



## Installation Guide

# Complex Assembly Manufacturing Solution (CAMS)

Release 7.2

### Target Audience

- System Administrators
- Technology Consultants

Public  
Document Version 2.2 – August 2015



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	Cross-references to other documentation
<b>Example text</b>	Emphasized words or phrases in body text, graphic titles, and table titles
EXAMPLE TEXT	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example text	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
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Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax

Additional icons are used in SAP Library documentation to help you identify different types of information at a glance. For more information, see *Help on Help → General Information Classes and Information Classes for Business Information Warehouse* on the first page of any version of *SAP Library*.

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# 1 Introduction

This document describes the procedures for installing the items included in or required by the Complex Assembly Manufacturing Solution (CAMS) applications and for creating the required database environment (including tablespaces, database objects, and required data).

Each section of this guide discusses work that you need to complete and references files in the CAMS delivery that you can review to support the completion of the required tasks. The database initialization procedures allow Database Administrators to review sizing parameters prior to creating tablespaces or tables.

The document also provides directions for downloading and installing the executable files for Microsoft® Windows® platforms or extracting the contents of .tar files for UNIX platforms, creating required supporting files, and modifying batch and shell-script files to start CAMS.

## 1.1 About this Document

### Purpose

This document explains how to install the CAMS application suite, which includes the following components:

- Planning and Definition:
  - Computer-Aided Process Planning® (CAPP)
  - Manufacturing Change Management® (MCM)
  - Bill of Material Management (BOMM)
- Execution:
  - Shop Floor Management® (SFM)
  - Nonconformance Management® (NCM)

For more details on these components, please refer to the *CAMS Master Guide*.

This document is for the technical audience responsible for installing Release 7.2 or upgrading to Release 7.2 from a previous release. This may be SAP personnel providing support and consulting services to an SAP customer or partner or customer technical personnel who want to preview or plan for an installation or upgrade.

This document requires an understanding of the topics discussed. For example, information on database modifications assumes that the reader understands database concepts. Material introducing these concepts is beyond the scope of this document.

### Integration

The CAMS suite can integrate with the following:

- **SAP Visual Enterprise Viewer, Version 7:** See page 28.
- **External Systems (CAMS-INT):** See the *CAMS Integration Guide*.
- **Microsoft® Project 2007:** If you want to use the CAMS Project Management Integrator (PMI) module or see schedules for MCM action items, Microsoft Project 2007 is required. See page 32.

- **Diff programs:** In order to use the Was/Is (document comparison) functionality, you must download and install a diff program, such as Windiff. See page 40.

## Constraints

All the CAMS applications require an Oracle database to run. Oracle Client also must be installed on each client. The steps included in this document assume that Oracle and Oracle Client are already installed and available. Refer to the Database Software section on page 19 for more details. Also refer to the Oracle documentation for installation and configuration instructions.

This guide also does not cover installation of CAMS-INT. See the *CAMS Integration Guide*.

## 1.2 New Features

The following table lists major new features of Release 7.2. See the *CAMS 7.2 Release Notes* for more information.

Area	Description
SFM	Execution Operations: The new <i>Execution Operations</i> window gives shop operators visibility to several orders at one time in a view that is similar to, but expands on, that of the <i>Shop Display</i> .
Common	Security updates: Release 7.2 includes invalid password and virus scanning functionality. System administrators can build a dictionary of passwords that they do not want their users to use. CAMS also can be configured to scan any documents imported into CAMS for viruses.
Common	Globalization: Release 7.2 has been enhanced to support multiple languages.
Common	Accessibility: This enhancement includes four changes: entry, text box, and table cell highlighting; the ability to increase font sizes; the ability to set the color scheme and contrast; and in application access to the Microsoft® Windows® Magnifier.

## 1.3 Before You Start

The following sections provide information about:

- SAP Notes for the Installation
- Information available on SAP Service Marketplace
- Naming conventions

### 1.3.1 SAP Notes for the Installation

You **must** read the following SAP Note **before** you start the installation. This SAP Note contains the most recent information on the installation, as well as corrections to the installation documentation.

Make sure that you have the up-to-date version of the SAP Note, which you can find in the *SAP Service Marketplace* at [service.sap.com/notes](http://service.sap.com/notes).

SAP Note Number	Title	Description
-----------------	-------	-------------

SAP Note Number	Title	Description
1673576	CAMS 7.2 Installation Guide	Information not included in the CAMS Installation Guide

## 1.3.2 Information Available in SAP Service Marketplace

The following are available in the SAP Service Marketplace.

Description	Internet Address	Title
Delivery Files	<a href="http://service.sap.com">http://service.sap.com</a>  Select <i>SAP Support Portal</i> → <i>Software Downloads</i> and follow the instructions to find the software.	<b>Windows:</b> Complex Assembly Manuf. Sol 72 CAMS PI 7.2  <b>UNIX:</b> CAMS Transaction Daemon 7.2  <b>Integration to External System (CAMS-INT):</b> CAMSINT 7.2

The delivery files are discussed in the Preparation section on page 15. Other files may be available as well (such as Service Pack delivery files) in the SAP Service Marketplace. You should have received instructions from SAP personnel regarding how to access the site and download the files appropriate for your installation. If not, please contact your SAP representative for assistance.

## 1.3.3 Naming Conventions

### Terminology

- BOMM: Bill of Material Management
- CAMS: Complex Assembly Manufacturing Solution
- CAPP: Computer-Aided Process Planning
- COTS: Commercial off-the-shelf
- FAI: First Article Inspection
- MCM: Manufacturing Change Management
- NCM: Nonconformance Management
- PMI: Project Management Integrator
- PI: Preconfigured Implementation; the CAMS configuration files
- RDBMS: Relational database management system
- SFM: Shop Floor Management

- **##**: This designation in file names represents a build number for the package being delivered. When the files described later in this document are ready for download, an integer will replace the “##” in the file names. For example, if the **SAPTCLSelect\_CAMS\_7.2.0.##.exe** file had to be built four times during the test and validation cycle prior to release, then the files posted on the SAP Service Marketplace would be **SAPTCLSelect\_CAMS\_7.2.0.4.exe** and **SAPTCLSelect\_CAMS\_7.2.0.4.tar.gz**.

## Variables

Variables	Description
<high-level-path>	The directory structure used to host the CAMS directories
<SAP_CAMS_7.2>	For purposes of this documentation, indicates the high-level directory structure in which the CAMS COTS application files are installed
<SAP_CAMS_7.2_PI>	For purposes of this documentation, indicates the high-level directory structure in which the CAMS configuration files are installed

The following examples show how the variables are used:



For the installation of CAMS, SAP recommends installing the contents of the **SAPTCLCore\_CAMS\_7.2.0.##.exe** file to the directory structure <high-level-path>\SAP\_CAMS\_7.2, where “high-level-path” is the directory structure used to host the CAMS directories.



Throughout the remainder of this document, <SAP\_CAMS\_7.2> will be used to indicate the high-level directory structure in which the CAMS COTS application files are installed.



Throughout the remainder of this document, <SAP\_CAMS\_7.2\_PI> will be used to indicate the high-level directory structure in which the CAMS configuration files are installed.

## 2 Planning

This section covers how to plan for the CAMS installation.

In addition to this installation guide, new customers should review the *CAMS Master Guide* in the `Documentation` folder of the core delivery files for information on the system landscape, hardware and software requirements, and more. Existing customers should review the *CAMS Upgrade Master Guide* in the `Documentation` folder of the core delivery files for information on upgrading to CAMS Release 7.2.

### Process Flow

1. Verify your system landscape.
2. Verify hardware and software.
3. Plan optional features/modules.
4. Plan system administration roles.

## 2.1 Verify Your System Landscape

Please verify your system landscape. See the *CAMS Master Guide* for details.

## 2.2 Verify Hardware and Software

### Use

This section covers how to verify your hardware and software prior to CAMS installation and provides additional pre-installation instructions.

