Fix asynchronous generators to handle GeneratorExit in athrow() correctly

Fixed reset of the SIGINT handler to SIG_DFL on interpreter shutdown even when there was a custom handler set previously. Patch by Philipp Kerling.

Fixed a leak when the garbage collector fails to add an object with the `__del__` method or referenced by it into the :data:`gc.garbage` list. :c:func:`PyGC_Collect` can now be called when an exception is set and preserves it.

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main)(Misc)(NEWS.d)3.6.6rc1.rst`, line 26); *backlink*
>
> Unknown interpreted text role "data".

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main)(Misc)(NEWS.d)3.6.6rc1.rst`, line 26); *backlink*
>
> Unknown interpreted text role "c:func".

Fix signed/unsigned comparison warning in pyhash.c.

Fix a leak in set_symmetric_difference().

Fix unaligned accesses in siphash24(). Patch by Rolf Eike Beer.

Fix potential memory leak in `normalizestring()`.

Improved error messages in 'async with' when `__aenter__()` or `__aexit__()` return non-awaitable object.

Fix `ma_version_tag` in dict implementation is uninitialized when copying from key-sharing dict.

Fixed jumping when the function contains an `async for` loop.

Fix an unnecessary ifdef in the include of VersionHelpers.h in socketmodule on Windows.

Fix a crash in *ctypes.cast()* in case the type argument is a ctypes structured data type. Patch by Eryk Sun and Oren Milman.

Prevent site.main() exception if PYTHONSTARTUP is set. Patch by Steve Weber.

Datetime instance d with non-None tzinfo, but with d.tzinfo.utcoffset(d) returning None is now treated as naive by the astimezone() method.

Avoid race condition with debug logging

The concatenation (+) and repetition (*) sequence operations now raise :exc:`TypeError` instead of :exc:`SystemError` when performed on :class:`mmap.mmap` objects. Patch by Zackery Spytz.

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main)(Misc)(NEWS.d)3.6.6rc1.rst`, line 151); *backlink*
>
> Unknown interpreted text role "exc".

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main)(Misc)(NEWS.d)3.6.6rc1.rst`, line 151); *backlink*
>
> Unknown interpreted text role "exc".

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main)(Misc)(NEWS.d)3.6.6rc1.rst`, line 151); *backlink*
>
> Unknown interpreted text role "class".

Fix gather to propagate cancellation of itself even with return_exceptions.

Fix a race condition in SSLProtocol.connection_made() of asyncio.sslproto: start immediately the handshake instead of using call_soon(). Previously, data_received() could be called before the handshake started, causing the handshake to hang or fail.

Fixed bug where calling write_eof() on a _SelectorSocketTransport after it's already closed raises AttributeError.

Fix Task.__repr__ crash with Cython's bogus coroutines

Fix RuntimeError after closing loop that used run_in_executor

Use a better regex when breaking usage into wrappable parts. Avoids bogus assertion errors from custom metavar strings.

Fixed a bug in the Python implementation of the JSON decoder that prevented the cache of parsed strings from clearing after finishing the decoding. Based on patch by c-fos.

tempfile._candidate_tempdir_list should consider common TEMP locations

Prevent `uuid.get_node` from using a DUID instead of a MAC on Windows. Patch by Zvi Effron

Fix race condition with *ReadTransport.resume_reading* in Windows proactor event loop.

Minor fixes in typing module: add annotations to `NamedTuple.__new__`, pass `*args` and `**kwds` in `Generic.__new__`. Original PRs by Paulius Å arka and Chad Dombrova.

Updated alias mapping with glibc 2.27 supported locales.

Fix trailing quotation marks getting deleted when looking up byte/string literals on pydoc. Patch by André©s Delfino.

Update error message when constructing invalid inspect.Parameters Patch by Dong-hee Na.

Fixed crash in the get() method of the :mod:`dbm.ndbm` database object when it is called with a single argument.

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main) (Misc) (NEWS.d) 3.6.6rc1.rst`, line 301); *backlink*
>
> Unknown interpreted text role "mod".

Fix multiprocessing regression on newer glibcs

Fix quoting of the `Comment` attribute of :class:`http.cookies.SimpleCookie`.

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main) (Misc) (NEWS.d) 3.6.6rc1.rst`, line 320); *backlink*
>
> Unknown interpreted text role "class".

Upgrade bundled version of pip to 10.0.1.

Fixed a crash in the :mod:`parser` module when converting an ST object to a tree of tuples or lists with `line_info=False` and `col_info=True`.

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main) (Misc) (NEWS.d) 3.6.6rc1.rst`, line 339); *backlink*
>
> Unknown interpreted text role "mod".

Fix FD leak in *_SelectorSocketTransport* Patch by Vlad Starostin.

Fix display of `<module>` call in the html produced by `cgitb.html()`. Patch by Sté©phane Blondon.

`random.Random.choice()` now raises `IndexError` for empty sequences consistently even when called from subclasses without a `getrandbits()` implementation.

Update difflib.mdiff() for PEP 479. Convert an uncaught StopIteration in a generator into a return-statement.

End framing at the end of C implementation of :func:`pickle.Pickler.dump`.

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main) (Misc) (NEWS.d) 3.6.6rc1.rst`, line 389); *backlink*
>
> Unknown interpreted text role "func".

