EMAILCORE WG IETF 115, London November 2022

Chairs:
Alexey Melnikov <alexey.melnikov@isode.com>
Todd Herr <todd.herr@valimail.com>

Note Well

- This is a reminder of IETF policies in effect on various topics such as patents or code of conduct. It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.

- As a reminder:

  - By participating in the IETF, you agree to follow IETF processes and policies.

  - If you are aware that any IETF contribution is covered by patents or patent applications that are owned or controlled by you or your sponsor, you must disclose that fact, or not participate in the discussion.

  - As a participant in or attendee to any IETF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public.

  - Personal information that you provide to IETF will be handled in accordance with the IETF Privacy Statement.

  - As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (https://www.ietf.org/contact/ombudsteam/) if you have questions or concerns about this.

Note Well
(continued)

- Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

  - BCP 9 (Internet Standards Process)

  - BCP 25 (Working Group processes)

  - BCP 25 (Anti-Harassment Procedures)

  - BCP 54 (Code of Conduct)

  - BCP 78 (Copyright)

  - BCP 79 (Patents, Participation)

  - https://www.ietf.org/privacy-policy/ (Privacy Policy)

IETF Code Of Conduct Guidelines RFC 7154

- Treat colleagues with respect

- Speak slowly and limit the use of slang

- Dispute ideas by using reasoned argument

- Use best engineering judgment

- Find the best solution for the whole Internet

- Contribute to the ongoing work of the group and the IETF

Administrivia

- This session is being recorded

- Meetecho:

  - https://wws.conf.meetecho.com/conference/?group=emailcore

- Jabber room (discussions/back channel):

  - emailcore@jabber.ietf.org

- Shared note taking:

  - https://notes.ietf.org/notes-ietf-115-emailcore

- **In room participants: please use masks**

- ***Note taker***?

Agenda (1 of 3)

- Agenda bashing, administrivia, note well (chairs) - 5 mins

- Tickets for the Message Format draft:

- #73 Erratum 6639: Error in obs-zone ***https://github.com/ietf-wg-emailcore/emailcore/issues/73***

- Tickets for the Message Format and SMTP drafts:

- #74 Syntax of Received header field need to be clarified ***https://github.com/ietf-wg-emailcore/emailcore/issues/74***

- #77 Do we need to define specific syntax for trace header fields other than Received/Return-Path? ***https://github.com/ietf-wg-emailcore/emailcore/issues/77***

- #81 Separate registry for Trace Header Fields? ***https://github.com/ietf-wg-emailcore/emailcore/issues/81***

Agenda (2 of 3)

- Tickets for the SMTP draft:

- #76 G.22. IANA Registration Model for Registries Other than Service Extensions ***https:// github.com/ietf-wg-emailcore/emailcore/issues/76***

- #67 Additional-registered-clauses subregistry needs to be properly defined in the IANA Considerations section ***https://github.com/ietf-wg-emailcore/emailcore/issues/67***

- #75 G.21. Appendix B and Message Submission ***https://github.com/ietf-wg-emailcore/ emailcore/issues/75***

- #56 (Relax IANA registration policy for SMTP extensions) ***https://github.com/ietf-wg-emailcore/emailcore/issues/56***

- #71 SMTP Registration template should have a field specifying level of approval ***https:// github.com/ietf-wg-emailcore/emailcore/issues/71***

- #68 RFC 8126 requires specifying "Change Controller" and Change Control procedure ***https:// github.com/ietf-wg-emailcore/emailcore/issues/68***

Agenda (3 of 3)

- Tickets for the A/S draft:

- *#51 (AS should cover the use of message format elements in web forms)* **https://github.com/ietf-wg-emailcore/emailcore/issues/51**

- #78 Advice against using URL %-encoding on non ASCII email addresses to create ASCII version of them **https://github.com/ietf-wg-emailcore/emailcore/issues/78**

- #80 G.6. Clarify where the protocol stands with respect to submission and TLS issues **https://github.com/ietf-wg-emailcore/emailcore/issues/80**

- #55 (G.14. The FOR Clause in Received header field: Semantics, Security Considerations, and Other Issues) **https://github.com/ietf-wg-emailcore/emailcore/issues/55**

