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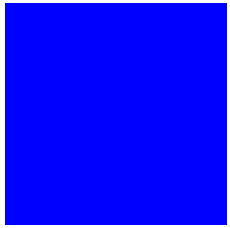

CIMS Data Collector for UNIX

Installation and Getting Started Guide

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Preface

As companies continue to integrate computer technology into their business operations, it becomes increasingly important to properly administer the IT function, particularly with respect to performance and cost.

CIMS provides an essential component of an effective financial management system. CIMS is a comprehensive, flexible software solution that consolidates a wide variety of accounting data for multiple operating systems into a single file that may be accessed from either the mainframe or a workstation.

The technology behind CIMS is based on CIMS Lab's many years of experience in the development and implementation of Resource Accounting, Capacity Planning, and IT Chargeback products.

About CIMS Lab

Founded in 1974, CIMS Lab has focused on meeting the financial and resource reporting requirements of Information Services Departments. CIMS has evolved with corporate IT management requirements. Focused commitment to client service and support sets CIMS apart from competing products. Our goal is to provide the best chargeback and resource reporting software in the world at the lowest possible cost to our customers.

CIMS Lab strongly believes in and executes the concept of continuous product improvement. Customers have access to CIMS product development personnel to ensure that customer feedback and other critical issues are incorporated into the next release of the product.

Contacting CIMS Lab

To contact CIMS Lab with questions, comments or problems, please use one of the following methods:

For product assistance or information:

USA & Canada, toll free - (800) 283-4267
International - (916) 783-8525
FAX - (916) 783-2090
World Wide Web - http://www.cimslab.com

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About this Guide

The guide provides the installation and getting started procedures for CIMS Data Collector for UNIX. The following table describes the chapters in this guide.

Ch. No.	Chapter Name	Content Description
1	*Installing CIMS Data Collector for UNIX and Getting Started*	Provides the installation, configuration, and getting started procedures for CIMS Data Collector for UNIX.
2	*Running the CIMS for UNIX Install Script*	Provides a log of a typical CIMS Data Collector for UNIX installation.
A	*CIMS Data Collector for UNIX Directory and File Overview*	Provides a high-level overview of the CIMS Data Collector for UNIX directories and files.

Conventions

The following conventions appear in this guide:

Symbol or Type Style	Represents	Example
alternate color	(online only) hotlinked cross-references to other sections in this guide; if you are viewing this guide online in PDF format, you can click the cross-reference to jump directly to its location	...see *About CIMS Data Collector for UNIX* on page 1-3.
Italic	words that are emphasized	...the entry *after* the current entry...
	the titles of other documents	*CIMS Chargeback NT/ UNIX User Guide*
`Monospace`	directories, file names, command names, computer code	`&HIGHLVL.SRCLIB`
	computer screen text, system responses, command line commands	`Copy file? Y/N`

Related Publications

As you use this guide, you might find it helpful to have these additional books available for reference:

- *CIMS Chargeback UNIX Reference Guide*
- *CIMS Chargeback UNIX User Guide*

1

Installing CIMS Data Collector for UNIX and Getting Started

This chapter provides the installation, configuration, and getting started steps for CIMS Data Collector for UNIX. To ensure proper operation, follow these steps precisely.

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About CIMS Data Collector for UNIX

CIMS Data Collector for UNIX collects resource usage information from UNIX and LINUX environments for resource accounting, cost allocation, and chargeback. With CIMS Data Collector for UNIX, you can track the use of UNIX/LINUX-related hardware, software, and system components such as:

- User sessions (username, user ID [UID], group ID [GID], etc.)
- Project accounts (UID, GID, user and project groups, time user logged in or switched projects, new project name, terminal name, etc.)
- Department activities (user and project groups)
- Oracle and DB2 databases (username and UID [UNIX only], GID of the user, database name, Oracle username or DB2 authorization ID used to access database, etc.)
- Third-party and in-house software (process names, application names, software packages, etc.)
- File systems (mount points, device names, etc.)
- Client/server and stand-alone nodes (username, UID, time logged in or logged out, CPU time used, disk space used, batch reporting information, etc.)
- Printers (user name and UID that printed the job, number of pages that were printed, etc.)

Supported Systems

CIMS Data Collector for UNIX supports on any of the following UNIX systems:

- Alpha AXP with OSF/1 (Digital UNIX) V4 and later
- Data General (dg-ux) Motorola R3.10 and R4.11, and Intel
- HP-UX V10.01 or later
- Linux 2.2.x or later
- IBM RS/6000 AIX 4.3 or later
- NCR UNIX System
- Pyramid NILE System
- Pyramid Reliant System
- SCO UNIX System
- Sequent DYNIX/ptx V4.x
- Siemens Nixdorf (Sinix)
- Silicon Graphics IRIX V5.x or later
- SunOS V4.1.3
- SunOS (Solaris 5.4 and later)
- Other compatible versions of UNIX

Client and Server Configuration

The following is an overview of CIMS Data Collector for UNIX client and server functions. These nodes are referred to as Client-Collector and Consolidation Server, respectively. Note that these nodes may be on the same computer.

- **Client-Collector.** Collects accounting and storage data on a UNIX/LINUX system.
- **Consolidation Server.** Consolidates the nightly accounting and storage files collected from the Client-Collectors and generates reports.

Unless otherwise noted, the steps in this chapter are applicable whether you are installing on a client or server node.

Preparing for Installation

Before you install CIMS Data Collector for UNIX, follow the procedures in Table 1-1. Depending on your processor's speed, current system load, etc., installation time is approximately 10 to 15 minutes.

Task	Description
Perform Backups	**If you are installing CIMS Data Collector for UNIX:** Although CIMS Data Collector for UNIX does not interfere with or modify the UNIX system, it is a good precautionary measure to ensure that the system has been recently backed up before you install or upgrade any system level product. **If you are upgrading CIMS Data Collector for UNIX:** Before performing an upgrade, back up the CIMS Data Collector for UNIX directories so you can recover to the original state, if necessary. In addition, back up any CIMS scripts that you have modified.
Verify That You Have Enough Disk Space for Installation	Make sure you have enough disk space for installing CIMS Data Collector for UNIX. The application and files require 20 to 25 MB. The additional space requirement is dependent on the size of the accounting files generated on the computer.
Obtain the CIMS License PAK	Make sure you have a CIMS license PAK for the target platform. You must enter this information during the installation. If you do not have a license PAK, contact CIMS Lab (see *Contacting CIMS Lab* on page vi).

Table 1-1 • Pre-installation Procedures

Task	Description
Create a CIMS User Account	CIMS Data Collector for UNIX is a system level product that operates in conjunction with the UNIX operating system. You have the option of having root maintain CIMS Data Collector for UNIX or setting up a CIMS user account. The advantage of a user account is that the CIMS Data Collector for UNIX administrator does not need root privileges on a daily basis for maintenance.
Create a CIMS Group (Optional)	Creating a CIMS Data Collector for UNIX GID is recommended.
Prepare to Link Database Accounting Utilities	To link the CIMS for Oracle Accounting Utilities during install, you must know the Oracle version that you are linking with and define the `ORACLE_HOME` for that version or have an `oratab` file. To link the CIMS for DB2 Accounting Utilities during install, you must know the DB2 version that you are linking with and the location of DB2 on your system. **Note:** Although you can link the utilities during installation, this procedure is more frequently performed after installation.

Table 1-1 • Pre-installation Procedures (continued)

Task	Description
Create a Script Log for Installation	Script the installation for analysis in case a problem occurs during the install. To create a script log, use the following command: `> script  install.log` Type <esc> or <ctrl-c> to exit the script session after the installation is complete.
Install the UNIX Accounting Subsystem (if Required)	The UNIX accounting subsystem is usually present on a platform. However, on some platforms, it must be installed as a separate subsystem. In this case, install the UNIX accounting subsystem on your system.

