

# EAI Acceptance Rates of the Top 2,000 Global Websites in 2022

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## About Evaris

EVARIS Systems – An Evolutionary Artificial Intelligence Systems LLP is based in India. Its focus is to craft ICT solutions in the area of artificial intelligence, natural language processing and allied areas. It features a team with rich experience in the field of ICT Solutions including quality assurances, and more specifically, Internationalized Domain Names (IDNs) and email addresses.

The Evaris Systems LLP team members have vast experience in the field of Indian language computing, natural language processing, including LTR, RTL scripts / languages, and is instrumental in spearheading and formulation of IDN policy in close coordination with the Ministry of Government for Indian languages. Activities also include work on variant generation, homographic for identifying confusingly similar characters, reserved list and finally implementation by registries by way of APIs.



## Introduction

The goal of Universal Acceptance (UA) is to ensure that every domain name and email address can be used correctly and consistently by all Internet-enabled applications, devices, and systems, regardless of script or length. This includes both new generic top-level domains (gTLDs) and Internationalized Domain Names (IDNs), and Email Address Internationalization (EAI). While it may be assumed that these work in the same manner as legacy TLDs, that is not the case and problems with acceptance are very common.

As an example, the goal is that an email such as `web-test@ሁለንአቀፍ-ተቀባይነት-ሙከራ.com` or `تجربة-الويب@تجربة-القبول-الشامل.موريتانيا` should have the same rate of acceptance as `test@ua-test19.com`

This evaluation was commissioned by the Universal Acceptance Steering Group (UASG) under the Statement of Work (SOW) "Pilot Project for Large-Scale UA Remediation Campaign (EAI Support of Global Websites)" as a follow-up to similar surveys done in 2017, 2019, and 2020.

The SOW included a review of UASG025 and UASG027, which were the results of testing in 2019 and 2020, respectively. We reviewed test datasets, checked for duplicates and redundancies, and prepared a final list of 2,000 websites for testing. In addition, we contacted the owners of the websites that failed testing to provide remediation resources.

The re-testing was limited to whether a website accepts a particular email address. It does not cover whether the website can store the email address or respond to it.

Seven different types of email addresses were tested for the 2,010 websites:

	Email Category	Email ID
Category-1 (C1)	ascii@ascii.newshort	web-test@universal-acceptance-test.icu
Category-2 (C2)	ascii@ascii.newlong	web-test@universal-acceptance-test.international
Category-3 (C3)	ascii@idn.ascii	web-test@ሁለንአቀፍ-ተቀባይነት-ሙከራ.com
Category-4 (C4)	ascii@ascii.idn	web-test@universal-acceptance-test.ገገ
Category-5 (C5)	Unicode@A-label.A-label	वेब-परीक्षण@xn----- Infbb8fe3cvkui0de0bcg5hxagsg7d5lwail.xn-- i1b6b1a6a2e
Category-6 (C6)	Unicode@idn.idn	电子邮件测试@普遍适用测试.我爱你
Category-7 (C7)	arabic.arabic@arabic (RTL)	تجربة-الويب@تجربة-القبول-الشامل.موريتانيا



## Executive Summary

The UASG025 report, "Global Evaluation of Websites for Acceptance of E-mail Addresses in 2019", was a follow-up to a similar test done in 2017. It was part of a broader initiative to further the community's understanding of the bottlenecks and key issues surrounding widespread compatibility of all domain names currently available. The 2017 and 2019 surveys tested the 1,000 most popular global websites and provided an informative global overview of UA-readiness.

The UASG027 report, "Country-Based Evaluation of Websites for Acceptance of Email Addresses in 2020", was a follow-up to testing done in 2017 and 2019. The testing done in UASG027 ascertained the acceptance rates of email addresses by websites in different countries. To do this, approximately 50 popular websites in 20 different countries were tested and compared for UA-readiness.

The purpose of this report (UASG039) is to ascertain the current email address acceptance rates of the previously tested websites in UASG025 and UASG027, and compare the results. A total of 2,052 websites were targeted for testing after merging the websites tested in UASG025 and UASG027. However, after cleaning and removing duplicates, 1,894 websites were subjected to basic website functionality tests and Identification of Test Email Field. As a result, a total of 1,630 websites (761 from UASG025 and 869 from UASG027) were retested.

In addition, the top 2,000 global websites were determined by using Alexa Top Global Websites API, and were checked for duplicates against the previously obtained 1,630 websites. 550 additional websites were subjected to functional testing and Identification of Test Email Field, and a total of 380 were selected for retesting, increasing the total number of websites tested to 2,010.

The results of the testing done in this report show no major changes in EAI acceptance rates compared to UASG027. However, for the email category `ascii@idn.ascii`, there has been an increase in acceptance rate.

Results from this report also show a decrease in the EAI acceptance rate for the category `unicode@A-label.A-label` from 12% (UASG025) to 6% (UASG039), and 19% (UASG027) to 9% (UASG039). This is attributed to the number of characters in the email address which exceeded character limits in the email field.

The comparison of EAI acceptance rates of UASG025 (P-Series), UASG027 (N-Series) versus A-Series (newly added websites as of 1 December 2021) shows an overall increase, which is encouraging.

Further details can be found under the Observations section.



## Methodology

### Merging and Duplicate Removal

In addition to merging UASG025 and UASG027 data, removing duplicates, and assigning unique website IDs, the following activities were carried out:

- Retesting of 1,630 websites for EAI acceptance.
- Testing of 380 top global websites (according to Alexa Top Global Websites as of 1 December 2021), totaling 2,010 websites.

### Identifying the Top Global Websites

In order to test 2,000-plus websites, 380 websites needed to be added to the 1,630 retested websites from UASG025 and UASG027. The top websites were taken from Amazon using the Alexa Top Sites Services APIs. Using the webservice in Python, a list of around 2,000 websites, ordered by Alexa Traffic Rank, was extracted on 1 December 2021. These 2,000 website URLs were cleaned and checked for duplicates against the 1,630 previously tested websites used in UASG025 and UASG027.

After removing duplicates, a total of 550 websites were subjected to basic website functionality and Identification of Email Test Field. Out of 550 websites, a few of the websites were not reachable, had illicit content, or did not have a testable email field. After filtering, 380 websites were used resulting in a total of 2,010 websites to be retested.

