16.14.1 Cross Platform

platform.**architecture**(*executable=sys.executable*, *bits=''*, *linkage=''*)

Queries the given executable (defaults to the Python interpreter binary) for various architecture information.

Returns a tuple `(bits, linkage)` which contain information about the bit architecture and the linkage format used for the executable. Both values are returned as strings.

Values that cannot be determined are returned as given by the parameter presets. If bits is given as `''`, the `sizeof(pointer)` (or `sizeof(long)` on Python version < 1.5.2) is used as indicator for the supported pointer size.

The function relies on the system's `file` command to do the actual work. This is available on most if not all Unix platforms and some non-Unix platforms and then only if the executable points to the Python interpreter. Reasonable defaults are used when the above needs are not met.

Note: On macOS (and perhaps other platforms), executable files may be universal files containing multiple architectures.

To get at the "64-bitness" of the current interpreter, it is more reliable to query the *sys.maxsize* attribute:

```
is_64bits = sys.maxsize > 2**32
```

---

platform.**machine**()

Returns the machine type, e.g. `'AMD64'`. An empty string is returned if the value cannot be determined.

platform.**node**()

Returns the computer's network name (may not be fully qualified!). An empty string is returned if the value cannot be determined.

platform.**platform**(*aliased=0*, *terse=0*)

Returns a single string identifying the underlying platform with as much useful information as possible.

The output is intended to be *human readable* rather than machine parseable. It may look different on different platforms and this is intended.

If *aliased* is true, the function will use aliases for various platforms that report system names which differ from their common names, for example SunOS will be reported as Solaris. The *system_alias()* function is used to implement this.

Setting *terse* to true causes the function to return only the absolute minimum information needed to identify the platform.

Changed in version 3.8: On macOS, the function now uses *mac_ver()*, if it returns a non-empty release string, to get the macOS version rather than the darwin version.

platform.**processor**()

Returns the (real) processor name, e.g. `'amdk6'`.

An empty string is returned if the value cannot be determined. Note that many platforms do not provide this information or simply return the same value as for *machine()*. NetBSD does this.

platform.**python_build**()

Returns a tuple `(buildno, builddate)` stating the Python build number and date as strings.

platform.**python_compiler**()

Returns a string identifying the compiler used for compiling Python.

platform.**python_branch**()

Returns a string identifying the Python implementation SCM branch.

platform.**python_implementation**()

Returns a string identifying the Python implementation. Possible return values are: 'CPython', 'IronPython', 'Jython', 'PyPy'.

platform.**python_revision**()

Returns a string identifying the Python implementation SCM revision.

platform.**python_version**()

Returns the Python version as string `'major.minor.patchlevel'`.

Note that unlike the Python `sys.version`, the returned value will always include the patchlevel (it defaults to 0).

platform.**python_version_tuple**()

Returns the Python version as tuple `(major, minor, patchlevel)` of strings.

Note that unlike the Python `sys.version`, the returned value will always include the patchlevel (it defaults to `'0'`).

platform.**release**()

Returns the system's release, e.g. `'2.2.0'` or `'NT'`. An empty string is returned if the value cannot be determined.

platform.**system**()

Returns the system/OS name, such as `'Linux'`, `'Darwin'`, `'Java'`, `'Windows'`. An empty string is returned if the value cannot be determined.

platform.**system_alias**(*system*, *release*, *version*)

Returns `(system, release, version)` aliased to common marketing names used for some systems. It also does some reordering of the information in some cases where it would otherwise cause confusion.

platform.**version**()

Returns the system's release version, e.g. `'#3 on degas'`. An empty string is returned if the value cannot be determined.

platform.**uname**()

Fairly portable uname interface. Returns a *namedtuple()* containing six attributes: *system*, *node*, *release*, *version*, *machine*, and *processor*.

Note that this adds a sixth attribute (*processor*) not present in the *os.uname()* result. Also, the attribute names are different for the first two attributes; *os.uname()* names them `sysname` and `nodename`.

Entries which cannot be determined are set to `''`.

Changed in version 3.3: Result changed from a tuple to a *namedtuple()*.

16.14.2 Java Platform

platform.**java_ver**(*release=''*, *vendor=''*, *vminfo=('', '', '')*, *osinfo=('', '', '')*)

Version interface for Jython.

Returns a tuple `(release, vendor, vminfo, osinfo)` with *vminfo* being a tuple `(vm_name, vm_release, vm_vendor)` and *osinfo* being a tuple `(os_name, os_version, os_arch)`. Values which cannot be determined are set to the defaults given as parameters (which all default to `''`).