Table 1-1 • Pre-installation Procedures (continued)

Installing CIMS Data Collector for UNIX

Note • CIMS Lab strongly recommends that you follow the installation procedure as is stated in this section to ensure proper operation of CIMS Data Collector for UNIX.

Begin the CIMS Data Collector for UNIX installation using the steps in this section and then continue to *Oracle Preparation and Install Procedures* on page 1-15 or *DB2 Preparation and Install Procedures* on page 1-23 if you are collecting data from Oracle or DB2 databases.

Logging On

CIMS Data Collector for UNIX installation requires root privilege to create directories and execute privileged commands. Log on to the UNIX system using the Super-User (root) account.

Getting the CIMS Data Collector for UNIX Distribution Files

CIMS Data Collector for UNIX is distributed in three ways:

- CIMS Product CD
- CIMS Lab Web site (http://www.cimslab.com)
- FTP

These sources provide the required distribution files by UNIX platform as described in *About the CIMS Data Collector for UNIX Distribution Files*. This section provides the steps required to retrieve these distribution files from each installation source.

About the CIMS Data Collector for UNIX Distribution Files

The CIMS Data Collector for UNIX distribution files are uuencoded, compressed tar files specific to a UNIX platform. These files are named a_<platformcode>.uu. To determine the distribution file that you need, look for the filename with the appropriate platform code as shown in Table 1-2.

Platform	Code
Alpha AXP with OSF/1 V4	dec
Alpha AXP with OSF/1 V5	tru64
Data General (AViiON) Intel	dg_int
Data General (AViiON) Motorola R4.11	dg_mot
HP 9000/7xx,8xx (HP-UX 10.10 and earlier)	hp_9
HP 9000/7xx,8xx (HP-UX 10.20 and later)	hp
IBM RS/6000 AIX 4.1.x and 4.2.x	aix_41
IBM RS/6000 AIX 4.3.x	aix_43
IBM RS/6000 AIX 5.1 and later	aix_51
Linux (Intel based) 2.2.x and later	linux
Linux (OS390)	lin390
NCR UNIX System	ncr
Pyramid NILE	pyrmid
Pyramid Reliant	pyrel
Siemens Nixdorf (Sinix)	sinix
SCO-UNIX	sco

Table 1-2 • CIMS Data Collector for UNIX Platform Codes

Platform	Code
Sequent DYNIX/ptx (V4.x)	seq_4
Silicon Graphics IRIX V5.x.x, V6.x	irix
Sun (SunOS 4.1.3)	sunos
Sun SOLARIS 2.4, 2.5, 2.6	sol_24
Sun SOLARIS 2.7 and later	sol_27

Table 1-2 • CIMS Data Collector for UNIX Platform Codes (continued)

In addition to the platform-specific distribution file or files that you select, you also need the a_com_z.uu file. This file contains files that are required for all UNIX platforms. For example, if you want to retrieve the distribution files for the IRIX 6.5 and Solaris 2.7 platforms, you need to transfer three files: a_com_z.uu, a_irix.uu, and a_sol_27.uu.

From the CIMS Product CD

To get the CIMS Data Collector for UNIX distribution files from the CIMS Product CD:

1. Load and mount the CD using the appropriate commands for your system.
2. Copy the files from the UNIX folder on the CD to a temporary directory.

From the CIMS Lab Web Site

To get the CIMS Data Collector for UNIX distribution files from the CIMS Lab Web site, go to the Downloads ▸ Customer Area page and download the files to a temporary directory.

You need an access key from CIMS Lab to access this page. Contact CIMS Lab for this key (see *Contacting CIMS Lab* on page vi).

From the FTP Site

To get the CIMS Data Collector for UNIX distribution files from the CIMS FTP site:

1. Contact CIMS Lab to obtain your FTP access user name and password (see *Contacting CIMS Lab* on page vi).
2. FTP to `ftp.cimslab.com`.
3. Change the directory to `unix/cims_unix`:

   ```
   ftp> cd unix/cims_unix
   ```

4. Get the CIMS Data Collector for UNIX distribution files and place them in a temporary directory:

   ```
   ftp> bin
   ftp> get a_<platformcode>.uu
   ftp> get a_com_z.uu
   ```

5. Disconnect from the FTP site:

   ```
   ftp> bye
   ```

Preparing the Distribution Files

After you have copied the distribution files (a_<platformcode>.uu and a_com_z.uu) to a temporary working directory, you need to uudecode, uncompress, and extract files as follows:

1. Perform the uudecode of the a_<platformcode>.uu file:

```
# uudecode a_<platformcode>.uu
```

2. The file arsap.tlb.Z is produced. Uncompress the file:

```
# uncompress arsap.tlb.Z
# tar xvf arsap.tlb
x a_bin1.tlb, 3235840 bytes, 6320 tape blocks
x a_bin2.tlb, 3123200 bytes, 6100 tape blocks
```

Note • The size of the a_bin1.tlb and abin2.tlb files depends on the UNIX platform.

3. Perform the uudecode of the a_com_z.uu file:

```
# uudecode a_com_z.uu
```

4. The file arsap_common.tlb.Z is produced. Uncompress the file:

```
# uncompress arsap_common.tlb.Z
# tar xvf arsap_common.tlb
x A_README, 6726 bytes, 14 tape blocks
x A_desc.tlb, 40960 bytes, 80 tape blocks
x A_etc.tlb, 180224 bytes, 352 tape blocks
x A_exam.tlb, 57344 bytes, 112 tape blocks
x A_help1.tlb, 188416 bytes, 368 tape blocks
A_help2.tlb, 188416 bytes, 368 tape blocks
x A_scripts.tlb, 483328 bytes, 944 tape blocks
x A_setup.sys, 1304 bytes, 3 tape blocks
x arsap_install, 30160 bytes, 59 tape blocks
x create_A_config.par, 14098 bytes, 28 tape blocks
```

5 Remove the uuencoded files and tar files:

```
# rm a_<platformcode>.uu arsap.tlb
# rm a_com_z.uu arsap_common.tlb
```

The distribution files are decoded and unpacked in your temporary working directory.

Performing the Installation Procedure

CIMS Data Collector for UNIX includes an installation script, `arsap_install`. This script is in your temporary working directory. Change the protection on this script to allow execute access and execute the installation script as follows:

```
# chmod 700 arsap_install
# ./arsap_install
```

The `arsap_install` script prompts you for the information required for installation. This includes information from your CIMS Data Collector for UNIX license PAK. *You must enter the requested information exactly as it is shown in the license PAK*. CIMS Data Collector for UNIX is authorized to run only on licensed computers. If you do not have the license PAK, contact CIMS Lab (see *Contacting CIMS Lab* on page vi).

Chapter 2, Running the CIMS for UNIX Install Script provides an example of an `arsap_install` run.

Oracle Preparation and Install Procedures

This section provides preparation and installation steps required to collect data from Oracle databases.

Linking the CIMS Oracle Accounting Utilities

CIMS Oracle Accounting Utilities are delivered in UNIX archive object library form as opposed to an executable. Therefore, you must link the library with the appropriate database libraries to create an executable for each `ORACLE_HOME` on your system. The archive object library files (`.a`) are in the `$CIMS_HOME/bin` directory.

You can link the CIMS for Oracle Accounting Utilities during installation of CIMS Data Collector for UNIX via the `arsap_install` script or you can link the utilities after installation.

Linking the Utilities During Installation

To link the utilities during installation, you need to know the Oracle version you are linking with and have the `ORACLE_HOME` environment variable defined before installing CIMS Data Collector for UNIX.

Linking the Utilities After Installation

To link the utilities after installation, use the script `$CIMS_HOME/scripts/oracle/link_A_dbao`. If you link the utilities after installation, you need to know the `ORACLE_SID` for each instance in addition to having defined the `ORACLE_HOME` environment variable.