To clearly distinguish websites from previous and current studies, each website was provided with a unique website ID outlined below:

P series websites ID – for UASG025, 2019 websites  
N series websites ID – for UASG027, 2020 websites  
A series websites ID - for additional Alexa top websites

### Observations Related to Retesting of Websites

- i. Certain websites needed a valid mobile number of the specific country and upon receipt of the one-time-password (OTP), the rest of the form appears with a testable email field. These websites mostly belonged to banking, telecom, e-commerce, and government sectors.
- ii. Country-specific sites (e.g., ministries) required valid phone numbers for enrollment or subscription.
- iii. Certain websites had mandatory ID fields, namely CPF, CNPJ, and SSN numbers. For testing purposes, the same were generated temporarily using <https://theonegenerator.com>. CPF stands for Cadastro de Pessoas Físicas (Brazil), which is the virtual equivalent of a social security number in the United States. CNPJ is the national registry that administers 14-digit Registration Numbers issued by the Ministério da Fazenda. SSN is the nine-digit social security number used in the United States.
- iv. For valid email IDs, a few of the sites did not provide visual or any other kind of success/failure response, but upon success redirected to the homepage. In such cases, we faced the challenge of taking a screenshot of the tested page. However, whenever IDN emails were subjected to testing, the same websites gave clear indication of "Valid" or "Invalid" input. Thus, we have changed the order of testing in reverse order, e.g., from C7 to C1.



- v. Wherever possible, complete registration was done for C1 and C2 categories of email IDs. To complete the registration process, the user was expected to click on the link sent via email. However, since we did not have credentials, the registration process was not completed.
- vi. Most of the websites had forms for feedback, support, subscription, etc., that consisted of several fields including personal information. In such cases, we had a strategy to input the email field only and check for any client/server-side validation. Any compulsory fields were also completed.
- vii. It was noticed that certain websites were tracking our activities and did not allow for multiple registrations/subscriptions from the same system, even after clearing browsing history and using another browser.
- viii. The email field of most of the websites displayed error messages, either by moving the cursor away from email field to another field, or while inputting email or submission of email IDs in forms.

Some sites showed error messages for all the input fields at once when submitted, so we tried filling the email address field only.

- i. Some sites required credit card details, passport numbers etc., so we were unable to complete the registration process for C1 and C2 categories of email.
- ii. Some of the sites have form submission buttons which gets activated only after entering the requisite fields.

The following are observations from checking the websites used in UASG025 and UASG027 for functionality and email testability.

- i. Various “email field validation” methodologies are being used by the websites to validate whether input email is in valid email format or not.
  - a. Around 40% websites use JavaScript-based validation either on moving the cursor away from email field to another field (on focus change), or while inputting email or on submission of email IDs in forms.
  - b. 40% websites had ASCII email validation (example: [a-z]@[a-z].[a-z]) while implementing HTML input type TEXT which treats email ID as text input.
  - c. 10% websites use the HTML required Attribute for input type EMAIL, which specifies that the input element must be filled out before submitting the form and has ASCII email validation.
  - d. 10% websites use the HTML input type as default (if input type is not mentioned then browser considers the input as default "text"), which treats email ID as text input.
- ii. HTML inputs (relation with the browser behavior)
  - a. 50% use HTML type EMAIL as input.
  - b. 40% of websites use HTML type TEXT as input.
  - c. 10% of websites use HTML type DEFAULT as input.
- iii. Whenever HTML input element type's attribute EMAIL is used, the user is required to type a valid email address into the field. Any other content causes the browser to display an error when the form is submitted. This validation is done by the browser itself and not by the programmer. The browser expects ASCII email box/local part of the email, and thus does not validate Internationalized email, more specifically the mailbox/local part of email.
- iv. Whenever the HTML input element type's attribute TEXT is used for input email field, the browser does not do the validation of email, however, the programmer has to write code for validation of the input email whether the email is in right format or not.
- v. Whenever the HTML input element type's attribute is not mentioned, then the browser considers default as "text"), which treats email ID as TEXT input.



- vi. Engaging with WHATWG and W3C for supporting Internationalized mailbox in HTML5 will help resolve this issue.
- vii. A few websites have “Login/Registration” page view on dialog/popup. Multiple clicks and views are required to reach the registration page to locate the email field. However, the URL remains the same so it is necessary to note all the steps to carry out retesting.
- viii. A few of the websites had “email-based login and registration,” however, it seems that they have now changed the login to a combination of mobile plus OTP. For new users, registration with email is disallowed, however, existing users continue to use mail/user ID/mobile for login.
- ix. A few websites have upgraded to mobile plus OTP-based login instead of email. The email field is also not observed on the contact/support/feedback page so these were marked as non-testable (N).
- x. In some cases, the testing team was not familiar with the language of the website and faced challenges during navigation and email field identification. A combination of a machine translation plugin such as Google Translate and Google Lens Android application was used for translation. Google translate and Google Lens had their own issues as well. For example, Google Lens does not provide translations for placeholders of input fields.
- xi. Certain sites had redirections, and in few cases, redirection changed dynamically.
- xii. Most of the banking/educational (university) sites expect an account number/unique ID/CPF/CPR to login or register, and is country specific. A CPF number generation tool, found at <https://theonegenerator.com/generators/documents/cpf-generator/> was used as a temporary measure to locate the email field. (CPR - civil registration number)
- xiii. Certain websites were found to have:
  - Illicit content
  - Only accessible in specific regions
  - Blocked as per region-specific IT policies.
- xiv. Tried to identify email fields in various places like “login,” “registration,” “subscribe,” “contact us,” “feedback,” “careers,” “complaints,” “newsletter,” and others. In most cases, “contact us” does not have a form and provides simple email for communication.
- xv. One site uses HTML input element type as “search.”
- xvi. A few of the websites have disabled copy/pasting and right clicking.
- xvii. For some websites, HTML input element type is “email”, however, validation happens on defocus or at time after submission of the form by clicking ‘Submit/Register’ button.
- xviii. In some sites only a specific TLD/domain is expected, such as. gmail, .cz or @rambler.ru.

## General Observations

Mobile number-based validation seems to be an increasing trend for online services related to e-commerce, education, banking, and government. Additionally, email is being used to verify the authenticity of the user.



