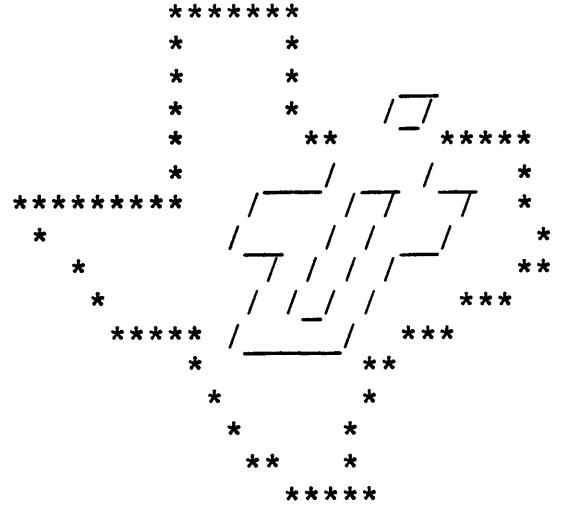DATA SYSTEMS GROUP

D N O S

D N C S / S N A

R E L E A S E   A N D   U P D A T E

I N F O R M A T I O N

Release 1.3.0

Part Number   2239934-9901**

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Texas Instruments
Incorporated

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SECTION 1

GENERAL INFORMATION

1.1   INTRODUCTION

This document contains information about the DNCS/SNA product, release 1.3.0, that is not contained in the standard documentation associated with the object installation kit.

Subjects 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   UPDATE INFORMATION

Updates to the DNCS/SNA emulator package since the last release are as follows:

1. Modified SNA Emulators for DNIO compatibility enabling distributed execution; whereby, the emulator tasks executing on client systems communicate with the nucleus executing on gateway systems via the network.

2. Implemented high speed search algorithm for VDT2 attribute characters and optimized CRT write procedures for faster display and reduced CPU demand.

3. Added local print key feature to the VDT2 emulator enabling use of the print key to copy screen images to files or printers, independent of the PTR1 or PTR3 emulators.

4. Added the PSC Simulator utility, a generic application program driven by a control file, adaptable to many applications to allow PSC execution without writing a custom program. For reference, the Pascal source code is supplied on the object installation media under DCEMO.EMPSC.SRC.

5. PSC now supports custom applications which suspend
   themselves (after closing without terminating the
   interface), as well as those that terminate. Formerly,
   PSC could only rebid applications when host data
   arrived; new capabilities permit PSC to either rebid or
   reactivate applications as required.

6. Modified KSR emulator trace control mode to allow both
   inputs and outputs to be recorded and to suppress
   special control characters from file outputs to
   facilitate normal printing.

7. User's Guide revised and reissued to include added
   functionality.

8. Added international character translation tables to all
   emulators to facilitate easy conversion of U.S.
   character codes to valid international character
   representations supported by DNOS country codes.

1.3   DNOS BUFFER TABLE REQUIREMENTS

The DNCS/SNA Emulators dynamically expand/compress the DNOS
buffer table area, by 288 bytes, on execution/termination.   This
is to guarantee a buffer for Emulator execution.

1.4   940 TERMINAL CONSIDERATIONS

XVDT2 can be executed on the 940 EVT whether attached to the TI
computer as a local, leased, or dialup terminal. To accommodate
peripheral devices such as attached printers, the 940 is
configurable for local (940) or host (TI computer) control.   For
proper print key operation in XVDT2, your 940 terminal
configuration requires DEV CTRL set to HOST. Refer to the 940
EVT Installation and Operation Manual, part # 2250368-9701, for
instructions to program the 940 configuration.

NOTE

The 940 terminal does not support cursor
blink upon pressing the Exit key (PREV PAGE
NEXT). XVDT2 is designed to use the Exit key

as the extended function key in two-key
sequence key functions. Ordinarily the
cursor will blink after pressing the Exit key
until the second key is pressed. Since the
940 does not support this feature, users
accustomed to the blinking cursor must be
aware of this difference to avoid confusion.
Care must be exercised due the the fact that
pressing the Exit key twice cancels the
extended function mode.

