CHAPTER 25

Backing Up the Database

This chapter describes the Cisco Prime Access Registrar (Cisco Prime AR) shadow backup facility, which ensures a consistent snapshot of Cisco Prime AR's database for backup purposes.

Because the Cisco Prime AR's database (called MCD) does a variety of memory caching, and might be active at any time, you cannot simply rely on doing system backups to protect the data in the database. At the time you run a system backup, there could be Cisco Prime AR operations in progress that cause the data copied to the system backup tape to be inconsistent and unusable as a replacement database.

To ensure a consistent backup, Cisco Prime AR uses a shadow backup facility. Once a day, at a configurable time, Cisco Prime AR suspends all activity to the database and takes a snapshot of the critical files. This snapshot is guaranteed to be a consistent view of the database, and it is preserved correctly on a system backup tape.

This chapter contains the following sections:

- Configuration
- Recovery
- mcdshadow Command Files

Configuration

The only configuration for this facility is through a single entry in the system Registry at **$INSTALL/conf/car.conf** is the registry path to this item.

This entry is a string that represents the time-of-day at which the shadow backup is scheduled to occur (in 24 hour HH:MM format). The default is 12:45.

When you remove this entry or set it to an illegal value (for example, anything that does not begin with a digit), backups are suppressed.

Command Line Utility

In addition to being available at a scheduled time of day, you can also force a shadow backup by using the **mcdshadow** utility located in the **$INSTALL/bin** directory. There are no command-line arguments.

This might take a few minutes to complete as a full copy of the database is created.

Recovery

When it is necessary to use the shadow backup to recover data, either because the regular working database has been corrupted by a system crash, or because the disk on which it resides has become corrupted.

Recovering the data using shadow backup

To use the shadow backup to recover data:

Step 1 Stop all Cisco Prime AR servers.

Step 2 Make sure three files (**mcddb.d01**, **mcddb.d02**, and **mcddb.d03**) exist in the **$INSTALL/data/db.bak** directory.

Step 3 Copy the files into the **$INSTALL/data/db** directory. Do not move them because they might be needed again.

Step 4 Change directory to the **$INSTALL/data/db** directory.

```
cd  $INSTALL/data/db
```

Step 5 Rebuild the key files by entering the command:

```
$INSTALL/bin/keybuild mcddb
```

This might take several minutes.

Step 6 As a safety check, run **$INSTALL/bin/dbcheck mcddb** (UNIX) to verify the integrity of the database. Note, you must be user **root** to run **dbcheck**.

No errors should be detected.

mcdshadow Command Files

The **mcdshadow** command uses the files listed in Table 25-1.

Table 25-1 mcdshadow Files

File	Description
mcddb.dbd	Template file that describes the low-level data schema for the Raima runtime library.
mcddb.k01 **mcddb.k02** **mcddb.k03**	Key files that contain the data that is redundant with the data files. Cisco Prime AR does not back up these files because they can be completely rebuilt with the **keybuild** command.
mcdcd.d01 **mcdcd.d02** **mcdcd.d03**	Data files that contain the backup.
mcdConfig.txt	Text file from which Cisco Prime AR configures the initial at-install-time database.

Table 25-1 mcdshadow Files (continued)

File	Description
mcdschema.txt	Text file that contains a version number denoting the level of the schema contained in the dbd file. Cisco Prime AR will not attempt to open the database unless the number in this file matches a constant that is hard-coded in the libraries. If the result of the mcdshadow command (which uses copies of the data files) is divorced from its original mcdschema.txt, you will not be able to run Cisco Prime AR.
vista.taf **vista.tcf** **vista.tjf**	Working files used by the Raima runtime library to ensure transactional integrity.