APPLICATION		REVISIONS		
NEXT ASSY	USED ON	LTR	DESCRIPTION	DATE
	7506			

REV STATUS OF SHEETS																		
REV																		
SHEET																		

RELEASE INFORMATION, DNOS DNCS NUCLEUS,
RELEASE 1.0.0-990

TEXAS INSTRUMENTS INCORPORATED DIGITAL SYSTEMS	drawing number 2276805-9901	
	REV. **	SHEET 1 OF 35

Contents

Section 1

GENERAL INFORMATION

1.1 INTRODUCTION

This document contains information about the DNCS Nucleus product, Release 1.0.0, that is not contained in the standard documentation associated with the object installation kit.

The subjects that are discussed in this document are special features or considerations that may be important for the proper installation and operation of the object package.

1.2 COMMUNICATIONS SUBSYSTEM

The following paragraphs describe communication subsystem features relating to the current release.

1.2.1 FCCC : FOUR CHANNEL COMMUNICATIONS CONTROLLER

The supported communications controller is the FCCC. The FCCC occupies one full slot in the 990 chassis and supports synchronous character-oriented or bit-oriented communications, interrupting the CPU on a block basis. Refer to the FCCC Installation and Operation Manual (part number 2263878-9701**) for a detailed description of the board and its appropriate slot position and interrupt level. The recommended interrupt level and TILINE address for the FCCC is interrupt 8 and TILINE address >F900. The TILINE address is switch selected on the FCCC board and is independent of the slot it occupies in the chassis.

1.2.2 CORRECT CABLE BETWEEN FCCC AND MODEM

Use communications interface cable, part number 946117-0001 or -0002, when connecting an FCCC channel to a modem. If a full 24 pin cable is used, the FCCC's channel's receive circuitry will be disabled, even with pin 24 cut.

1.2.3 BELL 201B OR SYNTEK MODEMS

The FCCC does not operate properly with the BELL 201B modem or SYNTEK modems unless the cable (part number 946117-0001) is modified by cutting the wire connected to pin 24 of the male cable connector. Mark the cable to indicate this modification.

1.2.4 DOWNLOAD UTILITY ERROR CODES AND EXPLANATION

The DNCS Nucleus uses the Communications Download Utility (CDL) to download patches to the FCCC firmware.

The following is the set of errors that may be returned by the download utility and the action to be taken to correct the indicated problem.

ERROR CODE	ACTION/EXPLANATION
0001	An invalid BLWP address has been specified in the input control file used for a download or release function. Check the input control file specified to be sure that the BLWP vector field (columns 49-52) is not blank or that the address entered is a valid hex address.
0002 0100	An invalid address has been specified as the starting point of a release reserved block function in an input control file or, the control file specified has an invalid ordering of download and release functions. Check for valid address specifications for release functions in the control file being executed. When both download and release functions are specified in the same control file, all release functions must preceed any download functions.
0003	Error in format of Input Control File.
0004 0008 0010 0020 0040 1000	The download object code specified in a control file is invalid due to one of the following: -the object file specified contains an EOF before the normal end of object file record (':' record) -the ASCII object file contains a checksum error -the object file contains an invalid tag -the file specified is not ASCII or compressed object -the file specified is not a program file -the length field of the object file is less than or equal to zero -the object file contains a bad address following a tag Check to be sure the correct file has been specified as the download object or attempt to recover the object file.

0080 Download utility task execution error.

Reinstall the utility tasks.

02xx SVC error in assign luno, open program file, read record, release luno, or close program file. Where xx is the DNOS SVC error code.

The program file name or task specified in the Input Control File may be incorrect. See that the program file and/or specified task exists.

08xx An SVC error has occurred during the processing of opcode 8. Where xx is the DNOS SVC error code.

Check to be sure that the .S$ISBTCH batch stream does not contain two CDL (Comm Device Download Utility) requests that attempt to download the same code to the same communications device. In some cases, the error code received will be returned to the access name specified in response to the LISTING ACNM prompt in the CDL proc.

2000
4000 The synonyms 'COMM' and '$CMLU' have invalid values assigned to them.

Check to be sure that the utility tasks are being executed via the standard procs provided with the utility task installation procedure.

8000 The task.specified as the download object in a control file has attached procedures or overlays.

Check to be sure the correct task and program file have been specified and that the task does not have any associated overlays or procedures.

1.2.5 FCCC BOARD PROBLEMS

The Comm Device List Memory (CLM) utility command may be used to test the FCCC board. Enter the FCCC comm device name and the starting address 09A. If the CLM command executes properly, the version of the firmware will be displayed. This version should be 80.354 or later. Display of this information proves that the FCCC board is processing interrupts correctly, thus eliminating a mis-match between the address/interrupt on the board and the system configuration. If problems persist, the FCCC board should be tested using diagnostics. Do not use CLM on an FCCC channel in use by DNCS. Doing so will cause the channel to hang or the system to crash.

1.2.6 INSTALLATION CHANGES USING DNOS RELEASE 1.1

The following updates should be made to the DNCS Nucleus Object Installation Guide when installing under DNOS 1.1

1. Paragraph 4.3.1, Installing the DNOS Common Communications DSR Commands, step 3, will display the following messages:

   x ERRORS REPORTED IN PATCH STREAM <directory>.BL.DNPPCOMM

   x ERRORS REPORTED IN PATCH STREAM <directory>.BL.GENPAT

   The GENPAT batch stream patches the task that reads the DNOS system configuration file. This message was formerly documented in paragraph 4.3.5.

2. Delete the following messages from paragraph 4.3.5, Completion Messages:

   x ERRORS REPORTED IN <directory>.BL.GENINS

   x ERRORS REPORTED IN <directory>.BL.GENPAT

   The installation and patching of the task that reads the DNOS system configuration file is no longer a part of the Building Communications DSRs (BCD) procedure.

1.3 DNCSGEN

The following paragraphs describe DNCSGEN features and limitations relating to the current release.

