

[name](#)[synopsis](#)[description](#)[notes](#)[see also](#)[trusty \(5\) deb-version.5.gz](#)Provided by: [dpkg-dev_1.17.5ubuntu5_all](#) 

NAME

`deb-version` - Debian package version number format

SYNOPSIS

`[epoch:]upstream-version[-debian-revision]`

DESCRIPTION

Version numbers as used for Debian binary and source packages consist of three components. These are:

epoch This is a single (generally small) unsigned integer. It may be omitted, in which case zero is assumed. If it is omitted then the upstream-version may not contain any colons.

It is provided to allow mistakes in the version numbers of older versions of a package, and also a package's previous version numbering schemes, to be taken into account behind.

upstream-version

This is the main part of the version number. It is usually the version number of the original ("upstream") package from which the .deb file has been made.

is applicable. Usually this will be in the same format as that specified upstream author(s); however, it may need to be reformatted to fit into the management system's format and comparison scheme.

The comparison behavior of the package management system with respect upstream-version is described below. The upstream-version portion of the number is mandatory.

The upstream-version may contain only alphanumerics ("A-Za-z0-9") characters . + - : ~ (full stop, plus, hyphen, colon, tilde) and should start with a digit. If there is no debian-revision then hyphens are not allowed; if no epoch then colons are not allowed.

debian-revision

This part of the version number specifies the version of the Debian package on the upstream version. It may contain only alphanumerics and the characters . + - : ~ (plus, full stop, tilde) and is compared in the same way as the upstream-version is.

It is optional; if it isn't present then the upstream-version may not contain a hyphen. This format represents the case where a piece of software was specifically created to be turned into a Debian package, and so there is "debianisation" of it and therefore no revision indication is required.

It is conventional to restart the debian-revision at '1' each time the upstream-version is increased.

Dpkg will break the version number apart at the last hyphen in the string (if there is one) to determine the upstream-version and debian-revision. The absence of debian-revision compares earlier than the presence of one (but note that debian-revision is the least significant part of the version number).

Sorting algorithm

The upstream-version and debian-revision parts are compared by the package management system using the same algorithm:

The strings are compared from left to right.

First the initial part of each string consisting entirely of non-digit characters is determined. These two parts (one of which may be empty) are compared lexicographically.

difference is found it is returned. The lexical comparison is a comparison values modified so that all the letters sort earlier than all the non-letters and a tilde sorts before anything, even the end of a part. For example, the following are in sorted order: '~', '~a', '~', the empty part, 'a'.

Then the initial part of the remainder of each string which consists entirely of characters is determined. The numerical values of these two parts are compared, difference found is returned as the result of the comparison. For these purposes a string (which can only occur at the end of one or both version strings being compared) counts as zero.

These two steps (comparing and removing initial non-digit strings and initial strings) are repeated until a difference is found or both strings are exhausted.

Note that the purpose of epochs is to allow us to leave behind mistakes in numbering, and to cope with situations where the version numbering scheme changes. **not** intended to cope with version numbers containing strings of letters which the management system cannot interpret (such as 'ALPHA' or 'pre-'), or with silly ordering.

NOTES

The tilde character and its special sorting properties were introduced in dpkg 1.16. Some parts of the dpkg build scripts only gained support for it later in the 1.16 series.

SEE ALSO

[deb-control\(5\)](#), [deb\(5\)](#), [dpkg\(1\)](#)

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