Oracle Utilities Load Analysis

Configuration Guide

Release 1.10.0.0 for Windows

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Oracle Utilities Load Analysis Configuration Guide, Release 1.10.0.0 for Windows

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Contents

What's New

New Features in the Oracle Utilities Lode Analysis Configuration Guide 1-i
New Features for Release 1.10.0.0 ..... 1-i

Preface

Welcome to Oracle Utilities Load Analysis 1-iii
Welcome 1-iii
What Does this Guide Cover? 1-iii
Who is this Guide For? 1-iii
Conventions Used in this Manual 1-iv
How to Get Help 1-iv
Additional Documentation 1-iv
User Feedback 1-v

Chapter One

Customizing Oracle Utilities Load Analysis for Your Site 1-1
Modifying the Server Configuration Files 1-2
CSLSTAR.DB (Define Databases to Server) 1-3
CSLSTAR.JBC (Specify Job Classes) 1-4
CSLSTAR.SRV (Server) 1-5
CSLSTAR.GLB (Run Time) 1-6
CSLSTAR.USR (User IDs and Privileges) 1-10
LoadAnalysis.cfg.xml 1-12
Site-Specific, Read-Only Common Files 1-13
Customizing Default Environment and Record Definition Files 1-14
Retyping Oracle Utilities Load Analysis Files for Release 1.10.0.0 1-16

Chapter Two

Oracle Utilities Load Analysis Job Run Error Codes 2-1
Program Execution Return Codes 2-1
Database Access Return Codes 2-3
System Return Codes 2-4

Chapter Three

Oracle Utilities Load Analysis Server Maintenance and Troubleshooting 3-1
C-S L* Communication Server Standards 3-1

Chapter Four

Modifying and Maintaining the Database 4-1
Modifying the Database 4-2
Parameters 4-2
Delete Procedure 4-4
Backup/Restore Procedures 4-5
Database Compression 4-5

Chapter 5

Configuring Oracle Utilities Load Analysis Security 5-1
Oracle Utilities Load Analysis Security 5-2
Load Analysis Features 5-2
Important Notes about Assigning Load Analysis Permissions 5-3

Appendix A

Oracle Utilities Enhanced Input/Output Interval Data Format A-1
Enhanced Format A-2
General Field Descriptions A-2
Field Relationships and Requirements A-3
Enhanced Format Details A-12
Sample Files A-15
Enhanced Direct Input File A-15
Standard Direct Input File A-15
Units of Measure A-16
UOM DEMAND_CODE Values A-20

Appendix B

Oracle Utilities Data Repository Load Analysis Database Schema B-1
Oracle Utilities Load Analysis Database Schema, page 1 ..... B-2
Oracle Utilities Load Analysis Database Schema, page 2 ..... B-3

Index

What's New

New Features in the Oracle Utilities Lode Analysis Configuration Guide

This chapter outlines the new features of the 1.10.0.0 release of the Oracle Utilities Lode Analysis that are documented in this guide.

New Features for Release 1.10.0.0

Feature	Description	For more information, refer to...
LoadAnalaysis.CFG.XML Configuration File	New configuration file used to define the locations of the Common Load and Common Data directories used by the Oracle Utilities Load Analysis web application	**LoadAnalysis.cfg.xml** on page 1-12
Creating Relational Database Tables	This enhancement supports creating scripts that your DBA can use to add interval data tables to your database.	**Modifying the Database** on page 4-2

Preface

Welcome to Oracle Utilities Load Analysis

This preface is designed to help you understand the contents and purpose of this manual, as well as the other resources available to you.

Welcome

Client/Server Oracle Utilities Load Analysis (also called Oracle Utilities Load Analysis) is a suite of software programs for the collection, management, and analysis of load research data. Evolved from the original mainframe version of Oracle Utilities Load Analysis, it has been designed to run on personal computers and servers in a Local Area Network using peer-to-peer connections.

What Does this Guide Cover?

This guide explains how to configure Oracle Utilities Load Analysis as a stand-alone system in Windows XP, or as a client/server system in a LAN environment that uses Windows XP. If you have another type of LAN, contact Oracle Support personnel at http://metalink.oracle.com.

Who is this Guide For?

This guide is intended for the Oracle Utilities Load Analysis System Administrator. It assumes that you are familiar with Windows, and that you know how to perform administrative tasks such as mapping drives and sharing directories.

Conventions Used in this Manual

This guide assumes that you have a working knowledge of your computer and network, as well as their operating conventions. For information about Windows operating conventions, see your Windows documentation.

The following conventions are used in this guide:

Mouse Buttons:

All instructions refer to the left mouse button unless otherwise indicated. Use the *right* mouse button only when specifically instructed.

Typographic Conventions:

Information that you type is shown in a typeface called Courier New, which looks like typewriter type. For example: `Oracle Utilities`.

The names of keys you press are represented by small capital letters. For example: ENTER. Occasionally, in this manual and on the Oracle Utilities Load Analysis interface, you will see two key names with a plus sign (+) between them. This indicates that you should press and hold down the keys in the order specified and release them together. For example, ALT+F5 means that you should press the ALT key and, while holding it down, press F5.

A sequence of menu commands you select is represented by the name of each menu or command followed by a small arrow, in **boldface** type. For example, **File→Print** means select **File** from the desktop or window menu bar, then **Print** from the pull-down menu that appears.

How to Get Help

Customer Support

You can contact Oracle Support personnel at http://metalink.oracle.com. My Oracle Support offers you secure, real-time access to Oracle experts on the complete Oracle Utilities Load Analysis system. It also provides ground breaking personalized & proactive support capabilities that help reduce unplanned down time and improve system stability. Leverage the Internet for immediate access to 24/7 support and get the critical and timely information you need for running your business.

Additional Documentation

Additional references for Oracle Utilities Load Analysis are available in on-line (.pdf) versions. For example, the *Oracle Utilities Load Analysis User's Guide* describes how to submit jobs using Oracle Utilities Load Analysis. The *Oracle Utilities Load Analysis Load Data Management User's Guide* and *Oracle Utilities Load Analysis Load Data Analysis User's Guide* describe the features, functions, and operation of individual Oracle Utilities Load Analysis programs. The *Oracle Utilities Load Analysis Quick Reference Guide* is a concise summary of program names, input file commands and parameters, standard codes, and other important information for the basic Oracle Utilities Load Analysis system and its extensions.

User Feedback

This document will be refined and updated over time. We would appreciate your help in improving it. If you have suggestions for adding new topics or for clarifying existing explanations, please let us know by calling the Help Line or by completing and returning the Customer Feedback form at the back of this guide.

Chapter One

Customizing Oracle Utilities Load Analysis for Your Site

This chapter explains how to tailor Oracle Utilities Load Analysis to the specific needs of your facility. Use these instructions to complete the installation and, later, to modify the system as your requirements change, including:

- **Modifying the Server Configuration Files**
- **LoadAnalysis.cfg.xml**
- **Site-Specific, Read-Only Common Files**
- **Customizing Default Environment and Record Definition Files**
- **Retyping Oracle Utilities Load Analysis Files for Release 1.10.0.0**

Modifying the Server Configuration Files

There are several Oracle Utilities Load Analysis Configuration files that you can use to modify the system:

CSLSTAR.DB	Database definitions
CSLSTAR.JBC	Job class definitions
CSLSTAR.SRV	Number of users and connections
CSLSTAR.GLB	Global file locations and job default values
CSLSTAR.USR	User IDs and access to programs and databases.

The configuration files are stored on the Server. You can edit them on the Server using Notepad or another editor (if you performed the initial installation you have already made a few modifications to the files using this method). Alternatively, you can edit them using the Graphical User Interface on a Client Workstation. The first part of this section explains how to use the Graphical User Interface. The second part describes each command in the files—instructions that you will need no matter which method you use.

How to Open the Files:

To edit the files using the Graphical User Interface on the Client Workstation, the Server must be connected to the LAN (if network version), and the Oracle Utilities Load Analysis Server software must be running.

You should be working on a Client Workstation. The workstation should also be connected to the LAN (if network version), and you should be logged on to Oracle Utilities Load Analysis using an ID with System Administrator privileges. The Oracle Utilities Load Analysis desktop should be open. Finally, the program should be connected to the Oracle Utilities Load Analysis server (e.g., the LOGON/LOGOFF tool button in the middle of the Oracle Utilities Load Analysis tool bar should read "LOGOFF").

- Select **File-› Server Configuration-›[option]**

This menu option...	*Opens this file*
Userids	CSLSTAR.USR
Databases	CSLSTAR.DB
Job Classes	CSLSTAR.JBC
Server	CSLSTAR.SRV
Run Time	CLSTAR.GLB

Once you've made your selection, you see the **Server Configuration** window. This window enables you to view and edit the configuration files.

How to Modify and Save a Configuration File:

The following explains the procedure for editing a command in the file, and saving your changes.

1. Highlight the command you wish to modify.

   The associated **Keyword** and **Value** appear below.

2. Re-type the Value to change it.

3. When you have completed all modifications to the file, click **Add** or **Replace** to update the Value, then **Save** to update the file and close the window.

The remaining pages in this chapter provide specific instructions for each file type.

CSLSTAR.DB (Define Databases to Server)

Note: Changes you make to this file will not be visible until you log off and log on again.

Note: If you edit the CSLSTAR.DB file manually (e.g. with Notepad), you *must* follow the guidelines on this page. Also, the file cannot be larger than 1024 bytes.

Oracle Utilities recommends that you only edit the CSLSTAR.DB file via the Oracle Utilities Load Analysis GUI.

The first file you can modify is CSLSTAR.DB, which contains database information. Select **File-›Server Configuration-›Databases** (or press **F7**) to open this file.

For each database you wish to create, you must supply a name, the type of database (CLDB, ALDB, etc.), and a description.

- **Name:** The format of the name depends on the database platform:
  - **Pervasive.SQL Databases**: The physical filename of the database, without the file extension (".BTE"). File names can be up to 35 characters long.
  - **Relational Database**: This is the name of the interval data table in the relational database. The naming convention for interval data tables is as follows:

    RDB/<TABLESET_NAME>

    where:

    <TABLESET_NAME> is the name of a table set in the Oracle Utilities Data Repository. A table set is a set of tables that stores interval data header and values/status codes. The Oracle Utilities Data Repository includes the following table sets by default:

    LSCHANNELCUTHEADER

    LSCHALDB

    LSCHALDB2

    LSAXDB

    LSCHCLDB

    LSCHCLDB2

    LSCHELDB

    LSCHELDB2

    LSCHGLDB

    LSCHRLDB

    LSCHSLDB

    For example, the name of the LSCHCLDB table would appear as "RDB/LSCHCLDB."
- **Type:** AXDB, ALDB, CLDB, ELDB, etc. (See the *Oracle Utilities Load Analysis Introductory Guide, Volumes I* and *II* for a description of these databases.)
- **Description:** Will be visible to users via the Oracle Utilities Load Analysis Graphical User Interface. May be up to 35 characters long - apostrophes not allowed.