1.3.1 VERIFY DEVICE CONFIGURATION (VDC)

VDC is not intended to find all possible errors that might be entered when creating a particular DNCSGEN configuration. In particular, the following is a list of errors you might make during DNCSGEN that VDC will not catch:

1. Adding an inappropriate number of modes to a resource. For example, more than one mode under a V911.

2. LUs multiply assigned or not assigned at all.

3. Leaving gaps in LU assignments.

4. Multiple assignments of one poll address.

5. Multiple assignments of one LUNO.

6. Assigning a port to itself as backup.

7. Assigning a port as backup to a port on another board.

8. Mixing line control disciplines on the same board.

9. Associating a printer with a station without defining the printer as a resource.

1.3.2 DNCS GENERATION UTILITY (XDGU)

XDGU presents a user friendly interface for entering required configuration parameters. The following information may be helpful in preventing operational problems that may occur when trying to use XDGU.

1. There should be no gaps in LU specification. Omitted LUs are implied to be available and may be used in a pooled fashion. This may allow devices to log on with wrong SLU types.

2. The DNCSGEN configuration cannot be modified by text editing the TEXTCONF file. Unpredictable and erroneous configurations may result. Change the configuration only thru XDGU.

3. Do not define more than one mode for a 911. The purpose of the mode record is to allow log-on to the application with a single key stroke, the blank grey key, which is also the CLEAR key. Each mode record has a mode key number in it; the XVDT2 emulator for the 911 can only send one mode key number. As a result, other mode records cannot be accessed.

4. LU names in DNCS 1.0 are generated by DNCS using the PU name and the LU number (1 - >FF). They are created by a software algorithm and are not user specifiable beyond this extent. For example, if the PU name is CDAANS, then the LU name for LU 01 would be LDAANS01. Note that the LU name always begins with L. For DNCS communication, it does not matter that the LU names in the host Network Control Program (NCP) are different; however for human communication it may be desirable to keep a list that maps the corresponding names, if they are different. Another way of accurately talking about a DNCS LU is to identify its PU, its number, and its circuit name. The most desirable alternative is for the user to conform his LU names in his NCP to DNCS LU names.

5. While in XDGU, it is possible to modify a circuit which supports resources, such as CIPC circuits, to a circuit which does not support resources, such as SDLC circuits. This is an error condition. A circuit so defined should be deleted and re-added.

6. Pressing the CMD key when entering data for an entity while in XDGU causes the cursor to appear for possible entry of a new command. If it is desired to then continue entering data for the same entity, enter HELP, then press RETURN twice.

7. If the .S$TIFORM directory exists on the user's system, it must contain the properly installed TIFORM package; else DNCSGEN may not be able to display its forms. If DNCSGEN cannot display its forms using the installed package, execute the MFN (Modify File Name) command and change the .S$TIFORM pathname to a temporary pathname. This allows DNCSGEN to install a version of TIFORM at .S$TIFORM that is known to work. Before modifying the .S$TIFORM pathname, the user needs to make sure no one else on the system wants to be running TIFORM while he is running XDGU. After XDGU is complete, the user must modify the temporary directory name back to .S$TIFORM.

8. If the user's system does not have TIFORM, and the system crashes while the user is running XDGU, the user will have to manually delete .S$TIFORM from the system.

9. The 'print' key under XDGU works if TIFORM is installed on the user's system. If TIFORM is not installed, the 'print' key does not work and the following message appears: NDOCUMENTED INTERNAL ERROR CODE >0041 xxxxx.

1.4 DNCS COMMAND INTERPRETER (DNCS/CI)

The following items describe DNCS/CI features and limitations relating to the current release.

1. The '!Display FCCCS' command displays an FCCC TYPE of DIPC when the FCCC is in a STOP state. TYPE DIPC is displayed for any FCCC that is not downloaded. This is merely the default value for the board type and is the appropriate value for a BOARD containing only IPC channels. If BACKUP/RESTORE commands are used to change the type of circuits connected to a board, causing a different Line Control Discipline to be loaded, the TYPE will change to the name of the newly loaded LCD.

2. When in the VDT2 emulator and executing DNCS/CI commands, line 24 will be appended to the command if the ENTER key is pressed when the cursor is on line 24. This may cause the following message to be returned: DNCS0053 E INVALID USE OF _____. If this condition occurs, enter ESC+S and reenter the command.

1.5 DNCS NUCLEUS MEMORY REQUIREMENTS

The DNCS Nucleus job consists of seven task segments, one procedure segment, and one buffer segment. The following table describes the memory requirements for the DNCS job. All variables are specified during the generation of DNCS as described in the DNCS Operations Guide.

name	size(bytes)	program file	memory resident?
DNCSCOMM	7390	<dnos volume>.S$SHARED	YES
DNCSPDCT	12552 + (a)	<dnos volume>.S$UTIL	YES
DNCSSCT	11474 + (b)	<dncs volume>.S$DNCS.PGMTASK	NO
DNCSTSR	26862 + (c)	<dncs volume>.S$DNCS.PGMTASK	NO
DNCSPC	6904 + (d)	<dncs volume>.S$DNCS.PGMTASK	NO
DNCSDC	14952 + (e)	<dncs volume>.S$DNCS.PGMTASK	NO
DNCSCLOK	1366	<dncs volume>.S$DNCS.PGMTASK	NO
DNCSCI	30590	<dncs volume>.S$DNCS.PGMTASK	NO
Buffer seg	24576		YES
Total	136666 + (f)		

Where

(a) = 2124 - 18*(no. of CIRCUITs)
+ 54*(no. of RESOURCEs on all CIRCUITs)
+ 54*(no. of CIRCUITs with protocol of SDLC)
+ 14*(no. of BOARDs) + 28*(no. of PORTs on all BOARDs)
+ 92*(sum of all MAXREADS for all CIRCUITs)

(b) = 1872 + 6*(no. of PUs) + 8*(no. of BOARDs)
+ 8*(no. of PORTs on all BOARDs) + 8*(no. of CIRCUITs)
+ 8*(no. of RESOURCEs on all CIRCUITs)

(c) = 18 + 20*(no. of VPUs for all PUs)
+ 20*(no. of APPLICATIONs for all VPUs)
+ 14*(no. of APPLICATIONs for all VPUs with SYNs defined)
+ 40*(no. of RESOURCEs on all CIRCUITs)

(d) = 46 + 12*(no. of PUs) + 2*(no. of LUs for all PUs)

(e) = 34 + 42*(no. of RESOURCEs on all CIRCUITs)
+ 10*(sum of all MODEs with APPLICATION defined)

