

NAME

perl588delta - what is new for perl v5.8.8

DESCRIPTION

This document describes differences between the 5.8.7 release and the 5.8.8 release.

Incompatible Changes

There are no changes intentionally incompatible with 5.8.7. If any exist, they are bugs and reports are welcome.

Core Enhancements

• chdir, chmod and chown can now work on filehandles as well as filenames, if the system supports respectively fchdir, fchmod and fchown, thanks to a patch provided by Gisle Aas.

Modules and Pragmata

- Attribute::Handlers upgraded to version 0.78_02
 - Documentation typo fix
- attrs upgraded to version 1.02
 - Internal cleanup only
- autouse upgraded to version 1.05
 - Simplified implementation
- B upgraded to version 1.09_01
 - The inheritance hierarchy of the B:: modules has been corrected; B::NV now inherits from B::SV (instead of B::IV).
- blib upgraded to version 1.03
 - Documentation typo fix
- ByteLoader upgraded to version 0.06
 - Internal cleanup
- CGI upgraded to version 3.15
 - Extraneous "?" from self_url() removed
 - scrolling list() select attribute fixed
 - virtual port now works properly with the https protocol
 - upload_hook() and append() now works in function-oriented mode
 - POST_MAX doesn't cause the client to hang any more
 - Automatic tab indexes are now disabled and new -tabindex pragma has been added to turn automatic indexes back on
 - end_form() doesn't emit empty (and non-validating) <div>
 - CGI::Carp works better in certain mod_perl configurations
 - Setting \$CGI:: TMPDIRECTORY is now effective
 - Enhanced documentation



- charnames upgraded to version 1.05
 - viacode() now accept hex strings and has been optimized.
- CPAN upgraded to version 1.76_02
 - 1 minor bug fix for Win32
- Cwd upgraded to version 3.12
 - canonpath() on Win32 now collapses fool.. sections correctly.
 - Improved behaviour on Symbian OS.
 - Enhanced documentation and typo fixes
 - Internal cleanup
- Data::Dumper upgraded to version 2.121_08
 - A problem where Data::Dumper would sometimes update the iterator state of hashes has been fixed
 - Numeric labels now work
 - Internal cleanup
- DB upgraded to version 1.01
 - A problem where the state of the regexp engine would sometimes get clobbered when running under the debugger has been fixed.
- DB_File upgraded to version 1.814
 - Adds support for Berkeley DB 4.4.
- Devel::DProf upgraded to version 20050603.00
 - Internal cleanup
- Devel::Peek upgraded to version 1.03
 - Internal cleanup
- Devel::PPPort upgraded to version 3.06_01
 - --compat-version argument checking has been improved
 - Files passed on the command line are filtered by default
 - --nofilter option to override the filtering has been added
 - Enhanced documentation
- diagnostics upgraded to version 1.15
 - Documentation typo fix
- Digest upgraded to version 1.14
 - The constructor now knows which module implements SHA-224
 - Documentation tweaks and typo fixes
- Digest::MD5 upgraded to version 2.36
 - XSLoader is now used for faster loading



- Enhanced documentation including MD5 weaknesses discovered lately
- Dumpvalue upgraded to version 1.12
 - Documentation fix
- DynaLoader upgraded but unfortunately we're not able to increment its version number :-(
 - Implements dl_unload_file on Win32
 - Internal cleanup
 - XSLoader 0.06 incorporated; small optimisation for calling bootstrap_inherit() and documentation enhancements.
- Encode upgraded to version 2.12
 - A coderef is now acceptable for CHECK!
 - 3 new characters added to the ISO-8859-7 encoding
 - New encoding MIME-Header-ISO_2022_JP added
 - Problem with partial characters and encoding(utf-8-strict) fixed.
 - Documentation enhancements and typo fixes
- English upgraded to version 1.02
 - the \$COMPILING variable has been added
- ExtUtils::Constant upgraded to version 0.17
 - Improved compatibility with older versions of perl
- ExtUtils::MakeMaker upgraded to version 6.30 (was 6.17)
 - Too much to list here; see http://search.cpan.org/dist/ExtUtils-MakeMaker/Changes
- File::Basename upgraded to version 2.74, with changes contributed by Michael Schwern.
 - Documentation clarified and errors corrected.
 - basename now strips trailing path separators before processing the name.
 - basename now returns / for parameter /, to make basename consistent with the shell utility of the same name.
 - The suffix is no longer stripped if it is identical to the remaining characters in the name, again for consistency with the shell utility.
 - Some internal code cleanup.
- File::Copy upgraded to version 2.09
 - Copying a file onto itself used to fail.
 - Moving a file between file systems now preserves the access and modification time stamps
- File::Find upgraded to version 1.10
 - Win32 portability fixes
 - Enhanced documentation