### Prerequisites

Please verify your system hardware and software. See the *CAMS Master Guide* for details.

For Windows platforms, download and save the Microsoft Visual C++ 2008 Redistributable package (x86), file name `vc redistrib_x86.exe`, available from Microsoft.com at:

<http://www.microsoft.com/downloads/details.aspx?FamilyID=9b2da534-3e03-4391-8a4d-074b9f2bc1bf&displaylang=en>. (This link was valid as of November 2012.)

### Procedure

1. Review the *CAMS Master Guide* to verify your system hardware and software.
2. For Windows platforms, install the `vc redistrib_x86.exe`:

Double-click `vc redistrib_x86.exe` to start the installer. Click *Run*. Click *Next*. Accept the license terms and click *Install*. When the installation is done, click *Finish*.

Double-check the *Add or Remove Programs* dialog box to make sure the installation was successful.

Please note:

- Complete instructions and documentation are available on the Microsoft website.
- There is no harm in attempting to install the `vc_redist_x86.exe` software more than once because the installer software will not allow it.

## 2.3 Plan Optional Features/Modules

### Use

The CAMS suite includes several optional features or modules. This section explains how to plan for these optional CAMS features or modules.

### Prerequisites

Please see the *CAMS Implementation Guide*, which describes several CAMS optional features or modules.

If your company has purchased a license for SFM, please see the *SFM Implementer's Guide* for implementation instructions.

You can get copies of these documents from the `Documentation` folder of the CAMS core delivery files or your SAP representative.

### Procedure

1. Read the documents described above to understand the optional features or modules.
2. Discuss the optional features or modules with your SAP representative, and assess their use in and impacts on your CAMS implementation.
3. Implement and test those features or modules you decide to use as described in the documents.

## 2.4 Plan System Administration Roles

The CAMS installation requires access to individuals with certain roles and privileges on servers and client machines. The following table lists those roles and privileges.

Role	Description and Purpose
Database Administrator (DBA)	Access to a DBA is required to create the schemas necessary for the CAMS applications. In addition, once the schemas are created, the DBA will need to either provide the schema password for the CAMS schema or complete a command to create an encrypted file with the CAMS schema name and password as part of the installation process. If problems are encountered during the installation, it may be necessary to recreate schemas as part of a recovery process.
Network Administrator	It may be necessary to access Internet sites from within the customer environment to download supporting files, documentation, or Service Packs. In the customer environment, this may require privileged access to the network (e.g., ability to access sites external to the intranet).

<b>Role</b>	<b>Description and Purpose</b>
System Administrator	It may be necessary to complete configuration steps on network file servers or application servers. The System Administrator must be able to access and modify restricted installations of software and files and make them available to client machines on the network.

## 3 Preparation

This section explains how to prepare for the installation.

### Process Flow

1. Download and install the delivery files for Microsoft Windows or UNIX (see below).
2. Make sure the Oracle database software is installed and available (see page 19).

## 3.1 Download and Install the Delivery Files

### 3.1.1 Microsoft Windows

#### Use

This section explains how to download and install the CAMS delivery files for a Windows platform.

#### Prerequisites

You perform the installation from files downloaded from the SAP Service Marketplace. The information you need to access the SAP Service Marketplace should have been provided to designated personnel at your site. If not, please contact your SAP representative for access instructions.



If you are integrating to an external system, see the *CAMS Integration Guide* in the *Documentation* folder of the core delivery files for instructions on downloading and installing the CAMSINT 7.2 package.

#### Procedure

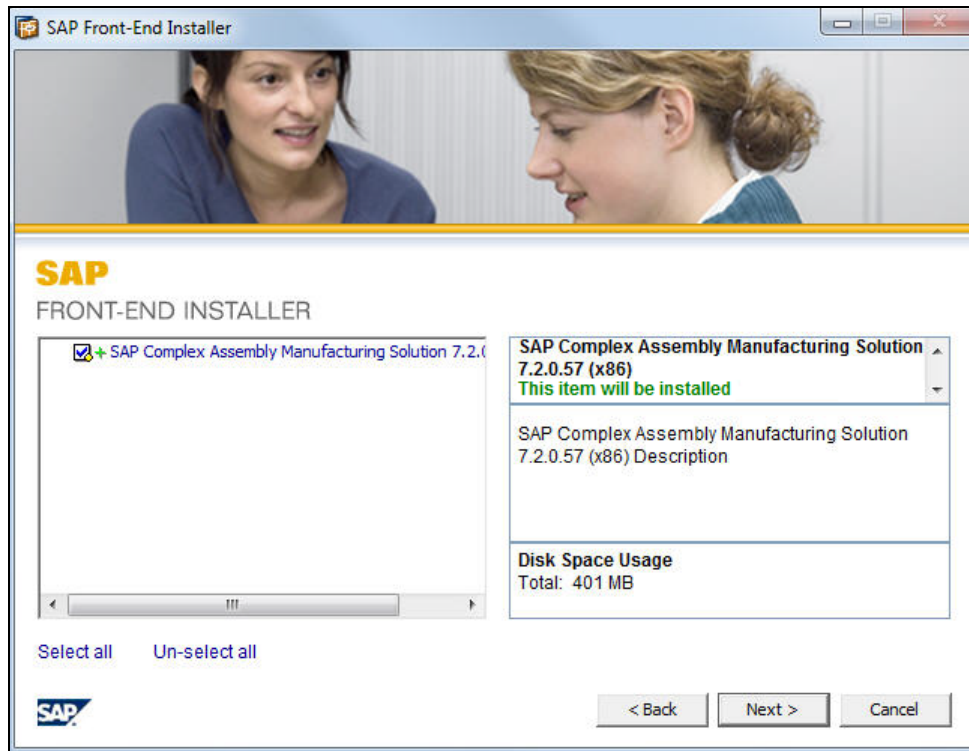
Refer to the Delivery Files section on page 10 for information on the delivery packages. Use the appropriate file name for the steps below:

1. Download and extract the zipped Complex Assembly Manuf. Sol 72 and CAMS PI 7.2 delivery files from SAP Service Marketplace.
2. Execute the `SAPTCLCore_CAMS_7.2.0.##.exe` file (in the Complex Assembly Manuf. Sol 72 delivery files) to install all the files of the COTS portion of the deliverable. The *SAP Front-End Installer* window displays; click *Next*.



**Reminder:** The “##” designations in the file names represent a build number for the package being delivered. When the files are ready for download, an integer will replace the “##” in the file names.