1.5 931 TERMINAL CONSIDERATIONS

XVDT2 can be executed on the 931 VDT whether attached to the TI
computer as a local, leased, or dialup terminal. To accommodate
peripheral devices such as attached printers, the 931 is
configurable for local (931) or host (TI computer) control. For
proper print key operation in XVDT2, your 931 terminal
configuration requires AUX ENABLE set to NO. Refer to the 931
Video Display Terminal General Discription, part # 2229228-0001,
for instructions to program the 931 configuration.

NOTE

The 931 terminal typamatic key feature causes
keys to repeat when held down. In two-key
sequence key functions, the extended function
Exit key (SHIFT ESC) is subject to the
typamatic feature. Since pressing the Exit
key twice will cancel its mode, typamatic
action toggles extended function on and off.
To avoid accidently canceling extended
function, press the Exit key quickly and
ensure that the cursor is blinking before
pressing the second key.

SECTION 2

UNDOCUMENTED ITEMS

This section documents new features or is an addendum to features documented in the DNCS/SNA User's Guide which were found to need additional explanation.

2.1   PROGRAMMING PSC PRINTER STATIONS

When writing PSC applications using SLU.T3 (PSC3) printer stations, programming restrictions imposed by printers distinguish them from SLU.T2 (PSC2) video data terminals. The primary distinction between PSC2 and PSC3 applications is the need for PSC3 to prevent pages of data from writing over one another. PSC2 operations have control over the reception of data; whereas, PSC3 operations are controlled by the host which arbitrarily sends pages of data at various time intervals. PSC has been designed to effectively handle printer data without overwrite, but requires that you develop your application correctly to exploit its capabilities.

From the seven available PSC routines (Open, Fill, Get, Transmit, Time-out, Attribute, and Close), Fill and Transmit are not applicable in the PSC3 environment. Since a printer is a receive only device, PSC will return errors to printer stations attempting Fill or Transmit operations. Physical printer devices continuously feed paper as data arrives; however, PSC processes its data from its 1920 character "screen" buffer. To ensure that processed data remaining in the screen buffer gets erased, PSC automatically clears the buffer at the beginning of each new block of data. This feature was implemented due to the fact that you cannot clear the buffer, since Transmit is not applicable to printers.

To pace your application's processing of printer data, PSC automatically locks out additional data after it receives a new block. (This feature corresponds to a physical printer running out of paper.) The PSC Get routine is programmed so that you can use the next action option 1, in argument <a6>, to tell PSC when you have finished processing the current block of data. (This feature corresponds to resetting a physical printer after loading the paper.) Select this option when you are performing the last

Get operation on your printer data. Since this is a follow-up operation, PSC does not request more data until your application's Get call has completed.

2.2   INTERNATIONAL CHARACTER TRANSLATION

In order to simplify character conversion in data flowing to and from the SNA Emulators on TI Business Systems installed outside the United States, translation tables have been linked to each emulator task for conversion processing. These conversions have been judiciously installed in the source code where existing buffer-to-buffer transfers are done so that the translation does not affect CPU load or execution time. DNCS patch file PATEMU contains an optional patch which uses the translation tables for Swedish character conversion in the VDT2 emulator. You can use it for reference or as a model to create custom patch files for your particular environment. By referring to the appropriate link map for each emulator, you can locate the translation tables and use the Modify Program Image (MPI) command to make your SNA Emulators compatible with your country code character set.

As a naming convention, link map pathnames are identical to their respective installed task. The SNA Emulator tasks containing translation tables are EM3278 (VDT2), EM3284 (PTR3), EM3287 (PTR1), EMKSR (KSR), SVQHST (SVQ), and EMPSC (PSC). EM3278, EM3284, EM3287, EMKSR, and SVQHST are installed on .S$DNCS.PGMTASK and their respective link maps are in the DNCS installation media directory .DCEMO.LINKMAP, with the exception of SVQHST in directory .DCFWO.LINKMAP. EMPSC is installed on .S$UTIL with its link map in directory .SDGU.<config>.LINKMAP.

