Activity and Incident Report for the ICANN Managed Root Server

Prepared by ICANN's Security and Network Engineering Department

For the Reporting Period of 2020-10-01 - 2020-10-31

Contents

1 Executive Summary

This monthly report provides operational and statistical information on the ICANN Managed Root Server (IMRS), known within the Domain Name System (DNS) as `L.ROOT-SERVERS.NET.`

IMRS is a collection of servers and associated hardware with global presence managed, controlled and supervised by ICANN that provide information about the Root Zone, which is the apex of a hierarchical distributed database for the Domain Name System (DNS).

More information on the Root Server System and its organizations can be found at `https://root-servers.org.` and about IMRS at `https://dns.icann.org/imrs`

A deeper understanding of the statistics in this document can be gained by accessing the IMRS Statistics dashboard at `https://stats.dns.icann.org`.

For this reporting period:

- There were no outstanding issues related to security or unplanned downtime.
- There were no observed anomalies in DNS Traffic to the IMRS

2 Performance Indicators

2.1 DNS Queries for this Period

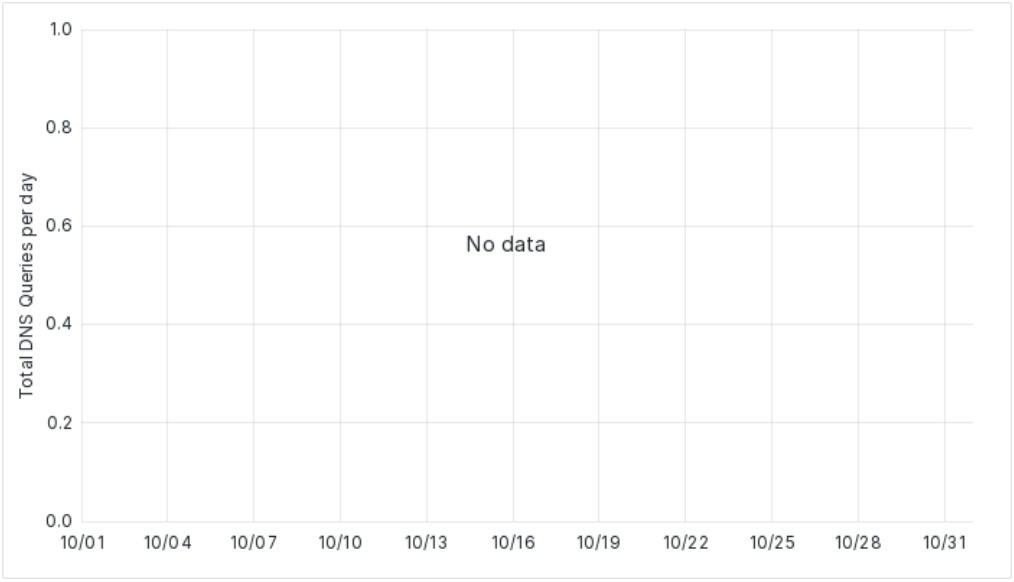

Figure 1: Number of daily DNS queries for this period

Figure 2: Total DNS queries distribution

2.2 DNS Query Distribution Trends

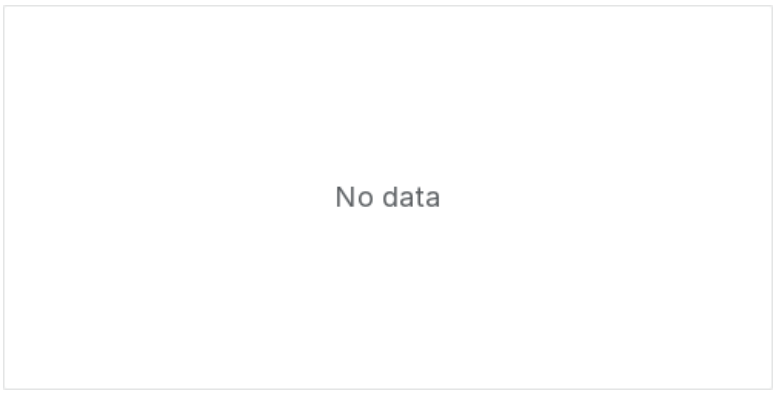

Figure 3: Query origins per ICANN Region

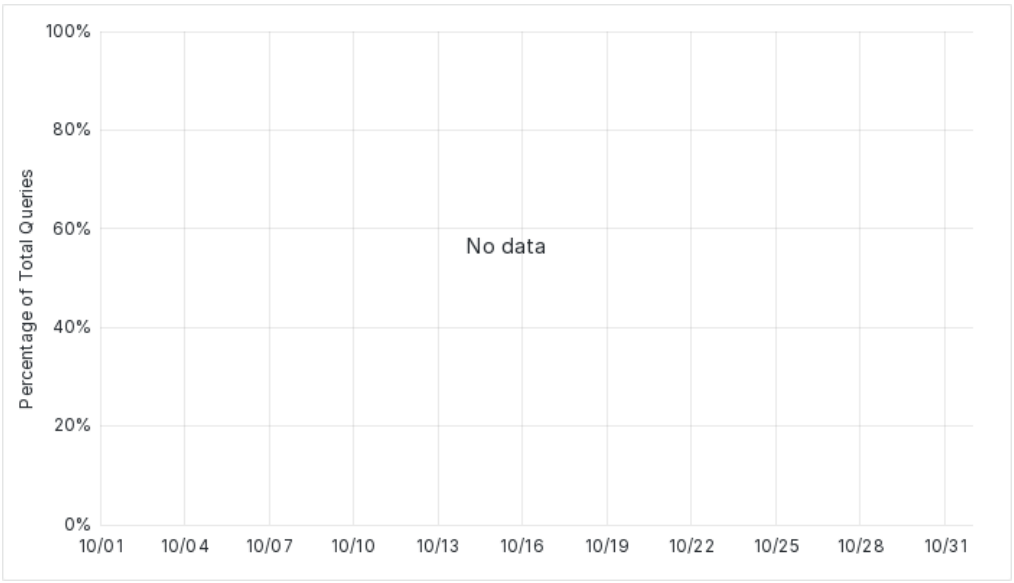

Figure 4: Query distribution percentage per ICANN region

3 Operational Indicators

3.1 Security Incidents related to IMRS

- During this period, no security incidents were reported, recorded nor published

