

# HDF5 1.8.18

## Release Information

<b>Version</b>	HDF5 1.8.18
<b>Release Date</b>	2016-11-14
<b>Download</b>	<a href="#">Download</a>
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<b>Compatibility Report</b>	<a href="#">Compatibility</a>

## Files

File	Operating System	Compilers	Comment
<a href="#">hdf5-1.8.18.tar</a>	Source release		Source tarball
<a href="#">hdf5-1.8.18.tar.gz</a>	Source release		Gzipped source tarball
<a href="#">hdf5-1.8.18.tar.bz2</a>	Source release		Bzipped source tarball
<a href="#">hdf5-1.8.18.zip</a>	Source release		Windows zip file
<a href="#">hdf5-1.8.18-linux-centos7-x86_64-gcc485-shared.tar.gz</a>	Linux 3.10 CentOS 7 x86_64	gcc, g++, gfortran 4.8.5	
<a href="#">hdf5-1.8.18-linux-centos7-x86_64-gcc485-noszip-shared.tar.gz</a>	Linux 3.10 CentOS 7 x86_64	gcc, g++, gfortran 4.8.5	No SZIP
<a href="#">hdf5-1.8.18-linux-centos6-x86_64-gcc447-shared.tar.gz</a>	Linux 2.6 CentOS 6 x86_84	gcc, g++, gfortran 4.4.7	
<a href="#">hdf5-1.8.18-linux-centos6-x86_64-gcc447-noszip-shared.tar.gz</a>	Linux 2.6 CentOS 6 x86_84	gcc, g++, gfortran 4.4.7	No SZIP
<a href="#">hdf5-1.8.18-linux-centos6-x86_64-32-gcc447-shared.tar.gz</a>	Linux 2.6 CentOS 6 x86_84 32-bit	gcc, g++, gfortran 4.4.7	

<a href="#">hdf5-1.8.18-linux-centos6-x86_64-32-gcc447-noszip-shared.tar.gz</a>	Linux 2.6 CentOS 6 x86_64 32-bit	gcc, g++, gfortran 4.4.7	No SZIP
<a href="#">hdf5-1.8.18-win64-vs2013-shared.zip</a>	Windows 64-bit	CMake VS 2013 C, C++, IVF 15	
<a href="#">hdf5-1.8.18-win64-vs2013-noszip.zip</a>	Windows 64-bit	CMake VS 2013 C, C++, IVF 15	No SZIP
<a href="#">hdf5-1.8.18-win32-vs2013-shared.zip</a>	Windows 32-bit	CMake VS 2013 C, C++, IVF 15	
<a href="#">hdf5-1.8.18-win32-vs2013-noszip.zip</a>	Windows 32-bit	CMake VS 2013 C, C++, IVF 15	No SZIP
<a href="#">hdf5-1.8.18-win64-vs2015-shared.zip</a>	Windows 64-bit	CMake VS 2015 C, C++, IVF 16	
<a href="#">hdf5-1.8.18-win64-vs2015-noszip.zip</a>	Windows 64-bit	CMake VS 2015 C, C++, IVF 16	No SZIP
<a href="#">hdf5-1.8.18-win32-vs2015-shared.zip</a>	Windows 32-bit	CMake VS 2015 C, C++, IVF 16	
<a href="#">hdf5-1.8.18-win32-vs2015-noszip.zip</a>	Windows 32-bit	CMake VS 2015 C, C++, IVF 16	No SZIP

## Changes

### New and Changed Functions, Classes, Subroutines, Wrappers, and Macros:

#### In the C Interface (main library):

- None.

#### In the C++ Interface (main library wrappers):

- The macro `H5_NO_NAMESPACE` was deprecated.
- New member functions added to provide const versions:
  - `DSetCreatPropList::allFiltersAvail() const`
  - `DSetCreatPropList::getAllocTime () const`
  - `DSetCreatPropList::getFillTime () const`
  - `DSetCreatPropList::isFillValueDefined () const`
  - `DSetCreatPropList::setAllocTime (H5D_alloc_time_t alloc_time) const`
  - `DSetCreatPropList::setFillTime (H5D_fill_time_t fill_time) const`
  - `DSetMemXferPropList::getEDCCheck () const`
  - `DSetMemXferPropList::getHyperVectorSize () const`
  - `DSetMemXferPropList::getSmallDataBlockSize () const`
  - `DSetMemXferPropList::setEDCCheck (H5Z_EDC_t check) const`
  - `DSetMemXferPropList::setHyperVectorSize (size_t vector_size) const`
  - `DSetMemXferPropList::setSmallDataBlockSize (hsize_t size) const`
  - `FileAccPropList::getFcloseDegree () const`
  - `FileAccPropList::setFcloseDegree (H5F_close_degree_t degree) const`
- The following member functions were removed:
  - `ArrayType::getArrayDims (hsize_t* dims)`
  - `ArrayType::getArrayNDims ()`

