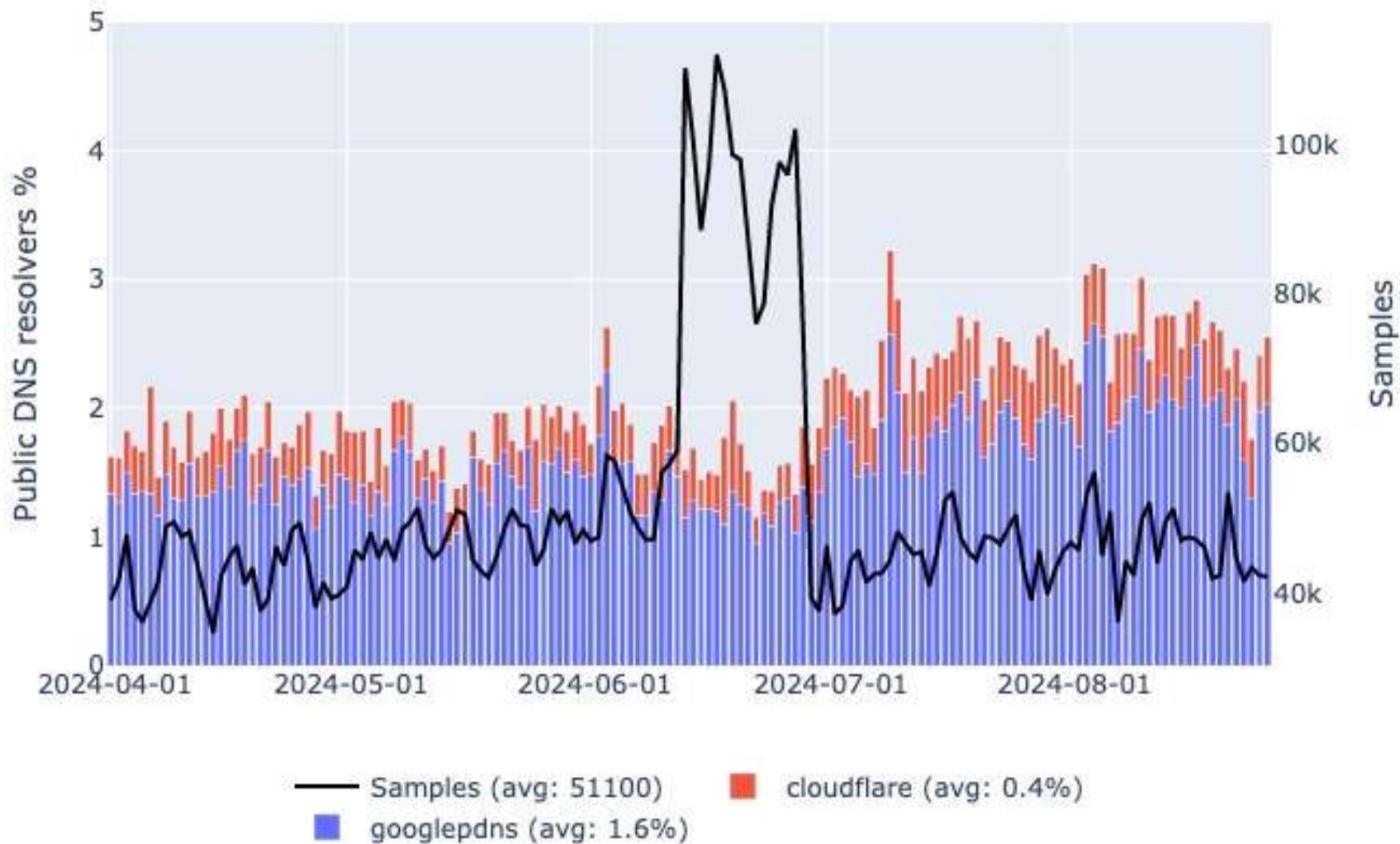
AS27882 Telefonica Celular de Bolivia S.A. Cellular: 4.8%