- *#38 (Possible clarification of 78 octet limit versa the 998 line length limit)* **https://github.com/ietf-wg-emailcore/emailcore/issues/38**

- *#66 Recommendation about timezones to use in Date and Received header fields* **https://github.com/ietf-wg-emailcore/emailcore/issues/66**

RFC 5322
#73 Erratum 6639: Error in obs-zone

From https://www.rfc-editor.org/errata/eid6639:

Section 3.3 says:

zone = (FWS ("+" / "-") 4DIGIT) / obs-zone

It should say:

zone = (FWS ("+" / "-") 4DIGIT) / **[FWS]** obs-zone
The current syntax does not allow space before an obs-zone. Thus, it rejects header items like:

Date: Mon, 12 Jul 2021 18:32:01 GMT

which are still being produced today by, for example, mail(1) on FreeBSD.

Pete Resnick implemented a better solution:

obs-zone definition was updated by addition **[CFWS]** at the beginning and the end.

RFC 5322/5321

Better definition for trace header fields
- problem statement

https://github.com/ietf-wg-emailcore/emailcore/issues/7

- Various documents define trace header fields which can be added during SMTP submission, SMTP relay and/or final delivery. RFC 5322 defines ABNF (and list 2 header fields) in Section 3.6.7 ("Trace Fields"). Other RFCs added other trace header fields, e.g. Authentication-Results (RFC 7601) and more esoteric SIO-Label-History (RFC 7444).

- Also, neither RFC 8098 nor RFC 3461 say that Original-Recipient is a trace header field.

RFC 5322/5321
Better definition for trace header fields (1 of 2)

https://github.com/ietf-wg-emailcore/emailcore/issues/7

- This ticket is CLOSED. The following change was implemented in 5322bis Section 3.6.7:

- **OLD**:

- A full discussion of the Internet mail use of trace fields is contained in [I-D.klensin-rfc5321bis]. For the purposes of this specification, the trace fields are strictly informational, and any formal interpretation of them is outside of the scope of this document.

- **NEW**:

- **The trace fields document actions taken as a message moves through the transport system**. A full discussion of the Internet mail use of the "Return-Path:" and "Received:" trace fields is contained in [I-D.klensin-rfc5321bis]; other specifications describe the use of other fields that are to be interpreted as trace fields. For the purposes of this specification, the trace fields are strictly informational, and any formal interpretation of them is outside of the scope of this document.

RFC 5322/5321

Syntax of Received header field need to be clarified

https://github.com/ietf-wg-emailcore/emailcore/issues/74

rfc5322bis includes more generic syntax, but it is a bit misleading.

received = "Received:" [1*received-token / CFWS] ";" date-time CRLF

received-token = word / angle-addr / addr-spec / domain

rfc5321bis includes more specific syntax:

Time-stamp-line = "Received:" FWS Stamp

Stamp = From-domain By-domain Opt-info [CFWS] ";" **FWS** date-time

 [...]

Opt-info = [Via] [With] [ID] [For] [Additional-Registered-Clauses]

RFC 5322/5321

Syntax of Received header field need to be clarified

https://github.com/ietf-wg-emailcore/emailcore/issues/74

Questions:

1. Is the order of registered attributes (from, by, etc) fixed?

2. Should we allow for attributes with no values as per rfc5322bis?

    1. If we don't, it becomes possible to write a generic parser that can skip over unrecognised attributes

    2. If we don't, it would also be possible to use Received for non-SMTP transports

3. Should we have a single ABNF definition?

RFC 5322/5321

Syntax of Received header field need to be clarified

https://github.com/ietf-wg-emailcore/emailcore/issues/74

Possible options for Received header field syntax in rfc5322bis:

1. **received** = "Received:" [1*received-token / CFWS] ";" date-time CRLF

 (no change)

2. **received** = "Received:" [1*(atom received-token) / CFWS] ";" date-time CRLF

 (minimal change = disallow attributes with no values)

3. **received** = "Received:" [1*received-token / CFWS] ";" date-time CRLF

; See [rfc5322bis] for more specific syntax used by MTAs

 (No syntax change, added a comment pointing to rfc5321bis)

4. **received** = "Received:" From-domain By-domain Opt-info ";" date-time CRLF

5. A combination of 2) and 3).

6. **received** = "Received:" unstructured CRLF

+ comment as in 3)

RFC 5321/5322

Separate registry for Trace Header Fields?

https://github.com/ietf-wg-emailcore/emailcore/issues/81

- Do we want a separate registry for Trace Header Fields?