- DataType::commit (H5Location& loc, char const\* name)
- DataType::commit (H5Location& loc, std::string const& name)
- DSetCreatPropList::allFiltersAvail ()
- DSetCreatPropList::getAllocTime ()
- DSetCreatPropList::getFillTime ()
- DSetCreatPropList::isFillValueDefined ()
- DSetCreatPropList::setAllocTime (H5D\_alloc\_time\_t alloc\_time)
- DSetCreatPropList::setFillTime (H5D\_fill\_time\_t fill\_time)
- DSetMemXferPropList::getEDCCheck ()
- DSetMemXferPropList::getHyperVectorSize ()
- DSetMemXferPropList::getSmallDataBlockSize ()
- DSetMemXferPropList::setEDCCheck (H5Z\_EDC\_t check)
- DSetMemXferPropList::setHyperVectorSize (size\_t vector\_size)
- DSetMemXferPropList::setSmallDataBlockSize (hsize\_t size)
- FileAccPropList::getFcloseDegree ()
- FileAccPropList::setFcloseDegree (H5F\_close\_degree\_t degree)
- H5Location::H5Location [in-charge] (hid\_t const loc\_id)
- H5Location::H5Location [not-in-charge] (hid\_t const loc\_id)
- H5Object::H5Object [in-charge] (hid\_t const object\_id)
- H5Object::H5Object [not-in-charge] (hid\_t const object\_id)
- CommonFG::mount (char const\* name, H5File& child, PropList& plist) const
- DataSet::getVlenBufSize (DataType& type, DataSpace& space) const
- DataType::commit (H5Location& loc, char const\* name)
- DataType::commit (H5Location& loc, std::string const& name)

## Release Notes

HDF5 version 1.8.18 released on 2016-11-14

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### INTRODUCTION

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This document describes the differences between HDF5-1.8.17 and HDF5-1.8.18, and contains information on the platforms tested and known problems in HDF5-1.8.18.

For more details, see the files HISTORY-1\_0-1\_8\_0\_rc3.txt and HISTORY-1\_8.txt in the release\_docs/ directory of the HDF5 source.

Links to the HDF5 1.8.18 source code, documentation, and additional materials can be found on the HDF5 web page at:

<https://support.hdfgroup.org/HDF5/>

The HDF5 1.8.18 release can be obtained from:

<https://support.hdfgroup.org/HDF5/release/obtain518.html>

User documentation for 1.8.18 can be accessed directly at this location:

<https://support.hdfgroup.org/HDF5/doc1.8/>

New features in the HDF5-1.8.x release series, including brief general descriptions of some new and modified APIs, are described in the "What's New in 1.8.0?" document:

<https://support.hdfgroup.org/HDF5/doc/ADGuide/WhatsNew180.html>

All new and modified APIs are listed in detail in the "HDF5 Software Changes from Release to Release" document, in the section "Release 1.8.18 (current release) versus Release 1.8.17

<https://support.hdfgroup.org/HDF5/doc1.8/ADGuide/Changes.html>

If you have any questions or comments, please send them to the HDF Help Desk:

[help@hdfgroup.org](mailto:help@hdfgroup.org)

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## New Features

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### Configuration

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- CMake: Added `NAMESPACE hdf5::` to package configuration files to allow projects using installed HDF5 binaries built with CMake to link with them without specifying the HDF5 library location via `IMPORTED_LOCATION`.

(ADB, 2016/10/17, HDFS-10003)

- CMake: Changed the `CTEST_BUILD_CONFIGURATION` option to `CTEST_CONFIGURATION_TYPE` as recommended by the CMake documentation.

(ADB, 2016/10/17, HDFS-9971)

- CMake: Added support for GIT

(ADB, 2016/07/12)

### Library

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- None

### Parallel Library

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- None

### Tools

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- None

### High-Level APIs

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- None

Fortran API  
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- None

C++ API  
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- None

Support for New Platforms, Languages, and Compilers  
=====

Bug Fixes since HDF5-1.8.17  
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Configuration  
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- Fixed a problem preventing HDF5 to be built on 32-bit CYGWIN by condensing cygwin configuration files into a single file and removing outdated compiler settings.

(ABD, 2016/07/12, H5FFV-9946)

- CMake: Fixed a command length overflow error by converting custom commands inside CMakeTest.cmake files into regular dependencies and targets.

(ABD, 2016/07/12, H5FFV-9939)

- CMake: Fixed a timeout error that would occasionally occur when running the virtual file driver tests simultaneously due to test directory and file name collisions.

(ABD, 2016/09/19, H5FFV-9431)

Library  
-----

- Fixed a memory leak that would occur when the library allocated memory for an external file prefix (H5Pset\_elfile\_prefix) and failed to free it.

(DER, 2016/04/29)

- Fixed an error that would occur when calling H5Adelete on an attribute which is attached to an externally linked object in the target file and whose datatype is a committed datatype in the main file.

(VC, 2016-07-04, HDFFV-9940)

- Fixed a problem where a plugin compiled into a DLL in the default plugin directory could not be found by the HDF5 library at runtime on Windows when the HDF5\_PLUGIN\_PATH environment variable was not set.

(ABD, 2016/08/01, HDFFV-9706)

- Fixed an issue where H5Pset\_alignment could result in misaligned blocks with some input combinations, causing an assertion failure in debug mode.

(NAF, 2016/08/11, HDFFV-9948)

- A number of issues were fixed when reading/writing from/to corrupted files to ensure that the library fails gracefully in these cases:
  - \* Writing to a corrupted file that has an object message which is incorrectly marked as sharable on disk results in a buffer overflow / invalid write instead of a clean error message.
  - \* Decoding data from a corrupted file with a dataset encoded with the H5Z\_NBIT decoding can result in a code execution vulnerability under the context of the application using the HDF5 library.
  - \* When decoding an array datatype from a corrupted file, the HDF5 library fails to return an error in production if the number of dimensions decoded is greater than the maximum rank.
  - \* When decoding an "old style" array datatype from a corrupted file, the HDF5 library fails to return an error in production if the number of dimensions decoded is greater than the maximum rank.

