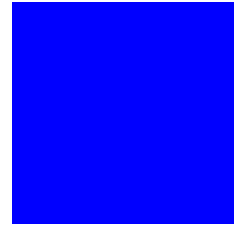


# **CIMS Lab, Inc.**

---



## **CIMS Chargeback**

### **NT/UNIX Installation and Getting Started Guide**

Version 4.1.1

**Title and Publication Number**

CIMS Lab Publication Number: NTU-STR-411-04

Printed: October, 2001

Information in this guide is subject to change without notice and does not constitute a commitment on the part of CIMS Lab, Inc. It is supplied on an "as is" basis without any warranty of any kind, either explicit or implied. Information may be changed or updated in this guide at any time.

**Copyright Information**

CIMS is ©copyright 1974 - 2001 by CIMS Lab, Inc. and its subsidiaries. This guide is ©copyright 1974 - 2001 by CIMS Lab, Inc., and its subsidiaries and may not be reproduced in whole or in part, by any means, without the written permission of CIMS Lab, Inc. and its subsidiaries.

Names marked ™ or ® and other company and product names may be trademarks or registered trademarks of their respective vendors or organizations.

**Mailing Address**

CIMS Lab, Inc.  
3013 Douglas Blvd., Suite 120  
Roseville, CA 95661-3842

# Table of Contents



## Preface

Philosophy .....	vii
Contacting the CIMS Lab .....	viii
About This Guide .....	ix
What's New .....	ix
Conventions .....	xi
Related Publications .....	xii

## 1 • Introduction

Contents of the UNIX Distribution Kit .....	1-2
Contents of the NT Distribution Kit .....	1-2
Customizing CIMS for NT/UNIX .....	1-3

## 2 • CIMS for UNIX

Introduction .....	2-3
Installing CIMS for UNIX .....	2-4
Before the Installation .....	2-5
Performing the Installation .....	2-6
Determining your Platform's Distribution Files .....	2-7
Getting the Distribution Files .....	2-8
Preparing the Distribution Files .....	2-10
Invoking the Installation Procedure .....	2-12
Oracle preparation and install procedures—UNIX .....	2-12
Linking the CIMS for UNIX Oracle Accounting Utilities .....	2-12
Starting the CIMS for UNIX Oracle Accounting Daemon .....	2-13
Shutting Down the CIMS for UNIX Oracle Accounting Daemon .....	2-16
CIMS for UNIX Oracle Project Accounting .....	2-17
CIMS for UNIX Oracle Project Login .....	2-18
CIMS for UNIX Oracle Project Switch .....	2-19

Questions and Answers .....	2-19
Methods of Logging in .....	2-21
DB2 preparation and install procedures-UNIX .....	2-22
Linking the CIMS for UNIX IBM DB2 Accounting Utilities .....	2-22
Starting the CIMS for UNIX IBM DB2 Accounting Daemon .....	2-23
Stopping the CIMS/UNIX IBM DB2 Accounting Daemon .....	2-24
<b>3 • CIMS for NT</b>	
Introduction .....	3-2
Installing CIMS for NT .....	3-2
Before the Installation .....	3-3
Performing the Installation .....	3-4
Getting the Distribution Files .....	3-5
Invoking the Installation Procedure .....	3-7
CIMS for NT Database Accounting Utilities .....	3-8
<b>4 • Getting Started</b>	
After Installation .....	4-2
CIMS for UNIX X-application Resource Files .....	4-4
Cleaning Up .....	4-4
<b>5 • Revision Level Updates</b>	
Introduction .....	5-2
Current Revision Levels for each supported UNIX type .....	5-3
Utility versions delivered in Product Revision Level V4.1.1. ....	5-4
Revision Level V4.1.1 .....	5-5
Revision Level V4.1.0 .....	5-8
Revision Level V4.0.9 .....	5-9
Revision Level V04.0-08 .....	5-10
Revision Level V04.0-07 .....	5-14
Revision Level V04.0-06 .....	5-15
Revision Level V04.0-05 .....	5-16
Revision Level V04.0-04 .....	5-18
Revision Level V04.0-03 .....	5-20
Revision Level V04.0-02 .....	5-22

Revision Level V04.0-01 ..... 5-24

**A • Sample CIMS for UNIX arsap\_install run**

**B • CIMS for NT/UNIX Operation Overview**

CIMS for NT and UNIX Directories .....B-2  
Configuration and Parameter Files .....B-3  
CIMS for NT/UNIX help .....B-3  
CIMS for NT/UNIX Set-Up .....B-4  
CIMS for NT/UNIX Data Collection (Accumulation & Formatting) .....B-5  
CIMS for NT/UNIX Data Consolidation .....B-8  
CIMS for NT/UNIX Data Reporting ..... B-10



# 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. And the best way to control costs is to plan for them.

CIMS Chargeback 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. Simply put, CIMS Chargeback is an essential component of an effective financial management system.

## Philosophy

Originally developed in 1974, CIMS 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.

The 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 the CIMS Lab**

You can contact us with any questions or problems you have. Please use one of the methods below to contact us.

**For product assistance or information, contact:**

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

**Our Mailing Address is:**

CIMS Lab, Inc.  
3013 Douglas Blvd., Suite 120  
Roseville, CA 95661-3842



## About This Guide

The *CIMS Chargeback NT/UNIX Installation and Getting Started Guide* specifies how the CIMS for NT/UNIX system accounting product is installed, describes the files in the distribution kit, and explains the changes for the most recent releases of CIMS for NT/UNIX..

Ch. No.	Chapter Name	Content Description
1	<i>Introduction</i>	Provides a description of the Distribution Kit.
2	<i>CIMS for UNIX</i>	Provides detailed information on how to install CIMS on UNIX platforms.
3	<i>CIMS for NT</i>	Provides detailed information on how to install CIMS on NT platforms.
4	<i>Getting Started</i>	Provides details on the procedures after installation.
5	<i>Revision Level Updates</i>	Provides a description of latest changes and updates to CIMS for NT/UNIX.
A	<i>Sample CIMS for UNIX arsap_install run</i>	Provides a log of a typical CIMS for UNIX Installation.
B	<i>CIMS for NT/UNIX Operation Overview</i>	Provides a high-level overview of the CIMS for Windows NT/UNIX phases, the utilities utilized during a phase and the files manipulated.

## What's New

*CIMS Chargeback Version 4.1.1* offers all the functions available in previous releases, plus these new features:

## **UNIX GUI**

CIMS for UNIX graphical user interface (GUI) and GRAPH Utilities now utilize resource files that can be modified for user preference.

## **ORACLE Accounting Information Support**

CIMS for UNIX now supports processing ORACLE Accounting information.

## **DB2 Accounting Information Support**

CIMS for UNIX now supports processing DB2 common server, Parallel Edition (PE) and UDB V5 Accounting information.

## **Utilities Run on Data Collector and Reporter Nodes**

CIMS for UNIX SELECT, MERGE, and SMERGE can now run on Data Collector nodes as well as Reporter nodes.

## **Authorize/Validate Utility Merge**

The A\_validate functions have been merged into A\_authorize. A\_authorize maintains the A\_validate.sys file.

## **Absolute Database Accounting**

Absolute shift and daily accounting for database accounting is now available. This feature allows interval accounting records on shift and daily boundaries for long database connections.

## **Database User Grouping**

Database User Grouping option specifies database user names instead of operating system user name be used for assigning grouping fields for ORACLE Jobtype.

## Conventions

Some or all of the following conventions appear in this guide:

Symbol or Type Style	Represents	Example
<b>Bold</b>	a new term	...called a <b>source object</b> .
<b>alternate color</b>	(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 <b>Chapter 3, Data Migration</b> .
<i>Italic</i>	words that are emphasized	...the entry <i>after</i> the current entry...
	the titles of other documents	<i>CIMS Chargeback NT/UNIX User Guide</i>
	syntax variables	<code>COPY filename</code>
Monospace	directories, file names, command names, computer code	<code>&amp;HIGHLVL.SRCLIB</code>
	computer screen text, system responses, command line commands	Copy file? Y/N
Monospace bold	what a user types	...enter <b>RUN APP.EXE</b> in the Application field
< >	the name of a key on the keyboard	Press <Enter>.
▶	choosing a command from a cascading menu	File ▶ Import ▶ Object

## **Related Publications**

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

- *CIMS NT, UNIX & OpenVMS Introductory Letter*
- *CIMS Chargeback NT/UNIX User Guide*
- *CIMS Chargeback NT/UNIX Reference Guide*



---

# Introduction

<b>Contents of the UNIX Distribution Kit .....</b>	<b>1-2</b>
<b>Contents of the NT Distribution Kit .....</b>	<b>1-2</b>
<b>Customizing CIMS for NT/UNIX .....</b>	<b>1-3</b>

The following installation procedures describe the proper steps to install CIMS for NT/UNIX. Installation for each product varies greatly, and each is presented in separate sections. To ensure proper operation, the steps must be followed precisely.

## **Contents of the UNIX Distribution Kit**

The distribution kit for CIMS for UNIX consists of:

- The *CIMS NT, UNIX & OpenVMS Introductory Letter*
- The *CIMS Chargeback NT/UNIX Installation and Getting Started Guide*
- The *CIMS Chargeback NT/UNIX User Guide*
- The *CIMS Chargeback NT/UNIX Reference Guide*
- The CIMS for UNIX distribution file(s) on CD-Rom

If you received your distribution on other media, the CIMS for UNIX distribution file is a UNIX uuencoded, compressed tar file.

## **Contents of the NT Distribution Kit**

The distribution kit for CIMS for NT consists of:

- The *CIMS NT, UNIX & OpenVMS Introductory Letter*
- The *CIMS Chargeback NT/UNIX Installation and Getting Started Guide*
- The *CIMS Chargeback NT/UNIX User Guide*
- The *CIMS Chargeback NT/UNIX Reference Guide*
- The CIMS for NT distribution file(s) on CD-Rom

The CIMS for NT distribution consists of self-extracting password protected PKZIPed files.

## Customizing CIMS for NT/UNIX

You can customize CIMS for NT/UNIX features to suit your resource management and chargeback needs. You select which CIMS for NT/UNIX features to implement by enabling or disabling options and entering parameters. These options and parameters are set using the CIMS for UNIX GUI or through the CIMS for NT/UNIX CLI. CIMS for NT/UNIX feature settings are: system-wide, user/project, mapping files and parameter files. See *Chapter 2, CIMS for NT/UNIX Set-Up* in the *CIMS Chargeback NT/UNIX User Guide* for specific instructions detailing how to customize CIMS for NT/UNIX.

## ■ Introduction

---

*Customizing CIMS for NT/UNIX*



---

# CIMS for UNIX

<b>Introduction</b> .....	<b>2-3</b>
<b>Installing CIMS for UNIX</b> .....	<b>2-4</b>
Before the Installation .....	2-5
Performing the Installation .....	2-6
Determining your Platform’s Distribution Files .....	2-7
Getting the Distribution Files .....	2-8
Preparing the Distribution Files .....	2-10
Invoking the Installation Procedure .....	2-12
<b>Oracle preparation and install procedures–UNIX</b> .....	<b>2-12</b>
Linking the CIMS for UNIX Oracle Accounting Utilities .....	2-12
Starting the CIMS for UNIX Oracle Accounting Daemon .....	2-13
Shutting Down the CIMS for UNIX Oracle Accounting Daemon .....	2-16
CIMS for UNIX Oracle Project Accounting .....	2-17
CIMS for UNIX Oracle Project Login .....	2-18
CIMS for UNIX Oracle Project Switch .....	2-19
Questions and Answers .....	2-19
Methods of Logging in .....	2-21
<b>DB2 preparation and install procedures-UNIX</b> .....	<b>2-22</b>

Linking the CIMS for UNIX IBM DB2 Accounting Utilities .....2-22  
Starting the CIMS for UNIX IBM DB2 Accounting Daemon .....2-23  
Stopping the CIMS/UNIX IBM DB2 Accounting Daemon .....2-24

## Introduction

CIMS for UNIX supports many different UNIX systems. This section is a guide for installing CIMS on your UNIX system(s).

The following options are available for CIMS for UNIX:

- **Collector**—This includes the utilities to collect accounting and storage data on a host UNIX system.
- **Reporter on UNIX**—This includes the utilities to process, set rates for, and report on the accounting and storage data gathered by the Collector. These utilities run on a UNIX system.
- **Reporter on VMS**—This includes the utilities to process, set rates for, and report on the accounting and storage data gathered by the Collector. These utilities run on a VMS system.

The CIMS for UNIX Collector or Reporter on UNIX options are provided on the CIMS for UNIX distribution. Reporter on VMS is provided as part of the CIMS for OpenVMS distribution.

## **Installing CIMS for UNIX**

CIMS for UNIX V4 is supported on any of the following UNIX systems:

- Alpha AXP with OSF/1 (Digital UNIX) V4 and higher
- ConvexOS V10.0 or higher
- Data General (dg-ux) Motorola R3.10 and R4.11, and Intel
- HP-UX V10.01 or higher
- Linux 2.2.x or higher
- IBM RS/6000 AIX 4
- 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 higher
- SunOS V4.1.3
- SunOS (Solaris 5.4 and higher)
- Other compatible versions of UNIX

## Before the Installation

Familiarize yourself with CIMS for UNIX by reading this entire section and revision updates before proceeding with the installation.

- [Optional] Backup your system.

Although CIMS for UNIX does not interfere with or modify the UNIX system, it is a good precautionary measure to backup the system before you install any system product.

- After installing CIMS for UNIX, you can upgrade the product in the existing location or install the product in a new location.
- To perform an upgrade, back up the CIMS for UNIX directories so you can recover to the preinstall state, if necessary. In addition, back up any scripts you have modified.
- Make sure you have enough disk space for installing CIMS for UNIX on the file system.
- Depending upon your processor's speed, current system load, and so forth, it takes approximately 10 to 15 minutes to install CIMS for UNIX.
- Make sure you have a CIMS license PAK for the target platform. You must enter this information during the installation.
- To link the CIMS for UNIX Oracle Accounting Utilities during install, you must know the version of Oracle you are linking and define the ORACLE\_HOME environment variable or have an oratab file.
- To link the CIMS for UNIX DB2 Accounting Utilities during install, you must know the version of DB2 you are linking, know the location of DB2 and the type of DB2: common server, UDB V5 or PE.
- Script the installation for analysis purposes in case a problem occurs during the install. You create a script log with the following command:

```
> script install.log
```

You need to type <esc> or <ctrl-c> to exit the script session after the installation is complete.

- Install the UNIX accounting subsystem on your system and turn on UNIX accounting. The UNIX accounting subsystem is usually present, but on some UNIX platforms, most notably DEC UNIX, it must be installed as a separate subsystem.

### **Create a CIMS for UNIX Account [Optional]**

CIMS 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 for UNIX or setting up a CIMS for UNIX user account. The advantage of a CIMS for UNIX account is that the CIMS for UNIX administration does not need root privileges on a daily basis for maintenance.

### **CIMS for UNIX Installation Script**

The CIMS for UNIX Installation Script is `arsap_install`. CIMS for UNIX can be installed in stand-alone or server/client environments. In server/client accounting environments where one platform is designated the accounting server, it is not required that the accounting server be installed first, but installing the server first can save some time later.

## **Performing the Installation**

---

**Note** • We strongly recommend following the installation procedure as is stated in this document. Deviation from this installation procedure can result in unpredictable behavior from CIMS for UNIX and can be deemed unsupported by the CIMS Lab.