The `link_A_dbao` script creates the following CIMS for Oracle Accounting Utilities in `$CIMS_HOME/bin`:

- `A_dbao` (CIMS for Oracle Accounting Daemon)
- `A_dbplo` (CIMS for Oracle Project Login)
- `A_dbpso` (CIMS for Oracle Project Switch)
- `A_dbso` (CIMS for Oracle Storage Collector)

If you set `ORACLE_VER_TAG` to `N` in the `link_A_dbao` script, these utilities are named as shown. If you leave `ORACLE_VER_TAG` set to the default `Y` (recommended), the specified version is appended to the name.

For example, if you link the utilities for Oracle V8.1.5 and `ORACLE_VER_TAG=Y`, the names are: `A_dbao.V8.1.5`, `A_dbplo.V8.1.5`, `A_dbpso.V8.1.5`, and `A_dbso.V8.1.5`. (During the linking process the system asks you for the Oracle version that you are linking.)

Configuring the CIMS for Oracle Accounting Daemon

The CIMS for Oracle Accounting Daemon collects resource usage data from the V$ system tables within an Oracle instance. To activate CIMS for Oracle Accounting, you need to set `A_ORACLE_ACCT=Y` in the CIMS UNIX Configuration File, `$CIMS_HOME/data/A_config.par`. This variable directs the CIMS Nightly Accounting script, `$CIMS_HOME/etc/arsap_nightly`, to include the CIMS for Oracle Accounting File in the script's nightly process.

Creating the CIMS for Oracle Accounting File

To create the CIMS for Oracle Accounting File, use the following command. Note that you create this file only once.

```
> touch $CIMS_HOME/data/A_dbacct.sys
```

Configuration for the Oracle Instance

You must perform the following steps for each Oracle instance. You may need to have the Oracle Database Administrator perform some of these steps.

1. In the `init.ora` file (this file should be named `init<ORACLE_SID>.ora`), set the value `TIMED_STATISTICS = TRUE`. This setting initiates the tracking of CPU statistics within the Oracle instance.

   This ensures that `TIMED_STATISTICS` is set to `TRUE` the next time the instance is shut down and restarted.

   You can use the following SQL command to dynamically set `TIMED_STATISTICS`:

   ```
   SQL> ALTER SYSTEM SET TIMED_STATISTICS = TRUE;
   ```

2. To enable the CIMS for Oracle Accounting Daemon to connect to Oracle, create an Oracle user account and password. An Oracle user account `cims` is typically created.

3. Once the Oracle user account has been defined, the DBA can run the SQL script `$CIMS_HOME/scripts/oracle/arsap_view.sql`. This SQL script creates a role called `arsap_view` and assigns the role to the Oracle user account. This role grants select on the V$ tables required for CIMS for Oracle Accounting.

   If you are not using `cims` as the Oracle user account, edit the `arsap_view.sql` script and replace the name `cims` with the appropriate Oracle account name.

4. Create a CIMS DB instance record for each Oracle instance. To create this record, you need to know the Oracle user account and password that will be used by the CIMS for Oracle Accounting Daemon to connect to the instance. In addition, you need to know the frequency of sampling that you want for the daemon.

You can specify a different `oracle_user`, `oracle_password`, and `oracle_frequency` parameter for each Oracle instance. These parameters are provided in the CIMS DB Instance Mapping File, `$CIMS_HOME/data/A_dbinst.sys`. To set these parameters, use the CIMS Data Collector for UNIX Setup Utility, `$CIMS_HOME/bin/A_setup` as follows.

```
% $CIMS_HOME/bin/A_setup
A_SETUP> add/dbsinst D722/dbtype=ORACLE/username=cims-
_A_SETUP> /password=xyx/frequency=60
%SETUP-S-ADDED, 1 node record successfully modified
```

The following command reports on the DB instance information:

```
% $CIMS_HOME/bin/setup
A_SETUP> rep/dbinst
```

This command produces the following DB instance report:

```
DB Type      Instance         Username           Frequency (sec)
-------------------------------------------------------------------
ORACLE       A_ORA_DEFAULT    cims                60
DB2          A_DB2_DEFAULT    default            300
INFORMIX     _INF_DEFAULT     default            300
SYBASE       A_SYB_DEFAULT    default            300
ORACLE       D722             cims                60
```

5 Enable interval accounting, if needed. The CIMS for Oracle Accounting Daemon writes a record to the CIMS for Oracle Accounting File when it detects that a session has ended.

In some environments, application sessions begin when the instance is started and remain connected as long as the instance is active. The CIMS for Oracle Accounting Daemon can be configured to write interval records for these session each night at 12 a.m. by enabling the `DB_ABSOLUTE_DAILY` flag in the CIMS UNIX Parameter File, `$CIMS_HOME/data/A_setup.sys`. To set this flag, use the `A_setup` utility as follows:

```
% $CIMS_HOME/bin/A_setup
A_SETUP> default/enable=DB_ABSOLUTE_DAILY
%SETUP-S-MODIFIED, 1 node record successfully modified
A_SETUP> quit
```

Starting the CIMS for Oracle Accounting Daemon

You must start the CIMS for Oracle Accounting Daemon for each Oracle instance for which you want to gather accounting data. The Oracle environment variables indicate the instance of Oracle that is sampled by a daemon.

If you created a CIMS group, any member of the group can start CIMS Oracle Accounting Daemons. At many sites, the Oracle DBAs are made members of the CIMS Group because the daemon needs to be stopped and started whenever the instance is shutdown and rebooted.

The following files should have group read/write privileges to allow group members to start and stop the daemon:

```
$CIMS_HOME/data/A_dbpid.sys
$CIMS_HOME/data/A_dbinst.sys
$CIMS_HOME/data/A_dbacct.sys
$CIMS_HOME/log/A_dbao_<SID>.log
```

The `A_dbacct.sys` and `A_dbao_<SID>.log` files are created the first time the daemon is started (See *Files Created by the Daemon* on page 1-20).

To start the daemon:

You can start the daemon in any of the following ways:

- Use the script `$CIMS_HOME/scripts/oracle/arsap_start_odb`:

  `> arsap_start_odb <SID>` (specify the SID that you want to start)

  or

  `> arsap_start_odb all` (start all daemons—the Oracle `oratab` file is read to determine which SIDs are started)

- From the command line. For example, you start up `A_dbao` for instance D815 and D817 as follows:

```
% $CIMS_HOME/bin/A_dbao.V8.1.5 -SID D815&
% $CIMS_HOME/bin/A_dbao.V8.1.7 -SID D817&
```

Files Created by the Daemon

The following files are created upon starting the daemon:

- `$CIMS_HOME/data/A_dbacct.sys` (Oracle accounting information)
- `$CIMS_HOME/log/A_dbao_<SID>.log` (log file of daemon events)

Stopping the CIMS for Oracle Accounting Daemon

You can stop the CIMS for Oracle Accounting Daemon in any of the following ways:

- Use the script `$CIMS_HOME/scripts/oracle/arsap_stop_odb`:

  `> arsap_stop_odb <SID>` (specify the SID that you want to stop)

  or

  `> arsap_stop_odb all` (stop all daemons—the Oracle `oratab` file is read to determine which SIDs need to be stopped)

- From the command line using the `kill` command as follows:

  ```
  kill -USR1  'PID'
  ```

  Where `PID` is the process ID of the `A_dbao` daemon.

  The signal option `-USR1` gets the immediate attention of the daemon, and directs it to commence shutdown. If the daemon is sampling the statistics from Oracle, it performs the shutdown action after the current sample completes.

The daemon exits—flushing all database accounting data to `A_dbacct.sys` and noting appropriate messages in `A_dbao_<SID>.log`.

It is intended that the `arsap_stop_odb` script be called as part of your normal Oracle shutdown process. If the Oracle instance to which the daemon is attached is shutdown without first shutting down the daemon, the daemon will shut down properly; however, this action is not recommended.

Checking the Status of the CIMS for Oracle Accounting Daemon

You can use the script `$CIMS_HOME/scripts/oracle/arsap_check_odb` to check the status of the CIMS for Oracle Accounting Daemon as follows:

`> arsap_check_odb <SID>` (specify the SID that you want to check)

or

`> arsap_check_odb all` (check the status of all daemons for all instances listed in the Oracle `oratab` file.)

