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UPDATE DOCUMENT, DX10 ONLINE DIAGNOSTICS,
RELEASE 2.1.0-990

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| REV. ** | SHEET 1 OF 10 |

SECTION 1

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1.1 PREFACE

This document describes the changes to DX10 Online Diagnostics and System Log Analysis Task 2.1 Release. Extensive updates and modifications were made to the Online Diagnostics and the System Log Analysis Task that require the release of a new software package. The instructions for installing either the source or the object can be found in the READ FIRST installation guides. During system generation of the target system, you should respond YES to the prompt:

ONLINE DIAGNOSTIC SUPPORT?

SECTION 2

CHANGES - DX10 ONLINE DIAGNOSTICS

2.1 DSRW - Extended Disk Diagnostic

The online diagnostic tests for all of the disk systems (DSRW) have had major enhancements. There are now four groups of tests:

1. Tests 1 - 2: Read-Only File I/O.
2. Tests 3 - 4: Write/Read File I/O.
3. Tests 5 - 8: Extended Read-Only.
4. Tests 9 - 11: Extended Write/Read (Scratch disk only).

The extended disk tests allow the capability to read or write on the total surface of the disk volume. Also, many specific features of the various disk controllers are tested.

2.2 LP600 - 300/600 Printronix Diagnostic

The online diagnostic test for the Printronix line printers (LP600) exercises both the LP300 and LP600 line printers. There are 15 noninteractive tests available.

2.3 LP840 - 840 RO Line Printer Diagnostic

The online diagnostic test for the 840 RO line printer (LP840) provides 13 noninteractive and 1 interactive tests.

2.4 911 Subtests Split into Separate Tests

The online diagnostic for the 911 VDT (STxx) now has 6 noninteractive and 1 interactive tests. Two subtests were split

from test 1 and made into individual tests.

2.5 ST940 - 940 Terminal Diagnostic

The online diagnostic test for the 940 VDT (ST940) provides testing for the Business System series 940 VDT. This diagnostic has five noninteractive and 1 interactive tests.

2.6 DSXX - FD1000 DSDD Clean Head (CH)

The Clean Head verb allows the capability to use a special cleaning diskette to clean the heads on a FD1000 DSDD drive.

2.7 DIAG - Diagnostic Verb to Place Devices in the Diagnostic State

The DIAG verb allows changing the state of devices from ONline to DIAGnostic within the driver task. Thus, the user does not need to exit the driver, perform the DIAG or MDS commands via SCI, and then reenter the driver to continue testing.

2.8 ON - Online Verb to Place Devices in the Online State

The ON verb allows changing the state of devices from DIAGnostic to ONline inside the driver without requiring use of the ON or MDS commands via SCI.

2.9 SF - Show Diagnostic Files

The new Show Diagnostic File (SF) verb replaces the Show History (SH) verb. The SF verb is functionally equivalent to the Show File (SF) command in SCI. However, only the following diagnostic related files are available:

- ONLINE HISTORY	.S\$ODIAG.HISTORY (1)
- SYSTEM LOG ANALYSIS REPORT	.S\$SLARPT
- SYSTEM LOG 1	.S\$SLG1
- SYSTEM LOG 2	.S\$SLG2
- ONLINE HISTORY ERRORS	.S\$ODIAG.ERRORS (2)

Notes:

(1) This is the default history file name, and may differ according to the history file name you specified earlier.

(2) This is the default error file name, and may differ according to the error file name you specified earlier.

2.10 SP - Show Picture

The SP verb shows a picture of the online diagnostic status of all active diagnostic tasks. The error and pass counts for each task are also displayed.

2.11 XSLA - Execute System Log Analysis Task

The XSLA verb executes the System Log Analysis Task from the Online Diagnostic Driver while in the diagnostic session. The SF verb can then be used to display the analysis report file (.S\$SLARPT).

2.12 Test Description HELP Messages for the XD Verb

Test descriptions for each diagnostic were added in the XD verb. When the prompt:

ENTER DIAGNOSTIC TEST (INTEGER, ALL)?

appears, then enter HELP, and a description of the tests will be displayed.

2.13 Master Total Error Count for Automatic Batch Mode Execution

A Master Error Count appears when the session is complete. This is to inform you if any errors occurred in the diagnostic session. If the error count is non-zero, then you should refer to the history file.

2.14 Conditional Error Flag Processing For Automatic Batch Mode Execution

A conditional error synonym flag is set internally by the driver if the master error count is non-zero. This allows checking of the DIAGERRS synonym to provide conditional error processing in the automatic batch mode.

2.15 Optional Installation of Help Messages to Reduce Size

The object installation kit allows the "OCLIP" file to be installed without HELP messages. This will save approximately 100 ADUs. However, this is not recommended since it reduces the functionality of the online driver.

2.16 LDC - List Device Configuration

The LDC verb calls the List Device Configuration task to show the current device configuration from the online driver.

2.17 SMM - Show Memory Map

The SMM verb calls the Show Memory Map task to show the current memory map of the system from the online driver. This is helpful when executing memory diagnostics to determine if memory is completely full.

