

# Email Address Internationalization (EAI) Support Survey tool

Universal Acceptance Day

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# EAI Support Survey Tool

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- **Purpose:**

Quarterly survey for Email Address Internationalization (EAI) support on mail exchanger (MX) servers of second level domain names across TLDs.

- **Input:**

- TLD zone files
- public DNS

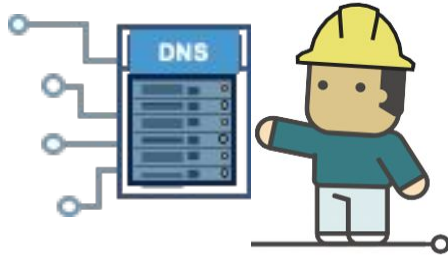
- **Output:**

Public statistics on [ITHI](#) for EAI support rates based on surveyed objects per TLD:

- Total MX servers
- Total server IP addresses

# Support Survey Process

1



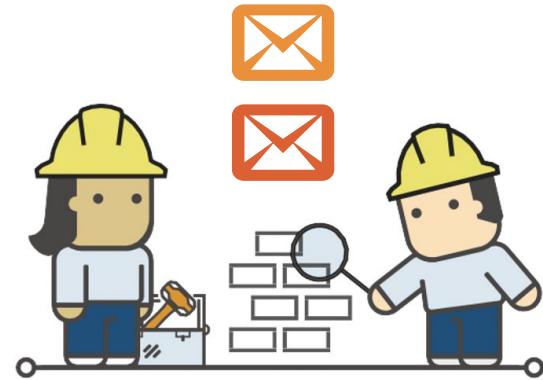
## For each TLD:

- Get the list of SLDs in the zone.
- Query the DNS for existing MX records in the SLDs and their corresponding IP addresses.

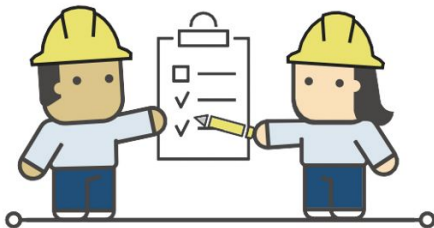
2

## For each MX IP address:

- Retrieve IP geolocation details.
- Test SMTP server using 2 test IDN addresses:
  - **non-ASCII@a-label-domain**
  - **non-ASCII@u-label-domain**
- **EHLO** command and look for “SMTPUTF8”.
- **MAIL FROM** command and validate for a “250” response
- **QUIT**



3



## Store result for MX EAI support:

- **Full:** All IPs passed.
- **Partial:** Some IPs passed.
- **None:** No IPs passed.

# Test Example

Connect to email server

EHLO test

MAIL FROM test (u-label)

Terminate connection

```
C: $ telnet 35.80.244.233 25
Trying 35.80.244.233...
Connected to mx1.testo.tel.
Escape character is '^]'.
S:      220 mx1.testo.tel ESMTP Postfix
C: EHLO client.example.com.
S:      250-mx1.testo.tel
S:      250-PIPELINING
S:      250-SIZE 51200
S:      250-VRFY
S:      250-ETRN
S:      250-ENHANCEDSTATUSCODES
S:      250-8BITMIME
S:      250-DSN
S:      250-SMTPUTF8
S:      250 CHUNKING
C: MAIL FROM: <Почта@испытание.онлайн> SMTPUTF8
S:      250 2.1.0 Ok
C: quit
S:      221 2.0.0 Bye
Connection closed by foreign host.
```

# Survey Results - IP Address

Survey date	01-Jul-2022	03-Oct-2022	03-Jan-2023
Test email script	Arabic	Cyrillic	Han
Processed gTLD zones	1,170	1,172	1,166
Unique MX servers	35,190,999	35,257,528	35,333,393
Unique IP addresses	2,473,755	2,508,108	2,530,153
<ul style="list-style-type: none"> <li><span style="color: green;">●</span> Test passed</li> <li><span style="color: red;">●</span> Test failed</li> <li><span style="color: purple;">●</span> IP could not be tested</li> </ul>	<p>7.38 %</p> <p>2,479,755 TOTAL</p> <p>33.32 %      59.30 %</p>	<p>6.81 %</p> <p>2,508,108 TOTAL</p> <p>33.48 %      59.71 %</p>	<p>6.44 %</p> <p>2,530,153 TOTAL</p> <p>34.07 %      59.49 %</p>

# Survey Results - MX Server

Survey date	01-Jul-2022	03-Oct-2022	03-Jan-2023
Test email script	Arabic	Cyrillic	Han
Processed gTLD zones	1,170	1,172	1,166
Unique MX servers	35,190,999	35,257,528	35,333,393
Unique IP addresses	2,473,755	2,508,108	2,530,153
<ul style="list-style-type: none"> <li><span style="color: green;">●</span> MX Full</li> <li><span style="color: yellow;">●</span> MX Partial</li> <li><span style="color: red;">●</span> MX None</li> <li><span style="color: purple;">●</span> Not tested</li> <li><span style="color: darkblue;">●</span> No IPs</li> </ul>	<p>35,190,999 TOTAL</p>	<p>35,257,528 TOTAL</p>	<p>35,333,393 TOTAL</p>

# ccTLDs Are Invited to Participate!

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- Measure the EAI support rate in the email servers configured for domain names in your ccTLD.
- ccTLDs may be included in ICANN's survey by granting access to the ccTLD zone file.
- Opportunity to also participate in other ICANN projects:
  - [Domain Abuse Activity Reporting \(DAAR\)](#)
  - [Monitoring System API](#)

Please contact:

[GlobalSupport@icann.org](mailto:GlobalSupport@icann.org)



**Thank You and Questions**