April 2002

Recommendations for Installing Applications on the DNCS and Application Server

Overview

Introduction

The Cisco® Digital Broadband Delivery System (DBDS) supports the installation of software applications on the Digital Network Control System (DNCS) and the Application Server. The Broadcast File System (BFS) server on the DNCS then broadcasts these applications to subscribers.

System operators have been able to choose the directory on the DNCS or Application Server into which the software application files are installed. When the system is later backed up, these files may be overlooked because Cisco's backup scripts are not designed to back up every directory. Application files that are not backed up must be reinstalled if the system operator has to restore a system backup.

Purpose

This technical bulletin presents an overview of the process by which system files are backed up, and recommends directories on the DNCS and the Application Server into which application files should be installed. Application files installed in these recommended directories are backed up as part of Cisco's backup procedures, and can later be restored if needed.

Additionally, this technical bulletin recommends the method system operators and application developers should use when installing applications onto the DNCS and Application Server

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Scope

The recommendations in this technical bulletin that apply to the DNCS pertain to sites that support either Cisco's Application Server or Pioneer's Application Server.

The recommendations in this technical bulletin that apply to the Application Server pertain only to sites that support Cisco's Application Server. System operators of sites that run the Passport resident application should contact Pioneer for recommendations on installing applications.

Audience

This technical bulletin is written for system operators of Cisco's DBDS and application developers who write software applications for Cisco's DBDS. Cisco field service and upgrade installation engineers may also find the information in this technical bulletin useful.

Document Version

This is the second formal release of this technical bulletin.

Applications on the DNCS and the Application Server

Introduction

This section provides an overview of the files and directory structures that Cisco backs up as part of the key files backup on the DNCS and the Application Server. After reading about the backup process, system operators and application developers should have an understanding as to why Cisco recommends that application files be installed into specific directories.

Overview of Cisco's Key Files Backup Process

Cisco backs up the subdirectories and files in the /export/home/dncs directory of the DNCS and the Application Server as part of the key files backup process. The script that Cisco uses to back up the key files is *dncsFilesBackup*. Cisco engineers back up the key files prior to a system upgrade. Additionally, system operators are encouraged to complete their own key files backup whenever the systems they manage experience a change in configuration.

System operators seeking current backup and restore procedures should contact Cisco Services.

The backup process is automated. The scripts used to back up the critical system files are designed to back up files in specific directories. If developers and system operators install application files into directories of their own choosing, the potential exists for these files to be overlooked during the backup process. Any files not specifically backed up during the backup process must be reinstalled, rather then restored from the backup.

Recommendations for Installing Application Files on the DNCS and the Application Server

Cisco recommends that application developers write their applications to install into a subdirectory of the /export/home/dncs/apps directory on the DNCS and the Application Server. All applications stored in the /export/home/dncs/apps directory are backed up as part of the key files backup process.

Important: The /apps directory, as well as any subdirectories, do not naturally exist in the /export/home/dncs directory path on the DNCS or the Application Server. System operators have to create the /apps directory (as well as subdirectories) before installing applications there. The procedure in the next section, **Create the /apps Directory and Related Subdirectories**, guides system operators through the process of creating the /apps directory and any related subdirectories.

Create the /apps Directory and Related Subdirectories

Introduction

As stated in the previous section, Cisco recommends that system operators and application developers install their application files into a subdirectory of the /export/home/dncs/apps directory. The /apps directory does not naturally exist on the DNCS or the Application Server. The system operator has to create the /apps directory, as well as any subdirectories into which the application files are actually installed.

In addition to creating the /apps directory, the system operator should also create the specific subdirectories into which the application files are installed. Name the subdirectories according to the type of applications they hold.

Examples:

- For a video-on-demand-related application, consider /export/home/dncs/apps/**vod**.
- For a games-related application, consider /export/home/dncs/apps/**games**.

Creating the /apps Directory and Related Subdirectories

Complete these instructions on the DNCS or the Application Server, depending upon where the application is to be installed.

1. In an xterm window, type **cd /export/home/dncs** and then press **Enter**.

   Result: The /export/home/dncs directory becomes the working directory.

2. Type **ls apps** and then press **Enter**.

   Result: One of the following results occurs:

   - If the /apps directory already exists, the system will list the contents of the /apps directory.
   - If the /apps directory has not yet been created, the system will display the following message:
     /apps: No such file or directory

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3. Does the /apps directory already exist?

   - If **yes**, type **cd apps** and then press **Enter**.

     Result: The /export/home/dncs/apps directory becomes the working directory.

   - If **no**, follow these steps to create the /apps directory.

     a) Type **mkdir apps** and then press **Enter**.

        Result: The system creates the /apps subdirectory in /export/home/dncs.

     b) Type **cd apps** and then press **Enter**.

        Result: The /export/home/dncs/apps directory becomes the working directory.

4. Type **mkdir [app_directory]** and then press **Enter**.

   Note: Substitute the name of the directory into which you want to load your application files for [app_directory].

   Example: For a games–related application, you can type **mkdir games**.

   Result: The system creates the specified directory.

Application Installation Methods

Introduction

Application developers can design their applications so that they install on the DNCS or the Application Server using the Solaris package installation format.

Note: System operators may be familiar with installation scripts called *swmtool* or *pkgadd*, both of which use the Solaris package installation format.

Or, as an alternative, application developers can design their applications so that the application files are copied from a CD directly into a subdirectory in the /export/home/dncs/apps directory on the DNCS or Application Server.

This section includes a brief discussion about the merits of each method and concludes with a recommendation that application developers use the Solaris package installation format when developing their applications.

Solaris Package Installation Format

When applications are installed on the DNCS or the Application Server using the Solaris package installation format, the installation script stores configuration data about the applications in various directories on the DNCS. This configuration data is important because it provides Cisco and the system operator with information that pertains to the version number of the installed application, and makes uninstalling the application easier and more thorough.

Unfortunately, this configuration data is frequently overwritten during a system upgrade. System operators who install applications using Solaris package installation format have to reinstall their applications after the upgrade if they wish to retain version control of the application and if they want the DNCS to continue to store configuration data related to the application.

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Copying Application Files From a CD

When applications are installed by copying them from a CD directly into a subdirectory of the /export/home/dncs/apps directory on the DNCS or the Application Server, system operators do not have to reinstall the application after an upgrade. This is because the files and directories in the /export/home/dncs/apps directory are backed up during the course of preparing for the upgrade. System operators or Cisco engineers need only follow the rollback procedures associated with the upgrade to restore the application.

However, applications loaded onto the DNCS or the Application Server using this method lack the version and configuration control associated with applications loaded with the Solaris package installation format. Uninstalling the applications is more difficult because the system may be unaware of the various directories and files throughout the DNCS or the Application Server affected by the installation.

Important: If you install applications by copying the files directly from a CD onto the DNCS, Cisco recommends that you provide a "readme" file with the application. The readme file should contain details about the application you have installed onto the DNCS.

Example: The readme file should contain a listing of all the directories affected by the installation, as well as a listing of all the files that are installed.

Recommendation Regarding Application Installation Methods

Cisco recommends that system operators and application developers design their applications to install using the Solaris package installation format. Cisco thinks that the advantages of having Solaris track version and configuration data far outweigh the disadvantage of having to reinstall the application after a system upgrade.

For Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

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