Brazil

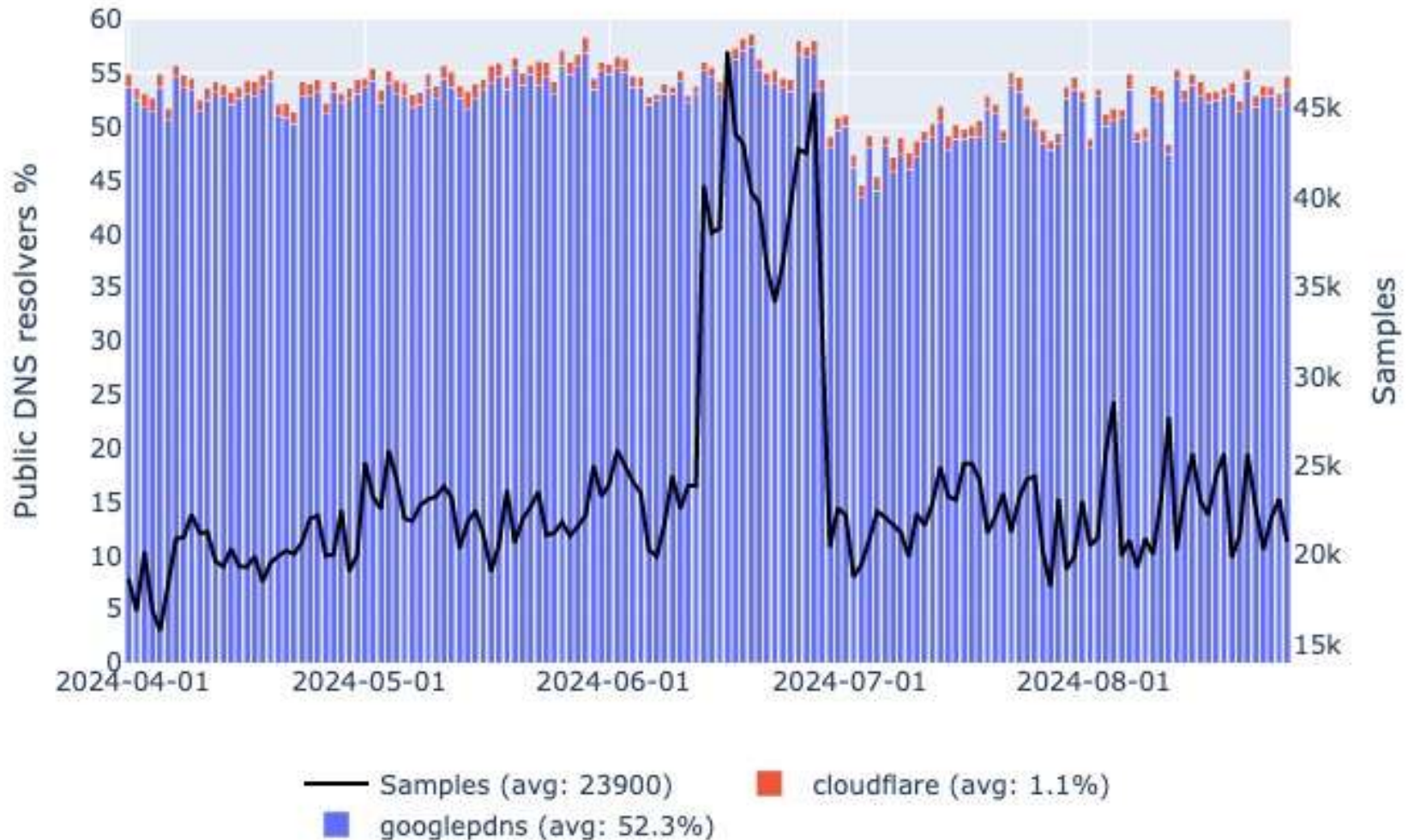
Telefonica Brasil: 2.0%

AS26599 TELEFONICA BRASIL S.A Cellular: 2.0%



Brisanet: 53.4%

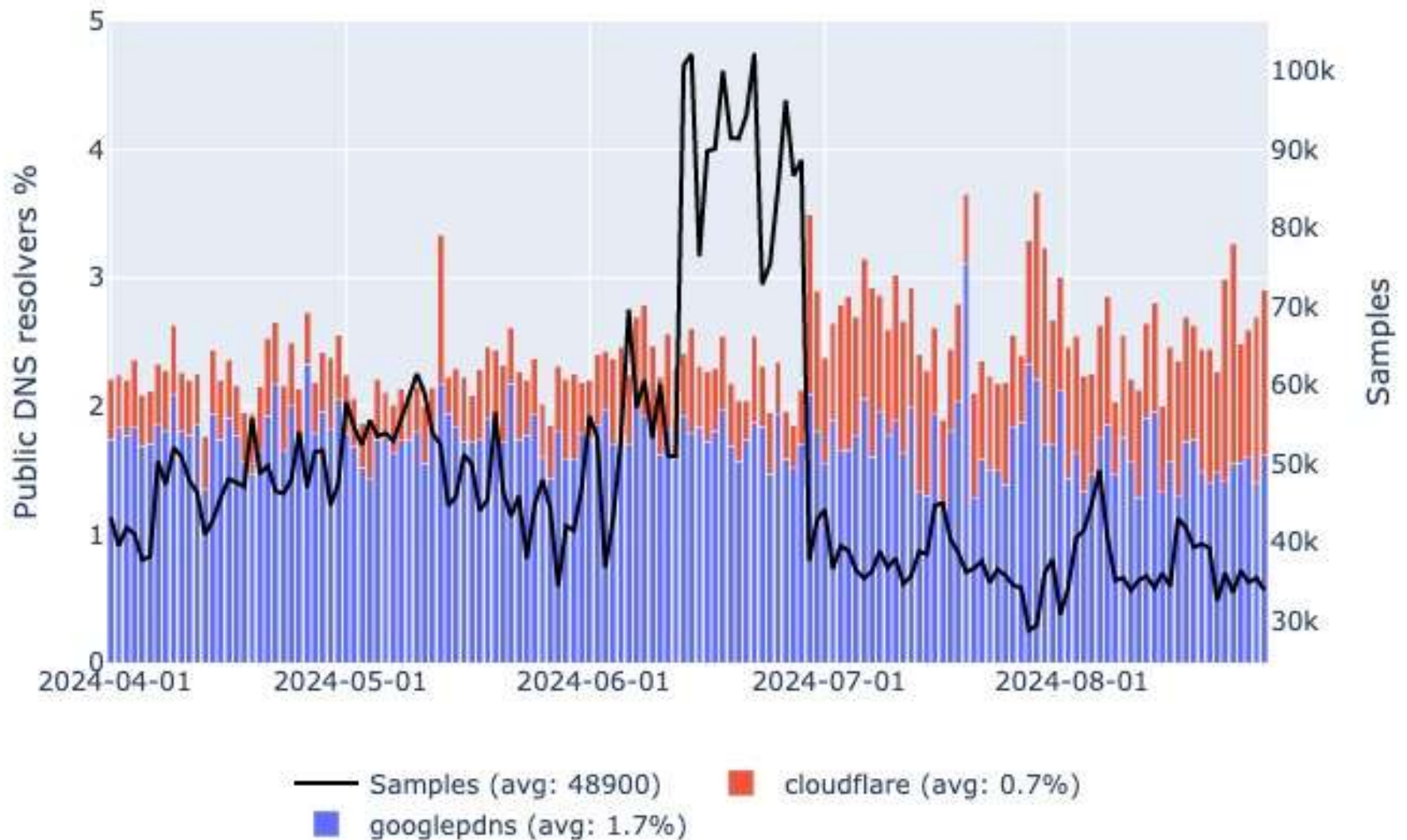
AS28126 BRISANET SERVICOS DE TELECOMUNICACOES S.A Broadband: 53.4



