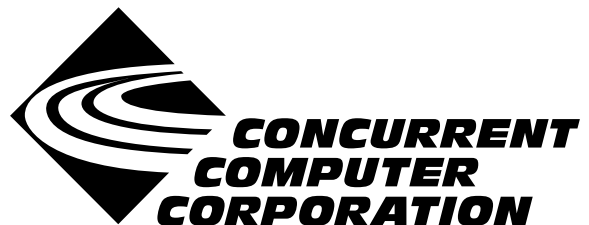


# NightBench

## Version 2.1 Release Notes

August 2000

0890514-2.1



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## 1.0. Introduction

This document provides an overview of Version 2.1 of the NightBench™ Program Development Environment on the PowerMAX OS™ operating system.

NightBench is a set of graphical user interface (GUI) tools for developing software with the Concurrent MAXAda™ and C/C++ compiler toolsets on Concurrent computers running under PowerMAX OS.

For more information about optional products and support tools, contact the Concurrent Software Support Center at the number listed in “Documentation” on page 2.

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## 2.0. Documentation

Table 2-1 lists the NightBench 2.1 documentation available from Concurrent.

**Table 2-1. NightBench Version 2.1 Documentation**

Manual Name	Pub. Number
NightBench User's Guide	0890514-060
NightBench Version 2.1 Release Notes	0890514-2.1

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 1-954-973-5354.

Additionally, the *NightBench User's Guide* and *NightBench 2.1 Release Notes* are available online by using the X Window System utility, **nhelp**.

Further, the *NightBench User's Guide* and *NightBench 2.1 Release Notes* are also available on Concurrent Computer Corporation's web site at [www.ccur.com](http://www.ccur.com).

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## 3.0. Prerequisites

Prerequisites for NightBench Version 2.1 are as follows:

### 3.1. Software

- PowerMAX OS Version 4.3 or later
- NightView™ Version 4.4 or later
- Élan License Manager™ 5.0.1 or later
- X Window System™ (X11 Version 6.3 or later)
- MAXAda Version 2.0 or later (*for Ada program development*)
- Concurrent C/C++ Version 5.1 or later (*for C/C++ program development*)

### 3.2. 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
- 64MB physical memory (absolute minimum configuration)
- 128MB physical memory (recommended minimum configuration)
- 32MB physical memory per NightBench user (minimum configuration)
- 1GB swap space (recommended minimum configuration)
- X Window System display terminal

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## 4.0. System Installation

The NightBench product is installed as a standard PowerMAX OS software package and utilizes the standard PowerMAX OS product installation mechanism, **pkgadd** (see **pkgadd(1)**).

The package names are **nbench**, **nbench-ada**, and **nbench-c**.

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<b>nbench</b>	contains the language-independent files for NightBench. This package is required.
	This package depends on the <b>c++-runtime</b> package.
<b>nbench-ada</b>	contains the Ada-specific support files for <b>nbench</b>
	This package depends on the <b>nbench</b> package.
<b>nbench-c</b>	contains the C/C++-specific support files for <b>nbench</b>
	This package depends on the <b>nbench</b> package.

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### NOTE

NightBench will only provide language support for those compilers (MAXAda or Concurrent C/C++) installed on a particular machine.

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



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## 5.0. Overview of NightBench 2.1

### 5.1. Changes in This Release

#### 5.1.1. C/C++ Support

NightBench 2.1 now contains support for C/C++ program development. In addition to the functionality NightBench provides to manipulate environments, source files, units, partitions, and compile and build options, NightBench also allows the C/C++ user to:

- manually assign instantiations of entities (such as template functions or extern inlines) to specific compilation units in the program
- change the “magnet” status of a unit, specifying those units which will be preferred over others to host artificial units for instantiations
- specify units which should not be considered for resolving instantiation requests
- associate a "Make Command" with a source file when it is introduced. The specified command will be invoked before building the unit associated with the source file. The timestamp of the source file is then checked to determine if the unit(s) built from the source file need to be (re)compiled.

#### 5.1.2. Run/Debug Support

NightBench 2.1 introduces support for running and debugging programs on both local and remote systems using *run contexts*. Run contexts allow the user to specify items such as program arguments, current directory, etc. when running a program as well as the system (local or remote) on which to run. The user also may use run contexts to specify debugger commands to run prior to debugging a program.

