# Supporting Internationalized Email Addresses (EAI) in Email Servers

**UA Day 2023, Armenia** 

Abdalmonem Galila UASG Vice Chair

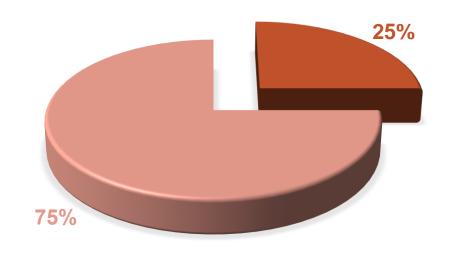


28 March 2023

#### **Some Statistics**

Daily Email Traffic	2021	2022	2023	2024	2025
Total Worldwide Emails Sent/Received Per Day (B)	319.6	333.2	347.3	361.6	376.4
% Growth	4.3%	4.3%	4.2%	4.1%	4.1%

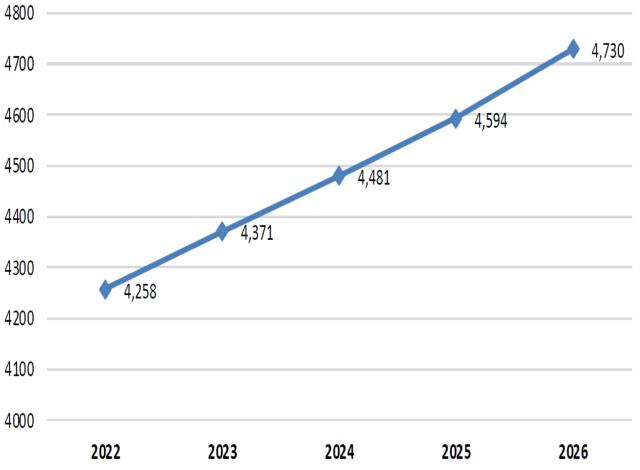
#### LANGUAGE BASED CONTENT



English



#### Worldwide Email Users (B), 2022-2026



Source :- <a href="http://www.internetworldstats.com/">http://www.internetworldstats.com/</a>, <a href="http://www.radicati.com">https://www.radicati.com</a>





#### From the below list of email addresses,

john.smith@gmail.com

jo.hn.sm.ith@gmail.com

j.o.h.n.s.m.i.t.h@gmail.com

johnsmith@gmail.com

John.smith@yahoo.com

How many unique different mailbox are there:

- a. 1
- b. 2
- c. 3
- d. More





Are email addresses case sensitive?

- a. Yes
- b. No





Which email provider uses @me?

- a. Apple
- b. Microsoft
- c. Gmail
- d. Yahoo



# Meet Азизбек Кадыров, Lee and Yassin



Азизбек Кадыров, Tashkent ,Uzbekistan



Lee, Beijin, China



Yassin, Cairo, Egypt



# Meet Азизбек Кадыров, Lee and Yassin







aziz@tashkent.online
Ascii@Ascii.newLOng

<u>测试@普遍接受-测试.世界</u> Chinese@ Chinese. Chinese

Yassin, Cairo , Egypt ياسين@سجل.مصر



#### What is Universal Acceptance?

The Domain Name System (DNS) has changed over the last decade. There are now more than 1,200 active gTLDs representing many different scripts and character strings of varying length (e.g., .дети, .london, .engineering). There are also more than 60 IDN country code top-level domains (ccTLDs) representing global communities online in native scripts (e.g., .ไทย).

Universal Acceptance (UA) is cornerstone to a digitally inclusive Internet by ensuring all valid domain names and email addresses – regardless of language, script, or new or long TLD (e.g., .在线, .photography) – are accepted equally by all Internet-enabled applications, devices, and systems.





#### Why Does Universal Acceptance Matter?

Achieving UA ensures every person has the ability to navigate and communicate on the Internet using their chosen domain name and email address that best aligns with their interests, business, culture, language, and script.

#### UA can also help:

- Support a diverse and multilingual Internet.
- Enable greater competition, innovation, and consumer choice.
- Create business opportunities.
- Offer career advantages for developers and system administrators.
- Assist governments and policymakers in reaching their citizens.

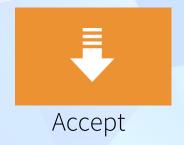


#### **Universal Acceptance of Domain Names and Emails**



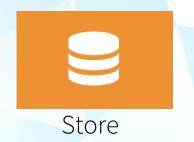
#### Goal

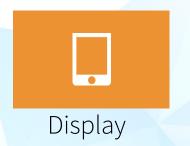
All valid domain names and email addresses work in all software applications











#### **Impact**

Promote consumer choice, improve competition, and provide broader access to end users



#### **Categories of Domain Names and Email Addresses**



- Now possible to have domain names and email addresses in local languages:
  - Internationalized domain names (IDNs).
  - Email Address Internationalization (EAI).
  - UTF8 format by Unicode used for IDNs and EAI.
- Domain Names

Newer top-level domain names: example.sky

Longer top-level domain names: example.abudhabi

o Internationalized Domain Names: 普遍接受-测试.世界

Internationalized email addresses (EAI)

ASCII@IDN marc@société.org

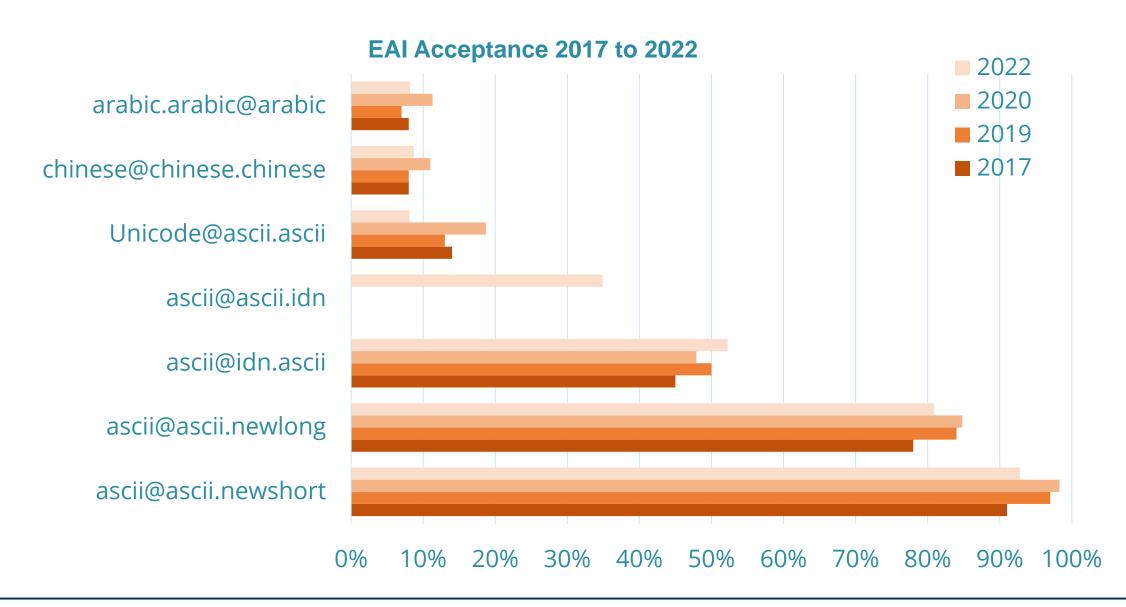
○ UTF8@IDN 测试@普遍接受-测试.世界

o UTF@IDN; right to left scripts اى-ميل @مثال.موقع



#### **Email Acceptance of Top Websites Globally**







# Support of EAI in the Email Systems Deployed





# By the Numbers

1,180

**TLD zones** 

210,811,274

second level domains

34,996,159

unique mail servers

2,537,159

unique IP addresses

Of the tested IP addresses:

32.33% did

did not respond

60.63%

did not support internationalized email addresses

7.04%

were set up to accept an internationalized email address







# **Structure of Email Messages**



- Envelope Information that accompanies a message in transit, including the address(es) it is being sent to, and the return address to which error or failure reports can be sent
- Message Header A series of structured fields with a header name such as From: To: or Subject: followed by the contents of the header
  - free-format, such as the Subject:
  - fixed-format, such as the Date: and Message-ID:
  - A combination of fixed- and free-format, such as the To:,
     From: and Cc: with fixed-format addresses with free-format comment text
- Message Body The contents of a message, which may be unformatted text, or it may be one or more formatted or encoded MIME parts

