



Collection Tool User's Guide

Reference Document | November 2018

Overview

This document describes a series of technical steps to be performed by Oracle customers in order to ensure the proper collection of data for Oracle product license usage tracking. It's an instructional guide with notes and recommendations to help you complete the process as quickly and efficiently as possible.

Distribution

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Preface

The purpose of this reference document is to provide both the instructions and a detailed list of the technical steps to follow when collecting software usage data for deployed Oracle products. By reading it you will gain an understanding of the full range of data needed to verify usage of your deployed Oracle estate. This guide also includes details of the individual scripts contained within the Collection Tool, and guidance on how to run them across both Unix/Linux and Windows environments.

Audience

This document is intended for Systems, Database, and Middleware Administrators, as well as anyone else who has been tasked with completing the usage data collection process. To successfully undertake all the actions and steps listed below, we recommend the user has at least a basic working knowledge or experience with Windows and Unix/Linux environments.

If you require further assistance, please contact your assigned Oracle License Management Services (LMS) consultant.

License Agreement

By using this document, and when running the scripts discussed, you are bound by the license agreement detailed within [Section 9](#).

Related Document

For those readers seeking a greater understanding of the information accessed and collected during an Oracle LMS engagement, the data security procedures, and the access permissions required, please review: *Collection Tool Data Collection and Security Guide*.

Conventions

The following text conventions and acronyms are used in this document:

Table 1 - Text Conventions

CONVENTION	MEANING
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter

CONVENTION	MEANING
LMS	License Management Services
CPU	Central Processing Unit
CPUQ	Acronym for CPU Queries scripts
OS	Operating System
CSV	Comma Separated Values
CDB	Container Database
PDB	Pluggable Database
FMW	Fusion Middleware
WLS	Acronym for WebLogic Server. This will refer to Oracle WebLogic Server or BEA WebLogic Server throughout this document
SOA	Acronym for Service-Oriented Architecture. This will refer to Oracle Service-Oriented Architecture Suite throughout this document
OAS	Oracle Application Server
iAS	Internet Application Server
DB	Acronym for Oracle Database
EBS	Oracle E-Business Suite
OBI	Oracle Business Intelligence
FMWRUL	Acronym for Fusion Middleware Restricted Use Licenses
WLST	WebLogic Scripting Tool - a command-line scripting environment that can be used to create, manage, and monitor WebLogic domains. It is based on the Java scripting interpreter, Jython
OER	Oracle Enterprise Repository
NUP	Acronym for Named User Plus license metric
MW_HOME	The folder where Oracle Middleware is located

Overview

This document is divided into the following sections:

[Section 1](#): A description of the scripts included in the tool

[Section 2](#): Selecting the products to be measured

[Section 3](#): Technical requirements

[Section 4](#): Required system credentials

[Section 5](#): Preparing the environment

[Section 6](#): Running the scripts

[Section 7](#): Troubleshooting the initial phase

[Section 8](#): Troubleshooting the executing phase

Data collection – scope and method

The Collection Tool (referred to herein as “Collection Tool” or “tool”) is a collection of scripts that are run from within the operating system of the server(s) where Oracle Software is installed. Importantly, it is designed to detect and collect usage data for different instances of Oracle Software running on Windows servers and most versions of Unix/Linux.

Which Oracle products does it cover?

The tool is designed to collect software usage data for the following Oracle product families:

- Oracle Database Products
- Oracle E-Business Suite (EBS)
- Oracle Application Server (OAS)
- WebLogic Server (WLS)
- Service-Oriented Architecture (SOA) Suite
- Tuxedo
- Business Intelligence (Technology products)
- WebCenter

In this document the term “Oracle Software” designates all the products listed above. For a detailed list of all the components and versions covered by the Collection Tool, see Table 7 - Product Coverage.

Important Note: Multiplexing Architectures

The tool cannot identify or count individual connections if Oracle software is part of an environment that uses multiplexing hardware or software. In such cases you must declare the number of users and/or devices, counted at the multiplexing front end.

Collecting software usage data for deployed Oracle products

Section 1: A description of the scripts included in the tool

In this section we offer the insights you'll need to understand the collection process and the specific scripts and files used during the tool's execution phase. Also included is an explanation of the tasks associated with each script.

Note: All the scripts listed below are part of the Collection Tool installation and included in the Collection_Tool.zip archive.

For information on preparing and running the tool, go to [Section 5](#).

1.1 Master Script

The master script is the only script you need to run, as it provides all the required parameters in the command line.

At startup, the License Agreement will be displayed – requiring your agreement to proceed. The tool will then start the file collection process.

Table 2 - Master Script

OPERATING SYSTEM	LOCATION
Windows	Collection\bin\Collection.cmd
Unix/Linux	Collection/bin/Collection.sh

1.2 Product Specific Scripts

Besides the master script, the tool contains product specific scripts that are used to automatically collect individual product information. Their execution depends on the input parameters and, when running in interactive mode, on the input provided by the end users.

Important Note

Running these scripts outside of the Collection Tool is not recommended or supported. In addition, by accessing the scripts outside of the tool, you thereby agree to the License Agreement: license_agreement.txt as provided in Collection_Tool.zip.

Table 3 - Product Specific Scripts

OPERATING SYSTEM	DESCRIPTION / CONFIGURATION FILES LOCATION
	OAS and IAS: These scripts collect OAS installation information
Windows	Collection\resources\util\OAS\run_opmnctl_status.cmd
Unix/Linux	Collection/resources/util/OAS/run_opmnctl_status.sh

OPERATING SYSTEM	DESCRIPTION / CONFIGURATION FILES LOCATION
	WLS NUP: These scripts collect NUP information from the running instances of WebLogic Server for WebLogic, WebCenter and Oracle SOA Suite products.
Windows	Collection\resources\util\WLST\WLSNUP\getWLS_NUP.cmd Collection\resources\util\WLST\WLSNUP\getWLS_NUP.py
Unix/Linux	Collection/resources/util/WLST/WLSNUP/getWLS_NUP.sh Collection/resources/util/WLST/WLSNUP/getWLS_NUP.py
	WLS Basic: These scripts collect WLS Basic configuration information from the running instances of WebLogic Server for both WebLogic and Oracle SOA Suite products.
Windows	Collection\resources\util\WLST\WLSBasic\wls-basic-measurement.cmd Collection\resources\util\WLST\WLSBasic\wls-basic-measurement.py
Unix/Linux	Collection/resources/util/WLST/WLSBasic/wls-basic-measurement.sh Collection/resources/util/WLST/WLSBasic/wls-basic-measurement.py
	Tuxedo: These scripts collect Tuxedo configuration information from the running instances of the Tuxedo Product
Windows	Collection\resources\util\tuxedo\countclients.cmd
Unix/Linux	Collection/resources/util/tuxedo/countclients.sh
	DB and EBS: These scripts collect user and options information from the local instances of the oracle database
Windows	Collection\resources\util\DB\db_main.cmd
Unix/Linux	Collection/resources/util/DB/db_main.sh

Note: running the tool to start a particular product usage collection process may automatically trigger supporting plug-in scripts to run as well. Dependencies amongst each product usage collection are preset in the tool's configuration files.

1.3 Processor Queries Scripts

These scripts collect information about server model, processor configuration and, where applicable, the virtualization/partitioning configuration. This hardware information is obtained by running Operating System specific commands.

Table 4 - Processor Queries Scripts

OPERATING SYSTEM	FILES LOCATION
Windows	Collection\resources\util\CPUQ\ct_cpuq.cmd
Unix/Linux	Collection/resources/util/CPUQ/ct_cpuq.sh

1.4 Remote Execution Script

This is only available for Unix/Linux environments, and its use ensures seamless file transfer and tool execution on remote machines.

Remote Execution Script performs the following actions:

- Reads the remote machine name
- Tests the connection
- Creates a temporary working directory on the remote machine
- Copies the Collection Tool files to the remote machine
- Unzips the Collection Tool files to the remote machine
- Runs the Collection Tool on the remote machine with the options given
- Compresses the output file on the remote machine and copies it back to the current machine.

