

Cray® Bioinformatics Library 3.0
Release Overview and Installation
Guide

S-2424-30



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Preface

The information in this preface is common to Cray documentation provided with this software release.

Accessing Product Documentation

With each software release, Cray provides books and man pages, and in some cases, third-party documentation. These documents are provided in the following ways:

CrayDoc The Cray documentation delivery system that allows you to quickly access and search Cray books, man pages, and in some cases, third-party documentation. Access this HTML and PDF documentation via CrayDoc at the following locations:

- The local network location defined by your system administrator
- The CrayDoc public website: `docs.cray.com`

Man pages Access man pages by entering the `man` command followed by the name of the man page. For more information about man pages, see the `man(1)` man page by entering:

```
% man man
```

Third-party documentation

Access third-party documentation not provided through CrayDoc according to the information provided with the product.

Conventions

These conventions are used throughout Cray documentation:

<u>Convention</u>	<u>Meaning</u>
<code>command</code>	This fixed-space font denotes literal items, such as file names, pathnames, man page names, command names, and programming language elements.
<i>variable</i>	Italic typeface indicates an element that you will replace with a specific value. For instance, you may replace <i>filename</i> with the name <i>datafile</i> in your program. It also denotes a word or concept being defined.
user input	This bold, fixed-space font denotes literal items that the user enters in interactive sessions. Output is shown in nonbold, fixed-space font.
[]	Brackets enclose optional portions of a syntax representation for a command, library routine, system call, and so on.
. . .	Ellipses indicate that a preceding element can be repeated.
name(N)	Denotes man pages that provide system and programming reference information. Each man page is referred to by its name followed by a section number in parentheses.
	Enter:
	<code>% man man</code>
	to see the meaning of each section number for your particular system.

Reader Comments

Contact us with any comments that will help us to improve the accuracy and usability of this document. Be sure to include the title and number of the document with your comments. We value your comments and will respond to them promptly. Contact us in any of the following ways:

E-mail:

`docs@cray.com`

Telephone (inside U.S., Canada):

1-800-950-2729 (Cray Customer Support Center)

Telephone (outside U.S., Canada):

+1-715-726-4993 (Cray Customer Support Center)

Mail:

Customer Documentation
Cray Inc.
1340 Mendota Heights Road
Mendota Heights, MN 55120-1128
USA

Cray User Group

The Cray User Group (CUG) is an independent, volunteer-organized international corporation of member organizations that own or use Cray Inc. computer systems. CUG facilitates information exchange among users of Cray systems through technical papers, platform-specific e-mail lists, workshops, and conferences. CUG memberships are by site and include a significant percentage of Cray computer installations worldwide. For more information, contact your Cray site analyst or visit the CUG website at www.cug.org.

Part I: Release Overview

Introduction [1]

This document describes the Cray Bioinformatics Library 3.0 release and indicates where to find its installation information. The Cray Bioinformatics Library, also informally known as *BioLib*, is available on these systems:

- Cray XT series systems with Cray X2 compute nodes
- Cray X1 series systems running UNICOS/mp 3.0 release or later
- SPARC based Sun systems running Solaris 8.0 or later hosting a Cray X1 series Programming Environment (Solaris based) product
- Linux based systems running Red Hat Enterprise Linux Version 3 or later, which contains the Linux 2.6 kernel hosting a Cray X1 series Programming Environment (Linux based) product

1.1 Emphasis for the 3.0 Release

The feature emphasis for the Cray Bioinformatics Library 3.0 release includes:

- Support for all Cray Bioinformatics Library routines on Cray XT series systems with Cray X2 compute nodes

Software Enhancements [2]

This chapter discusses the software enhancements made since the last release of the Cray Bioinformatics Library product.

BioLib performs low-level bit manipulation and search operations useful in the analysis of nucleotide and amino acid sequence data. Except where noted, you can call the procedures from Fortran, C, and C++ code.

There have been no additions to or subtractions from the routines that were supported in Cray Bioinformatics Library 2.4 release. The sole change in the 3.0 release is that bioinformatics routines are now supported on Cray XT series systems with Cray X2 compute nodes.

Cray Bioinformatics routines are **not** supported on Cray XT series **without** Cray X2 compute nodes.

For more information about the BioLib procedures in general, see the `intro_biolib(3)` man page. All BioLib man pages are accessible only after the product is installed.

Documentation [3]

This chapter describes the documentation that supports the Cray Bioinformatics Library 3.0 release.

