NightBench

Version 2.2 Release Notes (Linux)

April 2001

0898514-2.2

CONCURRENT
COMPUTER
CORPORATION

Copyright

Copyright 2001 by Concurrent Computer Corporation. All rights reserved. This publication or any part thereof is intended for use with Concurrent Computer Corporation products by Concurrent Computer Corporation personnel, customers, and end–users. It may not be reproduced in any form without the written permission of the publisher.

Disclaimer

The information contained in this document is subject to change without notice. Concurrent Computer Corporation has taken efforts to remove errors from this document, however, Concurrent Computer Corporation's only liability regarding errors that may still exist is to correct said errors upon their being made known to Concurrent Computer Corporation.

License

Duplication of this manual without the written consent of Concurrent Computer Corporation is prohibited. Any copy of this manual reproduced with permission must include the Concurrent Computer Corporation copyright notice.

Trademark Acknowledgments

NightBench, PowerWorks, PowerMAXION, PowerMAX OS, TurboHawk, and Power Hawk are trademarks of Concurrent Computer Corporation.

Night Hawk is a registered trademark of Concurrent Computer Corporation.

Motorola is a registered trademark of Motorola, Inc.

PowerStack is a trademark of Motorola, Inc.

Linux is a registered trademark of Linus Torvalds.

Red Hat is a registered trademark of Red Hat, Inc.

Intel is a registered trademark of Intel Corporation.

X Window System is a trademark of The Open Group.

NightBench includes the XmpTable widget, which carries the following notice:

Copyright 1990, 1991, 1992, 1993, 1994 David E. Smyth

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of David E. Smyth not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

Contents

1.0 Introduction 1

2.0 Documentation 2

3.0 Prerequisites 3

3.1 Host System 3

3.1.1 Software 3

3.1.2 Hardware 4

3.2 Target System 5

3.2.1 Software 5

3.2.2 Hardware 5

4.0 System Installation 6

4.1 Separate Host Installation 6

5.0 Overview of NightBench 2.2 8

5.1 Changes in This Release 8

5.1.1 Environment-wide Link Options 8

5.1.2 Target Architecture 8

5.1.3 PowerMAX OS Version 8

6.0 Direct Software Support 10

1.0. Introduction

NightBench™ is part of the PowerWorks™ Linux Development Environment (PLDE) and is a graphical user interface for developing software with the Concurrent MAXAda™ and C/C++ compiler toolsets for Concurrent computers running under PowerMAX OS.

NightBench provides a common work environment for the PowerWorks Linux Development Environment editor, compilers, and development tools. NightBench organizes all of the information required for the development of PowerMAX OS applications, ensures consistent, repeatable builds, and provides an efficient interface for editing, browsing, building, and debugging.

2.0. Documentation

Table 2-1 lists the NightBench 2.2 documentation available from Concurrent.

Table 2-1. NightBench Version 2.2 Documentation

Manual Name	Pub. Number
NightBench User's Guide	0890514-070
NightBench Version 2.2 Release Notes (Linux)	0898514-2.2

Copies of the Concurrent documentation can be ordered by contacting the Concurrent Software Support Center. The toll-free number for calls within the continental United States is 1-800-245-6453. For calls outside the continental United States, the number is 1-954-283-1822 or 1-305-931-2408.

Additionally, the manuals listed above are available:

- online using the PowerWorks Linux Development Environment utility, **`nhelp`**
- in PDF format in the **`documentation`** directory of the PLDE Installation CD
- on the Concurrent Computer Corporation web site at www.ccur.com

3.0. Prerequisites

Prerequisites for NightBench Version 2.2 for both the host system and target system are as follows:

3.1. Host System

3.1.1. Software

- Red Hat® Linux*
- Required capabilities

NOTE

The following capabilities are normally installed as part of the standard installation of Red Hat Linux and the PowerWorks Linux Development Environment. During installation of the PLDE, the user will be notified if required capabilities do not exist on the Linux system.

