

## CDEX Checklist for JEDMICS Release 3.2

### Prepared by:

AMCOM Engineering Data Management System Program Office  
Redstone Arsenal, Alabama  
(256) 876-8251

### Revision History: 10 May 2002

#### 1. Purpose

During JEDMICS maintenance release upgrades, it is possible the interface between the JEDMICS GOS/BOS device and the CDEX workstation may be impacted by changes in GOS/BOS configuration. The intent of this document is to describe the JEDMICS GOS/BOS to CDEX interface and provide recommended procedures to ensure the interface remains operational after a maintenance release installation. Site Administrators are encouraged to verify the operation of their CDEX as part of maintenance release installation.

#### 2. CDEX Application

CDEX is a capability composed of a combination of COTS hardware and software and custom developed software utilized to manage the process of creating Technical Data Packages (TDPs) on Compact Disk Recordable (CD-R) media. The CDEX capability operates on a Windows-NT workstation and include Compact Disk Recordable devices, CD-R mastering software from Rimage Inc., *DiskShare* COTS software product from Shaffer Solutions Corp and custom software managed by AMCOM. The CDEX capability includes a point-and-click Graphical User Interface (GUI) that enables users to manage multiple CD-R devices using multiple JEDMICS output jobs. The CDEX architecture can be configured as a "master" workstation or in a "master/slave" relationship discussed below. The primary processes of the CDEX capability consist of: JEDCHECK, PRODPROC, CDEX-GUI and *DiskShare* which execute on the Windows-NT CDEX workstations. The only process required on the JEDMICS GOS/BOS device is Network File Sharing (NFS), which is inherent to the Solaris Operating System (Sun-OS). Specific variables are defined on the JEDMICS GOS/BOS (UNIX platform) to expose the export directory to external

clients via NFS. The variable assignments are discussed in sections below.

### **3. JEDMICS Export Directory**

On the JEDMICS Unix-based GOS/BOS, export jobs are sent to an export directory defined as "/edemics/gos\_out" in a variable called GOS\_DEFAULT\_DIR in a file /edemics/etc/config.gos <or> /edemics/etc/config.bos depending on which output method (GOS or BOS) is used. When a JEDMICS job has completed depositing files in the export directory an empty file called "done" is placed into the root directory of each job. The presence of the file called "done" indicates the JEDMICS job has finished.

The JEDMICS export directory is exposed to external clients via NFS configuration settings. Whenever the GOS device is booted, the /etc/vfstab file on the GOS Unix system configures NFS to share its export directory with the CDEX Windows-NT file-system. Jobs exported by GOS/BOS simply pass through the GOS/BOS Unix file-system and get stored on the CDEX Windows-NT file-system in the import directory.

### **4. JEDMICS GOS/BOS Device Install or Upgrade**

It is recommended that prior to GOS/BOS setup or upgrade, the System Administrator TAR or COPY the following files from the server where GOS/BOS resides.

```
/etc/vfstab
/etc/passwd
/etc/hosts
/etc/group
/etc/shadow
/edemics/etc/config*
/edemics/etc/services
```

These files can be used to save existing settings such as ownership and permissions in case deficiencies are found during upgrade.

As part of a JEDMICS release, either an Auto-Upgrade or Baseline Install procedures may be used to apply changes to the GOS/BOS server.

If AUTO UPGRADE procedures are used, the value for GOS\_DEFAULT\_DIR is not changed in the following files:

```
/edemics/etc/config          * NOTE config is a link to a config
```

```
                                .gos  .bos  .gis  or  .plot
/edmics/etc/config.gos
/edmics/etc/config.bos
/edmics/etc/config.gis
/edmics/etc/config.plot
```

If a BASELINE install is chosen, setting the GOS\_DEFAULT\_DIR is part of the install for GOS and BOS per the following install prompt:

```
Enter the default GOS output directory [/edmics/gos_out/]:
```

It is recommended the default value be accepted. The default value for this prompt sets the GOS\_DEFAULT\_DIR to /edmics/gos\_out/

After a BASELINE or AUTO UPGRADE, it is recommended the System Administrator export (i.e. GOS out) a single image to the user GOS' home directory to verify the structure expected is correct. This will validate the JEDMICS application without CDEX JEDCHECK retrieving the output for further processing.

Example directory structure for a GOS job should look like the following example:

```
jobid's root
./job_info.txt
./00/00/00.C4
./00/00
./00
./imageidx.rst
./done
```

## **5. CDEX Import Directory**

The CDEX import directory is pre-defined as a registry entry on the Windows-NT workstation, typically "h:\cdex\". This directory receives the data files from the JEDMICS GOS Unix device via the NFS mount.

## **6. DiskShare**

*DiskShare* is a COTS software product (formerly marketed by Intergraph and now marketed by Shaffer Solutions Corp.) that runs on the Windows-NT workstation to enable sharing files with Unix systems via Network File Sharing (NFS).

During CDEX installation the import directory "h:\cdex\" is exposed to the network via NFS (enabled by DiskShare).

