

The MIME Multipart/Related Content-type

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Abstract

The Multipart/Related content-type provides a common mechanism for representing objects that are aggregates of related MIME body parts. This document defines the Multipart/Related content-type and provides examples of its use.

1. Introduction

Several applications of MIME, including MIME-PEM, and MIME-Macintosh and other proposals, require multiple body parts that make sense only in the aggregate. The present approach to these compound objects has been to define specific multipart subtypes for each new object. In keeping with the MIME philosophy of having one mechanism to achieve the same goal for different purposes, this document describes a single mechanism for such aggregate or compound objects.

The Multipart/Related content-type addresses the MIME representation of compound objects. The object is categorized by a "type" parameter. Additional parameters are provided to indicate a specific starting body part or root and auxiliary information which may be required when unpacking or processing the object.

Multipart/Related MIME entities may contain Content-Disposition headers that provide suggestions for the storage and display of a body part. Multipart/Related processing takes precedence over Content-Disposition; the interaction between them is discussed in [section 4](#).

Responsibility for the display or processing of a Multipart/Related's constituent entities rests with the application that handles the compound object.

2. Multipart/Related Registration Information

The following form is copied from [RFC 1590, Appendix A](#).

To: IANA@isi.edu
Subject: Registration of new Media Type content-type/subtype

Media Type name: Multipart

Media subtype name: Related

Required parameters: Type, a media type/subtype.

Optional parameters: Start
Start-info

Encoding considerations: Multipart content-types cannot have encodings.

Security considerations: Depends solely on the referenced type.

Published specification: RFC-REL (this document).

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3. Intended usage

The Multipart/Related media type is intended for compound objects consisting of several inter-related body parts. For a Multipart/Related object, proper display cannot be achieved by individually displaying the constituent body parts. The content-type of the Multipart/Related object is specified by the type parameter. The "start" parameter, if given, points, via a content-ID, to the body part that contains the object root. The default root is the first body part within the Multipart/Related body.

The relationships among the body parts of a compound object distinguishes it from other object types. These relationships are often represented by links internal to the object's components that

reference the other components. Within a single operating environment the links are often file names, such links may be represented within a MIME message using content-IDs or the value of some other "Content-" headers.

3.1. The Type Parameter

The type parameter must be specified and its value is the MIME media type of the "root" body part. It permits a MIME user agent to determine the content-type without reference to the enclosed body part. If the value of the type parameter and the root body part's content-type differ then the User Agent's behavior is undefined.

3.2. The Start Parameter

The start parameter, if given, is the content-ID of the compound object's "root". If not present the "root" is the first body part in the Multipart/Related entity. The "root" is the element the applications processes first.

3.3. The Start-Info Parameter

Additional information can be provided to an application by the start-info parameter. It contains either a string or points, via a content-ID, to another MIME entity in the message. A typical use might be to provide additional command line parameters or a MIME entity giving auxiliary information for processing the compound object.

Applications that use Multipart/Related must specify the interpretation of start-info. User Agents shall provide the parameter's value to the processing application. Processes can distinguish a start-info reference from a token or quoted-string by examining the first non-white-space character, "<" indicates a reference.

3.4. Syntax

```
related-param := [ ";" "start" "=" cid ]
               [ ";" "start-info" "="
                 ( cid-list / value ) ]
               [ ";" "type" "=" type "/" subtype ]
               ; order independent

cid-list      := cid cid-list

cid           := msg-id      ; c.f. [822]
```

value := token / quoted-string ; c.f. [MIME]
; value cannot begin with "<"

Note that the parameter values will usually require quoting. Msg-id contains the special characters "<", ">", "@", and perhaps other special characters. If msg-id contains quoted-strings, those quote marks must be escaped. Similarly, the type parameter contains the special character "/".

4. Handling Content-Disposition Headers

Content-Disposition Headers [DISP] suggest presentation styles for MIME body parts. [DISP] describes two presentation styles, called the disposition type, INLINE and ATTACHMENT. These, used within a multipart entity, allow the sender to suggest presentation information. [DISP] also provides for an optional storage (file) name. Content-Disposition headers could appear in one or more body parts contained within a Multipart/Related entity.

Using Content-Disposition headers in addition to Multipart/Related provides presentation information to User Agents that do not recognize Multipart/Related. They will treat the multipart as Multipart/Mixed and they may find the Content-Disposition information useful.

With Multipart/Related however, the application processing the compound object determines the presentation style for all the contained parts. In that context the Content-Disposition header information is redundant or even misleading. Hence, User Agents that understand Multipart/Related shall ignore the disposition type within a Multipart/Related body part.

It may be possible for a User Agent capable of handling both Multipart/Related and Content-Disposition headers to provide the invoked application the Content-Disposition header's optional filename parameter to the Multipart/Related. The use of that information will depend on the specific application and should be specified when describing the handling of the corresponding compound object. Such descriptions would be appropriate in an RFC registering that object's media type.

5. Examples

5.1 Application/X-FixedRecord

The X-FixedRecord content-type consists of one or more octet-streams and a list of the lengths of each record. The root, which lists the record lengths of each record within the streams. The record length

list, type Application/X-FixedRecord, consists of a set of INTEGERS in ASCII format, one per line. Each INTEGER gives the number of octets from the octet-stream body part that constitute the next "record".

The example below, uses a single data block.

```
Content-Type: Multipart/Related; boundary=example-1
      start="<950120.aaCC@XIson.com>";
      type="Application/X-FixedRecord"
      start-info="-o ps"
```

```
--example-1
```

```
Content-Type: Application/X-FixedRecord
Content-ID: <950120.aaCC@XIson.com>
```

```
25
10
34
10
25
21
26
10
```

```
--example-1
```

```
Content-Type: Application/octet-stream
Content-Description: The fixed length records
Content-Transfer-Encoding: base64
Content-ID: <950120.aaCB@XIson.com>
```

```
T2xkIE1hY0RvbmFsZCBoYWQgYSBmYXJtCkUgSS
BFIEkgTwpBbmQgb24gaGlzIGZhcm0gaGUgaGFk
IHNvbWUgZHVja3MKRSBJIEUgSSBPCldpdGggYS
BxdWFjayBxdWFjayBoZXJlLApIHF1YWNrIHF1
YWNrIHRoZXJlLApldmVyeSB3aGVyZSBhIHF1YW
NrIHF1YWNrCkUgSSBFIEkgTwo=
```

```
--example-1--
```

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