EHLO mailserver.fromorg.example MAIL FROM:<sender@fromorg.example> RCPT TO:<recipient@rcptco.example>

```
From: sender@fromorg.example
To: recipient@rcptco.example
Subject: ...
Date: ...
... other headers ...

Content-Type: text/html; ...

... text MIME part ...

Content-Type: application/pdf; ...

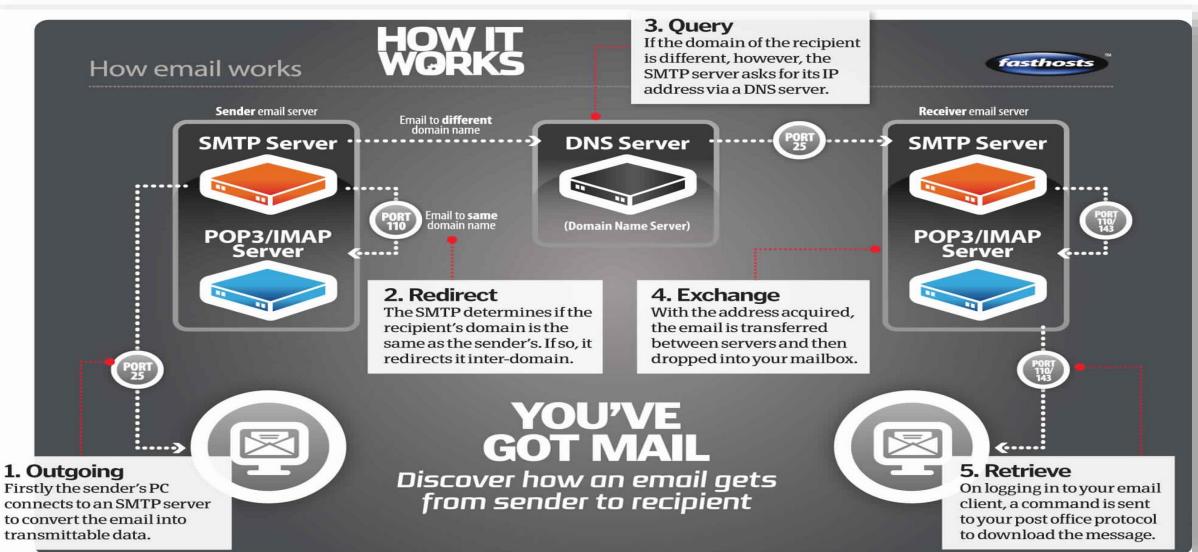
... attachement MIME part ...
```

See EAI: A Technical Overview for details



#### **Email System Environment**

Source: https://www.howitworksdaily.com/



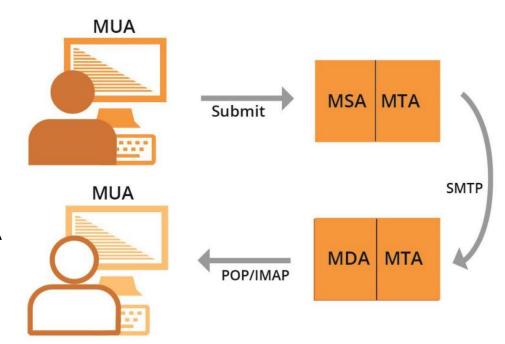


# **Email Systems**



- MUA Mail User Agent: A client program that a person uses to send, receive, and manage mail.
- MSA Mail Submission Agent: A server program that receives mail from a MUA and prepares it for transmission and delivery.
- MTA Mail Transfer Agent: A server program that sends and receives mail to and from other Internet hosts. An MTA may receive mail from an MSA and/or deliver mail to an MDA.
- MDA Mail Delivery Agent: A server program that handles incoming mail and typically stores it in a mailbox or folder.

These agents create and process the email envelope, message header and message body and need to be enhanced to handle Unicode text in UTF8 format to support EAI. See EAI: A Technical Overview for details





#### **Email Address Internationalization**



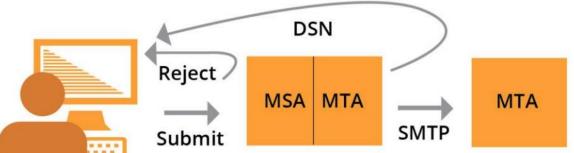
- What is EAI?
  - Having UTF8 support for:
    - mailbox name (before the @ sign).
    - domain name (after the @ sign).
- What is not EAI?
  - Having UTF8 support in:
    - Subject line
    - Address comments
    - Message body
  - MIME provides all these in conventional mail.
  - Use of any character set other than UTF-8.

# **Levels of EAI Implementation**



 No EAI support - only ASCII email addresses supported by the tools and services.

- Level 1 can exchange email with EAI addresses.
  - Receive email from an EAI address.
  - Send email to an EAI address.
  - Cannot create mailbox and domain name in UTF8.
- Level 2 Level 1 + can create EAI addresses.
  - Receive email from an EAI address.
  - Send email to an EAI address.
  - Create mailbox and domain name in UTF8.











Applications present Internationalized Domain Names (IDNs) and Email Address Internationalization (EAI) to users in the following encoding format(s):

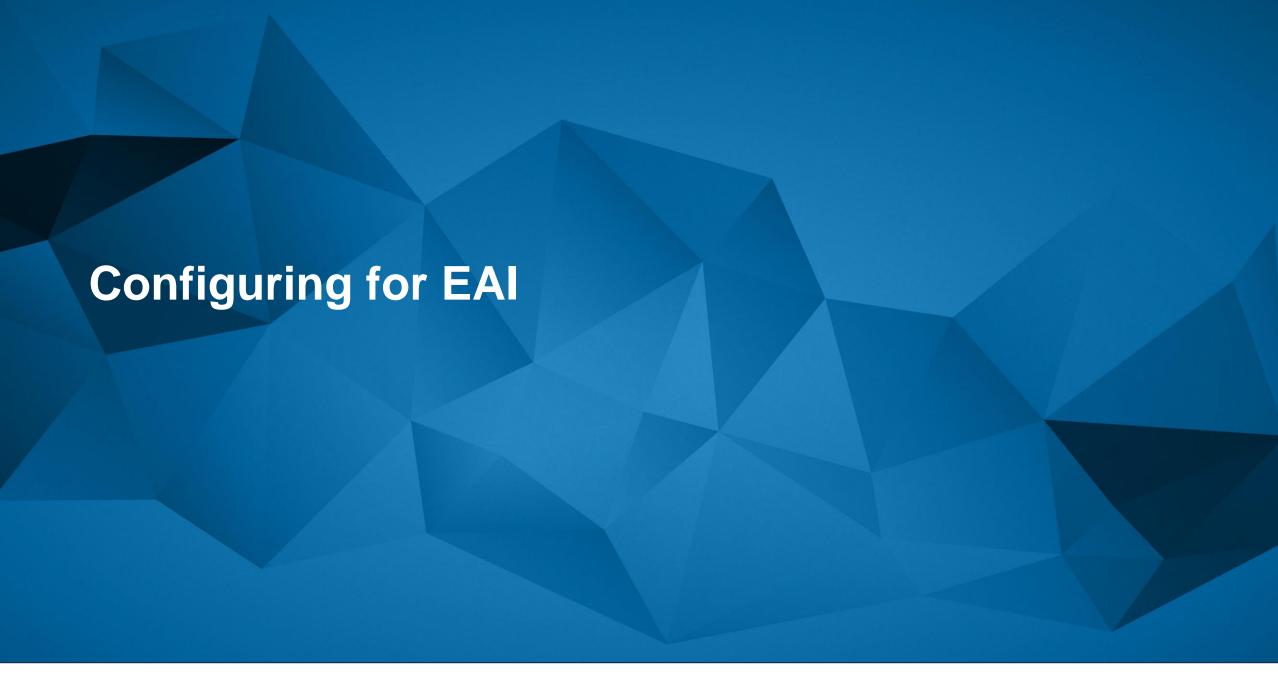
- a. ASCII
- b. UTF-8
- c. UTF-16
- d. **UTF-32**
- e. Some of the above





Is .ieee a valid top-level domain (TLD)?