## Email ID Categories Used for EAI Acceptance Testing

	Email Category	9 August 2019 (UASG025)	21 April 2020 (UASG027)	January 2022	Jan. 2022 Email Categories
1	ascii@ascii.ascii	NA	test@ua-test19.com	NA	NA
2	ascii@ascii.newshort	test@test.exp	test@ua-test19.bet	web-test@universal-acceptance-test.icu	Category-1 (C1)
3	ascii@ascii.newlong	test@test.example	test@ua-test19.technology	web-test@universal-acceptance-test.international	Category-2 (C2)
4	ascii@idn.ascii	test@普遍接受-测试.org	test@普遍适用.com	web-test@u-Λ?kφκ--tφηειγ-σ-ηζ.com	Category-3 (C3)
5	ascii@ascii.idn	NA	NA	web-test@universal-acceptance-test.د.ا.ر	Category-4 (C4)
6	Unicode@A-label.A-label	NA	NA	वेब-परीक्षण@xn-----Infbb8fe3cvkui0de0bcg5hxagsg7d5lwail.xn--i1b6b1a6a2e	Category-5 (C5)
7	Unicode@ascii.ascii	测试1@test.org	广场@ua-test19.com	NA	NA
8	Unicode@idn.idn	测试5@普遍接受-测试.世界	测试@普遍适用.公司	电子邮件测试@普遍适用测试.我爱你	Category-6 (C6)
9	arabic.arabic@arabic (RTL)	دون@رسيل.السعودية	عنوان@بو-اي-اختبار.شبكة	تجربة-الويب@تجربة-القبول-الشامل.موريتانيا	Category-7 (C7)

### Observations About the Email Categories Used in Testing

- i. In the 2019 report (UASG025), six email ID categories were used. In the 2020 report (UASG027), seven email categories were used.
- ii. In this 2022 report (UASG039), seven email ID categories were used for EAI acceptance testing.
- iii. Email categories 1, 2, 3, 6, and 7 were used to compare EAI acceptance rates between the 2020 report and this 2022 report.



## Results of Retesting

### EAI Acceptance Rate from Previous Studies of UASG025 and UASG027

Websites	Type	test@ua-test19.com	test@ua-test19.bet	test@ua-test19.technology	test@普遍适用.com	广场@ua-test19.com	测试@普遍适用.公司	عنوان@بو-اي-اختبار.شبكة
P & N series	Not tested	761	0	0	0	0	1	1
	Accepted	857	1581	1374	810	260	152	150
	Rejected	12	49	256	820	1370	1477	1479
	Total	1630	1630	1630	1630	1630	1630	1630
	Not tested %	46.7%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
	Accepted %	52.6%	97.0%	84.3%	49.7%	16.0%	9.3%	9.2%
	Rejected %	0.7%	3.0%	15.7%	50.3%	84.0%	90.6%	90.7%
Total %	100%	100%	100%	100%	100%	100%	100%	
A series	Accepted	No Previous Data						
	Rejected							
	Total							
	Accepted %							
	Rejected %							
	Total %							

P Series websites ID - UASG025, 2019 websites  
 N Series websites ID - UASG027, 2020 websites  
 A series websites ID - additional Alexa Top websites

### EAI Acceptance Rate – 2022 Results Per Data Series

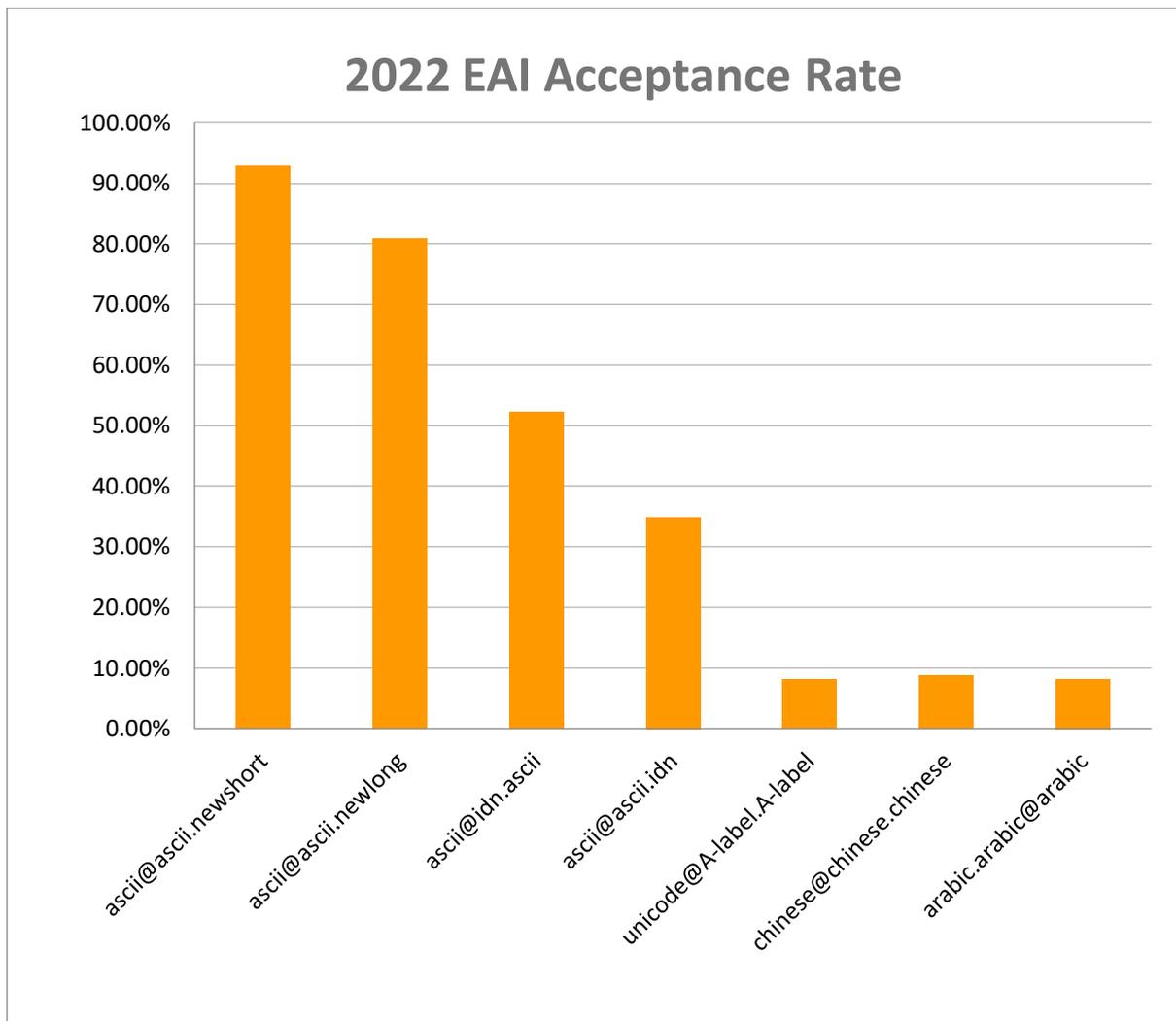
Websites	Type	C1	C2	C3	C4	C5	C6	C7
P & N series	Not tested	0	0	0	0	0	0	0
	Accepted	1511	1310	855	563	125	137	124
	Rejected	119	320	775	1067	1505	1493	1506
	Total	1630	1630	1630	1630	1630	1630	1630
	Not tested %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Accepted %	92.7%	80.4%	52.5%	34.5%	7.7%	8.4%	7.6%
	Rejected %	7.3%	19.6%	47.5%	65.5%	92.3%	91.6%	92.4%
Total %	100%	100%	100%	100%	100%	100%	100%	
A series	Accepted	354	316	195	138	38	38	40
	Rejected	26	64	185	242	342	342	340
	Total	380	380	380	380	380	380	380
	Accepted %	93.2%	83.2%	51.3%	36.3%	10.0%	10.0%	10.5%
	Rejected %	6.8%	16.8%	48.7%	63.7%	90.0%	90.0%	89.5%
Total %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