(f) = 4094 - 10*(no. of CIRCUITs)
+ 144*(no. of RESOURCEs on all CIRCUITs)
+ 54*(no. of CIRCUITs with protocol of SDLC)
+ 92*(sum of all MAXREADS for all CIRCUITs)
+ 18*(no. of PUs) + 20*(no. of VPUs for all PUs)
+ 2*(no. of LUs for all PUs)
+ 22*(no. of BOARDs) + 36*(no. of PORTs on all BOARDs)
+ 20*(no. of APPLICATIONs for all VPUs)
+ 14*(no. of APPLICATION for all VPUs with SYNs defined)

+ 10*(sum of all MODEs with APPLICATION defined)

The DNCS Nucleus Utilities consist of three tasks. The following table describes the memory requirements for the DNCS Nucleus Utilities.

name	size(bytes)	program file	memory resident?
DNCSSTOP	2334	<dncs volume>.S$DNCS.PGMTASK	NO
EMSCI	10918	<dncs volume>.S$DNCS.PGMTASK	NO
ITCWRT	2112	<dncs volume>.S$DNCS.PGMTASK	NO

The DNCS Nucleus job downloads code to the FCCC for support of the SDLC circuit. The following table describes memory requirements for the DNCS Nucleus download code.

name	size(bytes)	program file
SDLC	11914 + (a)	<dncs volume>.S$DNCS.PGMTASK

where

(a) = 3300 + 330*(sum of all maxreads for all circuits with protocol SDLC)

1.6 DNOS COMMUNICATION SUBSYSTEM MEMORY REQUIREMENTS

The DNOS communication subsystem is defined during DNOS system generation and installed during DNCS object installation. The subsystem is made-up of three parts: communication software level scheduler (COMSWS), DSR overlays, and communication SVC processor (IOCSVC). COMSWS is configurable and is linked into the DNOS system kernel during ALGS. DSRCMNS and DSRCOMA are the overlays which support DNCS/IPC and FCCC, respectively, and are loaded at system IPL. IOCSVC is linked into the DNOS system SVC overlay. The following table describes the memory requirements for the DNOS communication subsystem. All variables are specified during the generation of DNOS as described in the DNCS Nucleus Object Installation Guide.

name	size(bytes)	program file	memory resident?
COMSWS	1026 + (a)	<dnos volume>.system name	YES
DSRCOMA	3788	<dnos volume>.system name	YES
DSRCMNS	5264	<dnos volume>.system name	YES
IOCSVC	356	<dnos volume>.system name	YES

Where

(a) = 98*(no. of DNCS/IPC devices)

```
+ 8*(no. of DNCS/IPC devices)*(sum of all DNCS/IPC SESSIONs)
+ 104*(no. of FCCC devices with channel protocol of COMA)
+ 36*(sum of all FCCC device channels with protocol of COMA)
```

1.7 DNOS SYSTEM TABLE REQUIREMENTS

The DNOS system table area is impacted both directly and indirectly by the DNOS communication subsystem and DNCS communication requirements. Directly by inclusion of the Physical Device Tables (PDTs) for each communication channel. Indirectly by increasing the DNOS system root, which limits the maximum allowed system table size. The following equation may be used to calculate the impact on system table area (in bytes) for support of DNCS communications. All Variables are specified during the generation of DNOS with DNCS communication support as described in the DNCS Nucleus Object Installation Guide.

```
1026 + 98*(no. of DNCS/IPC devices)
+ 8*(no. of DNCS/IPC devices)*(sum of all DNCS/IPC SESSIONs)
+ 104*(no. of FCCC devices with channel protocol of COMA)
+ 204*(sum of all FCCC device channels with protocol of COMA)
+ 168*(sum of all DNCS/IPC device channels with protocol of CMNS)
```

1.8 DNCS BUFFER SEGMENT REQUIREMENTS

The DNCS Nucleus creates a buffer segment at execution time for storage of I/O buffers. This buffer segment is then accessed by each DNCS Nucleus task via mapping. Depending on the configuration, more than one buffer segment may be needed. DNCS can handle multiple buffer segments and must be patched in order to create more than one at execution time.

The number of buffer segments required for a particular configuration may be calculated by using the following equation. All variables are specified during the generation of DNCS as described in the DNCS Operations Guide.

```
no. of buffer segments = [2*(sum of all MAXREADs for all CIRCUITs)
                         + (no. of RESOURCEs on all CIRCUITs)
                         + (no. of CIRCUITs with protocol of SDLC)]
                         / 85
```

The result should be rounded to the next whole number and can not exceed 127. Procedures for patching DNCS to allocate multiple buffer segments are documented in paragraph 3.3.

1.9 DNCS NUCLEUS DISK UTILIZATION

The following table summarizes the disk requirements for the DNCS Nucleus. The figures are estimates and will vary depending on the number of sectors/ADU of the disk and configuration parameters. Generally, the larger the sectors/ADU the more disk space required, due to disk allocation on an ADU basis. Also, the more configurable resources defined in DNCS the more disk space required. The ADU size in the following table is based on 256 bytes/ADU.

name	disk roll space (adus)	disk resident space (adus)
DNCS NUCLEUS JOB	400	
DNCS UTILITIES	70	
DNCS NUCLEUS DIRECTORY (DCFWO)		9500-11500
DNOS SYSGEN DATA DIRECTORY (S$OSLINK)		1900
DNCS GENERATION DIRECTORY (SDGU)		1500
DNOS SYSTEM DIRECTORY (S$SHARED, S$UTIL)		180
DNCS SYSTEM DIRECTORY (S$DNCS)		500
DNCS COMMAND DIRECTORY		30

1.10 HOW TO REPORT A SYSTEM CRASH

When a system crash occurs, refer to the DNOS Messages and Codes Reference Manual for an explanation of the crash code shown on the programmer panel of the CPU. To conduct a crash analysis, refer to the DNOS Systems Programmer's Guide. If the crash is not understandable, or if the crash continues to occur, or if the crash was forced, you may want to send information to your customer representative for analysis. Before sending the crash file, be sure that it was created large enough to contain the entire system image.

When your software was supplied to you by Texas Instruments and you are sending the information to Texas Instruments for analysis, please send the following information on either magnetic tape, diskettes, or some other disk media:

1. The .S$CRASH file from the system crash saved according to procedures described in the DNOS Messages and Codes Reference Manual.