#### Quiz --



Does the letter Ç (\u00C7) equal to the letter Ç (\u0043\u0327)

- True or False?

# **Pre-Requisites for Setting up EAI**



- Normalize Unicode (UTF-8) string before processing, storing, etc. For IDNs use NFC form: e + ` (è: U+0065 U+0300) → è (U+00E8).
- Support both <u>representations of IDN labels</u>: U-label and A-label. U-Label is used for displaying and comparing; A-label for processing:
  - exâmple => exmple-xta => xn--exmple-xta.
- Always use IDNA2008, not the older IDNA2003 version.
- Do not use code/libraries that have a static list of top-level domains (TLDs) as these change often.
   See <u>IANA list for TLDs</u>, with regular updates.
- Do not use regex for user input validation of internationalized identifiers. Use IDNA2008 libraries for IDN; EAI local part may be difficult to validate.



#### **Email: How To Find the Destination Server**

- When sending email to user@example.com, the method to find the destination email server is by querying the DNS for the MX records of the domain.
- For example, the MX records for example.com could be:
  - MX 10 server1.example.com
  - MX 10 server2.example.com
  - MX 20 server3.example.com
- The sender email server would then try connecting to either server1 or server2 since they have same priority (10). If none respond, it will then try server3 since it has a lower priority (20).
  - The higher number means lower priority.



#### **Email Protocol Changes for EAI**

#### 

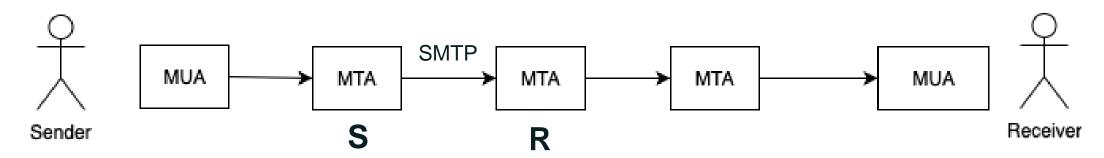
- Is augmented to support EAI.
- Has a signaling flag (SMTPUTF8) to specify support of EAI.
- All SMTP servers in the path must support EAI to successfully deliver the email.

#### • POP/IMAP:

- Are augmented to properly support EAI.
- Have a signaling flag to specify support of EAI.



#### **SMTPUTF8 Example**



Server S forwarding an email to server R

S: <connect>

R: 220 receive.net ESMTP

Specific SMTPUTF8 Signaling (EAI support)

S: EHLO sender.org

R: 250-8BITMIME

R: 250-**SMTPUTF8** 

R: 250 PIPELINING

S: MAIL FROM:<猫王@普遍接受-测试.世界> SMTPUTF8

R: 250 Sender accepted

S:RCPT TO:<ray@receive.net>

R:250 Recipient accepted

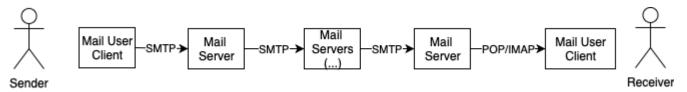


#### **SMTPUTF8 Example**

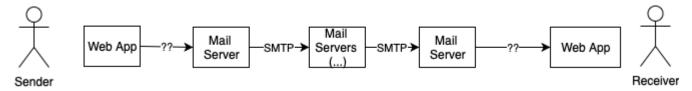
```
S:DATA
R:354 Send your message
S:From: 猫王 <猫王@普遍接受-测试.世界>
S:To: ray@receive.net
S:Subject: 我们要吃午饭吗?
S:
S:How about lunch at 12:30?
S:.
R:250 Message accepted 389dck343fg34
S:QUIT
R:221 Sayonara
```



#### **Email Delivery Path**



Using email software for both users.



Using web email for both users.

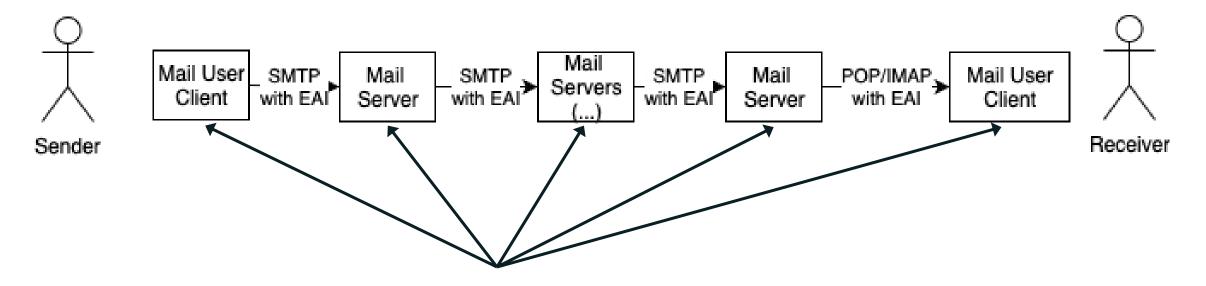
- Mix is also very common: Email software for one user, web email for the other user.
- Mail server is the MTA; the source and destination servers are MSA and MDA, respectively.
- Mail User Client can be on desktop, laptop, or mobile.

# **Email Delivery Path Considerations**

- ⊙ Each user of an email communication chooses his own email environment/software/setup independently.
- The sender does not know the receiver email environment, meaning:
  - The sender does not know which protocols are used to deliver email.
  - The sender does not know if the receiver email supports some features.
- The delivery goes through a chain of email servers.
  - The number of email servers is unknown.
  - The actual chain of servers:
    - Is unknown at the beginning.
    - May change for any subsequent email sent.
  - o The features supported by each email server is unknown to the path or from the sender.
  - o Features are only discovered one hop at a time (i.e., the next hop).



# **Protocol Changes, Delivery Path Considerations**



To send and receive an email with EAI:

- All email parties involved in the delivery path have to be updated for EAI support.
- If a single SMTP server in the path does not support EAI, then the email is not delivered.

# **Protocol Changes, Delivery Path Considerations**

- What happens when one email (SMTP) server in the path does not support EAI?
  - The last server trying to send to the next hop:
    - Sends back to the sender user a report of unable to deliver.
    - Drops the email.
  - Similar to reports that a sender receives when an email address does not exist.



#### **Additional Considerations**

#### Occupied Case Control Contr

- In ASCII, email users expect the equivalence of lowercase and uppercase. For example,
   PETER@example.com and peter@example.com will be delivered to the same mailbox.
- Typically for EAI, such case folding functionality is not automatically implemented in most EAIready software.

#### SPAM:

 EAI emails may be considered spam by spam filtering software even when proper SPF/DKIM records are enabled.

#### Software/Services:

Not every server/client software and services support EAI.



# **EAI Support by Email Tools and Services**



#### **EAI Support by Email Tools and Services**



Name	MUA	MSA	мта	MDA	MSP	Webmail
Coremail	Few	All L2	Most L2	Few	All L2	Most L2
MS Outlook.com	Most L1	Most L1	Most L1	None	None	Most L1
Yandex Mail	Few	None	None	Few	Part	Few
Roundcube	Most L2					
Apple Mail	Few					
Apple iOS Mail 14.x	Most L2					
Mozilla Thunderbird	Few					
MS Outlook	Most L1					
MS Exchange Server (hosted)		All L1	All L1	Few		
Exim		Most L2	All L2			
Postfix		All L2	All L2			
Courier		All L2	All L2	All L2		
Gmail	All L1	All L1	All L1	Few		
XgenPlus		Most L2	Most L2	Most	All L2	Most L2
Sendmail 8.17 Alpha		Most L2	Most L2			
Halon		Most L2	Most L2			
Thunderbird 89 beta	Most L1					
Dovecot				None		

See detailed testing results in UASG030A: EAI Software Test Results







## Quiz 6



For Email Address Internationalization (EAI) to work MTAs should support SMTPUTF8 signaling flag?

