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Internet Draft   A. Melnikov, ACI WorldWide/MessagingDirect
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IMAP4 Language Extension

Status of this Memo

0. Meta Information on this draft

   This information is intended to facilitate discussion. It will be
   removed when this document leaves the Internet-Draft stage.

   This draft is being discussed on the IMAPEXT mailing list at ietf-
   imapext@imc.org.   Subscription requests can be sent to ietf-
   imapext-request@imc.org (send an email message with the word
   "subscribe" in the body). More information on the mailing list
   along with a WWW archive of back messages is available at
   HTTP://www.imc.org

   Changes since -00

   1) Now define an extension mechanism to allow additional parameters
   to be passed so that this draft could serve as a framework for full
   internationalization of other drafts such as SORT. This approach
   would allow the language draft to proceed and solve the immediate
   and easy case of allowing an IMAP user to read server responses in
   their language. At the IMC interop event some vendors have already
   implemented to language-draft-00. These implementations would
   remain unaffected by future extensions to this language draft, since

a client would not include any additional extension parameters in
the LANGUAGE command unless the server advertised these extensions

in its capability response. At the IMAPEXT Working Group at the
45th IETF in Oslo, it was proposed that an extension mechanism be
added to this draft and then have the working group debate the
merits of continuing with this existing draft versus starting a new
draft to tackle the more daunting problem of trying to solve all
internationalization issues in a single draft.

2) Included John Myers' suggestion to add to the requirements
section that a client that supports this extension must be prepared
for a NAMESPACE response.

3) Included John Myers' suggestion that if the server supports the
namespace extension it must send a NAMESPACE response when a
language is negotiated.

4) Included John Myers' suggestion that a TRANSLATION extension be
included to the NAMESPACE response to allow for localized version of
the NAMESPACE prefixes.

5) Included Jutta Degener's corrections to the grammar (e.g. 1# is
not defined in RFC2234-BNF, missing] in grammar) along with her
minor editorial suggestions.

6) Included Mark Crispin's suggestion of allowing the server to
substitute a primary language if the sublanguage asked for is not
available.

Changes since -01

1) <language tag> formally defined as an <astring>, [RFC 3066] only
described it.

2) Grammar for EXTENSION updated to show the parts of the extension.

3) Incorporated text about MUL, UND and hierarchy.

4) References to RFC 1766 were replaced with RFC 3066 that obsoleted it.

5) ABNF declaration for NAMESPACE_TRANSLATION_RESPONSE is now linked
to NAMESPACE extension [RFC-2342].

6) Server MUST NOT return a NAMESPACE response if it is in
non-authenticated state.

1. **Abstract**

   The Internet Message Access Protocol [RFC-2060] allows server
   responses to include human-readable text that in many cases needs to
   be presented to the user. This document specifies a way for a
   client to negotiate which language the server should use when
   sending human-readable text. It provides an extensible mechanism so
   that it may be used as a framework for full internationalization of
   other IMAP extensions.

2. **Conventions used in this document**

   In examples, "C:" and "S:" indicate lines sent by the client and
   server respectively.   If such lines are wrapped without a new "C:"
   or "S:" label, then the wrapping is for editorial clarity and is not
   part of the command.

   The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
   "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in
   this document are to be interpreted as described in [RFC-2119].

3. **Requirements**

   IMAP4 servers that support this extension MUST list the keyword
   LANGUAGE in their CAPABILITY response.

   A server that supports this extension SHOULD use the language "i-
   default" as described in [CHARSET-POLICY] as its default language
   until another supported language is negotiated by the client. A
   server MUST include "i-default" as one of its supported languages.

   A client that supports this extension MUST be prepared for a
   possible NAMESPACE response [RFC-2342] from the server.

   The LANGUAGE command is valid in the non-authenticated,
   authenticated and selected state.

4. **LANGUAGE Command**

   Arguments: Zero or one language tag as described by [LANG-TAGS].

   Response: A possible LANGUAGE response containing the list of
             server supported languages.

             A possible NAMESPACE response as defined by [RFC-2342].

Result: OK - Command completed
        NO - Could not complete command
        BAD - arguments invalid

The LANGUAGE command requests that human-readable text emitted by
the server be localized to the language specified in the language
tag argument.

If the command succeeds, the server will return human-readable
responses in the specified language starting with the tagged OK
response to the LANGUAGE command. These responses will be in UTF-8
[RFC-2044].

If the command fails, the server will continue to return human-
readable responses in the language it was previously using.

Example 4.1
===========

< The server defaults to using English responses until the user
explicitly changes the language. >

C: A001 LOGIN KAREN PASSWORD
S: A001 OK LOGIN completed

< Once the client changes the language, all responses will be in
that language starting with the tagged OK to the LANGUAGE command. >

C: A002 LANGUAGE FR
S: A002 OK La Language commande a ete execute avec success

< If a server does not support the requested primary language,
responses will continue to be returned in the current language the
server is using. >

C: A003 LANGUAGE DE
S: A003 NO Ce Language n'est pas supporte

< Client requested MUL language. Server MUST reply with BAD >

C: A003 LANGUAGE MUL
S: A003 BAD Invalid language MUL

If the client requests a sublanguage that is not available, but the
primary language is available, the server SHOULD switch to the
primary language and return a LANGUAGE response indicating that it
switched to the primary language instead.

Server SHOULD recognize languages that have multiple different tags
(for example "ru" and "rus").

