NightProbe

Version 2.5.1 Release Notes (PowerMAX)

October 2002

0890465-2.5.1

CONCURRENT COMPUTER CORPORATION

Copyright

Copyright 2002 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

NightProbe, NightStar, PowerMAXION, PowerMAX OS, TurboHawk, and Power Hawk are trademarks of Concurrent Computer Corporation.

Night Hawk is a registered trademark of Concurrent Computer Corporation.

Élan License Manager is a trademark of Élan Computer Group, Inc.

Motorola is a registered trademark of Motorola, Inc.

PowerStack is a trademark of Motorola, Inc.

OSF/Motif is a registered trademark of The Open Group.

X Window System is a trademark of The Open Group.

Contents

1.0 Introduction 1

2.0 Documentation 2

3.0 Prerequisites 3

3.1 Target System 3

3.1.1 Software 3

3.1.2 Hardware 3

4.0 System Installation 4

5.0 Overview of NightProbe 2.5.1 5

5.1 Enhancements 5

5.2 Known Issues 5

6.0 Direct Software Support 6

1.0. Introduction

NightProbe™ provides a graphical user interface that permits real-time recording, viewing, and modification of program data within one or more executing programs. It can be used during development and operation of applications, including simulations, data acquisition, and system control.

The features and capabilities of NightProbe include:

- An X Window System™ and OSF/Motif™ graphical user interface provides data sampling control and a spreadsheet interface for data recording, monitoring, and modification.
- Several timing sources, including the system clock and the frequency-based scheduler, are provided for controlling the sampling rate. The user may explicitly start, suspend, and stop sampling using the graphical user interface.
- Any static memory location of any Ada, C, or Fortran process on any processor may be sampled by NightProbe.
- Sampled data can be monitored interactively, written to a file or shared memory area in real time, or logged via a NightTrace daemon.
- NightProbe can be run on a different processor from the target program, which minimizes Night-Probe's impact on the target program's performance.
- NightProbe allows data locations to be specified using logical addresses or the symbolic names that appear in the program source code. The data addresses and data types are then located by searching the symbol table in the executable program file. NightProbe can present lists of the static variables in programs, and the user may select the variables of interest using the graphical user interface.
- Configuration files can be created, edited, and saved to retain target selections and display layout, allowing for fast start-up.
- No modifications to source code are required for use with NightProbe. Programs must be compiled with debug information (the **`-g`** compilation option).

2.0. Documentation

Table 2-1 lists the NightProbe 2.5.1 documentation available from Concurrent.

Table 2-1. NightProbe Version 2.5.1 Documentation

Manual Name	Pub. Number
NightProbe User's Guide	0890465-040
NightProbe Version 2.5.1 Release Notes (PowerMAX)	0890465-2.5.1

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 X Window System utility, **`nhelp`**
- on the Concurrent Computer Corporation web site at www.ccur.com

3.0. Prerequisites

Prerequisites for NightProbe Version 2.5.1 are as follows:

3.1. Target System

3.1.1. Software

- PowerMAX OS 4.3 or later
- X Window System (X11 Version 6.4.2 or later)
- Élan License Manager™ 5.0.2 or later

3.1.2. 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
- An X Window System display device, such as an X™ terminal

4.0. System Installation

The NightProbe product is installed as two standard PowerMAX software packages and utilizes the standard PowerMAX product installation mechanism, **pkgadd** (see **pkgadd(1)**).

The package names are

nprobe	the NightProbe graphical user interface - must be installed on the NightProbe host
nprobeserv	the NightProbe server - must be installed on each target system and performs system-level actions on behalf of NightProbe

These names are case-sensitive.

Please refer to the “Installing Add-on Software” chapter in the *System Administration Volume I* (0890429) manual and the *PowerMAX OS Release Notes* for instructions on software installation.

NightProbe may be installed in either the root directory or elsewhere. When you run **pkgadd(1M)** to install NightProbe, you are prompted to enter the name of the directory for installation. If you want to install in the root directory, just press the <return> key at the prompt. Otherwise, enter the name of the directory where you want NightProbe installed. If this directory does not exist, the installation procedures attempt to create it for you.

Use of NightProbe requires a license which must be obtained from an Élan License Manager server. Follow the steps in the "Obtaining Licenses" section of the *Élan License Manager Release Notes* (0891055); the *feature alias* is NightProbe. If you are not already running the Élan License Manager, if you do not have a copy of the *Élan License Manager Release Notes*, or if you need a license key, contact Concurrent Software Distribution at 1-800-666-5405 (or 1-954-283-1836 outside the continental United States).

5.0. Overview of NightProbe 2.5.1

5.1. Enhancements

In addition to significant maintenance, the following enhancements are contained in NightProbe 2.5.1:

- NightProbe now provides the capability to probe programs running on a remote target system. Much of the heavy GUI and symbol table processing can be offloaded to another system.
- NightProbe now supports probing C++ programs.
- NightProbe now supports probing Ada95 programs built with the PowerMAX OS MAXAda product.
- The nomenclature for items in the NightProbe graphical user interface has been improved.

5.2. Known Issues

The following items describe NightProbe issues which may be addressed in future patches and releases:

- NightProbe prints Ada95 fixed point types using their underlying integer representation, not as a fractional number.
- NightProbe prints Ada95 enumeration values as the underlying integer representation, not the textual image of the corresonding enumeration constant.
- NightProbe does not provide a method for setting the priority or CPU bias of the NightProbe server process which does the data sampling. This will be configurable through the graphical interface in a future release. Until then, you can adjust the CPU bias and priority of the NightStar daemon process which launches the NightProbe server process by adding a **`run`** command to the **`nstar.d`** initialization file. The **`nstar.d`** initialization file is executed at boot time and can be found in **`/etc/rc.d/init.d/nstar.d`** on RedHawk systems and **`/etc/init.d/nstar.d`** on PowerMAX OS systems.

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.