3. Select the *SAP Complex Assembly Manufacturing Solution* check box and click *Next*.



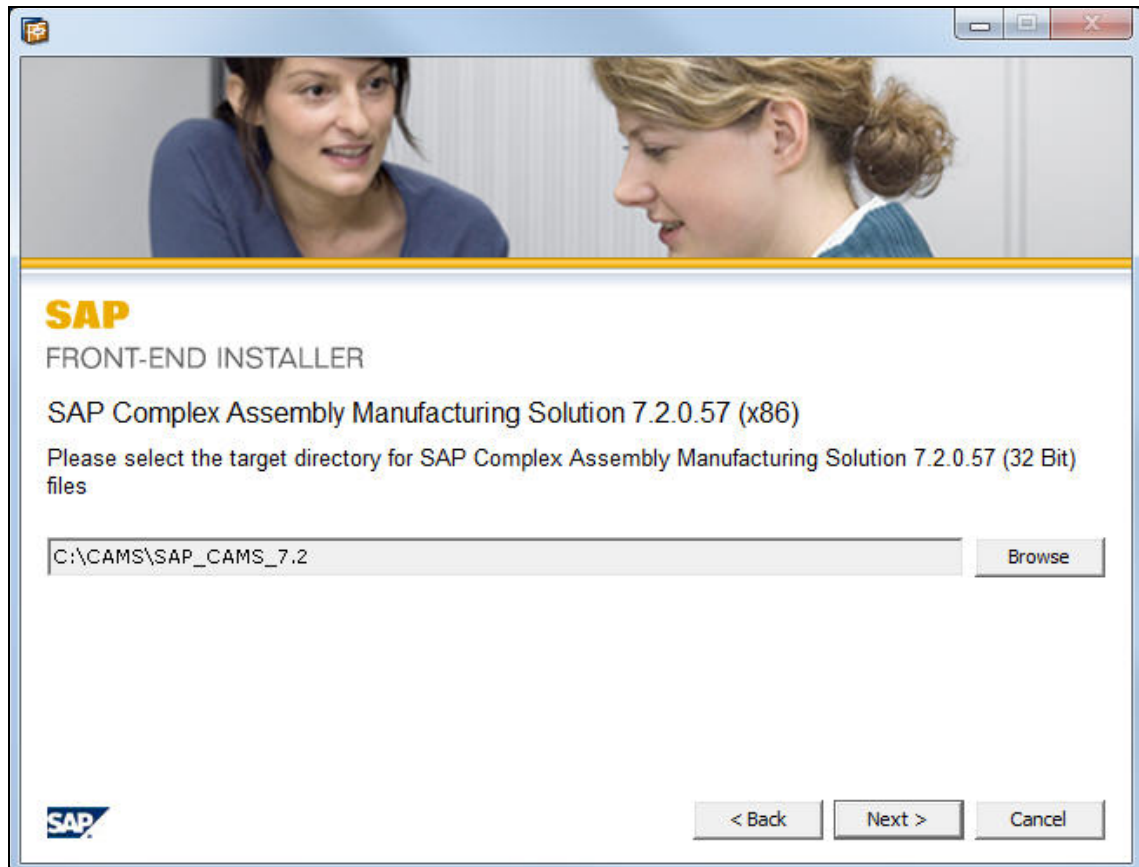
4. You should install the files to a **NEW** or **EMPTY** directory on a file server or a client. The executable will recommend a directory of `C:\CAMS\SAP_CAMS_7.2.`

You may either install these files to the root directory (`C:\`) or to a subdirectory (`C:\root-level-directory-path\`). For the installation of CAMS, SAP recommends installing the contents of the `SAPTCLCore_CAMS_7.2.0.##.exe` file to the directory structure `<high-level-path>\SAP_CAMS_7.2`, where `<high-level-path>` is the directory structure used to host the CAMS directories.

Configuration variables will be set to indicate the path under which the software is installed (see *Modify the Startup File* on page 21.) Throughout the remainder of this document, `<SAP_CAMS_7.2>` will be used to indicate the high-level directory structure in which the CAMS COTS application files are installed.

To change the directory, type in a new directory or click *Browse*. The *Browse for Folder* window displays. Locate or create a new folder and click *OK*.

Click *Next*.



5. A progress bar displays. When the installation is finished, a success message displays. Click *Close*.
6. Execute the `SAPTCLselect_CAMS_7.2.0.##.exe` file (in the CAMS PI 7.2 delivery files) to install all of the files of the configuration portion of the deliverable. The *SAP Front-End Installer* window displays; click *Next*.
7. Select the *SAP Complex Assembly Manufacturing Solution* check box and click *Next*.
8. You should install the files to a **NEW** or **EMPTY** directory being used for the CAMS installation. These files can be installed to a file server or a client. You may either install these files to the root directory (`C:\`) or to a subdirectory (`C:\high-level-path\`). The executable will recommend a directory of `C:\CAMS\SAP_CAMS_7.2_PI`.



Do not use the same directory name that you used for the core files.

Throughout the remainder of this document, `<SAP_CAMS_7.2_PI>` will be used to indicate the high-level directory structure in which the CAMS configuration files are installed.

To change the directory, type in a directory or click *Browse*. The *Browse for Folder* window displays. Locate or create a new folder and click *OK*.

Click *Next*.

9. A progress bar displays. When the installation is finished, a success message displays. Click *Close*.
10. Extract all the online help files from `UserGuides.zip` (including in each delivery file) to the `Documentation` folder of the `SAP_CAMS_7.2` directory. See *Customize the Online Help Location* on page 38 for how to customize CAMS, if desired, to store and point to the online help files in a common, network-available location.

## 3.1.2 UNIX

SAP provides UNIX support for CAMS Release 7.2 for server process and background transactions (e.g., the Transaction Daemon described on page 35) only. SAP does not provide rich client support for UNIX with CAMS Release 7.2. See the *CAMS Master Guide* for supported platforms.

### Use

This section explains how to download and extract the CAMS delivery files for a UNIX platform.

### Prerequisites

You perform the installation from files downloaded from the SAP Service Marketplace. The information you need to access the SAP Service Marketplace should have been provided to designated personnel at your site. If not, please contact your SAP representative for site access instructions.



CAMS 7.2 running on Sun/Oracle Solaris requires GNU Compiler Collection (GCC) 3.4.6 or higher. The GCC runtime library path should be appended to the `LD_LIBRARY_PATH` environment variable before starting CAMS. SAP only supports SPARC binaries. The binaries were created on a SunOS 5.10 SPARC Sun-Fire-V440 server and have the binary type ELF 32-bit MSB dynamic lib SPARC Version 1.

A GCC runtime library, `libgcc_s.a`, is also required for running CAMS 7.2 on AIX, preferably GCC 4.1.1 or higher. As above, the GCC runtime library path should be appended to the `LD_LIBRARY_PATH` environment variable.

### Procedure

1. Download and extract the CAMS Transaction Daemon 7.2 delivery files from SAP Service Marketplace.

2. Before extracting the contents of the UNIX tar files (`SAPTCLCore_CAMS_7.2.0.##_aix53.tar.gz`, `SAPTCLCore_CAMS_7.2.0.##_hp-uxia.tar.gz`, `SAPTCLCore_CAMS_7.2.0.##_solaris.tar.gz`, or `SAPTCLSelect_CAMS_7.2.0##.tar.gz` in the CAMS Transaction Daemon 7.2 delivery files), you will need to create the top-level CAMS directory which will contain the CAMS core files. As above, SAP recommends creating `<high-level-path>/SAP_CAMS_7.2` to hold the contents of the `SAPTCLCore_CAMS_7.2.0.##_` tar. This is not required for the CAMS select tar, as the `SAPTCLSelect_CAMS_7.2.0##` tar contains the `SAP_CAMS_7.2_PI` as the root directory.
3. As delivered, the tar files are compressed and should be uncompressed before running tar against them. The tar files were created with the same high-level directory as that recommended for the Windows executable files. SAP recommends extracting the contents of these files to directory structures on UNIX similar to what was used for the Windows platform, which were created in the previous step.
4. Extract all the online help files from `UserGuides.zip` (included in each delivery file) to the `Documentation` folder of the `SAP_CAMS_7.2` directory. See *Customize the Online Help Location* on page 38 for how to customize CAMS, if desired, to store and point to the online help files in a common, network-available location.

## 3.2 Database Software

### Use

This section discusses the database software required by CAMS. See the *CAMS Master Guide* for information on the supported Oracle version.

### Prerequisites

All the CAMS applications require an Oracle database to run. This installation guide assumes the following:

- Oracle 11g Release 2 is installed and available on database servers to which clients with the CAMS applications will be referring.
- To support multiple languages, Release 7.2 requires that the following must be set:

<code>NLS_NCHAR_CHARACTERSET</code>	<code>UTF8</code>
<code>NLS_CHARACTERSET</code>	<code>AL32UTF8</code>

- The Oracle configuration parameter, Oracle XML DB, should be checked when the database is established.
- Oracle Client is installed on clients to be used for this installation.
- Oracle Transparent Network Substrate (TNS) names are defined on client platforms to be used for this installation.
- Oracle Server and Client (SQL\*Net) must be configured to use encryption to ensure secure data transmission between CAMS and Oracle. Refer to the Oracle Net Manager, Oracle Database Advanced Security Administrator's Guide for more information.