- True or False?

.



## Quiz 7



Which of the following statement(s) are *True* when sending and receiving an email with EAI:

- a) All email parties/nodes involved in the delivery path have to be updated for EAI support.
- b) If a single SMTP server in the path does not support EAI, then the email will not be delivered.
- c) POP/IMAP servers could provide downgraded emails to non-EAI conforming email clients, but this is not recommended.
- d) None of the above.





# What do you think ! (Open Discussion)



#### Siri

Siri helps you get things done just by asking. Siri can even make suggestions before you ask in apps, and keyboards.

To use Siri, press and hold the side button or say "Hey Siri" anytime.

Apple stores transcripts of your interactions with Siri and may review a subset of these transcripts. Siri also sends information like your voice input, "Hey Siri" setup, contacts, and location to Apple to process your request. Data is not associated with your Apple ID.

About Siri...

Ask Siri in English

Ask Siri in Arabic

Don't Use Siri





<u>UASG028</u> - Considerations for Naming Internationalized Email Mailboxes

All considerations, you have to consider the your customer needs in addition to local market expectations.

Script: conventions and sets of characters used together to write one or more languages (Ex. Latin script, Arabic script, .... Etc)

### Supported Scripts:

Email administrators need to deicide which scripts will be the defaults ones of the system.

Considerations: Most systems will include ASCII code points for backward compatibility, EAI allows administrators to use additional scripts.

#### Checklist:

- Know user expectations for writing systems for mailbox name and domain name portion.
- Understand complexities involved for additional scripts (e.g., security, confusion, etc.).





## Length of a Mailbox Name String:

What are the minimum and maximum length does the email administrator want to permit for mailboxes.

Considerations: Email standards allow up to 64 octets in mailbox names, some systems limit the string to less than the standard character limit.

Sometimes there are benefits for using short names and other time long names for mailboxes have another benefits.

When using UTF8 to add more languages and scripts, a single character can be represented in multiple octets which will increase the mailbox character length.

#### Checklist:

- Know constraints of your system and user expectations.
- Consider same or a similar policy as for ASCII mailbox names.





## Script Mixing:

The use of characters from multiple scripts in a single mailbox name in a way that is not used in normal writing, in particular, some characters from other scripts might be confusingly similar to characters from the primary script, which opens possibilities for security issues and user confusion.

#### Considerations:

- Script mixing leads to security issues and user confusion.
- Allow limited script mixing only when clear user need based on local practice.
- Consider security and confusion due to script mixing for mailbox and domain name.

#### Recommendations:

 Use the same script for different parts of the same email address (domain name and mailbox), unless otherwise required to achieve your organization's goals.





## Script Mixing:

#### Recommendations:

- Use the same script for different parts of the same email address (domain name and mailbox), unless otherwise required to achieve your organization's goals.
- Only characters that are used together in the ordinary writing of a language should be allowed in a given mailbox name I that language.

مستخدم@رسيل.السعودية :Sample 1: Arabic script email address

Sample 2: Japanese script email address with script mixing:

誰か@日本語ドメイン名試験.jp

#### Checklist:

- Consider the possibility of confusion, errors and opportunities due to script mixing both within the mailbox name and between the mailbox name and the domain name.
- Allow limited script mixing where there is a clear user need based on local practice and market requirements.



## Preventing Invalid and Unstably-Rendered Strings:

In some writing systems, characters can be combined in valid ways and in an invalid ways that leads to confusion and security risks. Such string of characters will not be rendered consistently between platforms and applications-they will look different on different systems or displays.

#### Considerations:

- Check if <u>Reference IDN tables</u> meet desired mailbox string and update as needed.
- Use a string validation tool (e.g., <u>LGR Tool</u>) to validate the mailbox strings.

#### Recommendations:

- Avoid potential security issues caused by crating mailbox names using invalid strings and its equivalents.
- Refer to the language-based-LGR whenever you intend to offer mailbox in one language.
- Refer to the script-based-LGR whenever you intend to offer mailboxin one script that may cover many languages.





## Preventing Invalid and Unstably-Rendered Strings:

#### Checklist:

- Share the Label Generation Rules (LGRs) as a mechanism to allow your end users to understand which characters and combinations will be considered valid.
- You could use the LGR validation tool as it is or deploy it on an internal server to streamline your workflow and to keep the mailbox names it processes inside your network.

## Right-to-Left (RTL) Script

#### Consideration:

Avoid script mixing with right-to-left scripts to avoid confusability and security issues.

#### Recommendations:

It is not recommended to use combining marks specially in Arabic script.

#### Checklist:

Avoid script mixing with right-to-left scripts as it can lead to confusability and security issues.





## Right-to-Left (RTL) Script

#### Checklist:

Avoid script mixing with right-to-left scripts as it can lead to confusability and security issues.

Avoid allowing two mailboxes with malbox names that are equivalent to each other.

## Aliases and Display Names Consideration:

Some email systems makes it easy for users to have multiple email mailbox names or multiple display names directing mail to and from the same mailbox. These aliases and display names are helpful for several EAI cases.

#### Recommendations:

- Consider alias-creation option for the user interface during the mailbox name selection. process.
   ASCII alias can be allowed with an EAI mailbox name.
- Optionally allow the user to add additional aliases at a later time.





## Signs and Symbols:

- Avoid using signs and symbols, especially that do not exist on keyboard/input devices
- If required for your market, the dot (.), underscore (\_), hyphen (-) and plus sign (+) are commonly used.
- Review any additional signs (if needed) and ensure it does not cause a security issue.
- EMOJI should not be allowed (reference to ICANN's SSAC Advisory SAC095)

#### Unicode Character Normalization:

- Understand the normalization type of your email system.
- Ensure that your email program does normalized-form-independent name comparisons.
- If it's possible to select normalization, prefer to use NFC form.



## Equivalence Considerations:

Equivalent mailbox names are considered as variants, some time variants are useful and can be used as aliases for the primary mailbox name, in other cases they are confusing and may lead to seculrty issuesif not identified or assigned to different user.

Considerations: Consult the LGRs to see if you want to use them as the basis of your definition of mailbox name equivalent.

1. Traditional Chinese and Simplified Chinese equivalents:

名称 which means "name" (U+540D U+79F0)

名稱 which means "name" (U+540D U+7A31)

名称 (Míngchēng, means "Name") is used in China mainland and 名稱 (Míngchēng, means "Name") is used in Taiwan and Hongkong, however, all of the Chinese community could recognize these two words as the same.





- Equivalence Considerations:
- 2. Arabic script equivalents (the word means "network" in Arabic):

```
شبكة (Unicode U+06C3 U+06A9 U+0628 U+0634) شبكة (Unicode U+0629 U+06A9 U+0628 U+0634) شبكة (Unicode U+0629 U+0643 U+0628 U+0634)
```

- 3. Full width versus half-width characters in Japanese and Chinese scripts. "J I M" vs "JIM", "1 2 3" vs "123", "アイオ" vs "パオ".
- 4. Case folding equivalents:

```
John.Callen
john.callen
John.callen
john.Callen
```

Variation of name and separator (may also be considered equivalent):

```
john.callen
johncallen
```





## Equivalence Considerations:

Equivalent mailbox names are considered as variants, some time variants are useful and can be used as aliases for the primary mailbox name, in other cases they are confusing and may lead to security issues if not identified or assigned to different user.

#### Checklist:

- Consult the LGRs to see if you want to use them as the basis of your definition of mailbox name equivalent.
- Define a policy for determining the "same" or equivalent mailbox names based on the writing system, user expectations, and technical capabilities of your implementation.
- Examine the IDN tables, case-folding, separators, numerals, and symbols for policy.
- Avoid creating different mailboxes using names which are equivalent to each other.
- Share your policy to let end users understand which characters and combinations will be considered valid and which ones might have equivalence.





### Other considerations:

The internationalized domain name part of an email address can be spelled with Unicode characters or with an equivalent ASCII-only name beginning with "xn--".

Considerations: not every email system supports internationalized email addresses, the "xn=="spelling might be a useful workaround."