Note: Once you have modified the CLSTAR.DB file on the Server, you must submit the appropriate initialization job to prepare a new database for use. See the *Oracle Utilities Load Analysis Load Data User's Guides* for information about the Initialization programs.

Database names available via the GUI's **Submit Panel** will not be updated until the user logs on *after* the database names have been saved on the Server.

Note: If you perform a Delete Database job, it will not remove the entry in the CSLSTAR.DB file. You must remove it manually.

CSLSTAR.JBC (Specify Job Classes)

The next file you can modify is CSLSTAR.JBC, which defines allowable start-times for job classes. Select **File->Server Configuration->Job Classes** to open this file.

For each job class, you must provide two values:

- **Job Class:** A 1-character identifier for the class. This character may also be referred to in the CSLSTAR.USR file. Otherwise, there are no constraints on what characters you assign.
- **Time Range:** Time span during which jobs in the class may run. The format is hh:mm; hh is hours in military time (24-hour clock), and 00:00 is the equivalent of 24:00.

It is also possible to specify times during which *no* jobs may run. To do this, input a dash (-) for job class. Supply the desired time-range as described above. Any job whose start-time is in an excluded range will be rejected. You can have any number of excluded time periods in the file. There is no checking for overlap between excluded ranges, or excluded ranges and job class times.

In the above example, no jobs can run from 2:00 a.m. through 2:29 a.m., or 3:00 a.m. through 3:59 a.m. Jobs in class E can run between 8 p.m. and midnight.

CSLSTAR.SRV (Server)

Now you will modify the CSLSTAR.SRV file which defines the number of users and connections for the server. Open this file by selecting
File->Server Configuration->Server (or pressing **F8**).

Settings for the CSLSTAR.SRV file include:

- **EXEPRIORITY:** *Optional.* Priority class given to the Oracle Utilities Load Analysis Execution Servers. Valid values are Realtime, High, Normal, and Low. If you do not specify the keyword and a value, the system uses the default (Normal). See your Windows documentation for a description of these values.
- **JOBRESOURCE:** *Required.* Your Server's computer name or identity. (You can look up this name under the Network Item in the Windows Control Panel.) The double backslashes (\\) before the computer name or identity are required. Do not use a colon (:) or single backslash (\). Whichever format is chosen, all your client workstations will have to use the same convention to connect to the server. This can be in one of the following formats:

  Hostname:

  ```
  JOBRESOURCE \\servername
  ```

  This is the current standard setting where the JOBRESOURCE value is simply the server name pre-pended with two backslashes (\\).

  Fully Qualified Domain Name:

  ```
  JOBRESOURCE \\servername.domain.net
  ```

  Use this as your server's identity if your network requires fully qualified domain name to connect.

  IP Address:

  ```
  JOBRESOURCE \\10.149.186.11
  ```

  You can use your server's IP address if this is the only way other computers can find your server on your network.
- **NUMEXESERVERS:** *Optional.* Set this value to the number of Execution Servers you would like to be active. Valid numbers are 1 through 10. (If more than 10 are specified, only 10 will open.) Specifying more than one Execution Server allows Oracle Utilities Load Analysis to run more than one job at a time. If you do not supply this keyword and a value, the system defaults to 1.

Note: Modifications to this file will not take effect until you restart the Oracle Utilities Load Analysis Server software.

- **NUMJOBDIGITS:** *Optional.* Set this value to the number of digits in the job numbers automatically created by the server. Increase this number if you would like your roll-over job numbers extended.
- **MINJOBSPACE:** *Optional.* If you supply a value, the server verifies that there is at least that much free space on the job drive before running a job. (The "job drive" is the drive on the File Server where the Oracle Utilities Load Analysis directories reside.) Specify the value in bytes. The default is 0, which means don't check.
- **NUMUSERS:** *Required.* The maximum number of users. If your company's license agreement allows unlimited usage, you can set any value up to 70. Otherwise, it must match a Oracle Utilities -specified value.
- **SHOWALLJOBS:** *Required.* Two values are possible; 0 or 1. If 0, users see only their own jobs in the **Queue** window in the Oracle Utilities Load Analysis GUI. If 1, each user sees all jobs waiting in the queue.
- **LANGUAGE:** *Optional.* This defines which language to translate the verbiage of the server and GUI. Currently "ENU" is the only valid value.

CSLSTAR.GLB (Run Time)

Open CSLSTAR.GLB by selecting **File->Server Configuration->Run Time**. This file defines the location and constants for server information used globally by all clients.

Settings for the CSLSTAR.GLB file include:

- **ANALMASK:** A file name extension that the program automatically assigns to output data files, such as keylists.
- **COMMONFILES:** Full path to the Common Data directory.
- **CSDST:** Set the value to **NO** to ignore Daylight Savings. Set the value to **YES** for Daylight Savings change-over support, meaning that cuts coming into the system from non-DST systems will be adjusted to be DST cuts.

  For example, if you set CSDST to YES and import a *.lse file (with a START_TIME and STOP_TIME in June) whose DST_PARTICIPANT flag is set to N, when viewing the resulting cut using the Load Data Reporter, the cut's START_TIME and STOP_TIME are both advanced by one hour, and all intervals in the Energy Dump have been shifted forward one hour. The cut has become a DST participant cut, and its DST_PARTICIPANT flag is now set to Y.

  If you import a cut whose DST_PARTICIPANT flag is set to A (indicating that the cut has been 24-hour adjusted), the program makes no changes to the data, and retains the DST_PARTICIPANT=A setting. This allows users to recognize that the cut is not an ordinary DST cut, but has been 24-hour adjusted.
- **CSLSCALENDAR**: Set the value to YES to use the LSCALENDAR.DLL component and LSCALENDAR.CFG.XML file to determine rules for Daylight Saving Time. This configuration file is used to define the start and end times for Daylight Saving Time. This is the default value. Note: This setting is not optional. CSLSCALENDAR can only be set to YES.
- **CSVALIDATION**: This setting controls the manner in which validation is performed. When set to NORMAL, X210 validates the entire cut series containing the cuts defined in the Control file. When set to OPTIMAL (the default), X210 performs targeted validation: only the specified cuts (and adjacent cuts for external validation) are validated. This reduces the processing time significantly, particularly in the case of large databases. If a cut series is specified instead, then entire cut series validated.
- **CSWARN:** Set value to **YES** to produce a Warnfile that contains the keys of any non-enhanced Oracle Utilities Load Analysis cuts the program being run encountered in the database. If the Warnfile lists a key, it means that the corresponding cut is in the database you are running against, and that one of its fields does not conform to the current Oracle Utilities Load Analysis standards. *For programs D110 and E720 only*, because Oracle Utilities Load Analysis programs often read the database sequentially, keys to cuts other than the ones you selected in your Control File may be reported in the Warnfile.

  The best way to use the Warnfile is as follows. If a cut is reported in the program's SYSPRINT.HTM as "Not Found" and you believe that the cut does exist on the database, check your Warnfile for the key in question. If the key is found in the Warnfile, at least one field in that cut did not conform to the Oracle Utilities Load Analysis standards. If the cut was originally loaded via the TGX110 Direct Input Program, the X110 Execution Log will display at least one of the non-conforming fields.
- **DAILYFORMATCHAR**: This setting is used to control the format of the Daily Output File created by the Direct Output programs (D720, D740, E720, E740, X720, X740, Y720, and Y740).

  A value of CRLF will place a carriage return/line feed at the end of each record. See in **Chapter 15**: **Making Oracle Utilities Load Analysis Data Available for External**

Applications (X710, Y710, X720, X740, Y720, Y740) the *Oracle Utilities Load Analysis Load Data Analysis User's Guide* for information on Direct Output programs.

Note: This setting has been deprecated.

- **DATFILES:** The path on the server machine to the directory set up for the Pervasive interval databases (typically, D:\CSLDBS).
- **DATFILES2:** A secondary search path for the databases. The server searches this path if the requested database is not found in the directory specified by DATFILES.
- **DBPROVIDER**: Defines the manner in which Load Analysis connects to the relational database. Set the value of the DBPROVIDER parameter based on the the type of relational database platform you are using. By default, the application is configured to connect to Oracle database (ODP).

  When using this option, the ODBC Data Source field in the Load Analysis client should contain the name or address of the database server you are connecting to.
- **DB_REPORT_LOCATION:** *Optional*. This setting is used to control where in the SYSPRINT.HTM file the list of selected datasources is located. Valid options for this setting are:
  - **TOP**: positions the report at the top of the SYSPRINT.HTM file.
  - **BOT**: positions the report at the bottom of the SYSPRINT.HTM file. This is the default value.
  - **SEP**: creates a separate report called DBREPORT.REP that contains the list of selected datasources.
- **HEADER_INFO_MERGE_MOST_RECENT**: This setting defines the merging rules for header information. Valid values for this setting include:
  - **NO**: Reverts merging rules to use header info from the first (oldest) cut in series.
  - **YES**: Indicates to merge header info using last (most recent) cut in series. (default)

  Note: This setting must be added manually.
- **JOBDRIVE:** The letter of the drive where the job directories reside.
- **JOBPATH:** The full path to directory containing the job directories; typically, C:\CSLSTAR.
- **JOBSUBUSER:** Set to **ON**.
- **LOADDIR:** The Server's path to the COMMON\LOAD directory. This directory is intended for files processed by the Production Input (D111, X111, E131, or Y131) Program. ***Note:*** The Production Input **Submit Panel** will display only the names of files with either the '.INP' or '.LSE' extension (depending on whether you're running Enhanced Format).

  Note that path values in the CSLSTAR.GLB file can support UNC naming conventions if the folder being referenced is shared and the proper read/write permissions are granted. For example, you might define the path to the COMMON/LOAD directory as follows:

  ```
  LOADDIR C:\LODESTAR\LODESTAR92\COMMON\LOAD\
  ```

  If the COMMON directory in the sample below is shared with read/write permissions, the following UNC setting to work would also work:

  ```
  LOADDIR \\SERVERNAME\COMMON\LOAD\
  ```
- **HOLIFILE, SEASFILE, TOUFILEN, USDYFILE:** The full filenames of the read-only default Common files stored in the CSLDBS directory on the Server (or in the directory specified in the RODFILES Command). The default values are the names of Oracle Utilities -supplied files. (See **Site-Specific, Read-Only Common Files** on page 1-13 for information about changing these files.) If reading data from the Oracle Utilities Data Repository, this should be in the following format:

RDB/<NAME>

where:

- **<NAME>** is the name of the record that contains the data. This is one of the following:
  - **HOLIFILE**: the name of the Holiday List from the Holiday List table.
  - **SEASFILE**: The Season Schedule Number from the LS Season Schedule table.
  - **TOUFILEN**: The TOU Schedule Number from the LS Time Of Use Schedule table.
  - **USDYFILE**: the name of the User-Specified Day List from the User-Specified Day List table.