P Series websites ID - UASG025, 2019 websites  
 N Series websites ID - UASG027, 2020 websites  
 A series websites ID - for additional Alexa Top websites



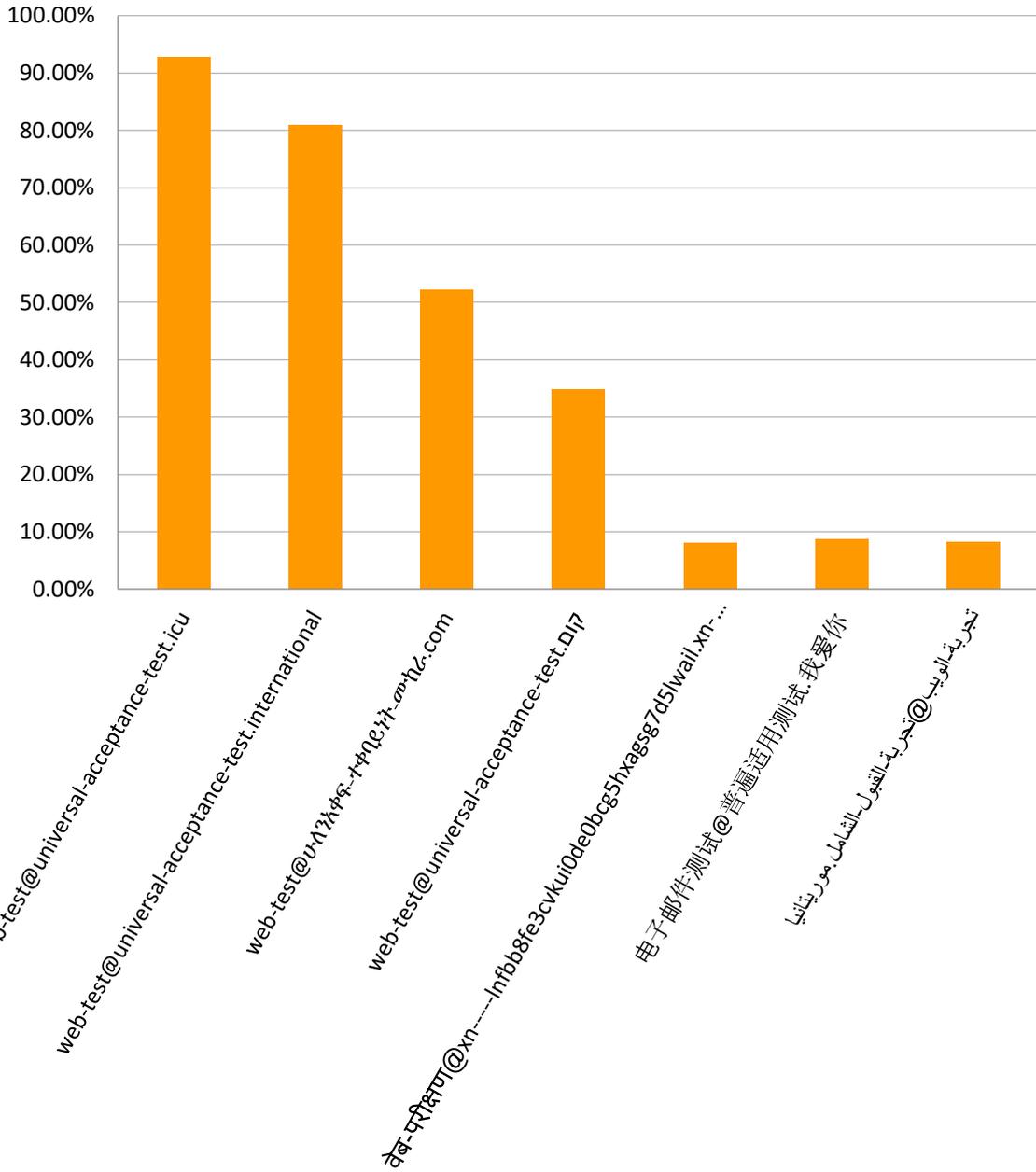
## EAI Acceptance Rate – Overall 2022 Results