For transparency, ICANN publishes a log of Information Security events at `https://www.icann.org/cybersecurityincidentlog`

3.2 Non-scheduled downtime events

- During this period, no irregular or unplanned downtime was observed

4 Size and location of the IMRS

4.1 Number of Instances

- 2 instance(s) were added in this period : Yekaterinburg (RU) and Malmo (SE)
- 3 instance(s) were retired in this period : Singapore (SG), Saint Petersburg (RU), and Ancona (IT)
- 167 instances are located in 83 countries at the end of this period

4.2 Number of IMRS Cluster Instances

A ”Cluster” is an IMRS instance consisting of a set of servers and associated hardware providing the IMRS service at a single location which is designed to serve a larger DNS query load, community, or specific region.

An IMRS Cluster is completely managed, controlled and supervised by ICANN.

At the moment of writing this report, there are six (6) ICANN Cluster Instances located in:

- El Segundo, CA (US)
- Prague (CZ)
- Reston, VA (US)
- Singapore (SG)
- Nairobi (KE)
- Cairo (EG)

4.3 Number of countries that have at least one instance presence by ICANN region

- Africa (11)
- AsiaPacific (33)
- Europe (23)
- LatinAmericaCaribbean (13)
- NorthAmerica (3)

4.4 Location for IMRS Instances by city

Abidjan (CI)
Al Muharraq (BH)
Amman (JO)
Anchorage (US)
Ancona (IT)
Ankara (TR)
Apia (WS)
Arlington County (US)
Asuncion (PY)
Atlanta (US)
Baku (AZ)
Bangkok (TH)
Beijing (CN)
Beirut (LB)
Belem (BR)
Belgrade (RS)
Belo Horizonte (BR)
Blantyre (MW)
Bogota (CO)
Bouake (CI)
Brasilia (BR)
Bratislava (SK)
Brisbane (AU)
Brussels (BE)
Cacador (BR)
Callao (PE)
Campinas (BR)
Cape Town (ZA)
Carire (BR)
Chicago (US)
Christchurch (NZ)
Cochabamba (BO)
Colombo (LK)
Copenhagen (DK)
Curitiba (BR)
Dakar (SN)
Dammam (SA)
Dar es Salaam (TZ)
Denver (US)
Des Moines (US)
Dortmund (DE)
Dubai (AE)
Dundee (GB)
Dusseldorf (DE)
El Prat de Llobregat (ES)
Ezeiza (AR)
Florence (IT)
Florianopolis (BR)
Fortaleza (BR)
Geneva (CH)
Hagatna (GU)
Hamburg (DE)
Helsinki-Vantaa (FI)
Heraklion (GR)
Honiara (SB)
Honolulu (US)
Incheon (KR)
Islamabad-Rawalpindi (PK)
Jakarta (ID)
Johannesburg (ZA)
Kalamazoo-Battle Creek (US)
Kharkiv (UA)
Kiev (UA)
Kolonia (FM)
Koror (PW)
Kuwait City (KW)
Lahore (PK)
Latina (IT)
Lawrence (US)
Leeds-Bradford (GB)
London (GB)
Londrina (BR)
Los Angeles (US)
Lyon (FR)
Madrid (ES)
Mahe (SC)
Majuro (MH)
Mandalay (MM)
Mangere (NZ)
Marseille (FR)
Mascot (AU)
Maseru (LS)
Melbourne (AU)
Metro Manila (PH)
Minsk (BY)
Mississauga (CA)
Monterrey (MX)
Montevideo (UY)
Moscow (RU)

Mumbai (IN)
Muscat (OM)
Nadi (FJ)
Natal (BR)
New Taipei (TW)
Noumea (NC)
Odessa (UA)
Otopeni (RO)
Ouagadougou (BF)
Papeete (PF)
Paris (FR)
Paris-Orly (FR)
Perth (AU)
Plaisance (MU)
Port Moresby (PG)
Portland (US)
Porto (PT)
Porto Alegre (BR)
Prague (CZ)
Punta Caucedo (DO)
Quito (EC)
Rabat (MA)
Ramallah (PS)
Reno (US)
Reston (US)
Rio de Janeiro (BR)
Rochester (GB)
Rostov-on-Don (RU)
Saint Petersburg (RU)
Salvador (BR)
San Jose (CR)
San Jose (US)
San Miguel de Tucuman (AR)
San Salvador (SV)
Sana'a (YE)
Santiago (CL)
Sao Jose dos Campos (BR)
Sao Paulo (BR)
SeaTac (US)
Semey (KZ)
Shanghai (CN)
Singapore (SG)
Sofia (BG)
St Denis (RE)
Stockholm (SE)
Suva-Nausori (FJ)
Tampere (FI)
Toronto (CA)
Tunis-Carthage (TN)
Uberlandia (BR)
Vancouver (CA)
Wilmington (US)
Winnipeg (CA)
Wuhan (CN)
Xining (CN)
Yangon (MM)
Yerevan (AM)
Yogyakarta (ID)
Zhengzhou (CN)

Detailed information on IMRS locations can be found at `https://www.dns.icann.org/imrs/locations/`