You can also use this script to periodically check the status of the daemons and restart them if needed. Refer to the comments in the beginning of the script for instructions on how to schedule the script in crontab to manage the daemons.

DB2 Preparation and Install Procedures

This section provides preparation and installation steps required to collect data from DB2 databases.

Linking the CIMS for DB2 Accounting Utilities

CIMS for DB2 Accounting Utilities are delivered in UNIX archive object library form as opposed to an executable. Therefore, you must link the library against the appropriate database libraries to create an executable for each version of DB2 on your system. The archive object library files (`.a`) are in the `$CIMS_HOME/bin` directory.

You can link the CIMS for DB2 Accounting Utilities during installation of CIMS Data Collector for UNIX via the `arsap_install` script or after installation.

Linking the Utilities During Installation

To link the utilities during installation, you need to know the DB2 version that you are linking and the location of DB2 on your system.

Linking the Utilities After Installation

To link the utilities after installation, run the script `$CIMS_HOME/scripts/db2/link_A_dbadb2`.

The `link_A_dbadb2` script uses the file `$CIMS_HOME/scripts/db2/A_db2_home`. The `A_db2_home` file defines the standard locations of some DB2 versions. You might need to modify this file to reflect your DB2 installation.

The `link_A_dbadb2` script creates the following CIMS for DB2 Accounting Utilities in `$CIMS_HOME/bin` for the appropriate type of DB2:

- `A_dbadb2` (CIMS for DB2 Accounting Daemon)
- `A_dbsdb2` (CIMS for DB2 Storage Collector)

Starting the CIMS for DB2 Accounting Daemon

The CIMS for DB2 Accounting Daemon collects event monitor data from DB2 databases within a DB2 instance. You must start the daemon for each DB2 instance for which you want to gather accounting data.

Setting the System Monitor Parameters

CIMS Data Collector for UNIX acquires the DB2 statistics through the DB2 Snapshot Monitor. The DB2 Snapshot Monitor configuration needs to be modified to allow the proper database system monitors to be invoked. The following database system monitor parameters must be turned `ON`:

Buffer pool `(DFT_MON_DUFPOOL)`
Lock `(DFT_MON_LOCK)`
Sort `(DFT_MON_SORT)`
Unit of work `(DFT_MON_UOW)`

The `GET DATABASE MANAGER CONFIGURATION` (or `GET DBM CFG`) command displays the current state of these parameters. The `UPDATE DATABASE MANAGER CONFIGURATION` (or `UPDATE DBM CFG`) command changes the designated parameters to the specified state.

These parameters are `OFF` by default. The following command turns these parameters `ON`:

```
#db2
db2=>UPDATE DBM CFG using DFT_MON_BUFPOOL ON
DFT_MON_LOCK ON DFT_MON_SORT ON DFT_MON_UOW ON
db2=>QUIT
#
```

Setting the User, Password, and Sampling Frequency Parameters

You can specify a different db2_user, db2_password, and db2_frequency parameter for each DB2 instance. These parameters are provided in the CIMS DB Instance Mapping File, $CIMS_HOME/data/A_dbinst.sys. To set these parameters, use the CIMS UNIX Setup Utility, $CIMS_HOME/bin/A_setup as follows:

```
% $CIMS_HOME/bin/A_setup
A_SETUP> add/dbinst db2user /dbtype=DB2/username=db2v7-
_A_SETUP> /password=xyz/frequency=60
```

The user account designated for the daemon must be in the same primary UNIX group as the owner of DB2 instance. The password is this user's UNIX password.

Starting the Daemon

Once these parameters have been entered in the instance mapping file, you can start the daemon using the $CIMS_HOME/scripts/db2/arsap_start_db2 script as follows:

```
> arsap_start_db2 $DB2INSTANCE
```

or

```
> arsap_start_db2 all
```

If you use the all argument, a daemon for all the DB2 instances listed in $CIMS_HOME/data/A_db2_ilist will be started.

It is intended that the arsap_start_db2 script be called as part of the normal process of starting the DB2 instance. The arsap_start_db2 script should be called after the DB2 instance has been completely started.

The daemon creates a log file in the `CIMS_HOME/log` directory for each DB2 instance for which it is started. The daemon writes informational and error messages to this log. The log file name contains the DB2 instance name for which you started the daemon. For example, if the `$DB2INSTANCE` is db2inst1, the log file is named `A_dbadb2_db2inst1.log`.

All daemon processes write the DB2 accounting data to the file `$CIMS_HOME/data/A_db2acct.sys`.

Stopping the CIMS for DB2 Accounting Daemon

You can stop the CIMS for DB2 Accounting Daemon using the script `$CIMS_HOME/scripts/db2/arsap_stop_db2` in either of the following ways:

```
> arsap_stop_db2 $DB2INSTANCE
```

or

```
> arsap_stop_db2 all
```

If you use the `all` argument, all of the daemon processes for `DB2` instances listed in `$CIMS_HOME/data/A_db2_ilist` will be shut down.

The daemon exits—flushing all database accounting data to `A_db2acct.sys` and noting appropriate messages in `A_dbadb2_<SID>.log`.

It is intended that the `arsap_stop_db2` script be called as part of your normal DB2 shutdown process. If the DB2 instance to which the daemon is attached is shutdown without first shutting down the daemon, the daemon shuts down properly. However, this action is not recommended.

Checking the Status of the CIMS for DB2 Accounting Daemon

You can use the script `$CIMS_HOME/scripts/db2/arsap_check_db2` to check the status of the CIMS for DB2 Accounting Daemon as follows:

`> arsap_check_db2 <SID>` (specify the SID that you want to check)

or

`> arsap_check_db2 all` (check the status of all daemons for all DB2 instances)

You can also use this script to periodically check the status of the daemons and restart them if needed. Refer to the comments in the beginning of the script for instructions on how to schedule the script in crontab to manage the daemons.

Getting Started

This section provides the information that you need to get started using CIMS Data Collector for UNIX.

Scheduling CIMS Data Collector for UNIX Operational Scripts

The scripts described in this section must be scheduled to run on a regular basis. You can use any batch scheduler to run these scripts; however, the scripts must be run under the root user account. During the CIMS Data Collector for UNIX installation, the file `$CIMS_HOME/etc/cron.entry` was created. This file contains sample crontab entries for these scripts.

Schedule the following scripts to run on the Consolidation Server and all client nodes:

- `$CIMS_HOME/etc/arsap_nightly.` This nightly collection script should be scheduled to run nightly around 1 a.m. If you use the example entry in the `cron.entry` file, output from this script is redirected to the log file `$CIMS_HOME/log/arsap_nightly.log`.

  This script collects the raw accounting files and formats and sorts the files into one nightly accounting file. The script also executes the sampler utility `$CIMS_HOME/bin/A_sampler` to get a snapshot of file system use. This snapshot is written to a nightly storage file. On client nodes, the nightly accounting and storage files are transferred to the Consolidation Server and stored in `$CIMS_HOME/accounting/<nodename>`.

- `$CIMS_HOME/etc/check_pacct.` This script is called three times each hour. It is used to manage the size of the UNIX Process Accounting File. This file usually resides on the root file system in `/var/adm`. The location varies for different UNIX types.

  This script checks the size of the current `pacct` file. If the file has reached a threshold size (2000 blocks by default), the file is moved to `$CIMS_HOME/history/pacct_hold` and a new file is started.

Schedule the following scripts to run on the Consolidation Server only:

- `$CIMS_HOME/etc/check_nightly`. This script should be scheduled to run nightly after all clients have run the `arsap_nightly` script. The `check_nightly` script checks that each client has delivered its nightly accounting and storage files to the Consolidation Server.

  If the `check_nightly` script detects that a client has not delivered either of its nightly files, a message is sent to the root account on the Consolidation Server. (You can modify this script if you want to send this message to another account.)