3.1 CrayDoc Documentation Delivery System

The CrayDoc documentation delivery system, along with product documentation, is provided with each Cray software release. The CrayDoc software runs on any operating system based on UNIX systems or systems like UNIX including Mac OS X, Linux, BSD, and anywhere else that Perl and Apache can be compiled from source code with freely available (GNU) tools. The installation and administration of the CrayDoc server software and Cray documentation are described in *CrayDoc Installation and Administration Guide*.

3.2 Books Provided with This Release

Table 1 lists the manuals Cray provides with the Cray Bioinformatics Library 3.0 release. Most are provided as HTML files, and all are provided as PDF files. Installing the CrayDoc software suite allows users to view and search the documents through the CrayDoc interface.

Note: If an errata for the release is required, it includes changes identified after the documentation for this release was packaged. If present, the errata is provided in printed hardcopy format in the release package. Also, contact your Cray representative for other possible late problems published in Field Notices (FNs).

Table 1. Manuals Provided with This Release

Manual Title	Publication	Updated?
<i>Cray Bioinformatics Library Release Overview and Installation Guide</i> ¹	S-2424-30	Yes
<i>Common Installation Tool (CIT) Reference Card</i> ²	S-2218-20	No
<i>CrayDoc Installation and Administration Guide</i> ³	S-2340-41	Yes

¹ Provided in PDF and HTML.

² Provided in PS form on the software CD.

³ Provided in PDF, HTML, and printed form.

3.3 Changes to the Man Pages Document Set Since the 2.4 Release

The BioLib man pages are available through the `man` command and through CrayDoc as individual HTML man pages. See the `intro_biolib(3)` man page for more information about the man pages.

There have been no additions to or deletions from the man page set since the 2.4 release. Individual man pages have been modified to reflect changes in supported systems.

3.4 Cray Glossary

A Cray Glossary of terms specific to Cray X1 series and Cray XT series systems is included with CrayDoc. The entire Cray Glossary is available on the CrayDoc public website:

`docs.cray.com`

3.5 Ordering Documentation

To order Cray software documentation, contact your Cray representative or contact the Cray Software Distribution Center in any of the following ways:

E-mail:

`orderdsk@cray.com`

Telephone (inside U.S., Canada):

1-800-284-2729 (BUG CRAY), then 605-9100

Telephone (outside U.S., Canada):

+1-651-605-9100

Fax:

+1-651-605-9001

Mail:

Software Distribution Center
Cray Inc.
1340 Mendota Heights Road
Mendota Heights, MN 55120-1128
USA

Release Package [4]

This chapter contains the following information about the 3.0 release:

- Hardware and software requirements
- Contents of the release package
- Licensing
- Ordering software

4.1 Hardware and Software Requirements

The following hardware and software support the BioLib product:

- Cray XT series systems
 - UNICOS/lc for CNL compute nodes, 2.0 release or later
 - Systems with Cray X2 compute nodes only
 - Cray Programming Environment 6.0 releases or later
- Cray X1 series systems
 - UNICOS/mp 3.0 release or later
 - Cray Programming Environment 5.5 releases or later
- Sun systems (SPARC based)
 - Solaris 8 release or later
 - Cray Programming Environment (Solaris based) 5.5 releases or later
- Linux systems
 - Red Hat Enterprise Linux Version 3 or later, which contains the Linux 2.6 kernel
 - Cray Programming Environment (Linux based) 5.5 releases or later

4.2 Contents of Release Package

The release package of the Cray Bioinformatics Library 3.0 release contains these products:

- Cray Bioinformatics Library, version 3.0
- CrayDoc product and Cray documentation, described in Chapter 3, page 7

4.3 Licensing

The Cray Bioinformatics Library 3.0 release is contractually licensed under one of the following Cray Programming Environment licenses:

Table 2. Product Licenses That Provide for Cray Bioinformatics Library

Product License	Host Platform	Concurrent Users
Cray Fortran Programming Environment (Cray X1 series systems)	CPES for Cray X1 series systems	Unlimited
C++ Programming Environment (Cray X1 series systems)	CPES for Cray X1 series systems	Unlimited
Cray Fortran Programming Environment (Cray XT series systems with Cray X2 compute nodes)	Cray XT series systems shared root	Unlimited
C++ Programming Environment (Cray XT series systems with Cray X2 compute nodes)	Cray XT series systems shared root	Unlimited
Cray Fortran Programming Environment (Solaris based)	Sun systems	5 users or unlimited
C++ Programming Environment (Solaris based)	Sun systems	5 users or unlimited
Cray Fortran Programming Environment (Linux based)	Linux systems	Unlimited
C++ Programming Environment (Linux based)	Linux systems	Unlimited

Only binary code licenses are available for the Cray Programming Environment and Cray Bioinformatics Library releases.

Upgrades to BioLib are provided only when a software support agreement for the Programming Environment is in place.