- PowerWorks Linux Development Environment

Capabilities	RPMs providing these capabilities
plde-HyperHelp **plde-HyperHelp-scripts** **plde-ktalk** **plde-nedit** **plde-nhelp** **plde-nterm**	**plde-x11progs-6.4.2-000** **plde-HyperHelp-scripts-6.4.2-000**

If using NightBench for Ada program development, the following capabilities are also required:

Capabilities	RPMs providing these capabilities
plde-MAXAda	**plde-MAXAda-3.3.1-001-1**

If using NightBench for C/C++ program development, the following capabilities are also required:

Capabilities	RPMs providing these capabilities
plde-c++	**plde-c++-5.2-000-1**

* This product has been extensively tested on Red Hat Linux 6.1 and 6.2. However, this product has not been tested with versions of Linux supplied by other vendors.

- Red Hat Linux

Capabilities	RPMs providing these capabilities
/bin/sh **ld-linux.so.2** **libICE.so.6** **libSM.so.6** **libX11.so.6** **libXext.so.6** **libXmu.so.6** **libXp.so.6** **libXt.so.6** **libc.so.6** **libc.so.6(GLIBC_2.0)** **libc.so.6(GLIBC_2.1)** **libdl.so.2** **libm.so.6** **libm.so.6(GLIBC_2.0)** **libm.so.6(GLIBC_2.1)** **libnbcommon.so** **libstdc++-libc6.1-1.so.2** **libutil.so.1** **libutil.so.1(GLIBC_2.0)**	*Red Hat 6.1:* **XFree86-libs-3.3.5-3** **bash-1.14.7-16** **egcs-c++-1.1.2-24** **glibc-2.1.2-11** **libstdc++-2.9.0-24** *Red Hat 6.2:* **XFree86-libs-3.3.6-20** **bash-1.14.7-22** **egcs-c++-1.1.2-30** **glibc-2.1.3-15** **libstdc++-2.9.0-30**

If using NightBench for Ada or C/C++program development, the following capabilities are also required:

Capabilities	RPMs providing these capabilities
rpm >= 3.0.3	*Red Hat 6.1:* **rpm-3.0.3-2** *Red Hat 6.2:* **rpm-3.0.4-0.48**

3.1.2. Hardware

- an Intel®-based PC - 300Mhz or higher (recommended minimum configuration)
- 64MB physical memory (recommended minimum configuration)

3.2. Target System

3.2.1. Software

- PowerMAX OS 4.3 or later

3.2.2. Hardware

- Computer Systems:
  - Power Hawk™ 620 and 640
  - Power Hawk 710, 720 and 740
  - PowerStack™ II and III
  - Night Hawk® Series 6000
  - TurboHawk™
  - PowerMAXION™
- Board-Level Products:
  - Motorola® MVME2604
  - Motorola MVME4604

4.0. System Installation

Installation of NightBench is normally done as part of the general installation of the PowerWorks Linux Development Environment software suite. A single command installs (or uninstalls) all software components of the PLDE, as described in the *PowerWorks Linux Development Environment Release Notes* (0898000).

The following section describes how to install (or uninstall) NightBench separately from the PLDE suite for those rare cases when this is necessary.

4.1. Separate Host Installation

In rare cases, it may be necessary to install (or uninstall) NightBench independent of the installation of the PowerWorks Linux Development Environment software suite. This may be done using the standard Linux product installation mechanism, **`rpm`** (see **`rpm(8)`**).

The names of the RPMs associated with NightBench 2.2 are:

```
plde-nbench
plde-nbench-ada
plde-nbench-c
```

and the files associated with these RPMs, respectively, are:

```
plde-nbench-2.2-000.i386.rpm
plde-nbench-ada-2.2-000.i386.rpm
plde-nbench-c-2.2-000.i386.rpm
```

which can be found in the **`linux-i386`** directory on the PowerWorks Linux Development Environment Installation CD.

NOTE

The user must be root in order to use the **`rpm`** product installation mechanism on the Linux system.