Chile

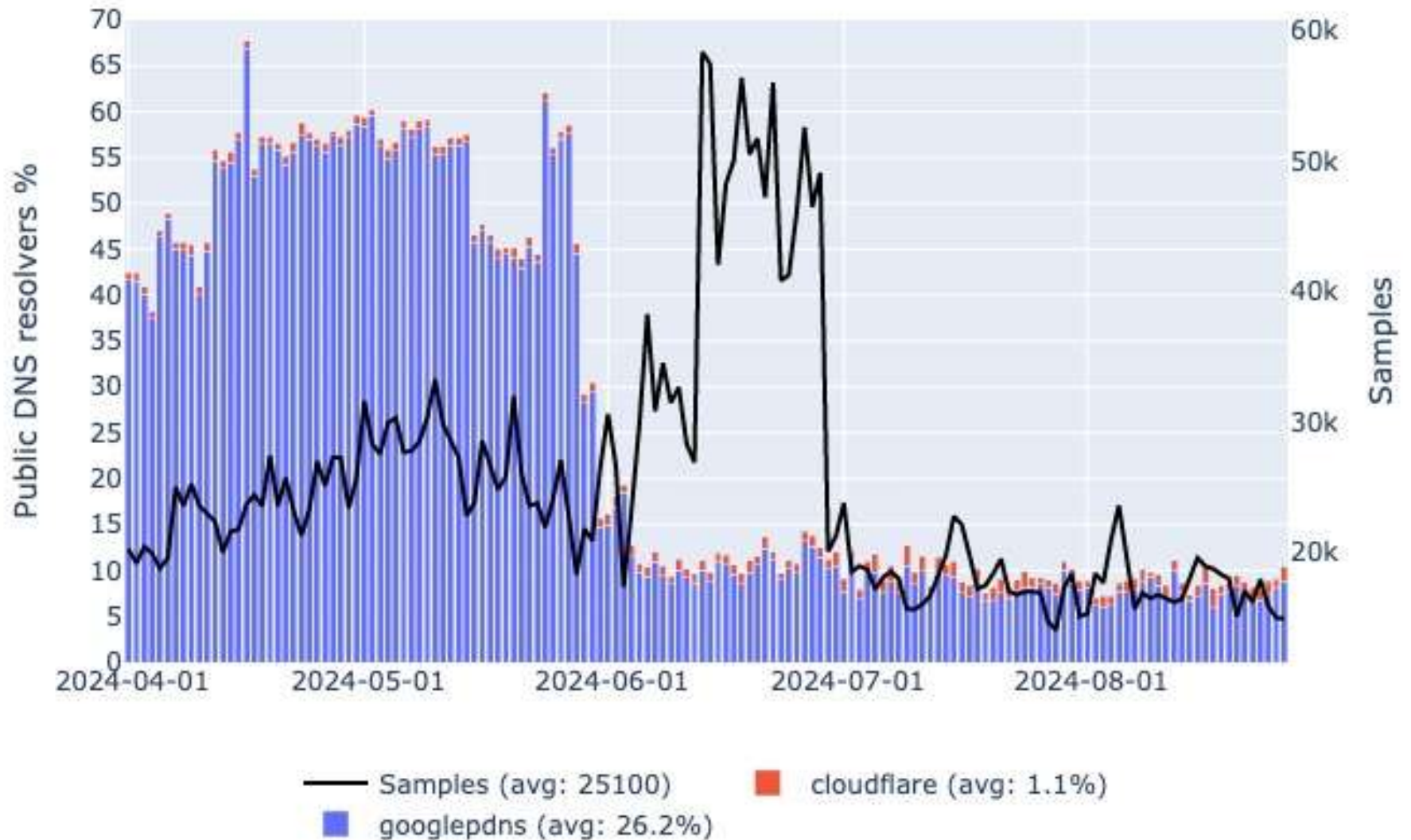
Telefonica Chile: 2.4%

AS7418 TELEFONICA CHILE S.A. Cellular: 2.4%



Pacifico Cable: 27.3%

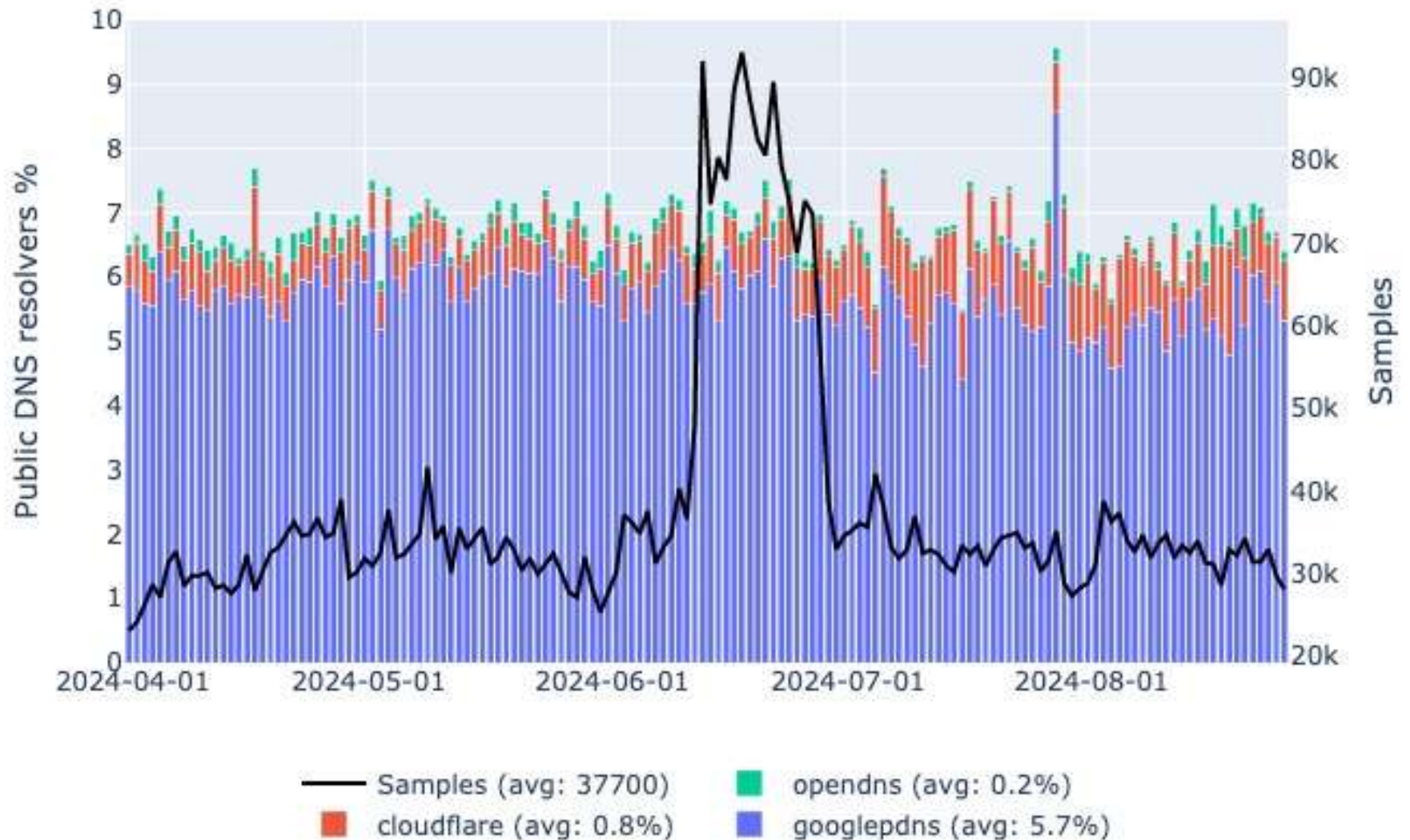
AS27901 Pacifico Cable SPA. Broadband: 27.3%