(NAF, 2016/10/06, HDFFV-9950, HDFFV-9951, HDFFV-9992, HDFFV-9993)

- Fixed an error that would occur when copying an object with an attribute which is a compound datatype consisting of a variable length string.

(VC, 2016-10-17, HDFFV-7991)

#### Parallel Library

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- Fixed a bug that could occur when allocating a chunked dataset in parallel with an alignment set and an alignment threshold greater than the chunk size but less than or equal to the raw data aggregator size.

(NAF, 2016/08/11, HDFFV-9969)

#### Performance

-----

- None

## Tools

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- Fixed an error in the compiler wrapper scripts (h5cc, h5fc, et al.) in which they would erroneously drop the file argument specified via the -o flag when the -o flag was specified before the -c flag on the command line, resulting in a failure to compile.

(LRK, 2016/06/08, HДФFV-9938, HДФFV-9530)

- h5repack User Defined (UD) filter parameters were not parsed correctly.

The UD filter parameters were not being parsed correctly. Reworked coding section to parse the correct values and verify number of parameters.

(ADB, 2016/10/19, HДФFV-9996, HДФFV-9974, HДФFV-9515, HДФFV-9039)

## Fortran API

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- Fortran library fails to compile and fails tests with NAG compiler.

- \* Removed the non-standard assumption that KIND=SIZEOF, in the HDF5 configure programs.

- \* Removed Fortran 66 character/integer conversions from tests.

- \* Removed the use of C\_SIZEOF in the test programs

- \* Changed to using STORAGE\_SIZE in the test programs if available. Otherwise, uses C\_SIZEOF or SIZEOF.

(MSB, 2016/9/22, HДФFV-9973)

- Fortran segfaults for F03 tests with NAG compiler

- \* Removed INTENT(OUT) from 'fillvalue' in F2003 interface for H5Pget\_fill\_value\_f.

(MSB, 2016/9/22, HДФFV-9980)

## C++ API

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- The macro H5\_NO\_NAMESPACE is deprecated from the HDF5 C++ API library. In future releases, the macros H5\_NO\_STD and OLD\_HEADER\_FILENAME may also be removed.

(BMR, 2016/10/27, HДФFV-9532)

## High-Level APIs:

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- The high-level API Packet Table (PT) did not write data correctly when the datatype is a compound type that has string type as one of the members. This problem started in 1.8.15, after the fix of HДФFV-9042 was applied, which caused the Packet Table to use native type to access

the data. It should be up to the application to specify whether the buffer to be read into memory in the machine's native architecture. Thus, the PT is fixed to not use native type but to make a copy of the user's provided datatype during creation or the packet table's datatype during opening. If an application wishes to use native type to read the data, then the application will request that. However, the Packet Table doesn't provide a way to specify memory datatype in this release. This feature will be available in future releases, HДФFV-10023.

(BMR, 2016/10/27, HДФFV-9758)

#### Fortran High-Level APIs:

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- None

#### Testing

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- None

#### Supported Platforms

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The following platforms are supported and have been tested for this release. They are built with the configure process unless specified otherwise.

Linux 2.6.32-573.22.1.el6 #1 SMP x86_64 GNU/Linux (platypus/may11)	GNU C (gcc), Fortran (gfortran), C++ (g++) compilers: Version 4.4.7 20120313 Versions 4.8.4, 4.9.3, 5.2.0 PGI C, Fortran, C++ for 64-bit target on x86-64; Version 15.7-0 Intel(R) C (icc), C++ (icpc), Fortran (icc) compilers: Version 15.0.3.187 Build 20150407 MPICH 3.1.4 compiled with GCC 4.9.3
Linux 2.6.32-573.18.1.el6 #1 SMP ppc64 GNU/Linux (ostrich) 4.4.7-16)	gcc (GCC) 4.4.7 20120313 (Red Hat 4.4.7-16) g++ (GCC) 4.4.7 20120313 (Red Hat 4.4.7-16) GNU Fortran (GCC) 4.4.7 20120313 (Red Hat 4.4.7-16)  IBM XL C/C++ V13.1 IBM XL Fortran V15.1
Linux 3.10.0-327.10.1.el7 #1 SMP x86_64 GNU/Linux (kituo/moohan)	GNU C (gcc), Fortran (gfortran), C++ (g++) compilers: Version 4.8.5 20150623 (Red Hat 4.8.5-4) Versions 4.9.3, 5.2.0 Intel(R) C (icc), C++ (icpc), Fortran (icc) compilers: Version 15.0.3.187 Build 20150407 MPICH 3.1.4 compiled with GCC 4.9.3
SunOS 5.11 32- and 64-bit (emu)	Sun C 5.12 SunOS_sparc Sun Fortran 95 8.6 SunOS_sparc Sun C++ 5.12 SunOS_sparc