2. The DNOS system linkmaps (found in files SYSMAP, IOUMAP, DMMAP), system configuration (found in file CONFIG), communication subsystem linkmaps (found in files DMAPCOMA, DMAPCMNS, CMAPCSWS), and communication subsystem configuration (found in file LSTCFDSR) for the system in use at the time of the crash. If these

linkmaps are on the running system, they can be found in the directory .SSGU.<system name>.

3. The DNCS Nucleus linkmaps found in the directory <dncs generation volume>.SDGU.<configuartion>.LINKMAP for the system in use at the time of the crash.

4. The DNCS system configuration found in the file <dncs generation volume>.SDGU.<configuration>.TEXTCONF for the system in use at the time of the crash.

5. The DNCS configurable task definition files found in the directory
<dncs generation volume>.SDGU.<configuration>.LIST.

6. A text file with information about the system activity at the time of the crash.

7. A current listing of your software configuration, the output from the List Software Configuration (LSC) command

Once the information has been copied, the medium will be returned to you. As soon as the problem is resolved, you will be informed.

Section 2

KNOWN PROBLEMS

This section documents known problems that may be encountered in installing and operating the DNCS Nucleus object package.

2.1 SOFTWARE

1. DNOS 1.0 sysgen requires that all devices have a TILINE/CRU address and INTERRUPT level. DNCS/IPC is defined as a device but does not have a physical device associated with it, that is, no TILINE/CRU address and INTERRUPT level is required. The next release of DNOS sysgen will fix this problem by allowing a NONE entry for TILINE/CRU address and INTERRUPT level. In the meantime, an unused CRU address and interrupt must be used for DNCS/IPC.

2. When certain Communication Request Blocks (CRBs) are not completed within 10 seconds, DNCS automatically (without operator intervention) issues a master reset to the FCCC. This mechanism is used to force completion of the CRBs so that DNCS does not have to crash. This FCCC reset, howver, will require a restart of other communication products, such as 3780, that are sharing the board with DNCS.

3. DNOS KERNEL patch 1630 is required for proper execution of the DNCMO subsystem for DNOS release 1.0.

4. To avoid >30 crashes (no system table area available), modify the system table area size to include the DNCS memory requirements as described in paragraph 1.7. It is recommended that the XSCU and MST SCI procedures be used to set the system table area size to MAX after the DNCS Nucleus installation is complete.

5. Do not answer the XDNCS prompt RESTART(YES/NO): with a NO answer following a TDNCS. This causes an incomplete start-up of DNCS. Further attempts to terminate and/or restart DNCS will be unsuccesssful until the system is rebooted. An answer of YES is required because the FCCC must be reset before DNCS can start using it again. This FCCC reset, however, will require a restart of other communications products, such as 3780, that are sharing the board with DNCS.

6. The DNCS/CI command !RESTART FCCC does not download the FCCC firmware patches. Although the successful operation of DNCS does not require these patches, other comm products that may be sharing the board with DNCS, such as 3780, do require these patches. Do not try to run 3780 on a board that has been reset via !RESTART FCCC until TDNCS/XDNCS RESTART=YES has been executed. XDNCS, RESTART=YES causes the FCCC to be reset and the firmware patches to be re-downloaded.

7. STR 10376 - Password protection of DNCS commands is available only thru a DNCS/CI command. However, this specification is not permanent and must be re-entered whenever the system is rebooted. Optional patch 1750 allows permanent enable of password protection and specification of password value.

8. STR 11645 - The number of DNCS buffer segments may need to be larger than 1 for some configurations. Optional patch 1695 allows update of number of buffer segments.

9. STR 11552 - Some EBCDIC to ASCII character translations required for 914A support are incorrect. Patch 1663 fixes this problem.

10. STR 12032 - The XCI completion code of DCyy defined on page A17 in the DNCS Operations Guides is incorrectly returned as DEyy. Patch 1738 fixes this problem.

11. STR 11751 - The procs XDNCS, DNCSASYN, and DNCSDSYN are not configured correctly whenever the DNCSGEN configuration contains a port name shorter than a previous port name. Patch 1702 fixes this problem.

12. STR 11799 - The PSC2, PSC3, and PTR3 station types are not assigned the correct SLU type. This may cause incorrect interaction with the host for these station types. Patch 1706 fixes this problem.

13. STR 11699 - The data buffer request length for DNCS IPC channels is incorrect for non-emulator applications. Patch 1720 fixes this problem.

2.2 DOCUMENTATION - DNCS OPERATIONS GUIDE

1. Table 1-2, page 1-10. Add NEWPSW to the list of reserved DNCS keywords.

2. Page 2-1, paragraph 2.1. Whenever it is desired to install a new or modified DNCS configuration, perform

the procedures described in Section 5 of the DNCS Nucleus Object Installation Guide . Also, if PSC is installed, perform the procedures described in Section 4 of the DNCS/SNA Object Installation Guide . Don't forget to re-ipl the system to load the memory resident tasks.

3. Table 2-1,page 2-15. SDLC Max Retries of 0 means try forever. DNCS is the slave on the SDLC line and has no control over retry count. The host (master) determines the actual retry limit. The 914A Max Retries (RDTC, LL9600, LL4800) apply to both transmit and receive retries. The DNCS-IPC Max Retries (CIPC, CI) of 0 means no errors are tolerated because retries are not required on a logical software circuit.

4. Page 2-86. Change Example paragraph, sentence beginning 'Entering VPSC1...', to read 'Entering VPSC1 into the resource name field and pressing RETURN causes XDGU to display the complete definition of VPSC1 shown in screen 2 and to position the cursor at the beginning of the resource type field.' Delete the following sentence beginning 'Pressing RETURN...'.

5. Page 4-12. The value of a new password cannot be any of the DNCS keywords listed in Table 1-2.

6. Page A-13. Add the following message:

   DNCS0915 E <station> printer not available

   Explanation: You have used the PRINT key, but the associated printer is not available.

   User Action: Use the DNCS/CI Display command to check the status of the printer station. Verify that the hard copy device is available and its printer station emulator is active. Use the DNCS/CI STOP/START command to bring the printer station to an active state.