Colombia

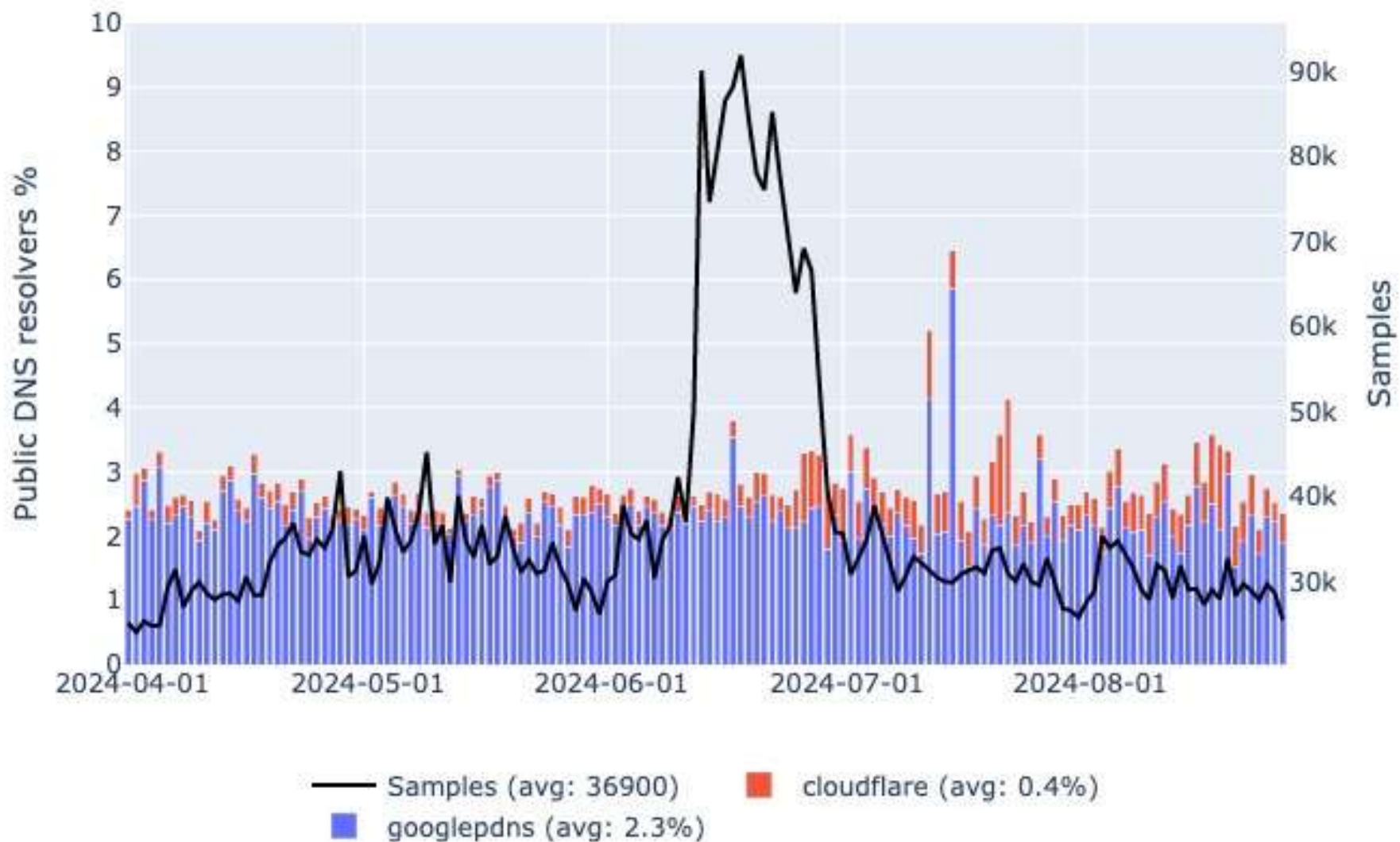
Colombia Telecomunicaciones: 6.7%

AS3816 COLOMBIA TELECOMUNICACIONES S.A. ESP Broadband: 6.7%



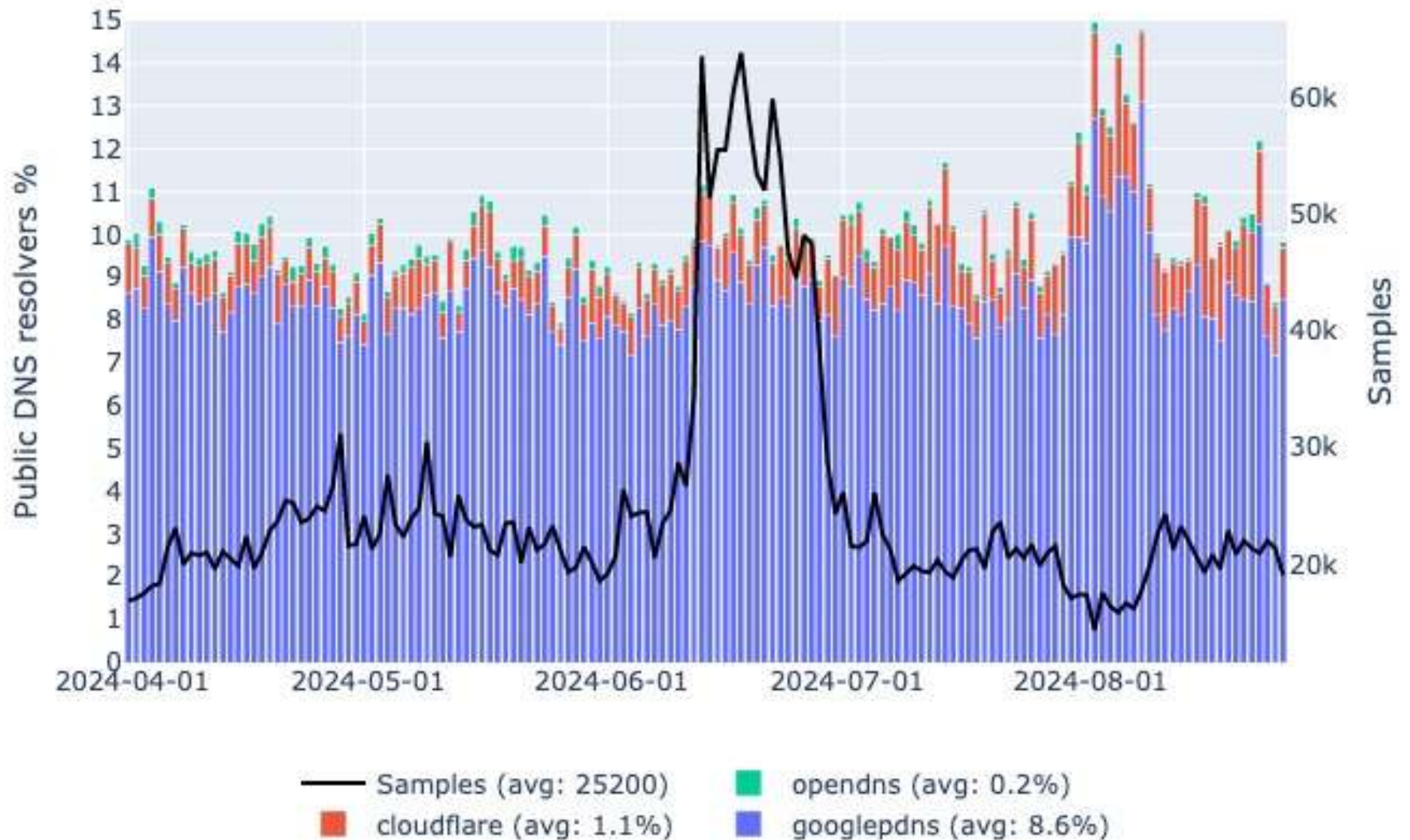
Telmex Colombia: 2.7%