In addition to the Oracle relational database management system (RDBMS), each client running CAPP and SFM will require a dedicated connection to the database. This will require that Oracle Client be installed on each client. Please ensure that Oracle Client is installed on each client from which CAMS will be executed and that the Oracle server is accessible from the client prior to installing, configuring, and running CAMS.

### **Procedure**

Refer to the Oracle documentation for assistance with installing and configuring Oracle and Oracle Client.

If you are upgrading to Release 7.2 from an earlier release, see the *CAMS Upgrade Master Guide* for additional upgrade information.

## 4 Installation

This section explains how to install CAMS.

### Process Flow

1. Modify the startup file (see below).
2. Initialize the database (see page 22).
3. Modify the emergency user file (see page 26).
4. Upgrade an existing database (see page 26).
5. Install the required supporting software (see page 26).
6. Install any optional software or components you want to use (see page 28).

### 4.1 Modify the Startup File

#### Use

This section explains how to modify the startup file.

#### Prerequisites

You must have completed the steps described in the Preparation section.

#### Procedure

In order for the CAMS applications to execute properly, environment variables need to be set. These environment settings are handled through the following file:

```
<SAP_CAMS_7.2_PI>\RunCAMS.bat
```

Information you must specify includes the TNS name of the Oracle instance to use to access required data; the name of the server where the CAMS products are installed; and the location of the CAMS COTS installation (the <SAP\_CAMS\_7.2> directory).

Information that is optional that you can, but do not have to specify, includes a directory name where shared graphics files to be used within the CAMS applications are located and a server name where IBM® WebSphere Message Queue® (MQ) services are provided if WebSphere MQ is used with this installation (see IBM WebSphere MQ on page 32 for more details).

Please note that the values of the variables specifying the location of the CAMS COTS installation as delivered in `RunCAMS.bat` assume that a Windows share name has been established for sharing the installation location across the network.

Do the following steps:

1. Modify `TNSNAME` to indicate the Oracle Network Services name used to identify the connection to the instance on a database server that is used for CAPP and SFM.
2. Optional: Modify `GRAPHICSDIR` to indicate a directory name where shared graphics files to be used within CAMS applications are located.

3. Optional: Modify `MQSERVERNAME` to contain the name of the computer that performs the WebSphere MQ server role on the network.
4. Modify `DBINFOFILENAME` to indicate the name of the file in the `<SAP_CAMS_7.2_PI>\Database` directory that contains the encrypted Oracle user name and password used to access required data from the Oracle instance supporting CAPP and SFM. This file will actually be generated in step #5 of section 4.2, which follows. The name is a concatenation of the values to be entered into the Database *Connection File Pathname* and *Database Connection Filename* fields in the *Create DB Info File* window.
5. Modify `SERVER` to indicate the name of the network-available server on which the CAMS share name is shared (see `CAMS_LOC_WIN32` below).
6. Modify `CAMS_LOC_WIN32` to indicate the path to the installation of CAMS COTS applications. The startup file is delivered assuming a network installation using a Windows share name. Note: if the `RunCAMS.bat` file contains `HMS_LOC_WIN32` instead of `CAMS_LOC_WIN32`, then modify the setting of `HMS_LOC_WIN32` as described.
7. Modify `CAMS_LOC_UNIX` to indicate the path to the installation of CAMS COTS applications using forward slashes (/) instead of Windows back slashes (\). The startup file is delivered assuming a network installation using a share name. This is required for UNIX platforms as well as for certain invocations of delivered executable files in both Windows and UNIX environments. Note: if the `RunCAMS.bat` file contains `HMS_LOC_UNIX` instead of `CAMS_LOC_UNIX`, then modify the setting of `HMS_LOC_UNIX` as described.
8. Drive letters mapped to network drives may be used on the client or uniform naming convention (UNC) file names may be used (e.g., `\\server\share\RunCAMS.bat`). On Windows platforms, share names may be established using the same names of `SAP_CAMS_7.2` and `SAP_CAMS_7.2_PI` to point to the CAMS COTS applications and CAMS configuration code, respectively.



An Internet browser is used to view online help for the CAMS COTS applications. The online help system uses Java applets. Firefox cannot load Java applets from locations specified by UNC file names on local area networks. Mapping a drive letter to the share can solve this problem.

## 4.2 Database Initialization

### Use

This section covers database initialization.

With the RDBMS and client software installed, Oracle database administrators establish the database environment to be used with CAMS. The distribution contains a SQL file that should be used to create the Oracle tablespace files and the schemas that will be used with CAMS. If the SQL file is started from an interactive Oracle SQL\*Plus session, you will be prompted for Oracle environmental information, including the location of the data file for the Oracle instance to be used; the Oracle user name with System privileges (System) so that schemas can be created; the Oracle alias or TNS name to be used to access the Oracle instance; and the location of the directory where you would like Oracle log files to be created from this database initialization session.

## Prerequisites

The Oracle RDBMS and client software are installed.

## Procedure

During the following database create process, you will be prompted as to whether or not you want sample data included in the database. This sample data includes bills of material, plans, orders, change records, training users, etc.



In order to create a CRP database with sample data, the Oracle XML DB option must be enabled in order to perform some imports required for the process of creating the sample data.

To create the database:

1. Ascertain the Oracle user name, password, and SID for the database instance. The Oracle user names needs System privileges so that schemas and tablespace files can be created.
2. Determine the directory name for the tablespace files for the Oracle instance you are using, for example, /Oracle11/oradata/CAMS.
3. Run the following script to initiate the database creation process by entering:

```
sqlplus username/password@sid
@<SAP_CAMS_7.2_PI>\Database\InstallScripts\ScriptsForDelivery7.2\
CAMS72_CRP_Master_Build.sql
```

The script will prompt for all necessary information—users, passwords, tablespace names, etc. (defaults are provided)—and will ask if you want to create the sample data. (It will ask if you want to use CRP or clean data; CRP is the sample data.) It will create the Oracle users, tablespaces, and database objects. Default values are provided for the Oracle user names and passwords (HMS user name, HMS password, etc.) that will be the owners of the tables and data used to run the CAMS application. These user names and passwords may be changed to reflect the naming conventions desired. You should NOT use the Oracle password for the "system" or "sys" users as the password for any of the prompts presented in this script.

The system also prompts for the CAMS home directory name:

```
Enter CAMS home directory name (do not include trailing slash) :
```

This is the name of the directory where the core CAMS 7.2 software is loaded. For example,

```
C:/CAMS/SAP_CAMS_7.2
```

The system prompts for the full path to the database creation scripts directory:

```
Enter the directory name that contains the CAMS 7.2 Oracle dump file
(do not include trailing slash):
```

```
<SAP_CAMS_7.2_PI>\Database\InstallScripts\ScriptsForDelivery7.2
```

If you are building the CRP database for CAMS 7.2, you **MUST** perform this procedure as an Oracle user that has the privileges necessary to create new Oracle user accounts, tablespaces,

datafiles, and complete .dmp file imports. Also, the core portion of the CAMS 7.2 release must be installed because there is a reference to the files included within the core release. It does not need to be fully configured, just on the system for reference. The logs may contain warnings; you can ignore these.

The system also prompts for the type of build desired:

Generate Full Database or Update Current (FULL, UPDATE):

This procedure may be used to generate the initial CAMS database as well as update the CAMS database structure and content. The term FULL indicates that the script will generate all of the tables used to run the CAMS applications, and UPDATE is used to indicate that there is an update to the database that is being installed.

4. Create the database access initialization file (`camsDBInfo.ini`). You will need your CAMS License Key provided to you by your SAP representative.

