

NAME

gttlvdump - A tool for displaying TLV encoded data.

SYNOPSIS

gttlvdump [-h] [-v] [options] [*tlvfile*]

DESCRIPTION

gttlvdump is a tool that dumps TLV (see **tlv(5)**) encoded files in human-readable format to *stdout*. If the input file is not specified, the input is read from *stdin*. Note that default output format of **gttlvdump** can be used as input for **gttlvundump**.

In the output, every TLV begins with string 'TLV' followed by the description of the TLV header between the square brackets '[' and ']'. TLV header contains the type of the TLV in hex and, if set, the Non-Critical flag (**N**) and Forward Unknown flag (**F**).

With additional parameters, the way the TLV is displayed can be altered and some extra information can be shown. For example, using options **-a** (name as annotation), **-p** (value), **-P** (name next to value), **-x** (offset), **-y** (length), the output would look like this:

```
# Name.
offset: TLV[type, F, N]: (L = length) Name: Value
```

Or, in case of nested TLVs:

```
# Name.
offset: TLV[type, F, N]: (L = length) Name:
      # Name.
offset:      TLV[type, F, N]: (L = length) Name: Value
```

Some parameters depend on known TLV elements (**-s**, **-a**, **-P**, **-p**). Known TLV elements are specified in TLV description files (see section **FILES** and **tlv-desc(5)** to read more about TLV description file).

OPTIONS

- h** Print help text.
- H len** Skip the number of bytes in the beginning of the input. The skipped bytes are printed in hex followed by the decoded TLVs. Additionally the value "auto" (**-H auto**) can be used to automatically detect known magic bytes. If the automatic detection is not successful the header length is set to zero (same as **-H 0**) and no bytes are skipped.
- d int** Max depth of nested TLV elements to parse. After the depth is exceeded no more TLV parsing is done and the value is printed as binary value. See parameter **-e** to determine the format of the binary value.
- x** Display the TLV offset in bytes relative to the beginning of the file or stream. It must be noted that when **-H** is used, the TLV offset is displayed relative to the first byte after skipped bytes.
- w arg** Wrap the output. Specify maximum line length in bytes. Use '-' for default length. Exceptional element value:
 - Hash - first wrapping is performed after hash algorithm regardless of the specified line length.
- y** Show the length of TLV value in bytes.
- z** Show the decimal value for TLV value less than or equal to 8 bytes.
- s** Strict types - do not parse unknown TLV elements.
- a** Annotate known TLV elements with their names. This output format is in accordance with **gttlvundump** input format.
- P** Print known TLV element names. Similar to **-a**, but not compatible with **gttlvundump** input format.

- p** Format known TLV element values according to the data type. If set, will override **-z**. Known types are:
 - Integer - printed as decimal value.
 - String - printed as string between double quotes ("). Characters \ and " are printed as \\ and \" accordingly. Non-printable characters are printed as \<int> where <int> is the byte value in decimal.
 - Time - printed as "<int> <YYYY>-<MM>-<DD> <hh>:<mm>:<ss> <Time Zone>" where <int> has a value of number of seconds since 1970-01-01 00:00:00 UTC as decimal number.
 - Hash - printed as <alg>:<hash in hex> where <alg> is the hash algorithm and <hash in hex> is the hash value in hex.
- t** Print time in local timezone. Is valid with **-p**.
- e enc** Output format of binary value. Available: 'hex', 'base64'. If **-e** is not set, 'hex' is used.
- E enc** Specify the encoding for the input. Valid options are **bin** (default), **hex** and **base64**.
- D pth** Set TLV description files directory. Only files with *.desc extention are loaded.
- v** Print TLV utility version.

FILES

/usr/share/gttlvutil/*.desc - description files that define known TLV elements. See **tlv-desc(5)** for more details.

EXIT STATUS

- 0** **Exit success.** Returned if everything is OK.
- 1** **Exit failure.** A general failure occurred.
- 3** **Invalid command-line parameter.** The content or format of a command-line parameter is invalid or a parameter is missing.
- 4** **Invalid format.** Input data can not be parsed or data format is invalid.
- 9** **Input/output error.** Unable to read or write file or stream.
- 13** **System out of memory.**

EXAMPLES

- 1 Dump KSI publications file "*pubfile*" and ignore the "KSIPUBLF" in the beginning of the file:
gttlvdump -H 8 pubfile
- 2 Dump KSI signature with all known TLVs described by the name and values according to their data type:
gttlvdump -pP sigfile
- 3 Dump only one layer of nested TLVs and print the lower level TLVs as binary value:
gttlvdump -d 2 tlvfile

AUTHOR

Guardtime AS, <http://www.guardtime.com/>

SEE ALSO

gttlvgrep(1), **gttlvundump(1)**, **gttlvwrap(1)**, **tlv(5)**, **tlv-desc(5)**