  - If we do, how does this interact with existing registry of **Message Header Field Names**?

    - I.e. do we pull them out or keep them in the **Message Header Field Names** registry?

  - If not:

    - Do we want to add information about trace header fields just as comments in the Message Header Field Names registry?

    - Or we can just do nothing (i.e. don't keep this information anywhere).

RFC 5321

Quick note on recent changes/questions

- Discussion on how to represent changes since RFC 5321 is happening on the mailing list

- The possible loose end with erratum 3447 (Use of normative language (e.g., more "MUST"s), possible confusion in some sections Section 4.4

  - No further changes intended

- Obsoleting RFCs 1846 and 7504

  - Unless there are objections, these 2 documents will be marked as Obsoleted by rfc5321bis

- The use of the 450 reply code outside mail transactions to mean "server temporarily unavailable" rather than "mailbox temporarily unavailable"

RFC 5321

G.22. IANA Registration Model for Registries Other Than Service Extensions

https://github.com/ietf-wg-emailcore/emailcore/issues/76

- 8.1.2. Address Literal Tags

  Additional literal types require standardization before

  being used; none are anticipated at this time.

- Not very specific. **Standards Action**?

RFC 5321

G.22. IANA Registration Model for Registries Other Than Service Extensions

https://github.com/ietf-wg-emailcore/emailcore/issues/76

- 8.1.3. Mail Transmission Types

  The third, "Mail Transmission Types" [58], established by RFC 821 and renewed by this specification, is a registry of link and protocol identifiers to be used with the "via" and "with" subclauses of the time stamp ("Received:" header field) described in Section 4.4. Link and protocol identifiers in addition to those specified in this document may be registered only by **standardization** or **by way of an RFC-documented, IESG-approved, Experimental protocol extension**

  .

- **Standards Action or IESG approved Experimental RFC**?

- Or just **IETF Review**?

RFC 5321
G.22. IANA Registration Model for Registries Other Than Service Extensions

https://github.com/ietf-wg-emailcore/emailcore/issues/76
https://github.com/ietf-wg-emailcore/emailcore/issues/67

New text was added in -13 and -14

- 8.1.4. Additional Registered Clauses

  As mentioned in Section 4.4.1 above, additional clauses for the "Received:" header field may be added

  by future **standards track** specifications.

The above is not fully consistent with what follows:

  Additional clauses may be registered only by standardization or by way of an RFC-documented, IESG-approved,

  Experimental protocol extension.

- **Standards Action or IESG approved Experimental RFC**?

- Or just **IETF Review**?

- Minor: Section 4.4.1 doesn't say anything about Additional Registered Clauses anymore.

RFC 5321

G.21. Appendix B and Message Submission

https://github.com/ietf-wg-emailcore/emailcore/issues/75

- PLACEHOLDER

- John Klensin wrote:

  Appendix B was written long ago and does not distinguish very carefully from the case where an MSA is involved from direct MUA-MTA communications. On the other hand, the situation it describes cannot arise with a conforming message submission system. Should it be rewritten and, if so, how much?

RFC 5321

Relax IANA registration policy for SMTP extensions

https://github.com/ietf-wg-emailcore/emailcore/issues/56

Background:

SMTP extension registry registration procedure currently says:

> **Standards-Track** or **Experimental** RFCs specifically approved by
>
> the IESG for this purpose.

With the removal of restriction on extensions starting with "X", at least **IETF Informational** RFCs should be allowed. What about **non IETF stream Informational/Experimental**?

RFC 5321

Relax IANA registration policy for SMTP extensions

https://github.com/ietf-wg-emailcore/emailcore/issues/56

Status of this ticket:

1. FCFS is not satisfactory for some people.

2. The latest proposal on the table is to use Expert Review, where Experts can advise, but can't block registrations. Many people said that they can live with it.

