DNOS Performance Package Object Installation

Part No. 2272088-9701 *D
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READ THIS DOCUMENT BEFORE ATTEMPTING TO USE THIS OBJECT KIT. THIS DOCUMENT DESCRIBES THE DNOS PERFORMANCE PACKAGE OBJECT INSTALLATION MEDIA, PART NUMBER 2276439-1604.

TEXAS INSTRUMENTS ASSUMES NO RESPONSIBILITY FOR MODIFICATIONS MADE TO THIS OBJECT KIT.

SECTION 1

Introduction

1.1 GENERAL INFORMATION

This document contains instructions for installing the object of the DNOS Performance Package. The Performance Package consists of two components: DNOS PLUS and COBOL PLUS. You can install DNOS PLUS without COBOL PLUS, however, you cannot install COBOL PLUS without DNOS PLUS and DNOS COBOL.

DNOS PLUS consists of a set of microcode routines residing in writable control store (WCS). Performing some of the basic DNOS functions, these routines increase the speed of DNOS. COBOL PLUS consists of a set of microcode routines in WCS and a special run-time interpreter; its purpose is to increase the speed of CPU-bound COBOL programs. (CPU-bound indicates that the speed of a program is determined by the speed of the central processing unit (CPU).) All differences between COBOL PLUS and standard DNOS COBOL are in the run-time interpreter. The COBOL compiler is identical in both versions. For further information, refer to the DNOS Performance Package Documentation: A Supplement to the DNOS COBOL Programmer's Guide, part number 2272109-9701.

As a precaution, make a copy of the object media before proceeding with the installation. For copy procedures, refer to the DNOS Operations Guide, part number 2270502-9701.

All System Command Interpreter (SCI) commands in this document are given in condensed format. You can execute them by entering the command exactly as shown or by using the interactive prompting from SCI. For a discussion of the condensed command format, refer to the DNOS System Command Interpreter (SCI) Reference Manual, part number 2270503-9701.

1.2 MEDIA DEFINITION

Product shipments are made in three formats:

* Disk -- A DS50, DS80, DS200, DS300, or CD1400 disk pack, or a double-sided, double density diskette that contains the object

* Tape -- An 800 bits per inch (bpi) or 1600 bpi magnetic tape or a cartridge tape (CT) that contains the object

* Add-On -- A disk pack that contains the object and one or more other products

The installation instructions in this document assume that the object files are accessible by a synonym. Section 2 describes how to prepare the media so that you can access the files by a synonym.

1.3 INSTALLATION PROCEDURE

The object media contains the files and batch streams to perform the following:

* Install the object files

* Verify the installation

1.4 SYSTEM REQUIREMENTS

To successfully perform this installation procedure, you must have a functioning DNOS system, Release 1.2 or later. To install COBOL PLUS with DNOS PLUS, you must have DNOS COBOL already installed. For installation instructions, see section 3.

The DNOS Performance Package requires the Model 990/12 or Business System 800 computer. These computers contain the WCS necessary for the WCS microcode used by the COBOL programs that are linked with the COBOL PLUS run time. DNOS PLUS can run on a 990/10, 990/10A, Business System 300 or 600 computer. However, since these computers do not contain the WCS, installing DNOS PLUS on any of them does not improve the system performance and thus serves no purpose.

SECTION 2

Preparing for Installation

2.1 INTRODUCTION

Before installing the Performance Package, you must prepare the object files so that the batch stream can access them. The following paragraphs describe how to prepare each media.

2.2 DISK FORMAT

If you receive the object on a disk, perform the following steps to prepare it for installation:

1. Insert the object installation disk in an available disk drive on a functioning DNOS system and prepare it for use.

2. Install the disk by issuing the following command:

   ```
   IV U=DSxx, V=CBLINSDW
   ```

   where:

   DSxx indicates the disk drive you are using.

3. Assign the synonym COBOLINS to the disk by issuing the following command:

   ```
   AS S=COBOLINS, V=CBLINSDW
   ```

Now proceed to Section 3 to install the object.

2.3 MAGNETIC TAPE FORMAT

If you receive the object on a magnetic tape, you must copy the files to a disk as follows:

1. Create a directory on an available disk as follows:

   CFDIR P=<volume name>.CBLINSDW, M=15

   where:

   <volume name> is the name of the disk where the directory is to be created.

2. Mount the magnetic tape on an available tape drive and prepare for use.

3. Copy the contents of the magnetic tape to the directory you created on the disk <volume name> by using the following Restore Directory command:

   RD S=MTxx, D=<volume name>.CBLINSDW, L=.LISTING

   where:

   MTxx is the magnetic tape drive you are using

   The file .LISTING now contains a listing of the directory restored from the magnetic tape. You can examine this file by executing a Show File (SF) or a Print File (PF) command.