Within each emulator link map, the COMMON table contains the origin (address) of each global variable declared in the task. The conversion tables are packed arrays from >00 to >7F labled CNVTIN and CNVTOT, meaning convert inbound data and convert outbound data respectively. Inbound and outbound are from the mainframe host's point of view; that is, data traffic moving from DNCS to the host is inbound and moving from the host to DNCS is outbound. DNCS converts outbound EBCDIC data to ASCII before the data reaches the emulators and inbound ASCII data to EBCDIC before transmission to the host; therefore, all emulator character conversion is done in ASCII.

To modify your DNCS SNA Emulators for character conversion, locate the CNVTIN and CNVTOT common variables in the appropriate link map and use their addresses as the base address to compute the offset in the array. Every text character in the data stream

becomes a subscript defining an offset in its respective array
and is replaced by the value at its offset. By default, each
subscript offsets from the base array address to the byte
containing its value so that no changes occur unless
modifications are performed. For example, CNVTOT[>40] equals >40
and CNVTIN[>5C] equals >5C.

Using DNCS patch file PATEMU optional patch P3818 as an example,
first refer to the EM3278 link map for the conversion table
addresses (CNVTOT is at >533E and CNVTIN is at >550C.) To
translate outbound (from host) character >40 to >5C, add >40 to
CNVTOT base address >533E, deriving address >537E. Use the MPI
command to modify the contents at address >537E from >4041 to
>5C41. To translate inbound (to host) character >5C back to >40,
add >5C to CNVTIN base address >550C, deriving address >5568.
Use the MPI command to modify the contents at address >5568 from
>5C5D to >405D. This modification causes all >40 characters
(sent to the VDT2 terminal by the host) to be displayed using >5C
(a unique Swedish character) and reverses the translation so that
>5C at the terminal is sent to the host as >40. Since the MPI
command is used to modify whole words, unchanged bytes are
replaced with their current value. You can use the Show Program
Image (SPI) command to output the table image for reference, to
determine addresses, and verify changes.

SECTION 3

KNOWN PROBLEMS

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

3.1 SOFTWARE

1. In DNIO gateway/client network environments, the PSC emulator tasks and associated SCI commands are not installed on client systems. PSC is linked to a memory resident task on the gateway, requiring that all PSC tasks and applications are installed on the gateway system.

2. STR 18855 - When the print key pathname option is selected in the XVDT2 command, the end of file marker (EOF) is not written when the file is closed. Attempts to copy/concatenate print files cause error, U SVC 0331 OPERATION EXCEEDS RANGE OF FILE, to occur. Patch P3842 corrects this problem. Using the editor (XE) to add a blank line at the end of your print files will also add the EOF mark, if the patch is not installed.

3. STR 18907 - During a KSR session, toggling between function keys F2 and F3 for different trace output options can cause improper results. Once F3 has been activated, KSR will continue tracing both input and output if the F2 key is reactivated. Patch P3862 corrects this problem.

4. Auto logon attempts for a device will be repeated, even if the logon request is rejected, because the application will not accept logon requests from the logical unit assigned to the device.

5. STR 18912 - Under certain host application display formats, the 3270 program tab (PT) order does not work properly. This problem is associated with screen displays where fields begin near the bottom of the screen and continue at the top of the screen. When PT fails, the cursor will not get positioned at the right

location; however, various keys such as Next Field, Home, or Skip will correct the cursor position.

6. STR 18913 - In some mainframe host environments, LU activation automatically occurs upon activation of the PU. If PSC applications attempt to open a station which has been activated by the host, the open will fail. To circumvent this problem, log the station off prior to executing PSC.

7. Certain classes of messages, such as a Logged Off message from TSO after a session timeout has occurred, will be sent to the device even if the device is in the SYSREQ session or in session with another application.

8. Unformatted SSCP-LU request, such as VTAM Logon Screens, are not displayed at the receiving device.

3.2   DOCUMENTATION

No known problems.

SECTION 4

PATCHES AND PATCH PROCEDURES

4.1 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.