7. Page C-2, C-3, C-4. Add to comment referenced by asterisk (*): 'All Name parameters must be unique.'

Section 3

PATCHES AND PATCH PROCEDURES

3.1 PATCH UPDATE PROCEDURE

Patches are maintained by Texas Instruments and are available to customers from two sources - Customer Support Line and Patch Update Service. The Customer Support Line is able to provide patches on an as needed basis over the telephone or by communications link. Call (512)-250-7407 to get the latest patch files. Periodically, Texas Instruments will ship all current patches for the DNOS system family software to customers on the subscription service. Refer to the DNOS Products Patch Update Service Release Information for a list of the latest patches. In both cases, a detailed explanation will be provided on how to apply the patches to your system.

It is recommended that you call the Customer Support Line to get the latest patches prior to installation of the product.

Appendix A

DNCS Log Messages

DNCS0101 hhmm E DEST TASK NOT IN RQ STATE

Explanation:
The destination process for a DNCS request was not in the correct state (Read Queue) to accept the request. The request was ignored.

User Action:
Terminate and restart DNCS. Contact your customer service representative if the problem persists to determine the origination of the request.

DNCS0102 hhmm I TASK aaaaaaaa STARTED, TQRB bb XID: cccc

Explanation:
The DNCS task "aaaaaaaa" was bid from the DNCS program file. "bb" is the index number of the Task Queue Request Block, "cccc" is the execution ID of the task.

User Action:
None.

DNCS0103 hhmm I SCT INITIALIZATION COMPLETE

Explanation:
The system control task has completed DNCS initialization.

User Action:
None.

DNCS0105 hhmm E PATH NOT COMPLETE RB: aabb cccc dddd eeee ffff

Explanation:
The destination of the SID (session id) specified in the request block represented by 'aabb...ffff' is not valid. The operation could not be performed.

User Action:
Check DNCS generation input parameters for errors.

DNCS0106 hhmm E SID NOT VALID

Explanation:
An SID in a request block is not defined.

User Action:
Check DNCS generation input parameters for errors.

DNCS0107 hhmm S TIMER QUEUE FULL

Explanation:
The queue for timer request events is full.

User Action:
If problem persists, contact your customer service representative to determine why all timer queue entries are being used.

DNCS0108 hhmm E INVALID RB OP-CODE -- FATAL ERROR

Explanation:
An unknown Request Block (RB) operation code was received by the System Control Task. (the Request Block in error is displayed by msg DNCS0109.) The System Control Task (DNCSSCT) go to end action processing.

User Action:
Terminate and restart DNCS. Contact the system operator or your customer service representative if the problem persists.

DNCS0109 hhmm I RB IN ERROR: aabb cccc dddd eeee ffff : TID = xx

Explanation:
The request block referenced by msg DNCS0108 is displayed for use in determining the cause of the error. "xx" is the DNCS task ID index.

User Action:
None, refer to msg DNCS0108.

DNCS0110 hhmm E CREATE SEGMENT ERROR. CC: aaaa

Explanation:
An error was received from the operating system during the creation of the DNCS memory buffer segments. "aaaa" is the DNOS Segmentation SVC completion code.

User Action:
Terminate DNCS and retry DNCS execution. Refer to the DNOS MESSAGES AND CODES REFERENCE MANUAL for explanation of the completion code.

DNCS0301 hhmm I RB LOG aabb cccc dddd eeee ffff

Explanation:
"aabb...ffff" is a request block which is being processed by DNCS/CI.

User Action:
None, informative trace message.

DNCS0302 hhmm E RB ERR aabb cccc dddd eeee ffff

Explanation:
"aabb...ffff" is a request block which could not be processed by DNCS/CI due to an invalid operation code (aa) or an invalid Session ID (dddd).

User Action:
Contact your system operator or customer representative to determine the error received. Check the DNCS generation parameters to ensure that all data was entered correctly.

DNCS0303 hhmm I RCVREQ DVC:aa RH=bbbb "RSPONS" "BRAKET" RCVCHN=c

(where "RSPONS" may be = POSRSP, CHAIN, PROTO, CONTEN, BKTREJ BREAK, CANCEL, CONTRL, INTRQD, EUBUSY, OR EUDISC
and "BRAKET" may be = BETB, RCVB, SNDB, OR CNTN)

Explanation:
A request has been received from DNCS for device "aa" with a SNA Request Header (RH) of "bbbb" and a chain state of "c"

User Action:
None, normal status message.

DNCS0304 hhmm E RCVREQ DVC:aa RH=bbbb "RSPONS" "BRAKET" RCVCHN=c

(See msg DNCS0303 for "RSPONS" and "BRAKET" values.)
Explanation:
A request has been received from device "aa" which did not have an acceptable SNA response. The SNA Request Header (RH) is "bbbb" and the chain state is "c".

User Action:
Contact your customer service representative or SNA host administrator to determine the nature of the error from the RH, "RSPONS" and "BRAKET" values.

DNCS0305 hhmm I SNDRSP DVC:aa RH=bbbb "RSPONS" "BRAKET" RCVCHN=c

(See msg DNCS0303 for "RSPONS" and "BRAKET" values.)
Explanation:
A response has been sent to a request. The device number is "aa", the SNA Response Header (RH) is "bbbb", and the chain state is "c".

User Action:
None, normal status message.

DNCS0306 hhmm E SNDRSP DVC:aa RH=bbbb "RSPONS" "BRAKET" RCVCHN=c

(See msg DNCS0303 for "RSPONS" and "BRAKET" values.)
Explanation:
A negative response has been sent to a request. The device number is "aa", the SNA Response Header (RH) is "bbbb", and the chain state is "c". DNCS has reset the session in error.

User Action:
None unless the problem becomes frequent. If this happens, contact your customer service representative or SNA host administrator to determine the nature of the error from the RH, "RSPONS" and "BRAKET" values.

DNCS0307 hhmm I RCVRSP DVC:aa RH=bbbb "RSPONS" "BRAKET" SNDCHN=c

(See msg DNCS0303 for "RSPONS" and "BRAKET" values.)
Explanation:
A response for device "aa" with SNA Response Header (RH) "bbbb" and chain state of "c". "RSPONS" and "BRAKET" contents define the state of the response.

User Action:
None, normal status message.

DNCS0308 hhmm E RCVRSP DVC:aa RH=bbbb "RSPONS" "BRAKET" SNDCHN=c

(See msg DNCS0303 for "RSPONS" and "BRAKET" values.)
Explanation:
A negative SNA response has been received for device "aa" with a SNA Response Header (RH) of "bbbb" and chain state of "c". "RSPONS" and "BRAKET" contents defining the state of the response received.