- **LOG_FILE:** Name automatically assigned to the run log produced at the end of a job run.
- **MAX_CUSTID_LENGTH:** *Optional*. Specifies the size of the CUSTID field for the following reports:
  - X440 - Summary Reporter
  - Y230 - Billed Energy
  - X210 - Cut Series Validation
  - X530 - Cut Series Overlap Reporter

  The minimum value for this setting is 20. The maximum (and default) value is 64.
- **REPTMASK:** A 3-letter file name extension that the program will automatically assign to output report files.
- **RODFILES:** *Optional*. The path on the server machine to the directory containing the Read-Only Default Common files and database-specific Validation Environment files (typically, d:\CSLSTAR\RODFILES). If you do not supply the RODFILES Command, the system looks for the Read-Only Default Common files in the directory specified in the DATFILES Command.
- **ROUNDERROR: S**et the value to a number > 0 and < 100. This number represents the maximum percent that a cut's total energy will be allowed to change as the result of rounding due to a Pulse Multiplier stored in the database being used by E720 or D720 Direct Output to create a *.INP (or standard format) output file. The situation arises because the Pulse Multiplier is not required for expressing interval energy in an Enhanced format database (but may nonetheless have been stored in a cut by an input program), but is required for expressing interval energy in a *.INP file.

  If a cut is stored in the database with a Pulse Multiplier of 0 (i.e., no Pulse Multiplier), the output program calculates the Pulse Multiplier and pulses required for the *.INP file using an optimal-pulse-multiplier algorithm. However, if a cut has been stored in the database with a nonzero Pulse Multiplier, the output program uses this Pulse Multiplier to convert the cut from the Enhanced format to the pulse (Standard) format. After this conversion, the program compares the total energy of the cut as expressed in each of the two formats. If the ratio of the greater total energy to the lesser is more than 1.X percent, where X is the value of the ROUNDERROR variable, the Pulse Multiplier and pulses for the INP-format cut are recalculated using the optimal-pulse-multiplier algorithm, disregarding the Pulse Multiplier stored in the database.
- **RPTRDIR:** Full path to a base directory where program-specific Control and Environment files are located for use with the Oracle Utilities Load Analysis Repeater (see *Chapter Eight* in the *Oracle Utilities Load Analysis User's Guide* for details).

  RPTR_RENAME_ICS: This optional setting causes the Repeater to rename the ICS file in the output folders to conform to the associated control file for that iteration. This helps avoid

having all the ICS files named the same. The only valid value for this setting is "CTL." Note: This setting must be added manually. There is no default value for this setting.

- **SAMPLINGCOPYPDF:** Used with the Sampling programs only. Set value to COPY (default), to cause the server to copy the PDF file to the job directory and use the copied file as program input. Set value to USE_AS-IS to cause the server to access the PDF file directly (no file copying to job directory).

  Note: This setting has been deprecated. The PDF file is always accessed directly and is never copied to the job directory.

- **SEQR_VERBOSITY *n*:** Used by development to monitor a sequencer run. The vlaues are any positive integer and will trigger the sequencer to write information to the console while executing a seq file.

- **USERINEDIT:** Set value to Y to include user ID in edit trails produced by the Load Data Editor; set value to N to omit user ID from edit trails (default).

- **<database-name>:** *Optional.* Used when a CLDB requires validation criteria other than those specified in the default Validation Environment File (common\data\tgx21B.ENV). For each CLDB that requires its own Validation Environment File, supply the following command:

  <database-name>_valfile <validation-environment-file>

  where the keyword *database-name* is the physical filename of the CLDB (no extension) followed by "_valfile", and the value *validation-environment-file* is the full filename of the desired Validation Environment File. For example:

  ```
  BCLDB_VALFILE tgx21BB.env
  ```

  ```
  LCLDB_VALFILE tgx21BL.env
  ```

  If you specify a <database-name>_VALFILE Command for a CLDB, the system looks for the Validation Environment File in the path specified in the RODFILES Command or, if that command is not present, in the path specified in DATFILES.

  If you do not provide a <database-name>_VALFILE Command for a CLDB, the system defaults to the tgd21b.env file in the COMMON\DATA directory.

  In any case, the file used is automatically copied to the user's job directory.

- **<userid>**: *Optional.* To take advantage of the TRIAL and PRODUCTION modes of the Sampling extension, add the following entry to your CSLSTAR.GLB file:

  ```
  <userid> \\<client_machine>\<local directory share name>
  ```

  This entry tells the Server where the Local Data directory resides on each Client machine. The designated directory must be shared such that network users can access and change the files in the directory.

  Note: This setting has been deprecated.

CSLSTAR.USR (User IDs and Privileges)

Open CSLSTAR.USR by selecting **File→Server Configuration→Userids**. This file defines who can log on, and what access they will have to programs and databases.

How to modify the CSLSTAR.USR File:

1. Type the user's ID in the **Userid** field, up to eight characters. The system is not case sensitive.

   Note: User ID names and job folders must not contain a "dot".

2. Your entry in the **Programs** field depends upon whether the user will have Administrator privileges (unlimited access to all programs and databases) or User privileges (no access to server administration and possibly restricted access to specified programs).

   If the user needs Administrator privileges, type ADMIN.

   If the user will have restricted access, you have several options. You can grant the user access to all programs (but not server administration), all programs except named programs, or just named programs. You can also control start times for running specific programs.

   The format is:

   $$\left\{\begin{matrix}\text{ALL}\textit{,-program}1\textit{...,-program}n \\ \textit{program}1\textit{, program}n\end{matrix}\right\}\text{:x}$$

   ALLGives access to all programs. If used, it must be first.

   -program Used with ALL, it disallows access to named program. (Program names are listed in *Appendix A* of the *Oracle Utilities Load Analysis User's Guide*.)

   programAllows access to this program.

   program:x Allows access to this program, but it may only have a start time in job class 'x', where x is the letter of the job class as identified in CSLSTAR.JBC. Can be used with ALL or with named programs.

   For example, to grant user "SPI" access to all programs except E120, you would specify: SPI ALL,-E120. To give "USR" access to all programs, but only with a start-time as specified for job class c, you would specify:
   'USR ALL:c'.

   NOTE: Programs that can access multiple database types (CLDB, ELDB, etc.) can have more than one program ID. For example, the Summary Reporter program has 4 program Ids (X440, X460, Y440, and Y430). So to allow user full access to the Summary Reporter program, you would list all of the above program Ids. See **Appendix A: Programs Available via Oracle Utilities Load Analysis** in the *Oracle Utilities Load Analysis User's Guide* for a list of Program names and their respective program Ids.

3. Type desired entry in the Databases field. If the individual is an Administrator, leave the field blank. If a user, you can allow this user access to all databases, all databases except those specifically named, or just named databases. The format is:

   $$\left\{\begin{matrix}\text{ALL}\textit{,-database}1\textit{...,-database}n \\ \textit{database}1\textit{, database}n\end{matrix}\right\}$$

   ALLGives access to all databases. If used, it must be first.

   -database Used with ALL, it disallows access to this database. Database names are identified in CSLSTAR.DB.

   databaseAllows access to this database.

For example, to grant user "SPI" access to all databases except the CLDB, you would specify: SPI ALL,-CLDB.

Here is a sample CSLSTAR.USR File:

```
DAG ADMIN
BBG ALL;ALL
CKY ALL,-X110;ALL,-MISELDB
RN1 X110:O,Y420;MISELDB
```

In this example, DAG is the system administrator and has access to all programs and databases. BBG has access to all programs and databases. CKY has access to all programs except X110 and all databases except the one named "MISELDB". RN1 has access to Y420 any time and X110 at time specified by job class O; RN1's database access is limited to MISELDB.

4. When you have completed the entry fields for the user, click **Add** or **Replace**.

   The new command appears in the file.

   Reminder: If you are adding a new user to an existing system, you must set up a job directory for that user on the server in addition to giving the user an id and appropriate access privileges.

   In addition, you or the user must specify the same id on the user's workstation in the User Info tab under File->Setup on the Oracle Utilities Load Analysis desktop.

5. Repeat steps 1 - 4 for each additional user.

6. Be sure to delete all unused examples provided in the original file. To remove a command, click on it to highlight it, then click **Remove**.

7. Click **Save** to save your changes and close the window.

LoadAnalysis.cfg.xml

The LoadAnalysis.CFG.XML file defines the locations of the Common Load and Common Data directories used by the Oracle Utilities Load Analysis web application. If used, the LoadAnalysis.CFG.XML file should be included in the **C:\LODESTAR\CFG** directory on the web server.

A sample of this file is provided in the **C:\LODESTAR\CFG\Examples\CFG** directory.

LoadAnalysis.CFG.XML Example

```
<LOAD_ANALYSIS_CONFIG>
  <LOADDIR VALUE="\\tbho-us.us.oracle.com\COMMON\LOAD" />
  <COMMONFILES VALUE="\\tbho-us.us.oracle.com\COMMON\DATA" />
</LOAD_ANALYSIS_CONFIG>
```

LoadAnalysis.CFG.XML Element Descriptions

Each of the data elements used by the LoadAnalysis.CFG.XML file are described below.

LOAD_ANALYSIS_CONFIG: The root element of the LoadAnalysis.CFG.XML file.

Elements:

LOADDIR: Specifies the path to the Load Analysis "Common Load" shared directory.

COMMONFILES: Specifies the path to the Load Analysis "Common Data" shared dirrectory.

Site-Specific, Read-Only Common Files

Oracle Utilities Load Analysis has been designed to incorporate read-only default versions of four Common files: the Holiday File, the Time-Of-Use Schedule File, the Season File, and the User-Specified Day File. The Oracle Utilities Load Analysis programs automatically use these default files when a job is submitted, unless the user specifically selects another.

These files are protected from accidental or unauthorized modification because they are typically utilized by all Oracle Utilities Load Analysis users and should consistently reflect the policies of your utility.

If you followed the initial implementation instructions, the Oracle Utilities -supplied versions are currently installed. You may want to edit the files, or possibly replace them altogether with files from your utility's mainframe Oracle Utilities Load Analysis system.

In either case, the files you wish to use must meet two requirements:

- Must be stored in the directory established for the interval databases on the Server (CSLDBS is the recommended name).
- Must have the same filenames as those specified in the CSLSTAR.GLB configuration file.

Customizing Default Environment and Record Definition Files

The initial implementation of Oracle Utilities Load Analysis includes a set of Oracle Utilities - supplied default Environment and Record Definition files. The Oracle Utilities Load Analysis programs use these files when a user selects **Default** in the GUI's **Submit Panel**.

If desired, you can edit or replace these files with your own versions. However, you must leave them in the same directory on the Server (\COMMON\DATA) and use the same file names, as specified below.

