

IEA Activities at the IETF

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Agenda

- History
- Deployment Discussion in Seoul
IETF
- IETF IAB i18n Project
- Deploy360 Project
- UASG

EAI Working Group

- Email Address Internationalization (EAI) Working Group
- Created a structure and framework for internationalized email addresses
- Email address has local part and domain part
`localpart@domainpart.com`
- Group defined SMTP extension to enable the use of UTF-8 in envelope address local-parts, optionally in address domain-parts, and in mail headers.

Yet, Deployment Lags

- Many RFCs created
- Global EAI is far from the reality.
- Session in Seoul (“Bar BoF”) to gauge interest and to build community
- Draft written:
<https://datatracker.ietf.org/doc/draft-elkchow-iea-deploy>

Multi-Stake Holder

- IEA / IDN groups
- DNS
- Regional groups (Latin American, African, Arab-speaking, etc. groups)
- Information Security Groups (to mitigate security issues i.e. homographic attacks)
- In short : I* Organizations

(The I* (I-star) organizations include the five Regional Internet Registries (RIRs), ICANN, ISOC, IETF, IAB, W3C and the regional associations of country code domain name registries.)

i18n IAB Project

- Internet Architecture Board (IAB) has internationalization project: i18n
- We (Harish / Nalini) are coordinating with this project.

Deploy360 Project

- Internet Society (ISOC) has Deploy360 project
- The Internet Society Deploy360 Programme provides real-world deployment information for key Internet technologies. We aim to bridge the gap between the IETF standards process and final adoption of those standards by the global operations community.
- We want to see about coordinating efforts.

UASG Project

- Much activity at UASG – of course!
- Many people in various projects!
- We need to coordinate efforts.

Why at the IETF?

- Need technical evaluation
- Are the RFCs implemented correctly?
- Are there changes needed?

Best Practices for EAI

- Too soon for real “best practices” (not enough deployment experience)
- Still, categories can be defined
 - Email Servers
 - Backend Databases
 - Email Clients
 - Multiple Identities / Aliases
 - Email Address Books
 - Security Considerations

Email Servers

For an email server to be ready for EAI, it must implement:

- RFC 6530 : Overview and Framework for Internationalized Email
- RFC 6531 : SMTP Extension for Internationalized Email
- RFC 6532 : Internationalized Email Headers

Partial list of servers and test beds for EAI:

- PostFix 3.0 and above
- Coremail
- Throughway (Thailand)
- OpenMail (Taiwan)
- EAI test environment (Saudi Arabia)
- Xgenplus (INDIA)
- Jordan registry had launched email service in Arabic with the help of Afilias few years back.

Backend Databases

- Servers and clients
- May be relational databases (MySQL / MariaDB, PostgreSQL)
- May need to use UTF-8

Email Clients

A partial list:

- Coremail
- Horde Project
- Microsoft Outlook 2016 for PC
- Gmail - to some extent
- Apple Mail - to some extent
- Throughway (Thailand)
- OpenMail (Taiwan)
- EAI test environment (Saudi Arabia)
- Roundcube
- **Mobile app**
 - BharatSync Communicator (Android)
 - XgenPlus mail app (IOS)

More Email Client Issues

- Display of Email ID
 - The email ID may be shown in Punycode.
- Display of Email Body
 - Easy ability to type in the language of choice
 - Problems with displays of links containing IDN names- linkification
- Messages Routed to SPAM

Other Issues

- Multiple Identities / Aliases
 - User may have multiple identities: English email ID, a Hindi email ID, and so on.
- Email Address Books
 - Need support for addresses in non-Latin based languages.

Security

- Homographic attacks (Ex. for English malicious misspelling by substitution of non-Latin letters)
- Need to consider valid use of mixed scripts
- Right to left issues (Ex. Arabic)

Next Steps

- Many comments in the IETF email list
- Subscribe to ima@ietf.org
- Revise draft
- Coordinate with all stakeholders I* (IAB,UASG, ISOC, ICANN, IETF) as it is really useful to bridge Digital Divide

Questions?

