

# Release Package [6]

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This chapter contains the following information about the UNICOS 10.0.0.2 release package:

- UNICOS 10.0.0.2 release hardware and software requirements
- Licensing information
- Optional software
- Release package contents
- Ordering UNICOS 10.0.0.2 release package

## 6.1 UNICOS 10.0.0.2 Release Hardware and Software Requirements

The following sections cover the hardware platforms that support the UNICOS 10.0.0.2 release, and the software required with this release.

### 6.1.1 Cray Research Systems Supported

The UNICOS 10.0.0.2 release supports the following Cray Research GigaRing platforms:

- CRAY J90se series
- CRAY T90 series with Cray floating-point CPUs
- CRAY T90 series with IEEE Std. 754 floating-point CPUs

The UNICOS 10.0.0.2 release also supports the following Cray Research systems with Model-E or Model-V IOS:

- Cray J90 series
- Cray C90 series
- CRAY T90 series with Cray floating-point CPUs
- CRAY T90 series with IEEE Std. 754 floating-point CPUs

### 6.1.2 Tested and Supported Upgrade Paths

If your site runs any version of the UNICOS 9.0, UNICOS 9.1, UNICOS 9.2, or UNICOS 9.3 operating system releases, you can upgrade directly to the UNICOS 10.0.0.2 release. The exception to this is if you have a *non-GigaRing* system and you wish to upgrade to a GigaRing-based system. In this case, you must perform an initial installation.

Initial installs of Model V-based and GigaRing-based systems are supported with this UNICOS release and beyond. Support for initial installs of Model E-based systems stopped after the UNICOS 9.1 operating system release.

For more information, see the following platform-specific installation and upgrade publications:

- *UNICOS Installation Guide for CRAY J90 Model V based Systems*, publication SG-5271 10.0
- *UNICOS Installation Guide for CRAY J90se GigaRing based Systems*, publication SG-5296 10.0
- *UNICOS Installation Guide for CRAY C90, CRAY T90, and CRAY T90 IEEE Model E based Systems*, publication SG-5297 10.0
- *UNICOS Installation Guide for CRAY T90 and CRAY T90 IEEE GigaRing based Systems*, publication SG-5298 10.0

Contact your Cray Research representative for further information.

### 6.1.3 OWS, IOS-E, and SWS-ION Software

For Cray Research systems with an IOS-E and for the CRAY T90 series, it is recommended that you upgrade to the IOS-E 9.0.1.3/015 and the OWS 9.0.1.3/015 releases, plus the getfix package for FN2547.

For information about ordering the IOS-E 9.0 and OWS 9.0 releases, see the *Support System and IOS-E Release Overview*, publication RO-5060 9.0.

UNICOS 10.0.0.2 supports SWS-ION version 3.7 or later for GigaRing sites.

### 6.1.4 Fortran Run-time Libraries

Sites that install the UNICOS 10.0.0.2 release must upgrade to Programming Environment 1.2 or later release to obtain Fortran run-time libraries. This is

because these libraries were no longer released with the UNICOS system beginning with UNICOS 9.0.

**Note:** Sites running the UNICOS 8.3 *restricted* release also have this requirement. These libraries were not released with UNICOS 8.3.

## 6.2 Asynchronous Software Products Supported with This Release

The following sections list the software products most commonly used in conjunction with the UNICOS operating system. The product release level required with UNICOS 10.0.0.2, if any, is specified. For information about other products, contact your Silicon Graphics / Cray Research representative.

### 6.2.1 Programming Environments Supported

The UNICOS 10.0.0.2 release supports the following Cray Research programming environments, which are released asynchronously or otherwise separately from the UNICOS 10.0.0.2 release.

- CF90 Programming Environment 3.0 or later for Cray PVP and MPP systems. See the *Programming Environment Releases Overview*, publication RO-5212 3.0, for additional information.
- Cray C++ Programming Environment 3.0 or later for Cray PVP and MPP systems. This package includes Cray Standard C. See the *Programming Environment Releases Overview*, publication RO-5212, for additional information.
- C++ MathPack 3.0 for Cray PVP and MPP systems. See the *Cray C++ Library Products Technical Note*, publication SN-2129 3.0, for additional information.
- C++ Tools 3.0 for Cray PVP and MPP systems. See the *Cray C++ Library Products Technical Note*, publication SN-2129 3.0, for additional information.
- CAM 2.2 (Cray Assembler for MPP). See the *Cray Assembler for MPP (CAM) Reference Manual*, publication SR-2510 2.1, for additional information.