Email Category		C1	C2	C3	C4	C5	C6	C7
		ascii@ascii.newshort	ascii@ascii.newlong	ascii@idn.ascii	ascii@ascii.idn	Unicode@A-label.A-label	Unicode@idn.idn	RTL@RTL.RTL
Year 2022		web-test@universal-acceptance-test.icu	web-test@universal-acceptance-test.international	web-test@universal-acceptance-test.مصر.كوم	web-test@universal-acceptance-test.د.ا.ق	वेब-परीक्षण@xn---lnfb8fe3cvkui0de0bcg5hxagsg7d5lwail.xn--i1b6b1a6a2e	电子邮件测试@普遍适用测试.我爱你	تجربة-الويب@تجربة-القبول-الشامل.موريتانيا
	Accepted	1865	1626	1050	701	163	175	164
	Rejected	145	384	960	1309	1847	1835	1846
	Total	2010	2010	2010	2010	2010	2010	2010
	Accepted %	92.79%	80.90%	52.24%	34.88%	8.11%	8.71%	8.16%
	Rejected %	7.21%	19.10%	47.76%	65.12%	91.89%	91.29%	91.84%
	Total%	100%	100%	100%	100%	100%	100%	100%





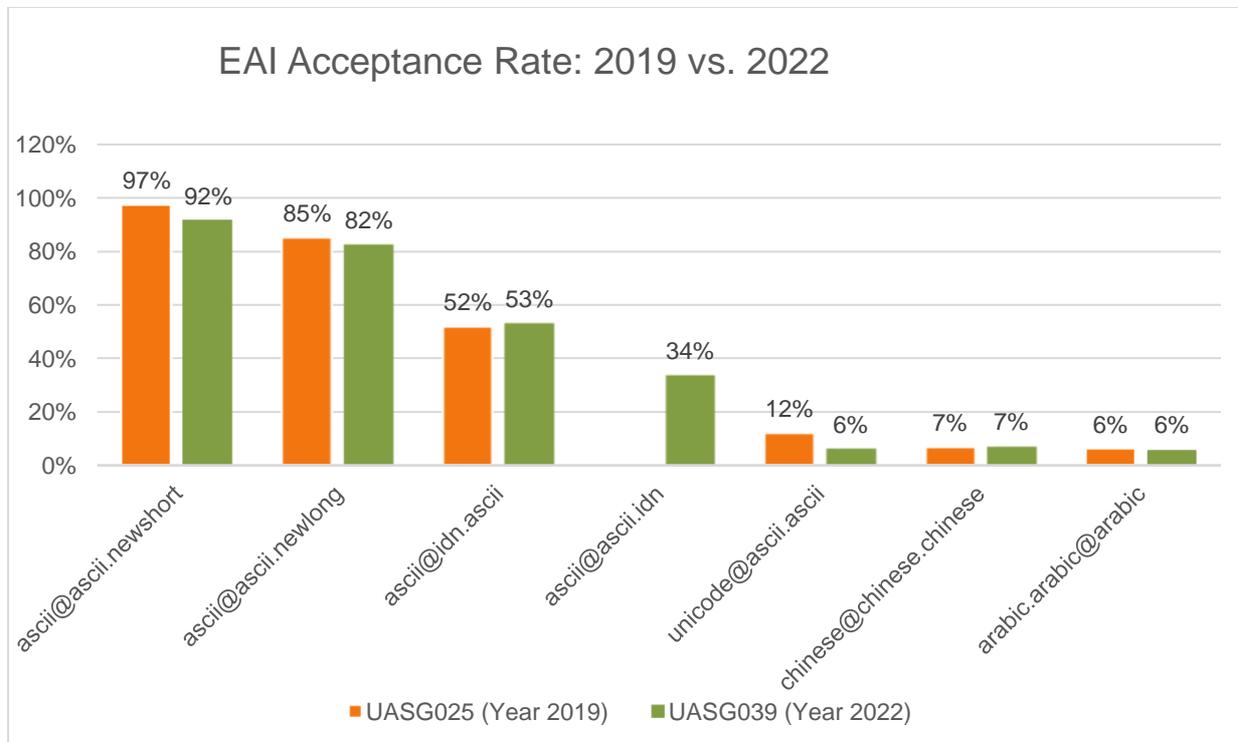
## 2022 EAI Acceptance Rate





## EAI Acceptance Comparative Figures: 2019 (UASG025) Report vs. 2022 Results (UASG039)

Email Category		C1 ascii@ascii.newshort	C2 ascii@ascii.newlong	C3 ascii@idn.ascii	C4 ascii@ascii.idn	C5 Unicode@ascii.ascii	C6 Unicode@idn.idn	C7 RTL@RTL.RTL
UASG025 Year 2019	Type	test@test.example	test@test.example	test@普通话接受-测试.org	NA	测试1@test.org	测试5@普通话接受-测试.世界	دون@رسيل.السعودية
	Accepted	741	647	395		92	51	47
	Rejected	20	114	366		669	710	714
	Total	761	761	761		761	761	761
	Accepted %	97%	85%	52%		12%	7%	6%
	Rejected %	3%	15%	48%		88%	93%	94%
Total%	100%	100%	100%		100%	100%	100%	
UASG039 Year 2022	Type	web-test@universal-acceptance-test.icu	web-test@universal-acceptance-test.international	web-test@www.wwww.com	web-test@universal-acceptance-test.भारत	वेब-परीक्षण@xn----Infbb8fe3cvkui0de0bcg5hxagsg7d5lwail.xn--i1b6b1a6a2e	电子邮件测试@普遍适用测试.我爱你	تجربة الويب@تجربة القبول-الشامل.موريتانيا
	Accepted	697	627	403	256	47	54	45
	Rejected	64	134	358	505	714	707	716
	Total	761	761	761	761	761	761	761
	Accepted %	92%	82%	53%	34%	6%	7%	6%
	Rejected %	8%	18%	47%	66%	94%	93%	94%
Total%	100%	100%	100%	100%	100%	100%	100%	