User Action:
Contact your SNA host admisistrator or customer service representative to determine the nature of the error from the RH, "RSPONS" and "BRAKET" values.

DNCS0309 hhmm I SNDREQ DVC:aa RH=bbbb "RSPONS" "BRAKET" SNDCHN=c

(See msg DNCS0303 for "RSPONS" and "BRAKET" values.)
Explanation:
A request is being sent to the SNA host from device "aa". The SNA Request Header (RH) is "bbbb", and the request chain state is "c".

User Action:
None, normal status message.

DNCS0310 hhmm E SNDREQ DVC:aa RH=bbbb "RSPONS" "BRAKET" SNDCHN=c

(See msg DNCS0303 for "RSPONS" and "BRAKET" values.)
Explanation:
A request is being sent to the SNA host from device "aa". The SNA request header is "bbbb", and the request chain state is "c".

User Action:
None

DNCS0401 hhmm W NCP RESP RH: aaaa SENSE: bbbb RU: ccccdddd

Explanation:
A response to a request is being sent.
"aaaa" - Response Header value
"bbbb" - SNA sense code
"c..d" - Response Unit

User Action:
None

DNCS0402 hhmm W NCP VFY ACN: aaaaaaaa NET: bbbbccccdddd

Explanation:
The access-name "aaaaaaaa" has been verified and associated with the network address "bbbbccccdddd".

User Action:
None

DNCS0403 hhmm W NCP PUT CINIT CID.aaaa bbbb SENSE: cccc

Explanation:
A request to initialize a session with a primary logical unit was received and processed with a completion code of "cccc". "aaaa" is the destination Application Control Subsystem (ACSS) index, and "bbbb" is the source ACSS index.

User Action:
None

DNCS0404 hhmm I NCP RB OP: aaaa SID:bbbbb P1:ccc OAF-DAF: dddd

Explanation:
A request with operation code "aaaa" was received. The Session ID is "bbbbb" and the input parameter is "ccc". The Origination Address Field (OAF) / Destination Address Field (DAF) index "dddd" is the communications identifier.

User Action:
None

DNCS0405 hhmm E NCP CALL RECEIVED NOT HANDLED

Explanation:
DNCS received a request to process an X.25 request on a virtual circuit, however this capability is not supported at this time.

User Action:
None

DNCS0406 hhmm E NCP CLEAR RECEIVED NOT HANDLED

Explanation:
A request was received to clear a Virtual Circuit. This capability is not supported at this time.

User Action:
None

DNCS0407 hhmm I NCP OPEN APPL aaaaaaaa PW=bbbbbbbb MAX SES=cc

Explanation:
An application with the name "aaaaaaaa" and password "bbbbbbbb" has been established as a session with DNCS. The maximum number of sessions which it can support is "cc".

User Action:
None

DNCS0501 hhmm E RB OP INVALID

Explanation:
DNCS Physical Device Control Task received a request with an operation code which is not defined in DNCS. The

request was ignored.

User Action:
If problem persists, contact your customer service representative for help in determining the source of the invalid requests.

DNCS0503 hhmm W COMM ERROR : FCNT=aaaa OPCC=bbbb BID=cccc PORT=dd POLL=eeee

Explanation:
Communication interface error. "aaaa" is the DNCSPDCT function processing the request, "bbbb" is the completion code, "cccc" is the buffer ID containing the request, "dd" is the resource ID being accessed, and "eeee" is the poll ID specified by the requestor.

User Action:
Contact your customer service representative.

DNCS0504 hhmm I COMM REPRT : FCNT=aaaa OPCC=bbbb BID=cccc PORT=dd POLL=eeee

Explanation:
Communication interface error. "aaaa" is the DNCSPDCT function processing the request, "bbbb" is the completion code, "cccc" is the buffer ID containing the request, "dd" is the resource ID being accessed, and "eeee" is the poll ID specified by the requestor.

User Action:
Contact your customer service representative.

DNCS0505 hhmm I COMM TRACE : FCNT=aaaa OPCC=bbbb BID=cccc PORT=dd POLL=eeee

Explanation:
Trace of operation transferred to the communications interface. "aaaa" is the DNCSPDCT function processing the request, "bbbb" is the completion code, "cccc" is the buffer ID containing the request, "dd" is the resource ID being accessed, and "eeee" is the poll ID specified by the requestor.

User Action:
None, trace message.

DNCS0506 hhmm E PGM_FILE INV FORMAT

Explanation:

The file accessed for downloading the communications interface Four Channel Communications Controller (FCCC) board is not a program file.

User Action:
Examine the batch listing recorded as a result of starting DNCS to determine the access name of the program file assigned to LUNO >30. This should be a program file which contains the SDLC program, if not, either the XDNCS proc should be modified to reference the correct program file, or the SDLC program should be installed on the file. It may be necessary to reinstall the DNCS Nucleus.

DNCS0508 hhmm E CODE NOT ON PGM-FILE

Explanation:
The SDLC code to be downloaded onto the Four Channel Communications Controller (FCCC) board is not on the program file accessed.

User Action:
Examine the batch listing recorded as a result of starting DNCS to determine the access name of the program file assigned to LUNO >30. This should be a program file which contains the SDLC program, if not, either the XDNCS proc should be modified to reference the correct program file, or the SDLC program should be installed on the file. It may be necessary to reinstall the DNCS Nucleus.

DNCS0509 hhmm W DVL-FILE INV FORMAT

Explanation:
The file accessed to download the TI914A terminal is not a random-file format.

User Action:
This message may be ignored if no 914A stations were included in the configuration.
Examine the batch listing recorded as a result of starting DNCS to determine the access name of the load file assigned to LUNO >20, which should be a random file. The XDNCS proc may need to be changed to reference the correct load file, or it may be necessary to reinstall the TI914A support. Contact your DNCS network operator.

DNCS0511 hhmm W CODE NOT ON DVL-FILE

Explanation:
The file accessed to download the TI914A terminal is not structured as expected by the download code.

User Action:
Examine the batch listing recorded as a result of starting DNCS to determine the access name of the load file assigned to LUNO >20, which should be a random file. The XDNCS proc may need to be changed to reference the correct load file, or it may be necessary to reinstall the TI914A support. Contact your DNCS network operator.