Program Number	File Name	
D110	tgx21b.env	
D110	tgx41b.env	
E130	tgx21b.env	
E130	tgx41b.env	
X210	tgx21b.env	*See **Tip** at lower left.*
X210	tgx41b.env	
Y630	tgx31be.env	
X320	tgx31bc.env	
X410	tgx41b.env	
X420	tgx42b.env	
X440	tgx44bc.env	
X460	tgx44ba.env	
Y440	tgx44be.env	
Y460	tgx44bs.env	
Y960	tgx66bs.env	
X660	tgx66ba.env	
X810	xcldb.dbl	***Note:** CLDB.DBL must be created by running Y120. The output file must be copied to the directory COMMON\DATA. (A default file is supplied.)*
X820	xcldb.dbl	
Y810	xcldb.dbl	
Y820	xcldb.dbl	
Y910	xcldb.dbl	
Y910	tgx92be.env	
X910	tgx92b.env	
X910	tgx92bc.env	
Q940	tgq940b.env	
Q941	tgq941b.env	
D111	tgx21b.env	
D111	tgx41b.env	
E131	tgx21b.env	
E131	tgx41b.env	
X310	tgx31b.env	
X310	tgx21b.env	
X310	tgx41b.env	
Q942	tgq942b.env	
X490	tgx49b.env	
Y940	tgy49b.env	
Y491	tgy491b.env	
X491	tgx491b.env	
X220	tgx21b.env	
X220	tgx41b.env	
X220	xcldb.dbl	
Q943	tgq943b.env	
G210	tgg21c.crf	
G250	tgg21c.crf	
G410	tgg21c.crf	
G610	tgg21c.crf	

Tip: You can specify different Validation Environment files for individual CLDBs. See the <*database-name*> Command on page 1-9.

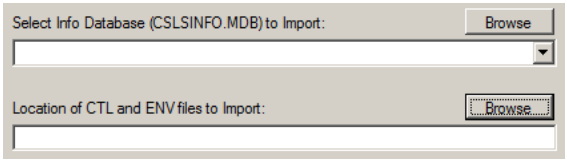
G630	tgg21c.crf
G710	tgg21c.crf
G410	tgg41c.ctf
G610	tgg61c.ctf
X110	tgx21b.env
X110	tgx41b.env
Y130	tgx21b.env
Y130	tgx41b.env
X111	tgx21b.env
X111	tgx41b.env
Y131	tgx21b.env
Y131	tgx41b.env
Y430	tgy43b.env
Y420	tgy42b.env

Retyping Oracle Utilities Load Analysis Files for Release 1.10.0.0

The Oracle Utilities Load Analysis Retype utility is used to convert Oracle Utilities Load Analysis Release 7.1 (or higher) typed files to the Release 1.10.0.0 files.

To use the Retype utility:

1. Select **File->Transfer Type Utility.**
2. The **Transfer Type Utility** window opens on your desktop.
3. In the **Select Info Database** field, browse to select the drive and directory that will contain the CSLSINFO.MDB file used with the previous version of Load Analysis you wish to import.



4. In the **Location of CTL and ENV files to Import** field browse to select the appropriate location of where the CTL and ENV files used with the previous version of Load Analysis are stored. Usually, CTL and ENV files are stored on your local DATA folder..
5. Click **OK**.

   A dialog box will pop up confirming that the Type Transfer function completed successfully.

Chapter Two

Oracle Utilities Load Analysis Job Run Error Codes

This chapter lists return codes and their meanings. These codes can alert you to a problem, and help you identify its cause and correction.

Program Execution Return Codes

Program Execution Return Codes may appear in the job output run log, the SYSPRINT report, or the **Queue** window in the GUI.

0 Program executed successfully.

1 Sort routine error. Verify that there is data in the file to be sorted.

2 Oracle Utilities Load Analysis program not found in BINS directory.

3 Sort program not found in BINS directory.

4 Validation program was successful, there were no invalid records to report.

5 Auto-Editor running.

6 Input program was successful, validation not performed due to LOAd VALid option.

7 Syntax Scan completed successfully - edits not performed and is Audit off which is appropriate for ELDB databases.

8 The linked Validation Environment File is not present in the read-only default area.

9 Some requests bypassed.

10 Program stopped processing as directed by configuration setting (example: Y620 STOp command).

11 Configuration File not found.

12 Required Keywords not found in the sampling parameters file, or non-numeric values found. See the *Oracle Utilities Load Analysis Sampling Package User's Guide* for more information.

13 Sampling copy PDF keyword in CSLSTAR.GLB file has an invalid value.

14 <userid> not found in CSLSTAR.GLB file. This is required for production mode.

15 Copy to client data directory failed for Sampling production mode. Check server access to client data share.

21 No records archived. No cuts processed.

90 Could not open/find database.

92 Could not open a specified file.

93 Control file error.

94 Time of Use file error.

95 User-Specified Day file error.

96 Holiday file error.

97 Environment file error.

98 Transformation - one or more blocks failed execution

99 Program execution was unsuccessful. Check SYSPRINT for error messages. If the error.log contains error messages, record them and call Oracle Utilities.

110 *Applies to Database Conversion Program CSA120*. CSLSTAR.GLB File not found. Verify that your CSLSTAR.GLB File is present in the BINS directory.

120 *Applies to Database Conversion Programs*. Control File not found. First, make sure that the keyword COMMONFILES is in your CSLSTAR.GLB File and has the full path to your server's Common Data area, as the server sees it (typically, \CSLSTAR\COMMON\DATA, although your directory names *may* differ). Second, make sure that the Database Conversion Control File is in your Common Data area and contains valid values.

130 *Applies to Database Conversion Program CSA120*. Unknown keyword found in Control File. Make sure that the Database Conversion Control File TGA12A.CTL contains valid values.

1000 User cancelled the execution of the program before it completed.

1024 User cancelled the execution of the program before it completed.

2099 Transformation run was halted due to a STOp Command.

Interval Database could not be opened.
Check run.log - has the database you requested been initialized?

Database Access Return Codes

Database Access Return Codes may appear in the SYSPRINT report or the error.log.

2 I/O error.

The database is damaged and must be re-created.

Not enough disk space for imaging in transactions.

3 The database has not been opened. Call Oracle Utilities.

4 Key not found.

6 Invalid key number. Call Oracle Utilities.

8 Positioning error. Call Oracle Utilities.

9 EOF mark was hit. Call Oracle Utilities.

11 The database file name is invalid. Check your DATFILES value in CSLSTAR.GLB or your database name in CSLSTAR.DB. Also check your Pervasive setting "Embedded Spaces" to ensure it is not checked.

12 Database file not found. Check your run.log.

17 Could not close the database.

18 Disk full.

19 Database error. Restore your most current backup of this database.

20 Microkernal engine has not been started. Start the Oracle Utilities Load Analysis Server software.

25 Cannot create the database. Disk may be full. Check DATFILES in CSLSTAR.GLB.

30 Specified database filename is not a Oracle Utilities Load Analysis database file.

35 Drive or pathname of database does not exist. Check run.log.

46 Access to the database was denied. Check LAN permissions for Oracle Utilities Load Analysis Server.

54 Bad record in database. Restore most recent backup.

56 The index is incomplete. Call Oracle Utilities.

58 The compression buffer links setting is too small. To remedy, start the Microkernal Setup by double-clicking its icon in the Pervasive Technologies Database Group. Under **Categories** select **Memory Resources**. Next, under **Settings**, select **Largest Compressed Record Size**. Change the current value to 33. Click **Save**, then click **Exit**. Restart the Engine.

59 The file already exists. Use Delete Database.

69 File is damaged. Restore most current backup.

79 System error. Attempt to run program again. If unsuccessful, reboot the Server.

85 The file is locked. Restart the Oracle Utilities Load Analysis Server software.

94 Permissions error while opening database.

97 Write error on CLDB. If still a problem, change to 25000.

101 Server is out of memory.

888 *Applies to program A120.* Unable to open input database. The database has already been converted to enhanced format.

999 Unconverted database found. A version 7.x or greater Oracle Utilities Load Analysis program has been submitted to run against a version 6.x database.

System Return Codes

System return codes may appear in the GUI **Queue** window or in the Job Output Run Log.

18 Database locked. Please call Oracle Utilities.

55 Input file included unacceptable values.

Chapter Three

Oracle Utilities Load Analysis Server Maintenance and Troubleshooting

This chapter describes the commands available for monitoring, maintaining, and troubleshooting the Oracle Utilities Load Analysis Server software. For example, you can reload configuration files without rebooting the computer, back up databases, display diagnostic information, monitor jobs, and more.

C-S L* Communication Server Standards

The **C-S L* Communication Server** program (a.k.a. CSLSRVR.EXE) includes many commands you can use for monitoring, maintaining, and troubleshooting the Oracle Utilities Load Analysis Server software.

To use them, simply type the desired command and parameter at the command line in the **C-S L* Communication Server** window on the Application Server. (If that program is not running, you can start it by double-clicking the Oracle Utilities Load Analysis Server program icon, which is located in the **Oracle Utilities Load Analysis Server Program Group** window.)

All commands are single *lowercase* letters, followed immediately by an optional parameter that is also *lowercase*. You can use one parameter, or none. If you supply no parameter, it is the same as specifying all.

Command[optional parameters]	*Description*
a	About Displays software version number, serial number, and NUMUSERS. (NUMUSERS is the maximum number of users allowed for your installation. This number is set by Oracle Utilities according to your license agreement.)
d[b|c|d|j|p|t|u|v]	Display Info Displays a variety of information about the current status of the system, which can be particularly helpful for diagnosing problems. You can use any one parameter; if you choose none, the system will display all of the information: **b** Display backed up databases. **c** Display contents of the CSLSTAR.SRV Configuration file. d List available databases. j List job classes (as specified in CSLSTAR.JBC). p List installed Oracle Utilities Load Analysis programs. t Display current date and time. u List users currently logged on to the Application Server. v List all local and network drives connected to this server. ***Example:*** Type `dp` to display a list of all Oracle Utilities Load Analysis programs currently installed on this server.
f[d|r] [*filename*]	**Display or Remove Files** Displays or removes specified file. **d** Display file (the default) **r** Restore database. ***filename*** Name of file you wish to display or remove. The default is admin.log. ***Example:*** Type `f` to display the admin.log.
r[d|e|j|p]	Reload Configuration Files Reloads selected Configuration files without having to shut down and restart the computer. This is useful if you make changes to a Configuration File and want to implement the changes, but are unable to shut down the server because others are using it. **d** Reload CSLSTAR.DB. **e** Reload CSLSTAR.GLB. **j** Reload CSLSTAR.JBC. **p** Reload CSLSTAR.PRG.

Command[optional parameters]	*Description*
s[m|s]***x***	This command has two functions: **Set Minimum Disk Space** The format for this version is **sm#,** where # is a number of bytes. If this command is specified and disk space on the job drive drops below the specified number, Oracle Utilities Load Analysis will issue a warning message rather than execute a submitted job. For example, `sm10000000` specifies that Oracle Utilities Load Analysis process jobs only when more than 10MB are available on the job drive. Show Jobs The two possibilities for this version are: `ss0` or `ss1`. If `ss0` is specified, each user sees only his or her jobs in the Queue window in the Oracle Utilities Load Analysis GUI. If `ss1` is specified, each user sees all jobs in the queue.
l	List Jobs Display a list of all jobs currently in the job queue.
c***#***	Cancel Job # is the number assigned to the job in the job list. You can get this number using the l (List jobs) command described above. ***Note:*** This command cancels jobs that are in the job queue; it does not cancel jobs that have begun processing. See **Delete Procedure** on page 4-4 for information about cancelling jobs in process.
v***#***	Verbose Level Determines the number and frequency of messages about system activity that are displayed on the screen. # is a value from 0 to 3. 0 specifies minimum number of messages; 3 specifies all possible messages. The default value is 1; the initial value is 0. If you encounter problems, you may find it helpful to increase the value to see more information.
t[*tracesetting*]	Set Tracesetting Set all idle execution servers' tracesetting; useful for debugging. See the *REXX Language Reference* for details.
q	Quit Program Quits the C-S L* Communication Server program.
?	Help Show list of commands and parameters with descriptions.