The remote execution script can be invoked using the `-r` option of the Collection Tool. The `-r` option can either take a single user and machine name/IP address, or it can take a text file with multiple machine names IP addresses and product option values as arguments. In case root privileges are not available, the user can use `-sudo` as an argument valued on the command lines of the `<name_of_text_file>.txt` file to ssh into remote machines.

The text file used along with the `-r` parameter can be either manually created or generated in a prior step by the Discovery Tool, a port scanning solution that discovers Oracle products running in a network. More details on this file are provided below in the section describing the `-r` parameter.

Table 5 - Remote Execution Script

OPERATING SYSTEM	FILES LOCATION
Unix/Linux	Collection/resources/util/common/bin/recog.sh

1.5 Masking Script

This Perl script uses the SHA-256 cryptographic hash function to mask sensitive information collected in the data files. As a result, we can ensure the following information is masked:

- IP Addresses: only v4 ones are masked from *.log, *.xml, *.txt files;
- Usernames: EBS and database usernames found in the .csv files are masked, as well as WLS usernames found in the config.xml, *.txt, and *.log files.

Table 6 - Masking Script Location

OPERATING SYSTEM	FILES LOCATION
Windows / Unix/Linux	Collection\bin\maskdata.pl

Section 2: Selecting the products to be measured

2.1 Product coverage

The first and most important step when preparing to run the tool is to decide the list of products to be collected for a specific server. The Collection Tool must always receive this list via -p parameter

Example:

```
./Collection.sh -p DB,WLS
```

Please use the Table 7 below to identify what measurable Oracle products and components are installed on your server, and what types of licenses cover the usage.

Example:

An E-Business Suite installation where custom applications have been deployed on the middle tier will require full use licensing for the application server product. Assuming this server will be licensed by Processor metric, the following products must be specified when running the tool:

- on the database server:
-p EBS
- on the middle tier server:
-p OAS,WLS,WLSBasic

The following table presents a comprehensive list of Oracle products that can be measured by the Collection Tool

Table 7 - Product Coverage

Product*	Includes	Versions	-p parameter
Oracle Database Products	Enterprise Edition Options	8.1 and higher	DB
	Management Packs		
	Oracle Warehouse Builder (OWB)		
E-Business Suite (EBS)	Products installed on EBS framework	10.5, 10.7, 11, 11i, 12	EBS
Oracle Application Server (OAS) Internet Application Server (iAS)	Web Tier	10g	OAS
WebLogic Server (WLS)	Oracle WebLogic Server	10.3 to 12.x	WLS
	BEA WebLogic Server - the legacy product	5.1 to 10.0	
Service-Oriented Architecture (SOA) Suite	Components of SOA Suite	10g, 11g, 12c	SOA
	Oracle Service Bus		
	Oracle BPEL		
	Oracle Enterprise Repository (OER) - formerly part of BEA AquaLogic		
	Plumtree - formerly part of BEA AquaLogic		
Forms and Reports	Forms and Reports	10g and higher	FormsReports
Tuxedo	Oracle Tuxedo	11g, 12c	Tuxedo
	BEA Tuxedo - the legacy product	6.4 to 10	
	Jolt		
	Service Architecture Leveraging Tuxedo (SALT)		
	Tuxedo System and Applications Monitor (TSAM)		
	WebLogic Tuxedo Connector (WTC)		
	Tuxedo Adapters		
	MessageQ		
Business Intelligence Technology Products	Business Intelligence Technology Products	11g, 12c	OBI
WebCenter Products	WebCenter Products	10g, 11g, 12c	Webcenter
Other			
For all WebLogic Server installations licensed by NUP metric			WLSNUP
For all installations using WebLogic Server Basic - a license-constrained version of WebLogic Server that is included in all editions of: - Internet Application Server - Forms and Reports Server - Business Intelligence			WLSBasic
For all Oracle products installations that include Restricted Use License (RUL) licenses for Fusion Middleware products. This option is to be used only when specifically requested by your assigned consultant			FMWRUL

* all product editions are covered.

2.2 Product option interdependencies

Many Oracle products are used with and are dependent on other Oracle products. Since these products have such a close relationship, some of the options available in the Collection Tool will automatically trigger the collection of multiple interrelated products.

Examples include:

- EBS product option will automatically use the DB product option
- SOA will automatically collect OAS and WLS

When specifying the `-p` parameter it is strongly recommended that you have full visibility of these interdependencies, and use these insights to maintain complete coverage of all the products to be measured in your environment.

The following matrix details these interdependencies.

Table 8 - Product Interdependencies

	Collected Components												
-p parameter	CPUQ	DB	EBS	WLSNUP	WLSBasic	FMWRUL	OAS	WLS	SOA	FormsReports	Tuxedo	OBI	Webcenter
CPUQ	Y												
DB	Y	Y											
EBS	Y	Y	Y										
WLSNUP				Y									
WLSBasic					Y								
FMWRUL						Y							
OAS	Y						Y						
WLS	Y							Y					
SOA	Y						Y	Y	Y				
FormsReports	Y				Y		Y	Y		Y			
Tuxedo	Y										Y		
OBI	Y			Y			Y	Y				Y	
Webcenter	Y				Y		Y	Y	Y				Y
FMW	Y			Y	Y		Y	Y	Y			Y	Y
all	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y
Output Folder	CPUQ	DB	EBS	WLSNUP	WLSBasic	FMW							

Section 3: Technical requirements

In this section we describe the technical steps the operating system and middleware admin will need to execute in order to use the Collection Tool. If you require any assistance with the information presented in this chapter, please contact your assigned LMS consultant.

The Collection Tool works with configuration and server processes that may, based on your local setup, contain sensitive information. Whilst we make every effort to ensure we do not collect such data, and where found that it is masked by our tool, but there remains the potential for exceptions. Therefore it is essential that you review the collected data and, in the event that such data has been collected, actively replace the value with "CUSTOMER_REMOVED".

If you have any questions or concerns in relation to our data collection and security processes, please discuss them with your assigned LMS consultant prior to uploading the data.

Table 9 - Technical Requirements

PRODUCT	REQUIREMENTS
All Products	If the -m option is in use, Perl v5.24 or above with the Digest/SHA.pm module installed is required.
OAS and iAS	The OAS and iAS data collection process does not have specific technical requirements.
WLS, SOA, OBI and WebCenter	WebLogic Server instances running WebLogic Server Basic or licensed under the Named User Plus (NUP) metric require WLSBasic or WLSNUP collection, respectively. The following connection details must be entered when prompted by the tool: • Middleware Home (MW_HOME) - the directory where Oracle Middleware products are installed • WebLogic_DomainHostURL_or_IP:Port - URL of the Domain administrator's host and port number of the WebLogic Administration Server • WebLogic_DomainAdminID - Administrative user of the WebLogic Administration Server for the WebLogic Domain • WebLogic_DomainAdminIDPassword - its password WLSNUP collection can only be run on WebLogic Server version 10.3 or higher. WLSNUP collection is not needed on installations with processor based licensing.
Tuxedo	The following Tuxedo environment variables must be identified and set. TUXDIR – This environment variable must be set in the shell that is running the Collection script. TUXDIR is the directory where Tuxedo is installed. TUXCONFIG – Environment variable pointing to the Tuxedo configuration file.
DB and EBS	If connecting to a remote database, the SQL*Plus client version must be 8.1 or higher and compatible with the remote database. On UNIX/Linux, /tmp directory must have rwx permissions for all users.

Section 4: Required system credentials

The next step in the process is to ensure you have access to all the necessary credentials needed to run the tool – for both operating system users and database users.

The following table explains the minimum privileges required by the tool to perform these actions, and how to obtain them. It enables you to identify the best way to run the tool and to select the accounts and tool parameters that ensure minimum effort, while also remaining compliant to your security policies.

