Fixed possible buffer over-read in bytearray. The bytearray object now always allocates place for trailing null byte and it's buffer now is always null-terminated.

Upgrade to Unicode 8.0.0.

Add Py_tp_finalize slot for the stable ABI.

Introduce a distinct type for PEP 492 coroutines; add types.CoroutineType, inspect.getcoroutinestate, inspect.getcoroutinelocals; coroutines no longer use CO_GENERATOR flag; sys.set_coroutine_wrapper works only for 'async def' coroutines; inspect.iscoroutine no longer uses collections.abc.Coroutine, it's intended to test for pure 'async def' coroutines only; add new opcode: GET_YIELD_FROM_ITER; fix generators wrapper used in types.coroutine to be instance of collections.abc.Generator; collections.abc.Awaitable and collections.abc.Coroutine can no longer be used to detect generator-based coroutines--use inspect.isawaitable instead.

Add gi_yieldfrom to generators and cr_await to coroutines. Contributed by Benno Leslie and Yury Selivanov.

Add new RecursionError exception. Patch by Georg Brandl.

mock_open.read_data can now be read from each instance, as it could in Python 3.3.

Fix use after free in an error case of the _pickle module.

tarfile now tolerates number fields consisting of only whitespace.

Fixed doctype() related bugs in C implementation of ElementTree. A deprecation warning no longer issued by XMLParser subclass with default doctype() method. Direct call of doctype() now issues a warning. Parser's doctype() now is not called if target's doctype() is called. Based on patch by Martin Panter.

Restore semantic round-trip correctness in tokenize/untokenize for tab-indented blocks.

Fixed possible buffer over-read in adpcm2lin() and lin2adpcm() functions of the audioop module.

The contextmanager decorator now works with functions with keyword arguments called "func" and "self". Patch by Martin Panter.

Fix possible integer overflow in json accelerator module.

ensure a previously set C errno doesn't disturb cmath.polar().

Fixed AttributeError in measure() and metrics() methods of tkinter.Font.

C implementation of functools.lru_cache() now can be used with methods.

Set KeyError if PyDict_GetItemWithError returns NULL.

Drop superfluous incref/decref.

Check for changed OrderedDict size during iteration.

Support keyword arguments in OrderedDict methods.

Simplify the C OrderedDict fast nodes resize logic.

Fix a ref leak in OrderedDict.__repr__.

Defend against key-changes during iteration.

_testmultiphase and xxlimited now use tp_traverse and tp_finalize to avoid reference leaks encountered when combining tp_dealloc with PyType_FromSpec (see issue #16690 for details)

Update documentation to cover multi-phase initialization for extension modules (PEP 489). Patch by Petr Viktorin.

Clarify what is meant by "identifier" in the context of string.Template instances.

Update Windows builds and OS X 10.5 installer to use OpenSSL 1.0.2c.