- `$CIMS_HOME/scripts/enterprise/CS_nightly_consolidation`. This script should be scheduled to run nightly after all clients have run the `arsap_nightly` script. The `CS_nightly_consolidation` script consolidates accounting data for the previous day from all the clients.

  The `CS_nightly_ consolidation` script produces CIMS Server Resource Files, which are used as input into either CIMS Server or CIMS for OS/390. Refer to the comments in the beginning of the script to determine the best script configuration for your site.

- `$CIMS_HOME/scripts/enterprise/CS_send`. This script places the CIMS Server Resource Files produced by the `CS_nightly_ consolidation` script in a designated CIMS Server process definition folder. Process definition folders are used to store and process the CIMS Server Resource Files that are input into CIMS Server. For more information about process definition folders and processing data using CIMS Server, refer to the *CIMS Server Administrator's Guide*.

  The `CS_send` script should be run after `CS_nightly_consolidation` has completed. Refer to the comments in the beginning of the script to determine the best script configuration for your site.

Starting UNIX Process Accounting

After installing CIMS Data Collector for UNIX and scheduling the operational scripts, you need to start UNIX process accounting as follows:

1. CIMS Data Collector for UNIX manages the UNIX Process Accounting file, `var/account/pacct`. Therefore, you should verify that no other processes are currently manipulating this file.

2. On most UNIX platforms, check in the adm account crontab file to verify that the UNIX accounting scripts `runacct`, `monacct`, and `ckpacct` are not currently scheduled. If these scripts are scheduled, you need to comment them out of the adm account crontab file.

3. On LINUX platforms, the `cron.daily` script calls the `logrotate` script, which compresses the current process accounting file, `pacct`, and starts a new file. You need to disable this function by either removing the script `/etc/logrotate.d/psacct` or commenting out all of the commands in this script.

4. Start UNIX Process Accounting using the script `$CIMS_HOME/etc/turnacct` script. As the root user, execute the following command:

   ```
   > $CIMS_HOME/etc/turnacct on
   ```

   If you need to suspend UNIX Process Accounting, call this script with the argument `off`.

Setting Values in the CIMS Data Collector for UNIX Configuration File

The CIMS Data Collector for UNIX Configuration File, `$CIMS_HOME/data/A_config.par`, contains the following environment variables that allow you to customize CIMS Data Collector for UNIX for your site.

- `ARSAP_USER`. Set this variable to the CIMS Data Collector for UNIX user account used on the Consolidation Server.
- `ARSAP_UPATH`. Set this variable to the root account's directory path. On most systems, this is `/` or `/root`.
- `CLEANUP_HISTORY`. This variable specifies if raw accounting files are to be purged. If set to `Y` (the default), raw accounting files older than `CLEANUP_AGE` are purged each night as part of the execution of the `arsap_nightly` script.
- `TRANSFER_VIA`. Set this variable to the protocol that is used to transfer the nightly accounting and storage files from a client to the Consolidation Server. Refer to the configuration file comments for supported transfer protocols.
- `ARSAP_SERVER`. Set this variable to the node name of the Consolidation Server. Do not include the domain name. For example:

  ```
  ARSAP_SERVER=zues
  ```

- `ARSAP_DEST`. Set this variable to the destination directory on the Consolidation Server where clients will send nightly accounting and storage files. For example, if the Consolidation Server is `zues` and CIMS Data Collector for UNIX is installed in `/usr/cims` on `zues`, then on the client `athena` you might have the following definitions:

  ```
  ARSAP_SERVER=zues
  ARSAP_DEST=/usr/cims/accounting/athena
  ```

- A_ORACLE_ACCT. If you are collecting Oracle data, set this variable to Y.
- A_DB2_ACCT. If you are collecting DB2 data, set this variable to Y.
- ARSAP_KEY. You need to define this variable only if TRANSFER_VIA is set to FTP. In this situation, set this variable to the password for the account designated by ARSAP_USER.
- CS_PLATFORM. If you are using CIMS Server to process the CIMS Server Resource Files, the name of the server that is running CIMS Server.
- CS_USER. The Windows user name required to log on to the server that is running CIMS Server.
- CS_KEY. The Windows password required to log on to the server that is running CIMS Server.
- CS_UPATH. The home directory of the CIMS Data Collector for UNIX user account, which executes the CS_send script on the Consolidation Server.
- CS_METHOD. FTP is currently the only valid value for this variable.
- GEN_UNIXFS. If set to Y, this variable instructs the CS_nightly_consolidation script to create a CIMS Server Resource File containing Unix file system usage data.
- GEN_ORACLE. If set to Y, this variable instructs the CS_nightly_consolidation script to create a CIMS Server Resource File containing Unix Oracle usage data.
- GEN_ORACLE_Storage. If set to Y, this variable instructs the CS_nightly_consolidation script to create a CIMS Server Resource File containing Unix Oracle tablespace utilization data.

- GEN_DB2. If set to Y, this variable instructs the CS_nightly_consolidation script to create a CIMS Server Resource File containing Unix DB2 usage data.
- GEN_DB2_Storage. If set to Y, this variable instructs the CS_nightly_consolidation script to create a CIMS Server Resource File containing Unix DB2 tablespace utilization data.

Client Considerations on the Consolidation Server

After installing CIMS Data Collector for UNIX on a client computer, you need to perform the following steps on the Consolidation Server. For example purposes, the Consolidation Server is named zues and the client is named athena.

1. Create and accounting directory for the client athena on zues:

   ```
   > mkdir $CIMS_HOME/accounting/athena
   ```

   $CIMS_HOME/accounting on the Consolidation Server should contain a directory for each client.

2. Add an entry for the client in the CIMS Node Parameter File, $CIMS_HOME/data/A_node.par, on the Consolidation Server as shown in the following example. This file should have one entry for each client.

   ```
   > cat $CIMS_HOME/data/A_node.par
   zues
   athena
   hera
   hermes
   ```

Using CIMS Data Collector for UNIX X-application Resource Files

CIMS Data Collector for UNIX includes resource files for the GUI and GRAPH Utilities. For these utilities to operate with desirable results, you should use these resource files. The files are in the CIMS Data Collector for UNIX `examples` directory and should be either moved to or linked to your system `X app-defaults` directory. To link the files, execute the following commands as the root user:

```
# cd /usr/lib/X11/app-defaults
# ln -s  /usr/arsap/examples/A_graph.rf  A_graph
# ln -s  /usr/arsap/examples/A_gui.rf  A_gui
```

Cleaning Up

Once you have completed the installation, you can remove all the remaining distribution files in the temporary working directory. If you delete a file that you need, you can reload it from the distribution media.

Customizing CIMS Data Collector for UNIX

You can customize CIMS Data Collector for UNIX features for your resource management and chargeback needs by enabling or disabling options and entering parameters. These options and parameters are set using either the CIMS Data Collector for UNIX GUI or Command Line Interface (CLI).

For the steps required to customize CIMS Data Collector for UNIX for your site, refer to the *CIMS Chargeback UNIX Reference Guide* and *CIMS Chargeback UNIX User Guide*.

2

Running the CIMS for UNIX Install Script

This chapter provides an example run of the `arsap_install` script. The various prompts and results from the expected replies are shown. Any text denoted within < > is included to clarify additional installation options in this example and is not part of the installation.