Table 10 - Required Privileges

		Tool Actions					
		OS commands		File search for all Middleware products	Database queries for DB and EBS		
Credentials		Unix, Windows	Linux*		Any Database	Container Databases (CDB)	Database Vault
MINIMUM PRIVILEGES REQUIRED		Any OS user	root required for dmidecode command	Read access to the search directories (specified by -d parameter)	System privileges: - CREATE SESSION - SELECT ANY TABLE - SELECT ANY DICTIONARY	Access to all containers Data must be collected from CDB\$ROOT and all Pluggable Databases (PDBs)	PARTICIPANT or OWNER authorization on the following realms: - Oracle Data Dictionary - Oracle Database Vault - Realm protecting EBS data (where applicable) DV_SECANALYST role (for querying Database Vault-supplied views)
Common convenient** ways to obtain the required privileges	Database User	Any OS user	sudo can be used	N/A	Remote connection using -tns option Any DBA user (e.g. SYSTEM) has the required privileges	In a CDB, data from all the Pluggable Databases (PDBs) is automatically collected if the database user connected to CDB\$ROOT has access to all containers. Otherwise, separate collections are required for each PDB. To ensure this user attribute, run in the CDB\$ROOT: alter user <C##USER> set CONTAINER_DATA=ALL CONTAINER=CURRENT;	Database Vault is specifically designed to prevent super users accessing the protected data, therefore no "shortcuts" are available. Connection must be done with a database user having these privileges specifically granted.
					Connect as SYSDBA		
	Oracle OS User			Run the tool with each of the Oracle Software Owners: WebLogic, Tuxedo, or OAS (e.g. weblogic)	Run the tool locally, with each of the Oracle Software Owners running the instance (e.g. oracle). On Windows, any users with SYSDBA access can be used. The tool will connect "/" as SYSDBA" without prompting for a password.		
	root (or sudo) on Unix/Linux			Run the tool with root user. One execution is enough, as the tool will be able to access the files from all the installations.	Run the tool with root user. One execution is enough, as the tool will be able to "su" to Oracle Software Owner for each database installation.		

* When Linux runs on a VMware or Hyper-V virtual machine, root access is not needed, as the processor information is not extracted from the virtual machine

** Convenient means less user/password prompts and less tool executions required.

4.1 Operating System User

Excepting the minimum requirements, all the privileges and OS users included in Table 10 are optional and can be used for easier collection.

Examples:

- Running DB collection from root or an Oracle OS user enables the tool to automatically detect the running database instances and Pluggable Databases. It also allows the user to connect to them without prompting for connection credentials.
Running DB collection from other users requires end users to enter database connection credentials (user, password, connection string) for each running database.
- On a machine with multiple middleware installations in different OS users, root access enables the tool to search all the folders and subfolders in a single run.
Without root access, separate executions are required for each of the Oracle Software Owners.

These examples illustrate that, even if not mandatory, using superuser access is the most convenient way to collect information. The following operating system privileges are therefore recommended:

Table 11 - OS User Recommended Privileges

OPERATING SYSTEM	CREDENTIALS
Windows	Windows Administrator username and password. WebLogic, Tuxedo, or OAS administrator username and password. NOTE: Administrator username is recommended but another account can be used given that it is part of the Administrators group.
Unix/Linux	Root/sudo user username and password. WebLogic, Tuxedo, or OAS administrator username and password. SSH password authentication is strongly recommended if using the -r option. NOTE: Root username is recommended but another account can be used given that it has Root's privileges. NOTE for DB and EBS: Root privilege is only needed on Linux. For the rest of the platforms, Oracle software owner can be used. Alternately, remote collection (using -tns parameter) or any other OS user can be used, but the tool will prompt for connection credentials or, in silent mode, will produce errors.

4.2 Database User

As DB and EBS information is collected from the database via SQL*Plus, the Collection Tool includes the possibility to connect to the database both locally, using OS user credentials, and from any remote machine with a compatible SQL*Plus installation, by manually entering database connection credentials.

For DB and EBS, it is recommended to run the tool locally, in which case it detects all the running database instances, and, for each of them, attempts to connect as SYSDBA to the instance:

- On Unix/Linux: unless already connected as Oracle Software Owner, the tool will “switch” to each of these users (which are running the **pmon** processes) using the “**su**” command. Root user will not be prompted for a password, while any other user will have to enter the password (in silent mode, an error will be produced)
- On Windows: the tool will only rely on the current OS user SYSDBA privileges

Note:

The database scripts exclusively perform read operations (queries), and can be run by any database user with privileges limited to READ-ONLY access (details are provided below). To have the tool prompting for a database user, use the **-tns** parameter.

If allowed by the privileges of the OS user running the tool, the connection is done without any prompts. If this is not possible when running in the interactive mode, the tool prompts for connection details and connects to the database via database listener.

This type of connection can also be specified when starting the tool, by including **-tns** parameter.

The database connection details are:

- password for the Unix/Linux user running the database instance (Oracle Software Owner)
- remote database connection description method:
 - Enter TNS_NAME registered in your Oracle Names solution (ex. tnsnames.ora)
 - Enter listener HOST (name or IP address), PORT and database SERVICE_NAME
 - Enter listener HOST (name or IP address), PORT and database instance SID
- ORACLE_HOME for SQL*Plus client
- TNS name for the database
- Database listener hostname
- Database listener port
- Database Service Name - as known by the listener
- Database SID - as known by the listener
- Database user name
- Database user password
- Once a database collection is completed, the tool prompts whether to proceed with another database. In this way multiple databases can be collected on a single run.

Notes:

- When running in interactive mode, the DB script verifies database user credentials at startup. If any of them are missing, a detailed warning message is prompted. You can decide to stop the execution or continue anyway (though this is not recommended).

Example:

SYSTEM user is a good choice if Database Vault is not in use.

- On RAC databases:

Collect database information from all the running instances.

- For CDB data from the CDB\$ROOT container, and from all Pluggable Databases (PDBs), must be collected.

Note: When connecting via database listener to a CDB, enter connection details for CDB\$ROOT container. This gives the toll visibility to all the PDBs and the scripts will be able to automatically detect and collect all the PDBs.

- On Database Vault:

If SYS user cannot meet the Database Vault authorization prerequisites, it is mandatory to use the -tns option and connect with a different user that has all the required authorizations.

Database user running the tool must have access to the Data Dictionary realms. For EBS, access is also needed to the realm that protects the EBS tables. If the security standards do not allow one single user to accumulate both privileges, then a separate collection must be run from each of the users: one for DB, one for EBS.

- On Standby Databases:

Note: If your **standby database** is running in **mounted** mode, do **not** open it in read only mode for running the collection!

Instead, simply run the tool, ignoring these errors:

ORA-01219: database not open: queries allowed on fixed tables/views only

Data from the V\$ views will still be collected, which, for a standby database, is enough for the collection purposes.

Section 5: Preparing the environment

For this section we describe the two-step process you must follow to unpack and prepare for running the Collection Tool.

Step one: select the Collection Tool location

1. Select a writable folder
2. Its path and name must not contain spaces and special characters like \$ # % ' " : ;
3. Make the path as short as possible

Example:

- D:\CT
- /tmp/CT

Shorter paths are needed because Windows and other operating systems might have problems with copying files to the required destination. Since there are additional folders and files created by the tool, the limit might be reached during the execution

Step two: test for specific Collection Tool options

- If using the remote -r option.
 - The remote option can be used in one of 2 ways. Use either a single user@host or use a line separated text file. For example
 - -r user@host
 - -r remotefilelist
 - If the file remotefilelist is not in the same directory as Collection.sh, you must specify the absolute or relative path to the file.
 - -r /home/user/remotefilelist
 - -r ../../remotefilelist
 - Example lines that could be in the remotefilelist file are:
 - root@hostname1.domain.com -p all
 - user1@hostame2.domain.com -p FMW,DB -sudo
 - In case native root privileges are not available, the text file can also use -sudo as an argument in order to ssh into remote machines.
 - Test for connection by connecting to your remote host with the username.
 - \$ ssh user@host
 - If the above ssh command succeeds, exit the new prompt. The usage of the -r option should be successful.
 - If the above command fails, the remote execution of the script may continue, but you will be prompted for the password to the remote machine several times. The script will otherwise continue executing as normal. It is recommended that you troubleshoot this execution if you plan to use the -r option.
 - Make sure that the Collection_Tool.zip file is in a directory 2 levels up (../../) from the Collection.sh script
 - If using the -m option, test for perl version and SHA digest.
 - \$ perl -v
 - If the command returns v5.24 or above, the masking option should succeed.
 - If the command fails or returns prior versions, the masking option may not succeed. Please review your options with your assigned LMS consultant.