Chapter Four

Modifying and Maintaining the Database

This chapter describes how you can create scripts that you can use to add interval data tables to the database. It also describes a number of database maintenance procedures, including how to use the Delete procedure, recommendations for backup and restoration of Oracle Utilities Load Analysis Interval databases, and how to use the database compression program to free disk space.

Modifying the Database

You can use the program CreateIntervalTableset.exe to create database scripts to modify your relational database. OULACreateINDTD.exe accepts command line parameters and uses them to populate skeleton scripts that are included in Oracle Utilities Load Analysis. Your DBA can then use these scripts to create interval data tables in the database. Skeleton script versions are provided for CLDB and ELDB tablesets for Oracle databases.

> **Note:** You should back up the database before running the scripts to add interval tables. It is the responsibility of the DBA prior to script execution to ensure that no UIDs will conflict with predefined UID definitions.

Parameters

-d

Database Type. (Optional) Valid values are "o" for an Oracle database. The default value is "o".

-a

Audit. (Optional) This parameter instructs the program to create audit tables supporting CLDB and ALDB database tablesets. The value must reflect the correct database type Valid values are:

- CLDB
- ELDB
- ALDB
- SLDB
- GLDB

CLDB and ALDB are the only values that will create edit and archive tables that support Edit Trails and Archive records.

-o

Out. (Required) This parameter's value is the name of the output file. A relative or full path will be required.

-n

Base Table Name. (Required) This parameter will assign the base table name to the table or tableset. The name must conform to all naming constraints. The name must be no longer than the maximum table name length.

-u

UID. (Optional). This value must be numeric and cannot conflict with any other table UID in the database. Each interval data tableset will require up to 5 sequential UIDs due to the dependant tablesets that must be created if auditing is required (CLDB or ALDB). If auditing is not required, 3 sequential UIDs will be required. The program will connect to the database using the connection information and ensure that the UID provided is unique and that the required number of sequential UIDs are available in Metadata.

UIDs that are generated will be assigned to the following tables

- LSCH<TABLENAME>

  This will be the supplied UID. (This is required for all interval data tablesets.)
- LSCD<tablename> (This is required for all interval data tablesets.)
- LSCVMSG<tablename> (This is required for all interval data tablesets.)

The Following are required only for CLDB or ALDB tablesets:

- LSCEDIT<tablename>
- LSCH<tablename>A

The system generates a script that uses the base UID as a base UID number and follows the progression of numbers (n+1). This setting will use up to six UIDs.

Prior to execution ensure that all of the UIDs generated by the script are not already in use in the table TABLEMETADATA. You can check the availability of these UIDs by executing the following query against the database:

```
select UIDTABLE from TABLEMETADATA;
```

Up to six sequential UIDs for table TABLEMETADATA will be utilized by this program.

Oracle suggests locating a numeric sequence far away for others so that all UIDTABLE values for the OULA product are grouped together.

-r

BaseRefMetaData. (Required) This value is the base UID for REFERENCEMETADATA UID values to start their sequencing. The supplied number will be used as the base number to begin sequencing the numbers used to assign REFERENCEMETADATA UIDs. The script will create up to seven UIDs in sequence (*n, n+1, ... n+6*).

Ensure that you select a sequence number that allows at least 10 subsequent UIDs that will not conflict with existing UIDs in the REFERENCEMETADATA table.

Up to 8 sequential UIDs will be utilized by the script. Please ensure that at least eight UIDs starting form the base are available prior to execution.

Prior to execution ensure that the UIDs are not already in use and are available by executing the following query:

```
select UIDREFERENCE from KEYCOLUMNMETADATA
```

And

```
select UIDREFERENCE from REFERENCEMETADATA
```

Both of these tables must be able to accommodate the new UIDs.

-m

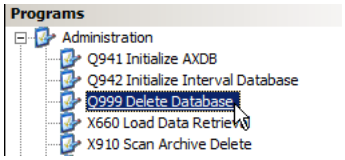
Base Mnemonic for Metadata tables. (Required) This is the base string used to create unique Mnemonic values for the table TABLEMETADATA column RECORDMNEMONIC. This character value must not be longer than 5 characters.

Prior to execution ensure that the assigned RECORDMNEMONIC values are not already in use and are available.

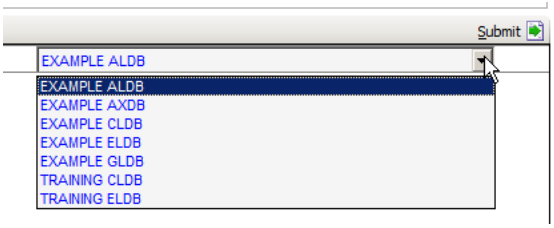
Delete Procedure

This procedure is used to delete the contents of a database.

1. Within the **Administration** group click on the **Q999 Delete Database** program item.
   .



2. Select the database you want to delete in the **Database** drop-down menu.



3. Click the **Submit** button.

   The **Job Parameters** window will appear.

4. Click **OK** to submit the job.

   The job begins running and in the **Queue** pane. When your job has completed successfully, the system marks it "Done".

Note: To cancel a job in process, highlight the job in the Queue window and click Cancel.

5. Click on the job name in the **Results** pane. A list of job files appears.

6. To view the SYSPRINT file, double-click on it in the **Job Files** list box.

   The file is displayed and verify that it processed correctly.

Note: The **Delete** procedure will ***not*** remove the entry in the C-S L* Database File. You must remove it manually. See **Chapter One**: **Customizing Oracle Utilities Load Analysis for Your Site** for more instructions on how to manually delete entries.

Backup/Restore Procedures

Oracle Utilities strongly recommends that you back up the Pervasive interval databases on a regular basis, using commercially available data backup/restore tools.

Database Compression

Oracle Utilities recommends use of Pervasive.SQL utilities for database compression.

Chapter 5

Configuring Oracle Utilities Load Analysis Security

This chapter describes how to configure security to work with Oracle Utilities Load Analysis, including:

- **Oracle Utilities Load Analysis Security**

Oracle Utilities Load Analysis Security

This section describes the securable features of the Oracle Utilities Load Analysis web application, including:

- **Load Analysis Features**
- **Important Notes about Assigning Load Analysis Permissions**

Load Analysis Features

Oracle Utilities Load Analysis features include:

- **Load Research**: Enables the Load Research menu item.
- **Interval Data Sources**: Enables the Interval Datasources menu item.
- **Analysis Classes**: Enables the Analysis Classes menu item.
- **Input**: Enables the Input menu, and expands to reveal Input menu permissions including:
  - **Production Input**: Enables the Production Input menu item.
  - **AXDB Update**: Enables the AXDB Update menu item.
- **Validation**: Enables the Validation menu, and expands to reveal Validation menu permissions including:
  - **Cut Series Validation**: Enables the Cut Series Validation Input menu item.
- **Reporting**: Enables the Reporting menu, and expands to reveal Reporting menu permissions including:
  - **AXDB Summary Reporter**: Enables the AXDB Summary Reporter menu item.
  - **Summary Reporter**: Enables the Summary Reporter menu item.
  - **Load Data Reporter**: Enables the Load Data Reporter menu item.
- **Editing**: Enables the Editing menu, and expands to reveal Editing menu permissions including:
  - **Load Data Editor (CLDB)**: Enables the Load Data Editor (CLDB) menu item.
  - **Load Data Editor (ELDB)**: Enables the Load Data Editor (ELDB) menu item.
  - **Copy Cuts**: Enables the Copy Cuts menu item.
  - **Move Cuts**: Enables the Move Cuts menu item.
  - **Delete Cuts**: Enables the Delete Cuts menu item.
- **Extract Data**: Enables the Extract Data menu, and expands to reveal Extract Data menu permissions including:
  - **Direct Output**: Enables the Direct Output menu item.
  - **Load Data Extraction**: Enables the Load Data Extraction menu item.
- **Analysis**: Enables the Analysis menu, and expands to reveal Analysis menu permissions including:
  - **Billed Energy**: Enables the Billed Energy menu item.
  - **100% Sample Analysis**: Enables the 100% Sample Analysis menu item.
  - **Standard Load Analysis**: Enables the Standard Load Analysis menu item.
  - **Ratio Analysis**: Enables the Ratio Analysis menu item.
  - **Individual Customer Analysis**: Enables the Individual Customer Analysis menu item.

    - **Coincident Peak Analysis**: Enables the Coincident Peak Analysis menu item.
    - **Load Data Transformation**: Enables the Load Data Transformation menu item.
- **Run Reports**: Enables the Run Reports option on the Load Research menu.
- **View Reports**: Enables the View Reports option on the Load Research menu.

Important Notes about Assigning Load Analysis Permissions

By default, the Load Analysis features restrict access to all Oracle Utilities Load Analysis functions and screens. To allow users access to Load Analysis functionality, create users and groups and enable appropriate permissions for each.

Appendix A

Oracle Utilities Enhanced Input/Output Interval Data Format

This document provides a detailed description of the Oracle Utilities Enhanced Input/Output Interval Data (LSE) format, used by Oracle Utilities applications. This includes:

- **Enhanced Format**
- **Enhanced Format Details**
- **Sample Files**
- **Units of Measure**

Enhanced Format

General Field Descriptions

In the enhanced format, fields are comma-delimited. A data line may contain as many full data-status-time groups as desired. No physical record in the file may exceed a character count (record length) of 32750. Leading or trailing white space is allowed on any field, but will be ignored upon processing. *The descriptor field is an exception to this rule.* It may contain any number of spaces, anywhere within the field.

Numeric fields will be expressed as decimal numbers, and may contain a decimal point and/or a leading minus sign (-), but must not contain commas or the value "+" to indicate a positive number. Non-negative numbers are assumed on all numeric fields if no leading minus sign is present.

The Customer Identifier, Channel Number, and the Start Time compose the full key of the record which, in combination with each other, must uniquely identify the record to be stored in the database.

No field except the descriptor may contain a comma.

All character values in the Enhanced Format must be uppercase.

Any cut entered with an invalid Start or Stop Time will be rejected.

An input cut with header records, but no data records, will be treated like any other cut; the number of intervals allocated will be determined by the time range, and all intervals will be treated as missing.

The contents of the Customer Identifier field, Origin field, and all Y/N indicators will be translated to uppercase before they are stored in the database.

Note: Database sort order will follow ASCII collating sequence, starting with the Customer Identifier and followed in turn by the Channel, then the Start Time.