Example Install **2-2**

Example Install

```
[root@buddy tmp]# ./arsap_install

************************************************************************
Starting CIMS/UNIX ./arsap_install Script at Thu Mar 20 12:36:28 EST 2003
************************************************************************

           **** NOTE ****

What follows is several sets of introductory paragraphs.  If you are
not installing CIMS/UNIX for the first time and wish to skip all of
these messages, please enter "y" at the prompt.  The default is to
not skip them.

Do you wish to skip the introductory messages? [n]:  y

Do you have the CIMS License PAK for CIMS/UNIX [n]? y

Do you want CIMS/UNIX installed in /usr/arsap [y]? y

Enter directory containing CIMS/UNIX distribution files [/usr/arsap/tmp]:


Provide the username and group of the account that is to maintain CIMS/
UNIX. The default is root and 0, respectively.  If you provide any other
user and group, the user account and group must be established.


Enter username of account that maintains CIMS/UNIX [root]: cims

Enter the group to which the username belongs [0]: accounts

Do you wish to put binaries for varying platforms on server? [n]: n

CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/data

CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/bin

CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/etc

CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/scripts

CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/description
```

```
CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/examples

CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/log

CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/help

CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/history

CIMS/UNIX ./arsap_install: Creating directory /usr/arsap/super

CIMS/UNIX ./arsap_install: Copying files to /usr/arsap directories ...

CIMS/UNIX ./arsap_install: Extracting CIMS/UNIX etc files ...
README
an_send
arsap_date
arsap_date.awk
arsap_env
arsap_nightly
check_nightly
check_pacct
get_acct
get_nt_acct
lib/
lib/Artistic.license
lib/Carp.pm
lib/Env.pm
lib/Exporter.pm
lib/README
lib/arsap_cv.pm
lib/arsap_oos.pm
lib/arsap_proc.pm
lib/arsap_rec.pm
lib/arsapdosglob.pm
lib/integer.pm
lib/vars.pm
nawk_check
proc_multi
proc_multi.pl
prtacct
redo_nightly
redo_print
runacct
sampler
turnacct
```

```
CIMS/UNIX ./arsap_install: Extracting CIMS/UNIX Data Collection Utilities
...
A_authorize
A_convert
A_format
A_login
A_sampler
A_setup
A_switch
A_login_xm
G_license
A_dbpidman
libdbadb2.a
libdbsdb2.a
libdbsdb2_v5.a
libdbadb2_pe.a
libdbadb2_v5.a
libdbao.a
libdbso.a
libdbplo.a
libdbpso.a

CIMS/UNIX ./arsap_install: Extracting CIMS/UNIX Reporting Utilities ...
```

```
A_dbsdb_read
A_fsreport
A_graph
A_gui
A_merge
A_rates
A_report
A_select
A_smerge
CS_fs_resource
cims_fs_resource

CIMS/UNIX ./arsap_install: Extracting CIMS/UNIX help files ...
A_auth.hlp
A_format.hlp
A_setup.hlp
G_license.hlp
A_fsreport.hlp
A_merge.hlp
A_rates.hlp
A_report.hlp
A_select.hlp
A_smerge.hlp

CIMS/UNIX ./arsap_install: Extracting CIMS/UNIX Examples ...
A_audit_desc.sys
A_cap_desc.sys
A_rpt_desc.sys
A_KeysymDB.solaris
A_KeysymDB.sun
A_config.par
A_graph.rf
A_gui.rf
A_node.par
README
README.KEY
image.dat
load.dat
node_report.rdf
project_charges.rdf
project_connects.rdf
project_packages.rdf
project_print.rdf
project_report.rdf
```

```
project_shift.rdf
project_user.rdf
user_charges.rdf
user_connects.rdf
user_packages.rdf
user_print.rdf
user_project.rdf
user_report.rdf
user_seat_time.rdf
user_shift.rdf
vrout.c

CIMS/UNIX ./arsap_install: Extracting CIMS/UNIX Scripts ...
admin/README
admin/A_add_license
admin/A_client_install
admin/add_multi_lic
admin/add_new_PAKs
admin/arsap_check_env
admin/arsap_connect
admin/chproj.scr
admin/chshell.scr
admin/list_proj.scr
admin/list_user.scr
admin/load_generic.scr
admin/load_image.scr
admin/load_package.scr
admin/load_proj.scr
admin/load_up.scr
admin/load_user.scr
admin/mod_sh_id
admin/process_daily.scr
admin/process_monthly.scr
admin/update_license
admin/update_y2k
enterprise/README
enterprise/nightly_consolidation
enterprise/redo_nightly_consolidation
enterprise/CS_nightly_consolidation
enterprise/CS_redo_nightly_consolidation
enterprise/CS_gen_cims_sum
enterprise/gen_cims_sum
enterprise/gen_cims_detail
enterprise/gen_sybt_sum
```

```
db2/README
db2/A_db2_home
db2/arsap_check_db2
db2/arsap_start_db2
db2/arsap_stop_db2
db2/db2_init
db2/db2_start
db2/db2_stop
db2/get_db2_storage
db2/link_A_dbadb2
multi_report/README
multi_report/multi_report
multi_report/data/
multi_report/data/header.hd1
multi_report/data/header.hd2
multi_report/data/header.hd3
multi_report/data/preferences
multi_report/data/multi_rep1.awk
multi_report/data/multi_rep2.awk
multi_report/data/multi_rep3.awk
multi_report/data/multi_rep4.awk
multi_report/data/multi_rep5.awk
multi_report/description/
multi_report/description/resource/
multi_report/description/audit/
multi_report/description/capacity/
multi_report/description/graphic/
oracle/README
oracle/A_dbstatname.sys
oracle/arsap_statname.sql
oracle/arsap_check_odb
oracle/arsap_start_odb
oracle/arsap_stop_odb
oracle/arsap_project.sql
oracle/arsap_view.sql
oracle/get_odb_storage
oracle/link_A_dbao
oracle/oracle_db
reports/README
reports/cost_center/
reports/cost_center/cc_rpt.scr
reports/cost_center/cc_user.scr
reports/db2/
reports/db2/db2_db_sess.scr
```

```
reports/node/
reports/node/node_proj.scr
reports/node/node_rpt.scr
reports/node/node_user.scr
reports/node/noprojuser.scr
reports/node/nouserproj.scr
reports/oracle/
reports/oracle/oracle_db_sess.scr
reports/oracle/oracle_io.scr
reports/oracle/oracle_mem.scr
reports/oracle/oracle_user_sess.scr
reports/oracle/oracle_user_sess2.scr
reports/oracle/oracle_proj_user.scr
reports/oracle/oracle_proj_user2.scr
reports/oracle/oracle_user_proj.scr
reports/oracle/oracle_user_proj2.scr
reports/oracle/oracle_projuse_mem.scr
reports/package/
reports/package/pack_proj.scr
reports/package/pack_rpt.scr
reports/package/pack_user.scr
reports/package/node_pack.scr
reports/package/proj_pack.scr
reports/package/user_pack.scr
reports/project/
reports/project/proj_factors.scr
reports/project/proj_node.scr
reports/project/proj_rpt.scr
reports/project/proj_user.scr
reports/user/
reports/user/user_chgs.scr
reports/user/user_factors.scr
reports/user/user_node.scr
reports/user/user_proj.scr
reports/user/user_rpt.scr
reports/user/user_rpt2.scr
reports/user/user_term.scr
reports/user/top_users.scr

CIMS/UNIX ./arsap_install: Extracting CIMS/UNIX Description Files ...
A_descr.dir
README
cc_rpt.rdf
cc_user.rdf
```

```
db2_db_sess.rdf
node_pack.rdf
node_proj.rdf
node_rpt.rdf
node_user.rdf
noprojuser.rdf
nouserproj.rdf
oracle_db_sess.rdf
oracle_io.rdf
oracle_mem.rdf
oracle_proj_user.rdf
oracle_proj_user2.rdf
oracle_projuse_mem.rdf
oracle_user_proj.rdf
oracle_user_proj2.rdf
oracle_user_sess.rdf
oracle_user_sess2.rdf
pack_proj.rdf
pack_rpt.rdf
pack_user.rdf
proj_fact.rdf
proj_node.rdf
proj_pack.rdf
proj_rpt.rdf
proj_user.rdf
user_chgs.rdf
user_fact.rdf
user_node.rdf
user_pack.rdf
user_proj.rdf
user_rpt.rdf
user_rpt2.rdf
user_term.rdf
adf/
adf/cc_rpt.adf
adf/cc_user.adf
adf/db2_db_sess.adf
adf/gid_report.adf
adf/node_pack.adf
adf/node_proj.adf
adf/node_rpt.adf
adf/node_user.adf
adf/noprojuser.adf
adf/nouserproj.adf
```

```
adf/oracle_db_sess.adf
adf/oracle_io.adf
adf/oracle_mem.adf
adf/oracle_proj_user.adf
adf/oracle_proj_user2.adf
adf/oracle_projuse_mem.adf
adf/oracle_user_proj.adf
adf/oracle_user_proj2.adf
adf/oracle_user_sess.adf
adf/oracle_user_sess2.adf
adf/pack_proj.adf
adf/pack_rpt.adf
adf/pack_user.adf
adf/proj_fact.adf
adf/proj_node.adf
adf/proj_pack.adf
adf/proj_rpt.adf
