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Abstract

Many organizations have implemented and tested the internationalized email systems based on the key RFCs which have been published. This document points out some problems, which blocks the receiver to receive the internationalized email address and may impede the deployment and use of the internationalized email address. Knowing the problems will help the smooth deployment of Email Address Internationalization system.

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1. Introduction

The IETF has published five RFCs [RFC4952] [RFC5335] [RFC5336] [RFC5337] [RFC5504] about internationalized email addresses. CNNIC has implemented these RFCs, does some tests and identify some problems during the initial deployment. This document is mainly for pointing out the problems of blocking the use of internationalized email address that needs to be considered in the deployment. The possible solution to these problems can be found in the deployment document [DeploymentGuidelines].

1.1. Role of this specification

The framework document specifies the requirements for, and describes components of, full internationalization of email address. The EAI SMTP extension document [RFC5336] specifies the SMTP extension to use the internationalized email address. The EAI header document [RFC5335] allows the internationalized email address headers. The EAI downgrade document [RFC5504] addresses how to downgrade to be compatible with the current non-EAI-system. The deployment document [DeploymentGuidelines] addresses the possible solution to the problems identified in this document.

1.2. Terminology

All the specialized terms used in this specification are defined in the framework document [RFC4952], the EAI SMTP extension document [RFC5336], the EAI header document [RFC5335] and the base Internet email specifications [RFC5321] [RFC5322]. In particular, the terms "ASCII user", and "i18mail user" are used in this document according to the definitions in the framework one.

[[anchor3: NOTE TO RFC EDITOR: Please remove the following text before publication.]]

Some ideas of this specification is being discussed on the EAI mailing list. See https://www1.ietf.org/mailman/listinfo/ima for information about subscribing. The list’s archive is at http://www1.ietf.org/mail-archive/web/ima/index.html.

2. Problem statement

If the i18mail user sends the message with the internationalized email address which is successfully received by the receiver without any downgrading, we define such sending as the successful sending of internationalized email address. If the i18mail user sends the message with the internationalized email address because the SMTP client or mail user agent or submission server can not support...
internationalized email address, refuse to send the message and result into the failure of sending of internationalized email address, we call it the failure operation. In other situation, we call it the failure of the sending of internationalized email address. In order to have more successful sending of internationalized email address, less downgrade operation or failure operation, we need identify the problems which block the successful sending of internationalized email address.

3. Initial Implementation and Test

As far as we know, CNNIC, TWNIC, AFILIAS, JPRS and NIDA have implemented the [RFC5335], [RFC5336], [RFC5504]. CNNIC updates the Postfix source code to support EAI. [RFC5504]. The openweb mail is used for EAI clients. Both TWNIC and AFILIAS update Sendmail. JPRS uses C language to implement EAI. NIDA uses python to implement it. CNNIC/TWNIC/JPRS/AFILIAS/NIDA have the co-tests based on the scenario document. We summarize the following problems identified in our tests which may block the successful sending of internationalized email address.

4. Problems identified in the initial implementation and test

The key aim of EAI WG is to promote the use of internationalized email address. In order to have the smooth operation of EAI system and have the success use of internationalized email address, we should address all the following problems before deploying the EAI systems.

4.1. SMTP client

If the SMTP client or submission server is not ready to support [RFC5335] and [RFC5336], the EAI mail user agent can not submit the email message to the SMTP client. So it is impossible to receive the internationalized email address from the i18n mail user.

4.2. Relay Server

If the relay server has not EAI-capability, it will not accept any UTF8SMTP message. Some downgrading may happen.

4.3. SMTP Server

The SMTP server gets the message from the SMTP client. If the SMTP server which is the final delivery server has not EAI-capability, the receiver can not get the i18n messages.
4.4. Email Filter

Many email receivers have installed the email filters. The non-EAI-capability filters may regard EAI messages as the rubbish and drop them immediately.

4.5. Firewall

The traditional firewall specified in [RFC2979] will not understand the keyword "UTF8SMTP", These actions will lead to unnecessary message failure, and the SMTP connection will be cut off by the firewall.

4.6. Mail User Agent

Most non-EAI-capability Mail User Agent (MUA) can not support internationalized email address. It will regard the internationalized email address as illegal and refuse to send the message on behalf of the i18nmail user.

5. IANA Considerations

There is no IANA consideration.

6. Security Considerations

See the extended security considerations discussion in the framework document [RFC4952].

7. Acknowledgements

Many ideas are from the discussion in the list ima@ietf.org. John C Klensin has done a lot of research on ASCII email address and internationalized email address. I got many significant words or ideas from him. Many friends and experts in the EAI WG help us to produce the valuable ideas. Many organizations including CNNIC, TWNIC, JPRS, NIDA, AND AFFILILIAS have implemented EAI systems. These organizations have already done a lot of inter-operating testing.

8. Change History

[[anchor13: RFC Editor: Please remove this section.]]
8.1. draft-yao-eai-problem: Version 00

- identifying the problems during EAI implementation and initial tests

9. References

9.1. Normative References


9.2. Informative References

[DeploymentTests]


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