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- Feel free to contact us at :
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Appendix I: RFCs Created

- RFC 6530 : Overview and Framework for Internationalized Email
- RFC 6531 : SMTP Extension for Internationalized Email
- RFC 6532 : Internationalized Email Headers
- RFC 6533 : Internationalized Delivery Status and Disposition Notifications
- RFC 6783 : Mailing Lists and Non-ASCII Addresses
- RFC 6855 : IMAP Support for UTF-8
- RFC 6856 : Post Office Protocol Version 3 (POP3) Support for UTF-8
- RFC 6857 : Post-Delivery Message Downgrading for Internationalized Email Messages
- RFC 6858 : Simplified POP and IMAP Downgrading for Internationalized Email

Appendix II: Why Issue is Big- A Language Viewpoint

7,097 languages are spoken in the world today.

Major language families of the world - 6

Total - languages in the family - 4,480

Number of Speakers by Percentage : 85.14

Together they account for nearly two-thirds of all languages and five-sixths of the world's population

Other language families of the world - 135

Total - languages in the family- 2,617

Number of Speakers by Percentage - 14.86

However, just 23 languages account for more than half the world's population
(We can start with them for EAI Adoption)

Source: Ethnologue

Appendix II: Why Issue is Big- A Language Viewpoint(source: Ethnologue)