3. John has proposed text for Expert Review. In particular section 2.2.2 was rewritten to describe advisory review, while the registration template and procedure is now in section 8.1.1.See several following slides.

RFC 5321

Relax IANA registration policy for SMTP extensions

2.2.2. Definition and Registration of Extensions

   // Note in draft-14: The new (with draft -14) version of the

   // paragraph below is intended to make this section less normative

   // and more advisory, shifting the definition of the registration

   // procedure entirely to Section 8.1, a process that aligns with

   // discussions with IANA and that started with draft -13. Opinions

   // about whether "and Registration" should be removed from the above

   // title would be welcome.

RFC 5321

Relax IANA registration policy for SMTP extensions

(continues)

Especially for extensions intended for general use and expected to interoperate well with multiple implementations, a readily-available, stable, and adequate definition is essential for those evaluating, implementing, or configuring the extension. The information below describes important characteristics of that documentation. In order to make it accessible and to prevent naming conflicts, the IANA maintains a registry of SMTP service extensions [64] and each service extension must be recorded in that registry as specified in Section 8.1.1.

RFC 5321

Relax IANA registration policy for SMTP extensions

(continues)

Experience has shown that obtaining broad review and input from the

broader community produces much better results than narrower

discussions, e.g., only among the designers. While it is usually

best to obtain that input prior to registration, there is no

requirement to do so: an extension that is written to permit

modifications after registration, perhaps even after deployment

experience, without causing interoperability problems may be

registered first (or instead). As part of the registration process,

either the submitter or IANA should notify a relevant IETF mailing

list of the extension request. Registrants may also reach out to

selected individuals and/or ask the Designated Expert reviewer for

advice on the specification and how to best additional obtain useful

input. Details of the registration process itself and the various

parties involved appear in (Section 8.1.1) below.

RFC 5321

Relax IANA registration policy for SMTP extensions

(continues)

To be most useful, the definition and related description of the
extension should include, not only the keyword name and syntax for
the service extension and other information required for
registration, but a detailed description of the purpose of the
extension, what it is expected to accomplish, how its use changes the
behavior of client and server SMTP implementations that use it, and
how it interacts with other relevant extensions and elements of this
specification.

Any keyword value presented in the EHLO response MUST correspond to
an SMTP service extension registered with IANA as described in
Section 8.1. A conforming server MUST NOT offer keyword values that
are not described in a registered extension.

RFC 5321

Relax IANA registration policy for SMTP extensions

8.1.1. Simple Mail Transfer Protocol (SMTP) Service Extensions

The first, "Simple Mail Transfer Protocol (SMTP) Service Extensions"

[57], often referred to in this document as "Service Extension

Registry", consists of SMTP service extensions with the associated

keywords, and, as needed, parameters, verbs, and related information.

Entries may be made only for service extensions (and associated

keywords, parameters, or verbs) that are documented and reviewed

according to the Specification Required policy in BCP 26,

Section 4.6. [3]

The designated expert(s) will determine whether there is reliable

access to the specification. Reliable access means that the archive

for the specification has an established record of availability;

issuance as an RFC or IETF Internet-Draft is encouraged, but not

required.

RFC 5321

Relax IANA registration policy for SMTP extensions

(continued)

The expert(s) might separately offer advice for improving the specification, including completeness and clarity, and for interoperability, usability, and utility. The expert(s) might also forward information about the registration request and specification for comment to a relevant mailing list or IANA might forward that information to a list associated with the registry and designated by a responsible Area Director.

However the process of advice and possible modification is optional; it is separate from the process of creating the registration. This optional process MUST NOT interfere with the paramount task of registering and documenting extensions.

RFC 5321

Relax IANA registration policy for SMTP extensions

(continued)

While information that is needed to make an extension generally

available, useful to implementations other than those associated with

its developers, and interoperable are described in Section 2.2.2,

registration for extensions focuses primarily on avoiding conflicts

in naming, i.e., different extensions using the same ESMTP keyword.

The requirements for registration follow.

RFC 5321
Relax IANA registration policy for SMTP extensions

(continued)

   (1)   the textual name of the SMTP service extension;

   (2)   a summary of the purpose of the extension and what it is expected to accomplish.