#### Recommendations:

- Spell domain names with their internationalized non-ASCII names. Avoid displaying the "xn--" alternative name.
- Some email clients might not automatically link the U-label and A-label forms of email address mailbox names, so ensure that both labels are mapped to each other.





## Quiz 8



Which of the following statement(s) are *False*:

- a) Universal Acceptance (UA) is the state in which all valid domain names and email addresses are accepted, validated, stored, processed, and displayed correctly and consistently.
- b) To achieve Universal Acceptance, Internet applications and systems must treat all TLDs in a consistent manner, including new generic TLDs and all internationalized TLDs.
- c) All domain names should be validated against the Internationalized Domain Names in Applications IDNA2003 Standard.
- d) The A-label represents a domain label in Unicode UTF8 format.
- e) The A-label format is used to represent mailbox names in EAI.



# Quiz 9



What is the A-label of 测试?

Hint: You can use the tool: <a href="https://lgrtool.icann.org/">https://lgrtool.icann.org/</a>



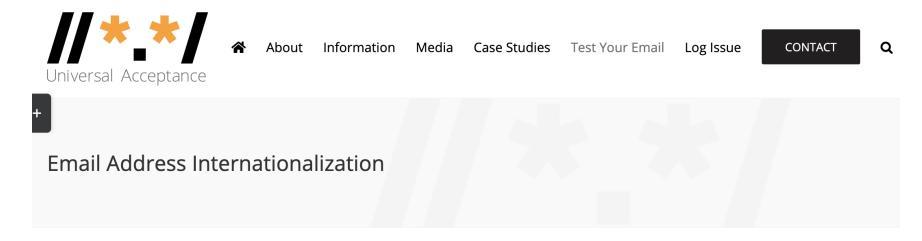
# **Are Your Software Applications UA-Ready?**



## **EAI Check**



- Check if your email server supports Email Address Internationalization (EA):
  - o <u>https://uasg.tech/eai-check/</u>



#### EAI Check

This widget takes an email address and checks to see if the mail server advertises support for receiving EAI (Email Address Internationalization) email addresses.

Check to see if your email address is EAI compliant. Enter a valid email address below:

Enter Valid Email Address

CHECK ADDRESS



# **ICANN's Journey to UA-Readiness - Model**



- Stage 1: Update services to support both new short and long ASCII TLDs.
- Stage 2: Update services to support non-ASCII Internationalized Domain Names (IDNs) in Unicode (U-label), and ASCII-based IDN representations in Punycode (A-label).
- Stage 3: Update infrastructure and services to support non-ASCII email addresses.
  - Note: all components must support Email Address
     Internationalization (EAI) before infrastructure is compliant.
- See details in <u>ICANN's Case Study</u>

## STAGE 1

Establish support for new short and long ASCII-based TLDs

## STAGE 2

Establish support for IDN TLDs in Unicode or Punycode

## STAGE 3

Establish support for Email Address Internationalization (EAI)



# **Next Steps and Community Support**



- UASG and ICANN continue to undertake gap analysis, remediation, training and outreach:
  - Gap analysis Social Media, Browsers, Programming Languages, EAI Tools, etc.
  - Remediation engaging technology forums (e.g., GitHub) and bug reporting.
  - Training and outreach through UA Local Initiatives and UA Ambassadors.

We request the community to help address UA-readiness and lead by example:

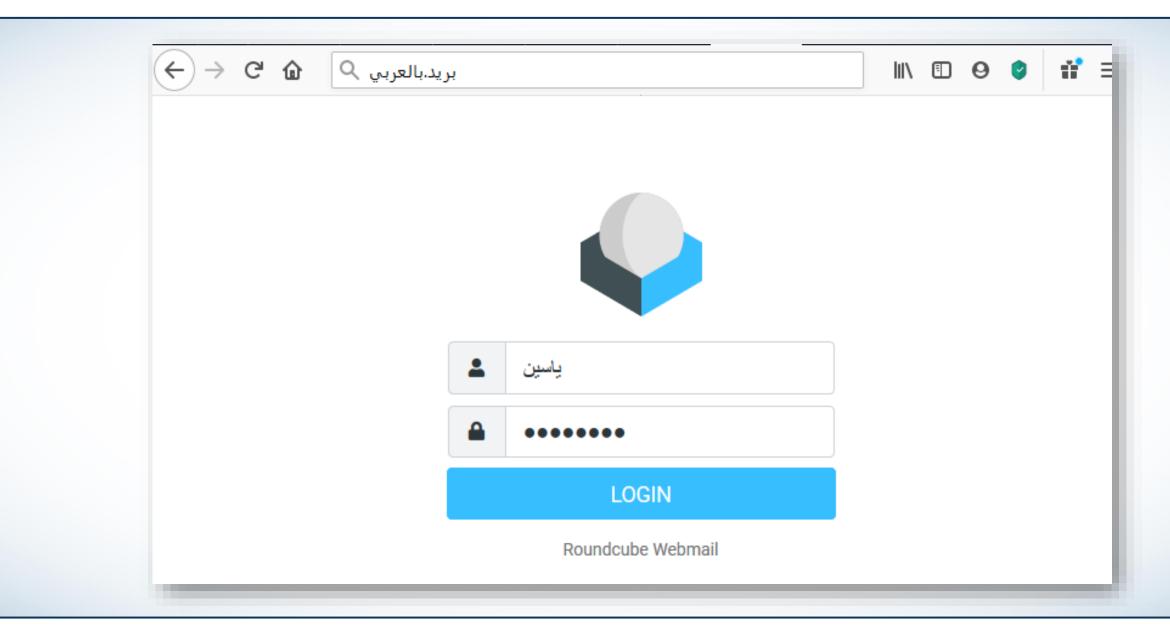
- 1. Raise awareness of the technical problems within the community.
- Upgrade and use UA-ready systems as a community to create the necessary demand, e.g., upgrade email servers, use email in local language.
- 3. **Advocate more broadly** to support UA in their systems (e.g., in e-govt. services; the private sector organizations, etc.).

Such activities may be undertaken in collaboration with UA Local Initiatives and UA Ambassadors.

