NAME
>   mime – Manipulation of MIME body parts

SYNOPSIS
>   package require **Tcl 8.5**
>
>   package require **mime ?1.6?**
>
>   **::mime::initialize** ?**-canonical** *type/subtype* ?**-param** {*key value*}...? ?**-encoding** *value*? ?**-header** {*key value*}...?? (**-file** *name* | **-string** *value* | **-parts** {*token1 ... tokenN*})
>
>   **::mime::finalize** *token* ?**-subordinates all** | **dynamic** | **none**?
>
>   **::mime::getproperty** *token* ?*property* | **-names**?
>
>   **::mime::getheader** *token* ?*key* | **-names**?
>
>   **::mime::setheader** *token key value* ?**-mode write** | **append** | **delete**?
>
>   **::mime::getbody** *token* ?**-decode**? ?**-command** *callback* ?**-blocksize** *octets*??
>
>   **::mime::copymessage** *token channel*
>
>   **::mime::buildmessage** *token*
>
>   **::mime::parseaddress** *string*
>
>   **::mime::parsedatetime** (*string* | **-now**) *property*
>
>   **::mime::mapencoding** *encoding_name*
>
>   **::mime::reversemapencoding** *charset_type*

DESCRIPTION
>   The **mime** library package provides the commands to create and manipulate MIME body parts.
>
>   **::mime::initialize** ?**-canonical** *type/subtype* ?**-param** {*key value*}...? ?**-encoding** *value*? ?**-header** {*key value*}...?? (**-file** *name* | **-string** *value* | **-parts** {*token1 ... tokenN*})
>>   This command creates a MIME part and returns a token representing it.
>>
>>   •   If the **-canonical** option is present, then the body is in canonical (raw) form and is found by consulting either the **-file**, **-string**, or **-parts** option.
>>
>>   In addition, both the **-param** and **-header** options may occur zero or more times to specify **Content-Type** parameters (e.g., **charset**) and header keyword/values (e.g., **Content-Disposition**), respectively.
>>
>>   Also, **-encoding**, if present, specifies the **Content-Transfer-Encoding** when copying the body.
>>
>>   •   If the **-canonical** option is not present, then the MIME part contained in either the **-file** or the **-string** option is parsed, dynamically generating subordinates as appropriate.
>
>   **::mime::finalize** *token* ?**-subordinates all** | **dynamic** | **none**?
>>   This command destroys the MIME part represented by *token*. It returns an empty string.
>>
>>   If the **-subordinates** option is present, it specifies which subordinates should also be

destroyed. The default value is **dynamic**, destroying all subordinates which were created by **::mime::initialize** together with the containing body part.

::mime::getproperty *token* ?*property* | **-names**?

This command returns a string or a list of strings containing the properties of a MIME part. If the command is invoked with the name of a specific property, then the corresponding value is returned; instead, if **-names** is specified, a list of all properties is returned; otherwise, a serialized array of properties and values is returned.

The possible properties are:

content
> The type/subtype describing the content

encoding
> The "Content-Transfer-Encoding"

params
> A list of "Content-Type" parameters

parts   A list of tokens for the part's subordinates. This property is present only if the MIME part has subordinates.

size   The approximate size of the content (unencoded)

::mime::getheader *token* ?*key* | **-names**?

This command returns the header of a MIME part, as a list of strings.

A header consists of zero or more key/value pairs. Each value is a list containing one or more strings.

If this command is invoked with the name of a specific *key*, then a list containing the corresponding value(s) is returned; instead, if -names is specified, a list of all keys is returned; otherwise, a serialized array of keys and values is returned. Note that when a key is specified (e.g., "Subject"), the list returned usually contains exactly one string; however, some keys (e.g., "Received") often occur more than once in the header, accordingly the list returned usually contains more than one string.

::mime::setheader *token key value* ?**-mode write** | **append** | **delete**?

This command writes, appends to, or deletes the *value* associated with a *key* in the header. It returns a list of strings containing the previous value associated with the key.

The value for **-mode** is one of:

write   The *key*/*value* is either created or overwritten (the default).

append
> A new *value* is appended for the *key* (creating it as necessary).

delete   All values associated with the key are removed (the *value* parameter is ignored).