- File::Glob upgraded to version 1.05
 - Internal cleanup
- File::Path upgraded to version 1.08
 - mkpath now preserves errno when mkdir fails
- File::Spec upgraded to version 3.12
 - File::Spec-rootdir()> now returns \ on Win32, instead of /
 - \$^0 could sometimes become tainted. This has been fixed.
 - canonpath on Win32 now collapses foo/.. (or foo\..) sections correctly, rather than doing the "misguided" work it was previously doing. Note that canonpath on Unix still does not collapse these sections, as doing so would be incorrect.
 - Some documentation improvements
 - Some internal code cleanup
- FileCache upgraded to version 1.06
 - POD formatting errors in the documentation fixed
- Filter::Simple upgraded to version 0.82
- FindBin upgraded to version 1.47
 - Now works better with directories where access rights are more restrictive than usual.
- GDBM_File upgraded to version 1.08
 - Internal cleanup
- Getopt::Long upgraded to version 2.35
 - prefix_pattern has now been complemented by a new configuration option long_prefix_pattern that allows the user to specify what prefix patterns should have long option style semantics applied.
 - Options can now take multiple values at once (experimental)
 - Various bug fixes
- if upgraded to version 0.05
 - Give more meaningful error messages from if when invoked with a condition in list context.
 - Restore backwards compatibility with earlier versions of perl
- IO upgraded to version 1.22
 - Enhanced documentation
 - Internal cleanup
- IPC::Open2 upgraded to version 1.02
 - Enhanced documentation
- IPC::Open3 upgraded to version 1.02
 - Enhanced documentation



- List::Util upgraded to version 1.18 (was 1.14)
 - Fix pure-perl version of refaddr to avoid blessing an un-blessed reference
 - Use XSLoader for faster loading
 - Fixed various memory leaks
 - Internal cleanup and portability fixes
- Math::Complex upgraded to version 1.35
 - atan2(0, i) now works, as do all the (computable) complex argument cases
 - Fixes for certain bugs in make and emake
 - Support returning the kth root directly
 - Support [2,-3pi/8] in emake
 - Support inf for make/emake
 - Document make/emake more visibly
- Math::Trig upgraded to version 1.03
 - Add more great circle routines: great_circle_waypoint and great_circle_destination
- MIME::Base64 upgraded to version 3.07
 - Use XSLoader for faster loading
 - Enhanced documentation
 - Internal cleanup
- NDBM_File upgraded to version 1.06
 - Enhanced documentation
- ODBM_File upgraded to version 1.06
 - Documentation typo fixed
 - Internal cleanup
- Opcode upgraded to version 1.06
 - Enhanced documentation
 - Internal cleanup
- open upgraded to version 1.05
 - Enhanced documentation
- overload upgraded to version 1.04
 - Enhanced documentation
- Perlio upgraded to version 1.04
 - Perlio::via iterate over layers properly now
 - PerlIO::scalar understands \$/ = "" now