   (3)   the EHLO keyword value associated with the extension;

   (4)   the syntax and possible values of parameters associated with the EHLO keyword value;

   (5)   any additional SMTP verbs associated with the extension (additional verbs will usually be, but are not required to be, the same as the EHLO keyword value);

   (6)   any new parameters the extension associates with the MAIL or RCPT verbs;

   (7)   Level of approval. Values: Standards Track, IETF Experimental, Individual (or reasonable abbreviations).

   (8)   Message submission use. Values: "yes" if the extension is suitable for use with Message Submission [48], otherwise "no".

   (9)   a description of how support for the extension affects the behavior of a server and client SMTP;

   (10) the increment by which the extension is increasing the maximum length of the commands MAIL and/or RCPT over that specified in this Standard or other registrations that might reasonably be expected to interact with it; and

   (11) Contact information for the submitter or other responsible party and identification of the change controller. The change controller value MUST be "IETF" for all SMTP extensions specified in IETF Stream RFCs and MUST provide appropriate authority and contact information for all other extensions.

RFC 5321

Relax IANA registration policy for SMTP extensions

(continued)

The Designated Expert, IANA, and, to the extent to which they are
involved, participants in a designated WG or the IETF community, are
expected to exert reasonable efforts to obtain all of the information
described above and in Section 2.2.2 as either part of the
registration or in supplemental documents that will be referenced
from the registry. However, the primary goals of getting these
extensions registered are to avoid conflicts about naming (e.g., two
different deployed extensions with the same name or keyword) and to
either identify a stable and generally available specification or to
establish contact information for additional information.
Consequently, if no information is available for some of the above
items, notably Section 8.1.1, Paragraph 4, Item 9 and Section 8.1.1,
Paragraph 4, Item 10, the registry entry should be made with the
absence of such data be noted in the registry as "Not supplied".

RFC 5321
Relax IANA registration policy for SMTP extensions

Questions:

Is change controller always "IETF" for IETF Stream Informational/Experimental RFCs?

Is the registration info (the list) in 8.1.1 required to be present for IETF Stream registrations (in particular Proposed Standard)?

Should we change the question about suitability for Submission into suitability for submission and LMTP?

Do we need to be vague about mailing list used for reviews?

RFC 5321

Relax IANA registration policy for SMTP extensions

Related text in 2.2.1:

SMTP's strength comes primarily from its simplicity. Experience with

many protocols has shown that protocols with few options tend towards

ubiquity, whereas protocols with many options tend towards obscurity.

As part of deciding whether to implement and support an extension,

regardless of its benefits, each SMTP implementation, each extension

must be carefully scrutinized with respect to its implementation,

deployment, and interoperability costs. In many cases, the cost of

extending the SMTP service will likely outweigh the benefit.

Keep or delete?

RFC 5321

SMTP Registration template should have a field specifying level of approval

https://github.com/ietf-wg-emailcore/emailcore/issues/71

John Klensin wrote:

Should we be distinguishing between extensions that are expected to be used generally and those that are expected to be for more private uses?

Alexey Melnikov wrote:

Possible options for the new field are "common"/"limited use", where "common" can only be used if the extension is documented in an IETF Stream document.

A/S

Changes since June 2022

- Replaced Introduction placeholder with new text
- Added a minimal Security Considerations section
- Issue #51 - Added text on interoperability of email addresses in HTML forms (and in general)
- Issue #55 - Added text addressing use of FOR clause in Received header fields
- Issue #65 - Added text stating that implementations are expected to support MIME
- Added a list of contributors in Acknowledgements section
- Issues #38 and #66 - Added minimal placeholders

A/S

AS should cover the use of message format elements in web forms

https://github.com/ietf-wg-emailcore/emailcore/issues/51

draft-ietf-emailcore-as-06 says:

4.2. Use and Validation in HTML and Other Contexts

Email addresses are frequently used as input in HyperText Markup Language (HTML) forms but the allowed grammar of these email addresses is more restrictive than the grammar for a 'Mailbox' in Section 4.1.2 of [I-D.ietf-emailcore-rfc5321bis] (the lack of quoted strings and limited characters allowed in domains). Implementations that intend to accept email addresses in HTML forms are encouraged to consult the valid email address grammar in Section 4.10.5.1.5 of [HTML].