### 6.2.2 Distributed Computing and Networking Software Supported

The UNICOS 10.0.0.2 release supports the following Cray Research distributed computing and networking software products, which are released asynchronously or otherwise separately from the UNICOS 10.0.0.2 release.

- Distributed Computing Environment (DCE) 1.1 or later

Customers wishing to use the Cray Distributed Computing Environment (DCE) Client Services, must purchase a DCE Client Services license. DCE 1.1 or later required with UNICOS 10.0.0.2. For more information about DCE licensing or to purchase a DCE license, contact your Silicon Graphics / Cray Research representative.

For information describing this product, see the *Cray DCE Client Services/Cray DCE DFS Server Release Overview*, publication RO-5225 1.1, or contact your Silicon Graphics / Cray Research representative.

- Distributed File System (DFS) 1.1 or later

To use the Cray DCE Distributed File System (DFS), sites must purchase a DFS Server license, as well as a DCE Client Services prerequisite license. For more information about DFS licensing or to purchase a DFS license, contact your Silicon Graphics / Cray Research representative.

For information describing this product, see the *Cray DCE Client Services/Cray DCE DFS Server Release Overview*, publication RO-5225 1.1, or contact your Silicon Graphics / Cray Research representative.

- Network Queuing Environment (NQE) 3.3 or later

The Cray Network Queuing Environment (NQE) is a set of clients and servers that allow batch requests to be executed across a load-balanced network of hosts. UNICOS 10.0.0.2 supports NQE version 3.3 or later.

For more information about NQE or to purchase an NQE license, contact your Silicon Graphics / Cray Research representative, or see the *NQE Release Overview*, publication RO-5237.

- SUPERLINK/VMS 1.4

SUPERLINK for DEC VAX/VMS Systems provides a link between DEC VAX/VMS systems and the UNICOS operating system on Cray Research PVP systems. UNICOS 10.0.0.2 supports the 1.4 version of SUPERLINK/VMS.

**Note:** You must purchase a SUPERLINK / VMS license to use this product.

For information describing this product, see the *SUPERLINK for DEC VAX OpenVMS and Alpha AXP Systems 1.4 Release Overview*, publication RO-5090.

- Cray Visualization Toolkit (CVT) 3.1

The Cray Visualization Toolkit is a collection of tools that allows users to create visual interfaces for Cray Research-based applications. CVT software is appropriate for all CRAY Y-MP, CRAY M90, CRAY C90, CRAY T90, CRAY EL92, CRAY EL94, CRAY EL98, CRAY J90 and CRAY T3E computer systems. UNICOS 10.0.0.2 supports the 3.1 version of CVT.

**Note:** You must purchase a CVT license to use this product.

- Remote Queuing System (RQS/VMS) 2.0

The Remote Queuing System (RQS) for DEC VAX/VMS Systems is used for remote job submission and control to Cray Research PVP systems from a DEC VAX/VMS running VMS 5.4 or later. UNICOS 10.0.0.2 supports the 2.0 release of RQS/VMS.

**Note:** You must purchase an RQS/VMS license to use this product.

For information describing this product, see the *RQS for DEC VAX/VMS Systems Release Overview*, publication RO-5105

- Front End Servicing for IBM/MVS Systems (FES MVS) 2.0

The Front End Servicing for IBM/MVS Systems (FES MVS) integrates UNICOS on-line tape management on CRAY Y-MP, CRAY J90, CRAY C90 or CRAY T90 systems running UNICOS with tape management system for other computer systems running the IBM/MVS operating system. UNICOS 10.0.0.2 supports the 2.0 version of this product.

**Note:** You must purchase an FES/MVS license to use this product.

For information on FES MVS see the *FES MVS Installation and Administration Guide*, publication SG-5251.

### 6.3 Storage Management Software Supported

The UNICOS 10.0.0.2 release supports the following Silicon Graphics / Cray Research storage management software products. These are released asynchronously or otherwise separately from the UNICOS 10.0.0.2 release.

- Data Migration Facility 2.5 or later

The Cray Data Migration Facility (DMF) ensures the availability of file system space by moving selected files from online disk to an offline storage medium. DMF 2.5 or later is the level of DMF required with UNICOS 10.0.0.2.