---

### **Login Using the Super-User Account**

CIMS for UNIX installation requires root privilege in order to create directories and execute privileged commands. Login to the UNIX system using the Super-User (root) account.

## Determining your Platform's Distribution Files

Regardless of how you received the CIMS for UNIX distribution, you will need the uuencoded compressed tar file specific to your UNIX platform, a\_<code>.uu. <code> indicates the platform type for which you are getting the distribution files. The following table indicates the appropriate <code> for each platform type:

Platform	Code
Alpha AXP with OSF/1 (Digital UNIX)	dec
Data General (AViiON) Intel	dg_int
Data General (AViiON) Motorola R4.11	dg_mot
HP 9000/7xx,8xx (HP-UX 10.10 and lower)	hp_9
HP 9000/7xx,8xx (HP-UX 10.20 and higher)	hp
IBM RS/6000 AIX 4.1.x and 4.2.x	aix_41
IBM RS/6000 AIX 4.3.x	aix_43
Linux (Intel based) 2.2.x and higher	linux
NCR UNIX System	ncr
Pyramid NILE	pyrmid
Pyramid Reliant	pyrel
Siemens Nixdorf (Sinix)	sinix
SCO-UNIX	sco
Sequent DYNIX/ptx (V4.x)	seq_4
Silicon Graphics IRIX V5.x.x, V6.x	irix
Sun (SunOS 4.1.3)	sunos

Platform	Code
Sun SOLARIS 2.4, 2.5, 2.6	sol_24
Sun SOLARIS 2.7 and higher	sol_27

## Getting the Distribution Files

CIMS for UNIX is distributed in three ways:

- CD-ROM
- Web-site download
- FTP

### Distribution Files from CD-ROM

CD-ROM distribution media contains a UNIX uuencoded compressed tar file for each supported UNIX platform.

#### *To get the distribution file for your platform off the CD-ROM*

- 1 Load and mount the CD-ROM using the appropriate commands for your system; refer to the following table for an example on your platform.
- 2 Copy the appropriate files from the CD-ROM to a temporary distribution directory.

Operating System	Device	Mount Point
SPARC SunOS	/dev/sr0	mount -r -t hsfs /dev/sr0 / cdrom
SPARC Solaris	/dev/dsk/c0t4d0s0	mount -r -F hsfs /dev/dsk/ c0t4d0s0 /cdrom (for non- automounting filesystems)



Operating System	Device	Mount Point
HP-UX	/dev/dsk/c201d2s0	mount -r -F cdfs /dev/dsk/c201d2s0 /cdrom
AIX	/dev/cd0	mount -r -v cdrfs /dev/cd0 /cdrom
x86 SCO ODT	/dev/cd0	mount -r -f HS /dev/cd0 /cdrom
x86 SVR4	/dev/dsk/c0t4d0s0	mount -r -F hsfs /dev/dsk/c0t4d0s0 /cdrom
Digital UNIX	/dev/rz4a	mount -t cdfs -o noversion /dev/rz4a /cdrom
SGI IRIX	/dev/scsi/sc0d410	mount -r -t iso9660 /dev/scsi/sc0d410 /cdrom
DG-intel	/dev/pdsk/2/mnt	mount -t cdrom /dev/pdsk/2/mnt /cdrom
DG-motorola	/dev/pdsk/1/mnt	mount -t cdrom /dev/pdsk/1/mnt /cdrom

Proceed to *Preparing the Distribution Files* on page 2-10.

### Distribution Files from Web-site Download

CIMS for UNIX Distribution files can be retrieved from the Customer Area of the CIMS Lab web-site, [www.cimslab.com](http://www.cimslab.com). You will need an access password from CIMS Lab, Inc. to access the Customer Area of the web-site. Current customers can use their product passwords as the Customer Area access password or you can call CIMS Lab, Inc. at 1-800-283-4267 to obtain a Customer Area access password.

Proceed to *Preparing the Distribution Files* on page 2-10.

## **Distribution Files from FTP**

### *To retrieve CIMS for UNIX distribution files*

- 1 Contact the CIMS Lab to obtain your FTP Access Username and Password:

(800) 283-4267 US and Canada  
(916) 783-8525 International  
(916) 783-2090 Fax  
support@cimslab.com via E-mail

- 2 ftp to ftp.cimslab.com
- 3 Change directory to ntunix/cims\_unix:

```
ftp> cd ntunix/cims_unix
```

- 4 Get the CIMS for UNIX distribution files:

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

- 5 Disconnect from the FTP site:

```
ftp> bye
```

Proceed to *Preparing the Distribution Files* on page 2-10.

## **Preparing the Distribution Files**

To begin, you will need to copy a\_<code>.uu and a\_com\_z.uu distribution files to a temporary working directory. These files are tar files that have been compressed and uuencoded. See the UNIX manual pages on compress and uuencode if you are unfamiliar with these terms. Now uudecode, uncompress, and extract the distribution files as follows:

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

A file, `arsap.tlb.Z`, is produced. Uncompress it.

```
# 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 these files is dependent on `<code>`.

---

```
# uuencode a_com_z.uu
```

A file, `arsap_common.tlb.Z`, is produced. Uncompress it.

```
# 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
x 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
```

You can now remove the uuencoded and tar files.

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

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

## Invoking the Installation Procedure

CIMS for UNIX installation is performed by the `arsap_install` script. The script prompts you for necessary information.

Enter licensing information as instructed on screen. CIMS for UNIX is authorized to run only on licensed machines. Use the license key, issued for your machine when you purchased a license, to answer this set of questions. **You must enter the requested information exactly as it is shown on the license key.**

`arsap_install` is located in your temporary working directory (where you prepared for installation). Change the protection on `arsap_install` to allow execute access and execute the installation script as follows:

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

A sample of an `arsap_install` run is presented in [Appendix A, Sample CIMS for UNIX `arsap\_install` run](#). The various prompts and results from the expected replies are shown. Any text denoted within "<" and ">" is added to clarify additional installation options in this sample and is not part of the installation.

# Oracle preparation and install procedures—UNIX

## Linking the CIMS for UNIX Oracle Accounting Utilities

CIMS for UNIX Database 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. The archive object library files (.a) are located in the `ARSAP_BIN` directory.

You can link the CIMS for UNIX Oracle Accounting Utilities during installation of CIMS for UNIX, but it is not required. If you link the utilities before or after installation, you need to define the `ORACLE_HOME` environment variable and you need to know what the `ORACLE_SID` is for

each instance run. Then run the `link_A_dbao` script located in `$ARSAP_HOME/scripts/oracle`. You need only link the utilities once for each version of Oracle.

This script creates the CIMS for UNIX Oracle Accounting Utilities in `$ARSAP_HOME/bin`:

- `A_dbao` (CIMS for UNIX Oracle Accounting daemon)
- `A_dbplo` (CIMS for UNIX Oracle Project Login)
- `A_dbpso` (CIMS for UNIX Oracle Project Switch)

If you set `ORACLE_VER_TAG` to `N`, these utilities are named as above. If you set `ORACLE_VER_TAG` to `Y`, the specified version is appended to the name; this action is the default. During the linking process the system asks you what version of Oracle are you linking. For example, if you link the utilities for Oracle V7.2.2 and `ORACLE_VER_TAG=Y`, the names are: `A_dbao.V7.2.2`, `A_dbplo.V7.2.2` and `A_dbpso.V7.2.2`.

## Starting the CIMS for UNIX Oracle Accounting Daemon

In order to gather meaningful statistics, the Oracle Database administrator must perform the following action for each Oracle instance (referenced to by the `ORACLE_SID` environment variable) where accounting information is going to be collected.

### *To start the CIMS for UNIX Oracle Accounting Daemon*

- 1 Edit the 'init.ora' files contained in the `$ORACLE_HOME/dbs` directory. This file should be named `init<ORACLE_SID>.ora`.
- 2 Find and set the value `'timed_statistics = true'`.  
This value usually appears in the file, but is commented out.
- 3 Shutdown and restart Oracle. This initiates the tracking of CPU statistics within Oracle.

To start the CIMS for UNIX Oracle Accounting daemon and begin collecting Oracle accounting information, the user must have the following variables defined in their environment:

```
ARSAP_DATA=$ARSAP_HOME/data
ARSAP_LOG=$ARSAP_HOME/log
ORACLE_HOME=/home/ORACLE
ORACLE_SID=DEVL
```

---

**Note** • For each instance you start, make sure ORACLE\_HOME and ORACLE\_SID is set correctly to represent the new instance.

---

You must have an Oracle username and password for the CIMS for UNIX accounting daemon to connect to Oracle. A "cims" user is typically created.

Once the Oracle username has been defined, the DBA can run the SQL script in \$ARSAP\_HOME/scripts/oracle called `arsap_view.sql`. This script creates a role called `arsap_view`, granting select on the v\$ tables and grants that role to the Oracle username. You must edit the script `arsap_view.sql` and replace the name "cims" with the appropriate Oracle username.

---

**Note** • That this script cannot be run unless the `catalog.sql` (an Oracle admin script) has been run first.

---

If you are going to use project accounting in Oracle, leave the line

```
grant create table to arsap;
```

uncommented. Otherwise, comment it out.

You can specify a different `oracle_user`, `oracle_password` and `oracle_frequency` for each Oracle instance. You set these parameters using the CIMS for UNIX Setup Utility (`A_setup`). CIMS for UNIX maintains this information in the CIMS for UNIX DB instance mapping file (`A_dbinst.sys`). The following command adds an Oracle instance entry:

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

The following command reports on the DB instance information:

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

which produces the following DB instance report:

Instance	DB Type	Username	Frequency
DEFAULT	ORACLE	ARSAP	300
DB2USER	DB2	ernie	60
db2user	DB2	db2user	60
A_ORA_ALL	ORACLE	ernie	300

A\_SETUP>

Once these things have been done, you can start the CIMS for UNIX Oracle Accounting daemon as follows:

---

```
> arsap_start_odb <SID>      specify the SID you wish to start.
```

or

```
> arsap_start_odb all        start all daemons. The Oracle oratab file is
                             read to determine which SIDs are started.
```

---

The script, `arsap_start_odb`, is located in `$ARSAP_HOME/scripts/oracle`.

Alternatively, the Oracle Accounting daemon can be started on the command line which eliminates the need to change the `ORACLE_SID` environment variable when bringing up `A_dbao` for multiple instances. For example, you start up `A_dbao` for instance `D714` and `D716` as follows:

```
% $ARSAP_HOME/bin/A_dbao.V7.1.4 -SID D714&  
% $ARSAP_HOME/bin/A_dbao.V7.1.6 -SID D716&
```

Two files are created upon starting the daemon,

---

<code>\$ARSAP_HOME/log/A_dbao_&lt;SID&gt;.log</code>	Log file of daemon events.
<code>\$ARSAP_HOME/data/A_dbacct.sys</code>	Oracle accounting information.

---

For CIMS for UNIX, the log name indicates the Oracle instance name (for example, `$ARSAP_HOME/log/A_dbao_D714.log`).

The daemon should only be started once for each Oracle database (instance) on a particular platform. The Oracle environment variables indicate the instance of Oracle that is sampled by a CIMS for UNIX Oracle Accounting daemon.

## Shutting Down the CIMS for UNIX Oracle Accounting Daemon

The best method of shutting down the CIMS for UNIX Oracle Accounting daemon is to use the `arsap_stop_odb` script. Simply type the following command:

---

```
> arsap_stop_odb <SID>      specify the SID you wish to stop.
```

or

```
> arsap_stop_odb all        stop all daemons. We will read the Oracle  
                             oratab file to determine which SID need to  
                             be stopped.
```

---

The script, `arsap_stop_odb`, is located in `$ARSAP_HOME/scripts/oracle`.



The alternative method of shutting down the CIMS for UNIX Oracle Accounting daemon is done from the command line, with the 'kill' command. Simply type the following command:

```
> 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 tells it to commence shutdown. If the daemon is working on sampling the statistics from Oracle, it performs the shutdown action after the current sample completes.

The daemon exits gracefully, flushing all database accounting data to A\_dbacct.sys and noting appropriate messages in A\_dbao\_<SID>.log.

## CIMS for UNIX Oracle Project Accounting

CIMS for UNIX Oracle Project accounting is maintained through two CIMS for UNIX utilities: CIMS for UNIX Oracle Project Login and CIMS for UNIX Oracle Project Switch. These utilities require a new table - CIMS for UNIX Oracle Project table.

The CIMS for UNIX Oracle Project tablespace is created through sqlplus using an SQL script; this table consists of fields for project information. This script, arsap\_project.sql, creates the proper project table. The script is located in \$ARSAP\_HOME/scripts/oracle.

The CIMS for UNIX Oracle utilities update the table by adding a new record each time they are invoked. The CIMS for UNIX Oracle Accounting daemon samples the proper Oracle tables to gather resource statistics. The daemon also analyzes the CIMS for UNIX Oracle Project table to determine the resources utilized per project.

## **CIMS for UNIX Oracle Project Login**

The CIMS for UNIX Oracle Project Login utility (`A_dbplo`) logs the initial project for which the user is performing work. This utility is executed at the UNIX command line to replace the typical means of connecting to an Oracle application.

The command line format for the CIMS for UNIX Oracle Login utility is as follows:

```
A_dbplo <application> [-project] [Oracle parameters]
```

where `application` is the desired Oracle application and, as with any Oracle application, the additional Oracle parameters can be provided (for example, `username/password`).

The project can be specified on the command line; project designation is optional. If a project is not specified, the utility retrieves the project from the current CIMS for UNIX project defined by the UNIX environment variable, `ARSAP_CURRPROJ`.

For example, Oracle `sqlplus` can be started with this command:

```
sqlplus username/password
```

To utilize project accounting, the same Oracle application is started by this command:

```
A_dbplo sqlplus -home username/password
```

In addition, an alias can be defined to allow more convenient means to invoke the CIMS for UNIX Oracle Project Login utility. Of course defining an alias is dependent on the UNIX shell you are using. For example, an alias to define CIMS for UNIX Oracle Project Login to invoke `sqlplus` is (for `csh`):

```
alias A_sql+ "$ARSAP_HOME/bin/A_dbplo $ORACLE_HOME/bin/sqlplus"
```

With alias `sqlplus` can be started with `A_sql+`, thus, invoking CIMS for UNIX Oracle Project Login and `sqlplus`.

The same is true for sqlldb shown in this example:

```
alias A_sqldb $ARSAP_HOME/bin/A_dbplo $ORACLE_HOME/bin/sqlldb
```

as well as, with Oracle applications developed through forms.

## CIMS for UNIX Oracle Project Switch

The CIMS for UNIX Oracle Project Switch utility (A\_dbps0) modifies the current project to the specified project. The user switches to another project while running the Oracle application. At any time, the user changes projects using the command:

```
!A_dbps0 project
```

After the new record is entered into the CIMS for UNIX Oracle Project table, all activity is tracked for this new project.

## Questions and Answers

### **What is SQL\*Net? client-server communication?**

SQL\*Net is a network layer application that allows remote applications to interact with an Oracle server. SQL\*Net is network-transport independent; this means the only difference in an application accessing an Oracle instance locally and accessing an Oracle instance remotely is the fact that the remote application needs to 'know' to hit the Oracle instance via SQL\*Net; these remote applications have no concern about the transport protocol (e.g., LAT, TCP, Netware)

### **Does the setting of the parameter 'timed\_statistics = true' have a negative influence on the oracle performance?**

No, there is no performance impact for Oracle with this parameter set.