4. Unload the tape.

5. Assign the synonym COBOLINS to the pathname of the restored directory by issuing the following command:

   AS S=COBOLINS, V=<volume name>.CBLINSDW

   where:

   <volume name> is the name of the disk that received the restored directory.

Now proceed to Section 3 to install the object.

2.4 ADD-ON FORMAT

If you receive the object as an add-on package, use the following steps to prepare it for installation:

1. Insert the disk on which the add-on package was received in an available disk drive on a functioning DNOS system and prepare it for use.

2. Install the disk by issuing the following command:

   IV U=DSxx, V=<volume name>

   where:

   DSxx indicates the disk drive you are using.

   <volume name> is the name of the add-on disk.

   The volume name is marked on the disk. Also, you can execute a Show Volume Status (SVS) command to obtain the volume name.

3. The add-on package is placed on the disk as a directory. To verify that the add-on directory is on the disk, issue the following command:

   LD PATH=<volume name>

   where:

   <volume name> is the name of the add-on disk.

   The DNOS Performance Package object is located in the directory <volume name>.CBLINSDW.

4. Assign the synonym COBOLINS to the disk by issuing the following command:

   AS S=COBOLINS, V=<volume name>.CBLINSDW

Now proceed to Section 3 to install the object.

SECTION 3

Installing the Object

3.1 INTRODUCTION

This section describes the procedures for installing the DNOS Performance Package on your DNOS system. These procedures allow you to install either of the following:

* The complete DNOS Performance Package (DNOS PLUS and COBOL PLUS)

* DNOS PLUS without COBOL PLUS

Refer to paragraph 3.3 for installation considerations.

3.2 INSTALLATION PROCEDURES

Install the object files as follows:

1. Assign the synonym DSC to the system disk on which the Performance Package is to be installed by issuing the following command:

   AS S=DSC, V=<volume name>

   where:

   <volume name> is the name of the system disk you are using.

2. If you are installing the complete Performance Package (DNOS PLUS and COBOL PLUS), continue with steps 3 through 5. If you are only installing DNOS PLUS, continue with steps 6 and 7.

3. Assign the synonym DSC2 to the directory on which you want the linkable run-time modules to be installed. Usually this is assigned the same value as DSC. Use the following commands:

   AS S=DSC2, V=<volume name>

   where:

   <volume name> is the name of the disk on which the linkable run-time modules are installed.

4. Execute the batch stream by issuing the following command:

   XB I=COBOLINS.DNOSWCS.INSTALL, L=.LISTING

   This process usually takes about five minutes to execute and is affected by the system workload. To check the status of the batch stream for completion and proper execution, use either the Show Background Status (SBS) or Wait (WAIT) SCI command. The SBS command displays the current execution status. When the batch stream completes, a completion message appears on the screen the next time you press the Return key. The WAIT command displays the following message throughout the execution process:

   --WAITING FOR BACKGROUND TASK TO COMPLETE--

   When the batch stream completes, messages resulting from internal execution processes are queued. Press the Return key to display each message. Note that the most recent version of DNOS COBOL must be installed before you can install COBOL PLUS. If the following message appears, the correct version of DNOS COBOL is not installed:

   PACKAGE <name> IS INCOMPATIBLE WITH INSTALLED COBOL

   Use the List Software Configuration (LSC) command to see what version of COBOL is installed. Install the correct version of DNOS COBOL and then reinstall COBOL PLUS.

   When the execution completes, the following message appears:

PERFORMANCE PACKAGE INSTALLATION COMPLETE: ERRORS = mm

If mm is not equal to zero, examine the batch error listing file (.LISTING) to determine what error(s) occurred. You can ignore the following error codes, which are normal in this batch stream execution:

* 0118 error in a Release LUNO (RL) command
* 0315 error in a Delete File (DF) or Modify File Protection (MFP) command
* 0316 error in a Create Directory File (CFDIR) command
* 0329 error in a Delete Alias (DA) command
* 1023 error in a Delete Task (DT) or a Delete Procedure (DP) command
* 1029 error in a DT or a DP command

Refer to the DNOS Messages and Codes Reference Manual, part number 2270506-9701, for an explanation of any other error code encountered.

Table 3-1 shows the components of the COBOL run-time interpreter you install on the target disk.

5. Perform an initial program load (IPL) on the system after installing the Performance Package. This step initializes the writable control store (WCS) from a file installed during the previous operation.

NOTE

You may need to relink your COBOL programs to use COBOL PLUS. Refer to the DNOS Performance Package Documentation for details.

At this point, the installation is complete. You do not need to perform steps 6 and 7. Proceed to Section 4 to verify the installation process.

