

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

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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 **ALTRECIPI**
- 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)

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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