- encoding(utf-8-strict) with partial characters now works
- Enhanced documentation
- Internal cleanup
- Pod::Functions upgraded to version 1.03
 - Documentation typos fixed
- Pod::Html upgraded to version 1.0504
 - HTML output will now correctly link to =items on the same page, and should be valid XHTML.
 - Variable names are recognized as intended
 - Documentation typos fixed
- Pod::Parser upgraded to version 1.32
 - Allow files that start with =head on the first line
 - Win32 portability fix
 - Exit status of pod2usage fixed
 - New -noperldoc switch for pod2usage
 - Arbitrary URL schemes now allowed
 - Documentation typos fixed
- POSIX upgraded to version 1.09
 - Documentation typos fixed
 - Internal cleanup
- re upgraded to version 0.05
 - Documentation typo fixed
- Safe upgraded to version 2.12
 - Minor documentation enhancement
- SDBM_File upgraded to version 1.05
 - Documentation typo fixed
 - Internal cleanup
- Socket upgraded to version 1.78
 - Internal cleanup
- Storable upgraded to version 2.15
 - This includes the STORABLE_attach hook functionality added by Adam Kennedy, and more frugal memory requirements when storing under ithreads, by using the ithreads cloning tracking code.
- Switch upgraded to version 2.10_01
 - Documentation typos fixed



- Sys::Syslog upgraded to version 0.13
 - Now provides numeric macros and meaningful Exporter tags.
 - No longer uses Sys::Hostname as it may provide useless values in unconfigured network environments, so instead uses INADDR_LOOPBACK directly.
 - syslog() now uses local timestamp.
 - setlogmask() now behaves like its C counterpart.
 - setlogsock() will now croak() as documented.
 - Improved error and warnings messages.
 - Improved documentation.
- Term::ANSIColor upgraded to version 1.10
 - Fixes a bug in colored when \$EACHLINE is set that caused it to not color lines consisting solely of 0 (literal zero).
 - Improved tests.
- Term::ReadLine upgraded to version 1.02
 - Documentation tweaks
- Test::Harness upgraded to version 2.56 (was 2.48)
 - The Test::Harness timer is now off by default.
 - Now shows elapsed time in milliseconds.
 - Various bug fixes
- Test::Simple upgraded to version 0.62 (was 0.54)
 - is_deeply() no longer fails to work for many cases
 - Various minor bug fixes
 - Documentation enhancements
- Text::Tabs upgraded to version 2005.0824
 - Provides a faster implementation of expand
- Text::Wrap upgraded to version 2005.082401
 - Adds \$Text::Wrap::separator2, which allows you to preserve existing newlines but add line-breaks with some other string.
- threads upgraded to version 1.07
 - threads will now honour no warnings 'threads'
 - A thread's interpreter is now freed after \$t->join() rather than after undef \$t, which should fix some ithreads memory leaks. (Fixed by Dave Mitchell)
 - Some documentation typo fixes.
- threads::shared upgraded to version 0.94
 - Documentation changes only
 - Note: An improved implementation of threads::shared is available on CPAN this



will be merged into 5.8.9 if it proves stable.

- Tie::Hash upgraded to version 1.02
 - Documentation typo fixed
- Time::HiRes upgraded to version 1.86 (was 1.66)
 - clock_nanosleep() and clock() functions added
 - Support for the POSIX clock_gettime() and clock_getres() has been added
 - Return undef or an empty list if the C gettimeofday() function fails
 - Improved nanosleep detection
 - Internal cleanup
 - Enhanced documentation
- Unicode::Collate upgraded to version 0.52
 - Now implements UCA Revision 14 (based on Unicode 4.1.0).
 - Unicode::Collate-new> method no longer overwrites user's \$_
 - Enhanced documentation
- Unicode:: UCD upgraded to version 0.24
 - Documentation typos fixed
- User::grent upgraded to version 1.01
 - Documentation typo fixed
- utf8 upgraded to version 1.06
 - Documentation typos fixed
- vmsish upgraded to version 1.02
 - Documentation typos fixed
- warnings upgraded to version 1.05
 - Gentler messing with Carp:: internals
 - Internal cleanup
 - Documentation update
- Win32 upgraded to version 0.2601
 - Provides Windows Vista support to Win32::GetOSName
 - Documentation enhancements
- XS::Typemap upgraded to version 0.02
 - Internal cleanup

Utility Changes



h2xs enhancements

h2xs implements new option --use-xsloader to force use of XSLoader even in backwards compatible modules.

