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## Display-Based Address Sorting for the IMAP4 SORT Extension

### Abstract

This document describes an IMAP protocol extension enabling server-side message sorting on the commonly displayed portion of the From and To header fields.

### Status of This Memo

This is an Internet Standards Track document.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on Internet Standards is available in Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at <http://www.rfc-editor.org/info/rfc5957>.

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## 1. Introduction

The [SORT] extension to the [IMAP] protocol provides a means for the server-based sorting of messages. It defines a set of sort criteria and the mechanism for determining the sort value of a message for each such ordering.

The [SORT] FROM and TO orderings sort messages lexically on the [IMAP] addr-mailbox of the first address in the message's From and To headers, respectively. This document provides two alternative orderings, DISPLAYFROM and DISPLAYTO, which sort messages based on the first From or To address's [IMAP] addr-name (generally the same as its [RFC5322] display-name), when present.

A server that supports the full [SORT] extension as well as both the DISPLAYFROM and DISPLAYTO sort criteria indicates this by returning "SORT=DISPLAY" in its CAPABILITY response.

## 2. Conventions Used in This Document

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 [RFC2119].

## 3. DISPLAY Sort Value for an Address

For the purposes of the sort criteria defined in this document, the sort value for an [IMAP] address structure is defined as follows:

- o If the address structure's [IMAP] addr-name is non-NIL, apply the procedure from [RFC5255], Section 4.6. (That is, decode any [RFC2047] encoded-words and convert the resulting character string into a charset valid for the currently active [RFC4790] collation, with a default of UTF-8.) If the resulting octet string is not the empty string, use it as the sort value for the address.

- o Otherwise, if the address structure's [IMAP] addr-mailbox and [IMAP] addr-host are both non-NIL, the sort value for the address is addr-mailbox@addr-host.
- o Otherwise, if the address structure's [IMAP] addr-mailbox is non-NIL, the sort value for the address is its addr-mailbox.
- o If none of the above conditions are met, the sort value for the address is the empty string.

#### 4. The DISPLAYFROM and DISPLAYTO Sort Criteria

This document introduces two new [SORT] sort criteria, DISPLAYFROM and DISPLAYTO. A message's sort value under these orderings MUST be derived as follows:

A "derived-addr" value is created from the [IMAP] envelope structure resulting from a FETCH ENVELOPE on the message. For DISPLAYFROM, the derived-addr value is the [IMAP] env-from value. For DISPLAYTO, the derived-addr value is the [IMAP] env-to value.

- o If the derived-addr value is NIL, the message's sort value is the empty string.
- o Otherwise, the message's sort value is the DISPLAY sort value of the first [IMAP] address in the derived-addr value.

#### 5. Formal Syntax

The following syntax specification uses the Augmented Backus-Naur Form (ABNF) notation as specified in [RFC5234]. [IMAP] defines the non-terminal "capability", and [SORT] defines "sort-key".

```
capability    =/ "SORT=DISPLAY"
sort-key      =/ "DISPLAYFROM" / "DISPLAYTO"
```

#### 6. Security Considerations

This document defines an additional IMAP4 capability. As such, it does not change the underlying security considerations of [IMAP]. The author believes that no new security issues are introduced with this additional IMAP4 capability.

## 7. Internationalization Considerations

DISPLAYFROM and DISPLAYTO are string-based sort criteria. As stated in [SORT], the active [RFC4790] collation as per [RFC5255] MUST be used when sorting such strings.

The DISPLAYFROM and DISPLAYTO orderings sort on the full decoded [IMAP] addr-name, when present. They do not attempt to parse this string in a locale- or language-dependent manner in order to determine and sort on some semantically meaningful substring such as the surname.

## 8. IANA Considerations

[IMAP] capabilities are registered by publishing a Standards Track or IESG-approved Experimental RFC. This document constitutes registration of the SORT=DISPLAY capability in the [IMAP] capabilities registry.

## 9. Normative References

- [IMAP] Crispin, M., "INTERNET MESSAGE ACCESS PROTOCOL - VERSION 4rev1", RFC 3501, March 2003.
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- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
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- [RFC5234] Crocker, D., Ed., and P. Overell, "Augmented BNF for Syntax Specifications: ABNF", STD 68, RFC 5234, January 2008.
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- [RFC5322] Resnick, P., Ed., "Internet Message Format", RFC 5322, October 2008.

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