- \$ perldoc -l Digest::SHA
 - If the above command returns the location of the digest, the masking option should succeed.
 - If the above command returns digest not found, the masking option may not succeed. Please review your options with your assigned LMS consultant.
- If running the Collection Tool on a server that has Fusion Middleware NUP licensing or uses a WebLogic Basic license, you will need to use the product options -p WLSNUP or -p WLSBasic that interact with a running WebLogic Server via WLST scripts. For each WebLogic domain to be collected, the tool will prompt for the following connection details:
 - The Middleware Home (MW_HOME) location, where WebLogic is installed
examples: C:\Oracle\Middleware, /opt/oracle/fmwhome
 - The WebLogic domain admin ID
 - The WebLogic domain admin password
 - The hostname or IP address and port combination that the WebLogic domain is listening on
(examples: t3://localhost:7001, or t3://127.0.0.1:7003, or t3://10.25.87.09:7001)

WLSNUP Example:

```

Initializing WebLogic Scripting Tool (WLST) ...

Welcome to WebLogic Server Administration Scripting Shell

Type help() for help on available commands

=====
          WLS NUP Measurement
=====

Please enter administrative credentials for the WebLogic domain.

Please enter your username :weblogic
Please enter your password :
Please enter your server URL [t3://localhost:7001] :t3://localhost:7001
Connecting to t3://localhost:7001 with userid weblogic ...
Successfully connected to Admin Server "AdminServer" that belongs to domain "base_domain".

```

WLSBasic Example:

```

Initializing WebLogic Scripting Tool (WLST) ...

Welcome to WebLogic Server Administration Scripting Shell

Type help() for help on available commands

=====
WLS Basic Feature Usage Measurement
=====

11/6/18 4:53 PM

Please enter administrative credentials for the WebLogic domain.

Please enter your username :weblogic
Please enter your password :
Please enter your server URL [t3://localhost:7001] :t3://localhost:7001
Connecting to t3://localhost:7001 with userid weblogic ...
Successfully connected to Admin Server "AdminServer" that belongs to domain "base_domain".

```

Section 6: Running the scripts

This section describes how to run the Collection Tool for the products listed in the [Collection Overview](#) section of the document. In what follows, we provide instructions on running the tool on both Unix/Linux and Windows environments for each product. Customers can also choose to run the tool to collect data for multiple (or all) products at once on a given machine.

If you are unsure of the products installed on a given server, run the Collection Tool to collect data for all the Oracle Software products listed in the [Collection Overview](#). Details on this option are provided in the sections below.

When using the Collection Tool to collect data from an Oracle Fusion Middleware Product (OAS, SOA, WLS, WebCenter, OBI), the fastsearch option can be used to shorten the length of the data collection cycle.

Note: The **fastsearch** option is recommended for default Oracle environments, searching well-known Oracle Fusion Middleware file locations, environment variables and command line options. If using the “-fastsearch” option of the Collection Tool, you may be required to run the scripts again depending on the data collected.

Note: with the exception of **-p products**, all the options have to be specified in the command line, when starting the tool. If no parameters are provided at startup, the tool prompts for the products to be collected, which corresponds to the -p parameter. For the rest of the parameters, default values are used.

Note: If root user is not available, but a user with sudo privileges is, you can start the tool using sudo.

6.1 Running the tool – interactive and silent modes

The tool runs by default in **interactive mode** to complete the following actions:

- Displays the License Agreement text
- Prompts for acceptance of the License Agreement
- Prompts for product selection
- Stops for warnings or errors, if case
- Prompts for information to be entered whenever needed

Using the **-L Y** option, the tool can be run in **silent mode**, in which case the tool skips all of the above listed prompts. This feature is included to support automation and to make possible unattended execution.

Running the Collection Tool requires acceptance of the **License Agreement**. The text of which is included in the tool:

IMPORTANT NOTE

Running the Collection Tool in silent mode using the **-L Y** option, indicates that you have read and accepted the License Agreement, which can be found in:
Collection\resources\util\license_agreement.txt

6.2 Running the tool on Unix/Linux systems

The process to follow is:

1. Copy the Collection_Tool.zip file to the target system, in the selected location
2. Open a terminal window.
3. Log into the target system as root, if you log on as another user the search may not pick up all of the necessary Oracle Software Files. In case root privileges are not available, a user with sudo privileges is recommended.
4. Go to the directory where you placed the Collection_Tool.zip file and extract the files.

```
$unzip Collection_Tool.zip
```

5. Add execute permission to for all the resulting files and folders:

```
$ chmod -R +x Collection
```

6. Create the output directory where the output files will be stored.

Example:

```
$ mkdir /tmp/CT_Output
```

If the full path to the output directory is not specified in the options, the Collection Tool will create a folder named "output" in the directory where the main Collection.sh script is run. For example, /tmp/CT/Collection/bin/output

7. Go to the bin directory and start the main script, providing all the parameters you want to use.

```
$ cd ./Collection/bin
```

```
$ ./Collection.sh <OPTIONS>
```

Refer to Table 12 below for instructions on the options available for you to use. Refer to Table 13 for specific examples.

If no options are specified, the script will prompt the user for product(s) to search for. Default values are used for all other options.

Note: the syntax of all available command line options is as follows

```
[-d search_dir] [-fsall true | false] [-o full_path_dir_name] [-follow true|false] [-debug true|false] [-m all|ip|user] [-L Y|y] [-p product] [-fastsearch] [-r remote_user@remote_machine|remotefilelist] [-tns]
```

Table 12 - Unix/Linux Command Line Options

OPTION	DESCRIPTION
-d search_dir	Specifies the directories to be searched for Oracle Software installations. A quoted string of directory names separated by a comma is required when more than one directory is to be searched. The default is the root directory
-fsall true false	When specified, all file systems (including remote ones) are searched, otherwise only the local file system is searched. Default is false.
-follow true false	Follow symbolic links during file search. Some older versions of AIX do not allow the find command to follow symbolic links, so this must be set to false for the script to work with those systems. Default is true.
-o full_path_dir_name	Option to output the file to the directory specified by full_path_dir_name. The option should be a full

OPTION	DESCRIPTION
	pathname. The file will be named Collection-<HOST_NAME>.tar(.z or .bz2). If not specified, the default is the directory where the base Collection script is running from /output
-t full_path_dir_name	Option to set the location for the Collection Tool temporary files. The value should be a full pathname. The files will be deleted at the end of the tool run. If not specified, the default value is /tmp.
-debug true false	Option to turn on debugging information. Default is false. Only use if directed by your assigned LMS consultant.
-m all ip user	Option to turn on masking of sensitive information (user names, IP addresses, or both) in all the collected files. Default is off. This is applicable for all products. However, for EBS outputs only the usernames will be masked. Current version only masks IPv4 addresses. For masking the data, Perl's SHA-256 Cryptographic hash function is used. Prerequisites for using this option are documented in the Technical Requirements chapter. Please do not enable masking without discussing first with your assigned LMS consultant.
-L Y y	Turns on silent mode. Please read the paragraph on silent mode before using this option.
-p products	Option to provide a list of Oracle products to look for. Valid options are one or more of the following: CPUQ, DB, EBS, OAS, WLS, WLSNUP, WLSBasic, SOA, FormsReports, Tuxedo, OBI, Webcenter, FMWRUL, FMW, all If you are uncertain of the products installed on a given server, run the Collection Tool to collect data for all the Oracle Software products listed in the Collection Overview by using the -p all option. In order to collect additional files for Fusion Middleware Restricted Use Licenses, use -p FMWRUL
-fastsearch	Option to have the tool search for default Oracle environments from well-known Fusion Middleware file locations, environment variables and command line options. Note: The fast search option of the tool is intended to gather information from the system with minimal file searching. Works with the following products: OAS, SOA, WLS, WebCenter, OBI.
-r remote_user@remote_machine remotefilelist.txt	Unix/Linux only option to run the Collection Scripts remotely and gather results. The option can either be given one machine on a command line, such as remote_user@remote_machine or it can be given a text file with multiple remote_user@remote_machine names specified along with the -p product option and -sudo option if needed. If used, the Collection tool will secure copy files to remote_machine and run the script from /tmp. Note: Remote usage option works optimally with ssh and scp setup with ssh password authentication enabled.
-tns	Option to switch from the automatic local database connection mode (the default) to an interactive remote database connection mode, via database listener. The tool prompts for connection description details (sqlplus client ORACLE_HOME, listener host, port, etc), database user and password, then connects to the remote database using SQL*Plus and collects the data for the selected products (DB, EBS). Multiple databases can be collected: once a database is collected, the tool prompts whether to proceed with another one. This mode cannot be used together with silent mode (-L Y).