The handling of authors' names that had apostrophes has been fixed.

Any enums with negative values are now skipped.

perlivp enhancements

perlivp implements new option -a and will not check for *.ph files by default any more. Use the -a option to run all tests.

New Documentation

The *perlglossary* manpage is a glossary of terms used in the Perl documentation, technical and otherwise, kindly provided by O'Reilly Media, inc.

Performance Enhancements

- Weak reference creation is now O(1) rather than O(n), courtesy of Nicholas Clark. Weak reference deletion remains O(n), but if deletion only happens at program exit, it may be skipped completely.
- Salvador Fandiño provided improvements to reduce the memory usage of sort and to speed up some cases.
- Jarkko Hietaniemi and Andy Lester worked to mark as much data as possible in the C source files as static, to increase the proportion of the executable file that the operating system can share between process, and thus reduce real memory usage on multi-user systems.

Installation and Configuration Improvements

Parallel makes should work properly now, although there may still be problems if make test is instructed to run in parallel.

Building with Borland's compilers on Win32 should work more smoothly. In particular Steve Hay has worked to side step many warnings emitted by their compilers and at least one C compiler internal error.

Configure will now detect clearenv and unsetenv, thanks to a patch from Alan Burlison. It will also probe for futimes and whether sprintf correctly returns the length of the formatted string, which will both be used in perl 5.8.9.

There are improved hints for next-3.0, vmesa, IX, Darwin, Solaris, Linux, DEC/OSF, HP-UX and MPE/iX

Perl extensions on Windows now can be statically built into the Perl DLL, thanks to a work by Vadim Konovalov. (This improvement was actually in 5.8.7, but was accidentally omitted from *perl587delta*).

Selected Bug Fixes

no warnings 'category' works correctly with -w

Previously when running with warnings enabled globally via -w, selective disabling of specific warning categories would actually turn off all warnings. This is now fixed; now no warnings 'io'; will only turn off warnings in the io class. Previously it would erroneously turn off all warnings.

This bug fix may cause some programs to start correctly issuing warnings.

Remove over-optimisation

Perl 5.8.4 introduced a change so that assignments of undef to a scalar, or of an empty list to an array or a hash, were optimised away. As this could cause problems when goto jumps were involved, this change has been backed out.



sprintf() fixes

Using the sprintf() function with some formats could lead to a buffer overflow in some specific cases. This has been fixed, along with several other bugs, notably in bounds checking.

In related fixes, it was possible for badly written code that did not follow the documentation of Sys::Syslog to have formatting vulnerabilities. Sys::Syslog has been changed to protect people from poor quality third party code.

Debugger and Unicode slowdown

It had been reported that running under perl's debugger when processing Unicode data could cause unexpectedly large slowdowns. The most likely cause of this was identified and fixed by Nicholas Clark.

Smaller fixes

- FindBin now works better with directories where access rights are more restrictive than usual.
- Several memory leaks in ithreads were closed. An improved implementation of threads::shared is available on CPAN this will be merged into 5.8.9 if it proves stable.
- Trailing spaces are now trimmed from \$! and \$^E.
- Operations that require perl to read a process's list of groups, such as reads of \$(and \$), now dynamically allocate memory rather than using a fixed sized array. The fixed size array could cause C stack exhaustion on systems configured to use large numbers of groups.
- Perlio::scalar now works better with non-default \$/ settings.
- You can now use the x operator to repeat a q_W / list. This used to raise a syntax error.
- The debugger now traces correctly execution in eval("")uated code that contains #line directives.
- The value of the open pragma is no longer ignored for three-argument opens.
- The optimisation of for (reverse @a) introduced in perl 5.8.6 could misbehave when the array had undefined elements and was used in LVALUE context. Dave Mitchell provided a fix.
- Some case insensitive matches between UTF-8 encoded data and 8 bit regexps, and vice versa, could give malformed character warnings. These have been fixed by Dave Mitchell and Yves Orton.
- lcfirst and ucfirst could corrupt the string for certain cases where the length UTF-8
 encoding of the string in lower case, upper case or title case differed. This was fixed by
 Nicholas Clark.
- Perl will now use the C library calls unsetenv and clearenv if present to delete keys from %ENV and delete %ENV entirely, thanks to a patch from Alan Burlison.

