CONVEX
Integrated Disk Channel (IDC) V6.0 Release Notes/Installation Procedures

Document No. 081-007030-009

June 1993

CONVEX Press
Richardson, Texas USA

CONVEX
Integrated Disk Channel (IDC) V6.0
Release Notes/Installation Procedures

Document No. 081-007030-009

Printed in the United States of America

Contents

Introduction

1

This document contains the release notice and procedures for installing the Integrated Disk Channel (IDC) Software V6.0. Prior to the V4.1 release of this software, the individual components of this product were part of the ConvexOS release and CONVEX System Diagnostics

This release may only be installed on C2 series machines, C32XX machines, C34XX machines or C38XX machines. ConvexOS V10.1 or later is required.

Prerequisites

IDC hardware requires that the following versions of Convex SpuOS, System Diagnostics, and I/O Diagnostics be installed prior to the installation of an IDC:

CONVEX system	SpuOS	System Diagnostics or Processor Diagnostics	I/O Diagnostics
C200, C3200 Series	V6.1	V5.0 or later	V1.1 or later
C3400 Series	V6.1	V1.2 or later	V1.1 or later
C3800 Series	V2.0	V2.1 or later	N/A

Contents of this document

The remaining chapters and sections of this document describe:

- The part numbers and contents of this distribution.
- Information about this release.
  - Fixes for previously reported problems.
  - Known problems with this software.
- Installation procedures for this distribution.

Description of Contents

2

The distribution package for this release of Integrated Disk Channel Software V6.0 consists of:

- This release notice and installation procedures.
- Distribution media for the software.

Quantity	Type	Part Number	Description
1	Magnetic tape (*installsw* format)	081-003615-007	IDC Software V6.0
1	This document	081-007030-009	IDC V6.0 Release Notice and Installation Procedure

Release Information 3

Note

This release may only be installed on C2 series machines, C32XX machines, C34XX machines or C38XX machines. ConvexOS V10.1 or later is required.

IDC Software V6.0 consists of the following files:

- The diagnostic database files *DB_idc, RLL_1_7, RLL_2_7, RLL_1_7.2hp,* and *RLL_2_7.2hp* are installed in the */usr/lib* directory under **ConvexOS** and a copy is placed on the SPU file system in */mnt/usr/lib.*
- The IDC firmware on the SPU file system (in */mnt/os/idc)* is replaced with a new version that corrects some reported problems in the previous versions. See the section on *Fixes and Enhancements* for more details.
- The IDC disk formatting and media repair utility *idcfmt* is installed in */usr/convex* under **ConvexOS** and in */mnt/bin* on the SPU file system. On C38XX systems, */mnt/bin* is a symbolic link to */diag/bin.*
- The man page for idcfmt is placed in */usr/man/man1/idcfmt.1d.*
- A new copy of */etc/disktab* is installed to support the DKD-505 disk drive.

Fixes and Enhancements

The following problems have been fixed and enhancements added to the IDC firmware in V6.0:

- Percent busy statistics are now made available to the *syspic*(8) utility.
- Upon a panic condition, the IDC now flushes its print queue to */mnt/errlog* on the SPU.
- On-line slipping and unslipping of sectors has been made much more stable and reliable. It is still recommended that the filesystem be unmounted before slipping a sector, and that *fsck*(8) be run over the filesystem after slipping a sector.
- The disk attention time-out has been increased to 20 seconds.
- The FSC for a DICE time-out error has changed from 100b to 7102 and the condition has been made recoverable.
- The PBUS time-out for sending CMI messages has been substantially increased.
- A panic caused by the Line Interrupt process trapping pid 0 has been fixed.
- A panic caused by a message being returned to the CPU before ECC processing has completed has been fixed.
- A window has been closed whereby the Line Interrupt process could be trapped twice.
- Support has been added for the DKD-505 disk drive.