- HIPPI disk support software

Silicon Graphics / Cray Research will supply HIPPI disk software free of charge to customers purchasing disks from Silicon Graphics / Cray Research. If customers choose to purchase their disks from another vendor, HIPPI disk support software must be licensed and purchased from Silicon Graphics / Cray Research.

- Cray REELibrarian (CRL)

CRL is a client/server volume management system that controls a centrally stored library of tapes (or volumes) and allows requests for tape mounts. UNICOS 10.0.0.2 supports the 2.0.8 release of CRL.

For additional software availability, contact your Silicon Graphics / Cray Research representative.

## 6.4 Licensing Information

The UNICOS operating system is licensed under a software contract by Silicon Graphics / Cray Research to its customers. The UNICOS 10.0.0.2 release is available as follows:

- For CRAY T90 and CRAY C90 systems, UNICOS 10.0.0.2 is available in both source and binary code formats.
- For CRAY J90 systems (including J90se systems), UNICOS 10.0.0.2 is available in binary format only. CRAY J90se customers may, however, obtain an optional J90 UNICOS Source Materials package, providing they obtain a separate J90 UNICOS Source Materials license.

**Note:** UNICOS 10.0.0.2 release package requires a UNICOS System Software license; customers with a UNICOS System Software license do not need additional Silicon Graphics / Cray Research licenses to receive the standard UNICOS 10.0.0.2 release package (see Section 6.4.2, page 29 for information on UNIX license requirements). Software for programming environments (compilers) and the Data Migration Facility (DMF) are licensed separately from the UNICOS System Software license. Other functionality is also offered as separately licensed products.

Customers outside the United States and Canada must sign a Letter of Assurance before software can be shipped. Address all questions regarding which customers have signed a Letter of Assurance, or which software requires this letter to Christine Miller, at the following address:

Christine Miller  
Silicon Graphics / Cray Research, Inc.  
655F Lone Oak Drive  
Eagan, MN 55121  
Telephone: +1-612-683-7476  
Fax: +1-612-683-7297

#### 6.4.1 Products That Require Flexible License Manager Keys

The UNICOS 10.0.0.2 release includes the Flexible License Manager (FLEXlm), which controls the use of certain products in the UNICOS operating system. In UNICOS 10.0.0.2, the following products are licensed through FLEXlm:

- ONC+
- UNICOS shared file system
- CRSTK/STKRED
- CRIBM/IBM 3495 (implementation of IBM 3495 Tape Library Dataserver support is deferred)
- CREMS/DTDLE and CREMS/ER90
- BDS (Bulk Data Services) Client
- BDS (Bulk Data Services) Server
- NQE (Network Queuing Environment)

Whether products are packaged with the UNICOS operating system or separately packaged, the license keys are generated by the Silicon Graphics / Cray Research order desk during the product order cycle. After the order desk has received notice of the order, it issues the contracted license keys. The license keys and installation instructions are sent by electronic mail.

For a complete list of products that operate with UNICOS software, contact your Silicon Graphics / Cray Research representative.

If a licensed product has been installed and a problem arises that is suspected to be related to the license key, it is possible to get an emergency key from the Customer Service Call Center in the United States or from the service organization in other countries.

#### 6.4.1.1 ONC+

To use ONC+ technology, sites must purchase an ONC+ license. For more information about ONC+ licensing or to purchase an ONC+ license, contact your Silicon Graphics / Cray Research representative.

For information describing this product, see the *UNICOS 9.0 Release Letter*, publication RO-5000, or contact your Silicon Graphics / Cray Research representative.

#### 6.4.1.2 UNICOS Shared File Systems

To use UNICOS shared file systems (SFS), sites must purchase an SFS license. For more information about SFS licensing or to purchase an SFS license, contact your Silicon Graphics / Cray Research representative.

For information describing this product, see the *UNICOS 9.0 Release Letter*, publication RO-5000, or contact your Silicon Graphics / Cray Research representative.

#### 6.4.1.3 CRSTK/STKRED

To use StorageTek RedWood drive autoloader cartridge system support, sites must purchase a CRSTK/STKRED license. For more information about CRSTK/STKRED licensing or to purchase a CRSTK/STKRED license, contact your Silicon Graphics / Cray Research representative.