The creation of this file is controlled by a user interface that is accessed by running the `RunCreateDBInfoFile.bat` file located in the `<SAP_CAMS_7.2>\bin` directory. Before running this bat file, set the following locations in the file:

- Modify `CAMS_LOC_WIN32` to indicate the path to the installation of CAMS COTS applications.
- Modify `CAMS_LOC_UNIX` to indicate the path to the installation of CAMS COTS applications using forward slashes (/) instead of Windows back slashes (\).



**For example:**

```
set CAMS_LOC_WIN32=C:\CAMS\SAP_CAMS_7.2
set CAMS_LOC_UNIX=C:/CAMS/SAP_CAMS_7.2
```

If you are running multiple versions of Oracle on the same hardware, you must uncomment the setting of the `Path` environment variable and make sure it points to the desired Oracle version.

5. Running the RunCreateDBInfoFile.bat file displays the following window.

The screenshot shows a Windows-style dialog box titled "Create DB Info File". It contains the following fields and buttons:

- Oracle User ID:
- Oracle Password:
- Oracle SID:
- Database Connection Filename:
- Database Connection File Pathname:
- Security Key:
- Customer ID:
- SAP License Key:
- 

Complete the fields:

- *Oracle User ID:* Enter the user ID used to establish the connection with Oracle (the “HMS” user).
- *Oracle Password:* Enter the password used to establish the connection with Oracle.
- *Oracle SID:* Enter the Oracle SID used to establish the connection with Oracle.
- *Database Connection Filename:* Enter the name of the file used to store the Oracle and SAP license access information (`camsDBInfo.ini`). If you choose a name other than `camsDBInfo.ini` you must change all of the bat files that reference `camsDBInfo.ini` to replace it with your name. The value entered here MUST match the filename portion of the `DBINFOFILENAME` value modified in step 4 in section 4.1.
- *Database Connection File Pathname:* Enter the directory where the file is to be written. If you create the `camsDBInfo.ini` file somewhere other than the `<SAP_CAMS_7.2_PI>\Database` directory, you must move it there. The value entered here MUST match the file path portion of the `DBINFOFILENAME` value modified in step 4 in section 4.1.
- *Security Key:* Enter the customer-supplied string used in the encryption of the Oracle connection.
- *Customer ID:* Enter the SAP-supplied customer ID number.

- *CAMS License Key*: Enter the SAP-supplied license key. Your input is automatically converted to uppercase.

Click the *Test Connection* button to determine if the Oracle User ID, password, and SID will connect to the database.

Click the *Generate* button to generate the DB initialization file with the information provided.

6. In the `RunCAMS.bat` file, verify the name of your `.ini` file is set to the new filename.



**For example:**

```
set DBINFOFILENAME=CAMS72DBInfo.ini
```

7. For installations of the Transaction Daemon on UNIX platforms, the `camsDBInfo.ini` file resulting from this process must be copied over to the appropriate directory on the UNIX platform.



The passwords associated with any or all Oracle users may be modified to meet installation requirements. If the password is changed for the Oracle user "HMS" created in this section, then the contents of the `camsDBInfo.ini` file must be updated. That file provides Oracle connection information in a way that prevents exposure to the real Oracle user name and password. Access to this file needs to be restricted to read-only for those individuals who need to run CAMS, and only CAMS administrators should be able to modify the file.

## 4.3 Modify the Emergency User File

### Use

The emergency user functionality provides system administrators with a way to activate a super user that can gain access to the system to diagnose problems when there is no user access to the system. This section explains how to modify the emergency user file.

This file needs to have path information changed, but you should not need to run this file during installation.

### Prerequisites

You must have completed the steps described in the Preparation section and sections 4.1 and 4.2. You also must have the customer Security Key and Customer ID numbers (provided to you by your SAP representative).

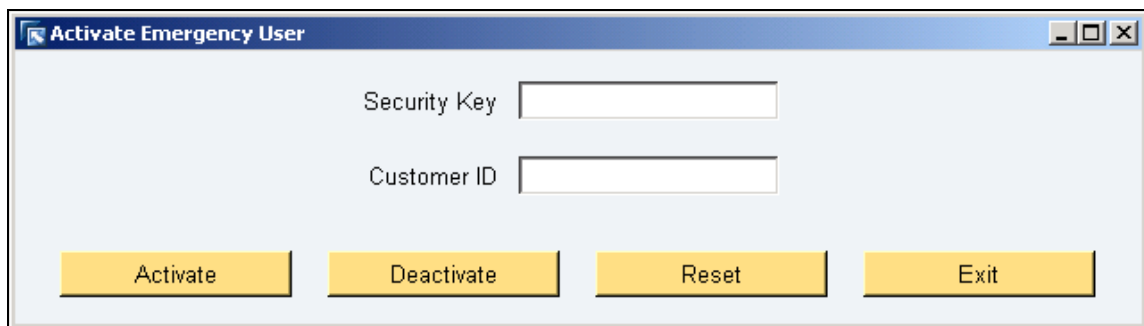
### Procedure

To use this function, do the following:

1. Open the `RunManageEmergencyUser.bat` file located in the `<SAP_CAMS_7.2>` folder.
2. Update the bat file:
  - Modify `CAMS_LOC_WIN32` and `CAMS_LOC_UNIX` to match the CAMS COTS software location set in the `RunCAMS.bat` file.

- Modify `path` only if the location of the Oracle bin folder needs to be integrated into the path.
  - Modify `TNSNAME` to match the `tnsname` set in the `RunCAMS.bat` file.
  - Modify `CLIENTCODE` to indicate the path to the installation of the CAMS PI applications.
  - Modify `DBINFOFILENAME` to match the `dbinfofilename` set in the `RunCAMS.bat` file.
  - Modify `ERRORLOGDIR` to point to the directory for error log files.
3. Running the bat file displays the window shown below. Once the system administrator enters the Security Key and Customer ID, clicking *Activate* activates the emergency user, "cems-em." (Note that if the upgrade script has not been run, the system administrator will get an error message to that effect when he or she tries to activate the emergency user.) Once activated, the system administrator can now log into CAMS as `cems-em`. The `cems-em` password is the same as the user ID.

Clicking *Deactivate* deactivates the emergency user so the user can no longer log in to CAMS. The *Reset* button is used to restore the emergency user to its original settings in the event that someone edits the `cems-em` user privileges via User Maintenance.



## 4.4 Upgrade Existing Database

If you are upgrading a database from a previous CAMS release to CAMS Release 7.2, please see the *CAMS Upgrade Master Guide* for instructions.

## 4.5 Install Required Supporting Software

Please refer to the Database Software section on page 19 for database instructions.

Also, to view the online help provided with CAMS, an Internet browser must be installed on client machines. Internet Explorer or Mozilla Firefox are preferred.

## 4.6 Install Optional Software or Components

### Use

This section describes optional software or components you can use with CAMS and how to install those items.

### Prerequisites

You must have completed the steps described in the Preparation section and Installation sections 4.1 to 4.5.

### Procedure

1. Discuss the optional software or components described below with your SAP representative and assess their use in and impacts to your CAMS implementation.
2. Install the software or components you decide to use as explained in the following sections.
3. Test the software or components in your CAMS implementation.

### 4.6.1 SAP Visual Enterprise Viewer, Version 7.0

You can view 3D models in SAP Visual Enterprise Viewer, Version 7.0. In order for SAP Visual Enterprise Viewer to be useful in CAMS, SAP Visual Enterprise Viewer graphics files (.rh file extension) are required and these can only be generated using SAP Visual Enterprise Author or SAP Visual Enterprise Generator (formerly RH Deep Server). See SAP Visual Enterprise Generator on page 29.