## **How do I know that Oracle statistics are being gathered/processed?**

The first thing to check should be the CIMS for UNIX scripts: `arsap_nightly`, `turnacct` and `runacct`. These scripts should be set-up to handle the Oracle data. You must set the `A_ORACLE_ACCT` environment variable to `Y`; this setting is done in the CIMS Parameter Configuration File, `$CIMS_HOME/data/A_config.par`. Checks for this variable are done in `turnacct` and `runacct`.

The CIMS for UNIX Format utility (`A_format`) processes the `dbacct_<date>` file into the CIMS for UNIX Oracle Statistics File (`A_dbstat.sys`). `A_dbstat.sys` is then sorted into the CIMS for UNIX Accounting Data File (`acc_<date>.dat`). Oracle accounting records have type "Vr".

A script is provided to check the state of the CIMS Oracle Accounting daemons for all or selected Oracle instances. The script is `$CIMS_HOME/scripts/oracle/arsap_check_odb`.

## **How do I make the `A_dbao` process start up automatically when the Oracle database instance is started?**

There is a start-up script for Oracle which should be the same or very similar across platforms (see `Oracle_start_up`). The difference is where the script is invoked during boot time (see `UNIX_start_stop`). The Oracle DBA may need to modify the `oratab` file.

## **Are there any other configuration changes/settings that need to be performed in order to have Oracle statistics gathered?**

This information was obtained because an error processing the SQL statement was reported. There are two SQL scripts that might need to be run if they were not invoked when Oracle was installed: `catmontr.sql` and `catalog.sql`. These files should be in `$ORACLE_HOME/rdbms/adm`. The `catmontr.sql` script defines and creates the necessary table space for the

statistic tables (for example, V\$SESSION and V\$PROCESS). The `catalog.sql` script creates public synonyms which increase the visibility of the statistics table space.

## Methods of Logging in

The following are the different scenarios for logging in and how that will work.

- 1 User logs onto Oracle server and connects to Oracle.

No problem. Will be able to track users by Oracle user name and UNIX user name.

- 2 User connects to Oracle through SQLnet from other UNIX nodes or PC.

From other UNIX nodes, if the user logs on as an individual Oracle user, not a problem. If, on the other hand, the user doesn't have a unique Oracle user name, it's not as straightforward.

The TNS Listener does not pick up the individual UNIX user names unless the "username" variable in the `init.ora` file is set equal to an individual. This works fine on PCs which are usually owned by an individual. However, on a multiuser UNIX platform, you really don't want to do that.

- 3 Applications running on separate node, no unique Oracle user name, coming in through SQLnet.

In the case of applications connecting to the Oracle server via SQLnet as an application Oracle user name, the best approach would be as follows. The application would have to determine the user name of the person running the application, then connect to Oracle with the ARSAP Oracle project login utility. The command would be something like this:

```
.../arsap/bin/A_dbplo $ORACLE_HOME/bin/sqlplus -$user
```

where `$user` is the user running the application, and is passed as the "project" name. Then reporting by project would give one the individual user names.

This does require modifications to the application software.

## DB2 preparation and install procedures-UNIX

### Linking the CIMS for UNIX IBM DB2 Accounting Utilities

CIMS for UNIX Database 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. The archive object library files (`.a`) are located in the `ARSAP_BIN` directory.

The CIMS for UNIX IBM DB2 Accounting Utilities can be linked during installation of CIMS for UNIX or afterwards. To link the utilities after installation, run the CIMS for UNIX IBM DB2 Link (`link_A_dbadb2`) script located in `$ARSAP_HOME/scripts/db2`.

`link_A_dbadb2` utilizes the CIMS for UNIX DB2 Home file.

(`$ARSAP_HOME/scripts/db2/A_db2_home`). The `A_db2_home` file defines the standard locations of DB2 Common Server (CS), Universal Database (UDB) V5 and Parallel Edition (PE). You may need to modify this file to reflect your DB2 installation. You link the utilities only once for each version of DB2.

This script creates the CIMS for UNIX DB2 Accounting utilities in `$ARSAP_HOME/bin` for the appropriate type of DB2:

- `A_dbadb2` (CIMS for UNIX IBM DB2 CS Accounting daemon)
- `A_dbadb2_v5` (CIMS for UNIX IBM DB2 UDB V5 Accounting daemon)
- `A_dbadb2_pe` (CIMS for UNIX IBM DB2 PE Accounting daemon)

## Starting the CIMS for UNIX IBM DB2 Accounting Daemon

CIMS for UNIX acquires the IBM DB2 statistics through the DB2 Snapshot Monitor. The Database Manager 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)

These parameters are "OFF" by default. 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 modifies the designated parameters to the specified state. 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
#
```

The CIMS for UNIX IBM DB2 Accounting daemon (`A_dbadb2`, `A_dbadb2_pe` or `A_dbadb2_v5`) collects the event monitor data from DB2 databases within a DB2 instance. You must start the DB2 Accounting Daemon for each DB2 instance for which you want to gather DB2 accounting data. You must designate a DB2 user for which the DB2 Accounting Daemon can attach to the DB2 instance. The DB2 user, password, and sampling frequency are supplied in the CIMS for UNIX DB Instance Mapping file, (`A_dbinst.sys`). These parameters are set using the CIMS for UNIX SETUP Utility with the following command:

```
% $ARSAP_HOME/bin/A_setup
A_SETUP> add/dbinst db2user /dbtype=DB2/username=db2v5_1-
_A_SETUP> /password=xyz/frequency=60
```

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

Once these parameters have been entered into the CIMS for UNIX DB Instance Mapping file, you can start the CIMS for UNIX DB2 Accounting Daemon as follows:

```
> arsap_start_db2 $DB2INSTANCE
```

or

```
> arsap_start_db2 all
```

The script `arsap_start_db2` is located in `$ARSAP_HOME/scripts/db2` directory. If you use the "all" argument, a DB2 Accounting Daemon for all the DB2 instances listed in `$ARSAP_DATA/A_db2_list` 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. `arsap_start_db2` should be called after the DB2 instance has been completely started.

The DB2 Accounting Daemon creates a log file in the `ARSAP_LOG` directory for each DB2 instance for which it is started. The DB2 Accounting Daemon writes informational and error messages to this log. The log file name contains the DB2 Instance name for which you started the DB2 Accounting Daemon. For example, if the `$DB2INSTANCE` is `db2user`, the log file is named `A_dbadb2_db2user.log`.

All DB2 Accounting Daemon processes write the DB2 accounting data to `A_db2acct.sys` which is located in the `ARSAP_DATA` directory.

## Stopping the CIMS/UNIX IBM DB2 Accounting Daemon

The CIMS/UNIX IBM DB2 Accounting Daemon, (`A_dbadb2`, `A_dbadb2_pe` or `A_dbadb2_v5`), should be shutdown gracefully to assure proper collection of DB2 accounting data. You shutdown the daemon with the following command:

```
> arsap_stop_db2 $DB2INSTANCE
```



or

```
> arsap_stop_db2 all
```

The script `arsap_stop_db2` is located in `$ARSAP_HOME/scripts/db2` directory. If you use the "all" argument, all the DB2 Accounting Daemon processes for DB2 instances listed in `$ARSAP_DATA/A_db2_i list` will be shut down.

It is intended that `arsap_stop_db2` 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 DB2 Accounting Daemon does shutdown gracefully. However, this action is not recommended.

## ■ **CIMS for UNIX**

---

*DB2 preparation and install procedures-UNIX*

---

# CIMS for NT

<b>Introduction</b> .....	<b>3-2</b>
<b>Installing CIMS for NT</b> .....	<b>3-2</b>
Before the Installation .....	3-3
Performing the Installation .....	3-4
Getting the Distribution Files .....	3-5
Invoking the Installation Procedure .....	3-7
CIMS for NT Database Accounting Utilities .....	3-8

## Introduction

CIMS for NT supports NT servers and workstations.

The following options are available for CIMS for NT:

- **Collector**—This includes the utilities to collect accounting data on a host NT system.
- **Reporter on NT**—This includes the utilities to process, set rates for, and report on the accounting and storage data gathered by the Collector. These utilities run on an NT system.
- **Reporter on UNIX**—This includes the utilities to process, set rates for, and report on the accounting and storage data gathered by the Collector. These utilities run on a UNIX system.

Your distribution of CIMS for NT is provided for both the CIMS for NT Data Collector and the CIMS for NT Data Reporter options.

## Installing CIMS for NT

CIMS for NT executes on:

- NT server 3.51 and 4.0 for Intel
- NT server 3.51 and 4.0 for DEC Alpha
- NT workstation 3.51 and 4.0 for Intel
- NT workstation 3.51 and 4.0 for DEC Alpha

## Before the Installation

Familiarize yourself with CIMS for NT by reading this entire section and revision updates before proceeding with the installation.

- Create an Emergency Recovery disk using the `rdisk` command.
- Either reinstall the product in the existing location or install the product in a new location. You can save and restore the files in the CIMS for NT data directory (`ARSAP_DATA`), but CIMS for NT login cannot be running.
- For previously installed CIMS for NT on your system, backup the CIMS for NT directories so you can recover to the preinstall state.
- Make sure you have enough disk space where you plan to install CIMS for NT.
- Depending upon your processor's speed, current system load, and so forth, it takes approximately 5 to 10 minutes to install CIMS for NT.
- Make sure you have a CIMS license PAK for this machine to enter necessary information during the installation.

For missing system information needed for the license PAK, run `nti_sysi.exe` on each NT platform to be licensed for CIMS for NT/UNIX. `nti_sysi.exe` is contained in the CIMS for NT distribution, proceed to *Getting the Distribution Files* on page 3-5.

- Enable the EventLog service. To check whether EventLog service is started in Windows NT 3.5.x, click the Services icon under Control Panel in the main program group and check the status of EventLog. To check whether EventLog service is started in Windows NT 4.x, click the Services icon under Control Panel in the Start Menu and check the status of EventLog.

- Enable the appropriate auditing policies by clicking the User Manager for Domain icon located in the Administrative Tools program group. With the Administrator entry highlighted, select Audit from the Policies menu that displays the auditing policy window, toggle Audit These Events, and enable the success and failure policy for the following items:
  - Logon and Logoff
  - Restart, Shutdown, and System
  - Process Tracking

### **Create a CIMS for NT Account [Optional]**

CIMS for NT is a system level product that operates in conjunction with the NT operating system. Portions of the product require privileges associated with the Administrator Group. For this reason, CIMS for NT is usually managed by the administrator account. A separate account can be set up specifically for operating CIMS for NT, but is not required.

## **Performing the Installation**

CIMS for NT is available for Intel and DEC Alpha platforms. The convention to differentiate CIMS for NT distribution files for these platforms is: "i" for CIMS for NT Intel and "a" for CIMS for NT DEC Alpha.

---

**Note** • We strongly recommend following the installation procedure as is stated in this document. Deviation from this installation procedure can result in unpredictable behavior from CIMS for NT and is unsupported by the CIMS Lab.

---

### **Login Using the Administrator Account**

CIMS for NT installation requires administrator privilege for creating directories and executing privileged commands. Login to the NT system using the administrator account.

## Getting the Distribution Files

CIMS for NT is distributed in three ways:

- CD-ROM
- Web-site download
- FTP

### Distribution Files from CD-ROM

For CD-ROM distributions, copy the CIMS for NT distribution files to your temporary install directory. The distribution files for CIMS for NT Intel are:

- a\_nti.exe
- nti\_inst.exe
- nti\_sysi.exe

The distribution files for CIMS for NT DEC Alpha are:

- a\_nta.exe
- nta\_inst.exe
- nta\_sysi.exe

For example, under MS-DOS prompt window, your CD-ROM drive is E: and your temporary install area is C:\temp. Use these commands:

```
E:\> copy a_nti.exe C:\temp
E:\> copy nti_inst.exe C:\temp
E:\> copy nti_sysi.exe C:\temp (if needed)
```

Proceed to *Invoking the Installation Procedure* on page 3-7.

## **Distribution Files from Web-site Download**

CIMS for NT Distribution files can be retrieved from the Customer Area of the CIMS Lab web-site, [www.cimslab.com](http://www.cimslab.com). You will need an access password from CIMS Lab, Inc. to access the Customer Area of the web-site. Current customers can use their product passwords as the Customer Area access password or you can call CIMS Lab, Inc. at 1-800-283-4267 to obtain a Customer Area access password.

Proceed to *Invoking the Installation Procedure* on page 3-7.

## **Distribution Files from FTP**

### *To retrieve CIMS for NT from the internet*

- 1 Contact the CIMS Lab to obtain your FTP Access Username and Password:

(800) 283-4267 US and Canada  
(916) 783-8525 International  
(916) 783-2090 Fax  
support@cimslab.com via E-mail

- 2 ftp to ftp.cimslab.com
- 3 Change directory to ntunix/cims\_nt:

```
ftp> cd ntunix/cims_nt
```

- 4 Get the CIMS for NT distribution files:

```
ftp> bin  
ftp> get a_nti.exe  
ftp> get nti_inst.exe  
ftp> get nti_sysi.exe (if needed)
```

- 5 Disconnect from the FTP site:

```
ftp> bye
```

Place the distribution files in a temporary install directory on your machine. Either ftp the distribution files directly to your install directory or copy the files after retrieving them.



---

**Note** • These instructions specify the NT Intel distribution. If you need the NT Alpha distribution replace `nti` with `nta` where appropriate.

---

Proceed to *Invoking the Installation Procedure* on page 3-7.

## Invoking the Installation Procedure

CIMS for NT installation involves two steps:

- Run `nti_inst.exe`, the file that produces the CIMS for NT installation script
- Run the installation script

Install CIMS for NT by invoking the CIMS for NT installation script, `antiinst.bat`. There is little interaction after starting the installation. Supply the distribution password, the location to install CIMS for NT, the license PAK information, and set-up file prompts.

Invoke `antiinst.bat` from an MS-DOS prompt window with the following command:

```
C:\temp> antiinst feb1997
```

You are asked for a directory in which to install CIMS for NT. The designated directory must be large enough to accommodate CIMS for NT. This directory must be different from the temporary install directory where the distribution files were copied. The designated directory will be the home directory of CIMS for NT.

You are asked to enter licensing information. CIMS for NT is authorized to run only on licensed machines. Use the information from the license key you were issued by the CIMS Lab to answer this set of questions. **You must enter the requested information exactly as it is shown on the license key.**

After the license is installed successfully, another application window is opened as a result of CIMS for NT Setup utility (NT\_setup) being invoked to set-up important CIMS for NT files. You simply need to respond yes (Y) to each prompt. When the A\_SETUP> prompt is displayed, the files have been created successfully and you exit from NT\_setup.

The CIMS for NT Authorize and Validate utilities are invoked to create the CIMS for NT Authorization and Validation files, respectively. You finish the installation by exiting from these utilities.

---

**Note** • For NT 3.51, the spawned program manager exits when this installation is an upgrade and you have CIMS for NT login (NT\_login) running. You can easily restart the program manager from the CIMS for NT/UNIX Resource Accounting icon. Click the icon and select File --> Restart Program Manager.

---

## CIMS for NT Database Accounting Utilities

The CIMS for NT Database Accounting Utilities are delivered as NT services. You first install the service one per instance and then start the service through the NT Service Control Manager (SCM). You must do some preparation in order to collect database accounting data.

### **Installing the CIMS for NT Oracle Accounting Service**

#### *To install the CIMS for NT Oracle Accounting Service*

You install a CIMS for NT Oracle accounting service for each Oracle instance for which Oracle accounting data is collected.

- ▶ Install the service using the following command:

```
c:\arsap\bin\NT_dbao -install <SID>
```

## Preparing the CIMS for NT Oracle Accounting Service

### *To prepare the CIMS for NT Oracle Accounting Service*

In order to gather meaningful statistics, the Oracle Database administrator needs to perform the following actions for each Oracle instance (referenced to by the ORACLE\_SID environment variable) where accounting information is going to be collected:

- 1 Edit the 'init.ora' files contained in the %ORACLE\_HOME%/database directory; this file should be named init<ORACLE\_SID>.ora.
- 2 Find and set the value 'timed\_statistics = true'; this value usually appears in the file, but is commented out.
- 3 Shutdown and restart Oracle; this initiates the tracking of CPU statistics within Oracle.

### *To start the CIMS for NT Oracle Accounting service and begin collecting Oracle accounting information*

- 1 You must define the following variables in your environment:

```
set ARSAP_DATA=%ARSAP_HOME%/data
```

```
set ARSAP_LOG=%ARSAP_HOME%/log
```

```
set ORACLE_HOME=<ORACLE_HOME>
```

```
set ORACLE_SID=<SID>
```

- 2 You must define oracle\_user, which is the Oracle user that the CIMS for NT Oracle services uses to connect to the specified Oracle instance.

oracle\_user needs to have read (select) access to the following V\$ system monitor tables: database, process, session, sesstat and statname. A SQL script is provided which grants the proper privileges to the oracle\_user. This script, arsap\_view.sql, must be modified to reflect oracle\_user. The script is located in %ARSAP\_HOME%/etc/oracle.

- 3** You can specify a different `oracle_user`, `oracle_password` and `oracle_frequency` for each Oracle instance. These parameters are set using the CIMS for NT Setup Utility (`A_setup`). Refer to the *CIMS for NT Database Instance Set-Up* on page 3-13.

## **Starting the CIMS for NT Oracle Accounting Service**

Once these things have been done, the CIMS for NT Oracle Accounting service is started from SCM. To get to the SCM, you must do the following:

- 1** Click Start.
- 2** Click Settings.
- 3** Click Control Panel.
- 4** Double click Services.

You should see an entry similar to this:

ARSAP/NT Oracle DB Collector - <SID>

- 5** Select this entry.
- 6** If you do not have `ORACLE_SID` and `ORACLE_HOME` environment variables set, you must supply the following parameters in the Command Parameters data entry window for SCM:  
`-SID <SID> [-HOME <ORACLE_HOME>]`
- 7** Once you have selected the entry and entered the parameters, then you can click Start. This starts the ARSAP/NT Oracle Daemon.
- 8** You create two files when you start the daemon

`%ARSAP_HOME%/log/A_dbao_<SID>.log` - log file of daemon events

`%ARSAP_HOME%/data/A_dbacct.sys` - Oracle accounting information

## Shutting Down the CIMS for NT Oracle Accounting Service

When using SCM, highlight the CIMS for NT Oracle Accounting service you want to stop and hit Stop. To get to the SCM, just follow the directions above.

## Installing the CIMS for NT IBM DB2 Accounting Service

You install a CIMS for NT IBM DB2 accounting service for each DB2 instance for which DB2 accounting data is collected.

### *To install the service*

- ▶ Type the following command:

```
c:\arsap\bin\NT_dbadb2 -install <instance>  
check for db2perf.dll; uninstall db2perf -u
```

## Preparing the CIMS for NT IBM DB2 Accounting Service

In order to gather meaningful statistics, the IBM DB2 Database administrator must perform the following action for each IBM DB2 instance (referenced to by the DB2INSTANCE environment variable) for which accounting information is collected.

### *To start a DB2 command line processor,*

- ▶ Enter the following commands:

```
db2 => UPDATE DBM CFG using DFT_MON_BUFPOOL ON DFT_MON_LOCK ON  
db2 => UPDATE DBM CFG using DF_MON_SORT ON DFT_MON_UOW ON  
db2 => quit
```

**To start the CIMS for NT IBM DB2 Accounting service and begin collecting IBM DB2 accounting information**

- 1 You must define the following variables in your environment.

```
set ARSAP_DATA=%ARSAP_HOME%/data
set ARSAP_LOG=%ARSAP_HOME%/log
set DB2INSTANCE=<instance>
```

- 2 You must define `db2_user` which is the DB2 user that the CIMS for NT IBM DB2 Accounting service uses to connect to the specified DB2 instance.

`db2_user` needs to be able to attach to the DB2 instance.

- 3 You can specify a different `db2_user`, `db2_password` and `db2_frequency` for each DB2 instance.

These parameters are set using the CIMS for NT Setup Utility (`A_setup`). Refer to the *CIMS for NT Database Instance Set-Up* on page 3-13.

**Starting the CIMS for NT IBM DB2 Accounting Service**

Once these steps have been completed, the CIMS for NT IBM DB2 Accounting service is started from SCM. If you do not have `DB2INSTANCE` environment variable set, you must supply the following parameters in Command Parameters data entry window for SCM:

```
-SID <instance>
```

Two files are created upon starting the daemon,

```
%ARSAP_HOME%/log/A_dbadb2_<SID>.log - log file of daemon events
```

```
%ARSAP_HOME%/data/A_db2acct.sys - IBM DB2 accounting information
```

**Shutting Down the CIMS for NT IBM DB2 Accounting Service**

When using SCM, simply highlight the CIMS for NT IBM DB2 Accounting service you want to stop and hit Stop.

## CIMS for NT Database Instance Set-Up

The CIMS for NT database instance parameters are set using the CIMS for NT Setup Utility (NT\_setup). CIMS for NT maintains this information in the CIMS for NT DB instance mapping file (A\_dbinst.sys). The following example adds an entry for an Oracle instance D722 and an DB2 instance db2v5:

```
c:\> %ARSAP_HOME%/bin/NT_setup
A_SETUP> add/dbinst D722/dbtype=ORACLE/user_name=arsap/password=xyx/
frequency=60
%SETUP-S-ADDED, 1 node record successfully modified

A_SETUP> add/dbinst db2v5/dbtype=DB2/user_name=db2user/password=xyx/
frequency=120
%SETUP-S-ADDED, 1 node record successfully modified

A_SETUP>
```

The following command reports on the DB instance information:

```
c:\> %ARSAP_HOME%/bin/NT_setup
A_SETUP> rep/dbinst
```

which produces the following DB instance report:

DB Type	Instance	Username	Frequency (sec)
ORACLE	A_ORA_DEFAULT	default	300
DB2	A_DB2_DEFAULT	default	300
INFORMIX	A_INF_DEFAULT	default	300
SYBASE	A_SYB_DEFAULT	default	300
ORACLE	D722	arsap	60
DB2	db2v5	db2user	120

## ■ CIMS for NT

---

*Installing CIMS for NT*





# 4

---

## Getting Started

<b>After Installation</b> .....	4-2
CIMS for UNIX X-application Resource Files .....	4-4
Cleaning Up .....	4-4

## After Installation

After a successful installation of CIMS for NT/UNIX, some important configuration/parameter files have been established. Review and modify these files, as necessary, to reflect your desired configuration. If the files do not exist, a problem might have occurred during installation. Review the installation output to ensure no errors occurred. The following sections describe the files and any modifications necessary to assure proper operation of CIMS for NT/UNIX at your site.

### Schedule the CIMS for NT/UNIX Nightly Script

The CIMS for NT/UNIX Nightly Script is an important operational script that needs to be scheduled. You can use any means to submit this script as a scheduled job.

For example under UNIX, you can use the UNIX clock daemon (cron). The CIMS for UNIX installation creates a file (`$ARSAP_HOME/etc/cron.entry`) which can be used to modify the root crontab.

On Windows NT platforms, the “at” command is available for scheduling the nightly script. Under 3.51, the at command is:

```
at 1:00 /EVERY=(M,T,W,Th,F,Sa,Su) "c:\arsap\etc\nt_arsap_nightly >
c:\arsap\log\arsap_nightly.log"
```

The at command is also available on NT 4.0. First, verify that the schedule service has started. Click Control Panel, click Services and find Schedule in the list of Services. Click the schedule service, if it is not set to Automatic, click Startup... and change to Automatic. Then click Start to start the service if it is not already running.

Under 4.0, the at command is:

```
at 1:00 /every:M,T,W,Th,F,S,Su cmd /c "c:\arsap\etc
\nt.arsap.nightly > c:\arsap\log\nt.arsap.nightly.log"
```

## Setting the CIMS for NT/UNIX Environment Variables

CIMS for NT/UNIX utilize several environment variables that must be defined for proper operation. The four important variables are:

```
ARSAP_DATA  
ARSAP_HELP  
ARSAP_LOG  
ARSAP_HOME
```

Under UNIX, you can set environment variables numerous ways that are dependent on the UNIX shell.

Under NT, environment variables are set and changed via the System icon in the Control Panel program group.

### *To set the system environment variable*

- 1 Click the Control Panel icon located in the Main program group (3.51) or the My Computer icon.
- 2 Click the System icon.
- 3 Select any variable in the System Environment Variable selection box. The variable name and value are displayed in the variable and value edit boxes, respectively.
- 4 Enter the variable name.
- 5 Modify the value with the complete path to the appropriate directory.
- 6 Click the Set button.
- 7 Click the OK button.

### CIMS for UNIX X-application Resource Files

Resource files have been provided for the CIMS for UNIX GUI and GRAPH Utilities. In order for these utilities to operate with desirable results, you should utilize these resource files. The files are located in the CIMS for UNIX Examples directory and should be either moved or linked to your system X app-defaults directory. Link the files by having the root user execute the following commands.

```
# 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, all the remaining distribution files in the temporary working directory can be removed. In the event that you need a file that you deleted, you can always reload it from the distribution media.

---

# Revision Level Updates

<b>Introduction</b> .....	5-2
Current Revision Levels for each supported UNIX type .....	5-3
Utility versions delivered in Product Revision Level V4.1.1. ....	5-4
<b>Revision Level V4.1.1</b> .....	5-5
<b>Revision Level V4.1.0</b> .....	5-8
<b>Revision Level V4.0.9</b> .....	5-9
<b>Revision Level V04.0-08</b> .....	5-10
<b>Revision Level V04.0-07</b> .....	5-14
<b>Revision Level V04.0-06</b> .....	5-15
<b>Revision Level V04.0-05</b> .....	5-16
<b>Revision Level V04.0-04</b> .....	5-18
<b>Revision Level V04.0-03</b> .....	5-20
<b>Revision Level V04.0-02</b> .....	5-22
<b>Revision Level V04.0-01</b> .....	5-24

## Introduction

The following section describes the revision levels associated with the current CIMS for NT and UNIX V4 distribution for particular UNIX and NT platforms. It is a guide to what has been modified by the CIMS Lab in each revision level. Revision levels result from customer suggestions and bug fixes.

The product revision level numbering scheme has changed.

The previous scheme was a major release number (e.g., V04.0) followed by a revision level (e.g., 08). The major release was modified only after significant changes. The revision level was a one-up numbering scheme where the revision level is incremented each time changes were incorporated into the current CIMS for NT and UNIX distribution (e.g., V04.0).

The new scheme has a major release number, a minor release number and a revision number. The major release is incremented for significant product changes. The minor release is incremented for significant feature changes. The revision level is incremented for minor changes.

Each UNIX platform CIMS for UNIX supports has a Revision Level that corresponds to the latest revision included for the platform. The following table displays the Revision-Level currently distributed for each supported UNIX type. CIMS for NT is currently distributed under Revision Level 4.1.0.

## Current Revision Levels for each supported UNIX type

Platform	Date	Product Revision Level
AIX41	23-May-2000	V4.1.1
AIX43	23-May-2000	V4.1.1
COM_Z	23-May-2000	V4.1.1
DEC	23-May-2000	V4.1.1
DG_INT	20-Feb-1998	V4.1.0
DG_MOT	20-Feb-1998	V4.1.0
HP_9	23-May-2000	V4.1.1
HP	23-May-2000	V4.1.1
IRIX	23-May-2000	V4.1.1
LINUX	23-May-2000	V4.1.1
NCR	20-Feb-2000	V4.1.0
PYREL	20-Feb-1998	V4.1.0
PYRMID	20-Feb-1998	V4.1.0
SCO	20-Feb-1998	V4.1.0
SEQ_4	20-Feb-1998	V4.1.0
SINIX	20-Feb-1998	V4.1.0
SOL_23	20-Feb-1998	V4.1.0
SOL_24	23-May-2000	V4.1.1

## ■ Revision Level Updates

---

### *Introduction*

<b>Platform</b>	<b>Date</b>	<b>Product Revision Level</b>
SOL_27	23-May-2000	V4.1.1
TRU64	23-May-2000	V4.1.1

---

## **Utility versions delivered in Product Revision Level V4.1.1.**

<b>Utility</b>	<b>Utility Version</b>
A_authorize	V05.03
A_dbadb2	V01.02
A_dbao	V03.02
A_gui	V02.04
A_graph	V02.04
A_format	V03.05
A_merge	V02.05
A_rates	V03.02
A_report	V03.00
A_select	V03.04
A_setup	V05.02
G_license	V02.00

---

The following sections describe each product enhancement or problem correction in Product Version Revision Level order, from last to first.



## Revision Level V4.1.1

- 1 `A_merge` did not assign the gid to storage jobtype statistics records if User Accounting was enabled and Project Accounting was disabled. The GID field was always 0 in this case.

When Project Accounting is enabled, the gid (from the storage file) is used to assign a project to the storage jobtype statistics record. If a project exists in the Authorization file with a matching `Project_GID`, that project is assigned to the storage jobtype statistics record. If no matching `Project_GID` is found, the group name associated with the gid is used as the project for the statistics record.

Changed so that the GID from the Storage File is loaded into the gid field of the Statistics record regardless of the state of the Project Accounting flag in the Setup File. Note that the GID does not have to exist on the accounting server where the data is being consolidated.

- 2 Changes to the `A_sampler` Utility
  - Do not include Block and Character special files on SOLARIS platforms for storage sampling. These files are block size 0 and add nothing to the sampling.
  - Support for large files, (greater than 2-Gig) on SOLARIS 2.7 and higher, AIX 4.3 and higher, HP-UX 10.20 and higher and Linux 2.2.x and higher.
  - Do not sample filesystems with fs type "autofs" on SOLARIS, OSF1, and HP-UX platforms. These are automounted file systems.
- 3 Changes to the `A_select` Utility
  - Modified so that `memory_demand_algorithm` in the CIMS Parameter File, `A_setup.sys` is applied to UGA and PGA memory statistic in ORACLE jobtype records.
  - Corrected error in `setup_date.c`. This routines is called to organize the order in which `acc_files` will be processed by `A_select`. The constant `ARSAP_KL_MAXSTRGRELEN` was set to 128 in `A_defs.h`. The

## ■ Revision Level Updates

---

### Revision Level V4.1.1

first record in each `acc_file` is read to determine the order the files will be processed. If the first record is out of range, (i.e. dated 1970 or 2022 for example), that record is ignored and a `IGNDATE` warning error is issued. The next record is read until a valid date is read.

Increased `ARSAP_KL_MAXSTRGRECLEN` to 256 to accomidate `acc_file` records greater the length 128.