8. Determining if the script is still running.

The Collection Tool searches for several possible configuration, registry, and log files on the target machine.

To verify that the Collection Tool is running, you will see a spinning “\”.

This animation is not displayed when the tool is launched in the background (&).

Note: When the spinner is displayed, capturing output into log files can produce very large files and cause disk space problems. For this reason, if capturing output of the Collection Tool is required, it is recommended that you run it as a background process.

In addition you can use the following Unix/Linux commands in a separate command window:

```
$ ps -ef | grep find
```

An example output showing the Collection Tool running:

```
root 3482 2415 40 06:27 pts/0 00:00:05 find / ( -fstype nfs -o -fstype proc -o -fstype sysfs )
-prune -o ( -name WebLogicLicense.xml -o -name license.bea -o -name config.xml -o -name
registry.xml -o -name beahomelist -o -name startWebLogic.* -o -name startWLS.*etc.
```

```
$ tail -f /<output_dir>/CTfiles.*
```

Expected output:

```
/oracle/oephome/logs/log.txt
/oracle/javahome/jrockit-jdk1.6.0_37-R28.2.5-4.1.0/inventory/ContentsXML/comps.xml
/oracle/javahome/jrockit/inventory/ContentsXML/comps.xml
```

While the script is running you will see active updating of the FMWfiles.* file

9. After the tool has finished running the data collection process, an output directory and a .tar or .tar.bz2 (or .tar.Z if bzip2 or compress is found on your Unix/Linux system) file that contains Oracle Software related files is created.
10. Return the output file 'Collection-<HOST_NAME>.tar' (.tar.bz2 or .tar.Z), to your assigned LMS consultant per the instructions that were provided to you.

Examples - Running the Tool on Unix/Linux

The table below presents usage examples for some common cases:

Table 13 - Unix/Linux Examples

PRODUCT	OPTIONS
OAS	<pre>\$./Collection.sh -d / -p OAS -o /tmp/CT_Output</pre> -p product collects the OAS product files -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who are using WebLogic Server Basic, run the tool by adding the corresponding -p option. When prompted, enter the WebLogic administrative connection details. For customers who own NUP licenses and use Oracle Internet Directory (OID) as a repository to store user names for authentication purposes, please run the resources\util\OAS\oid_users_count.sql script using SQL*Plus against the OID database, and send the results-oid-users-count file to your assigned LMS consultant.
FormsReports	<pre>\$./Collection.sh -d / -p FormsReports -o /tmp/CT_Output</pre> -p product collects the FormsReports product files -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who are using WebLogic Server Basic, please run the tool by adding the corresponding -p option. When prompted, enter the WebLogic administrative connection details.

PRODUCT	OPTIONS
WLS	\$./Collection.sh -d / -p WLS -o /tmp/CT_Output -p product collects the WLS product files -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who need data masking, they can run the tool with the following options: \$./Collection.sh -d / -p WLS -o /tmp/CT_Output -m all For customers who are running WebLogic Server Basic or own WebLogic Named User Plus licenses, run the tool by adding the corresponding -p options. When prompted, enter the WebLogic administrative connection details. Example Commands: WebLogic and WLBasic: -p WLS,WLBasic WebLogic, and WLS NUP: -p WLS,WLSNUP
SOA	\$./Collection.sh -d / -p SOA -o /tmp/CT_Output -p product collects the SOA product files -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who need data masking, run the tool with the following options: \$./Collection.sh -d / -p SOA -o /tmp/CT_Output -m all For customers who are using WebLogic Server Basic or own SOA Suite licenses under the Named User Plus metrics run the tool by adding the corresponding -p options. When prompted, enter the WebLogic administrative connection details. Examples: SOA, WLBasic and WLS NUP: -p SOA,WLBasic,WLSNUP
Tuxedo	\$./Collection.sh -d / -p Tuxedo -o /tmp/CT_Output -p product collects the Tuxedo product files -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who need data masking, run the tool with the following options: \$./Collection.sh -d / -p Tuxedo -o /tmp/CT_Output -m all
OBI	\$./Collection.sh -d / -p OBI -o /tmp/CT_Output -p product collects the Business Intelligence product files -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who own NUP licenses and use Oracle Internet Directory (OID) as a repository to store user names for authentication purposes, please run the resources\util\OAS\ oid_users_count.sql script using SQL*Plus against the OID database, and send the results-oid-users-count file to your assigned LMS consultant.
WebCenter	\$./Collection.sh -d / -p Webcenter -o /tmp/CT_Output -p product collects the WebCenter product files -o dir_name in this case the output directory will be the CT_Output folder

PRODUCT	OPTIONS
DB	\$./Collection.sh -p DB -o /tmp/CT_Output -p product collects the DB product database objects -o full_path_dir_name in this case the output directory will be the CT_Output folder. For customers who need data masking, run the tool with the following options: \$./Collection.sh -d / -p DB -o /tmp/CT_Output -m user The DB script creates, in the current directory, a new subfolder for each measured instance. In this subfolder it spools a set of 11 of files, which are named according to this pattern: ./<host_name>_<instance_name>[~<pdb_name>]/<host_name>_<instance_name>[~<pdb_name>] _filename.csv
EBS	\$./Collection.sh -p EBS -o /tmp/CT_Output -p product collects the EBS product files -o full_path_dir_name in this case the output directory will be the CT_Output folder For masking user names, run the tool with the following options: \$./Collection.sh -d / -p EBS -o /tmp/CT_Output -m user Please note that "-p EBS" collects data from the EBS database and must be run on the database server, and not on the middle tier server – where you must run the tool for collecting data from the middleware products.
Multiple Products	\$./Collection.sh -p WLS,Tuxedo,SOA,OAS -d "/opt/software, /home/software" -o /tmp/CT_Output -L y -p product Collects WLS, Tuxedo, SOA, and OAS product files -d search_dir in this case the /opt/software AND /home/software paths will be searched -o full_path_dir_name in this case the output directory will be the CT_Output folder -L Y denotes that the License Agreement was read and accepted
FMW	\$./Collection.sh -d / -p FMW -o /tmp/CT_Output -p FMW collects product files for FMW products represented in this tool. The products are OAS, SOA, OBI, Webcenter, and WLS. This will also run WLSBasic and WLSNUP. -d search_dir searches all file directories starting from / -o full_path_dir_name in this case the output directory will be the CT_Output folder
FMWRUL	\$./Collection.sh -d / -p FMWRUL -o /tmp/CT_Output -p FMWRUL collects product files for FMW Restricted Use Licenses. The products are OAS, SOA, OBI, Webcenter, and WLS. -d search_dir searches all file directories starting from / -o full_path_dir_name in this case the output directory will be the CT_Output folder Note: This option is to be used only when specifically requested by your assigned LMS consultant
All products	\$./Collection.sh -d / -p all -o /tmp/CT_Output -p all collects all product files, except the Fusion Middleware Restricted Use Licenses files -d search_dir searches all file directories starting from / -o full_path_dir_name in this case the output directory will be the CT_Output folder

6.3 Running the tool on Windows systems

The process to follow is:

1. Copy the Collection_Tool.zip file to the target system.
2. Log into the target Windows system as Administrator. If you log in as another user the search may not pick up all of the necessary Oracle Software Files.
3. Unzip the file to the same directory.
4. Open a **Command Prompt** window. Use an existing shortcut icon or:

Go to Windows 'Start' > 'Run' menu and type 'cmd'

5. Go to the bin folder.

Example:

D:\> C:

C:\> cd C:\CT\Collection\bin

6. Create the output directory where the output files will be stored:

Example:

C:\> mkdir C:\CT_Output

If an output directory is not specified in the options, the Collection Tool will create a folder named "output" in the directory where the main Collection.cmd script is run. For example, d:\ CT\Collection\bin\output\ct

7. Type 'Collection.cmd' with the proper options to run.

C:\> Collection.cmd <OPTIONS>

Refer to Table 14 below for instructions on the options available for you to use. Refer to Table 15 for specific examples.