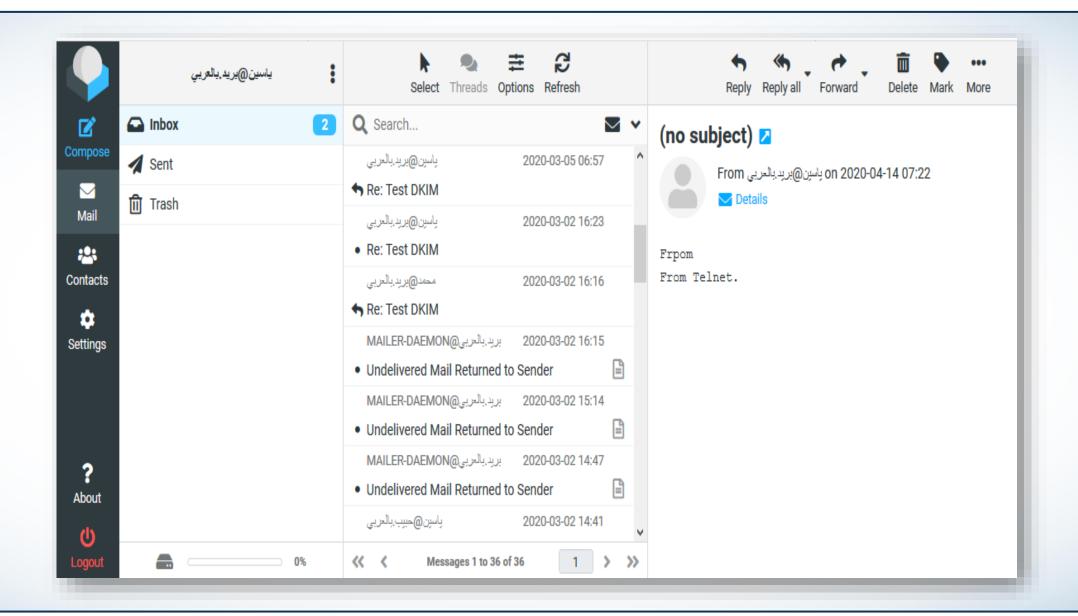




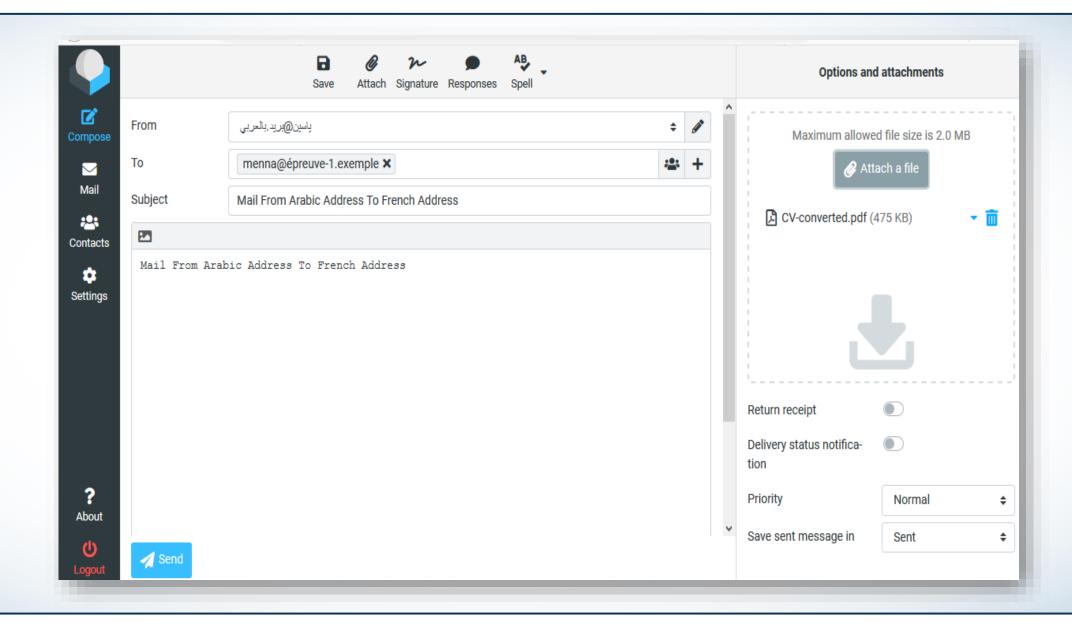




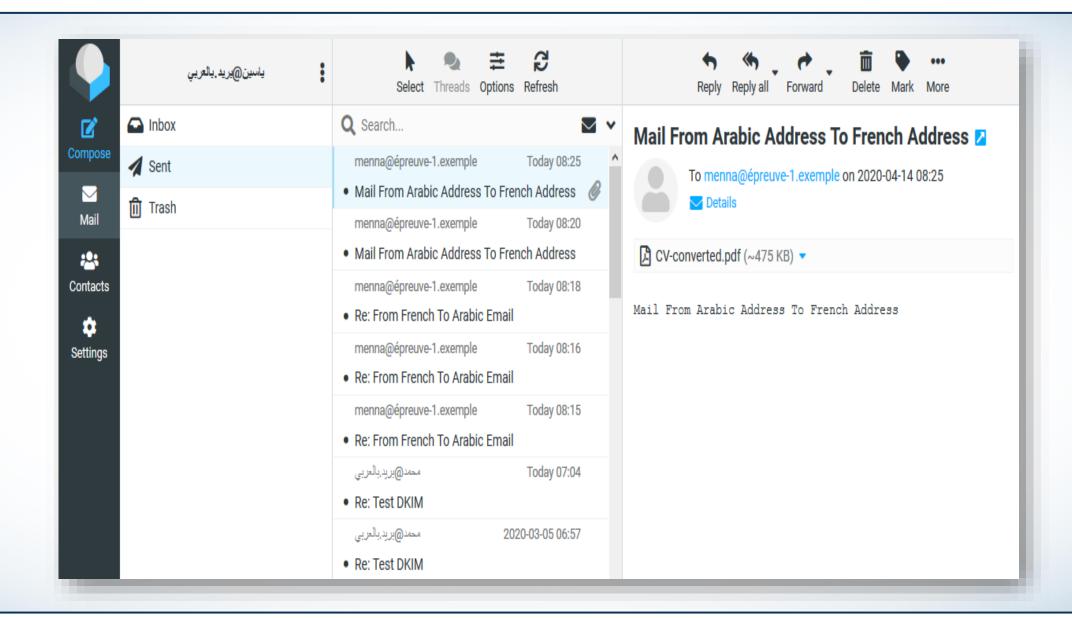




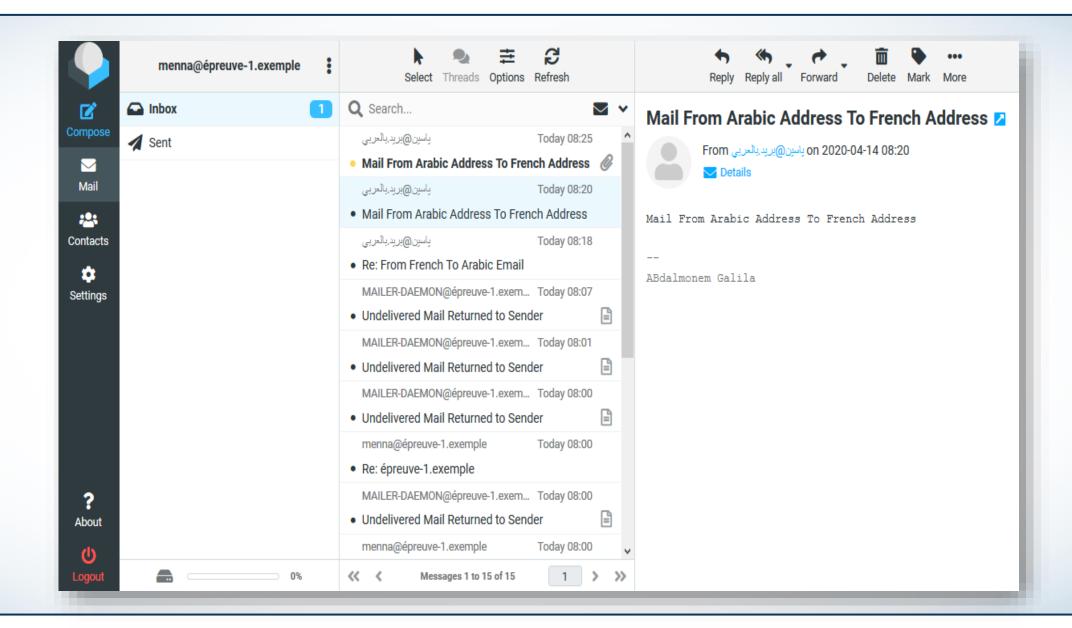




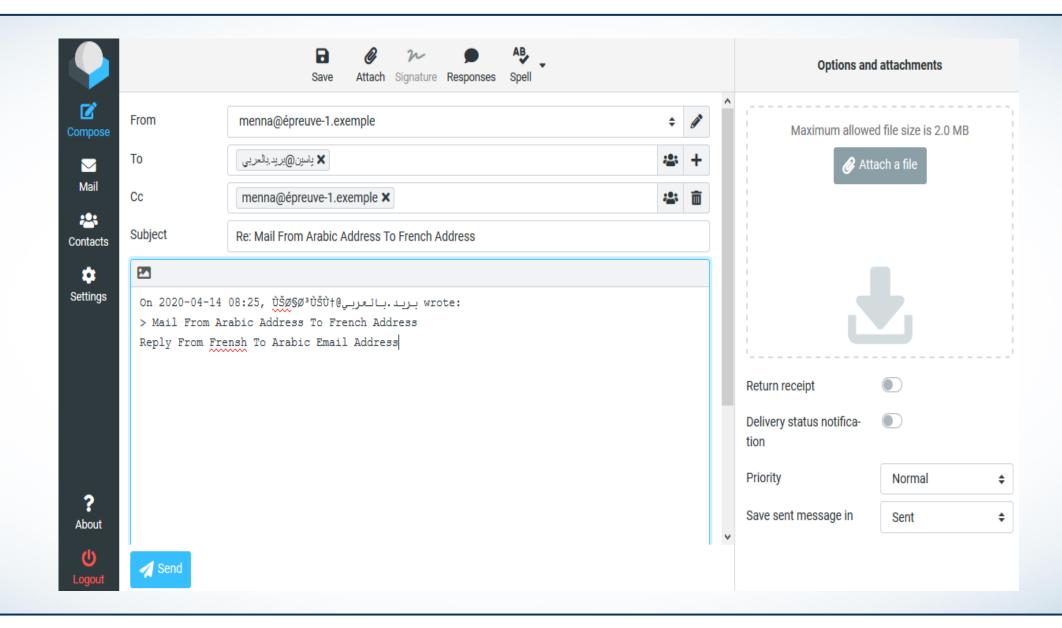




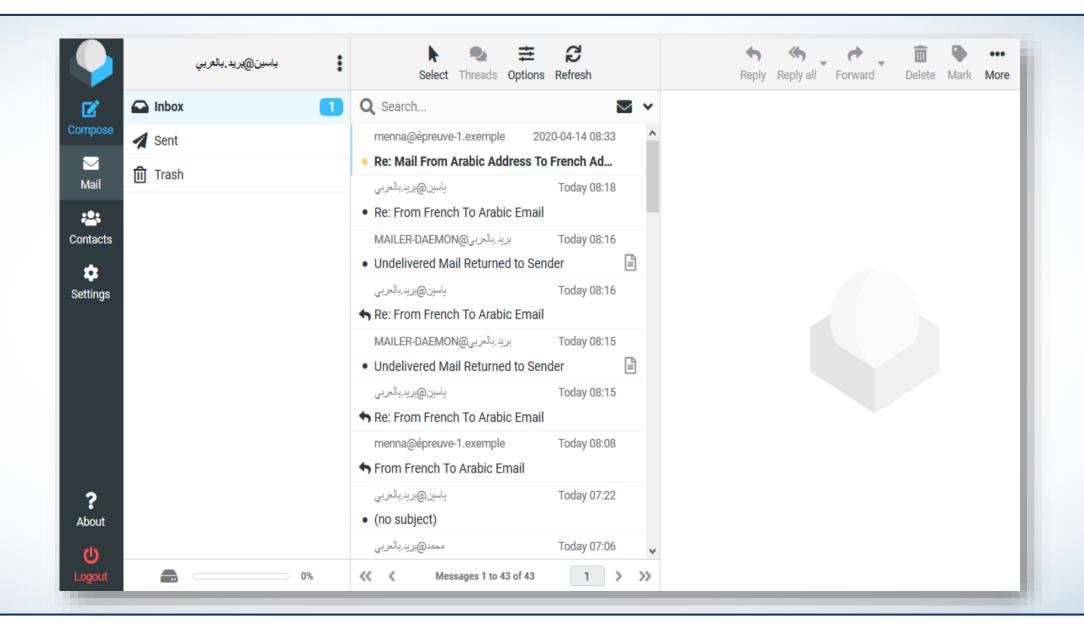




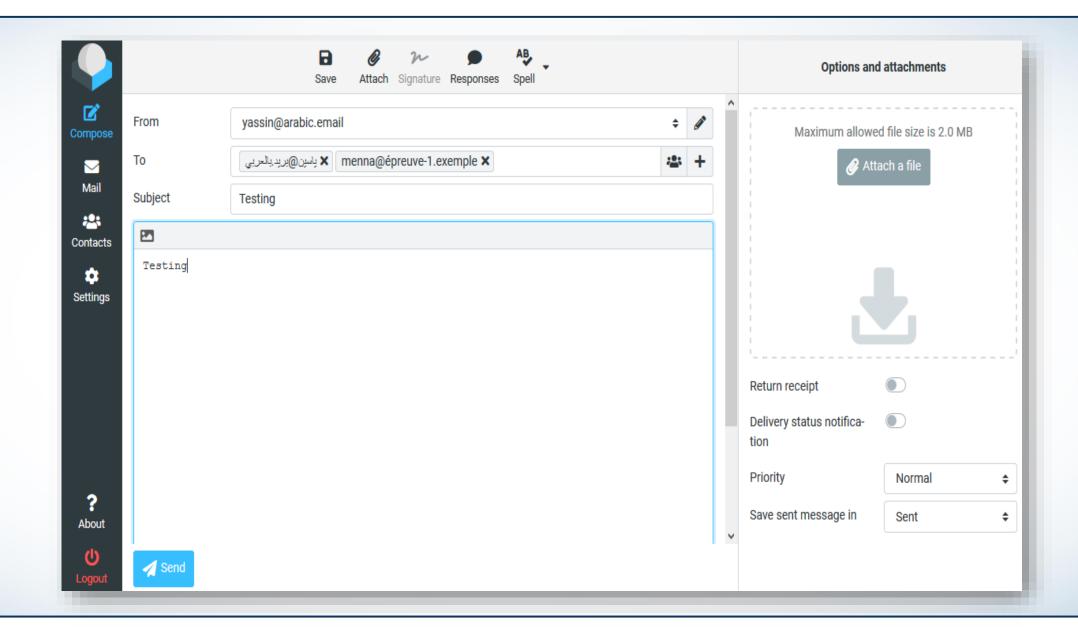




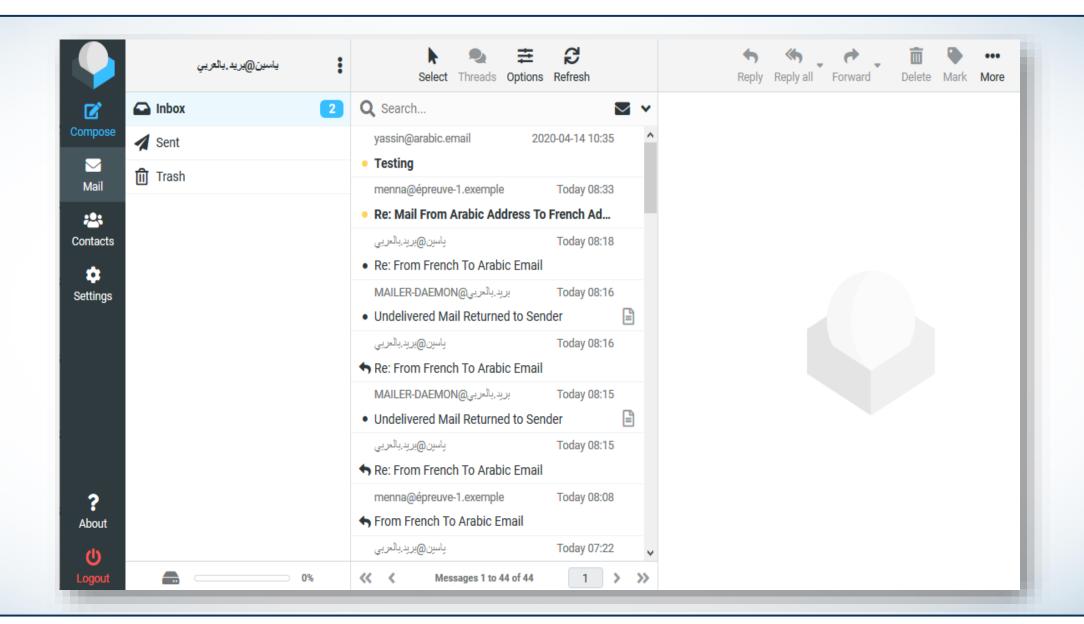




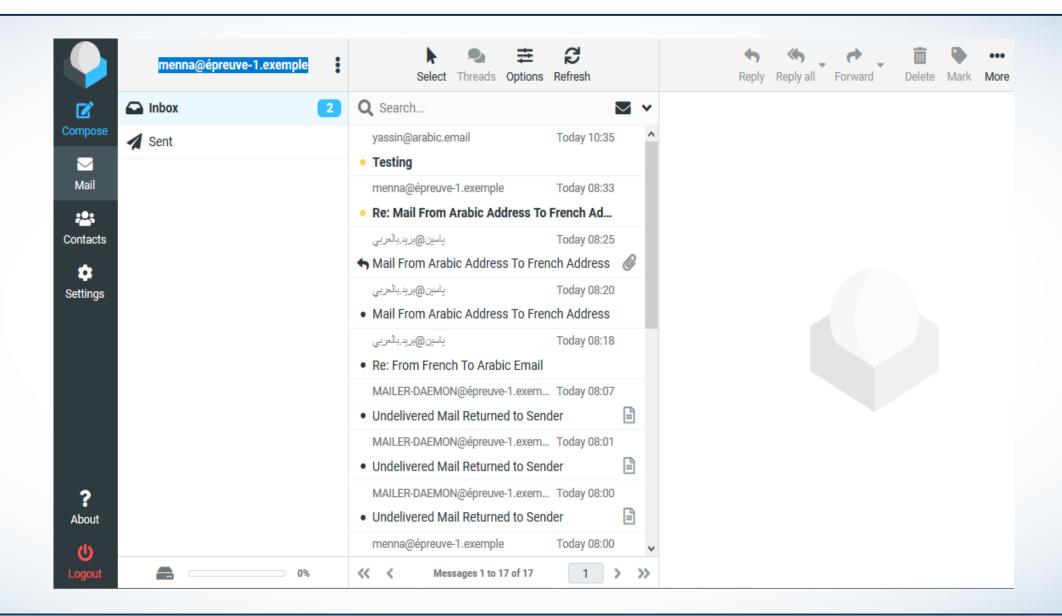




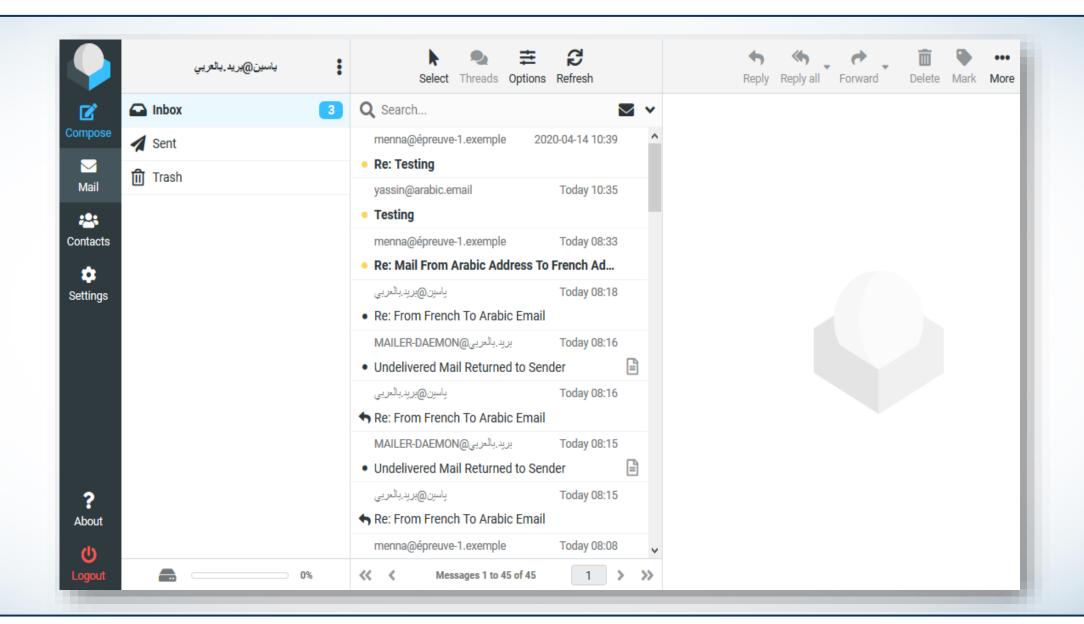




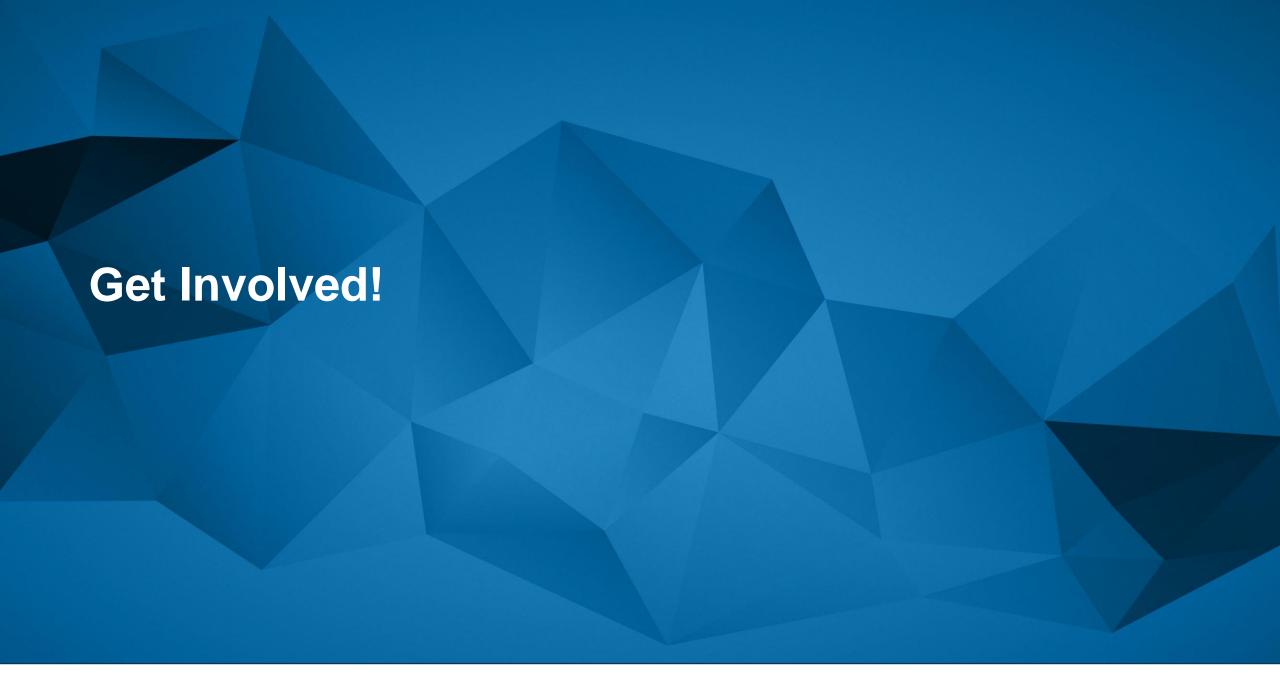














## **Get Involved!**



- For more information, email <u>info@uasg.tech</u> or <u>UAProgram@icann.org</u>.
- Access all UA documents and presentations at: <a href="https://uasg.tech">https://uasg.tech</a>.
