

# Cray Open Software (COS)

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**ABSTRACT:** *It's time to review how far we've come with the COS software package. The use of "we" is important as the success of the project and its future continues to rely on the relationships that we've built with our customers and the open source community. This discussion will cover the history, goals, and future plans for the COS software package.*

## Introduction

The Cray Open Software (COS) package was devised as a method to make available the OpenSSH utility on Cray systems. We planned to ship only source files for this and other utilities placed on the CD. We believed that we would lag *the community* with regard to version updates due to the expected (re)porting efforts. Finally, when we announced the first planned release at the 2001 CUG, it was stated that, "Lots of adopters means we can add more products by your direction."

## Progress Against Plans

- COS 1.0 was released in July 2001. It contained OpenSSH, OpenSSL, zlib, and Perl (unsupported). It provided only buildable source.
- COS 2.0 was released in January 2002. The release added the following new packages: autoconf, diffutils, findutils, gawk, less, m4, make, sed, sh-utils, tar and TeXinfo. Updated packages included: OpenSSH and OpenSSL plus the unchanged zlib. The release provided both buildable source *and* pre-built program binaries.
- COS 3.0 was released in April 2002. The release added the following new packages: bison, CVS, flex, gnuplot, gzip, patch, and vim. Updated packages included : OpenSSH, OpenSSL, zlib.
- COS 3.1 was not released. Sometimes it's better not to do something...
- COS 3.2 was released in September 2002. The release added automake and updated a new supported Perl, Tcl/tk, OpenSSH, OpenSSL
- COS 3.3 was released in December 2002. This was the first release to add support for Cray X1 systems running UNICOS/mp. New packaged added were: bash, top, gdb and sudo. Updated packages included: bison, diffutils, gawk, less, OpenSSH, OpenSSL, autoconf, automake, TeXinfo and vim.
- COS 3.4 *will* release in late May 2003. New packages will include bc and sendmail. Updated packages will include: bison, CVS, OpenSSH, OpenSSL, sed, sh-

utils, autoconf, TeXinfo and gdb. The package is available in source and binary release format for: Cray J90, SV1, T90 (CFP and IEEE), T3E, and X1 systems. Note that some components will only be available on some platforms.

We would like to thank the many customers that have purchased the product and provided feedback and design requests for the addition of new utilities. We have not experienced the lag we anticipated in providing updates and have therefore been able to provide many of the customer requested additions.

Our desire to provide more packages sooner required the creation of a three-tier support policy:

1. Full Supported – Utilities in this tier are fully supported under the normal Cray support policies for OS software.
2. Lightly Supported – We accept software problem reports on the utilities in this tier, but resolution of those problems, regardless of their reported severity will be prioritised below Fully Support utilities.
3. Unsupported – Utilities in this tier are provided as a courtesy. The programs may not pass even their own self-check tests.

## Full Package Contents

With the release of COS 3.4, the complete package will contain the following components (sorted by support tier).

### *Fully Supported Components:*

- bash GNU version 2.05b (Cray X1 only)
- bc GNU version 1.06
- bison GNU version 1.875
- CVS GNU version 1.11.5
- diffutils GNU version 2.8.1
- findutils GNU version 4.1
- flex GNU version 2.5.4
- gawk GNU version 3.1.1
- gnuplot GNU version 3.7.1
- gzip GNU version 1.3.3
- less GNU version 378

- make GNU version 3.79.1
- OpenSSH version 3.6.1p1
- OpenSSL version 0.9.7a
- patch GNU version 2.5.4
- Perl version 5.6.1
- sed GNU version 4.0.6
- sh-utils GNU version 2.0.15
- sudo version 1.6.6
- tar GNU version 1.13
- Tcl/Tk version 8.3.4
- top version 3.4 (Cray X1 only)
- zlib version 1.1.4

***Lightly Supported Components:***

- autoconf GNU version 2.57
- automake GNU version 1.6.3
- m4 GNU version 1.4ppre2
- TeXinfo GNU version 4.5
- Vim version 6.1

***Unsupported Components:***

- gdb GNU version 5.0 (Cray X1 only – will not be available long-term)
- sendmail version 8.12.9 (UNICOS and UNICOS/mk Only) The latest version is part of UNICOS/mp for the Cray X1.

**Future Plans**

The following utilities are being worked on in preparation for a future release: expect-5.18 and emacs-21.2. COS 3.5 will contain at least the following updated utilities: automake-1.7.3, gawk-3.1.2, make-3.80, perl-5.8.0, tcl-8.4.2 and tk-8.4.2.

In the future, some utilities may migrate from this package to become part of the standard OS release components. Some new packages may only be supported on late-model hardware (e.g., the Cray X1). Requests for new packages should be submitted through the Design SPR mechanism to help us track where the request originated and how many sties have requested the same utilities.

Finally, we have and continue to submit our changes back to *the community* with the exception of gdb as this is a short-term, special case situation for selected Cray X1 customers.

**About the Authors**

Jay Blakeborough is a software I/O manager for Cray Inc. He began working for Cray Research, Inc. in 1985 and has held a variety of technical and leadership positions within the software divisions of CRI, SGI, and Cray Inc. He can be contacted via email at [jb@cray.com](mailto:jb@cray.com).

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