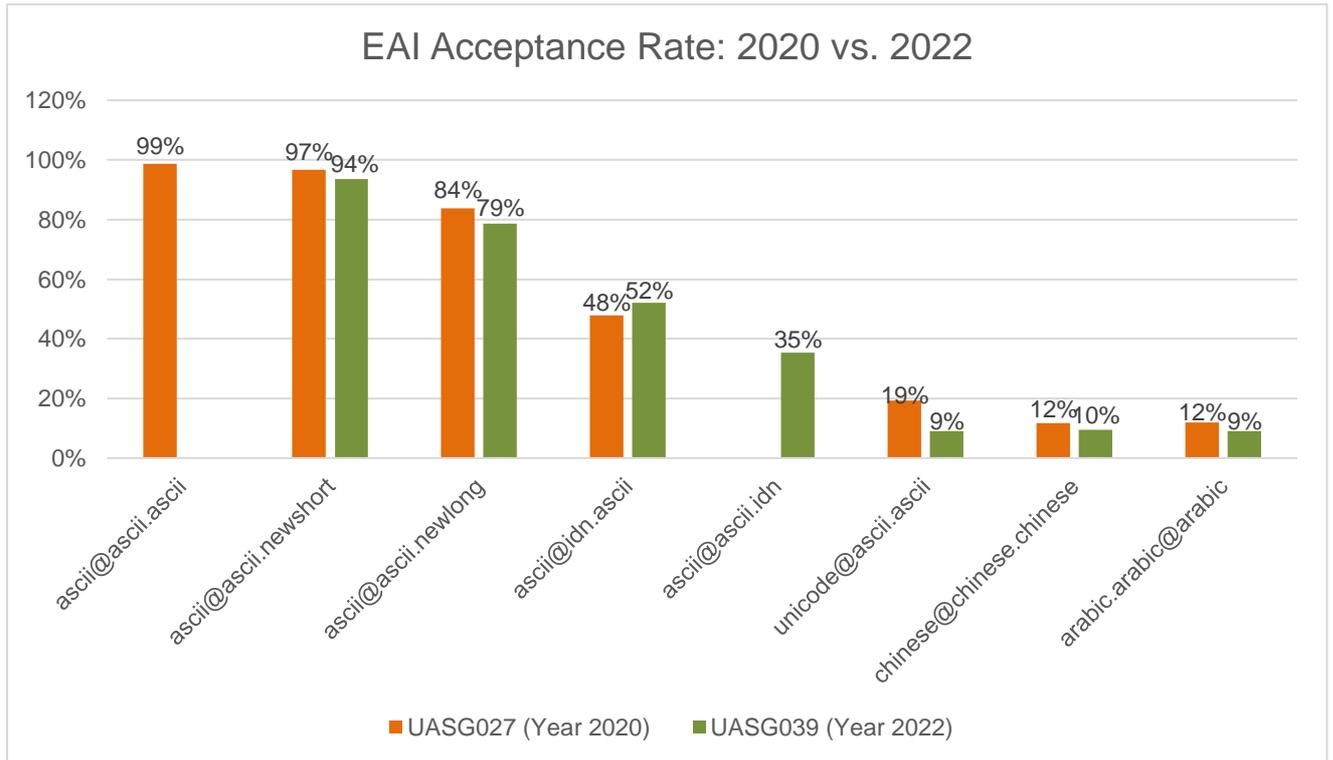
**Note:** email ID: वेब-परीक्षण@xn----Infbb8fe3cvkui0de0bcg5hxagsg7d5lwail.xn—i1b6b1a6a2e (category unicode@A-label.A-label) is included in unicode@ascii.ascii for comparison purposes.



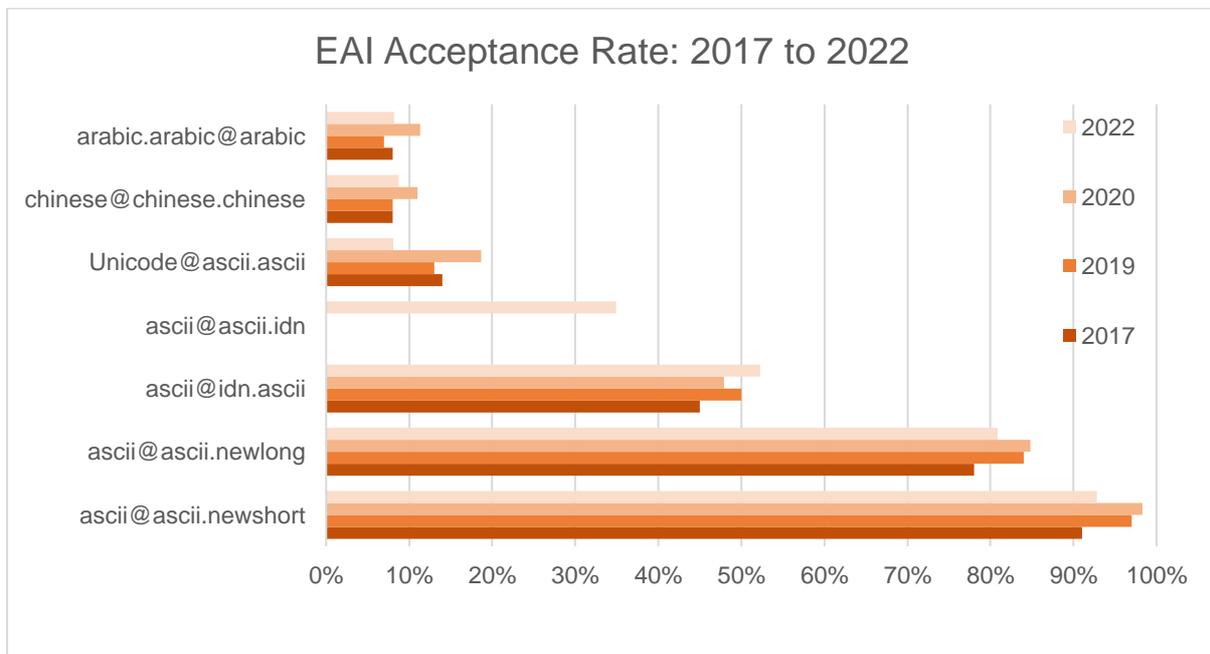
## EAI Acceptance Comparative Figures 2020 (UASG027) Report vs. 2022 (UASG039) Results