For additional information, see the *UNICOS 9.0 Release Letter*, publication RO-5000, or contact your Silicon Graphics / Cray Research representative.

#### 6.4.1.4 CRIBM/IBM 3495

To use IBM 3495 support software, sites must purchase a CRIBM/IBM 3495 license. For more information about CRIBM/IBM 3495 licensing or to purchase a CRIBM/IBM 3495 license, contact your Silicon Graphics / Cray Research representative.

Implementation of IBM 3495 Tape Library Dataserver support is deferred.

#### 6.4.1.5 CREMS/DTDLD and CREMS/ER90

To use the EMASS robotic and ER90 device products, sites must purchase a CREMS/DTDLD license. For more information about CREMS/DTDLD licensing or



to purchase a license, contact your Silicon Graphics / Cray Research representative.

#### 6.4.1.6 BDS (Bulk Data Services) Server

BDS Server data transfer product is available for Cray PVP systems for UNICOS 10.0.0.2. BDS Server is controlled by FLEXlm and requires a separate license for access.

For more information on this product, see the `bds(8)` man page, or contact your Cray Research representative.

#### 6.4.1.7 BDS (Bulk Data Services) Client

BDS Client data transfer product is available for Cray PVP systems for UNICOS 10.0.0.2. BDS Client is controlled by FLEXlm and requires a separate license for access.

For more information on this product, see the `bds(8)` man page, or contact your Cray Research representative.

#### 6.4.1.8 NQE (Network Queuing Environment)

UNICOS 10.0.0.2 supports the 3.3 release of NQE. You are required to have a FLEXlm license for NQE 3.3 only if you did not purchase NQE 3.1.

For information describing this product, see the *NQE Release Overview*, publication RO-5237, or contact your Silicon Graphics / Cray Research representative.

### 6.4.2 UNICOS Source Code License

To receive a UNICOS 10.0.0.2 source code license, customers must first obtain a UNIX source code license for the UNIX System V, Release 4.0 (SVR 4.0). Customers can obtain these rights through Silicon Graphics / Cray Research, or through The Santa Cruz Operation, Inc. (SCO).

**Note:** Customers with UNIX rights that allow them to receive the UNICOS 9.0 release do not need additional UNIX licensing for the UNICOS 10.0.0.2 release.

For information on who to contact if you have licensing questions, or if your site has not signed all appropriate Silicon Graphics / Cray Research software license agreements, see Section 6.4.3 or Section 6.4.4.

For information about available optional software products that are included with your UNICOS license but which you must order to receive them with your UNICOS 10.0.0.2 release package, see Section 6.5, page 33.

For more information about the FLEXIm license manager, or for information about products that are included in the UNICOS 10.0.0.2 release software but which require a FLEXIm license key to access the product, see Section 6.4.1, page 27.

#### 6.4.2.1 UNIX System V Licenses for CRAY J90 Systems

CRAY J90 customers that have a standard binary release of UNICOS 10.0.0.2 must have a UNIX System V, Release 4.0 *binary* license, available only through Silicon Graphics / Cray Research.

CRAY J90 customers with the J90 Source Materials Option need an additional UNIX System V, Release 4.0 *source* license, available through Silicon Graphics / Cray Research, or through the Santa Cruz Operation, Inc. (SCO).

#### 6.4.3 Licensing Contact for Customers in the U.S. and Canada

For more information on the licensing and pricing of the UNICOS 10.0.0.2 release, customers in the United States and Canada should see their account representative or contract negotiator, or contact Sarah White at the following address:

Sarah White  
Silicon Graphics / Cray Research  
655F Lone Oak Drive  
Eagan, MN 55121 USA  
Telephone: +1-612-683-5604  
Fax: +1-612-683-7145

#### 6.4.4 Licensing Contacts for Customers outside the U.S. and Canada

Customers outside the U.S. and Canada may obtain further licensing and export information by contacting their account representative or the individuals listed in the following sections.