Windows 7	Visual Studio 2012 w/ Intel Fortran 15 (cmake) Visual Studio 2013 w/ Intel Fortran 15 (cmake) Visual Studio 2015 w/ Intel Fortran 16 (cmake) Cygwin(CYGWIN_NT-6.1 2.2.1(0.289/5/3) gcc(4.9.3) compiler and gfortran)
	(cmake and autotools)
Windows 7 x64	Visual Studio 2012 w/ Intel Fortran 15 (cmake) Visual Studio 2013 w/ Intel Fortran 15 (cmake) Visual Studio 2015 w/ Intel Fortran 16 (cmake)
Windows 10	Visual Studio 2015 w/ Intel Fortran 16 (cmake)
Windows 10 x64	Visual Studio 2015 w/ Intel Fortran 16 (cmake)
Mac OS X Mt. Lion 10.8.5 64-bit (swallow/kite)	Apple LLVM version 5.1 (clang-503.0.40) gfortran GNU Fortran (GCC) 4.8.2 Intel icc/icpc/ifort version 15.0.3
Mac OS X Mavericks 10.9.5 64-bit (wren/quail)	Apple LLVM version 6.0 (clang-600.0.57) gfortran GNU Fortran (GCC) 4.9.2 Intel icc/icpc/ifort version 15.0.3
Mac OS X Yosemite 10.10.5 64-bit (osx1010dev/osx1010test)	Apple LLVM version 6.1 (clang-602.0.53) gfortran GNU Fortran (GCC) 4.9.2 Intel icc/icpc/ifort version 15.0.3
Mac OS X El Capitan 10.11.4 64-bit (VM osx1011dev/osx1011test)	Apple LLVM version 7.3.0 (clang-703.0.29) gfortran GNU Fortran (GCC) 5.2.0 Intel icc/icpc/ifort version 16.0.2

#### Tested Configuration Features Summary

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In the tables below

y = tested  
 n = not tested in this release  
 C = Cluster  
 W = Workstation  
 x = not working in this release  
 dna = does not apply  
 ( ) = footnote appears below second table  
 <blank> = testing incomplete on this feature or platform

Platform	C	F90/ parallel	F90 F2003 parallel	C++	zlib	SZIP
SunOS 5.11 32-bit	n	y/y	n	y	y	y
SunOS 5.11 64-bit	n	y/y	n	y	y	y
Windows 7	y	y/y	n	y	y	y
Windows 7 x64	y	y/y	n	y	y	y
Windows 7 Cygwin	n	y/y	n	y	y	n
Windows 10	n	y/y	n	y	y	y
Windows 10 x64	n	y/y	n	y	y	y
Mac OS X Mountain Lion 10.8.5 64-bit	n	y/y	n	y	y	y
Mac OS X Mavericks 10.9.5 64-bit	n	y/y	n	y	y	y
Mac OS X Yosemite 10.10.5 64-bit	n	y/y	n	y	y	y
AIX 6.1 32- and 64-bit	n	y/n	n	y	y	y
CentOS 6.7 Linux 2.6.32 x86_64 GNU	y	y/y	y	y	y	y

CentOS 6.7 Linux 2.6.32 x86_64 Intel	n	y/y	n	y	y	y
CentOS 6.7 Linux 2.6.32 x86_64 PGI	n	y/y	n	y	y	y
CentOS 7.1 Linux 3.10.0 x86_64 GNU	y	y/y	y	y	y	y
CentOS 7.1 Linux 3.10.0 x86_64 Intel	n	y/y	n	y	y	y
Linux 2.6.32-431.11.2.el6.ppc64	n	y/n	n	y	y	y

Platform	Shared C libs	Shared F90 libs	Shared C++ libs	Thread- safe
SunOS 5.11 32-bit	Y	Y	Y	Y
SunOS 5.11 64-bit	Y	Y	Y	Y
Windows 7	Y	Y	Y	Y
Windows 7 x64	Y	Y	Y	Y
Windows 7 Cygwin	n	n	n	Y
Windows 10	Y	Y	Y	Y
Windows 10 x64	Y	Y	Y	Y
Mac OS X Mountain Lion 10.8.5 64-bit	y	n	Y	Y
Mac OS X Mavericks 10.9.5 64-bit	y	n	Y	Y
Mac OS X Yosemite 10.10.5 64-bit	y	n	Y	Y
AIX 6.1 32- and 64-bit	y	n	n	Y
CentOS 6.7 Linux 2.6.32 x86_64 GNU	y	Y	Y	Y
CentOS 6.7 Linux 2.6.32 x86_64 Intel	y	Y	Y	Y
CentOS 6.7 Linux 2.6.32 x86_64 PGI	y	Y	Y	Y
CentOS 7.1 Linux 3.10.0 x86_64 GNU	y	Y	Y	Y
CentOS 7.1 Linux 3.10.0 x86_64 Intel	y	Y	Y	Y
Linux 2.6.32-431.11.2.el6.ppc64	y	Y	Y	Y

Compiler versions for each platform are listed in the preceding "Supported Platforms" table.

