SMTP Extension for Alternate Recipient Delivery Option
(draft-melnikov-smtp-altrecip-on-error-00.txt)

Alexey Melnikov
<alexey.melnikov@isode.com>

IETF 80, Prague
Overview

• Simple case: send an email message to a recipient A, but if A is not accessible, redirect it to a recipient B
  – DNS resolution times out
  – Connect to A's MTA times out
  – A's MTA returns 5XX or 4XX reply codes

• A more advanced case (uses DELIVERBY SMTP extension [RFC2852]): send an email message to a recipient A, but if the message is not delivered to A within T seconds, redirect it to a recipient B
Motivation

- Can be handled by a human, but humans are not good for such tasks
  - Non delivery report can be lost/eaten by antispam solutions
  - User might be using “send only” environment (e.g. Internet Cafe)
  - Acting quickly might be a problem – away from the desk, etc.

- Redirects can be handled by the sending MUA, but this requires complex modifications of MUAs
  - e.g. to read, parse Non Delivery Reports (DSNs) and resubmit the message
Use cases

- Military/aviation industries
- Support/sales type environments
- Emergency services
Example (first hop)

- S: 220 example.net SMTP server here
- C: EHLO example.com
- S: 250-example.net
- S: 250-DSN
- S: 250-DELIVERBY
- S: 250 ALTRECIP
- C: MAIL FROM:<eljefe@example.com> BY=120;R ENVID=QQ314159 ABY=60;R
- S: 250 <eljefe@example.com> sender ok
- C: RCPT TO:<topbanana@example.net> ARCPT=rfc822;bottom-apple@loc2.example.org
- S: 250 <topbanana@example.net> recipient ok
- C: RCPT TO:<Dana@Ivory.example.net> NOTIFY=SUCCESS,FAILURE
  - ORCPT=rfc822;Dana@Ivory.example.net
- S: 250 <Dana@Ivory.example.net> recipient ok
- C: DATA
- S: 354 okay, send message
- C: (message goes here)
- C: ...
Example (next hop)

- The receiving MTA then tries to deliver the message to the next hop. If delivery to the first recipient fails (e.g. due to timer expiration or receipt of a 5XX status code), the message will be forwarded to an alternate recipient for the first message:
  - S: 220 loc2.example.org SMTP server here
  - C: EHLO example.net
  - S: 250-loc2.example.org
  - S: 250-DSN
  - S: 250-DELIVERBY
  - S: 250-ALTRECIP
  - C: MAIL FROM:<eljefe@example.com> ENVID=QQ314159 BY=60;R
  - S: 250 <eljefe@example.com> sender ok
  - C: RCPT TO:<bottom-apple@loc2.example.org>
  - S: 250 <bottom-apple@loc2.example.org> is welcomed here
  - C: DATA
  - S: 354 okay, send message
  - C: ...
Major Open Issues/ToDo

• Should another Received header field clause be added to record ARCPT value?
• Should an extra Received header field (or a newly defined header field) be added to record the error condition that caused redirect?
• Double check if dependencies of DSN and DELIVERYBY are needed
• Deployment consideration: some MXes support this extension and some don't
  – Applies to pretty much all SMTP extensions
SMTP Extension for Message Priorities
(draft-melnikov-smtp-priority-01.txt)

Alexey Melnikov
<alexey.melnikov@isode.com>
Ken Carlberg
<carlberg@g11.org.uk>
Overview

• This SMTP extension allows the sender to indicate priority of the message for Quality of Service/Delivery speed purposes
  – Messages with higher priority values should be delivered faster

• Priority is a value from -99 to +99, default is 0
  – Implementations can support priority “bands” (e.g. -99..-40,-39..-20,-19..0,1..20,21..40,41..60,60..99)

• Currently, if the next hop doesn't support this extension, the relaying MTA adds a header field to tunnel the priority to the next MTA which does.
Motivation

• Useful when resources (bandwidth, round trip time) are scarce
  – e.g. running SMTP over HF radio
• Requirements from Emergency services and Military
• Can also be used by big deployments (e.g. when there is an outgoing MTA queue buildup)
Example

- S: 220 example.net SMTP server here
- C: EHLO example.com
- S: 250-example.net
- S: 250-AUTH SCRAM-SHA-1 DIGEST-MD5 GSSAPI
- S: 250 PRIORITY
- [...]authentication...]
- C: MAIL FROM:<eljefe@example.com> PRIORITY=40
- S: 250 <eljefe@example.com> sender ok
- C: RCPT TO:<topbanana@example.net>
- S: 250 <topbanana@example.net> recipient ok
- C: RCPT TO:<Dana@Ivory.example.net> NOTIFY=SUCCESS,FAILURE
  ORCPT=rfc822;Dana@Ivory.example.net
- S: 250 <Dana@Ivory.example.net> recipient ok
- C: DATA
- S: 354 okay, send message
- C: ...
Major Open Issues/ToDo (1 of 2)

• Record message priority in the added Received header field?
• Should unsupported, but syntactically valid priority values cause message rejection instead of conversion to supported values?
• Should labels (e.g. dod.flash) be used instead of numeric values?
• Should priority values affect maximum allowed message size?
  – MTAs MAY impose per-priority restrictions, but this should be a local matter
Major Open Issues/ToDo (2 of 2)

• Tunneling of priority information through non conforming MTAs - is this something that should be standardized?

• Implementation strategies need to be much more clearly defined

• Security considerations (e.g. whom can an MTA trust) need to be expanded and clarified