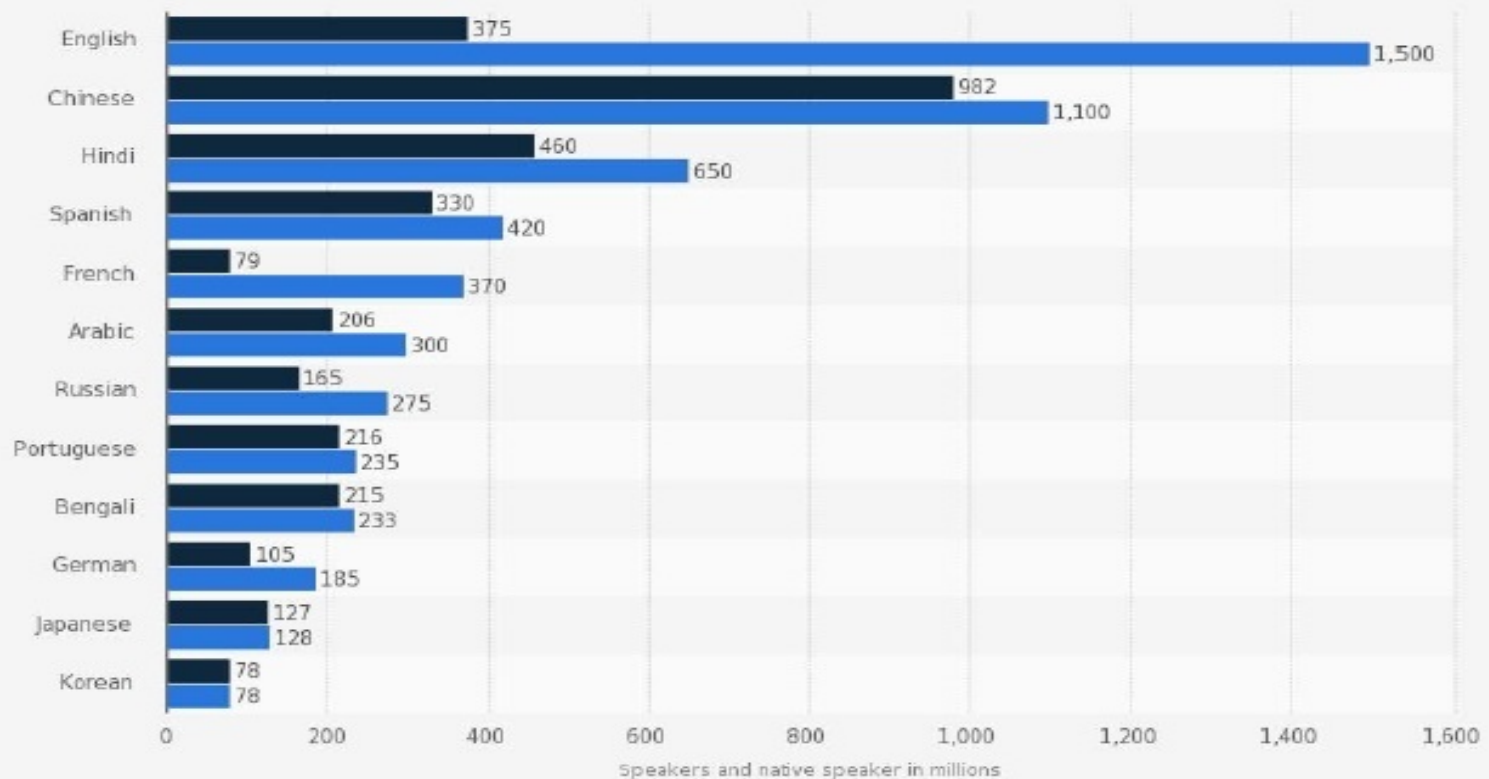
BY ROB HESS | JULY 15, 2016



How many languages are there in the world?

Appendix II: Why Issue is Big- A Language Viewpoint

The most spoken languages worldwide (speakers and native speaker in millions)



source : Statista

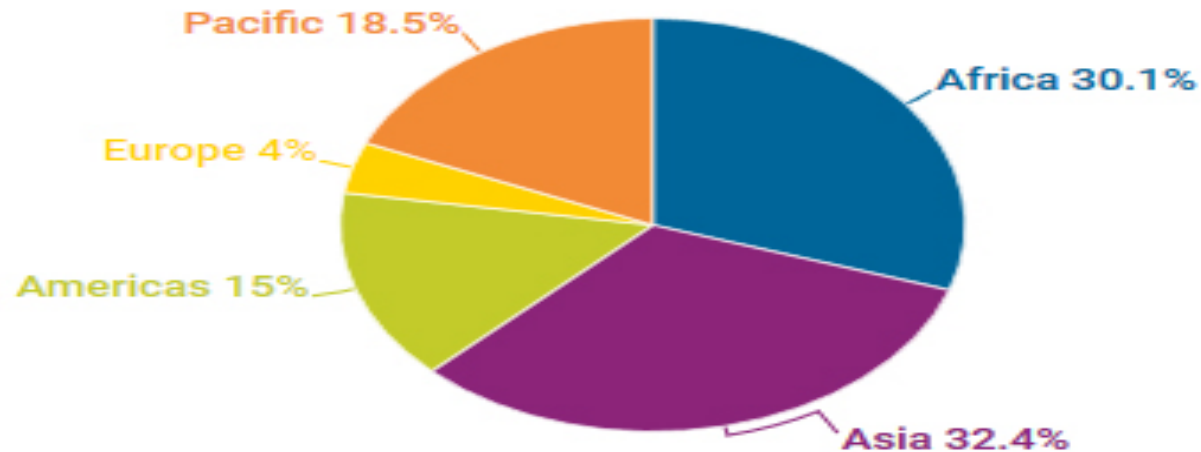
■ Total speakers ■ Native speaker

Appendix II: Why Issue is Big- A Language Viewpoint

Nearly 2/3 of languages are in Africa and Asia

Percentage of the world's languages, by region

IMMENSE POSSIBILITIES FOR EAI BUSINESS



Why Issue is Big - A Language Viewpoint

But Internet has dominant use of ASCII- based languages

However in India and across the world Majority of the population communicate in vernacular languages.

Therefore, it is essential to develop and nurture a multilingual internet ecosystem in the world so that the majority of the population can make the best use of internet.