Email Category		C1	C2	C3	C4	C5	C6	C7
		ascii@ascii.neshort	ascii@ascii.newlong	ascii@idn.ascii	ascii@ascii.idn	Unicode@ascii.ascii	Unicode@idn.idn	RTL@RTL.RTL
UASG027 Year 2020	Type	test@ua-test19.bet	test@ua-test19.technology	test@普遍适用.com	NA	广场@ua-test19.com	测试@普遍适用.公司	عنوان@يو-اي-الختبار.شبكة
	Accepted	840	727	415		168	101	103
	Rejected	29	142	454		701	767	765
	Total	869	869	869		869	868	868
	Accepted %	97%	84%	48%		19%	12%	12%
	Rejected %	3%	16%	52%		81%	88%	88%
	Total%	100%	100%	100%		100%	100%	100%
UASG039 Year 2022		web-test@universal-acceptance-test.icu	web-test@universal-acceptance-test.international	web-test@वैब-परीक्षण-सह.कॉम	web-test@universal-acceptance-test.017	वेब-परीक्षण@xn----Infbb8fe3cvkui0de0bcg5hxagsg7d5lwail.xn—i1b6b1a6a2e	电子邮件测试@普遍适用测试.我爱你	تجربة-الويب@تجربة-القبول-الشامل.موريتانيا
	Accepted	814	683	452	307	78	83	79
	Rejected	55	186	417	562	791	786	790
	Total	869	869	869	869	869	869	869
	Accepted %	94%	79%	52%	35%	9%	10%	9%
	Rejected %	6%	21%	48%	65%	91%	90%	91%
Total%	100%	100%	100%	100%	100%	100%	100%	

**Note:** email ID: वैब-परीक्षण@xn----Infbb8fe3cvkui0de0bcg5hxagsg7d5lwail.xn—i1b6b1a6a2e (category unicode@A-label.A-label) is included in unicode@ascii.ascii for comparison purposes.



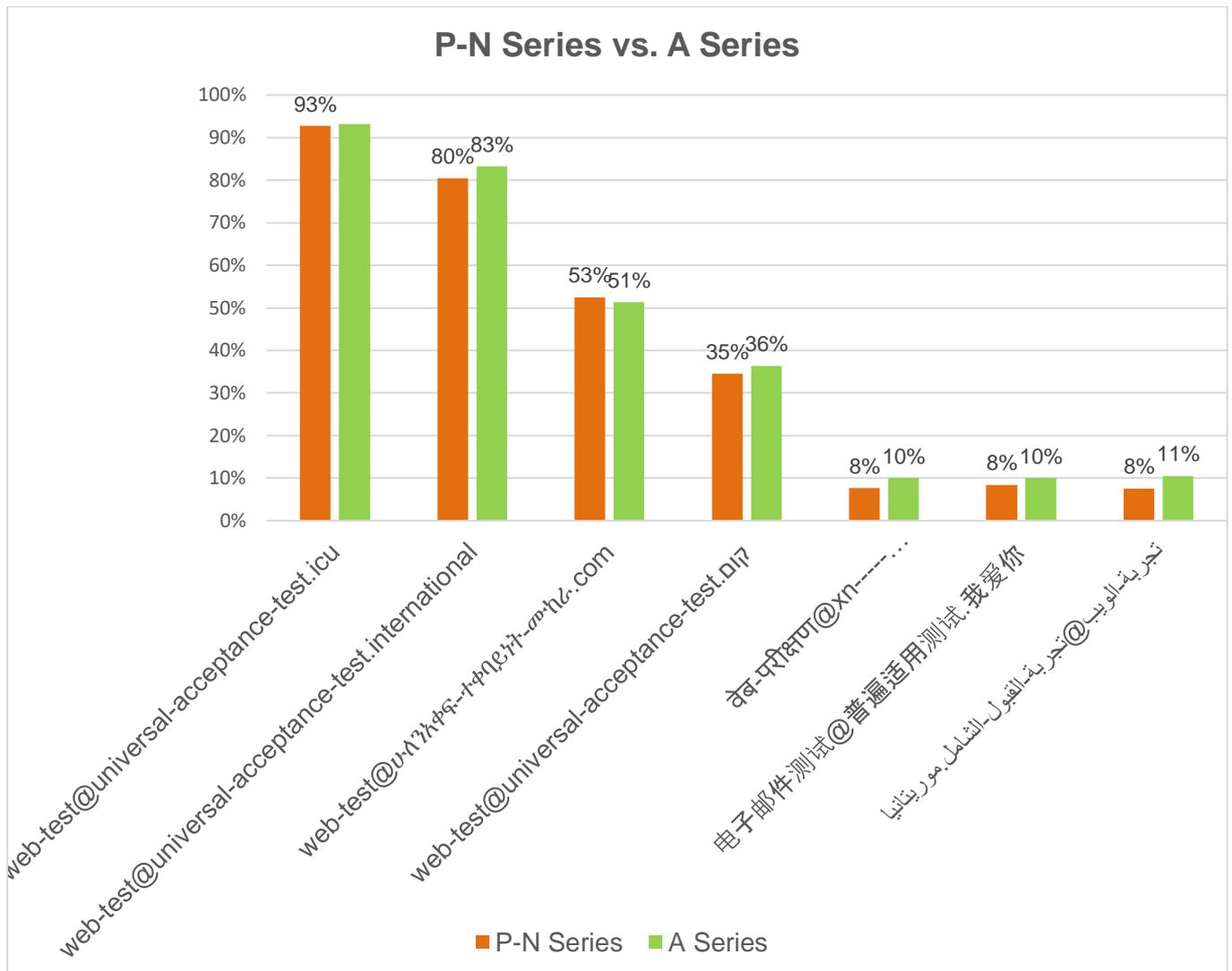
**Note:** email ID: वेब-परीक्षण@xn-----1nfbb8fe3cvkui0de0bcg5hxagsg7d5lwail.xn—i1b6b1a6a2e (category unicode@A-label.A-label) is included in unicode@ascii.ascii for comparison purposes





## EAI Acceptance Comparative Figures P-N Series vs. A Series Results

		C1	C2	C3	C4	C5	C6	C7
Website s	Type	web-test@universal-acceptance-test.icu	web-test@universal-acceptance-test.international	web-test@universal-acceptance-test.international	web-test@universal-acceptance-test.international	वेब-परीक्षण@xn----lnfb8fe3cvkui0de0bcg5hxagsg7d5lwai.l.xn--i1b6b1a6a2e	电子邮件测试@普遍适用测试.我爱你	تجربة الويب@تجربة القبول-الشامل موريتانيا
P-N series	Accepted %	92.70%	80.40%	52.50%	34.50%	7.70%	8.40%	7.60%
A series	Accepted %	93.20%	83.20%	51.30%	36.30%	10.00%	10.00%	10.50%



P Series websites ID - UASG025, 2019 websites

N Series websites ID - UASG027, 2020 websites

A Series websites ID - for additional Alexa top websites added to UASG039



## Observations

It was observed that there is no major difference between the EAI acceptance rates in the 2020 (UASG027) and 2022 (UASG039) reports. However, the 2022 EAI acceptance rates are marginally lower than the 2020 report (UASG027). This decrease may be attributed to:

- The use of a different URL PATH for email field testability since the previous path did not succeed in providing email fields for testing.
- Certain websites found to be non-working and non-responsive (which were removed from retesting).
- In certain cases, forms that had an email field underwent changes.

