

Network Working Group
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Message/External-Body Content-ID Access Type

Status of this Memo

This memo defines an Experimental Protocol for the Internet community. This memo does not specify an Internet standard of any kind. Discussion and suggestions for improvement are requested. Distribution of this memo is unlimited.

Abstract

When using MIME [MIME] to encapsulate a structured object that consist of many elements, for example an SGML [SGML] document, a single element may occur several times. An encapsulation normally maps each of the structured objects elements to a MIME entity. It is useful to include elements that occur multiple time exactly once. To accomplish that and to preserve the object structure it is desirable to unambiguously refer to another body part of the same message.

The existing MIME Content-Type Message/External-Body access-types allow a MIME entity (body-part) to refer to an object that is not in the message by specifying how to access that object. The Content-ID access method described in this document provides the capability to refer to an object within the message.

1. Introduction

Consider a MIME multipart entity several of whose body parts contain the same data (body) but different parameters or Content-* headers. Representing those body parts without duplicating the data in each one promotes efficient use of resources (bandwidth and storage space). To achieve these benefits an access-type is defined that permits one message part to refer to another one in the same message.

2. The Content-ID Access Type

2.1 Registration Information

MIME access-type name: content-id

Required parameters: none

Optional parameters: none

Published specification: this document

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Additional requirements:

The content-id header of the access-type=content-id MIME entity must match (be identical to) exactly one content-id in the same message, excluding other access-type=content-id entities. Thus, the content-id access type can only occur within a multipart message and can refer to another body part anywhere in the same message.

A MIME User Agent (MUA) constructs the resultant MIME body part as described below. We call the access-type=content-id MIME entity the referring body part and the MIME body part to which it refers, the one with the matching content-id, the referenced body part. The MIME entity that results from content-id access type consists of:

- (a) the referenced body part's content-type header,
- (b) the referring body part's headers except its content-type header,
- (c) any headers in the referenced body part not in the referring one,
- (d) the line separating the headers from the body, and
- (e) the referenced body part's body.

2.2 Example Usage

The following example shows a message that consists of two identical images.

```
MIME-Version: 1.0
Content-Type: Multipart/Mixed;
    boundary=tiger-lily

--tiger-lily
Content-Type: image/jpeg
Content-ID: <950323.1552@XIson.com>

AAAcdb...
--tiger-lily
Content-type: Message/External-Body;
    access-type=content-id
Content-ID: <950323.1552@XIson.com>
Content-Description:
    This body part is duplicated by reference

--tiger-lily--
```

The equivalent MIME entity for the second body part is:

```
--tiger-lily
Content-Type: image/jpeg
Content-ID: <950323.1552@XIson.com>
Content-Description:
    This body part is duplicated by reference

AAAcdb...
--tiger-lily
```

3. Security Considerations

The content-id access-type does not impact the security of messages or systems. The referenced MIME entity may have security implications.

4. References

- [822] Crocker, D., "Standard for the Format of ARPA Internet Text Messages", STD 11, RFC 822, UDEL, August 1982.
- [SGML] ISO 8879:1988, Information processing -- Text and office systems -- Standard Generalized Markup Language (SGML).
- [MIME] Borenstein, N., and N. Freed, "MIME (Multipurpose Internet Mail Extensions) Part One: Mechanisms for Specifying and Describing the Format of Internet Message Bodies", RFC 1521, Bellcore, Innosoft, September 1993.

5. Authors' Addresses

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