## **7. JEDCHECK**

*JEDCHECK* is a CDEX process that runs as a service on the CDEX Windows-NT workstation. Its primary function is to continuously monitor the data import directory scanning for jobs to process. As *JEDCHECK* scans the import directory it may encounter several jobs but will only process those that contain a "done" file (which indicates JEDMICS has completed the export). Jobs without a done file are ignored. When *JEDCHECK* detects a "done" file within a job directory, it moves all of the job's image files to a different directory used to manage the CD creation process. As part of the process, *JEDCHECK* removes jobs that have been archived for more than one month, creates some management files, prepares the data for creation of CD-R images, and then inserts an entry into the CDEX joblist database.

## **8. PRODPROC**

"*PRODPROC*" is also a component of CDEX that runs as a service in the Windows-NT workstation. The primary purpose of the *PRODPROC* process is to handle all communications with the Rimage equipment via the Rimage Image and Production Servers processes, and the CDEX job management application. *PRODPROC* creates the key files that are necessary to build a CD-R image file and record the CD-R file. After each job has been successfully processed, *PRODPROC* performs a cleanup function to remove all temporary files.

## **9. CDEX "master" configuration**

**Required software: DiskShare, *JEDCHECK*, *CDEX-GUI* and *PRODPROC*.**

The CDEX capability can be configured as a single workstation configuration. This is the most common configuration at JEDMICS sites. This configuration consists of one CDEX Windows-NT workstation called the "master" linked to one JEDMICS GOS/BOS Unix device (e.g. MDS1). The "master" workstation may support one or two Rimage Transporters/Towers. To accomplish the "master" configuration, the CDEX software application is installed

with the *JEDCHECK* and *PRODPROC* components and the *DiskShare* processes.

## **10. CDEX "master/slave" configuration**

**Required software:** *DiskShare*, *JEDCHECK*, *CDEX-GUI* and *PRODPROC*.

The CDEX capability may be configured with multiple CDEX workstations arranged in a "master/slave" relationship. A typical CDEX "master/slave" configuration consists of two or more Windows-NT workstations, (CDEX1, CDEX2, etc.), each of which may have one or two Rimage Transporters/Towers. The CDEX workstation designated as the "master" handles all communications with the JEDMICS Unix device (MDS1) running GOS/BOS. This configuration assigns one Windows-NT workstation (CDEX1) to act as a "master", and the others (CDEX2, etc.) to act as "slave" workstations. *DiskShare* is only required on the "master" workstation eliminating the need for multiple JEDMICS connections. *JEDCHECK* is only required on the "master" workstation (CDEX1). *PRODPROC* is required on all workstations.

In this configuration, all jobs exported by GOS/BOS are delivered to the "master" workstation and are processed by the *JEDCHECK* service. The master workstation distributes data as needed to the "slave" workstations via Windows file sharing. This master/slave configuration allows sites to maximize the productivity of the CDEX capability.

## **11. Verification of Proper CDEX Operation After JEDMICS Release Install**

Obviously the best way to verify operation of CDEX after a JEDMICS release installation is to create a new job on JEDMICS, export the job to the GOS/BOS and then verify the job is visible on the CDEX "master" workstation. If the job is not visible, follow the checklist below to determine possible deficiencies.

- a) Login as root on the JEDMICS GOS/BOS device and change directory "cd" to the /edemics/etc directory. Depending on which export method is used (GOS or BOS), examine its associated configuration file "/edemics/etc/config.gos" or "/edemics/etc/config.bos". Ensure that the GOS\_DEFAULT\_DIR variable is correctly set to /edemics/gos\_out. If it is not correct, then

edit the file with the correct value and save the file.

- b) Change Directory "cd" to the /etc directory and examine the "vfstab" file to ensure that the correct syntax is used to mount the NFS. For example, using "CDEX1" as the name assigned to the CDEX master workstation and "h:\cdex\" as the name of the CDEX import directory you should see the following entry in the vfstab for the NFS mount:

```
CDEX1:/h/cdex/ <tab> - <tab> /edmics/gos_out <tab> nfs <tab> - <tab> yes
```

Please note the use of <tabs> between some fields, this is important! Spaces should not be used as a substitute because they have been known to cause problems with some NFS mounts.

If the vfstab file is correct then proceed to next step else modify the file to the correct syntax.

- c) Change Directory "cd" to the /edmics/gos\_out directory and do a directory listing (ls -la). If each file's userID (UID) and groupID (GID) are "nobody4/nogroup" respectively, then the *DiskShare* user/group mappings are incorrect and will most likely cause file permission errors when *JEDCHECK* tries to process jobs.

This condition typically occurs when a GOS device has been rebuilt and the files mentioned in Section 4 above were not restored. Refer to the files saved in Section 4 above for proper setting of permissions. Additional information can be found in the *DiskShare* COTS Documentation and Frequently Asked Support Questions shown at [http://www.ssc-corp.com/nfs/ds\\_answ.htm](http://www.ssc-corp.com/nfs/ds_answ.htm). The CDEX Helpdesk is also available for technical support on proper permission setting procedures.