If no options are specified, the script will prompt the user for product(s) to search for. Default values are used for all other options.

Note: the syntax of all available command line options is as follows.

-d search_dir [-p product] [-o full_path_dir_name] [-debug true|false] [-m all|ip|user] [-L Y|y][-fastsearch] [-tns]

Table 14 - Windows Command Line Options

OPTION	DESCRIPTION
-d search_dir	Specifies the folders to be searched for Oracle software installations. A string of directory names separated by a comma is required when more than one directory is searched. The default is all fixed or local drives. i.e. c:,d: (not the CDROM or NFS drives).
-o full_path_dir_name	Option to output the collected files to the directory given by <full_path_dir_name>. The option given must be a full path name. The file will be named Collection-<HOST_NAME>.zip. If not specified, the default is a folder named output in the directory where the main Collection.cmd script is run. For example, d:\CT\Collection\bin\output\ct
-t full_path_dir_name	Option to set the location for the Collection Tool temporary files. The value should be a full pathname. The files will be deleted at the end of the tool run. If not specified, the default value is %TMP%. Note: To ensure the temporary files are created with minimum access permissions, use a folder with read-write permissions limited to the OS user running the tool.
-debug true false	Option to turn on debugging information. Default is false. Only use if directed by your assigned LMS consultant.
-m all ip user	Option to turn on masking of sensitive information (user names, IP addresses, or both) in all the collected files. Default is off. This is applicable for all products. However, for EBS outputs only the usernames will be masked. Current version only masks IPv4 addresses. For masking the data, Perl's SHA-256 Cryptographic hash function is used. Prerequisites for using this option are documented in the Technical Requirements chapter. Please do not enable masking without first discussing with your assigned LMS consultant.
-L Y y	Turns on silent mode . Please read the paragraph on silent mode before using this option.
-p products	Option to provide a list of Oracle products to look for. Valid options are one or more of the following: CPUQ, DB, EBS, OAS, WLS, WLSNUP, WLSBasic, SOA, FormsReports, Tuxedo, OBI, Webcenter, FMWRUL, FMW, all If you are unsure of the products installed on a given server, run the Collection Tool to collect data for all the Oracle Software products listed in the Collection Overview by using the -p all option. In order to collect additional files for Fusion Middleware Restricted Use Licenses, use -p FMWRUL

OPTION	DESCRIPTION
-fastsearch	Option to have the tool search for default Oracle environments from well-known Fusion Middleware file locations, environment variables and command line options. Note: The fast search option of the tool is intended to gather information from the system with minimal file searching. Works with the following products: OAS, SOA, WLS, WebCenter, OBI.
-tns	Option to switch from the automatic local database connection mode (the default) to an interactive remote database connection mode, via database listener. The tool prompts for connection description details (sqlplus client ORACLE_HOME, listener host, port, etc), database user and password, then connects to the remote database using SQL*Plus and collects the data for the selected products (DB, EBS). Multiple databases can be collected: once a database is collected, the tool prompts whether to proceed with another one. This mode cannot be used together with silent mode (-L Y).

8. Determines if the script is still running

The Collection Tool searches for several possible configuration, registry and log files on the target machine. To verify that Oracle the Collection Tool is running, you can use the Windows Task Manager.

9. After the tool has finished running the data collection, an output folder and a .zip file that contains Oracle Software related files is created.

10. Return the output file 'Collection-<HOST_NAME>.zip', to your assigned LMS consultant per the instructions that were provided to you.

Examples - Running the Tool on Windows

The table below presents usage examples for some common cases:

Table 15 - Windows Examples

PRODUCT	OPTIONS
CPUQ	<pre>c:\>Collection.cmd -p CPUQ -o C:\CT_Output</pre> -p product collects the CPU information -o full_path_dir_name in this case the output directory will be the CT_Output folder
DB	<pre>c:\>Collection.cmd -p DB -o C:\CT_Output</pre> -p product collects the DB product database objects -o full_path_dir_name in this case the output directory will be the CT_Output folder. The DB script creates in the current directory a new subfolder for each measured instance. In this subfolder it spools a set of 11 of files, which are named according to this pattern: <pre>./<host_name>_<instance_name>[<pdb_name>]/<host_name>_<instance_name>[<pdb_name>].filename.csv</pre>

PRODUCT	OPTIONS
EBS	c:\>Collection.cmd -p EBS -o C:\CT_Output -p product collects the EBS product database objects -o full_path_dir_name in this case the output directory will be the CT_Output folder Please note that "-p EBS" collects data from the EBS database and must be run on the database server, and not on the middle tier server – where you must run the tool for collecting data from the middleware products.
OAS	c:\>Collection.cmd -p OAS -d c:\,d:\ -o C:\CT_Output -p product collects the OAS product files -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who are using WebLogic Server Basic, run the tool by adding the corresponding -p option. When prompted, enter the WebLogic administrative connection details. For customers who own NUP licenses and use Oracle Internet Directory (OID) as a repository to store user names for authentication purposes, please run the resources\util\OAS\oid_users_count.sql script using SQL*Plus against the OID database, and send the results-oid-users-count file to your assigned LMS consultant. For example: OAS and WLSBasic: -p OAS,WLSBasic
FormsReports	c:\>Collection.cmd -d c:\,d:\ -p FormsReports -o C:\CT_Output -p product collects the FormsReports product files -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who are using WebLogic Server Basic, please run the tool by adding the corresponding -p option. When prompted, enter the WebLogic administrative connection details.
WLS	c:\>Collection.cmd -p WLS -d c:\,d:\ -o C:\CT_Output -p product collects the WLS product files -d search_dir by searching the c: and d: drives -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who are running WebLogic Server Basic or own WebLogic Named User Plus licenses, run the tool by adding the corresponding -p options. When prompted, enter the WebLogic administrative connection details. For example: WebLogic and WLSBasic: -p WLS,WLSBasic WebLogic, and WLS NUP: -p WLS,WLSNUP
SOA	c:\>Collection.cmd -p SOA -d c:\,d:\ -o C:\CT_Output -p product collects the SOA product files -d search_dir by searching the c: and d: drives -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who are using WebLogic Server Basic or own SOA Suite licenses under the Named User Plus metrics, run the tool by adding the corresponding -p options. When prompted, enter the WebLogic administrative connection details. For example: SOA, WLSBasic and WLS NUP: -p SOA,WLSBasic,WLSNUP