#### More Tested Platforms

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The following platforms are not supported but have been tested for this release.

```

Linux 2.6.32-573.22.1.el6      g95 (GCC 4.0.3 (g95 0.94!))
#1 SMP x86_64 GNU/Linux
(platypus)

Debian8.4.0 3.16.0-4-amd64 #1 SMP Debian 3.16.36-1 x86_64 GNU/Linux
gcc (Debian 4.9.2-10) 4.9.2
GNU Fortran (Debian 4.9.2-10) 4.9.2
(cmake and autotools)

Fedora24 4.7.2-201.fc24.x86_64 #1 SMP x86_64 x86_64 x86_64 GNU/Linux
gcc (GCC) 6.1.1 20160621 (Red Hat 6.1.1-3)
GNU Fortran (GCC) 6.1.1 20160621 (Red Hat 6.1.1-3)
(cmake and autotools)

CentOS 7.2 3.10.0-327.28.2.el7.x86_64 #1 SMP x86_64 x86_64 x86_64 GNU/Linux
gcc (GCC) 4.8.5 20150623 (Red Hat 4.8.5-4)
GNU Fortran (GCC) 4.8.5 20150623 (Red Hat 4.8.5-4)
(cmake and autotools)

Ubuntu 16.04 4.4.0-38-generic #62-Ubuntu SMP x86_64 GNU/Linux
gcc (Ubuntu 5.4.0-6ubuntu1~16.04.2) 5.4.0
GNU Fortran (Ubuntu 5.4.0-6ubuntu1~16.04.2) 5.4.0
(cmake and autotools)

```

## Known Problems

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- \* On windows platforms in debug configurations, the VFD flush tests will fail with the split and multi VFD drivers. These tests will display a modal debug dialog which must be answered or wait for the test timeout to expire. (ADB - 2014/06/23 - HDFS-8851)
- \* CLANG compiler with the options `-fcatch-undefined-behavior` and `-ftrapv` catches some undefined behavior in the alignment algorithm of the macro `DETECT_I` in `H5detect.c` (Issue 8147). Since the algorithm is trying to detect the alignment of integers, ideally the flag `-fcatch-undefined-behavior` shouldn't to be used for `H5detect.c`. In the future, we can separate flags for `H5detect.c` from the rest of the library. (SLU - 2013/10/16)
- \* `Make` provided by Solaris fails in "make check". Solaris users should use `gmake` to build and install the HDF5 software. (AKC - 2013/10/08 - HDFS-8534)
- \* The C++ and FORTRAN bindings are not currently working on FreeBSD with the native release 8.2 compilers (4.2.1), but are working with gcc 4.6 from the ports (and probably gcc releases after that). (QAK - 2012/10/19)
- \* The following `h5dump` test case fails in BG/P machines (and potentially other machines that use a command script to launch executables):

```
h5dump --no-compact-subset -d "AHFINDERDIRECT:ah_centroid_t[0] it=0 tl=0"
tno-subset.h5
```

This is due to the embedded spaces in the dataset name being interpreted by the command script launcher as meta-characters, thus passing three arguments to `h5dump`'s `-d` flag. The command passes if run by hand, just not via the test script.

(AKC - 2012/05/03)

- \* The STDIO VFD does not work on some architectures, possibly due to 32/64 bit or large file issues. The basic STDIO VFD test is known to fail on 64-bit SunOS 5.10 on SPARC when built with `-m64` and 32-bit OS X/Darwin 10.7.0. The STDIO VFD test has been disabled while we investigate and a fix should appear in a future release. (DER - 2011/10/14 - HDFS-8235)
- \* `h5diff` can report inconsistent results when comparing datasets of enum type that contain invalid values. This is due to how enum types are handled in the library and will be addressed in a future release. (DER - 2011/10/14 - HDFS-7527)
- \* The links test can fail under the stdio VFD due to some issues with external links. This will be investigated and fixed in a future release. (DER - 2011/10/14 - HDFS-7768)
- \* After the shared library support was fixed for some bugs, it was discovered that "make prefix=XXX install" no longer works for shared libraries. It still works correctly for static libraries. Therefore, if you want to install the HDF5 shared libraries in a location such as `/usr/local/hdf5`, you need to specify the location via the `--prefix` option during configure time. E.g, `./configure --prefix=/usr/local/hdf5 ...` (AKC - 2011/05/07 - HDFS-7583)
- \* The parallel test, `t_shapesame`, in `testpar/`, may run for a long time and may

be terminated by the alarm signal. If that happens, one can increase the alarm seconds (default is 1200 seconds = 20 minutes) by setting the environment variable, \$HDF5\_ALARM\_SECONDS, to a larger value such as 3600 (60 minutes). Note that the t\_shakespeare test may fail in some systems (see the "While working on the 1.8.6 release..." problem below). If it does, it will waste more time if \$HDF5\_ALARM\_SECONDS is set to a larger value.

(AKC - 2011/05/07)

- \* Shared Fortran libraries are not quite working on AIX. While they are generated when --enable-shared is specified, the fortran and hl/fortran tests fail. the issue. HL and C++ shared libraries should now be working as intended, however.

(MAM - 2011/04/20)

- \* While working on the 1.8.6 release of HDF5, a bug was discovered that can occur when reading from a dataset in parallel shortly after it has been written to collectively. The issue was exposed by a new test in the parallel HDF5 test suite, but had existed before that. We believe the problem lies with certain MPI implementations and/or file systems.

We have provided a pure MPI test program, as well as a standalone HDF5 program, that can be used to determine if this is an issue on your system. They should be run across multiple nodes with a varying number of processes. These programs can be found at:

[http://www.hdfgroup.org/ftp/HDF5/examples/known\\_problems/](http://www.hdfgroup.org/ftp/HDF5/examples/known_problems/)

(NAF - 2011/01/19)

- \* All the VFL drivers aren't backward compatible. In H5FDpublic.h, the structure H5FD\_class\_t changed in 1.8. There is new parameter added to get\_eoa and set\_eoa callback functions. A new callback function get\_type\_map was added in. The public function H5FDrealloc was taken out in 1.8. The problem only happens when users define their own driver for 1.6 and try to plug in 1.8 library. Because there's only one user complaining about it, we (Elena, Quincey, and I) decided to leave it as it is (see bug report #1279). Quincey will make a plan for 1.10.

