

The Message Header (RFC 822)

Date : 27 Aug 76 0932 PDT
From : Ken Davis <KDavis@This-Host.This-net>
Subject : Re: The Syntax in the RFC
Sender : KSecy@Other-Host
Reply-To : Sam.Irving@Reg.Organization
To : George Jones <Group@Some-Reg.An-Org>,
Al.Neuman@MAD.Publisher
cc : Important folk:
Tom Softwood <Balsa@Tree.Root>,
"Sam Irving"@Other-Host;
Standard Distribution:
/main/davis/people/standard@Other-Host,
"<Jones>standard.dist.3"@Tops-20-Host";
Comment : Sam is away on business. He asked me to handle
his mail for him. He'll be able to provide a
more accurate explanation when he returns
next week.
In-Reply-To: <some.string@DBM.Group>, George's message
X-Special-action: This is a sample of user-defined field-
names. There could also be a field-name
"Special-action", but its name might later be
preempted
Message-ID: <4231.629.XYzi-What@Other-Host>

Multipurpose Internet Mail Extension

MIME-Version - a version number

Content-Type - specify the type and subtype of data in the body of a message

- "text" - represent textual information in a number of character sets and formatted text description languages in a standardized manner.
- "multipart" - combine several body parts, possibly of differing types of data, into a single message.
- "application" - transmit application data or binary data, and hence, among other uses, to implement an electronic mail file transfer service.
- "message" - encapsulating another mail message.
- "image" - transmitting still image (picture) data.
- "audio" - transmitting audio or voice data.
- "video" - transmitting video or moving image data, possibly with audio as part of the composite video data format.

Content-Transfer-Encoding - specify an auxiliary encoding that was applied to the data

Two additional headers - can be used to further describe the data in a message body, the Content-ID and Content-Description header fields.

Examples:

```
Content-type: text/plain; charset=US-ASCII  
Content-type: text/html; charset=Windows-1250  
Content-type: application/msword; name="paper.doc"  
Content-type: image/jpeg
```

Subtypes:

Multipart/mixed

the body parts are independent and need to be bundled in a particular order.

Multipart/alternative

each of the parts is an "alternative" version of the same information. Systems should recognize that the content of the various parts are interchangeable.

Multipart/digest

the default Content-Type value for a body part is changed from "text/plain" to "message/rfc822".

Multipart/parallel

the order of body parts is not significant. A common presentation of this type is to display all of the parts simultaneously on hardware and software that are capable of doing so.

Message/rfc822

the body contains an encapsulated message, with the syntax of an RFC 822 message.

Message/Partial

allow large objects to be delivered as several separate pieces of mail and automatically reassembled by the receiving user agent.

Message/External-Body

actual body data are not included, but merely referenced. In this case, the parameters describe a mechanism for accessing the external data.

Examples:

```
From: Nathaniel Borenstein <nsb@bellcore.com>
To: Ned Freed <ned@innosoft.com>
Subject: Sample message
MIME-Version: 1.0
Content-type: multipart/mixed; boundary="simple
boundary"
```

```
This is the preamble. It is to be ignored, though it
is a handy place for mail composers to include an
explanatory note to non-MIME conformant readers.
--simple boundary
```

```
This is implicitly typed plain ASCII text.
It does NOT end with a linebreak.
--simple boundary
Content-type: text/plain; charset=us-ascii
```

```
This is explicitly typed plain ASCII text.
It DOES end with a linebreak.
```

```
--simple boundary--
This is the epilogue. It is also to be ignored.
```

```
Content-type: message/external-body; access-  
type=local-file; name="/u/nsb/Me.gif"
```

```
Content-type: image/gif  
Content-ID: <id42@guppylake.bellcore.com>  
Content-Transfer-Encoding: binary
```

THIS IS NOT REALLY THE BODY!

Content-Transfer-Encoding

- "7bit"
- "quoted-printable"
- "base64"
- "8bit"
- "binary"
- x-token

Quoted-Printable Content-Transfer-Encoding

#1. Any octet may be represented by an "=" followed by a two digit hexadecimal representation of the octet's value

Example: ESC → decimal value 27 → "=1B"

#2. Octets with decimal values of 33 through 60 inclusive, and 62 through 126, inclusive, MAY be represented as the ASCII characters which correspond to those octets

Example: "A" → decimal value 65 → "A"

#3. Octets with values of 9 and 32 MAY be represented as ASCII TAB (HT) and SPACE characters, respectively, but MUST NOT be so represented at the end of an encoded line.

#4. A line break in a text body, independent of what its representation is following the canonical representation of the data being encoded, must be represented by a (RFC 822) line break, which is a CRLF sequence, in the Quoted-Printable encoding.

Example: "CR" → decimal value 13 → "=0D"
"LF" → decimal value 10 → "=0A"
"CRLF" → "=0D=0A"

#5. The Quoted-Printable encoding REQUIRES that encoded lines be no more than 76 characters long. If longer lines are to be encoded with the Quoted-Printable encoding, 'soft' line breaks must be used. An equal sign as the last character on a encoded line indicates such a non-significant ('soft') line break in the encoded text.