PRODUCT	OPTIONS
OBI	c:\>Collection.cmd -p OBI -d c:\,d:\ -o C:\CT_Output -p product collects the Business Intelligence product files -d search_dir by searching the c: and d: drives -o full_path_dir_name in this case the output directory will be the CT_Output folder For customers who own NUP licenses and use Oracle Internet Directory (OID) as a repository to store user names for authentication purposes, please run the resources\util\OAS\ oid_users_count.sql script using SQL*Plus against the OID database, and send the results-oid-users-count file to your assigned LMS consultant.
WebCenter	c:\>Collection.cmd -p Webcenter -d c:\,d:\ -o C:\CT_Output -p product collects the WebCenter product files -d search_dir by searching the c: and d: drives -o full_path_dir_name in this case the output directory will be the CT_Output folder
Tuxedo	c:\>Collection.cmd -p Tuxedo -d c:\,d:\ -o C:\CT_Output -p product collects the Tuxedo product files -d search_dir by searching the c: and d: drives -o full_path_dir_name in this case the output directory will be the CT_Output folder
Multiple Products	c:\>Collection.cmd -p WLS,Tuxedo,SOA,OAS -d c:\,d:\ -o C:\CT_Output -L y -p product collects the WLS, Tuxedo, SOA, and OAS product files -d search_dir by searching the c: and d: drives -o full_path_dir_name in this case the output directory will be the CT_Output folder -L Y denotes that the License Agreement was read and accepted
FMW	c:\>Collection.cmd -p FMW -d c:\,d:\ -o C:\CT_Output -p FMW collects product files for FMW products represented in this tool. The products are OAS, SOA, OBI, Webcenter, and WLS. This will also run WLSBasic and WLSNUP. -d search_dir by searching the c: and d: drives -o full_path_dir_name in this case the output directory will be the CT_Output folder
FMWRUL	c:\>Collection.cmd -p FMWRUL -d c:\,d:\ -o C:\CT_Output -p FMWRUL collects product files for FMW Restricted Use Licenses. The products are OAS, SOA, OBI, Webcenter, and WLS. -d search_dir by searching the c: and d: drives -o full_path_dir_name in this case the output directory will be the CT_Output folder Note: This option is to be used only when specifically requested by your assigned LMS consultant
All Products	c:\>Collection.cmd -p all -d c:\,d:\ -o C:\CT_Output -p all collects all product data, except the Fusion Middleware Restricted Use Licenses files -d search_dir by searching the c: and d: drives -o full_path_dir_name in this case the output directory will be the CT_Output folder

6.4 Partitioned servers – Processor Queries Scripts

If you have virtualization technologies or server partitioning in use, running the Collection Tool only on the Operating System where the Oracle software is deployed might not be enough to access the required information.

To ensure an accurate picture of usage is provided, you must run the Collection Tool and collect CPUQ information as follows:

- **IBM LPARs:** on each LPAR (logical partition) where Oracle Software is deployed.
In addition, if **Live Partition Mobility (LPM)** is in use:
on any LPAR from the destination servers where LPAR is or will be moved
- **Solaris Containers:** on the Global Zone.
- **OVM Server for SPARC (formerly named LDOM):**
on the Control Domain.
In addition, if **live migration** is in use:
on the Control Domain from all the servers in the Oracle VM server pool.
- **OVM Server for x86:** on dom0.
In addition, if **live migration** is in use:
on dom0 from all the servers in the Oracle VM server pool.
- **HP nPar:** on each nPar where Oracle Software is deployed.
- **Microsoft Hyper-V:** on the Root Partition.

Important Note:

- **VMware**
If Oracle software is deployed on VMware environments you must discuss this with your assigned LMS consultant, who in turn will provide you with instructions on how to collect the processor information.

Section 7: Troubleshooting the initial phase

Here we cover the typical obstacles to emerge during the initial running of the tool, and detail recommended actions to alleviate the problems:

- **Invalid script options.**

If invalid options are given to the script at startup, the script will not start. Please review the startup command line options listed above.

- Use comma separated directories for the -d search dir option.
- Check to see if there is one space after the options, not two or tab character.
- Make sure that the path to the directory you used for the -o output directory option is writable by the user running the script.
- Use the correct options to the -p Product option.
- If you are not sure of the options to use, you can choose not to give any options and have the script prompt you for values. At this time the script will use default values for the output directory and search directory.

- **Not accepting the license agreement.**

The license agreement must be accepted before continuing on with the script. If you don't accept the prompt or use the -L Y license agreement option, the script will not continue.

- **Not having the correct permissions to search or write to the output directory.**

Always make sure that the user running the tool has read permissions on the folders to be searched for software installations (-d), and write permission on the output folder (-o).

- **Database collection problems.**

Please make sure you provide the correct connection credentials (username, password, connection string). As a sanity check, before running the tool, connect with SQL*Plus to the database and check proper database functionality by running some simple commands. For example: `select SYSDATE, count(*) from DBA_USERS`. Make sure no errors are produced.

Section 8: Troubleshooting the execution phase

Next we come to issues that emerge while running the tool.

It's important to note here that if the tool encounters errors, or the output files are not produced as documented, you should follow the product specific guidelines included in the following section.

If problems persist, please inform your assigned LMS consultant, providing as much details as possible, including screenshots, terminal output capture and, most importantly, any output archive produced by the Collection Tool. If this archive is not generated, please archive the entire Collection Tool folder and send it for troubleshooting.

8.1 Troubleshooting data collection for WebLogic, WLSNUP, and WLS Basic

WLS NUP and WLS Basic errors – these are primarily caused by running the script with the WLNUP and/or the WLSBasic Product options without adequately preparing your environment in advance. Please make sure that you provided at the terminal window the correct values for your WebLogic domain and environment before running the script.

WLST output errors with the WLNUP and/or the WLSBasic Product options - depending on the server security setup we may not always be able to connect to the running WebLogic Server. Make sure that the WebLogic Admin server is up and running and values entered at the terminal window are correct, by checking them prior to running the script. If it is, and you still have WLST errors, then those errors are acceptable. Please contact your assigned LMS consultant if you require further assistance.

- If there is an error during the WLST product run, you will be notified with a message at the end of the script run. Make sure that the values typed in at the terminal window are correct and try again. If the error persists contact your assigned LMS consultant for further assistance.
- If you are using HTTPS for your admin port, the WLST scripts cannot connect to the running server. Contact your assigned LMS consultant for further assistance.

8.2 Troubleshooting data collection for Database

Critical database errors are logged by the tool in the `db_con_coll.log` file from the `debug_*` archive. Search for this file and check for the ORA- error messages.

Failed to connect on local instance ... - can be caused by the database not being mounted or open.

Connect SQL*Plus to the database and check proper functionality by running some simple queries. Make sure no errors are produced.

Example:

```
select SYSDATE, count(*) from DBA_USERS;
```

If the database is properly mounted or open, then most probably the cause is the missing SYSDBA privilege for the OS user running the tool. In this case, the simplest workaround is to follow the Collection Tool prompts and provide details for a connection via the database listener.

Example:

```
-----
Trying to connect to local instance ORCL
Failed to connect "sqlplus / as SYSDBA" using:
OS user: .\oracle
ORACLE_SID: ORCL
ORACLE_HOME: d:\oracle\product\12.1.0\dbse2_1\
(errors are logged in db_con_coll.log file)
```

Most common causes: your OS user does not have SYSDBA permission or the database is not properly open or mounted.

You can address the error and rerun the tool later or, alternately, you can continue now by trying to connect to this database via listener.

Select connection description method:

- 1) Enter TNS_NAME registered in your Oracle Names solution(ex. tnsmanes.ora)
- 2) Enter listener HOST (name or IP address), PORT and database SERVICE_NAME
- 3) Enter listener HOST (name or IP address), PORT and database instance SID
- 4) SKIP

Enter selection or press Return to accept the default (2)

Enter a valid ORACLE_HOME location for the SQL*Plus client to be used.

Location(s) found on this machine:

C:\oracle\product\11.2.0\client_1

C:\oracle\product\12.1.0\dbhome_1

D:\oracle\product\12.1.0\dbse2_1

Enter ORACLE_HOME or press Return to accept the default

C:\oracle\product\11.2.0\client_1

Enter value for listener HOST (network name or IP address)

jupiter.milkyway.com

Enter value for listener PORT

1521

Enter value for database SERVICE_NAME, as known by the listener.

For container databases, enter the value for the CDB\$ROOT container.

ORCL.world

Enter database user (e.g. SYS AS SYSDBA, SYSTEM, SCOTT)

SYSTEM

Enter password

Trying to connect to HOST jupiter.milkyway.com

Connected successfully

Running db_conn_coll_main.sql NO DB on TNS_NAME ORCL.world...

Because the DB script contains SQL statements to collect data for a variety of database versions, options and deployments, it is expected to produce "ORA-00942: table or view does not exist" errors on old database versions – or when the corresponding option is not installed. Generally, if proper privileges are granted to the database user running the script, these errors can be ignored.