     Note 1. Client MUST NOT use MUL (Multiple languages) and
     UND(Undetermined) language tags and server MUST return BAD
     to the LANG command that is used with such parameter.

     Note 2. [LANG-TAGS] warns that there is no guaranteed
     relationship between languages whose tags start out with
     the same series of subtags. However it is believed that
     for the purpose of this document it is safe to treat all
     languages, whose tags starts with primary languages
     described in ISO 639-1 and ISO 639-2 (i.e. all 2 or 3
     letters primary languages) as hierarchical. For all
     languages with other primary tags, the described fallback
     rule MUST NOT be used. In particular, language tags
     starting with 'i-' and 'x-' MUST NOT be treated as
     hierarchical.

  Example 4.2
  ===========

  C: A002 LANGUAGE FR-CA
  S: * LANGUAGE (FR)
  S: A002 OK La Language commande a ete execute avec success

  If the language tag argument is omitted, the server SHOULD send an
  untagged LANGUAGE response listing the languages it supports. If
  the server is unable to enumerate the list of languages it supports
  it MAY return a tagged NO response to the enumeration request.

  Example 4.3
  ===========

  < A LANGUAGE command with no arguments is a request to enumerate the
  list of languages the server supports. >

  C: A001 LANGUAGE
  S: * LANGUAGE (EN DE IT i-default)
  S: A001 OK Supported languages have been enumerated

  C: A001 LANGUAGE
  S: A002 NO Server is unable to enumerate supported languages

5. TRANSLATION extension to the NAMESPACE response

  If the server supports the IMAP4 NAMESPACE command [RFC-2342], the
  server MUST return an untagged NAMESPACE response when a language is
  negotiated. However server MUST NOT return a NAMESPACE response if it
  is in non-authenticated state.

If as a result of the newly negotiated language, localized
   representations of the namespace prefixes are available, the server

   SHOULD include these in the TRANSLATION extension to the NAMESPACE
   response.

   The TRANSLATION extension to the NAMESPACE response returns a single
   string, containing the Modified UTF-7 [RFC-2060] encoded translation
   of the namespace prefix. It is the responsibility of the client to
   convert between the namespace prefix and the translation of the
   namespace prefix when presenting mailbox names to the user.

   Example 5.1
   ===========

   < In this example a server supports the IMAP4 NAMESPACE command. It
   uses no prefix to the user's Personal Namespace, a prefix of "Other
   Users" to its Other Users' Namespace and a prefix of "Public
   Folders" to its only Shared Namespace. Since a client will often
   display these prefixes to the user, the server includes a
   translation of them that can be presented to the user. >

   C: A001 LANGUAGE FR-CA
   S: * NAMESPACE (("" "/"))(("Other Users/" "/" "TRANSLATION" ("Autres
   Utilisateurs/"))) (("Public Folders/" "/" "TRANSLATION" ("R&Aok-
   pertoires Publics/")))
   S: A001 OK La Language commande a ete executee avec success

6. **Formal Syntax**

   The following syntax specification uses the augmented Backus-Naur
   Form (BNF) as described in [RFC-2234].

   LANGUAGE_Command = "LANGUAGE" [SP <language_tag>] [*EXTENSION]
      ; A client should not issue the optional extension parameter
      ; unless a server has indicated in its capabilities that it
      ; supports that extension

   EXTENSION = SP "(" LANG-EXT-NAME SP LANG-EXT-VALUES ")"

   LANG-EXT-NAME = string
      ; Name of LANG extension

   LANG-EXT-VALUES = "(" LANG-EXT-VALUE *(SP LANG-EXT-VALUE)")"
      ; List of LANG extension specific values

   LANG-EXT-VALUE = string

   string = <string>

; string as defined in [RFC-2060]

```
LANGUAGE_Response = "*" SP "LANGUAGE" SP "(" <language_tag> *(SP
   <language_tag>) ")"
   ; Note: the server is required to support the language i-default
   ; and as such i-default must appear in the language response.

Namespace_Response_Extension =/ NAMESPACE_TRANSLATION_RESPONSE
   ; Namespace_Response_Extension is defined in [RFC-2342]

NAMESPACE_TRANSLATION_RESPONSE = SP <"> TRANSLATION <"> SP "("
   string ")"
   ; the string is encoded in Modified UTF-7

<language_tag> =  <astring> as defined in [RFC-2060]
   ; <language_tag> is described in [LANG-TAGS]


; After the server is changed to a language other than i-default,
the resp_text as defined by [RFC-2060] becomes:

resp_text = ["[" <resp_text_code> "]" SP ] 1*UTF8_CHAR
   ; <resp_text_code as defined in RFC-2060
   ; UTF8_CHAR as defined in [RFC-2044] not starting with "[" or "="
```

7. Security Considerations

This extension allows the negotiation of a language for the human-
readable text returned by a server. A user is able to query the
languages that a server supports.

8. References

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   and Innosoft, May 1998

9. Acknowledgments

   Many people have participated in discussions about an IMAP Language
   extension in the various fora of the IETF and the internet working
   groups, so any list of contributors is bound to be incomplete.
   However, the authors would like to thank Andrew McCown for early
   work on the original proposal, John Myers and Chris Newman for their
   suggestions regarding the namespace issue, along with Jutta Degener,
   Mark Crispin, Mark Pustilnik and Larry Osterman for their many
   suggestions that have been incorporated into this document.

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