A cut will be rejected if the number of interval values supplied is greater than the number of interval values expected, based upon the Start Time, Stop Time, SPI, and DST_Participant fields. If too few interval values are supplied, the cut will be filled out with "missings" (value of 0 and status of '9').

Any Stop Time falling exactly on an interval boundary will have one second subtracted from it.

Field Relationships and Requirements

Relationships between fields exist in the enhanced format. These are described along with detailed field requirements in this section. Defaults are inserted when the processing program encounters an omitted field (indicated by double commas) or white space between commas.

Sort Code

Relationships:

This field has no relationship with any other field.

Requirements:

- Sort codes must contain eight digits, including leading 0s. Sort codes are restricted to integers between 00000001 and 99999999. However, 00000005 through 09999999 are not used, and may be ignored (see below).
- Leading white space before the sort codes is not allowed.
- The first three header records are required.
- The fourth header record is optional.
- Header records will have sort code 00000001 through 00000004.
- Column 1 of each header record must contain a 0.
- Records with Sort codes 00000005 through 05000000 are reserved.
- Sort codes 00000030 through 000000039 are reserved for user-defined attributes created through Oracle Utilities Rules Language rate schedules.
- Data records must start with sort code 10000000, and progress sequentially (i.e. 10000001, 10000002…) through 99999999, or as high as needed to accommodate the data, with the maximum of 99999999.
- Column 1 of the data records must be greater than 0.

Recorder/Customer Identifier (key element)

Relationships:

None.

Requirements:

- Only letters, numbers, underscores, and hyphens will be accepted in this field; all other characters and embedded blanks will cause the record to be rejected.

  Note: Lowercase letters will be translated to uppercase before they are stored in the database.

- Must be at least one character, and no more than 64 characters in length.

Default:

None; field is required.

Channel (key element)

Relationships:

None.

Requirements:

- Field values must be non-negative integer only.
- Maximum value is 32767.

Default:

None; field is required.

Start Time (key element)

Relationships:

- Must be a valid datetime value less than the value of the Stop Time.

Requirements:

- Format must be YYYYMMDDHHMMSS.
- Value must be after 19700101000000 when using Data Manager, Oracle Utilities Billing Component, and other non-Oracle Utilities Load Analysis applications. The value must be after 19670101000000 when using Oracle Utilities Load Analysis.
- No spaces, colons, or any ASCII value allowed between time components.

Default:

None; field is required.

Stop Time

Relationships:

- Must be a valid datetime value greater than the value of the Start Time.
- Value must agree with the number of interval values past the start time * SPI.
- One second is subtracted if the value is equal to an even interval start time.

Requirements:

See Start Time.

Default:

None; field is required

DST Participant Flag

Relationships:

None.

Requirements:

Valid values are Y, N, or A, indicating whether or not this record will be processed using DST adjustments.

Flag Value	Definition
Y	(DST Participant) The intervals recorded participate in DST adjustments and the intervals during DST reflect the time change.

Flag Value	Definition
N	(Does not participate in DST) The intervals recorded do not make any DST time changes.
A	(DST participant) The intervals have been adjusted to 24-hour days. (At the April time change, there should be a value at the time change (a place holder) of 0 with status code "9". At the October time change, there should be a combined value.) These cuts will be converted to a "Y" or "N", and are not stored in the database as "A".

Default:

As specified in the INTDDEFAULTDST configuration parameter setting, the INTDCONFIG.XML file, or the CSDST value in Oracle Utilities Load Analysis.

Invalid Record Flag

Relationships:

None.

Requirements:

Valid values are Y or N, indicating whether or not the input programs should validate the incoming record.

Flag Value	Definitions
Y	The incoming record contains unvalidated data. In Oracle Utilities Load Analysis, a value of Y can be used to run this record through the validation routines.
N	The incoming record contains valid data (mark as valid).

Default:

Y.

Meter Start Reading

Relationships:

Must be supplied if any of the other Meter fields (Meter Stop Reading, Meter Multiplier, or Meter Offset) are supplied.

Requirements:

If supplied, value must be a non-negative numeric value.

Default:

0.

Meter Stop Reading

Relationships:

Must be supplied if any of the other Meter Fields (Meter Start Reading, Meter Multiplier, or Meter Offset) are supplied.

Requirements:

If supplied, value must be a non-negative numeric value.

Default:

0 stored in the database if not supplied.

Meter Multiplier

Relationships:

Must be supplied if any of the other Meter fields (Meter Start Reading, Meter Stop Reading, or Meter Offset) are supplied.

Requirements:

If supplied, value must be positive numeric. However, if no value is specified, 0 will be stored. Zero (0) is not a valid value for the meter multiplier, but its presence in the database indicates that no meter multiplier was supplied.

Default:

None, 0 stored in the database if not supplied.

Note: If 0 is stored and/or observed in the database and a cut is exported to the LSE format, all meter fields for that cut will be absent. A zero stored in the database is indicative of "no meter information supplied".

Meter Offset

Relationships:

Must be supplied if any of the other Meter fields (Meter Start Reading, Meter Stop Reading, or Meter Multiplier) are supplied.

Requirements:

If supplied, value must be numeric.

Default:

0 stored in the database if not supplied

Pulse Multiplier

Relationships:

None.

Requirements:

Value must be positive numeric. Also, must be supplied if Pulse Offset (see below) is supplied.

Default:

None, 0 stored in the database if not supplied.

Note: If 0 is stored and/or observed in the database and a cut is exported to the LSE format, all pulse fields for that cut will be absent. A zero stored in the database is indicative of "no pulse information supplied".

Pulse Offset

Relationships:

If supplied, you must also supply Pulse Multiplier.

Requirements:

Value must be numeric.

Default:

None. (Zero is stored in the database to indicate that the Pulse Multiplier was not supplied.

Seconds Per Interval (SPI)

Description:

This field stores the interval duration if appropriate. An Intervals Per Hour (IPH) of 1 can be translated to a Seconds Per Interval of 3600.

Relationships:

Value of 0 indicates non-uniform recording duration and a full array of interval start values (one per recording) located in the data section. (This feature will be supported in a future release and is **not currently available.**)

Requirements:

- Value must be a positive integer.
- Valid values for SPI are 86400, 3600, 1800, 900, 300, and 60.

Default:

None; field is required.

Unit of Measure

Description:

See **Units of Measure** on page A-16 for valid Units of Measure.

Relationships:

None.

Requirements:

- Value should be a valid unit of measure. If the value entered is unknown to, 16 (Miscellaneous) will be stored.
- Value must be non-negative numeric.
- Maximum value is 32767.

Default:

None; field is required.

Basic Unit Code

Description:

This field is reserved for future use.

Relationships:

None.

Requirements:

Omit this field.

Default:

0.

Times Zones West of GMT

Description:

This value tells programs accessing this record which time zone the values have been recorded in. Its value will be the difference in time, heading west, between Greenwich Mean Time and the represented time zone as measured in half hours. Eastern Standard Time should have a value of 10; Pacific = 16. A Value of -1 will indicate "Time Zone not available".

Relationships:

None.

Requirements:

Value must be -1 or a non-negative numeric between 0 and 47, that represents the time zones West of GMT measured in half-hour increments. Any record containing a time zone greater than 47 will be rejected.

Default:

-1.

Population

Description:

For Oracle Utilities Load Analysis statistical records only.

Relationships:

None.

Requirements:

Value may be any non-negative integer value.

Default:

0.

Weight

Description:

For Oracle Utilities Load Analysis statistical records only.

Relationships:

None.

Requirements:

Value may be any non-negative numeric value.

Default:

0.0.

Time Zone Standard Name

Description:

Defines the Time Zone to which the cut is associated. The value must be one of EST, CST, MST, PST, or be defined in the LSCALENDAR.XML configuration file (if present). Each value in this field must contain printable ASCII characters no longer than 32 bytes.

Only letters, numbers, underscores, and hyphens will be accepted in this field, all other characters and embedded blanks will cause the record to be rejected.

Relationships:

Must map exactly to one of EST, CST, MST, PST or an entry in the LSCALENDAR.XML file (if present). Oracle Utilities Load Analysis will import without checking this file.

Requirements

Length: <= 32 bytes

Descriptor

Description:

The user may enter any descriptive information in this field. Any information entered into this field will be stored in the database verbatim as supplied.

Relationships:

None.

Requirements:

- Value must be 80 characters or fewer, and may contain commas.
- May start with blanks.
- If more than 80 characters are entered, truncation will occur and the first 80 will be used.

Timestamp

Relationships:

None.

Requirements:

- Format should be YYYYMMDDHHMMSSmmm. The milliseconds (mmm) may be omitted, in which case mmm will be set to 000.
- No spaces, colons, or any ASCII value allowed between time components.

Default:

Current time that data is loaded into database.

Note: It is strongly recommended that you leave this field empty and allow the system to input the TimeStamp for you.

Origin

Relationships:

None.

Requirements:

Must be one of: M (metered), P (profiled), C (computed), or S (Oracle Utilities Load Analysis Statistic).

Default:

M (metered).

Interval Value

Description:

This field contains the actual recorded value for a time period.

Relationships:

Must have one status code entry per interval data value.

Requirements:

Any numeric value. (Up to 15 significant digits can be stored.)

Default:

0 (see Status Code, Relationships, below).

Status Code

Description:

This field contains the status code for the preceding Interval Value.

Relationships:

Must have an entry for the Interval Value.

Requirements:

Any character will be accepted.

Default:

- This field defaults to a blank (‘ ’) when omitted if the interval value is present.
- This field defaults to ‘9’ when the Interval Value field is omitted.

Interval Start

Description:

- This field indicates the starting time of the recording or the time when the recording took place.
- Format must be YYYYMMDDHHMMSS. (This feature will be supported in a future release and is **not currently available**.)

Relationships:

- Until this feature is supported, the SPI may not be omitted (represented by „).
- There must be one entry per Interval Value.

Requirements:

See Start Time, Requirements.

Default:

None.

Enhanced Format Details

First Header Record Format

ELEMENT	DESCRIPTION	MAXIMUM LENGTH IN BYTES (if applicable)	COMMENT
1	Sort Code	8	Must be 00000001
2	Recorder/ Customer Identifier	64	Letters, numbers, hyphens or underscores are acceptable Values
3	Channel	5	Max is 32767
4	Start Time	14	YYYYMMDDHHMMSS (24-hour)
5	Stop Time	14	YYYYMMDDHHMMSS (24-hour)
6	DST Participant Flag	1	Y/N/A
7	Invalid Record Flag	1	Y/N

Second Header Record Format

ELEMENT	DESCRIPTION	MAXIMUM LENGTH IN BYTES (if applicable)	COMMENT
1	Sort Code	8	Must be 00000002 Default: None; field required
2	Meter Start Reading	N/A	Non-Negative Numeric Max: 999999999999999.9999 Default: 0
3	Meter Stop Reading	N/A	Non-Negative Numeric Max: 999999999999999.9999 Default: 0
4	Meter Multiplier	N/A	Positive Numeric (Optional) Max: 999999999999999.9999 Default: 0
5	Meter Offset	N/A	Numeric (Optional) Max: 999999999999999.9999 Default: 0
6	Pulse Multiplier	N/A	Positive Numeric (Optional) Max: 999999999999999.9999 Default: 0
7	Pulse Offset	N/A	Numeric (Optional) Max: 999999999999999.9999 Default: None; field required
8	Seconds Per Interval (SPI)	N/A	Positive Numeric Default: None; field required

ELEMENT	DESCRIPTION	MAXIMUM LENGTH IN BYTES (if applicable)	COMMENT
9	Unit of Measure	N/A	Numeric Max: 32767 Default: None; field required
10	Basic Unit Code	N/A	Positive Numeric (Optional) Max: 9999 Default: 0
11	Time Zones West of GMT	N/A	Numeric. (Optional) Default: -1 Min: -1 Max: 47
12	Population	N/A	Positive Numeric (Optional) Max: 999999999999999.9999 Default: 0.0
13	Weight	N/A	Positive Numeric (Optional) Max: 999999999999999.9999 Default: 0.0
14	Time Zone Standard Name		Character (32) Overrides any value in TZWGMT. Must be one of "EST", "CST", "MST", "PST", or definition must exist in LSCalendar.xml file.