To use SAP Visual Enterprise Viewer:

1. Download Visual Enterprise Viewer 7.0 from the SAP Service Marketplace at <http://service.sap.com/swdc>.

Select *Installations and Upgrades* → *A-Z Index* and click *V*. Click *SAP Visual Enterprise*, and then click *Visual Enterprise Viewer*. Click *Visual Enterprise Viewer 7.0*. Click *Installation*. Click the link under *Download Object* to download the viewer; you do not need to use the *Add to Download Basket* option. If the download fails, you must get download approval; contact your SAP representative for assistance.

2. Install SAP Visual Enterprise Viewer using the defaults. By default, it should install in **C:\Program Files (x86)\SAP\SAP Visual Enterprise Viewer 7.0**.
3. Once it is installed, you need to register/install the ActiveX control.

Open the *Start* menu and select *Run*. In the *Run* command window, enter the following in the *Open* field. This assumes SAP Visual Enterprise Viewer is installed in the **C:\Program Files (x86)\SAP\SAP Visual Enterprise Viewer 7.0**; if not, enter the appropriate drive and directory:

```
regsvr32 " C:\Program Files (x86)\SAP\SAP Visual Enterprise Viewer 7.0\ExplorationXPublish.ocx"
```

A success message displays. The message may note difficulties with finding items, but this does not impact the installation.

4. You also must set the following configuration parameters. In CAMS, select the CAPP *Maintenance* → *Configuration Parameters* → *Common* menu:
  - In the *Visual Enterprise Active X Parameters* section:
    - The *VE Integrated* parameter must be set to *Yes*.
    - The *VE File Types* parameter defaults to *rh*. CAMS Release 7.2 only supports *.rh* files for BOMM graphics/models and the operation allocation function in CAPP. See the *Graphic Formats* section in the *CAMS Implementation Guide* in the `Documentation` folder of the core delivery files for details on the supported file types.
    - The *VE Collaboration User* parameter should be set to the user ID that will be associated with all collaborations that are created.
    - The *VE Viewer Program ID* parameter is specific to the RH ActiveX control and the default value of `ExplorationX.mainSTA.1` should not be changed. Changing this parameter will render SAP Visual Enterprise Viewer inoperable and cause application failures. This parameter is available in case the Program ID changes in the future.

## 4.6.2 SAP Visual Enterprise Generator

In order for SAP Visual Enterprise Viewer to be useful in CAMS, SAP Visual Enterprise Viewer graphics files (*.rh* file extension) are required and these can only be generated using SAP Visual Enterprise Author or SAP Visual Enterprise Generator (formerly RH Deep Server).

To integrate with SAP Visual Enterprise Generator, you must set up several configuration parameters. See the *CAMS Configuration Guide* for instructions.

## 4.6.3 PLM Vis, Version 8.1

Users can view and annotate vector graphics, 2-D graphics, and 3-D graphic models in CAMS. CAMS currently supports integration to PLM Vis 8.1 only.

When enabled, CAMS 7.2 will display 2D vector and 3D graphic models directly in the Tcl/Tk window frames and pop-up viewer window using PLM Vis ActiveX components.

New customers who do not have vector graphics can choose either configuration option below, but SAP recommends using the ActiveX components configuration.

### 4.6.3.1 Component Registration

To begin, you must register the PLM Vis COM components on each computer that will use either the PLM Vis pop-up graphics viewer or the in-frame PLM Vis viewer.

To install the PLM Vis software.

1. Edit the `modules.txt` file found in the `<SAP_CAMS_7.2>/PLMVIS/81/Program` directory:

Change each line in the file to have the correct installation path. For example, each line in `modules.txt` has the prefix:

```
C:\hmsVersions7.2\PLMVis\81\Program\
```

Change each line to the actual installation folder of PLM Vis on your system, e.g.:

```
C:\CAMS\SAP_CAMS_7.2\PLMVIS\81\Program>AboutBox.dll
```

2. Run the registration command on your computer:

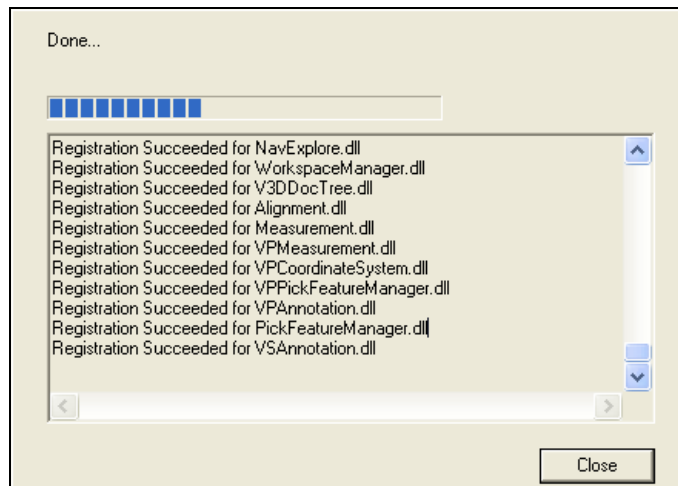
You must run the `PostReg.exe` command on every computer that will use the graphics viewer. The command displays a progress bar while it registers the viewer's COM components. Also, you should run the registration command as an administrator, which is required on some Windows versions.

To run the registration command, open a Command Prompt window to register the DLLs on the computer. Change the directory (CD) to the folder:

```
<SAP_CAMS_7.2>\PLMVis\81\Program
```

Run `PostReg modules.txt /c` from the command line to register the modules in `modules.txt`:

Check the console to verify that each module registration was successful



3. If all of the modules failed to register, then locate and run `vc redistrib_x86.exe` to install the required Microsoft runtime libraries:

Double-click on the following Microsoft runtime-library installer:

```
<CAMS7.2_INSTALLDIR>\PLMVis\81\Deployment\Install\vc redistrib_x86.exe
```

Rerun the `PostReg modules.txt /c` command.

### 4.6.3.2 Java Runtime Environment (JRE) Download and Installation Instructions (Optional)



This step is only required if you want the graphics to display in the separate PLM Vis viewer. Otherwise, the graphics will display in the standard CAMS graphics viewer.

The CAMS interface to the PLM Vis graphics viewer requires a JRE for the separate viewer. Download and install the Windows 32-bit version of Java 2 SDK, Standard Edition (J2SE), 1.6.0\_17 from <http://www.java.com>. (CAMS 7.2 was validated to work with 1.6.0\_17.)

After the Java software is installed, locate it and then copy the following folders to the <SAP\_CAMS\_7.2>\JavaInterface folder:

- <J2SDK\_1.6.0\_17>\jre\bin
- <J2SDK\_1.6.0\_17>\jre\lib



If you are prompted to overwrite the <SAP\_CAMS\_7.2>\JavaInterface\lib folder, select *Yes to All*.

After the Java software has been copied, you no longer need the <J2SDK\_1.6.0\_17> folder. Use *Add or Remove Programs* in the *Control Panel* to uninstall the J2SDK\_1.6.0\_17 software.

### 4.6.3.3 Set the Configuration Parameters

Finally, you must set some configuration parameters if you want to use the separate PLM Vis viewer. In CAMS, select the *CAPP Maintenance* → *Configuration Parameters* → *Common* menu.

In the *Graphics Parameters* section, set the following:

- *PLM Vis popup viewer enabled*: Set this to *Yes* to use the separate PLM Vis viewer. The default is *No*.
- *PLM Vis popup viewer without raster support*: Set this to *Yes* to use the PLM Vis viewer but not for raster graphics. The default is *No*, which means raster graphics will display in the CAMS graphic viewer.
- *PLM Vis popup viewer without vector support*: Set this to *Yes* to use the PLM Vis viewer but not for vector graphics. The default is *No*, which means vector graphics will display in the CAMS graphic viewer.