##### 6.4.4.1 Cray European Regional Contract Negotiators

Customers in Europe can direct licensing inquiries to the following Regional Contract Negotiators/Specialists:

Europe North Sales Region (including UK / Ireland / Russia / Poland / Denmark / Finland / Norway / Sweden / Netherlands)

Nick Jacobs  
Silicon Graphics Limited  
1530 Arlington Business Park  
Theale  
Reading  
Berkshire, RG7 4SB, England  
Telephone: +44-118-925 7041  
Fax: +44-118-925 7716  
Email: [niknik@reading.sgi.com](mailto:niknik@reading.sgi.com)

Rest of Europe and South Africa

Simon Locke  
Silicon Graphics Limited  
1530 Arlington Business Park  
Theale  
Reading  
Berkshire, RG7 4SB, England  
Telephone: 44-118-925 7049  
Fax: 44-118-925 7946  
Email: [srl@cray.com](mailto:srl@cray.com)

Europe Central (including Germany and Austria)

Thomas Wegener  
Silicon Graphics GmbH  
Am Hochacker 3  
85630 Grasbrunn-Neukeferloh  
Germany  
Telephone: +089-46108-321  
Fax: +089-46108-322  
Email: [thomasw@munich.sgi.com](mailto:thomasw@munich.sgi.com)

Europe South Sales Region (including France)

Cecile Goachet / Patricia Guillerm-Brillet  
Silicon Graphics France  
21, rue Albert Calmette  
78351 Jouy en Josas  
France  
Telephone: +33-01-34-88-82-51  
Fax: +33-01-34-65-96-19  
Email: [cecile@cray.com](mailto:cecile@cray.com) and [pguiller@paris.sgi.com](mailto:pguiller@paris.sgi.com)

#### 6.4.4.2 Cray Japan Contracts / Legal

Customers in Japan can direct licensing inquiries to Shinji Uekusa or Yuko Hizume at the following addresses:

Shinji Uekusa  
Nihon Silicon Graphics Cray K.K.  
31F, Yebisu Garden Place, 4-20-3  
Ebisu, Shibuya-ku  
Tokyo  
Japan 150  
Telephone: +81-3-5488-5692  
Fax: +81-3-5420-1867  
Email: uekus@nsg.sgi.com

Yuko Hizume  
Nihon Silicon Graphics Cray K.K.  
P.O. Box 5011 Yebisu Garden Place Tower  
4-20-3, Ebisu  
Shibuya-ku, Tokyo 150  
Japan  
Telephone: +81-3-5488-1819  
Fax: +81-3-5420-7020  
Email: hizume@nsg.sgi.com

#### 6.4.4.3 Other Customers

International customers outside Europe and Japan can direct licensing inquiries to Rodgers Naylor at the following address:

Rodgers Naylor  
Director of Contracts  
Cray Research, a Silicon Graphics Company  
655F Lone Oak Drive  
Eagan, MN 55121 USA  
Telephone: +1-612-683-7403  
Fax: +1-612-683-7297  
Email: naylorgr@cray.com

## 6.5 Optional Software

You can order the following software products on your UNICOS 10.0.0.2 software order form as optional software when you order your UNICOS 10.0.0.2 release package.

**Note:** These products are included with your UNICOS license, but they are not automatically shipped as part of the UNICOS 10.0.0.2 release package. If you want any of the following products, you must order them on the UNICOS 10.0.0.2 order form.

The products described are as follows:

- Kerberos Enigma software
- DWB

For a complete list of Cray Research products that operate with the UNICOS 10.0.0.2 operating system, contact your Silicon Graphics / Cray Research representative.

### 6.5.1 Kerberos Enigma Software

The Kerberos Enigma software contains software for CRYPT and Kerberos. The Kerberos Enigma tape replaces the CRYPT and RPC Enigma tapes. The Kerberos Enigma software is available in both binary and source code, depending on the license terms with each customer and on-site location.

#### 6.5.1.1 Kerberos Enigma Software Shipped Within the U.S. and Canada

For shipments of Kerberos Enigma software within the United States and Canada, order it as optional software on the UNICOS 10.0.0.2 software order form.

Customers in the United States and Canada receive tapes that include versions of the Kerberos programs that support data stream encryption. The software is available in either source or binary form, depending on the license terms with each customer.

#### 6.5.1.2 Kerberos Enigma Software Shipped outside of the U.S. or Canada

Customers outside the United States and Canada receive binary software regardless of whether their site has a source or binary UNICOS license. With this software, customers outside the United States and Canada can run

Kerberos without support for data stream encryption. To order this software, use the UNICOS 10.0.0.2 software order form.