DNCS0512 hhmm W SVC iofcnt IOCC=aabb OPLU=ccdd FLAG=eeee RECN=ffff

(WHERE "iofcnt" = FCCC_OPN, DVL-FILE, PGM-FILE, CRB-READ, CRB-WRIT, FC3-LOAD, FC3-BLWP, PORT-OPN, or DEV-OPN)

Explanation:
An SVC I/O operation ("aa", sub-opcode "cc") returned with an error "bb". The file LUNO referenced is "dd", the record number is "ffff", and the SVC flags are "eeee". The substituted value for "iofcnt" determines the process issuing the SVC.

User Action:
Consult the DNOS Messages and Codes Reference Manual to determine the action to be taken for error "bb".

DNCS0513 hhmm W COMM RQEST : FCNT=aaaa OPCC=bbbb BID=cccc PORT=dd POLL=eeee

Explanation:
Error during wait-for-event SVC processing for the communications request block. "aaaa" is the DNCSPDCT function processing the request, "bbbb" is the completion code, "cccc" is the buffer ID containing the request, "dd" is the resource ID being accessed, and "eeee" is the poll ID specified by the requestor.

User Action:
Contact your customer service representative.

DNCS0602 hhmm E INVALID REQUEST. RBOP: aaaa SID: bbbbb P1: cccc BID: ddddd

Explanation:
An invalid request block has been received by the SNA path control task. "aaaa...dddd" is a dump of the request block.

User Action:
If problem persists, contact your customer service representative for help in determining the source of the invalid requests.

DNCS0603 hhmm I LINK RBOP: aaaa SID:bbbbbb P1 FNC:cc PU@ dddd

Explanation:
The "data link to device" routine has been entered. "aaaa" is the requested operation code, "bbbbbb" is the decimal value of the session id, "cc" is the function code contained in the parameters word, and "dddd" is the index to the Physical Unit.

User Action:
None.

DNCS0604 hhmm I DEV RBOP aaaa SID.bbbbbb P1 LU# ccc PU@ dddd

Explanation:
The "device to line" routine has been entered "aaaa" is the requested operation code, "bbbbbb" is the decimal value of the session id, "cc" is the Logical Unit index contained in the parameters word, and "dddd" is the index to the Physical Unit.

User Action:
None.

DNCS0606 hhmm W PU aaaa IS INACTIVE. DATE TIME yyddd hhmm

Explanation:
PU "aaaa" has changed from active state to inactive state.

User Action:
None.

DNCS0607 hhmm I PU aaaa IS ACTIVE. DATE TIME yyddd hhmm

Explanation:
PU "aaaa" has changed from inactive to active state.

User Action:
None.

DNCS0608 hhmm W PU aaaa IS CLEARED. DATE TIME yyddd hhmm

Explanation:
PU X.25 LINK "aaaa" has been cleared.

User Action:
None.

DNCS0701 SNA REQ HEADER DEV: aaa PATH: bbbb RH: ccccddddeeee

Explanation:
A SNA request has been generated to be sent to a Primary Logical Unit. "aaa" is the Device ID, "bbbb" is the ID of the application and CPU, and "cc...ee" is the SNA Request Header.

User Action:
None.

DNCS0702 SNA DEV.aaa RSP ON PATH: bbbb RH: ccccddddeeee
SENSE: ffff

Explanation:
A SNA request received from a Primary Logical Unit has been given a response. "aaa" is the Device ID, "bbbb" is the ID of the application and CPU, "cc...ee" is the SNA response Header generated, and "ffff" indicates the type of response.

User Action:
None.

DNCS0703 SNA IMD RSP DEV:aaa PATH: bbbb RH: ccccddddeeee
SENSE: ffff

Explanation:
A SNA request received from a Primary Logical Unit has been given an exception response due to internal state violations. "aaa" is the device ID, "bbbb" is the ID of the application and CPU, "cc..."ee" is the SNA request header, and "ffff" are the SNA sense switch value.

User Action:
None.

DNCS0704 SNA DEV: aaa ON PATH: bbbb INVALID-ILLEGAL RH...
IGNORED

Explanation:
An illegal request header was received; it was ignored. "aaa" is the device ID, "bbbb" is the ID of the CPU and application.

User Action:
Contact your customer service representative or SNA host administrator.

DNCS0901 hhmm I aabb ENTRY TRACE

Explanation:
A subroutine "aa" within the Terminal Service Routine has been entered.

User Action:
None, trace message only.

DNCS0903 hhmm I aabb SNA BIND REJECTED

Explanation:
An SNA BIND reject was detected while attempting to add a Logical Unit (LU) to the list of active LU's.

User Action:
None.

DNCS0904 hhmm I aabb SNA SC REJECTED

Explanation:
An error was detected by the "INITLU" subroutine during the Logical Unit session initialization process. The session was not established.

User Action:
None.

DNCS0906 hhmm I aabb SYNONYM FOUND

Explanation:
The Terminal Service Routine subroutine "MAPSYN" was able to successfully map a synonym to an application name during session establishment.

User Action:
None, trace message.

DNCS0907 hhmm I aabb PU BLOCK FOUND

Explanation:
A Physical Unit control block was found by the subroutine "aa" during the mapping of session path index or session path name to path control blocks.

User Action:
None, trace memssage.

DNCS0908 hhmm I aabb APPL BLOCK FOUND

Explanation:
An application control block was found by the subroutine "aa" during the mapping of session path index or session path name to path control blocks.

User Action:
None, trace message.

DNCS0920 hhmm E aabb RECEIVED INVALID OAF:cc

Explanation:
The Terminal Service Routine received an invalid Origination Address Field identification "cc". The request was ignored.

User Action:
If the problem persists, contact your Customer Service Representative.

DNCS0921 hhmm E aabb MSG BUILD ERROR, TABLE ADR: cccc MSG ID: dd

Explanation:
The Terminal Service Routine subroutine "BLDMSG" was unable to create the terminal display message "dd".

User Action:
To determine the message that should have been created consult the DNCS Operations Guide for SNA display station message DNCS09xx.

DNCS0922 hhmm I aabb SNA RH/RU:cccccc

Explanation:
A SNA Request/Response Header and Unit was received and processed by Terminal Service Routine subroutine "aa".