A run context is created for each active partition that is defined; by default, the run context has the same name as the partition. When you press the Run or Debug button, NightBench uses the information in the run context to run or debug the program.

See the *NightBench User's Guide* (0890514) for more detailed information about run contexts as well as information concerning privileges, path specifications, variable expansion and other items related to run/debug support.

#### 5.1.3. Preferences Dialog

Preference updates are now instantaneous (there is no longer a need to exit the current NightBench session and restart). In addition, all NightBench preferences are now persistent across sessions.

Furthermore, new preference settings are available for language-related activities (e.g. preferred language when creating new environments) and auto start options (starting builds, opening command log window, etc.)

#### 5.1.4. Link Options / Link Method Functionality

The Link Options and Link Method pages have been redesigned for easier navigation by the user.

#### 5.1.5. New Environment Save/Load Features

*For C/C++ and MAXAda 3.3.1 and later*

NightBench 2.1 now supports the ability to save and restore all the attributes which define an environment. The save function creates a script which can subsequently be loaded by NightBench or executed in a shell. Loading/executing this script results in the creation of a new environment (or updating an existing one) with all the settings of the original (e.g. environment search path, introduction of source files, option settings, partition definitions, etc.).

### 5.1.6. Improved Introduce Source Files Dialog

The Introduce Source Files dialog has been significantly enhanced. Improvements and new features include:

- intelligent file browsing
- subdirectory recursion
- automatic filtering
- directory memory
- specification of 'make commands'
- creation of new files

### 5.1.7. New Build Transcript Format

The format of build transcripts was changed in NightBench 2.1. Transcripts from previous releases cannot be viewed with this new version.

### 5.1.8. Reloadable Build Settings

The Build Transcripts window now has a separate button for loading the build settings saved with a particular build transcript. The user is also given the opportunity to specify which pages of the Builder should be populated with the old settings.

### 5.1.9. New Transcript Search and Save Features in NightBench Builder

A Search Transcript dialog is now available, allowing the user to match specific instances of either plain text or regular expressions. The user may restrict the search to text found in transcript window or in the errors list.

In addition, the user may save a build transcript to a file. The user may save the Transcript text, the text in the Errors Window or both. The user is also given the option to view or edit the file after it has been saved.

### 5.1.10. Notification Enhancements

Mail notification of build completion can now optionally include the text of the errors.

Various environment variables are set prior to running the notify program so it can access information about the build. These variables are:

`NBENCH_ERROR_FILE_NAME`

The name of the file holding the plain text copy of errors

`NBENCH_TRANSCRIPT_FILE_NAME`

The name of the file holding the plain text copy of the transcript

NBENCH\_LOG\_FILE\_NAME

The name of the file holding the log messages

NBENCH\_ERROR\_COUNT

NBENCH\_WARNING\_COUNT

NBENCH\_INFO\_COUNT

NBENCH\_ALERT\_COUNT

The count of errors, warnings, info messages, and alerts

NBENCH\_BUILD\_STATUS

The final build status string

NBENCH\_ENVIRONMENT\_PATH

The path to the environment

NBENCH\_ENVIRONMENT\_LANGUAGE

The language of the environment

NBENCH\_BUILD\_TARGET

The description of the targets

#### 5.1.11. Improvements in NightBench Tool Communications

The robustness of the communications protocol used between individual tools was significantly improved; including better detection and diagnosis of tool failures, synchronization of environment changes, and tighter tool integration.

#### 5.1.12. Improved Handling of Special Characters

NightBench 2.1 correctly handles special characters present in partition fields (e.g. **Output File**, **Shared Pathname**, etc.) and link options. These special characters include space, backslash, single and double quotes, dollar signs, etc.

#### 5.1.13. More Robust Handling of Create All Functionality

NightBench 2.1 no longer aborts when using the **Create All** partitions button to create large numbers of Ada partitions.

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## 6.0. Cautions

### 6.1. SFNOLIM Kernel Tunable

The `SFNOLIM` kernel tunable should not be set above 1024; doing so may cause NightBench to fail during initialization or when communicating with other tools.

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## 7.0. 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 our toll free number (1-800-245-6453). Our customers outside the continental United States can contact us directly at 1-954-973-5354. 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.