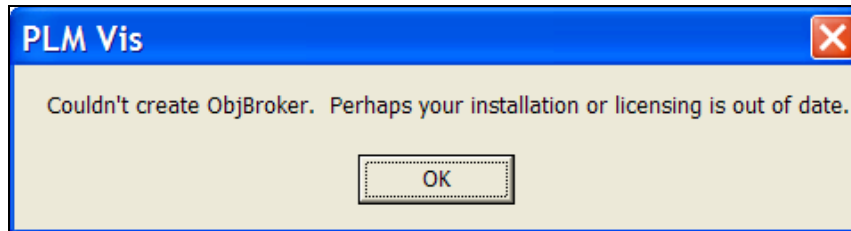
In the *PLM Vis ActiveX Parameters* section, set the following:

- *PLM Vis 2D ActiveX*: Set this to *Yes* to activate PLM Vis 2D logic for vector graphics. The default is *No*.
- *PLM Vis 3D ActiveX*: Set this to *Yes* to activate PLM Vis 3D logic for JT and other supported 3D graphic formats. The default is *No*.

### 4.6.3.4 Possible Error Messages

If a user launches a PLM Vis graphic on a system that has not registered the PLM Vis COM components with the *PostReg.exe*, the following error may display. This error or others might also

display if the path to the registered files changes or if the Java files are not installed. Other Tcl error messages might follow.



## 4.6.4 Microsoft Project 2007

If you want to use the PMI module or see schedules for MCM action items, Microsoft Project 2007 must be installed on client machines.

The new interface between CAMS and Microsoft Project 2007 was implemented using Microsoft Visual Studio Tools for Office (VSTO). This is a tool set used to customize Project and other Microsoft Office applications, but it also adds new security features not present in earlier interfaces between CAMS and Project.

One noticeable issue caused by this new security feature is that the CAMS interface to Project will not function across a network unless the application is fully trusted. To prevent this problem when running across a network, a system administrator will need to use the Microsoft .NET Framework 2.0 Configuration Tool provided by Microsoft to give the interface full trust. In that tool, the system administrator must set the run-time security policy for the code group, which will include this interface to Project, giving it the FullTrust permission set. This only needs to be done when running the interface across a network; running the software locally by default gives FullTrust.

See the following link for details on working with this tool: <http://msdn.microsoft.com/en-us/library/2bc0cxhc%28VS.80%29.aspx>. (This link was valid as of June 2012.)

## 4.6.5 IBM WebSphere MQ

IBM WebSphere MQ provides a queuing mechanism that allows CAMS to send and receive messages, usually in the form of XML documents, to and from external sources. See the IBM WebSphere MQ documentation for installation instructions.

## 4.6.6 Traveler Barcode Font

In order to utilize the Print Traveler barcode function accessible from CAMS, the system upon which the application is used must have at least one barcode font available. Barcode fonts are available (commercially or, possibly, for free) from several Web sites:

1. Install a barcode font in the `C:\Windows\Fonts` directory on client machines to be used with the installation. The name (or names) of the barcode font must be specified in the `HMSConfig.tcl` file provided in the `<SAP_CAMS_7.2_PI>` directory.

2. Use a text editor to open the `HMSConfig.tcl` file and search for the section that sets the variable `::Customer::barcodeFontList`. It should look something like the following:

```
# Define the barcode font list for traveler print in order of
# preference. The logic will check for the existence of each
# font, in succession, until it finds one that exists, or
# has searched the entire list.
set ::Customer::barcodeFontList [list {3 of 9 Barcode} {Code 39}]
```

3. Edit the list to indicate the barcode font name or names available on the client machines, ensuring that each font name is enclosed in a set of curly braces—`{ }`.

## 4.6.7 Launch by File Types

Please see the *CAMS Operations Guide* for information on configuring the launch by file type functionality.

## 4.6.8 First Article Inspection Geometric Tolerance Symbol Font

First Article Inspection uses geometric tolerance symbols in its Characteristic table to show the type of measurement being described. You should install a geometric tolerancing font and make it available to all your client machines. SAP used the P22 GD&T font to develop FAI, but you can use other fonts.

If a geometric tolerance font is not specified FAI will still work, but with the GDT (symbol) column deactivated.

Once the font is installed, you need to specify its name in the FAI configuration parameters. In CAMS, select the *CAPP Maintenance* → *Configuration Parameters* → *FAI* menu. In the *GDT Font Name* parameter, enter the font name.

## 4.6.9 Print Server and Batch Server Set Up

You can print CAMS documents using printers that are connected either to the local client machine or a remote host that is designated as a print server running the CAMS Print Manager software.

Background server printing may be preferable when large process plans or SFM order documents are printed. Otherwise the user's computer session is delayed until the entire print process is completed. Depending on the size of the document being printed, this could prevent the user from doing additional work for as long as several minutes.

A batch server is typically set up to process mass update transactions. Mass updates allow CAMS users to change the information in one or more document fields for all the latest versions of documents that contain the same information. Each new mass update transaction is not immediately processed when it is added to the mass update transactions table. Instead, a separate batch job is set up to poll this table at suitable intervals, for example, to run once a night to process all the new mass update transactions that have been generated that day.

See the *CAMS Implementation Guide* in the `Documentation` folder of the core delivery files for more information regarding print and batch servers.

To set up the print and batch servers:

1. Three bat files (located in the <SAP\_CAMS\_7.2\_PI> directory) are used to start the CAMS print server and batch server processes:
  - RunCAMSPrintManager.bat
  - RunCAMSPrintServer.bat
  - RunCAMSBatchServer.bat
2. Each of these files contains lines that you need to modify after installation to point to the software location and database connection information. The same set of lines appears in each of the above files, and you must modify each set in the same manner:
  - set CAMS\_LOC\_WIN32=C:\CAMS\SAP\_CAMS\_7.2 (must match the COTS software location set in the RunCAMS.bat file)
  - set CAMS\_LOC\_UNIX=C:/CAMS/SAP\_CAMS\_7.2 (must match the COTS software location set in the RunCAMS.bat file)
  - set DBINFOFILENAME=camsDBInfo.ini (must match the dbinfofilename set in the RunCAMS.bat file)
  - set TNSNAME=CAMS (must match the tnsname set in the RunCAMS.bat file)

In addition to making the noted changes in the three Run\*\*\*.bat files, you will need to ensure that at least one of the following directories exist on the server that will be running the Print Server process (C:/Windows/Temp, C:/winnt/Temp, c:/Temp) and that the user starting the Print Server process has permission to write files in the appropriate Temp directory.

The RunCAMSPrintServer.bat and RunCAMSBatchServer.bat files both specify the location of an error log file in the CAMS startup command (-errorlog argument). You must ensure that the system user that is used to start the Print Server has the privilege to write files to the specified location. Otherwise the startup process will generate an error when attempting to create the specified log file.

3. After you have updated the three files to match the settings in the RunCAMS.bat file, you can start the print and batch servers by simply running the RunCAMSPrintManager.bat file.
4. To setup a background batch server for mass updates without also setting up a background print server, make the following changes to the RunCAMSPrintManager.bat file:
  - set CAMS\_PRINTSERVERLIST="BATCH"
  - set CAMS\_PRINTSERVERBATLIST="RunCAMSBatchServer.bat"

## 4.6.10 Transaction Daemon

The Transaction Daemon is used for handling certain tasks in the background (i.e., without user intervention). It is frequently used for the SFM Order Create transaction, but can be used for other background processes.