16.14.3 Windows Platform

platform.**win32_ver**(*release=''*, *version=''*, *csd=''*, *ptype=''*)

Get additional version information from the Windows Registry and return a tuple `(release, version, csd, ptype)` referring to OS release, version number, CSD level (service pack) and OS type (multi/single processor). Values which cannot be determined are set to the defaults given as parameters (which all default to an empty string).

As a hint: *ptype* is `'Uniprocessor Free'` on single processor NT machines and `'Multiprocessor Free'` on multi processor machines. The *'Free'* refers to the OS version being free of debugging code. It could also state *'Checked'* which means the OS version uses debugging code, i.e. code that checks arguments, ranges, etc.

platform.**win32_edition**()

Returns a string representing the current Windows edition, or `None` if the value cannot be determined. Possible values include but are not limited to `'Enterprise'`, `'IoTUAP'`, `'ServerStandard'`, and `'nanoserver'`.

New in version 3.8.

platform.**win32_is_iot**()

Return `True` if the Windows edition returned by *win32_edition()* is recognized as an IoT edition.

New in version 3.8.

16.14.4 macOS Platform

platform.**mac_ver**(*release=''*, *versioninfo=('', '', '')*, *machine=''*)

Get macOS version information and return it as tuple `(release, versioninfo, machine)` with *versioninfo* being a tuple `(version, dev_stage, non_release_version)`.

Entries which cannot be determined are set to `''`. All tuple entries are strings.

16.14.5 Unix Platforms

platform.**libc_ver**(*executable=sys.executable*, *lib=''*, *version=''*, *chunksize=16384*)

Tries to determine the libc version against which the file executable (defaults to the Python interpreter) is linked. Returns a tuple of strings `(lib, version)` which default to the given parameters in case the lookup fails.

Note that this function has intimate knowledge of how different libc versions add symbols to the executable is probably only usable for executables compiled using **gcc**.

The file is read and scanned in chunks of *chunksize* bytes.

16.14.6 Linux Platforms

platform.**freedesktop_os_release**()

Get operating system identification from `os-release` file and return it as a dict. The `os-release` file is a freedesktop.org standard and is available in most Linux distributions. A noticeable exception is Android and Android-based distributions.

Raises *OSError* or subclass when neither `/etc/os-release` nor `/usr/lib/os-release` can be read.

On success, the function returns a dictionary where keys and values are strings. Values have their special characters like `"` and `$` unquoted. The fields `NAME`, `ID`, and `PRETTY_NAME` are always defined according to the standard. All other fields are optional. Vendors may include additional fields.

Note that fields like NAME, VERSION, and VARIANT are strings suitable for presentation to users. Programs should use fields like ID, ID_LIKE, VERSION_ID, or VARIANT_ID to identify Linux distributions.

Example:

```
def get_like_distro():
    info = platform.freedesktop_os_release()
    ids = [info["ID"]]
    if "ID_LIKE" in info:
        # ids are space separated and ordered by precedence
        ids.extend(info["ID_LIKE"].split())
    return ids
```

New in version 3.10.

16.15 errno — Standard errno system symbols

This module makes available standard errno system symbols. The value of each symbol is the corresponding integer value. The names and descriptions are borrowed from linux/include/errno.h, which should be all-inclusive.

errno.**errorcode**

Dictionary providing a mapping from the errno value to the string name in the underlying system. For instance, errno.errorcode[errno.EPERM] maps to 'EPERM'.

To translate a numeric error code to an error message, use *os.strerror()*.

Of the following list, symbols that are not used on the current platform are not defined by the module. The specific list of defined symbols is available as errno.errorcode.keys(). Symbols available can include:

errno.**EPERM**

Operation not permitted. This error is mapped to the exception *PermissionError*.

errno.**ENOENT**

No such file or directory. This error is mapped to the exception *FileNotFoundError*.

errno.**ESRCH**

No such process. This error is mapped to the exception *ProcessLookupError*.

errno.**EINTR**

Interrupted system call. This error is mapped to the exception *InterruptedError*.

errno.**EIO**

I/O error

errno.**ENXIO**

No such device or address

errno.**E2BIG**

Arg list too long

errno.**ENOEXEC**

Exec format error

errno.**EBADF**

Bad file number

errno.**ECHILD**

No child processes. This error is mapped to the exception *ChildProcessError*.