An export license from the U.S. Department of Commerce is required for software shipments outside the United States or Canada. This export license is required in addition to the Department of Commerce export license necessary for Cray Research hardware. If a U.S. Department of Commerce export license is **not** in place for the customer serial number for which the Kerberos Enigma software is desired, a U.S. Department of Commerce Application Request for Kerberos Enigma is required before an export license can be processed. If an export license already exists, the statement is **not** required. The Kerberos Enigma binary software order form contains a U.S. Department of Commerce Application Request for Kerberos Enigma.

**Note:** Jurisdiction for exporting Kerberos has recently changed from the U.S. Department of State to the U.S. Department of Commerce. Customers who currently hold export licenses with the Department of State do not need to reapply for new licenses with the Department of Commerce. Current Department of State licenses are still valid through the expiration date listed on the license, or until we have shipped the maximum number of copies of Kerberos allowed under the license.

You can obtain a U.S. Department of Commerce export licenses for UNICOS from Christine Miller at the following address:

Christine Miller  
Cray Research, Inc.  
655F Lone Oak Drive  
Eagan, MN 55121  
Telephone: +1-612-683-7476  
Fax: +1-612-683-7297  
Email: millercm@cray.com

### 6.5.2 DWB

DWB is based on Documenter's Workbench from Novell, Inc. Only binary software is provided.

DWB is packaged separately from the UNICOS operating system. To receive DWB, order it using the "Additional Software" section of the UNICOS 10.0.0.2 software order form.

**Note:** A separate license is not required for DWB. UNICOS System Software and UNICOS Set licenses include binary licenses for DWB.

## 6.6 Release Package Contents

The UNICOS 10.0.0.2 release package includes the following:

- Software media that contains the UNICOS 10.0.0.2 release. IOS-E sites automatically receive the OWS 9.0.1.3/015 and IOS 9.0.1.3/015 release package when the UNICOS 10.0.0.2 release is ordered.

**Note:** If your site is licensed for supported UNICOS source code, you will receive a source code package, which lets you modify your code locally. For major releases, you can load source code into your system together with binary code packages before generation.

- Online man page files. To display these files, use the man(1) command.
- A CD-ROM that contains the DynaWeb server and the UNICOS publications.
- A set of printed publications.

## 6.7 Ordering the UNICOS 10.0.0.2 Release Package

UNICOS is distributed by order only to sites that have signed a Cray Research software license agreement for the UNICOS product. The most current revision of the release package is supplied.

Please make sure your site has signed a Cray Research software license agreement before you order the UNICOS 10.0.0.2 release package (see Section 6.4, page 26, for details).

You can order the UNICOS 10.0.0.2 release package using one of the following methods:

- Customers who subscribe to the CRInform program can order software release packages electronically by using the Order Cray Software option.
- Customers can contact the order desk at the Cray Research Distribution Center by telephone (+1-612-683-5907 or 1-800-284-2729 extension 35907), through electronic mail ([orderdesk@cray.com](mailto:orderdesk@cray.com)), or by fax (+1-612-452-0141).
- Customers outside of the United States and Canada should contact their local service organization for ordering and documentation information.

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

Sites outside the United States may be required to provide a customer-signed Letter of Assurance before this software can be shipped. Address questions about which customers must sign Letters of Assurance or which software requires such a letter to Christine Miller at the following address:

Christine Miller  
International Administration  
Cray Research, Inc.  
655F Lone Oak Drive  
Eagan, MN 55121  
Telephone: +1-612-683-7476  
Fax: +1-612-683-7297  
Email: millercm@cray.com

#### 6.7.1 Further Information

If you have questions, or if your site has not signed a Cray Research software license agreement, either contact your regional contract negotiator or contact Barbara Easterly, Sarah White, or Jenny Gross at the following addresses:

Barbara Easterly  
Silicon Graphics / Cray Research  
655F Lone Oak Drive  
Eagan, MN 55121 USA  
Telephone: +1-612-683-5662  
Fax: +1-612-683-7145  
Email: easterly@cray.com

Sarah White  
Silicon Graphics / Cray Research  
655F Lone Oak Drive  
Eagan, MN 55121 USA  
Telephone: +1-612-683-5604  
Fax: +1-612-683-7145  
Email: whitess@cray.com

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Telephone: +1-612-683-5661  
Fax: +1-612-683-7145  
Email: jenny@cray.com