6. To install only DNOS PLUS, execute the installation batch stream by issuing the following command:

   XB I=COBOLINS.DNOSWCS.INSTDNP, L=LISTING

   This process usually takes less than one minute to execute, depending on the system workload. To check the status of the batch stream for completion and proper execution, use either the Show Background Status (SBS) or the Wait (WAIT) command. The SBS command displays the current execution status. When the batch stream completes, a completion message appears on the screen the next time you press the Return key. The WAIT command displays the following message throughout the execution process:

   --WAITING FOR BACKGROUND TASK TO COMPLETE--

   When the batch stream completes, messages resulting from internal execution processes are queued. Press the Return key to display each message.

   When the execution completes, the following message appears:

   INSTALLATION OF DNOS PLUS COMPLETE: ERRORS = mm

   If mm is not equal to zero, examine the batch error listing file (.LISTING) to determine the error. Refer to the DNOS Messages and Codes Reference Manual, part number 2270506-9701, for an explanation of any error encountered.

7. Perform an initial program load (IPL) on the system. This step initializes the WCS from a file installed during the previous operation.

The installation is now is complete. Proceed to Section 4 to verify the installation process if you installed COBOL PLUS.

3.3 COBOL AND COBOL PLUS INSTALLATION CONSIDERATIONS

The installation batch stream installs the COBOL PLUS version of the run-time interpreter; it also leaves the linkable parts of the standard COBOL version (that is, RCBPRCNW and RCBNOION) intact. The defaults are as follows:

* The shared reentrant run-time procedure (RCOBOL) in the program file .S$SHARED is the COBOL PLUS version.

* The alias RCBPRC in the directory .S$SYSLIB selects the COBOL PLUS version of the linkable run-time reentrant procedure.

* The alias RCBNOIO in the directory .S$SYSLIB selects the COBOL PLUS version of the linkable run-time reentrant procedure without input/output (I/O).

You can change the defaults to the standard COBOL run-time interpreter by executing one of the following batch streams:

* CBLRTMDN.BATCH.DNOS.INSTRTM on the DNOS COBOL source installation disk

* CBLINSDN.DNOS.INSTALL on the DNOS COBOL object installation disk

Consult the appropriate installation guide for details. Execution of either of these batch streams leaves the COBOL PLUS versions of the linkable run-time reentrant procedures under the directory .S$SYSLIB in the files RCBPRCW and RCBNOIOW. However, the aliases RCBPRC and RCBNOIO are set to the standard versions.

To link with the COBOL PLUS versions, make one of the following changes to the link control file:

* Select RCBPRCW instead of RCBPRC.

* Select RCBNOIOW instead of RCBNOIO.

NOTE

If you execute either of these batch streams, you cannot use the procedure RCOBOL (in the program file .S$SHARED) for COBOL PLUS operations, since RCOBOL is now the standard version.

Table 3-1 Installed Files, Directories, Tasks, and Procedures

Component		Description
FILES:		
DSC.S$PWCS		File that contains an image of the microde loaded into the WCS during the IPL. This is the microcode for DNOS PLUS and COBOL PLUS.
DSC2.S$SYSLIB.RCBPRCW		Linkable run-time reentrant procedure module, COBOL PLUS version.
	.RCBPRC	Alias for RCBPRCW. This is arranged so that changing link control streams to link with the COBOL PLUS version is not necessary.
	.RCBNOIOW	Linkable run-time reentrant procedure module without I/O capabilities, COBOL PLUS version.
	.RCBNOIO	Alias for RCBNOIOW. This is arranged so that changing link control streams to link with the COBOL PLUS version is not necessary.
PROGRAM FILE, TASKS:		
DSC.S$LANG:	XCP	Run-time task without Debugger, COBOL PLUS version.
	XCPD	Run-time task with Debugger, COBOL PLUS version.
PROGRAM FILE, PROCEDURES:		
DSC.S$SHARED.RCOBOL		Shared reentrant run-time procedure, COBOL PLUS version (Note 1).

Notes:
1. If you used the batch streams described in paragraph 3.3, this can be the standard version.

SECTION 4

Verifying the Installation

There is no verification test for DNOS PLUS, other than using the system with normal operations. A test program on the object disk allows you to determine if COBOL PLUS has been installed properly. Proceed as follows:

1. Execute the test program by issuing the following command:

   ```
   XCPF O=COBOLINS.DNOSWCS.TESTCASE
   ```

   When the test program completes satisfactorily, the following message appears:

   ```
   THIS TEST PROGRAM RUNS ON A TI990 MINICOMPUTER
   IT IS WRITTEN IN TI COBOL!!!!!!!!!!!!!
   HIT RETURN TO COMPLETE TEST
   ```

2. Press the Return key to complete the test.

3. Examine the directory .S$SYSLIB and verify that the RCBPRC and RCBNOIO aliases are set as described in Table 3-1.