(SLU - 2010/02/02)

- \* The --enable-static-exec configure flag will only statically link libraries if the static version of that library is present. If only the shared version of a library exists (i.e., most system libraries on Solaris, AIX, and Mac, for example, only have shared versions), the flag should still result in a successful compilation, but note that the installed executables will not be fully static. Thus, the only guarantee on these systems is that the executable is statically linked with just the HDF5 library.

(MAM - 2009/11/04)

- \* A dataset created or rewritten with a v1.6.3 library or after cannot be read with the v1.6.2 library or before when the Fletcher32 EDC filter is enabled. There was a bug in the calculation of the Fletcher32 checksum in the library before v1.6.3; the checksum value was not consistent between big-endian and little-endian systems. This bug was fixed in Release 1.6.3. However, after fixing the bug, the checksum value was no longer the same as before on little-endian system. Library releases after 1.6.4 can still read

datasets created or rewritten with an HDF5 library of v1.6.2 or before.  
(SLU - 2005/06/30)

## Compatibility

hdf5: 1.8.17 to 1.8.18 compatibility report

API compatibility report for the [hdf5](#) library between **1.8.17** and **1.8.18** versi

Binary  
Compatibility

Source  
Compatibility

### Test Info

Library Name	hdf5
Version #1	1.8.17
Version #2	1.8.18
CPU Type	x86_64
GCC Version	4.4.7
Subject	Binary Compatibility

### Test Results

Total Header Files	77
Total Shared Libraries	8
Total Symbols / Types	1819 / 544
Verdict	<b>Incompatible (1.2%)</b>

### Problem Summary

	Severity	Count
Added Symbols	-	14
Removed Symbols	High	22
Problems with Data Types	High	0
	Medium	0
	Low	0
	High	14

Problems with Symbols	Medium	0
	Low	0
Problems with Constants	Low	1
Other Changes in Constants	-	2

## Added Symbols (14)

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### H5DcreatProp.h, libhdf5\_cpp.so.11.0.1

namespace H5

**DSetCreatPropList::allFiltersAvail ( ) const**  
**DSetCreatPropList::getAllocTime ( ) const**  
**DSetCreatPropList::getFillTime ( ) const**  
**DSetCreatPropList::isFillValueDefined ( ) const**  
**DSetCreatPropList::setAllocTime ( H5D\_alloc\_time\_t *alloc\_time* ) const**  
**DSetCreatPropList::setFillTime ( H5D\_fill\_time\_t *fill\_time* ) const**

### H5DxferProp.h, libhdf5\_cpp.so.11.0.1

namespace H5

**DSetMemXferPropList::getEDCCheck ( ) const**  
**DSetMemXferPropList::getHyperVectorSize ( ) const**  
**DSetMemXferPropList::getSmallDataBlockSize ( ) const**  
**DSetMemXferPropList::setEDCCheck ( H5Z\_EDC\_t *check* ) const**  
**DSetMemXferPropList::setHyperVectorSize ( size\_t *vector\_size* ) const**  
**DSetMemXferPropList::setSmallDataBlockSize ( hsize\_t *size* ) const**

### H5FaccProp.h, libhdf5\_cpp.so.11.0.1

namespace H5

**FileAccPropList::getFcloseDegree ( ) const**  
**FileAccPropList::setFcloseDegree ( H5F\_close\_degree\_t *degree* ) const**

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## Removed Symbols (22)

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### H5ArrayType.h, libhdf5\_cpp.so.12.0.0

namespace H5

**ArrayType::getArrayDims ( hsize\_t\* *dims* )**  
**ArrayType::getArrayNDims ( )**

### H5DataType.h, libhdf5\_cpp.so.12.0.0

namespace H5

**DataType::commit ( H5Location& *loc*, char const\* *name* )**  
**DataType::commit ( H5Location& *loc*, std::string const& *name* )**

### H5DcreatProp.h, libhdf5\_cpp.so.12.0.0

namespace H5

**DSetCreatPropList::allFiltersAvail ( )**  
**DSetCreatPropList::getAllocTime ( )**  
**DSetCreatPropList::getFillTime ( )**  
**DSetCreatPropList::isFillValueDefined ( )**  
**DSetCreatPropList::setAllocTime ( H5D\_alloc\_time\_t *alloc\_time* )**  
**DSetCreatPropList::setFillTime ( H5D\_fill\_time\_t *fill\_time* )**

**H5DxferProp.h, libhdf5\_cpp.so.12.0.0**

namespace H5

**DSetMemXferPropList::getEDCCheck ( )**  
**DSetMemXferPropList::getHyperVectorSize ( )**  
**DSetMemXferPropList::getSmallDataBlockSize ( )**  
**DSetMemXferPropList::setEDCCheck ( H5Z\_EDC\_t *check* )**  
**DSetMemXferPropList::setHyperVectorSize ( size\_t *vector\_size* )**  
**DSetMemXferPropList::setSmallDataBlockSize ( hsize\_t *size* )**