For more information about licensing and pricing, contact your Cray sales representative, or send e-mail to crayinfo@cray.com.

Customers outside the United States and Canada must sign a Letter of Assurance before software can be shipped to them. For questions about whether you have signed this agreement, or questions about which software requires this letter, send e-mail to crayinfo@cray.com.

4.4 Ordering Software

This release package is distributed by order only to customers who have signed a license agreement for the Cray software that includes this product. The most current revision of the release package is supplied. To receive any upgrades to a given Cray product, the customer must also have a signed support agreement for this Cray software.

You can order the release package from the Cray Software Distribution Center in any of the following ways:

E-mail:

orderdsk@cray.com

CRInform (for subscribers):

crinform.cray.com

Click on the Order Cray Software link.

Telephone (inside U.S., Canada):

1-800-284-2729 (BUG CRAY), then 605-9100

Telephone (outside U.S., Canada):

+1-651-605-9100

Fax:

+1-651-605-9001

Mail:

Software Distribution Center
Cray Inc.
1340 Mendota Heights Road
Mendota Heights, MN 55120-1128
USA

Software will be shipped by ground service or 5-day international service.

Customer Services [5]

This chapter describes the customer services that support this release.

5.1 Technical Assistance with Software Problems

If you experience problems with Cray software, contact your Cray service representative. Your service representative will work with you to resolve the problem. If you choose to have full- or part-time support on site, your on-site personnel are your primary contacts for service. If you have elected not to have on-site support, please call or send e-mail to the Cray Customer Support Center:

E-mail:

`support@cray.com`

Telephone (inside U.S., Canada):

1-800-950-2729 (CRAY)

Telephone (outside U.S., Canada):

+1-715-726-4993

CRInform (for subscribers):

`crinform.cray.com`

You can also create a Request for Technical Assistance (RTA) and track and search RTAs and Software Problem Reports (SPRs) online if you are a CRInform subscriber, as described in Section 5.2.

5.2 CRInform System

The CRInform system is the information and problem-reporting system for Cray customers who are CRInform subscribers.

You are a CRInform subscriber if your site has a software license agreement and software support agreement. Access CRInform at:

`crinform.cray.com`

Ask your system administrator for your password. Some of the things a subscriber to CRInform can do include:

- Report software problems (SPRs)
- Request technical assistance (RTAs)
- Communicate with other Cray system users
- Read about software problems reported at other sites
- Learn about solutions to various problems
- Order Cray software
- View *Cray Service Bulletin*

The CRInform program automatically logs events pertinent to your Cray system site as news items, so you do not have to search through the system for new information. The logged events include Software Problem Report (SPR) or Request for Technical Assistance (RTA) activity, new orderable software, new issues of the *Cray Service Bulletin*, new field notices (FNs), new software release documents, new software problem fix information, new marketing information, and new CRInform program information. You can also get automatic e-mail notification of any or all of the news items.

5.3 Training

To find out more about Cray training, contact your Cray representative or contact us in any of the following ways:

E-mail:

wwwtng@cray.com

Web:

www.cray.com/training/

Fax:

+1-715-726-4991

Mail:

Technical Training
Cray Inc.
P.O. Box 6000
Chippewa Falls, WI 54729-0080
USA

5.4 *Cray Service Bulletin (CRSB)*

The CRInform site provides access to the online *Cray Service Bulletin*, also called CRSB, which contains descriptions of software problems, information about service procedures or agreements, and announcements of product upgrades and future products for the private use of Cray customers.

5.5 Cray Public Website

The Cray public website offers information about a variety of topics and is located at:

www.cray.com

Part II: Installation Guide

Installing the Cray Bioinformatics Library [6]

The installation of the Cray Bioinformatics Library is the same as the installation of any Cray Programming Environment related product on its respective systems. To install BioLib on the following systems, refer to the indicated documentation:

- For Cray X1 series systems, and Cray XT series systems with Cray X2 compute nodes, see the *Cray Programming Environment Releases Overview and Installation Guide*
- For Sun systems hosting a Cray X1 Programming Environment (Solaris based) product, see the *Solaris Based Cray X1 Series Systems Programming Environments Differences and Installation Guide*
- For Linux systems hosting a Cray X1 Programming Environment (Linux based) product, see the *Linux Based Cray X1 Series Systems Programming Environments Differences and Installation Guide*

BioLib is not automatically made available to your users after its installation. To make it available to your users, use one of the following methods:

- Add the word `biolib` to the `prodlist` section of the Programming Environment module file. The default master module file provided by Cray is `PrgEnv`.
- Have your users load the `biolib` module file themselves.

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