adf/proj_user.adf
adf/user_chgs.adf
adf/user_fact.adf
adf/user_node.adf
adf/user_pack.adf
adf/user_proj.adf
adf/user_rpt.adf
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adf/user_term.adf
cdf/
cdf/days_rpt.cdf
cdf/hours_rpt.cdf
cdf/interval_rpt.cdf
cdf/months_rpt.cdf
cdf/weekdays_rpt.cdf
cdf/weeks_rpt.cdf
cdf/years_rpt.cdf
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gdf/cost_center.gdf
gdf/db2.gdf
gdf/node.gdf
gdf/oracle.gdf
gdf/project.gdf
gdf/user.gdf

CIMS/UNIX ./arsap_install: Creating the CIMS/UNIX Configuration file, /
etc/arsap.conf
```

```
CIMS/UNIX ./arsap_install: Installing Default CIMS/UNIX Parameter File
...

CIMS/UNIX ./arsap_install: Setting file protection/ownership for binaries
and scripts ...

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Node Parameter File ...

**************************************************************************
Starting CIMS/UNIX /usr/arsap/scripts/admin/create_A_config.par Script
at Thu Mar 20 12:36:57 EST 2003
**************************************************************************

Enter nodename (output from command uname -n) of CIMS Accounting Server
[buddy.cimslab.com]: daisy
Enter directory for Nightly Accounting Files on the CIMS Accounting
Server, daisy [/usr/arsap/accounting]: /arsap_acc

CIMS/UNIX /usr/arsap/scripts/admin/create_A_config.par: Creating CIMS/
UNIX Configuration Information File ...

The accounting files are usually transferred to the server using a
transfer method of the user's choice.  Valid entries for transfer method
are:
    HOLD (hold files on client),
    MV (for use in NFS environment),
    RCP,
    FTP,
    SCP,
    SFTP

Enter transfer method: FTP

Please specify the destination for the accounting files once they are
transferred to the CIMS Accounting Server.  For example, sample
destination is /cims/accounting/<nodename>

Enter destination [/arsap_acc/buddy.cimslab.com]: /arsap_acc/buddy

**************************************************************************
Ending CIMS/UNIX /usr/arsap/scripts/admin/create_A_config.par Script at
Thu Mar 20 12:37:20 EST 2003
**************************************************************************
```

```
*************************************************************************
Starting CIMS/UNIX /usr/arsap/scripts/admin/create_A_storage.par Script
at Thu Mar 20 12:37:20 EST 2003
*************************************************************************

Creating CIMS/UNIX Storage Parameter File ...

*************************************************************************
Ending CIMS/UNIX /usr/arsap/scripts/admin/create_A_storage.par Script at
Thu Mar 20 12:37:20 EST 2003
*************************************************************************

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Collapsible Terminal File
...

Do you need to enter license information (new/upgrades) [y]?

CIMS/UNIX ./arsap_install: Add CIMS Licenses

*************************************************************************
Starting CIMS/UNIX /usr/arsap/scripts/admin/A_add_license Script at Thu
Mar 20 12:37:24 EST 2003
*************************************************************************

Respond to the following prompts with values provided in your CIMS/UNIX
License Pak...

Nodename is obtained from the UNIX command uname -n.  Enter only the
nodename component; if the returned value is fully qualified, e.g.,
nodename.myhost, use just nodename

Enter Nodename : buddy
    Nodename = buddy? [y]:

Enter License_Number: A9955
Enter Product_Name: CIMS
Enter Product_Version: V04.0
Enter CPU_Manufacturer: Intel
Enter CPU_Operating_System: Linux
Enter CPU_Model: Infinia
Enter CPU_Codes: i586
Enter Hardware_ID: 00:50:FC:87:60:97
Enter Options: full
Enter Key_Termination_Date:
Enter Product_Maintenance_Expiration:
```

```
Enter Product_Release_Date: 19950201
Enter Checksum: HNAAAAAACJAA

1:  License_Number = A9955
2:  Product_Name = CIMS
3:  Product_Version = V04.0
4:  CPU_Manufacturer = Intel
5:  CPU_Operating_System = Linux
6:  CPU_Model = Infinia
7:  CPU_Codes = i586
8:  Hardware_ID = 00:50:FC:87:60:97
9:  Options = full
10:  Key_Termination_Date =
11:  Product_Maintenance_Expiration =
12:  Product_Release_Date = 19950201
13:  Checksum = HNAAAAAACJAA

Are all fields correct? [y]:

CIMS/UNIX /usr/arsap/scripts/admin/A_add_license: Adding CIMS/UNIX
License...
%LICENSE-I-ADDED, license successfully added

******************************************************************************
Ending CIMS/UNIX /usr/arsap/scripts/admin/A_add_license Script at Thu Mar
20 12:38:50 EST 2003
******************************************************************************

Do you want to add more CIMS licenses? [n]:

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Authorization File ...

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Rates File ...

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Holiday File ...

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Image Mapping File ...

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Queue Mapping File ...

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Shift File ...

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Terminal Parameter File ...

CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Database Instance File ...
```

```
CIMS/UNIX ./arsap_install: Creating CIMS/UNIX Activity File ...

CIMS/UNIX ./arsap_install: Setting file protection/ownership for data
files ...

Do you want to install CIMS/UNIX sample data [n]?

WARNING **** /usr/arsap/scripts/oracle/link_A_dbao: Oracle Configuration
file (/etc/oratab) not found

You may not have Oracle on this platform or the location of ORATAB might
be different than what is defined in /usr/arsap/etc/arsap_platform

*************************************************************************
Starting CIMS/UNIX /usr/arsap/scripts/oracle/link_A_dbao Script at Thu
Mar 20 12:38:58 EST 2003
*************************************************************************

The CIMS/UNIX Oracle utility binary tag is:

TAG: Y

The CIMS/UNIX Oracle binaries are tagged with the Oracle version

Do you want to link the CIMS/UNIX Oracle Accounting Utilities now (y or
n)? [n]:

*************************************************************************
Ending CIMS/UNIX /usr/arsap/scripts/oracle/link_A_dbao Script at Thu Mar
20 12:39:02 EST 2003
*************************************************************************

Press enter when ready

*************************************************************************
Starting CIMS/UNIX /usr/arsap/scripts/db2/link_A_dbadb2 Script at Thu Mar
20 12:39:04 EST 2003
*************************************************************************

The CIMS/UNIX IBM DB2 utility binary tag is:

TAG: N

The CIMS/UNIX IBM DB2 binaries are NOT tagged with the IBM DB2 version

Do you want to link the CIMS/UNIX IBM DB2 Accounting Utilities now? [n]:
```

```
**************************************************************************
Ending CIMS/UNIX /usr/arsap/scripts/db2/link_A_dbadb2 Script at Thu Mar
20 12:39:06 EST 2003
**************************************************************************
Press enter when ready

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                         *
*        YOU HAVE SUCCESSFULLY INSTALLED CIMS/UNIX ON YOUR MACHINE        *
*                                                                         *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

**************************************************************************
Ending CIMS/UNIX ./arsap_install Script at Thu Mar 20 12:39:08 EST 2003
**************************************************************************
```