If you experience problems with the SQL*Plus **AS SYSDBA** connection, use as an workaround the **-tns** option, providing a username and password for NORMAL connection to the database (i.e. without specifying AS SYSDBA).

ORA-01219: database not open - is another expected error, when data is collected from a standby database instance in **mounted** mode. Despite the large number of occurrences in such cases, these errors can be ignored because useful information is still collected from the V\$ Dynamic Performance Views

ORA-01031: insufficient privileges - is usually encountered when Database Vault is in use. Please check realm authorization according to the prerequisites listed in this document.

Known Issues

- On **HP-UX**, when ORACLE_HOME folder is a **symbolic link**, the tool does not automatically detect the correct ORACLE_HOME and local connection fails.
As a workaround, please use -tns parameter, providing the correct ORACLE_HOME path on the local machine.

8.3 Troubleshooting data collection for EBS

EBS output errors can be generated for database objects that are not found. This is normal if there are objects that are no longer available in the new EBS versions, or objects that were not available in the older versions but introduced into newer versions

8.4 Troubleshooting data collection for Tuxedo

This refers to running the script with the Tuxedo Product options without setting up your shell environment. Please make sure that you set up the Tuxedo TUXDIR and TUXCONFIG environment variables correctly when running the script.

8.5 Troubleshooting remote data collection with -r option

The remote option can be used in one of 2 ways. Use either a single user@host or use a line separated text file with multiple user@host -p <product> options. For example

- 1 -r user@host
- 2 -r remotefilelist.txt

- If the file remotefilelist.txt is not in the same directory as Collection.sh, you must specify the absolute or relative path to the file.
 - -r /home/user/remotefilelist.txt
 - -r ../remotefilelist.txt
- The text file can also use -sudo as an argument if sudo is needed to ssh into remote machines.

If you are running with the remote collection option (-r) on Unix/Linux, make sure that that your environment is correctly set up to use ssh, scp and ssh remote password authentication.

- 1 If using the -r option, test for connection by connecting to your remote host with the username.
 - \$ ssh user@host

- 2 If the above ssh command succeeds, exit the new prompt. The usage of the -r option should be successful.
- 3 If the above command fails, the remote execution of the script may continue, but you will be prompted for the password to the remote machine several times. The script will otherwise continue executing as normal. It is recommended that you troubleshoot this execution if you plan to use the -r option.

In order for the remote collection option to work correctly, the Collection_Tool.zip file must be in a directory 2 levels up (../..) from the Collection.sh script.

If ssh keys are set up correctly, during the remote collection run, the Collection script runs without prompting. If there are any errors present, please inform your assigned LMS consultant.

If using the -r option by providing multiple machine names via a text file please make sure of the following.

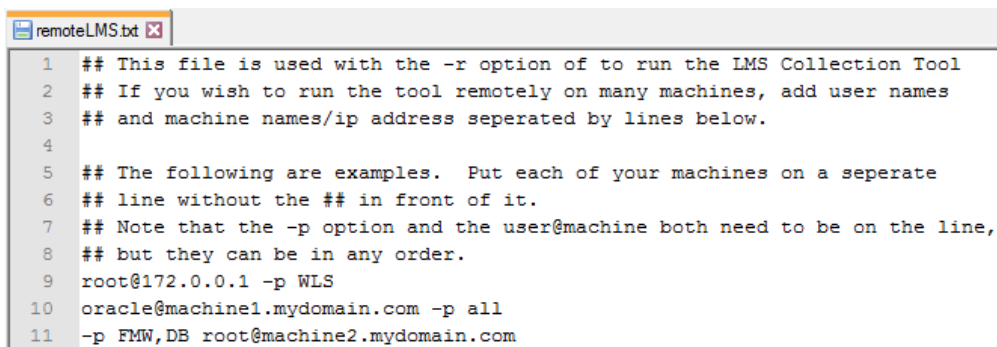
- The Collection Tool must be started with the -r <name_of_text_file>.txt . You can include other options such as output directory and directory to be searched, but do not include the -p option on the command line, include it in the text file. See the examples below.
- For example if there is a text file named remotefilelist with multiple machines in it to be looked at by the Collection Tool, the option to be used would be:

```
[root@machine bin]# ./Collection.sh -r remotefilelist -o /tmp/CTtemp
```

The Collection Tool remote option can take input from the Discovery Tool as the text file. Therefore we ask you to ensure that:

- the -p option follows the guidelines laid out in previous sections of this document or the script may not execute
- the remote text file is readable and accessible by the Collection Tool
- the remote text file has the Unix/Linux end of line (EOL) format.

Example remotefilelist file



```
1  ## This file is used with the -r option of to run the LMS Collection Tool
2  ## If you wish to run the tool remotely on many machines, add user names
3  ## and machine names/ip address seperated by lines below.
4
5  ## The following are examples. Put each of your machines on a seperate
6  ## line without the ## in front of it.
7  ## Note that the -p option and the user@machine both need to be on the line,
8  ## but they can be in any order.
9  root@172.0.0.1 -p WLS
10 oracle@machine1.mydomain.com -p all
11 -p FMW,DB root@machine2.mydomain.com
```

8.6 Troubleshooting the masking process

If using the masking option, please make sure you have Perl v5.24 or above with the Digest/SHA.pm module installed and in your path, as described in the [Technical Requirements](#) chapter.

In addition, it's important to consider that long path names on Windows can cause errors with the collection and masking of files. To lower the chances of these errors, use an output directory names that is short.

Example:

```
Collection.cmd -p all -o c:\CT
```

8.7 Using a stage environment for masking collected data

For machines not meeting the Perl requirements, the following workaround can be used:

- Find a machine with Perl v5.24 or above with the Digest/SHA.pm module installed (as documented in chapter [2.1](#))
- Create a folder on this machine, transfer and manually unpack here all the collected archives

Example:

```
D:\CTDATA\Collection-HOST1_DB\
D:\CTDATA\Collection-HOST2_DB\
D:\CTDATA\Collection-HOST3_DB\
```

- Remove or move away from the folder structure all the archives, leaving only the unpacked data
- Unpack the Collection Tool to a different location on the machine:

Example:

```
D:\CT
```

- From a Command Prompt, go to the bin folder and run the maskdata.pl script following the steps from the example below. The last parameter is identical to the one used for -m (masking) option. It can be: **all | ip | user**

```
D:
cd D:\CT\Collection\bin
perl maskdata.pl D:\CTDATA all
```

- This will mask database users names and IPv4 addresses from all the files in the entire D:\CTDATA folders structure
- Verify the masking results on few sample files (e.g. *options.csv and *ct_cpuq.txt files)
- Archive entire folder containing the masked data (example: **D:\CTDATA**) and upload the resulting archive

8.8 General troubleshooting tips

- When running on Windows, the Collection Tool can sometimes encounter problems when zipping the output files. In this case the tool displays following message:

"Error while zipping file. Please use 7zip or similar to compress the OUTPUT_DIR"

If you receive this message, the script ran correctly, but the compression step has failed. Please use any available compression program to zip the output directory, and upload the resulting archive.

- Some long path names on Windows cause errors with the collection and masking of files. To avoid such errors, use a shorter named output directory.

Example:

```
Collection.cmd -p all -o c:\CT
```

- Make sure that a full pathname to the output directory is given.
Example: **-o c:\CT\output** and not just a directory name: **-o output**
- How to check whether the script is still running.

- 1 Determining an exact time for how long the tool will run for is not possible given the different amount of hardware environments and setups that are encountered. In general, the average time to run the Collection Tool on a medium size server is under 10 minutes. A medium size server means a machine with 2 quad-core processors and having a 1 TB hard-drive.

- 2 The script running time can and will vary with many factors, including but not limited to:
 - Number, size and type of hard drives.
 - Whether local or network attached storage is searched.
 - Server work-load and power
- 3 Given the above variables, running the script can take anywhere from a few minutes to a few hours.
- 4 If collection involves any of the Oracle Fusion Middleware products you can confirm that the Collection Tool is still actively working by using the methods pointed out in the “Running the tool” section.
- 5 After reviewing the factors of the script’s execution time, if you feel that the script is still taking an abnormally long time to run please consult your assigned LMS consultant.

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