Third Header Record Format

ELEMENT	DESCRIPTION	MAXIMUM LENGTH IN BYTES (if applicable)	COMMENT
1	Sort Code	8	Must be 00000003
2	Descriptor	80	

Fourth Header Record Format

ELEMENT	DESCRIPTION	MAXIMUM LENGTH IN BYTES (if applicable)	COMMENT
1	Sort Code	8	Must be 00000004
2	Timestamp	17	YYYYMMDDHHMMSSMM (optional) Default: current date
3	Origin	1	C, M, P, or S (optional)

Data Record Format

ELEMENT	DESCRIPTION	MAXIMUM LENGTH IN BYTES (if applicable)	COMMENT
1	Sort Code	8	10000000 through 99999999
2	Interval Value		
3	Status Code	1	
4	Interval Start	14	YYYYMMDDHHMMSS (optional)

A data line may contain as many full data-status-time groups as desired, providing the record does not exceed a character count (record length) of 32750.

Interval start times may be omitted, but a comma must still be present as a placeholder. Data must be contiguous and "missings" (or gaps) must be represented by value 0 and status '9'. At this time, all intervals must be of the same duration, hence Interval Start Times should not be specified.

Sample Files

Enhanced Direct Input File

A sample input file using the enhanced format with 3 headers and 2 data records and with interval starts omitted:

```
00000001,N1732,17,19820412000001,19820412005959,Y,Y
00000002,23887.34,23903.56,1.0,0.0,0.0144,0.0,900,1,0,-1,,,
00000003,ACCEPTANCE TEST DATA NUMBER 1
00000004,,M
10000000,31,Q,,9.52,R,,.00314,S,,123456.98765,T,,
10000001,32,Q,,9.53,R,,.00315,S,,123457,T,,
```

Standard Direct Input File

A sample old-format file is provided below for comparison.

```
0001WARNINGTEST         1041282135105138214000401O
0002013127501400250000000009123500000000000945679-000000000012346-
000000000034567
0003ACCEPTANCE TEST DATA                   00000000000000000000000000000000000000
0004
100000031Q00028Q00008Q00061Q00038Q00011Q00050Q00005Q00055Q00000900000900004Q
100100029Q00016Q00079Q00036Q00020Q000766000616000156000078Q00021Q00050Q00004Q
100200004Q00007Q00006Q00006Q00004Q00008Q00005Q00009Q00009Q00009Q00005Q00006Q
```

Units of Measure

The table below lists valid Units of Measure. Intervals may be summed or averaged when aggregating, depending on the unit of measure. The aggregation technique is noted on the table

Note: Oracle Utilities products also accept 3-digit UOMs, which may be user-defined.

CODE	DESCRIPTION	AGGREGATION TECHNIQUE
01	kWh	Sum
02	kW	Average
03	kVARh	Sum
04	kVAH	Sum
05	Temperature (°F)	Average
06	KQD	Average
07	V^2H (PTP)	Sum
08	kQh	Sum
09	kQh (45 degrees)	Sum
10	I^2H	Sum
11	Volts	Average
12	Amps	Average
13	Temperature (°C)	Average
14	Dewpoint	Average
15	Amplitude	Average
16	Miscellaneous	Sum
17	Minute Run Time (MRT)	Sum
18	Wind Velocity (Cm/Sec)	Average
19	Fraction V2H (PTN)	Average
20	Percent	Average
21	Flow	Average
22	kVAR	Average
23	kVA	Average
24	kVA Ratio	Average
25	Power Factor	Average
26	Hertz	Average
27	Feet	Average

CODE	DESCRIPTION	AGGREGATION TECHNIQUE
28	Minutes	Sum
29	On/Off (Tap position)	Average
30	Inches	Average
31	Individual kWh	Sum
32	kWh r	Sum
33	Individual Totalized kVARh	Sum
34	kVARh r	Sum
35	Individual Totalized Temperature (°F)	Average
36	kVAh r	Sum
37	IND V^2H (Individual totalized V^2H)	Sum
38	IND kQh (Individual totalized kQh)	Sum
39	KQH r	Sum
40	Miscellaneous	Average
41	IND Volts (Individual totalized Volts)	Average
42	IND Amps (Individual totalized Amperes)	Average
43	IND Temperature (°C) (Individual totalized temperature, degrees Celsius)	Average
44	Mw	Sum
45	MVAR	Average
46	MVA	Average
47	IND MRT (Individual totalized MRT)	Sum
48	IND CMS (Individual totalized CMS)	Average
49	Run Hours	Sum
50	Equivalent Full Load Hours	Sum
51	KWH-OUT	Sum
52	KW-OUT	Average
53	KVARH-OUT	Sum
54	KVAH-OUT	Sum
55	KQH-OUT	Sum
56	LEAD-KVARH	Sum
57	LEAD-KVARH-OUT	Sum
58	LAG-KVARH	Sum

CODE	DESCRIPTION	AGGREGATION TECHNIQUE
59	LAG-KVARH-OUT	Sum
60	Gallons / Minute	Average
61	BTU	Sum
62	THERMS	Sum
63	Cubic Feet / Minute	Average
64	Cubic Feet / Second	Average
65	WM^2	Average
66	Relative Humidity	Average
67	MPH	Average
68	THI	Average
69	Gallons	Sum
70	Cubic Feet	Sum
71	Temperature Difference	Average
72	KVAR-OUT	Average
73	KVA-OUT	Average
74	Knots	Average
75	Degrees	Average
76	CCF (Hundred cubic feet)	Sum
77	CF / Hour	Average
78	Pounds / Square inch	Average
79	Dollars	Sum
80	DECATHERMS	Sum
81	Pounds	Sum
82	Pounds / Hour	Average
83	MPOUNDS	Sum
84	MPOUNDS / Hour	Average
85	$ / KWH	Average
86	$ / MW	Average
87	$ / MWH	Average
88	$ / Hour	Average
89	Volt Hours	Sum
90	Individual Totalized Cubic Feet	Sum

CODE	DESCRIPTION	AGGREGATION TECHNIQUE
91	Individual Totalized Btu	Sum
92	Pressure in MILLIBARS	Average
93	Visibility in Miles	Average
94	Cents per kWh	Average
99	Individual Totalized Gallons	Sum
100	MWH	Sum
102	Euros	Sum
103	Euros per MWH	Average
104	Euros MW	Average
105	GW	Average
106	TWH	Sum
107	Cubic Meters (M3)	Sum
108	Mega Joules per Cubic Meter (MJ/m3)	Average
109	Kilograms per Cubic Meter (Kg/m3)	Sum
110	Cubic Meters per Hour (M3/H)	Average

UOM Compatibility

When merging cuts with different units-of-measure, cuts with specific differing UOMs can be combined while others can't. For example, you can't merge two cuts if the UOM of one cut is inches and the UOM of the other is dollars, because whichever UOM is assigned to the merged cut wouldn't apply to at least some of the data.

However, cuts with certain specific different UOMs can be combined. UOMs that can be combined are referred to as compatible UOMs, and are listed in the table below.

Compatible UOMs
01,31,32,51
02,52
03,33,34,53,56,57,58,59
04,36,54
05,35
07,37
08,09,38,39,55
11,41
12,42
13,43

Compatible UOMs
17,47
18,48
22,72
23,73
61,69
69,99
70,90

These units of measures may have their intervals divided by the IPH for display:

Demand-Type UOMs
02, 05, 06, 07, 10, 22, 23, 24, 52, 72, 73, 105, 110

UOM DEMAND_CODE Values

This lists the proper values of the DEMAND_CODE for each existing UOM (CODE). The second column is a duplication of AVUO. This is used to accomplish the functionality in V01DEMC and AVUO.

UOM CODE	CSLS Averaged UOM? (AVUO)	DM Averaged UOM?(Aggregate Method)	DEMAND UOM CODE
00			00
01			02
02	Y	Y	02
03			22
04			23
05	Y	Y	05
06	Y	Y	06
07			07
08			06
09			06
10			10
11	Y	Y	11
12	Y	Y	12

UOM CODE	CSLS Averaged UOM? (AVUO)	DM Averaged UOM?(Aggregate Method)	DEMAND UOM CODE
13	Y	Y	13
14	Y	Y	14
15	Y	Y	15
16			16
17			17
18	Y	Y	18
19			19
20	Y	Y	20
21	Y	Y	21
22	Y	Y	22
23	Y	Y	23
24	Y	Y	24
25	Y	Y	25
26	Y	Y	26
27			27
28			28
29	Y	Y	
30			30
31			02
32			02
33			22
34			22
35	Y	Y	35
36			23
37			37
38			06
39			06
40	Y	Y	40
41	Y	Y	41
42	Y	Y	42
43	Y	Y	43

UOM CODE	CSLS Averaged UOM? (AVUO)	DM Averaged UOM?(Aggregate Method)	DEMAND UOM CODE
44	Y	Y	44
45	Y	Y	45
46	Y	Y	46
47			47
48	Y	Y	48
49			49
50			50
51			52
52	Y	Y	52
53			72
54			73
55			06
56			22
57			72
58			22
59			72
60	Y	Y	60
61			61
62			62
63	Y	Y	63
64	Y	Y	64
65	Y	Y	65
66	Y	Y	66
67	Y	Y	67
68	Y	Y	68
69			69
70			77
71	Y	Y	71
72	Y	Y	72
73	Y	Y	73
74	Y	Y	74

UOM CODE	CSLS Averaged UOM? (AVUO)	DM Averaged UOM?(Aggregate Method)	DEMAND UOM CODE
75	Y	Y	75
76			76
77	Y	Y	77
78	Y	Y	78
79			88
80			80
81			82
82	Y	Y	82
83			84
84	Y	Y	84
85	Y	Y	85
86	Y	Y	86
87	Y	Y	87
88	Y	Y	88
89			11
90			90
91			91
92	Y	Y	92
93	Y	Y	93
94	Y	Y	94
99			99
100			44
102	Y		102
103	Y	Y	103
104	Y	Y	104
105	Y	Y	105
106			106
107			110
108	Y	Y	108
109	Y		109
110	Y	Y	110

