IMAP PARTIAL
(paged Search and Fetch) extension

draft-melnikov-imap-partial-00.txt
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Problem Statement

• How to handle large IMAP mailboxes in an efficient way?

• How “large” is “large”?
  • 50k+ messages

• What is exactly the problem?
  • Memory/resource usage of keeping msgno-to-UID map on the server
  • Some clients can’t even provide user access to that many messages
  • Clients blindly doing [UID] FETCH 1:* FLAGS every so often, even if there are no changes
    • CONDSTORE/QRESYNC are your friends, but more can be done
Proposed PARTIAL extension

• New SEARCH return option for returning a "page" of search results at a time
  
  • This can reduce the amount of work a server has to do, as the server can stop processing SEARCH once the requested page is filled in
  
  • Also reduces the amount of data sent by the server over IMAP
  
• Similarly, a new UID FETCH modifier that can restrict the number of messages processed
Proposed PARTIAL extension: details (1 of 2)

- Paged SEARCH/UID SEARCH using PARTIAL search result option

  - Originally defined in RFC 5267 (part of CONTEXT=SEARCH)

  - Extended to allow Python-like negative ranges (e.g. 
    
    
    
    
    "-1:-3"  --  "the last 3" resulting messages

  Example:

  A01 UID SEARCH RETURN (PARTIAL -1:-100)
  UNDELETED UNKEYWORD $Junk
Proposed PARTIAL extension: details (2 of 2)

- Paged UID FETCH using PARTIAL FETCH modifier
  - Same syntax as for the SEARCH
  - Can be used to limit the number of messages in a UID set, when the number of messages is not known

Example:

10 UID FETCH 25900:26600 (UID FLAGS) (PARTIAL -1:-15)
Bonus Features

• The draft clarifies interaction between PARTIAL and SAVE return options
Next steps

- Ask for adoption in the EXTRA WG