- Added `ptm` to list of terminal names to check for `win_time`. Also fixed conditional at start of `check_win()` where it was skipping `wtmp` logout records in check for membership in console session. This problem only exists in records from SGI platforms.
  - If session is being tracked as part of a console session and a `VZ`, (logout), record is encountered for a terminal in the console session, do not call `end_all_sessions()`. This was causing a problem in data from platforms like IRIX where `VA` and `VZ` records are seen for console windows.
  - If `VI`, (image), record is seen between `VA`, (`wtmp` login), and `VE`, (CIMS login), records in a console session, assign the project from the `VE` to the `VI` window session, just as we already do to console `VI` records that follow `VE` records.
- 4 `G_license` Utility now supports a "verify" command. This command will display `LICENSE_ER_NORMAL` if the license on the local node is valid. If not valid, one of the following will be displayed; `GEJAC_ER_UNLICVER`, `GEJAC_ER_UNLICMAC` `GEJAC_ER_NOLICINFO`, or `GEJAC_ER_SWHASEXP`.
  - 5 In the `A_gui` Utility, corrected error when setting `VALIDATION_METHOD` from `DEFAULT_PROJECT` and `ADD_PROJECT` widgets. The underlying command string was being built with `"/val"` instead of `"/validation_m"`. This conflicted with `"/validate"`.
  - 6 Changes to the CIMS ORACLE Accounting Daemon, `A_dbao`

- `fetch_info.c` has been modified to include machine identifier in the test for process uniqueness. Prior to this change, if two processes with the same PID occurred on successive rows, the metrics for the first would be overwritten with the metrics from the second and the second would not be marked as updated.
- Support for `USE_SESSION_OSUSER` to read operating system username from `V$SESSION.OSUSER`. If the `USE_SESSION_OSUSER` environment variable is set in the environment of the ORACLE Accounting Daemon, the operating system username field will be read from the `V$SESSION.OSUSER` field. Otherwise, it will be read from `V$PROCESS.USERNAME` by default.

If an ORACLE user, using SQL Server on a client platform, defines `USERNAME` in their `oracle.ini` file, that value will be included in `V$SESSION.OSUSER`.

`USE_SESSION_OSUSER` can be set by uncommenting directives in `arsap_start_odb`.

- Since "`or_write_requests`" is not included in ORACLE 8.1.5, changed default statistic from "write requests" to "db block gets".

## 7 Changes to CIMS DB2 Accounting Daemon for UDB V5.x

- Corrected error in reading Monitor data in DB2 V5. This error occurred when `STATEMENT` monitoring is turned on.

## 8 Changes to CIMS for UNIX scripts

- Modified `arsap_check_odb`, `arsap_start_odb` and `arsap_stop_odb` scripts to include "`SID`" in ps checks; this simplified the logic for determining the status of an ORACLE daemon.
- Modified `arsap_check_db2`, `arsap_start_db2` and `arsap_stop_db2` scripts to include "`SID`" in ps checks; added condition to check lowercase `cs`, `pe` and `v5` to eliminate case-sensitivity.

## ■ Revision Level Updates

---

### Revision Level V4.1.0

- `gen_cims_detail` and `gen_cims_sum` now support using "shift" as a selection keyword.
- Changed "write requests" to "db block gets" in `A_dbstatname.sys`.

## Revision Level V4.1.0

- 1 `A_validate` functions have been merged into `A_authorize`; therefore, `A_validate` is now obsolete. `A_authorize` handles all commands previously available from `A_validate`.
- 2 In `A_report`, the user and project grouping field selection keywords are now supported in audit reports.
- 3 `storage_group` (resource only) and `db2_user` are new select keywords.
- 4 Absolute shift and daily accounting for database accounting is now available. The database daemons generate absolute shift and daily accounting records. These records are processed by `A_select` into the statistics file. The absolute shift and daily database accounting options are managed through `A_setup`.
- 5 Database User Grouping option directs `A_merge` to use database user names instead of operating system user name for grouping field assignments.
- 6 In `A_dbadb2`, manage PID of daemon to assure multiple daemons are not started for the same IBM DB2 instance. `A_dbpidman` utility provides the ability to manage `A_dbpid.sys` which it also does for `A_dbao`.
- 7 In `A_sampler`, added support for excluding `MNT_NFS3` on AIX 4.2 platform. This constant specifies NFS filesystem in `vmount` structure.
- 8 In `A_select`, the terminal "lft" is treated as "console" in `wtmp` records. This is the terminal name that is used on AIX for console logins.
- 9 In `G_license`, support output from `/etc/showcfg` on SEQUENT NUMA platform which contains the following line: `nodeid: 0xfacade`.

## Revision Level V4.0.9

- 1** Year 2000 Ready, the following are the issues that came up and the changes that were implemented:
  - code handled the millennium changeover fine but a minor change was made to handle leap year better
  - multiple scripts have been modified to properly handle four digit years; therefore, when changeover to the 21st century occurs dates are handled correctly
  - one major issue was the ARSAP filenames contained YY; a new script is available to rename filenames from YY to YYYY.
- 2** In `A_dbadb2`, included support IBM DB2 PE (Parallel Edition).
- 3** In `A_format`, corrected a bug in `A_format` when processing the db2 accounting file. `pool_data_l_reads` was appearing in both `pool_data_l_reads` and `pool_data_p_reads` fields.
- 4** In `A_merge`, included support putting `storage_group` into statistics record.
- 5** In `A_sampler`, now support collecting storage data on NT platforms.
- 6** In `A_select`, if `select` gets a `wtmp` console or `X`: login for user `x`, and the user is already being tracked in a window session, `A_select` issues a warning and ignores the record. Before we closed the tracked session and started tracking another session.
- 7** In `A_report`, have expanded the maximum output line to 1024 characters vice 256 characters.
- 8** Added `storage_group` and `db2_user` to the selection keywords. On UNIX, `storage_group` is the "string" value of the local when `A_sampler` is run. On NT, it is the security group. `db2_user` is the same as UNIX user.

## ■ Revision Level Updates

### Revision Level V04.0-08

---

- 9 In `A_graph`, included support for the `storage_group` and `db2_user` selection keywords.
- 10 In `arsap_install`, a change to the `cron_entry` generator was made to execute `check_pacct` at 30 minutes every hour rather than 00 minutes. This avoids problems with simultaneous execution of `arsap_nightly` and `check_pacct`.
- 11 In `arsap_date`, this script was completely rewritten in an `awk` script which is named `arsap_date.awk`. Now `arsap_date` simply calls the `arsap_date.awk` script. `arsap_date.awk` properly handles dates into the 21st century.
- 12 In `proc_multi`, additional command line arguments are available to process audit and capacity data. Additional date options are now allowed on the command line. They include: "this week", "last week", "this month", "last month", "this year" and "last year".

## Revision Level V04.0-08

- 1 `A_convert` generates new versions of CIMS for NT and UNIX data files.

File	New Version
<code>A_stat.dat</code>	3
<code>A_audit.dat</code>	3
<code>A_rates.sys</code>	4
<code>A_setup.sys</code>	5
<code>A_uaf.sys</code>	8
<code>A_cap.sys</code>	3
<code>A_rates.sys</code>	4

---

- 2** In `A_select`, the offsets for package, terminal, shift, queue, ORACLE basename and ORACLE username in the CIMS for NT and UNIX Statistics and Audit files have been changed to the row number in the indicated data file. They are updated to support DB2 statistics. The logins field is set to 0 for rollup records. This field has been reporting the number of images run in the rollup record. The same info is assigned to `image_count` field.
- 3** In `A_report`, modified to support using row numbers instead of offsets from the CIMS for NT and UNIX Statistics and Audit files when looking up package, terminal, shift, queue, ORACLE basename, and ORACLE username. Updated to support DB2 statistics. Corrected assignment of incorrect offsets to `rtable_structs` in the `rtable_tree`. This caused an incorrect `rate_record` being used to apply a rate. The incorrect `rate_record` was one that had been marked for delete using the `remove` command in `A_rates`. Using the `compress` command in `A_rates` would correct this problem in earlier releases of CIMS for NT and UNIX.
- 4** In `A_rates`, modified to support using row numbers instead of offsets in the CIMS for NT and UNIX Rates files when looking up package, terminal, shift, queue, and ORACLE basename. Updated to support DB2 jobtype rates.
- 5** In `A_setup`, `ORACLE_FREQUENCY` is now expressed in seconds and must be in the range of 1 - 86400. Support `A_dbinst.sys`. This file holds Database usernames and passwords for multiple Database instances. The password is encrypted in the file and never displayed in `A_setup` reports. Support new field to indicate the `Xsession` path for `A_login_xm`. Support user-defined retry count used in `A_login` and `A_switch`.
- 6** From `arsaprt1.tlb`, in `asc_to_tm.c`, for types `ARSAP_DT_VMS_D` and `ARSAP_DT_VMS_DT` the day was checked for being less than or equal to 31. This allowed dates like 31-Jun-1996 to be valid. Changed so that the day is checked for each month. In `get_project.c`, support retry count defined in CIMS for NT and UNIX Parameter File.

## ■ Revision Level Updates

*Revision Level V04.0-08*

---

- 7** In `A_select`, `A_rates`, `A_validate`, `A_authorize`, `A_setup`, Corrected NT `rename()` problem. For files A and B, in UNIX when renaming file A to file B, and B already exists and you have write privileges to file B, file A over-writes file B. On NT, file B can not exist prior to the `rename` command. Also, on UNIX and not NT an open file can be renamed.
- 8** In `dbrtl.tlb`, created this library to include routines referenced in `dbao`, `dbplo`, `dbpso`, and `dbadb2`. This library is included when creating `libdbao.a`, `libdbplo.a`, `libdbpso.a`, and `libdbadb2.a` for distributions. Supports multiple instances of usernames and passwords. Supports a `DEFAULT` instance user and password. This allows for multiple instances of the same DB type with the same user and password.
- 9** In `A_format`, check for valid project value in project field before writing it to the output file. When invalid, print warning, and set the project field to `NULL`. This problem was seen in NQS login records where the user did not use "`qsub -x`". Support processing DB2 accounting records.
- 10** In `A_login`, handle case where an NQS login is initiated via `qsub`, but the user did not use "`-x`". When you have `default_project` enabled, your default project is used. When unenabled, no project is written to the Activity record and this is handled as an `UNKNOWN_PROJECT` in `A_select`. Support retry count field in the CIMS for NT and UNIX Parameter File.
- 11** In `A_sampler`, corrected NFS test for DataGeneral platform in `sampler_isnfs()`.
- 12** In `A_authorize`, support new `default_projects` for the various database types in user records.
- 13** In `G_license`, added support for following license options:
  - `pw`—PATHWORKS (Unsupported in CIMS for UNIX)
  - `a1`—All-in-One (Unsupported in CIMS for UNIX)
  - `d2`—IBM DB2



sy—SYBASE (Unsupported in CIMS for UNIX)

ix—Informix (Unsupported in CIMS for UNIX)

- 14** In `A_gui`, unified appearance of similar interfaces. Support new fields in Authorization and Parameter Files. Support DB2 statistics. Removed several scrolled window control widgets. They were not needed and detracted from the appearance.

Support the following precedence in assigning environment variable values.

- a** Read values from the user's environment.
- b** Use the values found in the `A_config.par` located in the `ARSAP_DATA` directory.
- c** Use the value contained in `/etc/arsap.conf` as a base for the values.

Redesigned the process data interface to support calling `proc_multi` from `A_gui`.

- 15** `A_graph` called from `A_gui`, uses the same value for `ARSAP_BIN` that was set in `A_gui` and also supports DB2 statistics.
- a** In `A_login_xm`, now support user-defined retry count and user-defined `Xsession` path from the CIMS for NT and UNIX parameter file.
  - b** In `A_switch`, support user-defined retry count from the CIMS for NT and UNIX parameter file.

# Revision Level V04.0-07

- 1 In `A_convert`, updated to convert the following files to new version levels.

<code>A_audit.dat</code>	V1 to V2
<code>A_cap.sys</code>	V1 to V2
<code>A_setup.sys</code>	V3 to V4
<code>A_stat.dat</code>	V1 to V2
<code>A_term_par.sys</code>	V1 to V2
<code>A_uaf.sys</code>	V6 to V7
<code>A_validate.sys</code>	V2 to V3

- 2 In `A_select`, added new routines `select_process_nt_alogin()`, `select_process_nt_login()`, `select_process_nt_logout()`, and `select_process_nt_switch()` to support processing NT accounting data.
- 3 In `A_select`, corrected segmentation fault that occurred processing data collected on HP platforms. This problem occurred for a very unique combination of accounting records. Fault was caused by global string, `adjusted_time` in `select_process_wlogout()` that was declared with insufficient memory
- 4 In the `arsaprtl`, added new routine, `arsap_get_file_version()`, which is called to get the version of any of the CIMS for UNIX ASCII data files. This routine is called in `rtl` open routines for file version verification.
- 5 In the `arsaprtl`, `arsap_open_help()` now searches user's environment for variable `ARSAP_HELP` that defines the path to the directory where the CIMS for UNIX `.hlp` files reside.
- 6 Maximum username and nodename lengths have been increased to 32 characters and 64 characters, respectively.

## Revision Level V04.0-06

- 1** In `A_select`, `proc_dblogout()`, initialize `shift_stats` and `audit_shift_stats` pointers to `NULL`. A core dump was seen on AIX platform when `/AUDIT` was not present on the command line and `ORACLE` jobtype in accounting file.
- 2** In `A_select`, compute connect time for `ORACLE` jobtypes from `old_record` `start_time` and `end_time`, instead of using `connect_time` stat.
- 3** In `A_select`, corrected error where `SELECT` went into loop when an empty accounting file was encountered.
- 4** In `A_format`, `format_dbacct()`, corrected error that occurred when `FORMAT` with `/TYPE=dbacct` was used and `A_dbacct.sys` file was size 0. `FORMAT` displayed `FRMT_ER_INVDBRECTYPE` error and exited with error status. This could stop `runnacct` executed from `arsap_nightly`. Corrected so that the `A_dbstat.sys` file size 0 is created and exits with success status.
- 5** In `A_format`, corrected return value for `rtype=act` and `type=wtmp` so that `A_format` returns `ARSAP`, `SUCCESS = 1`.
- 6** In `A_sampler`, accept all filesystem types except `"nfs"` on `PYRAMID` platform. It was looking for only type `"ufs,"` but local filesystems have other `mnt` types on pyramid that caused a `NULL` `filesys_tree` in `A_sampler`.
- 7** In `A_report`, corrected situation where `"oracle,"` (or any jobtype name) had to have quotes around it when it was part of a member list in a report description file. Quotes are no longer needed.
- 8** In `A_login_xm`, added support for display of validated projects. You see button with `"Display Validated Projects"`. When pressed a list is displayed from which you can select a project. All validation methods defined for the selected project are enforced.

## ■ Revision Level Updates

---

### Revision Level V04.0-05

- 9 In `A_login_xm`, corrected situation where you log in with `default_project` enabled and the project in your `defproject` field was accepted without checking the validation method criteria of the project. Validation method requirements are now enforced for your `defproject`.
- 10 Added `tcpu` statistic. This statistic is simply the sum of the `ucpu` and the `scpu` statistics.