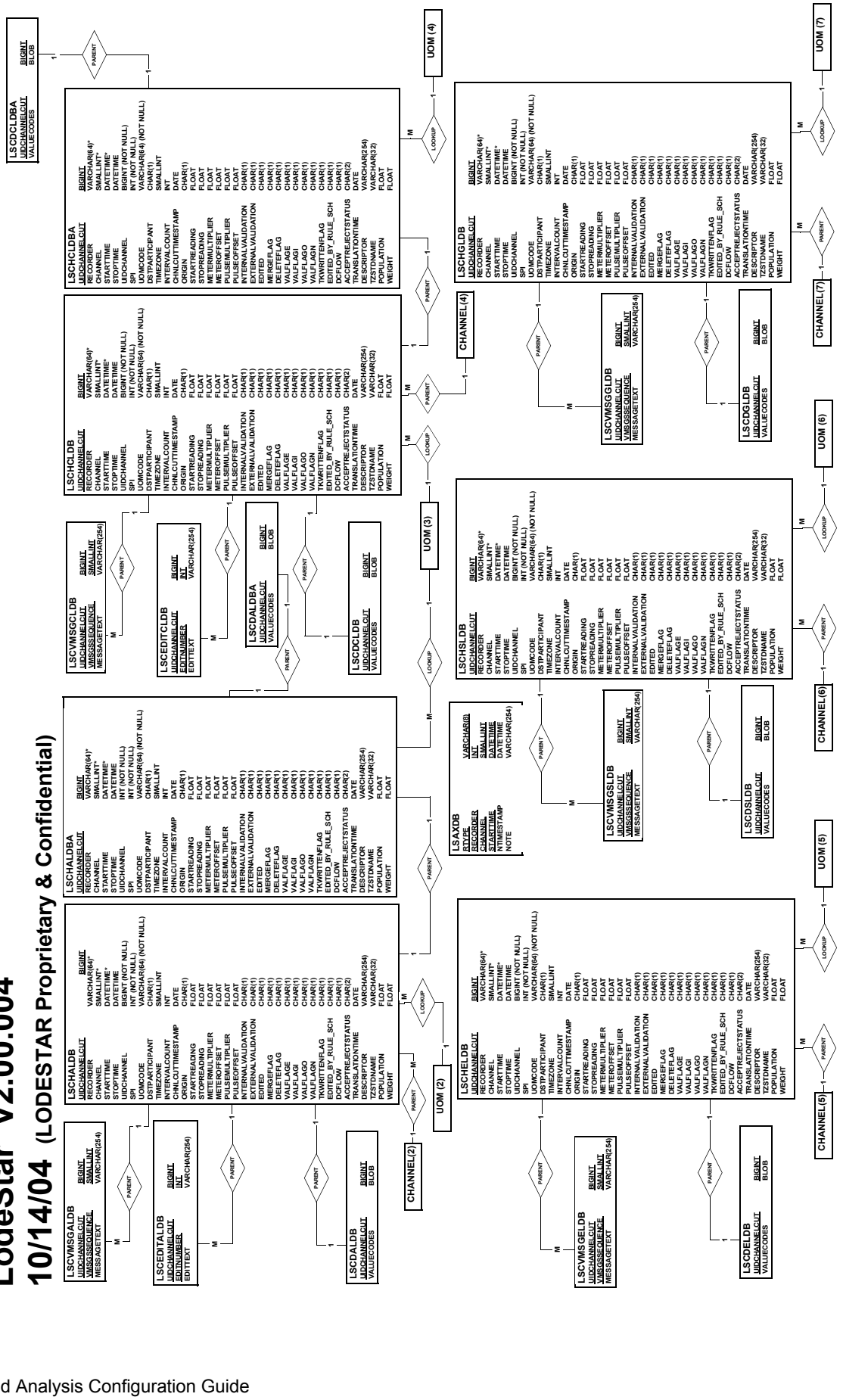
Appendix B

Oracle Utilities Data Repository Load Analysis Database Schema

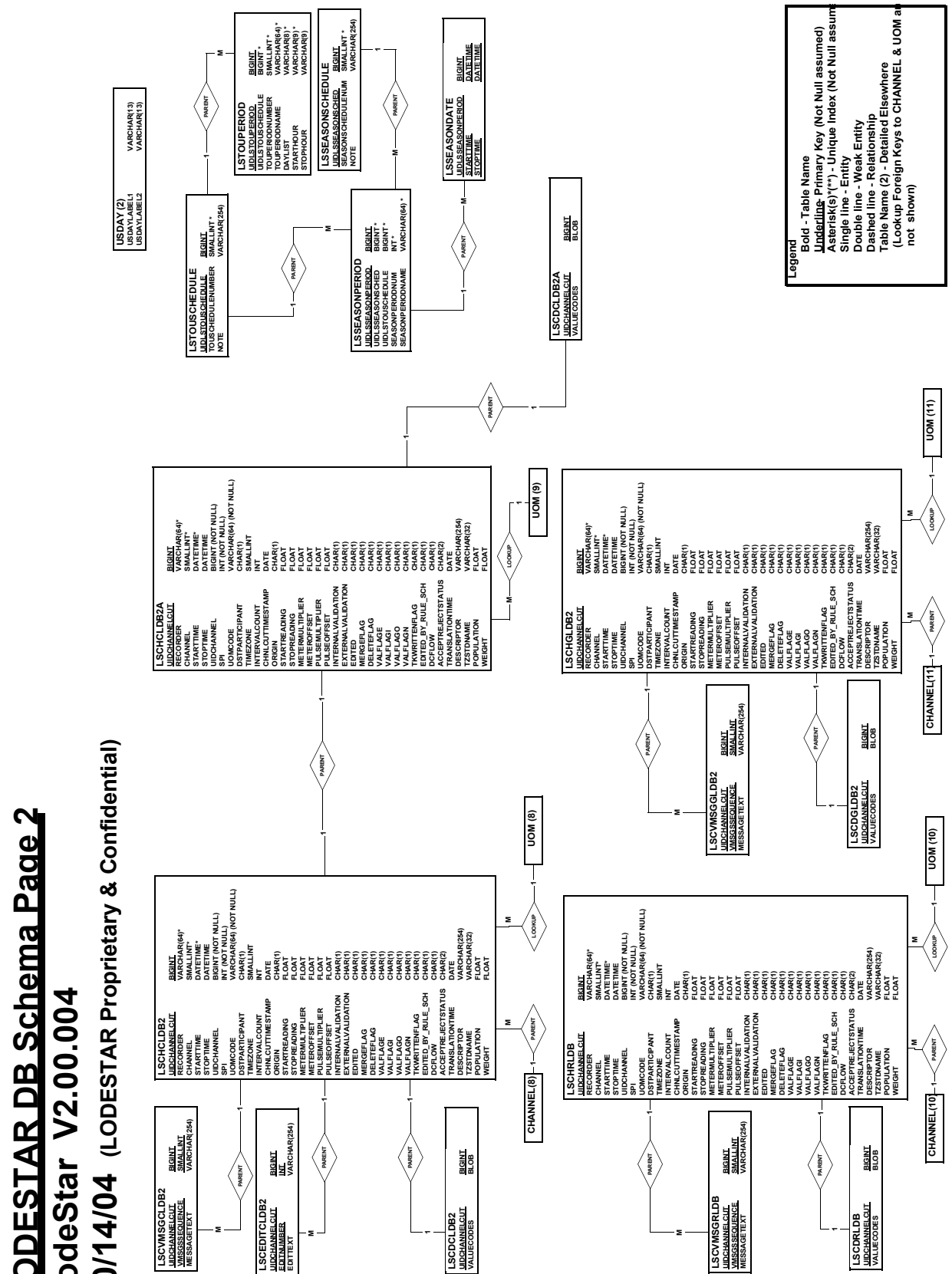
This appendix includes a diagram of the Oracle Utilities Data Repository Load Analysis database schema (v3.42.013) that provides details regarding the table and columns in the Oracle Utilities Load Analysis schema, as well as the relationships between these tables in the Oracle Utilities Data Repository. This information is very useful when writing Rules Language statements or constructing database queries. This includes:

- **Oracle Utilities Load Analysis Database Schema, page 1**
- **Oracle Utilities Load Analysis Database Schema, page 2**

Oracle Utilities Load Analysis Database Schema, page 1



Oracle Utilities Load Analysis Database Schema, page 2



Index

A

About Command 3-2
Aggregating intervals
  Aggregation methods per UOM A-16

B

Backing up the Pervasive interval databases 4-5

C

Cancel Job Command 3-3
Commands
  About 3-2
  Cancel Job 3-3
  Display Info 3-2
  Display or Remove Files 3-2
  Help 3-3
  List Jobs 3-3
  Quit Program 3-3
  Reload Configuration Files 3-2
  Set Minimum Disk Space 3-3
  Set Tracesetting 3-3
  Show Jobs 3-3
  Verbose Level 3-3
Configuration files
  Displaying contents 3-2
  Modifying 1-2
Conventions
  Used in this guide 1-iv
C-S L* Communication Server (also called CSLSRVR.EXE)
  Quitting (q command) 3-3
C-S L* Communication Server window 3-1
CSLSRVR.EXE 3-1

D

Database Access Return Codes 2-3
  in error.log 2-3
  in SYSPRINT report 2-3
Database drop-down menu 4-4
Database schema diagram B-1
Delete procedure 4-4
Display Info Command 3-2
Display or Remove Files Command 3-2

E

Enhanced Direct Input File A-15

H

Help Command 3-3
How to
  Back up interval databases 4-5
  Back up the Pervasive interval databases 4-5
  Modify and Save a Configuration File 1-2
  Modify the CSLSTAR.USR file 1-10
  Open the files 1-2
  View the SYSPRINT file 4-4

J

Job Output Run Log 2-4
Job Parameters window 4-4

L

List Jobs Command 3-3
Load Analysis Retype utility 1-16

M

Modifying Configuration files 1-2
Mouse buttons 1-iv

P

Program Execution Return Codes 2-1
Program Group window
  Load Analysis Server 3-1

Q

Queue window 1-5, 2-1, 2-4, 3-3, 4-4
Quit Program Command 3-3
Quitting
  Server software (q command) 3-3

R

Reload Configuration Files Command 3-2
Return codes
  Database Access 2-3
  Program Execution 2-1
Retype utility 1-16

REXX 3-3
Run errors
    Job Output Run Log 2-4

S

Server Configuration window 1-2
Set Tracesetting Command 3-3
Show Jobs Command 3-3
Standard Direct Input File A-15
Standards
    C-S L* Communication Server 3-1

V

Verbose Level Command 3-3
Viewing the SYSPRINT file 4-4

W

Windows
    C-S L* Communication Server 3-1
    Job Parameters 4-4
    Load Analysis Transfer Type Utility 1-16
    Program Group 3-1
    Queue 1-5, 2-1, 2-4, 3-3
    Server Configuration 1-2