The urllib.robotparser's `__str__` representation now includes wildcard entries and the "Crawl-delay" and "Request-rate" fields. Patch by Michael Lazar.

Allow ttk.Treeview.insert to insert iid that has a false boolean value. Note iid=0 and iid=False would be same. Patch by Garvit Khatri.

The ssl module now compiles with LibreSSL 2.7.1.

Release the GIL during fstat() calls, avoiding hang of all threads when calling mmap.mmap(), os.urandom(), and random.seed(). Patch by Nir Soffer.

Fix a regression in :mod:`ipaddress` that result of :meth:`hosts` is empty when the network is constructed by a tuple containing an integer mask and only 1 bit left for addresses.

> **System Message: ERROR/3** (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main) (Misc) (NEWS.d) 3.6.6rc1.rst`, line 438); *backlink*
>
> Unknown interpreted text role "mod".

Fix wrong redirection of a low descriptor (0 or 1) to stderr in subprocess if another low descriptor is closed.

Fix output of cover files for `trace` module command-line tool. Previously emitted cover files only when `--missing` option was used. Patch by Michael Selik.

If nested log adapters are used, the inner `process()` methods are no longer omitted.

Support arrays >=2GiB in :mod:`ctypes`. Patch by Segev Finer.

pydoc: the stop() method of the private ServerThread class now waits until DocServer.serve_until_quit() completes and then explicitly sets its docserver attribute to None to break a reference cycle.

Fix broken pypi link

Add missing documentation for `typing.AsyncContextManager`.

Add Korean language switcher for https://docs.python.org/3/

Clarify that the `__path__` attribute on modules cannot be just any value.

Modernize documentation for writing C extension types.

Deprecate `Py_UNICODE` usage in `c-api/arg` document. `Py_UNICODE` related APIs are deprecated since Python 3.3, but it is missed in the document.

Document PyBuffer_ToContiguous().

Modify documentation for the :func:`islice` recipe to consume initial values up to the start index.

Update :mod:`zipapp` documentation to describe how to make standalone applications.

Documentation changes for ipaddress. Patch by Jon Foster and Berker Peksag.

Update documentation to clarify that `WindowsRegistryFinder` implements `MetaPathFinder`. (Patch by Himanshu Lakhara)

Add a note about curses.addch and curses.addstr exception behavior when writing outside a window, or pad.

Clarify meaning of CERT_NONE, CERT_OPTIONAL, and CERT_REQUIRED flags for ssl.SSLContext.verify_mode.

Ignore test_posix_fallocate failures on BSD platforms that might be due to running on ZFS.

Add test_bdb.py.

Move `-Wstrict-prototypes` option to `CFLAGS_NODIST` from `OPT`. This option emitted annoying warnings when building extension modules written in C++.

Ensures module definition files for the stable ABI on Windows are correctly regenerated.

Enable CI builds on Visual Studio Team Services at https://python.visualstudio.com/cpython

Add `-Wno-cast-function-type` for gcc 8 for silencing warnings about function casts like casting to PyCFunction in method definition lists.

Enable the verbose build for extension modules, when GNU make is passed macros on the command line.

Update Windows installer to OpenSSL 1.0.2o.

Update macOS installer build to use OpenSSL 1.0.2o.

On Windows, add API call saying that tk scales for DPI. On Windows 8.1+ or 10, with DPI compatibility properties of the Python

binary unchanged, and a monitor resolution greater than 96 DPI, this should make text and lines sharper. It should otherwise have no effect.

Clicking on a context line moves that line to the top of the editor window.

IDLE: Use read-only text widget for code context instead of label widget.

Scroll IDLE editor text by lines. Previously, the mouse wheel and scrollbar slider moved text by a fixed number of pixels, resulting in partial lines at the top of the editor box. The change also applies to the shell and grep output windows, but not to read-only text views.

Enable theme-specific color configuration for Code Context. Use the Highlights tab to see the setting for built-in themes or add settings to custom themes.

Display up to maxlines non-blank lines for Code Context. If there is no current context, show a single blank line.

IDLE: Cleanup codecontext.py and its test.

IDLE's code context now recognizes async as a block opener.

IDLE now colors async and await as keywords in 3.6. They become full keywords in 3.7.

Update word/identifier definition from ascii to unicode. In text and entry boxes, this affects selection by double-click, movement left/right by control-left/right, and deletion left/right by control-BACKSPACE/DEL.

IDLE: consistently color invalid string prefixes. A 'u' string prefix cannot be paired with either 'r' or 'f'. Consistently color as much of the prefix, starting at the right, as is valid. Revise and extend colorizer test.

Add docstrings and tests for codecontext.

:program`pygettext.py` now recognizes only literal strings as docstrings and translatable strings, and rejects bytes literals and f-string expressions.

System Message: ERROR/3 `(D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\(cpython-main) (Misc) (NEWS.d)3.6.6rc1.rst,` **line 834);** *backlink*

Unknown interpreted text role "program".

Fixed handling directories as arguments in the `pygettext` script. Based on patch by Oleg Krasnikov.

Fix pystackv and pystack gdbinit macros.

Add an `-n` flag for `Tools/scripts/pathfix.py` to disable automatic backup creation (files with ~ suffix).

Fix 2to3 for using with --add-suffix option but without --output-dir option for relative path to files in current directory.

Document that m_traverse for multi-phase initialized modules can be called with m_state=NULL, and add a sanity check