## Revision Level V04.0-05

- 1 In `A_setup`, encrypt the ORACLE password for display.
- 2 In `arsaprtl`, encrypt and decrypt ORACLE password in `arsap_read_setup` and `arsap_write_setup`. The password is held in the CIMS for UNIX Parameter File in encrypted format.
- 3 In `A_format`, corrected the following error. An empty username field in an CIMS for UNIX ORACLE login record uses the username `DEFAULT`. `DEFAULT` was also being used for the `basename`. `Basename DEFAULT` should only be used when the `servername` field is empty.
- 4 In `A_format`, "?" is allowed as a UNIX username in ORACLE `dbacct` records. Modified so that `ARSAP_KS_DEF_USERNAME`, "UNKNOWN" is used when a "?" username is encountered.
- 5 In `A_format`, modified to support both V01 and V02 `dbacct` ORACLE accounting records. V02 includes a `projectname` field and supports three types of records: `ORACLE_LOGIN`, `ORACLE_SWITCH`, and `ORACLE_LOGOUT`.
- 6 In `A_format`, added support for `ADJUSTED_TIME` in `wtmp` logout records on HP-UX platforms when the terminal name is "console" to insure inclusion of all image records associated with a windowed session.

- 7** In `arsap_load_capacity()`, corrected condition where there was no `nodename` in the capacity record and the first record in the CIMS for UNIX Capacity File. This condition had caused a core dump to occur in `A_select` or `A_report` in environments where `clump_support` was not enabled.
- 8** In `A_select`, support was added for ORACLE project accounting.
- 9** In `A_select`, changed internal structure used to temporarily hold accounting statistic so that a larger number can be held. You see less NEGSTAT warning messages.
- 10** In `A_select`, when checking the first record in each accounting file to order the accounting files for processing; when the first record contains a date that is outside the valid accounting range, continue getting records from the file until a valid date is read.
- 11** `A_select`, support `wtmp` logout records with `ADJUSTED_TIME` generated by `A_format` on HP-UX platforms.
- 12** In `A_sampler`, on encountering a `STATFAIL` error in `A_sampler`, an error message is displayed and other files in the current directory are sampled. Previously, no further files in the current directory were sampled after the error message was displayed.
- 13** In `A_sampler`, added support for sampling AFS (Andrew File System).
- 14** In `A_login`, changed time for AE records to time that the Activity record is written, not when `A_login` begins.
- 15** `A_dbplo` and `A_dbpso` are CIMS for UNIX ORACLE Accounting Utilities for project login and switch, respectively. `A_dbplo` is used to login to an Oracle application under a specific project. `A_dbpso` allows a switch to another project from within the Oracle application.
- 16** CIMS for UNIX scripts have been modified to utilize the `A_config.par` file.
- 17** The directory structure for CIMS for UNIX has been reorganized.

## ■ Revision Level Updates

---

### *Revision Level V04.0-04*

- 18 Error message descriptions are now provided in the on-line help.
- 19 Scripts utilize the CIMS for UNIX Environment Configuration file (A\_config.par) located in the ARSAP\_DATA directory.

## Revision Level V04.0-04

- 1 In A\_sampler, corrected isnfs() test for AIX platforms. Now using mntctl() to check the current directory for an NFS mount point.
- 2 In A\_sampler, added new error message for error status returned mntctl(), MNTCTLERR.
- 3 In A\_sampler, support sampling migrated file system. This support is only available for Convex platform in V04.0-4. In V04.0-5, all platforms are supported.
- 4 In A\_select, corrected error in creating last\_project list for use with /UNKNOWN=LAST. The error is manifest by all stats being credited to the first project seen for a particular user.
- 5 In A\_select, added Capacity Planning support. Use of the CAPACITY command causes an CIMS for UNIX Capacity File to be created and statistics are collected according to the capacity interval contained in the CIMS for UNIX Parameter File.
- 6 In A\_select, add qualifiers /IGNORE\_BEFORE and /IGNORE\_AFTER to define record dates for records that are to be ignored by A\_select. Default values are /IGNORE\_BEFORE=<prev\_year> and /IGNORE\_AFTER=<next\_year>. Issue a warning message and go on to next record when encountering a record outside the range.
- 7 In A\_select, scan input lines to check that all characters are ASCII. Ignore lines that are not all ASCII and issue warning message.
- 8 In A\_select, added support for processing accounting data collected from NQS Batch Queues.

- 9** `A_smerge` is a new utility that merges `A_stat.dat` files generated from different locations. For instance, you could collect data from several platforms in one location and collect data from several other platforms in another location. The resulting `A_stat.dat` files can be merged to a single file for reporting on all platforms.
- 10** In `A_setup`, added capacity interval field to define the granularity of capacity data. Users can define an interval in the range of (5min) to (60 min).
- 11** In `A_report`, added support for generating Capacity Planning reports.
- 12** In `A_report`, added license checking for capacity planning. You must have either "full" or "cp" license options.
- 13** In `G_license`, added support for "CP", Capacity Planning license option.
- 14** In the CIMS for UNIX Scripts, updated the following scripts to support collecting data for NQS Batch Queue usage...  
`arsap_nightly`  
`turnacct`  
`runacct`  
  
You must set `PROC_NQS_batch` to "Y" in the `arsap_nightly` script to enable collecting NQS accounting data.
- 15** In `A_format`, support formatting NQS Batch Accounting File and including this data in the Formatted Nightly Accounting File.
- 16** In `A_login`, write an CIMS for UNIX Login record for jobs running in an NQS Batch Queue.

# Revision Level V04.0-03

- 1** In `A_login_xm`, projects not entered in `A_uaf.sys` get the DEFAULT project record returned from `get_uaf_record()`. When DEFAULT project records have `PROJECT_VALIDATION` disabled, we accept whatever you entered as a valid project and write a project record to the `A_uaf.sys` file for the new project. When `PROJECT_VALIDATION` is ENABLED and `VALIDATION_METHOD` is...
  - `USERPROJ | (USERPROJ & PASSWORD)`  
`login_xm` fails with `unknown_project`.
  - `CUSTOM | (CUSTOM & PASSWORD)`  
`login_xm` passes when custom validation routine passes and you know the password for the DEFAULT project record where `PASSWORD` is required. No project record is written to the `A_uaf.sys` file for the project entered by you.
  - `CUSTOM | (CUSTOM & USERPROJ)`  
`login_xm` passes when user and projectname entered by you are valid in the `A_validate.sys` file AND custom validation routine passes. No project record is written to the `A_uaf.sys` file for the project entered by you.
  - `CUSTOM & USERPROJ & PASSWORD`  
`login_xm` passes when user and projectname entered by you are valid in the `A_validate.sys` file AND you know the password for the DEFAULT project record AND custom validation routine passes. No project record is written to the `A_uaf.sys` file for the project entered by you.
  - `PASSWORD`  
`login_xm` fails with `unknown_project`.
  - `<none>`  
`login_xm` fails with `unknown_project`.
- 2** In `A_select`, added support for processing CIMS for UNIX ORACLE jobtype records.



- 3** In `A_rates`, added support for CIMS for UNIX ORACLE jobtype rates records. Users can `ADD`, `REMOVE`, `MODIFY`, or `ZERO` these records to the `rate_tables` contained in the CIMS for UNIX Rates File.
- 4** In `A_rates`, new statistics qualifiers added for CIMS for UNIX ORACLE jobtype rate records: `/OR_LOGINS`, `/OR_SESSION_CPU`, `/OR_CONNECT_TIME`, `/OR_UGA_MEMORY`, `/OR_PGA_MEMORY`, `/OR_WRITE_REQUESTS`, `/OR_USER_COMMITS`, `/OR_RECURSIVE_CPU`, `/OR_PWRITES`, `/OR_PREADS`, `/OR_MSENT`, `/OR_MRECEIVED`, and `/OR_DISK_SORTS`.
- 5** In `A_rates`, new CIMS for UNIX Rates File version is 3.
- 6** In `A_report`, added support for generating reports including resource usage collected by the CIMS for UNIX ORACLE Accounting Daemon.
- 7** In `A_authorize`, added support for new field in `USER` records, `Oracle_Project`. The value assigned to this field is used as the project name for ORACLE usage when no project has been supplied by an CIMS for UNIX LOGIN or SWITCH record.
- 8** In `A_authorize`, new CIMS for UNIX Rates File version is 6.
- 9** In `A_setup`, added support for three new fields used in the CIMS for UNIX ORACLE Accounting feature.  
  
`/ORACLE_USERNAME` - ORACLE username used by the CIMS for UNIX ORACLE Accounting Daemon to access the ORACLE Database.  
  
`/ORACLE_PASSWORD` - ORACLE username password used by the CIMS for UNIX ORACLE Accounting Daemon to access the ORACLE Database.  
  
`/ORACLE_FREQUENCY`—frequency in minutes indicating how often the CIMS for UNIX Accounting Daemon should sample the ORACLE Database for resource usage statistics.
- 10** In `A_setup`, new CIMS for UNIX Parameter File version is 3.

## ■ Revision Level Updates

---

### *Revision Level V04.0-02*

- 11** In `G_license`, added support for new CIMS for UNIX license option, "OR". This option enables the CIMS for UNIX ORACLE Accounting Daemon.
- 12** In `A_format`, support new `pacct` file format introduced in ConvexOS V11.0.
- 13** In `A_convert`, support converting new file versions with release of CIMS for UNIX V04.0 Level 3.
  - New CIMS for UNIX Authorize file version is 6.
  - New CIMS for UNIX Parameter file version is 3.
  - New CIMS for UNIX Rates file version is 3.
- 14** `A_dbao`, the CIMS for UNIX ORACLE Accounting daemon, is a new feature for CIMS for UNIX. `A_dbao` provides the ability to report on Oracle statistics.

## Revision Level V04.0-02

- 1** Enabled `A_merge` and `A_select` to run under "dc" license option.
- 2** In `A_select`, do not pass a project name to `su` session when the terminal name is "pts". "pts" is an AIX terminal and is not unique. The `su` condition is not valid for tracking on an AIX platform and thus the project should not be passed to the new session node.

- 3** In `A_select`, corrected a problem in assigning a project to a session when an image record for an image that is being tracked for package accounting is encountered between the `wtmp` login record and the CIMS for UNIX login record; there is no project for the package accounting record. `A_select` supplies the project name depending upon the unknown project method being used. This project was being written to the session `proc_info` node, so that when the CIMS for UNIX login record is encountered, the project field was already filled in for the session. Corrected, so that the project in the CIMS for UNIX login record is used for the session.
- 4** On ALPHA OSF/1 systems, we do get `wtmp` login records for sessions that are part of an `xdm` session. Each `xterm` in an `xdm` session has a `wtmp` login and logout record. In order to tie this `xterm` to the `xdm` session, we ignore this `wtmp` login record when you are currently being tracked in a windowed session.
- 5** In `A_select`, corrected error in size of project variable in `select_find_last_proj()` and `select_search_proj_time()`. They had been declared with only `(ARSAP_MAXUSERLEN + 1)`. This should have been `(ARSAP_MAXPROJLEN + 1)`. This caused a core dump segmentation fault on Solaris platforms under particular conditions.
- 6** In `A_login`, do not call `setpgrp()` when user's shell is `csh`. This results in a warning message, "no tty, thus no job control...", issued from `csh` when a "sh" or "ksh" user su's to a "csh" user.
- 7** CIMS for UNIX V04.0 is now supported on ConvexOS V11.0.

# Revision Level V04.0-01

- 1** `A_report`, the members delineated in the select section of both Report and Audit Description Files now support negation. Members beginning with '-' are taken as negated and must be listed first. For example, when you have "user: -root,\*", this selects all users except "root". When you have "user:\*, -root", this selects all users.
- 2** `A_authorize` would issue a successful error message, but no modification was made to the DEFAULT user record when the following command was used, `DEFAULT/PRTn=PRT_ACTION=USE_DEFAULT`. This has been corrected.
- 3** `A_authorize` was missing the `/CONFIRM` documentation in the on-line help for the `MODIFY` command. It was also missing from the printed documentation. It has now been added.
- 4** In `A_format`, the return status was not being set to `FRMT_ER_NORMAL` after successfully reading the `pacct` file. You would see this when `A_format` was called with its command at the shell prompt. On successful completion, `A_format` was returning '2'. Now returns '1' for success.
- 5** `A_rates` did not support the `/NOCONFIRM` qualifier when using the `ZERO` command to zero a rate table entered with a wildcard character. Corrected this problem and updated the help file.
- 6** `A_rates` did not support the `/NOCONFIRM` qualifier when using the `MODIFY` command with a wildcard character. Corrected this problem and updated the help file.
- 7** `A_select` now supports uppercase keywords "TODAY", "YESTERDAY", and "TOMORROW" as a value in the `/SINCE` and `/BEFORE` qualifiers.

- 8** `A_select` on HP platforms, it is possible to get multiple VE, CIMS for UNIX Login records for window terminal sessions. This is because `A_login` is run each time a window is started. Other platforms check the environment variable `SHELL` to decide what shell to run in the window. HP-UX uses the value in the `passwd` file—`A_login`. Modifications to `A_select` were needed to handle this possibility in the accounting file. This can happen in the following way: you begin a window session and start an `xterm` with `terminal, ttypl`, generating an CIMS for UNIX Login record; after a time, the users exits this `xterm` window; a new `xterm` is begun, again with `terminal ttypl`; again a login record is generated. `A_select` terminated the tracking of the entire window session when the second login record was encountered. This situation is now handled by closing only the first `xterm` session and tracking the second `xterm` session as a part of the windowed session.
- 9** `A_merge` now supports setting `uid's` for storage records when you are not present in the `up_info` tables. These records were being given a UID of 0. Now it gets the UID from the storage record.
- 10** `A_merge` was quitting when no storage files were present in the `ARSAP_DATA` directory. Changed `MERGE-ER-NOSTOFLS` to a WARNING status error. Now it continues to generate the Merged Statistics File with grouping information, but no storage info.
- 11** `A_sampler` has been corrected so that NFS mounted directories are not included in sampling.
- 12** `A_sampler` has been corrected so it does not sample `/proc` on Solaris platforms. This directory contains active processes and should not be counted as storage.
- 13** `A_setup` now allows the character '\$' in the validation routine character set.

## ■ Revision Level Updates

---

### *Revision Level V04.0-01*

- 14** `A_format`, when `imagenam` is "rdate", set image elapsed time to 0, when formatting records in `pacct`. `rdate` is used in network environment to synchronize system clocks on platforms where the time is set back, the value in the `e_time` field of the `pacct` record can be in error.
- 15** `A_select`, for sessions with terminal name "ftp", no `uid` is available in `wtmp` records that is all we have for this type of session. `A_select` was leaving the `uid` equal to 0. Modified so that attempt is made to find `uid` from user's password entry, when one exists.
- 16** `A_merge`, when `username` in `str_<date>.dat` file is UNKNOWN, `A_merge` was setting the `uid` to 0 in the record written to `A_stat.dat`. This has been changed so that the `uid` from the `str_<date>.dat` file is used.
- 17** `A_merge`, when assigning storage statistics to a project, first check for their the project records in CIMS for UNIX Authorization File. When one exists, use that `projectname`. When unexisting, check for their the `/etc/group` file and use the `groupname` for a `projectname`.
- 18** `A_sampler`, `STATFSERR` error now displays the directory as well as the filename for which the error was returned.
- 19** `A_sampler`, removed `SAMPLING` error message. It was not being used.
- 20** `A_switch` now supports Activity Only Switch.