AS10620 Telmex Colombia S.A. Cellular: 2.7%



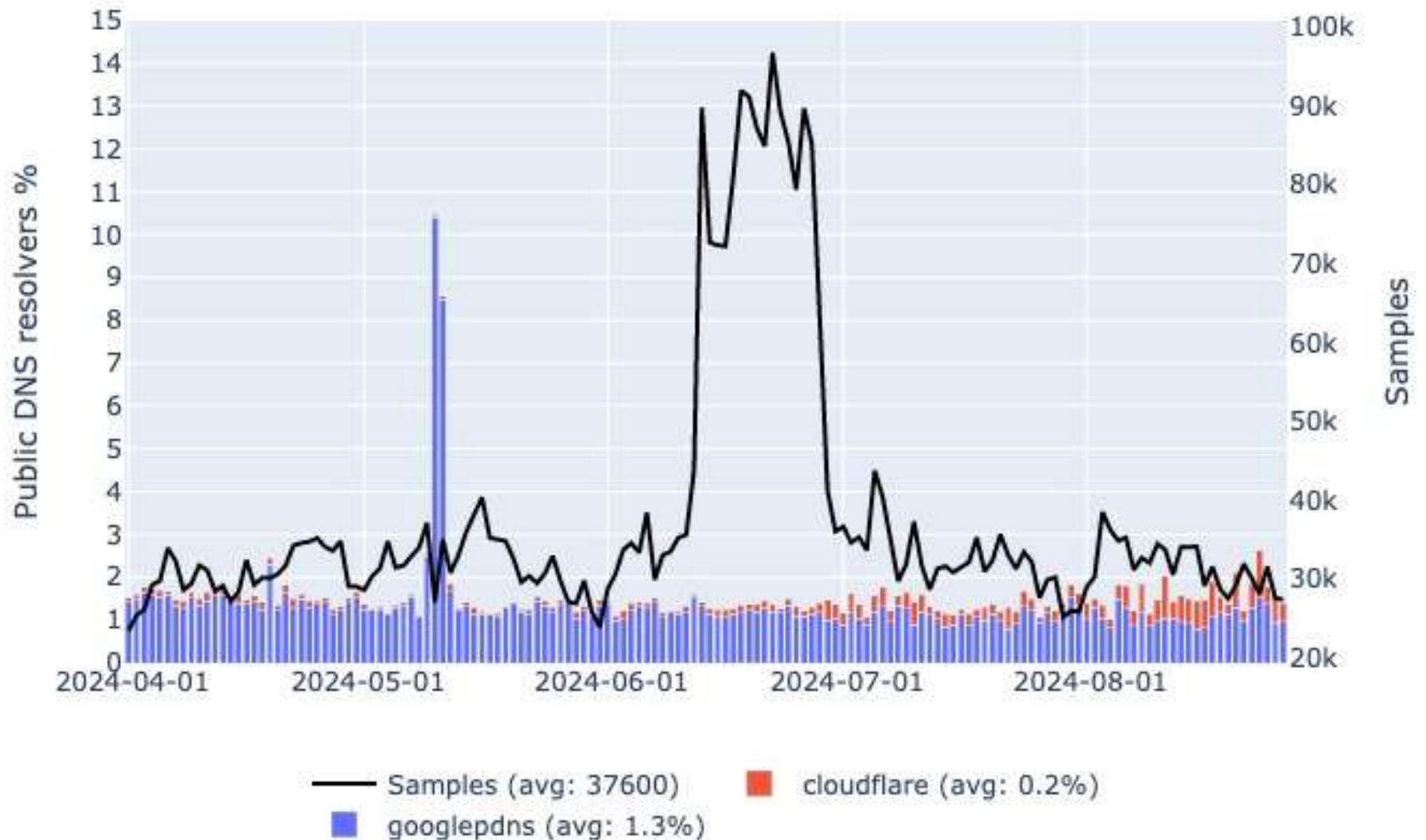
EPM Telecomunicaciones: 9.9%

AS13489 EPM Telecomunicaciones S.A. E.S.P. Broadband: 9.9%



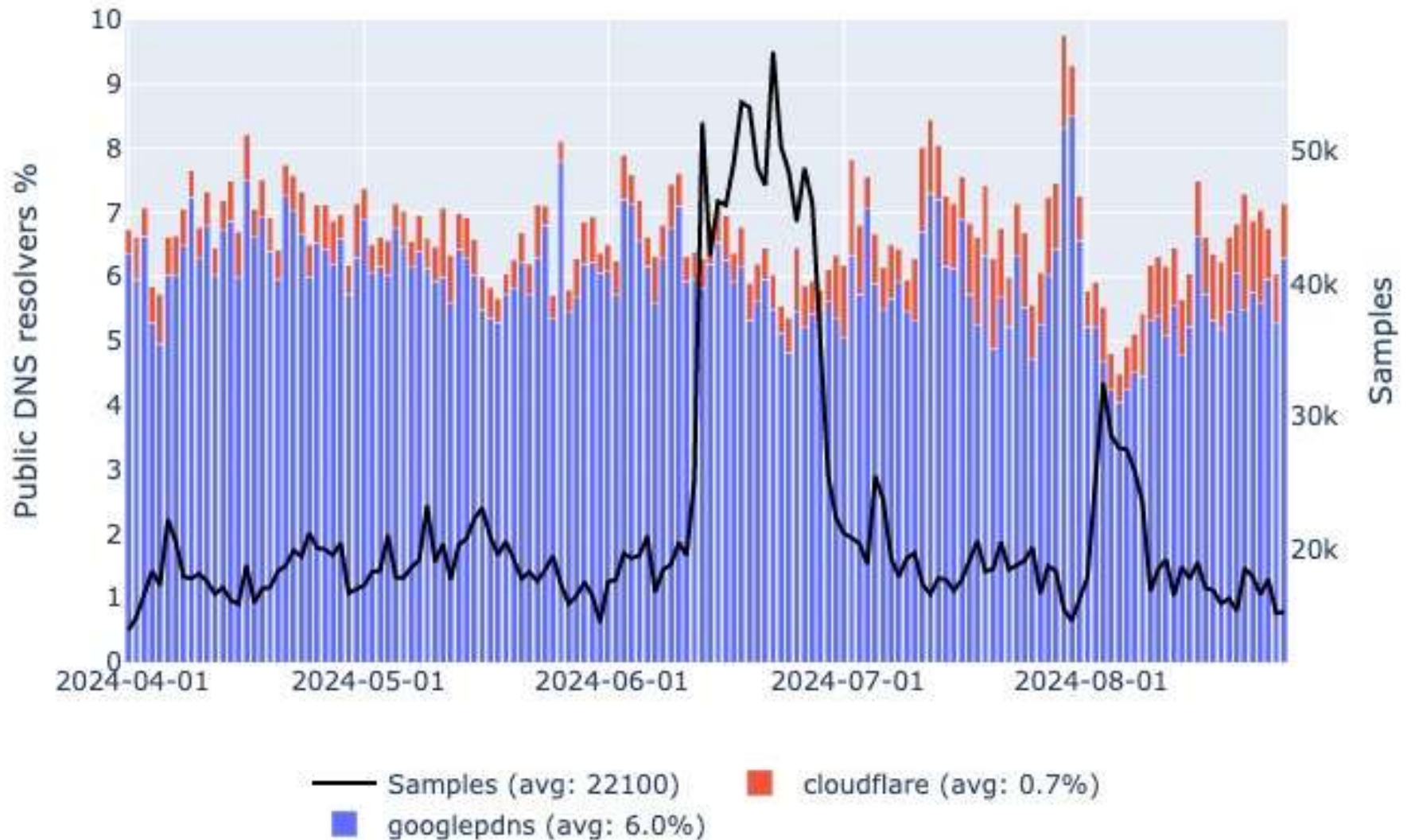
Communication Celular: 1.6%