To install the NightBench RPMs, issue the following commands on your Linux system:

1. Insert the PowerWorks Linux Development Environment Installation CD in the CD-ROM drive
2. Mount the CD-ROM drive (assuming the standard mount entry for the CD-ROM device exists in **`/etc/fstab`**)

   ```
   mount /mnt/cdrom
   ```

3. Change the current working directory to the directory containing the NightBench RPMs

   ```
   cd /mnt/cdrom/linux-i386
   ```

4. Install the RPM

   `rpm -i plde-nbench-2.2-000.i386.rpm`

   For Ada program development under NightBench, issue the following command:

   `rpm -i plde-nbench-ada-2.2-000.i386.rpm`

   For C/C++ program development under NightBench, issue the following command:

   `rpm -i plde-nbench-c-2.2-000.i386.rpm`

   By default, the product is installed in **`/usr/opt`**. To install in a different directory, add

   `--relocate /usr/opt=`*directory*

   to each of the above **`rpm`** commands where *directory* is the desired directory.

NOTE

If the **`--relocate`** option is specified, it must be specified with the same *directory* for each of the NightBench RPMs.

5. Change the current working directory outside the **`/mnt/cdrom`** hierarchy

   `cd /`

6. Unmount the CD-ROM drive (otherwise, you will be unable to remove the PowerWorks Linux Development Environment Installation CD from the CD-ROM drive)

   `umount /mnt/cdrom`

To uninstall the language-specific portions of NightBench, issue the following commands:

To remove NightBench support for Ada program development:

`rpm -e plde-nbench-ada`

To remove NightBench support for C/C++ program development::

`rpm -e plde-nbench-c`

To uninstall the base NightBench RPM, use the following command:

`rpm -e plde-nbench`

5.0. Overview of NightBench 2.2

5.1. Changes in This Release

In addition to minor enhancements and maintenance, the following changes were made in NightBench 2.2.

5.1.1. Environment-wide Link Options

NightBench 2.2 now supports environment-wide link options in both Ada and C/C++ environments. Environment-wide link options affect all partitions within a given environment. Partitions defined in the environment are linked with these options unless overridden by link options specified for a particular partition.

5.1.2. Target Architecture

NightBench 2.2 allows the user to specify which libraries are included and/or referenced when linking partitions by selecting a target architecture for partitions defined in the environment.

The user must select nh, moto, or synergy for the Target Architecture in the New Environment dialog when creating a new environment. This will be used as the default target architecture for all partitions in that environment unless otherwise specified.

The user may override the default target architecture for a particular partition using the Target Architecture field on the General subpage of the Partitions page.

If specified for a particular partition or for its containing environment, the partition is linked so that it will execute properly on the specified architecture.

The PowerMAX OS cross-development libraries (e.g. **`plde-pmax-crossdev-4.3`** and/or **`plde-pmax-crossdev-5.0`**) must be installed on the Linux system. Refer to the section titled "Cross-Development Libraries and Headers" in the *PowerWorks Linux Development Environment Release Notes* (0898000) for more information about installing the PowerMAX OS cross-development libraries on your Linux system.

5.1.3. PowerMAX OS Version

NightBench 2.2 allows the user to specify which libraries are included and/or referenced when linking partitions by selecting the PowerMAX OS version of the target system for partitions defined in the environment.

The user must select either 4.3 or 5.0 for the PowerMAX OS Version in the New Environment dialog when creating a new environment. This will be used as the default for all partitions in that environment unless otherwise specified.

The user may override the default PowerMAX OS version for a particular partition using the PowerMAX OS Version field on the General subpage of the Partitions page.

If specified for a particular partition or for its containing environment, the partition is linked so that it will execute properly on the specified architecture.

The PowerMAX OS cross-development libraries (e.g. **`plde-pmax-crossdev-4.3`** and/or **`plde-pmax-crossdev-5.0`**) must be installed on the Linux system. Refer to the section titled "Cross-Development Libraries and Headers" in the *PowerWorks Linux Development Environment Release Notes* (0898000) for more information about installing the PowerMAX OS cross-development libraries on your Linux system.

6.0. Direct Software Support

Software support is available from a central source. If you need assistance or information about your system, please contact the Concurrent Software Support Center at 1-800-245-6453. Our customers outside the continental United States can contact us directly at 1-954-283-1822 or 1-305-931-2408. The Software Support Center operates Monday through Friday from 8 a.m. to 7 p.m., Eastern Standard time.

Calling the Software Support Center gives you immediate access to a broad range of skilled personnel and guarantees you a prompt response from the person most qualified to assist you. If you have a question requiring on-site assistance or consultation, the Software Support Center staff will arrange for a field analyst to return your call and schedule a visit.