---

# Sample CIMS for UNIX arsap\_install run

```
*****
```

```
Starting CIMS for UNIX ./arsap_install Script at Mon Aug 12 10:59:55 EDT  
1996
```

```
*****
```

```
*** NOTE ***
```

What follows is several sets of introductory paragraphs. If you are not installing CIMS for 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]: n
```

```
<new screen>
```

This installation script automatically installs CIMS for UNIX. You are prompted for various pieces of information throughout the script; answer the questions according to your installation (i.e., new, reinstall, upgrade). Default answers are denoted between square brackets ([]). You may quit from this script at any prompt which asks a "y"/"n" question. CIMS for UNIX may be partially installed depending on the point at which you quit.

## ■ Sample CIMS for UNIX `arsap_install run`

---

This script assumes that you have read the CIMS for UNIX Installation Guide and Release Notes manual. If you have not, this reading is strongly recommended even if you are reinstalling or upgrading. This manual specifies the space needed for CIMS for UNIX.

CIMS for UNIX installation typically takes 10 - 15 minutes.

Press enter when ready or "q" to quit:

<new screen>

\*\*\*\* Considerations Before Running \*\*\*\*

- This script assumes you are installing CIMS for UNIX as either the CIMS for UNIX server or as a stand alone client.
- Several of the files are shareable between the different systems running CIMS for UNIX.
- If you are installing on the server, and putting CIMS for UNIX in an NFS mountable file system, the clients may be installed such that several directories and files are links from the server to the client. Run the NFS client installation script, `arsap/scripts/admin/A_client_install`, to achieve this type of setup.
- To share executables (scripts or binaries) client's root must have read and execute permission on the mounted file system. If you are doing project accounting root must have write permission as well.

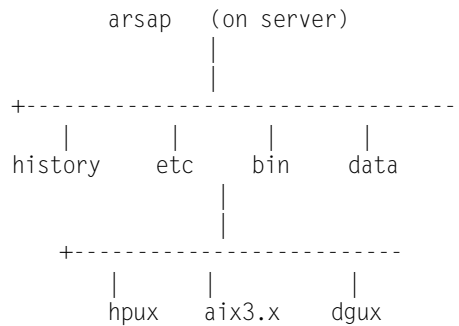
Press enter when ready or "q" to quit:

<new screen>

\*\*\*\* More Considerations Before Running \*\*\*\*



- If you have multiple platforms you have the option of storing all binaries on the server in a <platform> subdirectory of bin. For example,



If you wish to do so answer yes when prompted "Do you wish to put binaries for varying platforms on server?"

Press enter when ready or "q" to quit:

<new screen>

- If you have Oracle and wish to link the CIMS for UNIX Oracle Accounting Utilities during install you must have the following information before running this script.

- What version of Oracle are we linking?

- What is the ORACLE\_HOME environment variable? This environment variable should be set before running the script. (You may have to exit this script, set it, and rerun script.)

## ■ Sample CIMS for UNIX `arsap_install run`

---

- It is not necessary to link the CIMS for UNIX Oracle Accounting Utilities now. You can complete the installation process and use the `link_A_dbao` script to link these utilities at a later time.

Press enter when ready or "q" to quit:

<new screen>

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

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

Enter destination directory [/usr/arsap]:

Please verify destination directory as /usr/arsap [y]:

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

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

Provide the username and group of the account that is to maintain CIMS for 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 for UNIX [root]:

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

```
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/data
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/bin
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/etc
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/scripts
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/description
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/examples
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/log
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/help
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/history
CIMS for UNIX ./arsap_install: Creating directory /usr/arsap/super
CIMS for UNIX ./arsap_install: Copying files to /usr/arsap directories ...
CIMS for UNIX ./arsap_install: Extracting CIMS for UNIX etc files ...
x A_add_license, 10428 bytes, 21 blocks
x README, 7811 bytes, 16 blocks
x add_multi_lic, 6691 bytes, 14 blocks
x an_send, 12597 bytes, 25 blocks
x arsap_date, 10217 bytes, 20 blocks
x arsap_env, 13082 bytes, 26 blocks
x arsap_nightly, 9208 bytes, 18 blocks
x check_nightly, 4999 bytes, 10 blocks
x check_pacct, 7588 bytes, 15 blocks
x proc_multi, 20863 bytes, 41 blocks
x prtacct, 6081 bytes, 12 blocks
x redo_nightly, 12164 bytes, 24 blocks
x redo_print, 6473 bytes, 13 blocks
x runacct, 11108 bytes, 22 blocks
x sampler, 5514 bytes, 11 blocks
x turnacct, 12878 bytes, 26 blocks
x update_license, 8019 bytes, 16 blocks
```

```
CIMS for UNIX ./arsap_install: Extracting CIMS for UNIX Data Collection
Utilities ...
```

```
x A_authorize, 261512 bytes, 511 blocks
x A_convert, 209936 bytes, 411 blocks
x A_format, 153848 bytes, 301 blocks
x A_login, 97160 bytes, 190 blocks
x A_sampler, 84008 bytes, 165 blocks
```

## ■ Sample CIMS for UNIX `arsap_install` run

---

```
x A_setup, 232344 bytes, 454 blocks
x A_switch, 92816 bytes, 182 blocks
x A_validate, 123688 bytes, 242 blocks
x A_login_xm, 93000 bytes, 182 blocks
x G_license, 110424 bytes, 216 blocks
x libdbao.a, 312188 bytes, 610 blocks
x libdbplo.a, 183344 bytes, 359 blocks
x libdbpso.a, 181620 bytes, 355 blocks
```

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

```
x A_fsreport, 210712 bytes, 412 blocks
x A_merge, 162728 bytes, 318 blocks
x A_rates, 228520 bytes, 447 blocks
x A_report, 373976 bytes, 731 blocks
x A_select, 422224 bytes, 825 blocks
x A_smerge, 150376 bytes, 294 blocks
x A_gui, 1192328 bytes, 2329 blocks
x A_graph, 793288 bytes, 1550 blocks
```

CIMS for UNIX `./arsap_install`: Extracting CIMS for UNIX help files ...

```
x A_auth.hlp, 107703 bytes, 211 blocks
x A_format.hlp, 7199 bytes, 15 blocks
x A_setup.hlp, 42490 bytes, 83 blocks
x A_validate.hlp, 13398 bytes, 27 blocks
x G_license.hlp, 9959 bytes, 20 blocks
x A_fsreport.hlp, 13470 bytes, 27 blocks
x A_merge.hlp, 14168 bytes, 28 blocks
x A_rates.hlp, 43667 bytes, 86 blocks
x A_report.hlp, 62310 bytes, 122 blocks
x A_select.hlp, 41119 bytes, 81 blocks
x A_smerge.hlp, 7389 bytes, 15 blocks
```

CIMS for UNIX `./arsap_install`: Linking CIMS for UNIX help files to `/usr/arsap/data...`

CIMS for UNIX `./arsap_install`: Extracting CIMS for UNIX Examples ...

```
x A_KeysymDB.solaris, 534 bytes, 2 blocks
x A_KeysymDB.sun, 940 bytes, 2 blocks
x A_config.par, 2483 bytes, 5 blocks
x A_graph.rf, 9347 bytes, 19 blocks
x A_gui.rf, 7465 bytes, 15 blocks
x A_node.par, 58 bytes, 1 block
x README, 6113 bytes, 12 blocks
x README.KEY, 1482 bytes, 3 blocks
x image.dat, 479 bytes, 1 block
x load.dat, 309 bytes, 1 block
x node_report.rdf, 226 bytes, 1 block
x project_charges.rdf, 270 bytes, 1 block
x project_connects.rdf, 142 bytes, 1 block
x project_packages.rdf, 300 bytes, 1 block
x project_print.rdf, 191 bytes, 1 block
x project_report.rdf, 254 bytes, 1 block
x project_shift.rdf, 264 bytes, 1 block
x project_user.rdf, 273 bytes, 1 block
x user_charges.rdf, 289 bytes, 1 block
x user_connects.rdf, 133 bytes, 1 block
x user_packages.rdf, 291 bytes, 1 block
x user_print.rdf, 210 bytes, 1 block
x user_project.rdf, 273 bytes, 1 block
x user_report.rdf, 273 bytes, 1 block
x user_seat_time.rdf, 150 bytes, 1 block
x user_shift.rdf, 255 bytes, 1 block
x vrout.c, 1912 bytes, 4 blocks
```

CIMS for UNIX `./arsap_install`: Extracting CIMS for UNIX Scripts ...

```
x admin/A_client_install, 44185 bytes, 87 blocks
x admin/README, 7901 bytes, 16 blocks
x admin/arsap_check_env, 6110 bytes, 12 blocks
x admin/arsap_connect, 5028 bytes, 10 blocks
x admin/chproj.scr, 3062 bytes, 6 blocks
x admin/chshell.scr, 4171 bytes, 9 blocks
x admin/filter_date, 8324 bytes, 17 blocks
x admin/filter_multi.scr, 6504 bytes, 13 blocks
x admin/filter_wtmp, 4297 bytes, 9 blocks
x admin/get_acct.scr, 15030 bytes, 30 blocks
x admin/list_proj.scr, 6069 bytes, 12 blocks
x admin/list_user.scr, 5579 bytes, 11 blocks
x admin/load_image.scr, 4899 bytes, 10 blocks
```

```
x admin/load_proj.scr, 5360 bytes, 11 blocks
x admin/load_up.scr, 5589 bytes, 11 blocks
x admin/load_user.scr, 6159 bytes, 13 blocks
x admin/process_daily.scr, 5801 bytes, 12 blocks
x admin/process_monthly.scr, 7118 bytes, 14 blocks
x oracle/README, 2119 bytes, 5 blocks
x oracle/arsap_project.sql, 2700 bytes, 6 blocks
x oracle/arsap_view.sql, 3711 bytes, 8 blocks
x oracle/link_A_dbao, 29421 bytes, 58 blocks
x reports/README, 9540 bytes, 19 blocks
x reports/cost_center/cc_rpt.scr, 6850 bytes, 14 blocks
x reports/cost_center/cc_user.scr, 10454 bytes, 21 blocks
x reports/node/node_proj.scr, 10196 bytes, 20 blocks
x reports/node/node_rpt.scr, 6857 bytes, 14 blocks
x reports/node/node_user.scr, 8660 bytes, 17 blocks
x reports/node/noprojuser.scr, 13248 bytes, 26 blocks
x reports/node/nouserproj.scr, 13138 bytes, 26 blocks
x reports/oracle/oracle_db_sess.scr, 9137 bytes, 18 blocks
x reports/oracle/oracle_io.scr, 9663 bytes, 19 blocks
x reports/oracle/oracle_mem.scr, 8905 bytes, 18 blocks
x reports/oracle/oracle_user_sess.scr, 8978 bytes, 18 blocks
x reports/oracle/oracle_user_sess2.scr, 8923 bytes, 18 blocks
x reports/oracle/oracle_proj_user.scr, 8744 bytes, 18 blocks
x reports/oracle/oracle_proj_user2.scr, 8701 bytes, 17 blocks
x reports/oracle/oracle_user_proj.scr, 8744 bytes, 18 blocks
x reports/oracle/oracle_user_proj2.scr, 8701 bytes, 17 blocks
x reports/oracle/oracle_projuse_mem.scr, 8758 bytes, 18 blocks
x reports/package/pack_proj.scr, 10753 bytes, 22 blocks
x reports/package/pack_rpt.scr, 7148 bytes, 14 blocks
x reports/package/pack_user.scr, 10592 bytes, 21 blocks
x reports/package/node_pack.scr, 10502 bytes, 21 blocks
x reports/package/proj_pack.scr, 10501 bytes, 21 blocks
x reports/package/user_pack.scr, 10589 bytes, 21 blocks
x reports/project/proj_factors.scr, 12313 bytes, 25 blocks
x reports/project/proj_node.scr, 10311 bytes, 21 blocks
x reports/project/proj_rpt.scr, 6888 bytes, 14 blocks
x reports/project/proj_user.scr, 10305 bytes, 21 blocks
x reports/user/user_chgs.scr, 6982 bytes, 14 blocks
x reports/user/user_factors.scr, 12167 bytes, 24 blocks
x reports/user/user_node.scr, 8668 bytes, 17 blocks
x reports/user/user_proj.scr, 10178 bytes, 20 blocks
x reports/user/user_rpt.scr, 6865 bytes, 14 blocks
x reports/user/user_rpt2.scr, 7046 bytes, 14 blocks
x reports/user/user_term.scr, 9029 bytes, 18 blocks
```

x reports/user/top\_users.scr, 8519 bytes, 17 blocks

CIMS for UNIX `./arsap_install`: Extracting CIMS for UNIX Description Files  
...

x A\_descr.dir, 1127 bytes, 3 blocks  
x README, 2749 bytes, 6 blocks  
x cc\_rpt.rdf, 348 bytes, 1 block  
x cc\_user.rdf, 395 bytes, 1 block  
x node\_pack.rdf, 393 bytes, 1 block  
x node\_proj.rdf, 368 bytes, 1 block  
x node\_rpt.rdf, 331 bytes, 1 block  
x node\_user.rdf, 358 bytes, 1 block  
x noprojuser.rdf, 415 bytes, 1 block  
x nouserproj.rdf, 417 bytes, 1 block  
x oracle\_db\_sess.rdf, 437 bytes, 1 block  
x oracle\_io.rdf, 439 bytes, 1 block  
x oracle\_mem.rdf, 373 bytes, 1 block  
x oracle\_proj\_user.rdf, 384 bytes, 1 block  
x oracle\_proj\_user2.rdf, 375 bytes, 1 block  
x oracle\_projuse\_mem.rdf, 382 bytes, 1 block  
x oracle\_user\_proj.rdf, 384 bytes, 1 block  
x oracle\_user\_proj2.rdf, 375 bytes, 1 block  
x oracle\_user\_sess.rdf, 375 bytes, 1 block  
x oracle\_user\_sess2.rdf, 454 bytes, 1 block  
x pack\_proj.rdf, 402 bytes, 1 block  
x pack\_rpt.rdf, 346 bytes, 1 block  
x pack\_user.rdf, 392 bytes, 1 block  
x proj\_fact.rdf, 610 bytes, 2 blocks  
x proj\_node.rdf, 368 bytes, 1 block  
x proj\_pack.rdf, 402 bytes, 1 block  
x proj\_rpt.rdf, 321 bytes, 1 block  
x proj\_user.rdf, 368 bytes, 1 block  
x user\_chgs.rdf, 425 bytes, 1 block  
x user\_fact.rdf, 614 bytes, 2 blocks  
x user\_node.rdf, 358 bytes, 1 block  
x user\_pack.rdf, 391 bytes, 1 block  
x user\_proj.rdf, 368 bytes, 1 block  
x user\_rpt.rdf, 330 bytes, 1 block  
x user\_rpt2.rdf, 345 bytes, 1 block  
x user\_term.rdf, 396 bytes, 1 block

## ■ Sample CIMS for UNIX `arsap_install` run

---

Press enter when ready:

<new screen>

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

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

CIMS for UNIX `./arsap_install`: Convert existing CIMS for UNIX data files ...

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

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

Press enter when ready:

<new screen>

\*\*\*\*\*

Starting CIMS for UNIX `/usr/arsap/scripts/admin/create_A_config.par`  
Script at Mon Aug 12 11:01:50 EDT 1996

\*\*\*\*\*



CIMS for UNIX /usr/arsap/scripts/admin/create\_A\_config.par: Creating CIMS for UNIX Configuration Information File ...

Enter nodename (output from command `uname -n`) of CIMS for NT and UNIX server [ralph]: sparky

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,
- COVUE,
- DECNET, and
- FMU.

Enter transfer method: rcp

Please specify the destination for the accounting files once they are transferred to the server. For example, for RCP, sample destination is /usr/arsap/accounting/<nodename>.

Enter destination [/usr/arsap/accounting/ralph]: /usr/arsap/accounting/ralph

## ■ Sample CIMS for UNIX `arsap_install` run

---

NOTE: A non-interactive rcp requires an entry for root and the client node in the `.rhost` file in root's home directory on the ARSAP server. See man pages for `hosts.equiv` for format.