**H5FaccProp.h, libhdf5\_cpp.so.12.0.0**

namespace H5

**FileAccPropList::getFcloseDegree ( )**  
**FileAccPropList::setFcloseDegree ( H5F\_close\_degree\_t *degree* )**

**H5Location.h, libhdf5\_cpp.so.12.0.0**

namespace H5

**H5Location::H5Location [in-charge] ( hid\_t const *loc\_id* )**  
**H5Location::H5Location [not-in-charge] ( hid\_t const *loc\_id* )**

**H5Object.h, libhdf5\_cpp.so.12.0.0**

namespace H5

**H5Object::H5Object [in-charge] ( hid\_t const *object\_id* )**  
**H5Object::H5Object [not-in-charge] ( hid\_t const *object\_id* )**

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## Problems with Symbols, High Severity (14)

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**H5DcreatProp.h, libhdf5\_cpp.so.12.0.0**

namespace H5

**[+] DSetCreatPropList::allFiltersAvail ( ) (1)**  
**[+] DSetCreatPropList::getAllocTime ( ) (1)**  
**[+] DSetCreatPropList::getFillTime ( ) (1)**  
**[+] DSetCreatPropList::isFillValueDefined ( ) (1)**  
**[+] DSetCreatPropList::setAllocTime ( H5D\_alloc\_time\_t *alloc\_time* ) (1)**  
**[+] DSetCreatPropList::setFillTime ( H5D\_fill\_time\_t *fill\_time* ) (1)**

**H5DxferProp.h, libhdf5\_cpp.so.12.0.0**

namespace H5

**[+] DSetMemXferPropList::getEDCCheck ( ) (1)**  
**[+] DSetMemXferPropList::getHyperVectorSize ( ) (1)**

- [+] **DSetMemXferPropList::getSmallDataBlockSize** ( ) (1)
- [+] **DSetMemXferPropList::setEDCCheck** ( H5Z\_EDC\_t *check* ) (1)
- [+] **DSetMemXferPropList::setHyperVectorSize** ( size\_t *vector\_size* ) (1)
- [+] **DSetMemXferPropList::setSmallDataBlockSize** ( hsize\_t *size* ) (1)

### H5FaccProp.h, libhdf5\_cpp.so.12.0.0

namespace H5

- [+] **FileAccPropList::getFcloseDegree** ( ) (1)
- [+] **FileAccPropList::setFcloseDegree** ( H5F\_close\_degree\_t *degree* ) (1)

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## Problems with Constants, Low Severity (1)

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### H5public.h

- [+] **H5\_VERS\_SUBRELEASE**

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## Other Changes in Constants (2)

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### H5pubconf.h

- [+] **H5\_HAVE\_INSTRUMENTED\_LIBRARY**
- [+] **H5\_STRICT\_FORMAT\_CHECKS**

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## Header Files (77)

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H5AbstractDs.h  
H5ACpublic.h  
H5api\_adpt.h  
H5Apublic.h  
H5ArrayType.h  
H5AtomType.h  
H5Attribute.h  
H5Classes.h  
H5CommonFG.h  
H5CompType.h  
H5Cpp.h  
H5CppDoc.h  
H5Cpublic.h  
H5DataSet.h  
H5DataSpace.h  
H5DataType.h  
H5DcreatProp.h  
H5DOPublic.h  
H5Dpublic.h



H5DSpublic.h  
H5DxferProp.h  
H5EnumType.h  
H5Epubgen.h  
H5Epublic.h  
H5Exception.h  
H5f90i.h  
H5f90i\_gen.h  
H5FaccProp.h  
H5FcreatProp.h  
H5FDcore.h  
H5FDdirect.h  
H5FDfamily.h  
H5FDlog.h  
H5FDmpi.h  
H5FDmpio.h  
H5FDmulti.h  
H5FDpublic.h  
H5FDsec2.h  
H5FDstdio.h  
H5File.h  
H5FloatType.h  
H5Fpublic.h  
H5Gpublic.h  
H5Group.h  
H5IdComponent.h  
H5IMpublic.h  
H5Include.h  
H5IntType.h  
H5Ipublic.h  
H5Library.h  
H5Location.h  
H5Lpublic.h  
H5LTpublic.h  
H5MMpublic.h  
H5Object.h  
H5OcreatProp.h  
H5Opublic.h  
H5overflow.h  
H5PacketTable.h  
H5PLextern.h  
H5PLpublic.h  
H5Ppublic.h  
H5PredType.h  
H5PropList.h  
H5PTpublic.h  
H5pubconf.h  
H5public.h  
H5Rpublic.h  
H5Spublic.h  
H5StrType.h

H5Tbpublic.h  
H5Tpublic.h  
H5VarLenType.h  
H5version.h  
H5Zpublic.h  
hdf5.h  
hdf5\_hl.h

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## Shared Libraries (8)

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libhdf5.so.10.2.0  
libhdf5\_cpp.so.12.0.0  
libhdf5\_fortran.so.10.0.3  
libhdf5\_hl.so.10.1.0  
libhdf5\_hl\_cpp.so.11.1.0  
libhdf5hl\_fortran.so.10.0.3  
libsz.so.2.0.0  
libz.so.1.2.5

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## Test Info

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Library Name	hdf5
Version #1	1.8.17
Version #2	1.8.18
CPU Type	x86_64
GCC Version	4.4.7
Subject	Source Compatibility