Base64 Content-Transfer-Encoding

J								á							n											
74								225							110											
0	1	0	0	1	0	1	0	1	1	1	0	0	0	0	1	0	1	1	0	1	1	1	0			
0	1	0	0	1	0	1	0	1	1	1	0	0	0	0	1	0	1	1	0	1	1	1	0			
18								46							5					46						
S								u							F					u						

Value Encoding	Value Encoding	Value Encoding	Value Encoding
0 A	17 R	34 l	51 z
1 B	18 S	35 j	52 0
2 C	19 T	36 k	53 1
3 D	20 U	37 l	54 2
4 E	21 V	38 m	55 3
5 F	22 W	39 n	56 4
6 G	23 X	40 o	57 5
7 H	24 Y	41 p	58 6
8 I	25 Z	42 q	59 7
9 J	26 a	43 r	60 8
10 K	27 b	44 s	61 9
11 L	28 c	45 t	62 +
12 M	29 d	46 u	63 /
13 N	30 e	47 v	
14 O	31 f	48 w	(pad) =
15 P	32 g	49 x	
16 Q	33 h	50 y	

From - Tue Nov 25 09:01:16 2003
X-UIDL: 3fc31c5300000006
X-Mozilla-Status: 0001
X-Mozilla-Status2: 00000000
Return-Path: <obona@ktl.elf.stuba.sk>
Delivered-To: obona@ktl.elf.stuba.sk
Received: from info.elf.stuba.sk (info.elf.stuba.sk [147.175.111.14])
by postoffice.ktl.elf.stuba.sk (Postfix) with ESMTTP id B0F7B40091
for <obona@ktl.elf.stuba.sk>; Tue, 25 Nov 2003 05:02:59 +0100 (CET)
Received: from gwen.pobox.sk (gwen.pobox.sk [212.5.216.21])
by info.elf.stuba.sk (8.11.6/8.11.6) with ESMTTP id hAP2sZZ00809
for <obona@ktl.elf.stuba.sk>; Tue, 25 Nov 2003 03:54:35 +0100 (CET)
Received: from postar.telecom.sk (postar.telecom.sk [195.146.134.59])
by gwen.pobox.sk (8.12.10/8.12.9) with ESMTTP id hAP2rtDW024837
for <jobona@pobox.sk>; Tue, 25 Nov 2003 03:53:59 +0100 (CET)
Received: from info.elf.stuba.sk (info.elf.stuba.sk [147.175.111.14])
by postar.telecom.sk (8.12.10/8.12.3) with ESMTTP id hAOBITs9011259
for <jobona@pobox.sk>; Mon, 24 Nov 2003 12:19:01 +0100 (MET)
Received: from postoffice.ktl.elf.stuba.sk (juno.ktl.elf.stuba.sk [147.175.103.7])
by info.elf.stuba.sk (8.11.6/8.11.6) with ESMTTP id hAOBI3Z24521
for <jobona@pobox.sk>; Mon, 24 Nov 2003 12:18:03 +0100 (CET)
Received: from ktl.elf.stuba.sk (b607-jozef.ktl.elf.stuba.sk [147.175.103.220])
by postoffice.ktl.elf.stuba.sk (Postfix) with ESMTTP id 1792140091
for <jobona@pobox.sk>; Mon, 24 Nov 2003 13:26:22 +0100 (CET)
Message-ID: <3FC1E8E5.1050807@ktl.elf.stuba.sk>
Date: Mon, 24 Nov 2003 12:17:57 +0100
From: Jozef Obona <obona@ktl.elf.stuba.sk>
Organization: Katedra telekomunikacii FEI STU v Bratislava
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.0; en-US; rv:1.4) Gecko/20030529
X-Accept-Language: en-us, en, sk
MIME-Version: 1.0
To: =?windows-1252?Q?Jozef_Obon=28a?= <jobona@pobox.sk>
Subject: example
X-Security: MIME headers sanitized on juno.ktl.elf.stuba.sk
See <http://www.impsec.org/email-tools/sanitizer-intro.html>
for details. \$Revision: 1.133 \$Date: 2002-01-05 17:09:21-08
Content-Type: multipart/mixed;
boundary="-----000108070302030103010107"
X-Scanned: by AntiVirus filter AVilter (msg.y5n756pg@delta.elf.stuba.sk)
X-Scanned: by AntiVirus filter AVilter (msg.MFpC6d4p@delta.elf.stuba.sk)
X-RAVMilter-Version: 8.4.2(snapshot 20021217) (gwen)
Status:

This is a multi-part message in MIME format.

-----000108070302030103010107
Content-Type: text/plain; charset=us-ascii; format=flowed
Content-Transfer-Encoding: 7bit

This is text of message.

-----000108070302030103010107
Content-Type: text/plain; name="name.txt"
Content-Disposition: inline; filename="name.txt"
Content-Transfer-Encoding: 8bit

oboda

-----000108070302030103010107--