AS26611 COMUNICACION CELULAR S.A. COMCEL S.A. Cellular: 1.6%



Colombia Movil: 6.7%

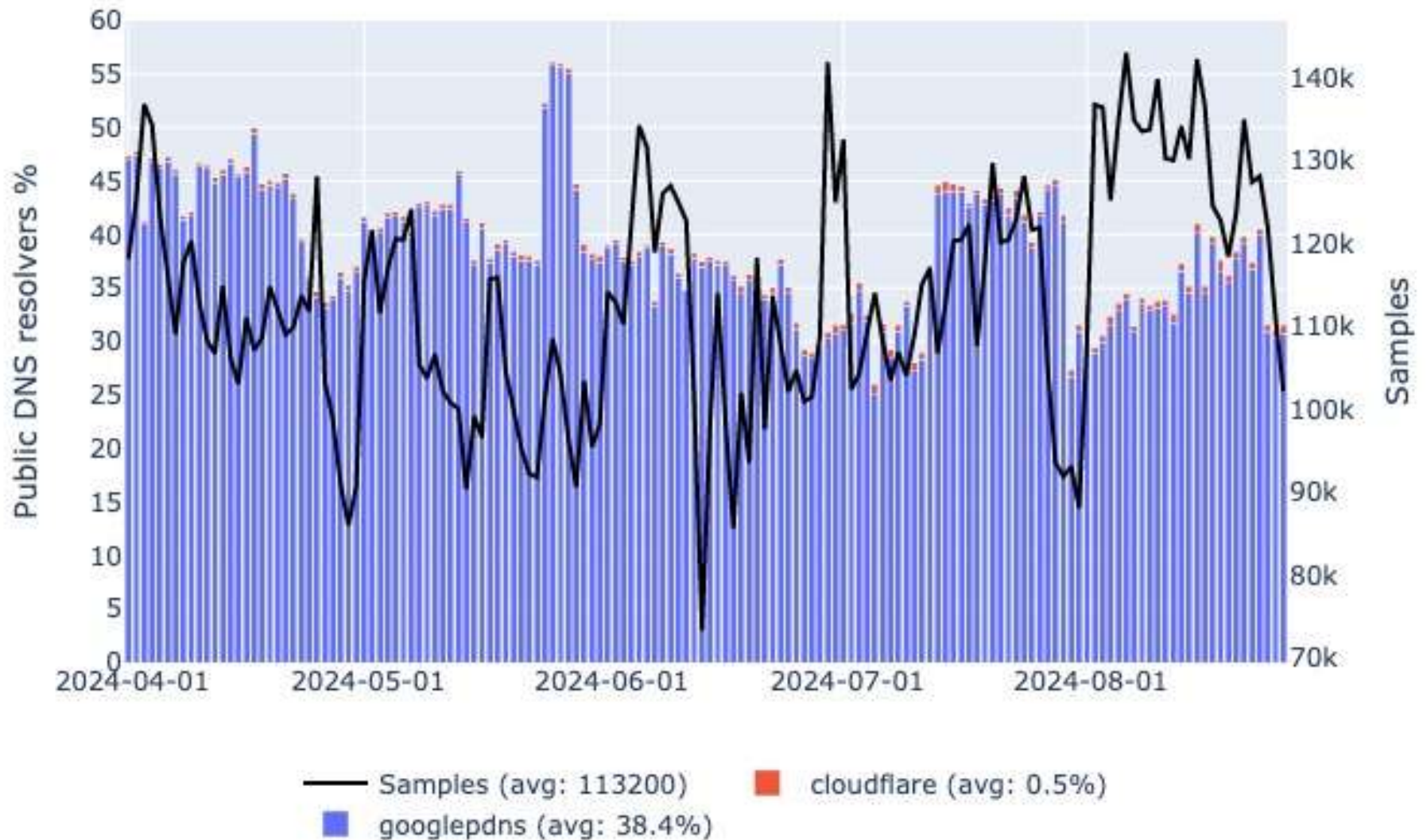
AS27831 Colombia Movil Cellular: 6.7%



Mexico

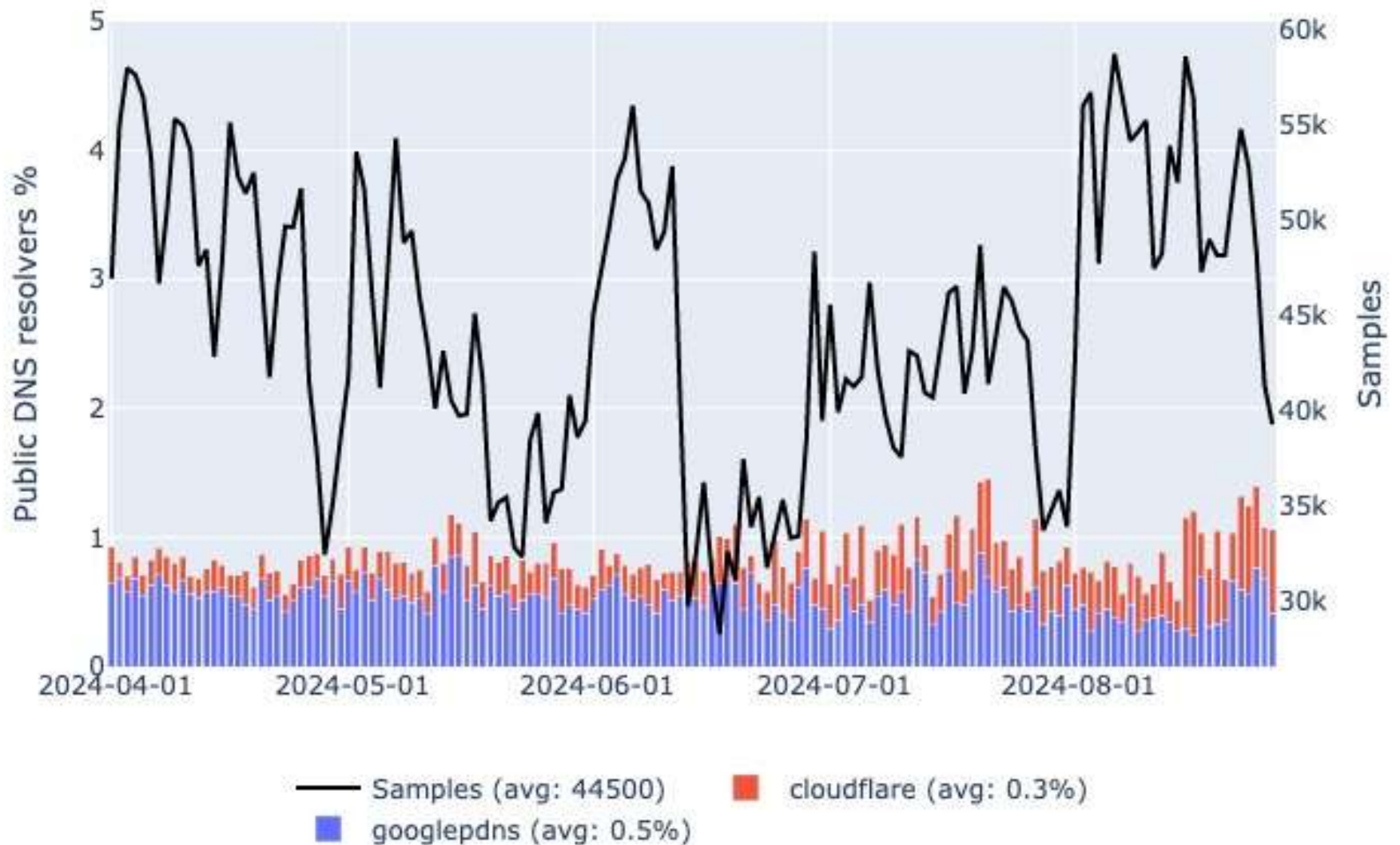