## Test Results

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Total Header Files	77
Total Shared Libraries	8
Total Symbols / Types	1863 / 546
Verdict	<b>Incompatible (0.2%)</b>

## Problem Summary

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	Severity	Count
Added Symbols	-	0
Removed Symbols	High	4
Problems with Data Types	High	0
	Medium	0
	Low	0
Problems with Symbols	High	0
	Medium	0
	Low	0
Problems with Constants	Low	6
Other Changes in Symbols	-	14
Other Changes in Constants	-	2

## Removed Symbols (4)

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### H5CommonFG.h

namespace H5

**CommonFG::mount** ( char const\* *name*, H5File& *child*, PropList& *plist* ) const

### H5DataSet.h

namespace H5

**DataSet::getVlenBufSize** ( DataType& *type*, DataSpace& *space* ) const

### H5DataType.h

namespace H5

**DataType::commit** ( H5Location& *loc*, char const\* *name* )

**DataType::commit** ( H5Location& *loc*, std::string const& *name* )

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## Problems with Constants, Low Severity (6)

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### H5pubconf.h

[+] H5\_PACKAGE\_STRING

[+] H5\_PACKAGE\_VERSION

[+] H5\_VERSION

### H5public.h

[+] H5\_VERS\_INFO

[+] H5\_VERS\_RELEASE

## [+] H5\_VERS\_SUBRELEASE

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## Other Changes in Symbols (14)

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### H5DcreatProp.h

namespace H5

- [+] DSetCreatPropList::allFiltersAvail ( ) (1)
- [+] DSetCreatPropList::getAllocTime ( ) (1)
- [+] DSetCreatPropList::getFillTime ( ) (1)
- [+] DSetCreatPropList::isFillValueDefined ( ) (1)
- [+] DSetCreatPropList::setAllocTime ( H5D\_alloc\_time\_t *alloc\_time* ) (1)
- [+] DSetCreatPropList::setFillTime ( H5D\_fill\_time\_t *fill\_time* ) (1)

### H5DxferProp.h

namespace H5

- [+] DSetMemXferPropList::getEDCCheck ( ) (1)
- [+] DSetMemXferPropList::getHyperVectorSize ( ) (1)
- [+] DSetMemXferPropList::getSmallDataBlockSize ( ) (1)
- [+] DSetMemXferPropList::setEDCCheck ( H5Z\_EDC\_t *check* ) (1)
- [+] DSetMemXferPropList::setHyperVectorSize ( size\_t *vector\_size* ) (1)
- [+] DSetMemXferPropList::setSmallDataBlockSize ( hsize\_t *size* ) (1)

### H5FaccProp.h

namespace H5

- [+] FileAccPropList::getFcloseDegree ( ) (1)
- [+] FileAccPropList::setFcloseDegree ( H5F\_close\_degree\_t *degree* ) (1)

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## Other Changes in Constants (2)

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### H5pubconf.h

- [+] H5\_HAVE\_INSTRUMENTED\_LIBRARY
- [+] H5\_STRICT\_FORMAT\_CHECKS

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## Header Files (77)

---

H5AbstractDs.h  
H5ACpublic.h  
H5api\_adpt.h  
H5Apublic.h  
H5ArrayType.h  
H5AtomType.h

H5Attribute.h  
H5Classes.h  
H5CommonFG.h  
H5CompType.h  
H5Cpp.h  
H5CppDoc.h  
H5Cpublic.h  
H5DataSet.h  
H5DataSpace.h  
H5DataType.h  
H5DcreatProp.h  
H5DOPublic.h  
H5Dpublic.h  
H5DSpublic.h  
H5DxferProp.h  
H5EnumType.h  
H5Epubgen.h  
H5Epublic.h  
H5Exception.h  
H5f90i.h  
H5f90i\_gen.h  
H5FaccProp.h  
H5FcreatProp.h  
H5FDcore.h  
H5FDdirect.h  
H5FDfamily.h  
H5FDlog.h  
H5FDmpi.h  
H5FDmpio.h  
H5FDmulti.h  
H5FDpublic.h  
H5FDsec2.h  
H5FDstdio.h  
H5File.h  
H5FloatType.h  
H5Fpublic.h  
H5Gpublic.h  
H5Group.h  
H5IdComponent.h  
H5IMpublic.h  
H5Include.h  
H5IntType.h  
H5Ipublic.h  
H5Library.h  
H5Location.h  
H5Lpublic.h  
H5LTpublic.h  
H5MMpublic.h  
H5Object.h  
H5OcreatProp.h  
H5Opublic.h

H5overflow.h  
H5PacketTable.h  
H5PLextern.h  
H5PLpublic.h  
H5Ppublic.h  
H5PredType.h  
H5PropList.h  
H5PTpublic.h  
H5pubconf.h  
H5public.h  
H5Rpublic.h  
H5Spublic.h  
H5StrType.h  
H5TBpublic.h  
H5Tpublic.h  
H5VarLenType.h  
H5version.h  
H5Zpublic.h  
hdf5.h  
hdf5\_hl.h

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## Shared Libraries (8)

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libhdf5.so.10.2.0  
libhdf5\_cpp.so.12.0.0  
libhdf5\_fortran.so.10.0.3  
libhdf5\_hl.so.10.1.0  
libhdf5\_hl\_cpp.so.11.1.0  
libhdf5hl\_fortran.so.10.0.3  
libsz.so.2.0.0  
libz.so.1.2.5

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