A/S

AS should cover the use of message format elements in web forms

https://github.com/ietf-wg-emailcore/emailcore/issues/51

draft-ietf-emailcore-as-06 Section 4.2 (continues):

Additionally, the following general guidance is provided:

* Few mail systems allow leading, trailing, or consecutive unquoted dots ('.') in the local-part of email addresses even though the HTML grammar referenced above currently allows them. Consequently, implementations are discouraged from accepting such addresses.

* Some mail systems allow a trailing dot ('.') in the domain part of email addresses (as allowed by Domain Names [RFC1035]), but this is not interoperable with all systems. Consequently, implementations are encouraged to strip trailing dots from the domain part of email addresses.

A/S

AS should cover the use of message format elements in web forms

https://github.com/ietf-wg-emailcore/emailcore/issues/51

[HTML] says:

email   = 1*(atext / ".") "@" label *("." label)
label   = let-dig [[ldh-str] let-dig] ; limited to a length of 63 characters by RFC 1034 section 3.5
atext   = < as defined in RFC 5322 section 3.2.3 >
let-dig   = < as defined in RFC 1034 section 3.5 >
ldh-str   = < as defined in RFC 1034 section 3.5 >

Are we (EMAILCORE) happy with this grammar suggested by HTML?

A/S

Advice against using URL %-encoding on non ASCII email
addresses to create ASCII version of them

https://github.com/ietf-wg-emailcore/emailcore/issues/78

John Klensin wrote:

Also, given [mis]behavior seen in the wild, does A/S need an explicit
caution about SMTP servers or clients assuming they can apply the
popular web convention of using %NN sequences as a way to encode
non-ASCII characters (<pct-encoded> in RFC 3986) in non ASCII
email addresses and assuming some later system will interpret it as
they expect?

A/S

G.6. Clarify where the protocol stands with respect to submission and TLS issues

https://github.com/ietf-wg-emailcore/emailcore/issues/80

1. submission on port 587
2. submission on port 465
3. TLS relay on a port different from 25 (whenever)
4. Recommendations about general use of transport layer (hop by hop) security, particularly encryption including consideration of RFC 8314.

The MTA-to-MTA relay case is now covered by now closed ticket #54 ("Hop-by-hop Authentication and/or Encryption"), in particular it mentions MTA-STS [RFC8461] and DANE for SMTP [RFC7672].

Do we need to say anything about submission and RFC 8314 ("Cleartext Considered Obsolete: Use of Transport Layer Security (TLS) for Email Submission and Access")?

A/S

G.14. The FOR Clause in Received header field: Semantics, Security Considerations, and Other Issues

https://github.com/ietf-wg-emailcore/emailcore/issues/55

Proposed text for draft-ietf-emailcore-as:

Use of the FOR clause in Received header fields

Email addresses are commonly classified as Personally Identifiable Information (PII). Improper application of the FOR clause in Received header fields can result in disclosure of PII. As such, the FOR clause MUST NOT be generated if the message copy is associated with multiple recipients from multiple SMTP RCPT commands. Otherwise, the value of the FOR clause MUST contain the RCPT address that caused the message to be routed to the recipient of the given copy of the message.

Note however, that if a mail system generates a FOR clause when there is only a single recipient, and doesn't generate one when there are multiple recipients, the absence of the field is an indication that there is another recipient, which may allow someone to infer that a "blind" copy is involved.

A/S

Possible clarification of 78 octet limit versa the 998 line length limit

https://github.com/ietf-wg-emailcore/emailcore/issues/38

rfc5322bis seems to be clear on this.

Should we add any clarifications or examples to A/S? For example "message bodies should always be folded at 78 octets, but longer lines in header fields are OK"?

PETE: WHERE IS THE SUGGESTED TEXT ;-)?

A/S

Recommendation about timezones to use in Date and Received header fields

https://github.com/ietf-wg-emailcore/emailcore/issues/66

Any text to add? No clear consensus on the mailing list so far.