It is interesting to note that for the email category `ascii@idn.ascii`, there is increase in acceptance rates from 2019 onwards. In 2017, the acceptance rate was 45%; in 2019 it was 50%; in 2020 it was 47.90%; and in 2022 it is 52.24%.

Certain websites have put a limit on the maximum number of characters the user can enter in the email ID field.

- The test email ID of the category `ascii@ascii.long` used in previous UASG025 and UASG027 testing had a maximum of 25 characters, while the test email ID of the same category in the current study had around 48 characters.
- The test email ID of category `Unicode@ascii.ascii` used in previous UASG025 and UASG027 testing had a maximum of 16 characters, while the email category used in current 2022 testing, `Unicode@A-label.A-label`, with which the previous results were compared, had 71 characters. Because of the limit set on the number of characters in the email field (local part plus domain part), we saw a decrease in the EAI acceptance rate from 12% (2019) to 6% (2022) for the websites tested in UASG025. Similarly, because of the limit on the number of characters in the email field, we saw a decrease in the EAI acceptance rate from 19% (2020) to 9% (2022) for the websites tested in UASG027.

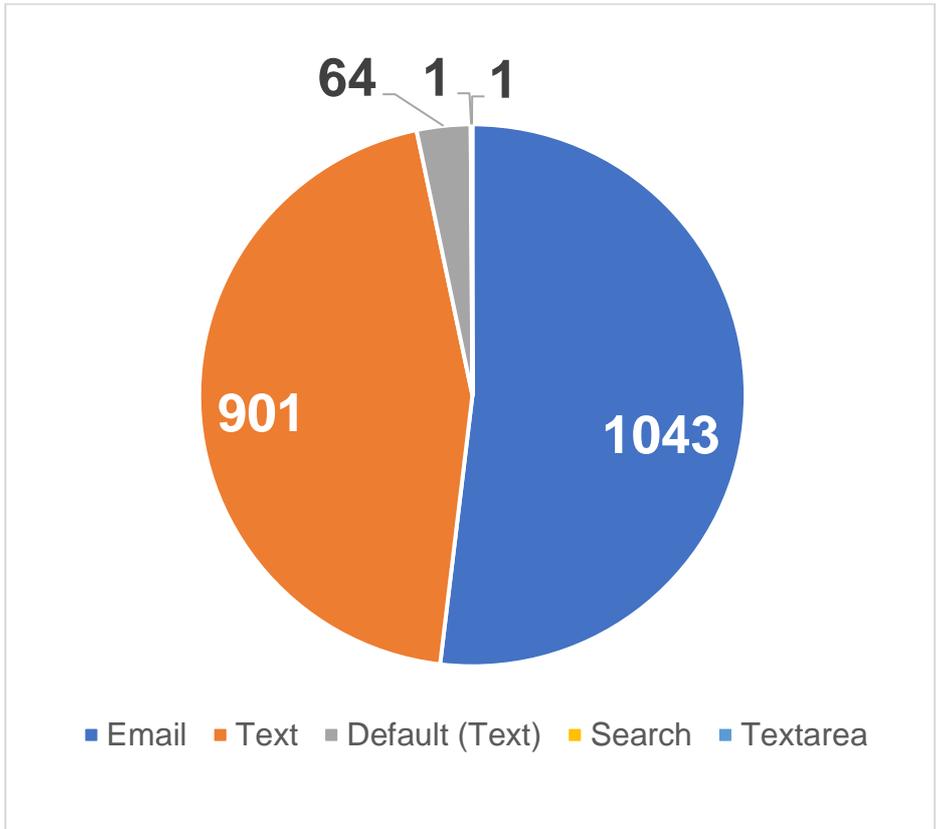
The comparison of EAI acceptance rates between UASG025 (P-Series), UASG027 (N-Series) and UASG039 (A-Series) shows about a 2% overall increase, which is encouraging.

		C1	C2	C3	C4	C5	C6	C7
Websites	Type	<code>ascii@ascii.newshort</code>	<code>ascii@ascii.newlong</code>	<code>ascii@idn.ascii</code>	<code>ascii@ascii.idn</code>	<code>unicode@A-label.A-label</code>	<code>chinese@chinese.chinese</code>	<code>arabic@arabic.arabic</code>
P-N series	Accepted %	92.70%	80.40%	52.50%	34.50%	7.70%	8.40%	7.60%
A series	Accepted %	93.20%	83.20%	51.30%	36.30%	10.00%	10.00%	10.50%

It was observed that a few of the websites have whitelisted specific TLDs (i.e., only emails from those domains are permissible).

While inspecting the email field in various forms of the websites, it was observed that the email field had the following values for HTML `<input>` element "Type" attribute:

- 1,043 websites used value as "email"
- 901 websites used value as "text"
- 64 websites used default (i.e., "text")
- 1 website used value as "search"
- 1 website used HTML `<textarea>` element





## Recommended Actions for the Next Round of Testing

From a technology perspective, testing may also include the following:

- Checking email field size for the maximum number of characters, and more specifically, A-label form domain names in UASG004.
- Technology stack used for front end and back end to better understand all the IDNA libraries that are required to achieve EAI compliance.
- HTML input element type's attribute used.
- Validation mechanisms used.
- If a given website accepts EAI, then figure out in broad terms how the same is being achieved.
- If a given website accepts EAI, then undertake testing of sending and receiving EAI emails.

From strategy perspective, testing should:

- Undertake a focused study of government websites from different countries. Such a list can be obtained from public portals or the respective country's ministries/IT departments/agencies/organizations.
- Conduct UA remediation outreach to these websites by taking help from the respective country's ministries/IT departments/agencies/organizations. If required, get help from UA Ambassadors, ICANN Governmental Advisory Committee (GAC) members, observers, and their country representatives.
- If UA-ready, these types of websites can become models for others in different industries.
- Academic websites also can be included in UA compliance and remediation, since a large number of students/users are accessing the same sites on a day-to-day basis.