Total Play Telecomunicações: 38.9%

AS17072 TOTAL PLAY TELECOMUNICACIONES SA DE CV Broadband: 38.9%



RadioMovil Dipsa: 0.8%

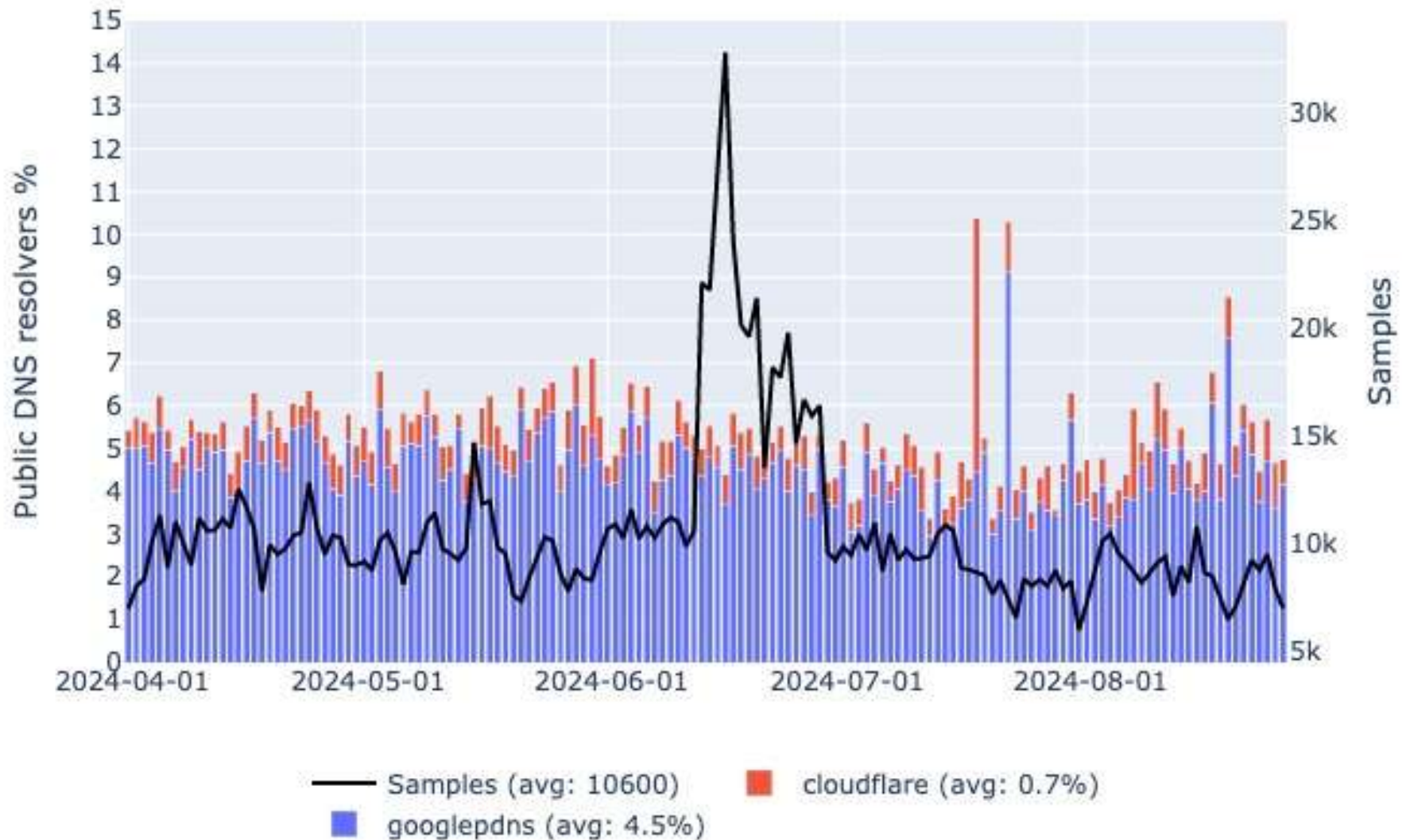
AS28403 RadioMovil Dipsa S.A. de C.V. Broadband: 0.8%