User Action:
None, trace message.

DNCS0923 hhmm I aabb LU BLOCK:cccccccc

Explanation:
The Logical Unit state block "cccccccc" was processed by the Terminal Service Routine subroutine "aa".

User Action:
None, trace message.

DNCSxx01 hhmm E GETBID: NO BUFFERS AVAILABLE

Explanation:
There were no free buffers available for a memory request, the request was denied.

User Action:
None if this message happens infrequently as the calling routine will normally retry the memory request. If this message is frequently entered, then the number of memory buffers available to DNCS should be increased by increasing the number of buffer segments created by DNCS initialization. Contact your network operator to increase the number of segments.

DNCSxx02 hhmm E INSKEP: NO ROOM IN BID

Explanation:
There was insufficient space in the buffer (BID) provided to insert the character string requested. The operation was not performed.

User Action:
None.

DNCSxx03 hhmm E INSKEP: NO BID

Explanation:
The insert character string routine was called to move a character string but no buffer was provided by the calling routine. The operation was not performed.

User Action:
Check the DNCS Log for occurrences of the message "DNCSxx01 E GETBID: NO BUFFERS AVAILABLE" to determine if this is the cause of no buffer being present. If this is not the case, and the problem persists, contact your Customer Service Representative for assistance in determining the cause of no buffer.

DNCSxx04 hhmm E GETKEP: NO BID

Explanation:
The get character string routine was called to obtain data from a buffer, but no buffer was provided by the calling routine. The operation was not performed.

User Action:
Check the DNCS Log for occurrences of the message "DNCSxx01 E GETBID: NO BUFFERS AVAILABLE" to determine

if this is the cause of no buffer being present. If this is not the case, and the problem persists, contact your Customer Service Representative for assistance in determining the cause of no buffer.

DNCSxx05 hhmm S TSKINT: SCT NOT INIT

Explanation:
DNCS initialization was proceeding before the System Control Task had been initialized.

User Action:
Terminate and restart DNCS. If the problem persists it may be necessary to reinstall the DNCS nuculeus.

DNCSxx06 hhmm S TSKINT: NO TQRB

Explanation:
The DNCS initialization process was called to initialize a task, but no Task Queue Request Block (TQRB) was provided.

User Action:
Terminate DNCS and retry DNCS execution. If the problem re-occurs, contact the network operator to determine if a new task has been added to the list of tasks without being declared in the generation of DNCS.

DNCSxx07 hhmm S TSKINT: TQRB NOT INIT

Explanation:
The DNCS task initialization process was called to initialize a task, but the Task Queue Request Block (TQRB) indicated that the task had already been initialized.

User Action:
Terminate DNCS and retry DNCS execution.

DNCSxx08 hhmm S WRITEQ: NO VALID DESTINATION aaaaabbbbb

Explanation:
The DNCS request routing subroutine received a request which did not have a valid DNCS task destination as determined by mapping the Session ID (SID) to a task destination. "aaaaa" is the request block operation code and "bbbbb" is the SID of the request.

User Action:
Contact the netowrk operator or your customer service representative.

DNCSxx09 hhmm S WRITEQ RB: QUEUE IS FULL aaaaabbbbb

Explanation:
The DNCS request routing subroutine was unable to place a new request on the request queue due to all entries being used at the time. "aaaaa" is the request block operation code and "bbbbb" is the Session ID of the request.

User Action:
If problem persists, contact your customer service representative for information on how to obtain a system generated with more request block space.

DNCSxx10 hhmm I WRITEQ: OKaaaaabbbbb

Explanation:
An internal DNCS request block has been entered on the request queue. "aaaaa" is the request operation code, and "bbbbb" is the Session ID of the request.

User Action:
None, trace message.

DNCSxx11 hhmm E WRITEQ: RB.OPaaaaINVALID

Explanation:
The DNCS request routine subroutine received a request which did not have a valid operation code. "aaaa" is the operation code received. The request was ignored.

User Action:
If problem persists, contact your customer service representative for assistance in determining the cause and source of the invalid requests.

DNCSxx12 hhmm W BQDEQB: DEQUEUE P1: aaaa INVALID

Explanation:
The buffer dequeue common subroutine was passed an invalid buffer pointer. "aaaa" is the Buffer ID (BID) passed to it.

User Action:
None.

DNCSxx13 hhmm W BQENQB: INVALID BID: aaaa

Explanation:
The buffer enqueue common subroutine was passed an invalid buffer pointer. "aaaa" is the Buffer ID (BID) passed to it.

User Action:
None.

DNCSxx14 hhmm W BQRLQB: RELEASE P1: aaaa INVALID

Explanation:
The common subroutine to release the top entry from a buffer queue found an invalid entry. "aaaa" is the Buffer ID in error.

User Action:
None.

DNCSxx15 hhmm W BQENQB: INVALID P1: aaaa

Explanation:
The common subroutine to enqueue a buffer onto a queue found an invalid queue structure. "aaaa" is the Buffer ID of the first buffer on the queue.

User Action:
None.

DNCSxx16 hhmm E RELBID: BID aaaa INVALID

Explanation:
The common subroutine to release a memory buffer to the free buffer pool was passed an invalid Buffer ID (BID), "aaaa".

User Action:
None, the operation is ignored.

DNCSxx17 hhmm I CHGSEG: BAD SEG INDEX: aaaa

Explanation:
The common subroutine used to manage the DNOS memory segments used for DNCS buffers was passed an invalid segment index.

User Action:
Contact your customer service representative. It may be necessary to force a crash dump in order to determine the cause of the error.

DNCSxx18 hhmm E CHGSEG: BAD SEG CC: aaaa

Explanation:
The common subroutine used to manage the DNOS memory segments used for DNCS buffers received an error code from a DNOS segmentation service call. The error code was "aaaa".

User Action:
Consult the DNOS Messages and Codes Reference Manual for the proper action for error "aaaa".

DNCSxx19 hhmm E CHGSEG: REQUESTED SEGID aaaa NOT RECEIVED SEGID bbbb

Explanation:
The common subroutine used to manage the DNOS memory segments used for DNCS buffers attempted to swap memory segments, however the segment received was not the segment which was requested.

User Action:
Contact your customer service representative. It may be necessary to force a crash dump in order to determine the cause of the error.