::mime::getbody *token* ?**-decode**? ?**-command** *callback* ?**-blocksize** *octets*??

This command returns a string containing the body of the leaf MIME part represented by *token* in canonical form.

If the **-command** option is present, then it is repeatedly invoked with a fragment of the body as this:

```
uplevel #0 $callback [list "data" $fragment]
```

(The **-blocksize** option, if present, specifies the maximum size of each fragment passed to the callback.)

When the end of the body is reached, the callback is invoked as:

        uplevel #0 $callback "end"

Alternatively, if an error occurs, the callback is invoked as:

        uplevel #0 $callback [list "error" reason]

Regardless, the return value of the final invocation of the callback is propagated upwards by **::mime::getbody**.

If the **-command** option is absent, then the return value of **::mime::getbody** is a string containing the MIME part's entire body.

If the option **-decode** is absent the return value computed above is returned as is. This means that it will be in the charset specified for the token and not the usual utf-8. If the option **-decode** is present however the command will use the charset information associated with the token to convert the string from its encoding into utf-8 before returning it.

::mime::copymessage *token channel*
        This command copies the MIME represented by *token* part to the specified *channel*. The command operates synchronously, and uses fileevent to allow asynchronous operations to proceed independently. It returns an empty string.

::mime::buildmessage *token*
        This command returns the MIME part represented by *token* as a string. It is similar to **::mime::copymessage**, only it returns the data as a return string instead of writing to a channel.

::mime::parseaddress *string*
        This command takes a string containing one or more 822-style address specifications and returns a list of serialized arrays, one element for each address specified in the argument. If the string contains more than one address they will be separated by commas.

        Each serialized array contains the properties below. Note that one or more of these properties may be empty.

        address
                local@domain

        comment
                822-style comment

        domain
                the domain part (rhs)

        error   non-empty on a parse error

        group   this address begins a group

        friendly
                user-friendly rendering

        local   the local part (lhs)

        memberP
                this address belongs to a group

        phrase the phrase part

proper   822-style address specification

route   822-style route specification (obsolete)

::mime::parsedatetime (*string* | **-now**) *property*
This command takes a string containing an 822-style date-time specification and returns the specified property as a serialized array.

The list of properties and their ranges are:

hour   0 .. 23

lmonth   January, February, ..., December

lweekday
Sunday, Monday, ... Saturday

mday   1 .. 31

min   0 .. 59

mon   1 .. 12

month   Jan, Feb, ..., Dec

proper   822-style date-time specification

rclock   elapsed seconds between then and now

sec   0 .. 59

wday   0 .. 6 (Sun .. Mon)

weekday
Sun, Mon, ..., Sat

yday   1 .. 366

year   1900 ...

zone   -720 .. 720 (minutes east of GMT)

::mime::mapencoding *encoding_name*
This commansd maps tcl encodings onto the proper names for their MIME charset type. This is only done for encodings whose charset types were known. The remaining encodings return "" for now.

::mime::reversemapencoding *charset_type*
This command maps MIME charset types onto tcl encoding names. Those that are unknown return "".

KNOWN BUGS
Tcllib Bug #447037
This problem affects only people which are using Tcl and Mime on a 64-bit system. The currently recommended fix for this problem is to upgrade to Tcl version 8.4. This version has extended 64 bit support and the bug does not appear anymore.

The problem could have been generally solved by requiring the use of Tcl 8.4 for this package. We decided against this solution as it would force a large number of unaffected users to upgrade their Tcl interpreter for no reason.

See *Ticket 447037* [/tktview?name=447037] for additional information.

BUGS, IDEAS, FEEDBACK
This document, and the package it describes, will undoubtedly contain bugs and other problems. Please report such in the category *mime* of the *Tcllib Trackers* [http://core.tcl.tk/tcllib/reportlist]. Please also report any ideas for enhancements you may have for either package and/or documentation.

mime(3tcl)   Mime   mime(3tcl)

SEE ALSO
ftp, http, pop3, smtp

KEYWORDS
email, internet, mail, mime, net, rfc 2045, rfc 2046, rfc 2049, rfc 821, rfc 822, smtp

CATEGORY
Text processing

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