```
*****
Ending CIMS for UNIX /usr/arsap/scripts/admin/create_A_config.par Script
at Mon Aug 12 11:02:18 EDT 1996
*****
```

Press enter when ready:

<new screen>

```
*****
Starting CIMS for UNIX /usr/arsap/scripts/admin/create_A_storage.par
Script at Mon Aug 12 11:02:24 EDT 1996
*****
```

Creating CIMS for UNIX Storage Parameter File ...

```
*****
Ending CIMS for UNIX /usr/arsap/scripts/admin/create_A_storage.par Script
at Mon Aug 12 11:02:25 EDT 1996
*****
```

CIMS for UNIX ./arsap\_install: Creating CIMS for UNIX Collapsible Terminal File ...

Press enter when ready:

<new screen>

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

CIMS for UNIX ./arsap\_install: Add GEJAC Licenses

\*\*\*\*\*

Starting CIMS for UNIX /usr/arsap/etc/A\_add\_license Script at Mon Aug 12 11:02:30 EDT 1996

\*\*\*\*\*

Respond to the following prompts with values provided in your CIMS for UNIX

License Pak...

Enter Nodename (must match result of UNIX command uname -n): ralph

Nodename = ralph? [y]:

Enter License\_Number: A5266  
Enter Product\_Name: ARSAP  
Enter Product\_Version: V04.0  
Enter CPU\_Manufacturer: SGI  
Enter CPU\_Operating\_System: IRIX  
Enter CPU\_Model: SG-INDIGO  
Enter CPU\_Codes: IP12  
Enter Hardware\_ID: 1762049929

## ■ Sample CIMS for UNIX `arsap_install` run

---

```
Enter Options: FULL
Enter Key_Termination_Date:
Enter Product_Maintenance_Expiration:
Enter Product_Release_Date: 19950201
Enter Checksum: NMAAAAAAIJAA
```

```
1: License_Number = A5266
2: Product_Name = ARSAP
3: Product_Version = V04.0
4: CPU_Manufacturer = SGI
5: CPU_Operating_System = IRIX
6: CPU_Model = SG-INDIGO
7: CPU_Codes = IP12
8: Hardware_ID = 1762049929
9: Options = FULL
10: Key_Termination_Date =
11: Product_Maintenance_Expiration =
12: Product_Release_Date = 19950201
13: Checksum = NMAAAAAAIJAA
```

```
Are all fields correct? [y]: y
```

```
CIMS for UNIX /usr/arsap/etc/A_add_license: Adding CIMS for UNIX
License...
```

```
%LICENSE-I-ADDED, license successfully added
```

```
*****
```

```
Ending CIMS for UNIX /usr/arsap/etc/A_add_license Script at Mon Aug 12
11:03:43 EDT 1996
```

```
*****
```

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

```
CIMS for UNIX ./arsap_install: Creating CIMS for UNIX Validation File ...
CIMS for UNIX ./arsap_install: Creating CIMS for UNIX Authorization File
...
CIMS for UNIX ./arsap_install: Creating CIMS for UNIX Rates File ...
CIMS for UNIX ./arsap_install: Creating CIMS for UNIX Holiday File ...
CIMS for UNIX ./arsap_install: Creating CIMS for UNIX Image Mapping File
...
CIMS for UNIX ./arsap_install: Creating CIMS for UNIX Queue Mapping File
...
CIMS for UNIX ./arsap_install: Creating CIMS for UNIX Shift File ...
CIMS for UNIX ./arsap_install: Creating CIMS for UNIX Terminal Parameter
File ...
CIMS for UNIX ./arsap_install: Creating CIMS for UNIX Activity File ...
CIMS for UNIX ./arsap_install: Setting file protection/ownership for data
files ...
```

Press enter when ready:

<new screen>

\*\*\*\*\* NOTE \*\*\*\*\*

A temporary file has been created,

`/usr/arsap/etc/cron.entry`.

This file contains an entry which should be added to the root's crontab.  
This entry can be modified as necessary; it has been provided for your  
convenience.

NOTE: This script has NOT modified root's crontab.

\*\*\*\*\* NOTE \*\*\*\*\*

Press enter when ready

<new screen>

\*\*\*\*\* NOTE \*\*\*\*\*

CIMS for UNIX sample data is now available from the GEJAC distribution area; the sample data file is `A_sample_data.Z.uu`. This sample data provides the capability to demonstrate CIMS for UNIX features (e.g., capacity, Oracle). You can produce textual and graphic reports for statistics without waiting for the data collection process.

If you have retrieved the CIMS for UNIX sample data, you may install the data at this time. This data is not mandatory for installation.

\*\*\*\*\* NOTE \*\*\*\*\*

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

<new screen>

The next step applies only if you have Oracle and are ready to link ARSAP's Oracle Accounting Utilities. You may skip this step.

You may now link the CIMS for UNIX Oracle Accounting Utilities.

\*\*\*\*\*

Starting CIMS for UNIX /usr/arsap/scripts/oracle/link\_A\_dbao Script at  
Mon Aug 12 11:04:05 EDT 1996

\*\*\*\*\*

If you wish to link the CIMS for UNIX Oracle Accounting Utilities, the  
Oracle environment variable, ORACLE\_HOME, must be defined in your current  
shell environment.

The CIMS for UNIX Oracle utility binary tag is:

TAG: Y

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

Do you want to link the CIMS for UNIX Oracle Accounting Utilities now?  
[n]: n

\*\*\*\*\*

Ending CIMS for UNIX /usr/arsap/scripts/oracle/link\_A\_dbao Script at Mon  
Aug 12 11:04:07 EDT 1996

\*\*\*\*\*

<new screen>

\*\*\*\*\*  
YOU HAVE SUCCESSFULLY INSTALLED CIMS for UNIX ON YOUR CLIENT MACHINE  
\*\*\*\*\*

\*\*\*\*\*

## ■ Sample CIMS for UNIX `arsap_install` run

---

```
Ending CIMS for UNIX ./arsap_install Script at Mon Aug 12 11:04:08 EDT  
1996
```

```
*****
```





---

# CIMS for NT/UNIX Operation Overview

<b>CIMS for NT and UNIX Directories .....</b>	<b>B-2</b>
<b>Configuration and Parameter Files .....</b>	<b>B-3</b>
<b>CIMS for NT/UNIX help .....</b>	<b>B-3</b>
<b>CIMS for NT/UNIX Set-Up .....</b>	<b>B-4</b>
<b>CIMS for NT/UNIX Data Collection (Accumulation &amp; Formatting) .....</b>	<b>B-5</b>
<b>CIMS for NT/UNIX Data Consolidation .....</b>	<b>B-8</b>
<b>CIMS for NT/UNIX Data Reporting .....</b>	<b>B-10</b>

# CIMS for NT and UNIX Directories

- accounting—CIMS for NT/UNIX accounting and storage data files (can be organized by nodes)
- bin—CIMS for NT/UNIX binaries
- data—CIMS for NT/UNIX database
- description—CIMS for NT/UNIX Report Description Files (.rdf [resource], .adf [audit], .cdf [capacity], .gdf [graph])
- etc—important CIMS for NT and UNIX scripts (supported)
- examples—convenience software (that is, scripts, routines and resource files)
- help—contains utility help files
- history—contains historical raw accounting files (for example, wtmp, pacct, actvty, event logs)
- log—repository for CIMS for UNIX script log files (for example, A\_dbao\_<SID>.log)
- sample\_data—sample data to demo/test CIMS for NT/UNIX features
- scripts—convenience scripts (UNIX only)
  - admin—administrative type of convenience software
  - Oracle—CIMS for UNIX Oracle SQL set-up scripts
  - reports—report scripts
- super—used for CIMS for UNIX Super-Merge processing

## Configuration and Parameter Files

- /etc/arsap.conf—CIMS for UNIX Configuration File
- C:\ETC\NT\_arsap\_conf.bat—CIMS for NT Configuration File
- A\_config.par—CIMS for UNIX Configuration (environment) Parameter File
- NT\_config\_par.bat—CIMS for NT Configuration (environment) Parameter File
- A\_node.par—CIMS for NT/UNIX Node Parameter File
- A\_print.par—CIMS for UNIX Printer Parameter File

## CIMS for NT/UNIX help

- 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

# CIMS for NT/UNIX Set-Up

- G\_license
  - A\_setup.sys—CIMS for NT/UNIX Parameter (Database) File that contains the license information
- A\_setup
- A\_holiday.sys—CIMS for NT/UNIX Holiday File
  - A\_imgmap.sys—CIMS for NT/UNIX Image(/Package) Mapping File
  - A\_odb\_base.sys—CIMS for UNIX Oracle Database Instance File
  - A\_odb\_user.sys—CIMS for UNIX Oracle User File
  - A\_queuemap.sys—CIMS for UNIX Queue Mapping File
  - A\_setup.sys—CIMS for NT/UNIX Parameter (Database) File
  - A\_shift.sys—CIMS for NT/UNIX Shift File
  - A\_shift.tmp—CIMS for NT/UNIX Backup Shift File
  - A\_term\_par.sys—CIMS for UNIX Terminal Parameter File
- A\_authorize and A\_validate
  - A\_uaf.sys—CIMS for NT/UNIX Authorization File
  - A\_validate.sys—CIMS for NT/UNIX Validation File
- A\_login and A\_login\_xm
  - A\_activity.sys—CIMS for UNIX Activity File
  - A\_uaf.sys—CIMS for UNIX Authorization File
  - A\_validate.sys—CIMS for UNIX Validation File

- NT\_login and NT\_login\_scr
  - NT application event log
  - A\_uaf.sys—CIMS for NT Authorization File
  - A\_validate.sys—CIMS for NT Validation File
- A\_switch
  - A\_activity.sys—CIMS for UNIX Project Activity File
  - A\_uaf.sys—CIMS for UNIX Authorization File
  - A\_validate.sys—CIMS for UNIX Validation File

## **CIMS for NT/UNIX Data Collection (Accumulation & Formatting)**

- A\_dbao (UNIX only)
  - A\_dbacct.sys—CIMS for UNIX Oracle Accounting File
- A\_dbadb2 (UNIX only)
  - A\_db2acct.sys—CIMS for UNIX IBM DB2 Accounting File
- A\_format
  - raw accounting files:
  - pacct—UNIX process accounting
  - wtmp and wtmpx—UNIX login/logout
  - NT Event Logs—NT system, security, and application logs
  - A\_activity.sys—CIMS for UNIX Activity File
  - A\_dbacct.sys—CIMS for UNIX Oracle Database Accounting File
  - A\_db2acct.sys—CIMS for UNIX IBM DB2 Database Accounting File

## ■ CIMS for NT/UNIX Operation Overview

---

### *CIMS for NT/UNIX Data Collection (Accumulation & Formatting)*

- /usr/adm/nqs—NQS accounting file
- /usr/adm/batch-acct—Convex batch accounting file
- A\_batchstat.sys—CIMS for UNIX Batch Statistics File
- A\_dbstat.sys—CIMS for UNIX Oracle Statistics File
- A\_db2stat.sys—CIMS for UNIX IBM DB2 Statistics File
- A\_lgiproj.sys—CIMS for UNIX Login Project File
- A\_lgistat.sys—CIMS for UNIX Login Statistics File
- A\_ntapstat.sys—CIMS for NT Project File
- A\_ntsecstat.sys—CIMS for NT Login/Logout/Image File
- A\_procstat.sys—CIMS for UNIX Accounting File
- A\_prtstat.sys—CIMS for UNIX Print Statistics File
- A\_wtmpstat.sys—CIMS for UNIX Wtmp Statistics File
- acc\_<date>.dat—CIMS for NT/UNIX Accounting Data File
- A\_activity.sys/type=activity --> A\_lgistat.sys
- A\_activity.sys/type=activity/LGIPROJ [default] --> A\_lgiproj.sys
- pacct/type=acct --> A\_procstat.sys
- wtmp/type=wtmp --> A\_wtmpstat.sys
- bacct/type=bacct --> A\_batchstat.sys
- bacct=batch-acct for Convex
- baacct=nqs for NQS
- A\_dbacct.sys/type=dbacct --> A\_dbstat.sys
- A\_db2acct.sys/type=db2acct( A\_db2stat.sys

- A\_lgostat.sys +
  - [A\_lgiproj.sys] +
  - A\_procstat.sys +
  - A\_wtmpstat.sys +
  - [A\_dbstat.sys] +
  - [A\_batchstat.sys] +
  - [A\_prtstat.sys] --> acc\_<date>.dat
- A\_rates
- A\_rates.sys—CIMS for NT/UNIX Rates File
- A\_sampler
- A\_storage.par—CIMS for UNIX Storage Parameter File
  - A\_storage.sys—CIMS for UNIX Storage File
  - str\_<date>.dat—CIMS for UNIX Storage File
  - A\_storage.par --> A\_storage.sys --> str\_<date>.dat

# CIMS for NT/UNIX Data Consolidation

- A\_select
  - A\_audit.dat—CIMS for NT/UNIX Audit File
  - A\_cap.sys—CIMS for NT/UNIX Capacity File
  - A\_cap.tmp—CIMS for NT/UNIX Backup Capacity File
  - A\_stat.sys—CIMS for NT/UNIX Intermediate Statistics File
  - A\_terminals.par—CIMS for NT/UNIX 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** • When the following CIMS for NT/UNIX data files change after A\_select is run, the information in the reports is most likely inconsistent:

---

- A\_holiday.sys—CIMS for NT/UNIX Holiday File
  - A\_imgmap.sys—CIMS for NT/UNIX Image(/Package) Mapping File
  - A\_odb\_base.sys—CIMS for UNIX Oracle Database Instance File
  - A\_odb\_user.sys—CIMS for UNIX Oracle User File
  - A\_queuemap.sys—CIMS for NT/UNIX Queue Mapping File
  - A\_shift.sys—CIMS for NT/UNIX Shift File
  - A\_term\_par.sys—CIMS for UNIX Terminal Parameter File
- A\_merge
  - A\_stat.dat—CIMS for NT/UNIX Merged Statistics File



- A\_uaf.sys +
- UNIX passwd & CIMS for UNIX group (grouping info) +
- A\_stat.sys +
- str\_<date>.dat --> A\_stat.dat
- A\_smerge
  - A\_imgmap.sys—CIMS for NT/UNIX Image(/Package) Mapping File
  - A\_odb\_base.sys—CIMS for UNIX Oracle Database Instance File
  - A\_odb\_user.sys—CIMS for UNIX Oracle User File
  - A\_queuemap.sys—CIMS for NT/UNIX Queue Mapping File
  - A\_term\_par.sys—CIMS for UNIX Terminal Parameter File
  - A\_stat.dat—CIMS for NT/UNIX Merged Statistics File

## **CIMS for NT/UNIX Data Reporting**

- A\_report
  - .rdf—resource report description file
  - .adf—audit report description file
  - .cdf—capacity report description file
  - .gdf—graph report description file
  - A\_rpt\_desc.sys—CIMS for NT/UNIX 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.
  - Report Description File (.rdf and .adf)  
When no jobtype is specified in select section, the following  
jobtypes are default:  
  
interactive  
background  
storage  
batch (when Convex)  
print (when print accounting)