- Access details of ongoing work from ICANN community wiki pages: <a href="https://community.icann.org/display/TUA">https://community.icann.org/display/TUA</a>.
- Subscribe to the UA discussion list at: <a href="https://uasg.tech/subscribe">https://uasg.tech/subscribe</a>.
- Register to participate in UA working groups <u>here</u>.
- Follow the UASG on social media and use the hashtag #Internet4All
  - Twitter: <u>@UASGTech</u>
  - LinkedIn: <a href="https://www.linkedin.com/company/uasgtech/">https://www.linkedin.com/company/uasgtech/</a>
  - Facebook: <a href="https://www.facebook.com/uasgtech/">https://www.facebook.com/uasgtech/</a>



## **Some Relevant Materials**



- See <a href="https://uasg.tech">https://uasg.tech</a> for a complete list of reports.
  - Universal Acceptance Quick Guide: <u>UASG005</u>
  - Introduction to Universal Acceptance: <u>UASG007</u>
  - Quick Guide to EAI: UASG014
  - EAI A Technical Overview: <u>UASG012</u>
  - EAI Evaluation of Major Email Software and Services: <u>UASG021B</u>
  - Universal Acceptance Readiness Framework: <u>UASG026</u>
  - Considerations for Naming Internationalized Email Mailboxes: <u>UASG028</u>
  - Evaluation of EAI Support in Email Software and Services Report: <u>UASG030</u>

# **Engage with ICANN – Thank You and Questions**



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