Paraguay

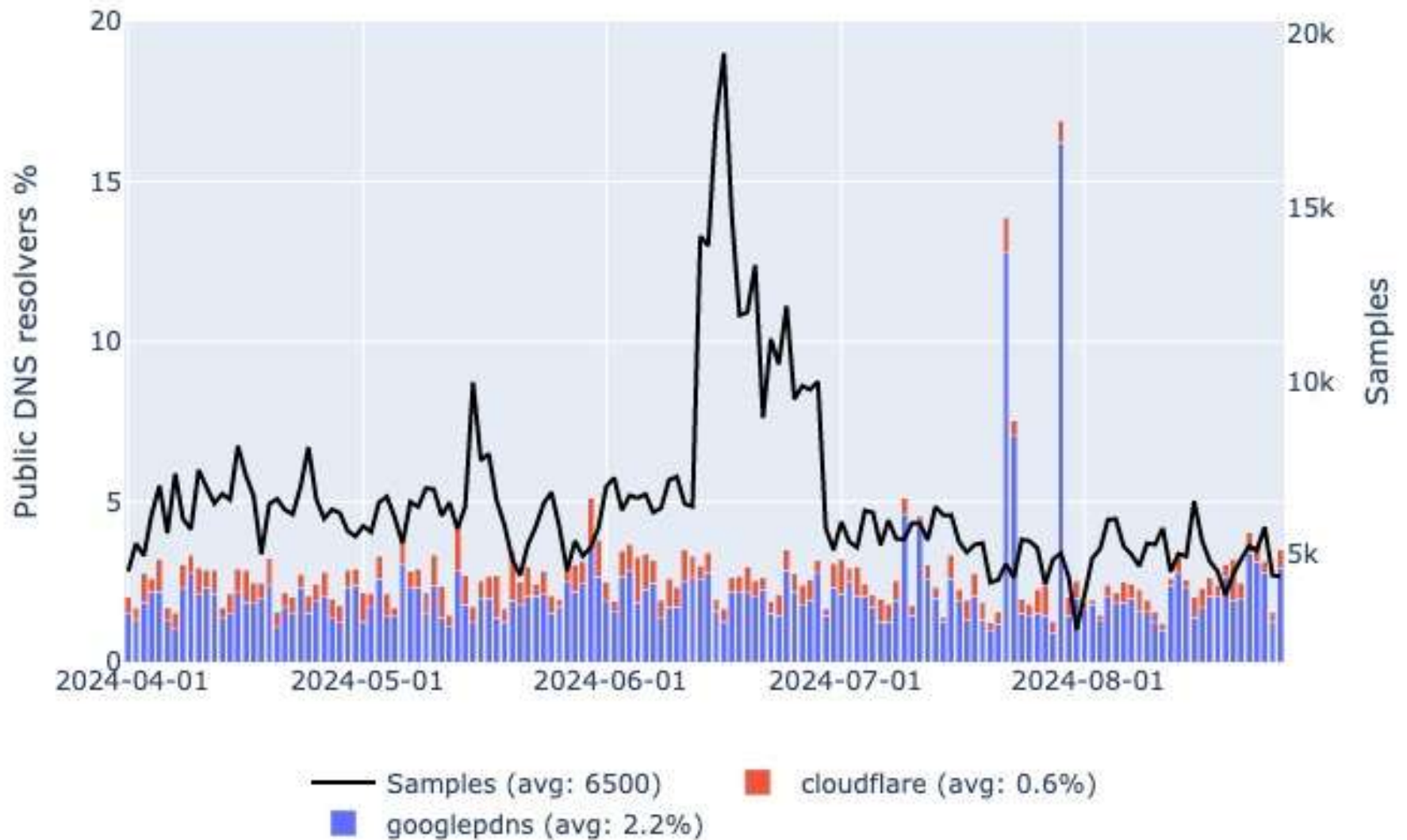
Telecel: 7.8%

AS23201 Telecel S.A. Cellular: 5.3%



Nucleo: 2.8%

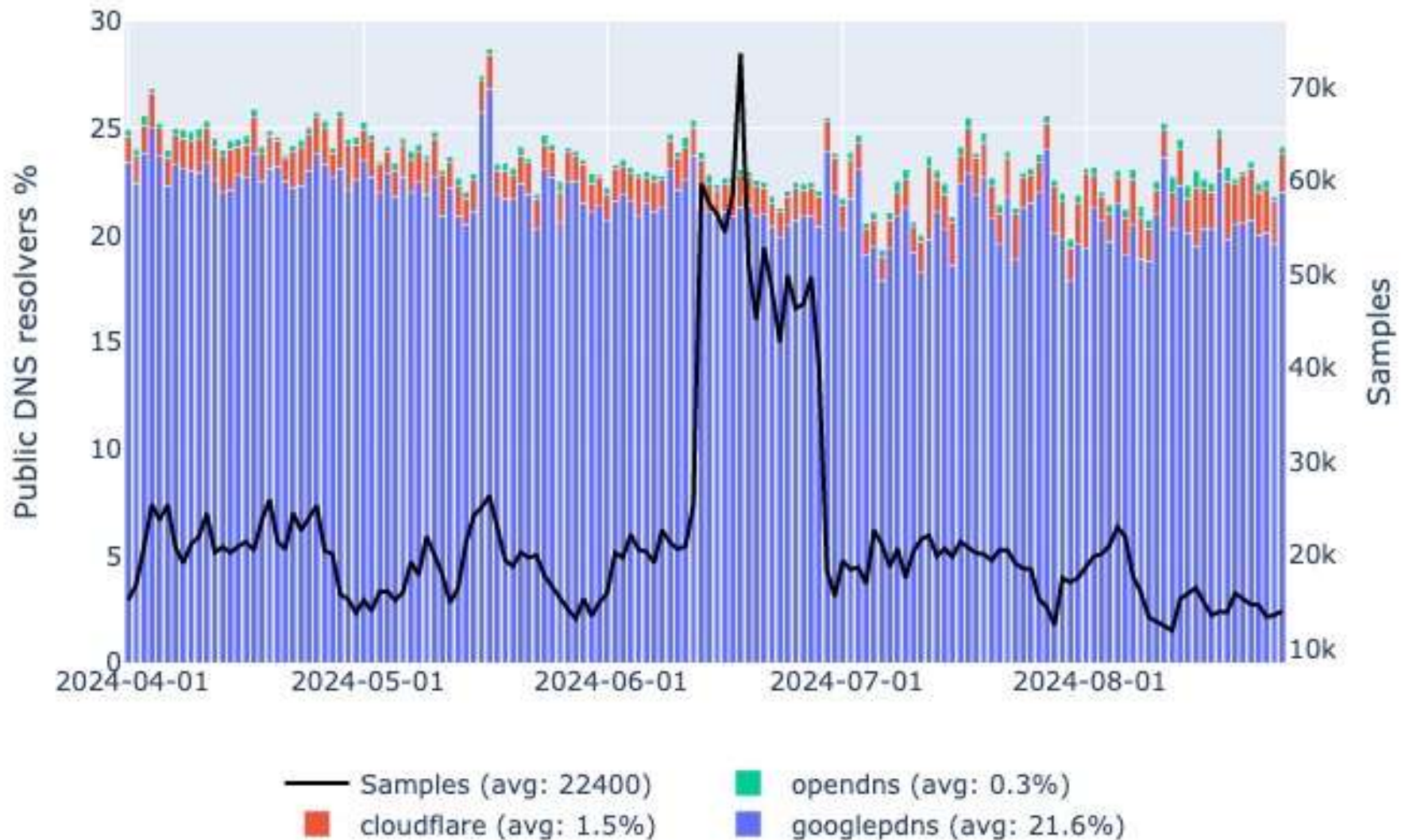
AS27895 Nucleo S.A. Cellular: 2.8%



Venezuela

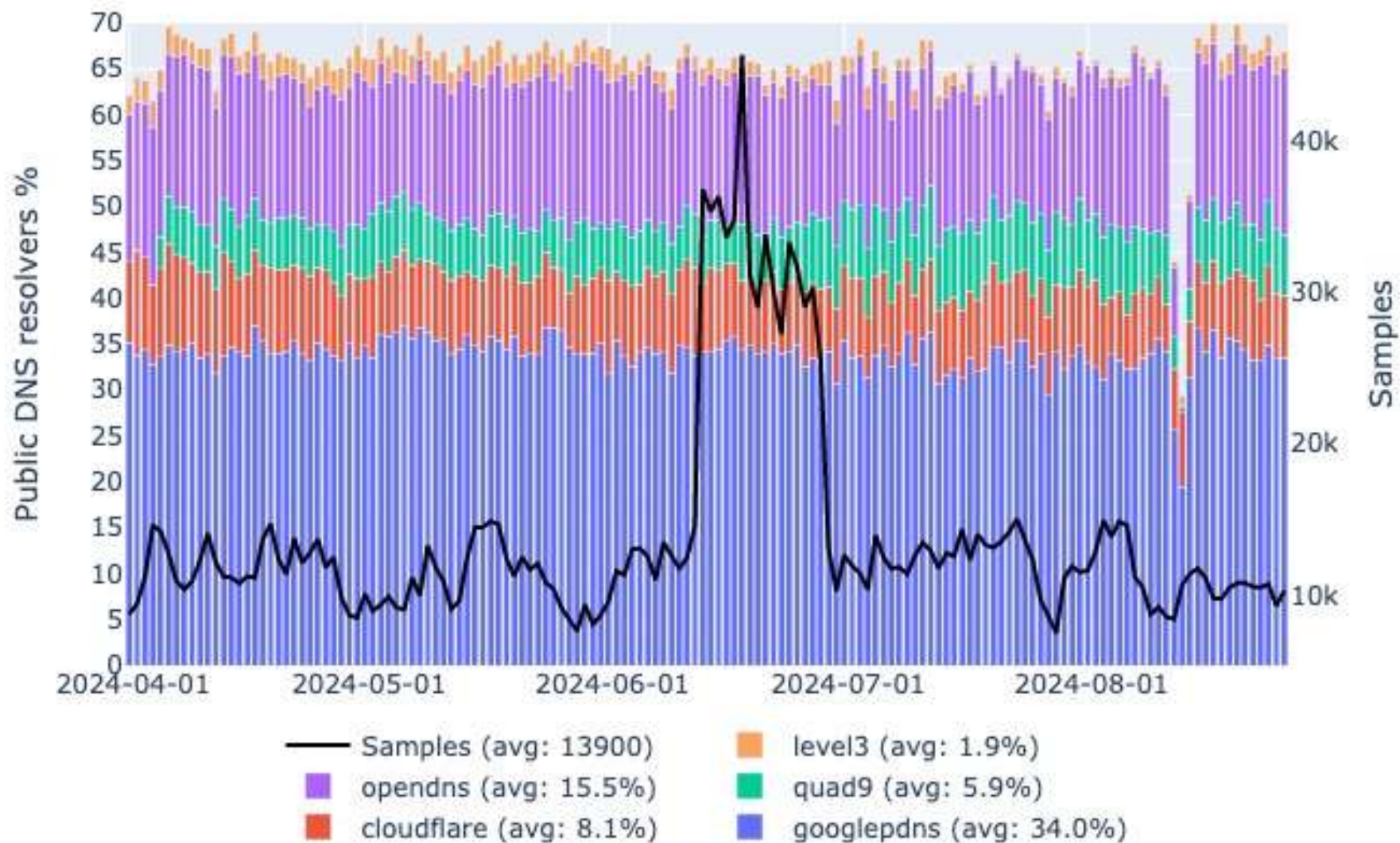
CANTV: 23.4%

AS8048 CANTV Servicios Venezuela Broadband: 23.4%



Telemic: 65.4%

AS21826 Corporacion Telemic C.A. Cellular: 65.4%



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