CAUTION

Do not leave this display active at all times as it will disallow processing of online diagnostic progress messages. The SP verb should be the normal mode of viewing diagnostic progress.

SECTION 3

CHANGES - SYSTEM LOG ANALYSIS TASK

3.1 Level 3 Report for Remote High/Medium Summary Analysis

The level 3 report provides a combination of level one and level two reports. For hardware type errors, level 3 gives a level 1 report plus an expanded listing of any errors for those devices that have recommendations due to possible hardware failures. However, this listing does not give expanded messages for devices having only operational errors.

3.2 XSLAP - Purge Master Log Data File by Date and Device

The XSLAP proc allows the capability to delete old data on the master log file. Thus, if a malfunction has filled the file with error messages and other data is desired to be saved, then the old malfunction data can be purged from the S\$DML file after the hardware is repaired. The prompts for the command are as follows:

```
PURGE RECORDS IN .S$$DML FILE - VERSION 2.1.0
  STARTING DATE (MMDD):
  ENDING DATE (MMDD):
  DEVICE NAME:
```

The STARTING DATE prompt requires a 4 digit input, 2 for the month (MM) and 2 for the date (DD). The ENDING DATE prompt requires the same type of input. All records between these 2 dates will be purged where they concern the device you specify to the DEVICE NAME prompt.

3.3 SLA Execution Regardless of Log File Content

The System Log Analysis Task has been extensively enhanced to allow the task to execute regardless of the content of the system log files or the appearance of any data that would not normally be considered by the analysis task. Previous versions of the task would terminate abnormally without completing a report if unexpected conditions were encountered. The goal of this version

is to always provide a report before termination of SLA.

3.4 Specific Device Selection using XSLA Procedure

Rather than generating a full report, you can generate a report for a specific device. You can request any report for any level of device using the following options:

- All Devices, ie, ALL
- Like Type Class Devices; ie. DS
- Specific Device; ie, DS01

3.5 Level 1 and Level 2 Tasks Merged into One Single Task

The previous release had two separate tasks for level 1 and 2 report generations. This release combines those tasks into a single task (>5E) for a disk space savings in excess of >8000 bytes of storage.

3.6 Master Log Data File Reorganized to hold More System Log Data

The SLA master log file (S\$DML) has been reorganized to hold more system log data. Thirty records are created at installation time.

3.7 Report Format Enhancements

The following major report enhancements have been incorporated in this release:

- Install/unload volume names tracked by devices
- Concatenation of statistics counters
- Recommendation messages expanded for more precise explanations
- Report run time and date
- Revision level of analysis task

SECTION 4

STRs CLOSED

The following STRs were closed as a result of this release:

STR NUMBER	DESCRIPTION
13144	AN >1111 ERROR IS REPORTED TO THE HISTORY FILE WHEN THE DRIVER IS RUN IN BACKGROUND.
13143	THE "FILL IN MATERIAL FOR MESSAGE IS TOO LONG" AND "ABNORMAL TERMINATION" ERROR MESSAGES ARE REPORTED WHEN THE 940 INTERACTIVE TEST IS RUN.
13142	THE SYSTEM HANGS UP WHEN THE 940 INTERACTIVE TEST IS RUN.
13007	THE WRONG STACK AND HEAP PARAMETERS ARE BEING USED IN THE MDS PROC FOR DNOS 1.1.
13006	SLA DOES NOT PLACE ANY DATA IN THE SLARPT FILE WHEN BID FROM THE DRIVER.
13005	THE 940 EDT TEST WOULD NOT EXECUTE.
13004	>2BFD ERROR WHEN BIDDING THE 810 PRINTER TEST.
12879	WITHIN THE DISK DIAGNOSTICS, THE DIAG AND LDC COMMANDS ARE NOT WORKING.
12665	THE DISK TEST RETURNS AN SVC 03 ERROR (LUNO NOT ASSIGNED) UNDER DNOS.
11273	THE INSTALLATION COPIES TASKS WITHOUT ATTACHED PROCEDURES.
11274	'RD' REQUIRED FOR INSTALLATION FROM TAPE ON ONE-DISK SYSTEMS.
10772	SYNONYM 'VOL' DISCREPANCY IN BATCH STREAM.
10885, 9730	>OFFC ERROR ON 'XODD' EXECUTION (OCCURS ONLY IF YOU CHOSE NOT TO INSTALL ALL DIAGNOSTIC TASKS).

10773, EXECUTION OF SLA FAILED WITH MESSAGE: "HALT
10357, CALLED IN MODULE SDERR".
9585

9945 SLA CANNOT HANDLE "GARBAGE" (**** IN THE TYPE
FIELD) IN THE SYSTEM LOG FILE.

9819 ONLINES CAN ONLY BE INSTALLED ON THE SYSTEM
DISK.

9810 SLA ABORTS WHEN IT ENCOUNTERS A SPECIAL DEVICE
NUMBER.

9727 ERROR WHEN EXECUTING ONLINES ON SYSTEM DISK.

9722 SLA FAILS (.S\$DML POINTER PROBLEM).

9721 SLA FAILS WHEN COMPRESSING .S\$SLG OR .S\$DML.