A

CIMS Data Collector for UNIX Directory and File Overview

This appendix describes the CIMS Data Collector for UNIX directories and files.

Directories **A-2**

Configuration and Parameter Files **A-4**

Help Files **A-5**

Administration Utilities **A-6**

Data Collection (Accumulation & Formatting) Utilities **A-7**

Data Consolidation Utilities **A-9**

Data Reporting Utility **A-11**

Directories

Directory	Contents
accounting	Located on the Consolidation Server. Contains subdirectories for each client node. These subdirectories contain the storage and accounting files from the clients.
bin	Binaries.
data	Data files.
description	Report Description Files: • .rdf Resource Report Description File • .adf Audit Report Description File • .cdf Capacity Report Description File • .gdf Graph Report Description File
etc	Important operational scripts.
examples	Convenience software (scripts and resource files).
help	Utility help files.
history	Historical raw accounting files (for example, wtmp, pacct, actvty).

Table A-1 • CIMS Data Collector for UNIX Directories

Directory	Contents
log	Script log files (for example, A_dbao_<SID>.log).
scripts	Convenience scripts. Contains the following subdirectories: • admin. Administrative scripts. • oracle. CIMS for Oracle SQL setup and administration scripts. • DB2. CIMS for DB2 setup and administrative scripts • reports. Sample report scripts.

Table A-1 • CIMS Data Collector for UNIX Directories (cont.)

Configuration and Parameter Files

File	Description
/etc/arsap.conf	This file contains one entry used to identify the location of the CIMS Data Collector for UNIX installation. If you installed in /opt/cims, this entry is: ARSAP_DATA=/opt/cims/data
/data/A_config.par	Environment Configuration File. Comments in this file explain the use of each of the configuration parameters.
/data/A_node.par	Node Parameter File. Located on the Consolidation Server, this file contains an entry for each client nodename.
/data/A_print.par	Printer Parameter File.

Table A-2 • CIMS Data Collector for UNIX Config/Parameter Files

Help Files

- A_auth.hlp
- A_format.hlp
- A_fsreport.hlp
- A_merge.hlp
- A_rates.hlp
- A_report.hlp
- A_select.hlp
- A_setup.hlp
- A_validate.hlp
- G_license.hlp

Administration Utilities

Table A-3 lists of each of the administration utilities and the files accessed by these utilities.

Utility	Files Accessed
G_license	■ A_setup.sys. Parameter File — contains the license information.
A_setup	■ A_holiday.sys. Holiday File. ■ A_imgmap.sys. Image/Package Mapping File. ■ A_odb_base.sys. Oracle Database Instance File ■ A_odb_user.sys. Oracle User File. ■ A_queuemap.sys. Queue Mapping File. ■ A_setup.sys. Parameter File — contains the license information. ■ A_shift.sys. Shift File. ■ A_shift.tmp. Backup Shift File. ■ A_term_par.sys. Terminal Parameter File.
A_authorize and A_validate	■ A_uaf.sys. Authorization File. ■ A_validate.sys. Validation File.
A_login, A_login_xm, and A_switch	■ A_activity.sys. Activity File. ■ A_uaf.sys. Authorization File. ■ A_validate.sys. Validation File.

Table A-3 • CIMS Data Collector for UNIX Administration Utilities

Data Collection (Accumulation & Formatting) Utilities

Table A-4 lists each of the data collection utilities and the files accessed by these utilities.

Utility	Files Accessed
A_dbao	■ A_dbacct.sys. CIMS for Oracle Accounting File.
A_dbadb2	■ A_db2acct.sys. CIMS for DB2 Accounting File.
A_format	■ raw accounting files ■ pacct. UNIX process accounting. ■ wtmp and wtmpx. UNIX login/logout. ■ A_activity.sys. Activity File. ■ A_dbacct.sys. CIMS for Oracle Database Accounting File. ■ A_db2acct.sys. CIMS for DB2 Database Accounting File. ■ A_dbstat.sys. CIMS for Oracle Statistics File. ■ A_db2stat.sys. CIMS for DB2 Statistics File. ■ A_lgiproj.sys. Login Project File. ■ A_lgistat.sys. Login Statistics File.

Table A-4 • CIMS Data Collector for UNIX Data Collection Utilities

Utility	Files Accessed
A_format (cont.)	■ A_procstat.sys. Accounting File. ■ A_prtstat.sys. Print Statistics File. ■ A_wtmpstat.sys. Wtmp Statistics File. ■ acc_<date>.dat. Accounting Data File. ■ A_activity.sys/type=activity --> A_lgistat.sys ■ pacct/type=acct --> A_procstat.sys ■ wtmp/type=wtmp --> A_wtmpstat.sys ■ A_dbacct.sys/type=dbacct --> A_dbstat.sys ■ A_db2acct.sys/type=db2acct(A_db2stat.sys ■ A_lgistat.sys + ■ A_procstat.sys + ■ A_wtmpstat.sys + ■ [A_dbstat.sys] + ■ [A_prtstat.sys] --> acc_<date>.dat
A_rates	■ A_rates.sys. Rates File.
A_sampler	■ A_storage.par. Storage Parameter File. ■ A_storage.sys. Storage File. ■ str_<date>.dat. Storage File. ■ A_storage.par --> A_storage.sys --> str_<date>.dat

Table A-4 • CIMS Data Collector for UNIX Data Collection Utilities (cont.)

Data Consolidation Utilities

Table A-5 lists each of the data consolidation utilities and the files accessed by these utilities.

Utility	Files Accessed
A_select	■ A_audit.dat. X Audit File. ■ A_cap.sys. Capacity File. ■ A_cap.tmp. Backup Capacity File. ■ A_stat.sys. Intermediate Statistics File. ■ A_terminals.par. Collapsible Terminals Parameter File. ■ acc_<date>.dat --> A_stat.sys [+ A_audit.dat + A_cap.sys] Where A_audit.dat and A_cap.sys (A_cap.tmp) are generated when the /AUDIT and /CAPACITY qualifiers are used, respectively. **Note:** If the following data files are changed after A_select is run, the information in the reports can be corrupted. ■ A_holiday.sys. Holiday File. ■ A_imgmap.sys. Image/Package Mapping File. ■ A_odb_base.sys. Oracle Database Instance File. ■ A_odb_user.sys. CIMS for Oracle User File

Table A-5 • CIMS Data Collector for UNIX Data Consolidation Utilities

Utility	Files Accessed
A_select (cont.)	■ A_queuemap.sys. Queue Mapping File ■ A_shift.sys. Shift File. ■ A_term_par.sys. Terminal Parameter File.
A_merge	■ A_stat.dat. Merged Statistics File. ■ A_uaf.sys +. Authorization File. ■ A_stat.sys +. Intermediate Statistics File. ■ str_<date>.dat. Nightly Storage Files. ■ A_stat.dat. Merged Statistics Files.
A_smerge	■ A_imgmap.sys. Image/Package Mapping File. ■ A_odb_base.sys. Oracle Database Instance File ■ A_odb_user.sys. Oracle User File. ■ A_queuemap.sys. Queue Mapping File. ■ A_term_par.sys. Terminal Parameter File. ■ A_stat.dat. Merged Statistics File.

Table A-5 • CIMS Data Collector for UNIX Data Consolidation Utilities

Data Reporting Utility

Table A-6 lists the report utility and the files accessed by the utility.

Utility	Files Accessed
A_report	■ Files with the following extensions: • .rdf Resource Report Description File • .adf Audit Report Description File • .cdf Capacity Report Description File • .gdf Graph Report Description File ■ For .rdf and .adf files, when no jobtype is specified in select section, the following jobtypes are default: • interactive • background • storage • batch • print ■ A_rpt_desc.sys. Default Report Description File. ■ A_stat.dat [+ A_audit.dat + A_cap.sys] --> REPORTS Where A_audit.dat and A_cap.sys (A_cap.tmp) are used when the /AUDIT and /CAPACITY qualifiers are specified, respectively.

Table A-6 • CIMS Data Collector for UNIX Report Utility

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