Known Problems

The known problems with the V6.0 IDC firmware:

- Over time, some IDC disk drives will report a "Missed Sync Byte" error. This error is seen as "FSC 0x104f < unit# > < sector# > ..." The problem is always corrected after one retry.
- Attempting to write to more than 2 DKD-505 disk drives on a single IDC in a block size less than or equal to 16 kilobytes will result in degraded data throughput for those drives. This most severely impacts the data throughput of redundant stripes with a width of 5 or more where 3 or more component drives are attached to a single IDC.

Installation Procedure

4

The general procedure for installing this release is:

- Make backups of the / and */usr* file systems.
- Install the software for this release with */etc/installsw*.
- Reboot **ConvexOS**.

Backing-up File Systems

Before installing this software, put ConvexOS in single-user mode and make full backups of the existing / (root) and */usr* file systems using the *dump*(8) utility. To do so, complete the following procedure.

Obtain full backups of the / (root) and /usr file systems before installing IDC V6.0. This ensures against loss of valuable files due to unforeseen problems during the installation procedure.

1. Log in as root at the system console.
2. Put the system in single-user mode using the *shutdown*(8) command. An example is given in the screen below.

```
# /etc/shutdown +5 "to install IDC software V6.0"
```

Warning messages are printed to the screen for approximately five minutes. The terminating message and system prompt then appear as in the following screen.

```
erase ^H, kill ^U, intr ^C
#
```

3. Verify that the file */etc/dumpdates* exists. If it does not, create it by entering the command shown below.

```
# cp /dev/null /etc/dumpdates
```

4. Ensure that tape unit 0 is on-line. Tape unit 0 is the first unit listed in the I/O configuration file, */ioconfig*, located on the SPU disk.
5. Mount a scratch tape on tape unit 0 for the / (root) file system backup.

6. Backup the / (root) file system by entering the commands shown below. Ignore warnings about the file system being mounted. (Output from the dump utility is printed to the screen.).

```
# cd /
# /etc/dump 0G /
```

The backup is complete when a system prompt appears.

7. Mount another scratch tape on tape unit 0 for the */usr* file system backup.
8. Back up the */usr* file system by entering the commands shown below. (Output from the dump utility is printed to the screen.)

```
# /etc/dump 0G /usr
```

The backup is complete when a system prompt appears.

Installing IDC Software V6.0

While the system is in single-user mode, mount the installation tape on tape unit 0 and ensure that tape unit 0 is on-line. Tape unit 0 is the first unit listed in the I/O configuration file, */ioconfig*, located on the SPU disk.

The installation tape is labeled "IDC Software V6.0" (part number 081-003615-007).

Enter the following command:

```
# /etc/installsw -i
```

The install script will ask if this is a "LOCAL" or "REMOTE" install. A "LOCAL" install is an install on the machine that has the tape drive the install script is using. A "REMOTE" install is an install on a machine other than the one with the tape drive. Enter the correct choice for this install at the following prompt:

```
Choose the type of installation you want to perform:
     LOCAL  --> install on this machine
     REMOTE --> install on a remote machine
     ABORT  --> abort installation

Enter your selection now -->
```

Follow the instructions displayed by the install script to select and install the "IDC Software" product. The de-install option should only be used to back out of the product after it has successfully been installed.

IDC V6.0 should now install with no further input. Various status messages will be displayed. It should take less that 5 minutes to finish the installation.

If for some reason something goes wrong, the install script may prompt the installer for help. When this occurs, the installer may type an exclamation point (!) to start a command shell. The "exit" command to the shell will return control to the install script.

Installation is complete when the following message is displayed:

```
IDC Software V6.0 installation complete.
```

If for any reason the installation fails, please make a note of the exit status code and call the CONVEX Technical Assistance Center at (800) 952-0379.

Rebooting ConvexOS

Once the installation has completed without error, you may reboot ConvexOS with the following commands:

```
# /etc/halt
(spu)> boot
```