

Under Linux, GNU/KFreeBSD and the Hurd, C extensions now include the architecture triplet in the extension name, to make it easy to test builds for different ABIs in the same working tree. Under OS X, the extension name now includes [PEP 3149](#)-style information.

Added Linux-specific socket constant `CAN_RAW_FD_FRAMES`. Patch courtesy of Joe Jevnik.

Implement [PEP 488](#): removal of .pyo files.

Don't enable GC for user subclasses of non-GC types that don't add any new fields. Patch by Eugene Toder.

Avoid a deadlock at shutdown if a daemon thread is aborted while it is holding a lock to a buffered I/O object, and the main thread tries to use the same I/O object (typically stdout or stderr). A fatal error is emitted instead.

Fixed formatting Windows error messages on Wine. Patch by Martin Panter.

`%c`, `%o`, `%x`, and `%X` in bytes formatting now raise `TypeError` on non-integer input.

Fix possible null pointer dereference in `list.sort` in out of memory conditions.

`PyCFunction_New` function is exposed by python DLL again.

`tokenize.open()` now closes the temporary binary file on error to fix a resource warning.

new `debuglevel 2` in `smtplib` adds timestamps to debug output.

`urllib.request` now supports sending auth credentials automatically after the first 401. This enhancement is a superset of the enhancement from issue #19494 and supersedes that change.

Fix a regression in `urljoin()` introduced in 901e4e52b20a. Patch by Demian Brecht.

Adds `_curses.update_lines_cols()`. Patch by Arnon Yaari

Provide default argument for `ndigits` in `round`. Patch by Vajrasky Kok.

Add a `numeric_owner` parameter to `tarfile.TarFile.extract` and `tarfile.TarFile.extractall`. Patch by Michael Vogt and Eric Smith.

Add a `subprocess.run()` function than returns a `CalledProcess` instance for a more consistent API than the existing `call*` functions.

`inspect.getsourcelines()` now tries to compute the start and end lines from the code object, fixing an issue when a lambda function is used as decorator argument. Patch by Thomas Ballinger and Allison Kaptur.

Fix possible integer overflows in the pickle module.

Allow '[' and ']' in cookie values.

The `keywords` attribute of `functools.partial` is now always a dictionary.

Add missing newline to the `PyCompileError` error message. Patch by Alex Shkop.

Avoid blowing memory when allocating a multiprocessing shared array that's larger than 50% of the available RAM. Patch by MÃ©dÃ©ric Boquien.

Improve BOM handling when seeking to multiple positions of a writable text file.

Removed deprecated `asyncio.JoinableQueue`.

Limit the size of decompressed data when reading from `GzipFile`, `BZ2File` or `LZMAFile`. This defeats denial of service attacks using compressed bombs (i.e. compressed payloads which decompress to a huge size). Patch by Martin Panter and Nikolaus Rath.

Added Python implementation of `io.FileIO`.

`close()` methods in multiple modules now are idempotent and more robust at shutdown. If they need to release multiple resources, all are released even if errors occur.

Raise same exception on both Python 2 and 3 if `sem_open` is not available. Patch by Davin Potts.

The `subprocess` now module includes `SubprocessError` and `TimeoutError` in its list of exported names for the users wild enough to use `from subprocess import *`.

Added `DefragResult`, `ParseResult`, `SplitResult`, `DefragResultBytes`, `ParseResultBytes`, and `SplitResultBytes` to `urllib.parse.__all__`. Patch by Martin Panter.

`urllib.request.ftppwrapper` constructor now closes the socket if the FTP connection failed to fix a `ResourceWarning`.

`meth:socket.socket.sendall` does no more reset the socket timeout each time data is sent successfully. The socket timeout is now the maximum total duration to send all data.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.5.0a4.rst, line 327); [backlink](#)

Unknown interpreted text role "meth".

An order of multiline pprint output of set or dict containing orderable and non-orderable elements no longer depends on iteration order of set or dict.

`_tkinter.tkapp.getboolean()` now supports `Tcl_Obj` and always returns `bool`. `tkinter.BooleanVar` now validates input values (accepted `bool`, `int`, `str`, and `Tcl_Obj`). `tkinter.BooleanVar.get()` now always returns `bool`.

`xml.sax.parseString()` now supports `string` argument.

Fixed formatting ctypes error messages on Cygwin. Patch by Makoto Kato.

`inspect.getdoc()` now follows inheritance chains.

SAX parsers now support a character stream of `InputSource` object.

Tkinter now supports 64-bit integers added in Tcl 8.4 and arbitrary precision integers added in Tcl 8.5.

Fix `socket.sendto()`, use the C `Py_ssize_t` type to store the result of `sendto()` instead of the C `int` type.

`meth:socket.socket.connect` now waits until the connection completes instead of raising `exc:InterruptedError` if the connection is interrupted by signals, signal handlers don't raise an exception and the socket is blocking or has a timeout.

`meth:socket.socket.connect` still raise `exc:InterruptedError` for non-blocking sockets.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.5.0a4.rst, line 415); [backlink](#)

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.5.0a4.rst, line 415); [backlink](#)

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.5.0a4.rst, line 415); [backlink](#)

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Tkinter now supports new boolean type in Tcl 8.5.

Fix the `faulthandler` module to handle reentrant calls to its signal handlers.

`linecache` now clears the cache and returns an empty result on `MemoryError`.

Added `os.path.commonpath()`. Implemented in `posixpath` and `ntpath`. Based on patch by Rafik Draoui.

Serializing more "lookupable" objects (such as unbound methods or nested classes) now are supported with pickle protocols < 4.

`sqlite3.Row` now supports slice indexing.

Fixed 2to3 and 3to2 compatible pickle mappings. Fixed ambiguous reverse mappings. Added many new mappings. Import mapping is no longer applied to modules already mapped with full name mapping.

`select.select()` is now retried automatically with the recomputed timeout when interrupted by a signal, except if the signal handler raises an exception. This change is part of the [PEP 475](#).

When built from an existing file descriptor, `io.FileIO()` now only calls `fstat()` once. Before `fstat()` was called twice, which was not necessary.

`collections.deque()` objects now support `__add__`, `__mul__`, and `__imul__()`.

`csv.Writer.writerow()` now supports arbitrary iterables.

The new email header parser now handles duplicate MIME parameter names without error, similar to how `get_param` behaves.

Fix `os.utime()`, it now rounds the timestamp towards minus infinity (`-inf`) instead of rounding towards zero.

Fix `MagicMock`'s initializer to work with `__methods__`, just like `configure_mock()`. Patch by Kasia Jachim.

FreeBSD now uses "1.0" in the `SOVERSION` as other operating systems, instead of just "1".

`Argument Clinic` now generates code into separate files by default.

Added `test.support.start_threads()` for running and cleaning up multiple threads.

`test.regrtest` now emits a warning if temporary files or directories are left after running a test.

`pygettext` now uses standard +NNNN format in the POT-Creation-Date header.

Argument Clinic's understanding of format units accepting bytes, bytearrays, and buffers is now consistent with both the documentation and the implementation.

Argument Clinic now wraps long impl prototypes at column 78.

Argument Clinic now ensures that functions without docstrings have signatures.

Argument Clinic now generates argument parsing code with `PyArg_Parse` instead of `PyArg_ParseTuple` if possible.

Argument Clinic is now smarter about generating the `"#ifndef"` (empty) definition of the `methoddef` macro: it's only generated once, even if Argument Clinic processes the same symbol multiple times, and it's emitted at the end of all processing rather than immediately after the first use.

`PyImport_ReInitLock()` now checks for lock allocation error