New or Changed Diagnostics

Attempt to set length of freed array

This is a new warning, produced in situations such as this:

$$r = do \{my @a; \shape : $$r = 503;$$

Non-string passed as bitmask

This is a new warning, produced when number has been passed as a argument to select(), instead of a bitmask.



```
# Wrong, will now warn
$rin = fileno(STDIN);
($nfound,$timeleft) = select($rout=$rin, undef, undef, $timeout);

# Should be
$rin = '';
vec($rin,fileno(STDIN),1) = 1;
($nfound,$timeleft) = select($rout=$rin, undef, undef, $timeout);
```

Search pattern not terminated or ternary operator parsed as search pattern

This syntax error indicates that the lexer couldn't find the final delimiter of a ?PATTERN? construct. Mentioning the ternary operator in this error message makes it easier to diagnose syntax errors.

Changed Internals

There has been a fair amount of refactoring of the $\tt C$ source code, partly to make it tidier and more maintainable. The resulting object code and the $\tt perl$ binary may well be smaller than 5.8.7, in particular due to a change contributed by Dave Mitchell which reworked the warnings code to be significantly smaller. Apart from being smaller and possibly faster, there should be no user-detectable changes.

Andy Lester supplied many improvements to determine which function parameters and local variables could actually be declared const to the C compiler. Steve Peters provided new *_set macros and reworked the core to use these rather than assigning to macros in LVALUE context.

Dave Mitchell improved the lexer debugging output under -DT

Nicholas Clark changed the string buffer allocation so that it is now rounded up to the next multiple of 4 (or 8 on platforms with 64 bit pointers). This should reduce the number of calls to realloc without actually using any extra memory.

The HV's array of HE*s is now allocated at the correct (minimal) size, thanks to another change by Nicholas Clark. Compile with -DPERL_USE_LARGE_HV_ALLOC to use the old, sloppier, default.

For XS or embedding debugging purposes, if perl is compiled with

-DDEBUG_LEAKING_SCALARS_FORK_DUMP in addition to -DDEBUG_LEAKING_SCALARS then a child process is forked just before global destruction, which is used to display the values of any scalars found to have leaked at the end of global destruction. Without this, the scalars have already been freed sufficiently at the point of detection that it is impossible to produce any meaningful dump of their contents. This feature was implemented by the indefatigable Nicholas Clark, based on an idea by Mike Giroux.

Platform Specific Problems

The optimiser on HP-UX 11.23 (Itanium 2) is currently partly disabled (scaled down to +O1) when using HP C-ANSI-C; the cause of problems at higher optimisation levels is still unclear.

There are a handful of remaining test failures on VMS, mostly due to test fixes and minor module tweaks with too many dependencies to integrate into this release from the development stream, where they have all been corrected. The following is a list of expected failures with the patch number of the fix where that is known:

```
ext/Devel/PPPort/t/ppphtest.t #26913
ext/List/Util/t/p_tainted.t #26912
lib/ExtUtils/t/PL_FILES.t #26813
lib/ExtUtils/t/basic.t #26813
t/io/fs.t
t/op/cmp.t
```



Reporting Bugs

If you find what you think is a bug, you might check the articles recently posted to the comp.lang.perl.misc newsgroup and the perl bug database at http://bugs.perl.org. There may also be information at http://www.perl.org, the Perl Home Page.

If you believe you have an unreported bug, please run the **perlbug** program included with your release. Be sure to trim your bug down to a tiny but sufficient test case. Your bug report, along with the output of perl -v, will be sent off to perlbug@perl.org to be analysed by the Perl porting team. You can browse and search the Perl 5 bugs at http://bugs.perl.org/

SEE ALSO

The Changes file for exhaustive details on what changed.

The INSTALL file for how to build Perl.

The README file for general stuff.

The Artistic and Copying files for copyright information.