To install the Transaction Daemon and configure it for use with background transactions, do the following:

1. There are three files (located in the <SAP\_CAMS\_7.2\_PI> directory) that are used to configure and start the CAMS Transaction Daemon processes:

- RunCAMSTransactionServer.bat
- RunCAMSTransactionClient.bat
- RunCAMSTransactionMonitor.bat (optional)

The bat files above are for Windows. For UNIX, the following two script files are equivalent to the bat files:

- RunCAMSTransactionServer.sh
- RunCAMSTransactionClient.sh

2. Each of these files contains lines that you need to modify after installation to point to the software location and database connection information. The same set of lines appears in each of the above files, except as noted, and you must modify each set in the same manner (with consideration for whether the .bat files for Windows or the .sh files for UNIX are being edited):

- set CAMS\_LOC\_WIN32=C:\CAMS\SAP\_CAMS\_7.2 (must match the COTS software location set in the RunCAMS.bat file; this line is only applicable in the .bat files)
- set CAMS\_LOC\_UNIX=C:/CAMS/SAP\_CAMS\_7.2 (must match the COTS software location set in the RunCAMS.bat file)
- set CAMS\_CUST\_HOME=C:/CAMS/SAP\_CAMS\_7.2\_PI (must match the configuration software location set in the RunCAMS.bat file)
- set DBINFOFILENAME=camsDBInfo.ini (must match the dbinfofilename set in the RunCAMS.bat file)
- set TNSNAME=CAMS (must match the tnsname set in the RunCAMS.bat file)

3. For either Windows or UNIX installations, please ensure that the 32-bit versions of Oracle libraries are available for use with CAMS. To ensure that the 32-bit version of the Oracle client library is used when CAMS starts on UNIX platforms, set the Oracle environment variable ORACLE\_LIBRARY (e.g., export ORACLE\_LIBRARY=\$ORACLE\_HOME/lib32/libclntsh.sl).

Please note that the path specified here will be dependent on the installation, so verify that the library name and library folder (in this case lib32) are correct. Also note that the file name (e.g., libclntsh.sl) is dependent on the UNIX platform where the installation is taking place.

If this Oracle library is not on the user's path (the account running the shell script), then it may be necessary to add \$ORACLE\_HOME/lib32 to the path extension environment variables in the shell script file. Please refer to the Oracle documentation for additional information.

4. For instances where the software is running on a UNIX platform, please ensure that the applicable section of the shell script files are updated. Each supported UNIX platform has a section in the shell script files to allow the applicable environment variables to be defined.
5. Also, for installation on HP/UX platforms, you need to set the LD\_PRELOAD environment variable in the shell script files to ensure that the Oracle libraries are available for CAMS at the proper time when the application starts. The format of the command associates a library file and an executable file to ensure library availability for the application. For the Transaction Daemon server and client, set LD\_PRELOAD as follows:

```
export LD_PRELOAD=libclntsh.sl hmstclsh
```

6. After you have updated the files to match the settings in the RunCAMS.bat file, you can start the transaction servers in Windows by simply running the RunCAMSTransactionServer.bat and the RunCAMSTransactionClient.bat files. For UNIX, run the RunCAMSTransactionServer.sh and the RunCAMSTransactionClient.sh files.
7. To monitor the process, if desired, you can start the transaction monitor in Windows (only) by running the RunCAMSTransactionMonitor.bat file.
8. When running the server and client Transaction Daemons on a different machine environment, the Transaction Monitor command needs to have the optional argument hostId appended to the start statement. For example:

```
start %CAMS_LOC_WIN32%\bin\hmssoftware.exe  
%CAMS_LOC_UNIX%/hmsTransactionMonitor/lib/HMSTransactionMonitorInit.tcl  
-infoFile %CAMS_CUST_HOME%/Transactions/HMSTransactionDeamonConfig.tcl  
-hostId 172.2.55.84
```

## 5 Post-Installation

This section describes what activities you should do once installation is finished to test that the installation was successful.

Please see the *CAMS Operations Guide* for information on managing and maintaining the CAMS applications after installation.

### Process Flow

1. Start the application.

## 5.1 Start the Application

### Use

This section explains how to start the CAMS application.

### Prerequisites

You have completed all required installation activities covered in section 4.

### Procedure

1. The CAMS installation and database initialization are now complete. The application can be started by executing the following file:  

```
<SAP_CAMS_7.2_PI>\RunCAMS.bat
```
2. If the installation was successful, you are presented with a panel requesting a user ID and a password. Initially, use a user ID of `system` (all lowercase) and a blank password. This will present you with a menu of available applications and allow creation and configuration of other CAMS application users and logon IDs.
3. You may choose to install shortcuts to the `RunCAMS.bat` file on client desktops to facilitate launching the application. You can find SAP CAMS icons to use to modify the properties of the desktop shortcuts in the following directory:

```
<SAP_CAMS_7.2>\icons
```

4. Additional setup work is required before releasing the application for use. For example, users, profiles, and groups must be created; groups and profiles must be associated to users; site codes may need to be established; function privileges need to be assigned to profiles; the SFM Shop Calendar must be set up; and additional validation data should be added. Please consult the *CAMS Operations Guide*, the *CAMS Configuration Guide*, and your SAP representative for additional details.

## 6 Additional Information

The following sections provide important additional information:

- Configuration Files and Configuration Parameters (see below)
- Customize the Online Help Location (see below)
- Comma-Separated Value (CSV) Files (see page 39)
- Installing and Configuring a Diff Program (see page 40)

### 6.1 Configuration Files and Configuration Parameters

CAMS stores all the configuration parameter settings in the database. See the *CAMS Configuration Guide* for how to work with configuration parameters.

The configuration audit capability allows system administrators to see changes made to the configuration parameters. System administrators can access the modification information from any of the configuration parameter dialog boxes by clicking the *Parameter Audit* button. See the CAMS System Maintenance application help for details on how to view and print the information.

Any changes to configuration text files (e.g., `HMSConfig.tcl`) are not logged in the CAMS system. You should track changes made to the configuration text files. This is a manual process.



Once CAMS is implemented at your site, configuration parameters and configuration files should not be changed without consulting with your SAP representative.

### 6.2 Customize the Online Help Location

#### Use

An option for installation of CAMS is to move the online help files to a common, network-available location. This option is used frequently when the COTS portion of the installation (the `<SAP_CAMS_7.2>` folder) is on clients, but the help files need to be kept in a shared location.

By setting an optional configuration parameter, *Help File Location*, you can specify the location of the online help. If this configuration parameter is not set, then the system uses the default setting, which looks for the files in the `Documentation` folder of the `<SAP_CAMS_7.2>` directory.

#### Prerequisites

You should have extracted `UserGuides.zip` (included in each delivery file) to the `Documentation` folder of the `<SAP_CAMS_7.2>` directory.

#### Procedure

To set the configuration parameter specifying the location of the online help:

1. Select the *CAPP Maintenance* → *Configuration Parameters* → *Common* menu.

2. Click the *Miscellaneous Parameters* bar to open that section.
3. In the *Help File Location* parameter, you can specify either a directory on the local machine, a directory available via a UNC path, or a URL specified as a Web site with either `http://` or `https://`.

If you specify a value for this parameter, then you must copy or move all the help file folders to that location. The parameter will be used to determine the starting point to find the online help for each CAMS application. From that location, there should be subdirectories for each CAMS application help file system available. The possible subdirectory names (depending on the available CAMS products) are:

- BomUserGuide
- CallboardUserGuide
- CappUserGuide
- CaUserGuide
- CmUserGuide
- MaintenanceUserGuide
- NcmUserGuide
- PmiUserGuide
- ShopUserGuide
- TcaUserGuide

If the parameter is specified and the help file used to start the online help system is not found, an error is generated stating that the help files cannot be found.



Please note that slashes used in the value assigned to the variable need to be forward slashes (/). In cases where backward slashes are needed, the application will handle it.

Here are some examples of the parameter's use:

- `C:/HelpFiles`: Sets the help file location to a directory on the local machine.
- `//FileServer/HelpFiles`: Sets the help file location to the directory named "HelpFiles" on the network location named "FileServer."
- `http://helpfiles.location.net`: Sets the help file location to the specified Web site URL. Secure Web sites are supported as well; simply replace "http://" with "https://."

## 6.3 Comma-Separated Value (CSV) Files

Certain import functions within CAMS may be done using CSV files. Whenever CSV files are used to import data into CAMS, those files must use UTF-8 character encoding.

## 6.4 Installing and Configuring a Diff Program

### Use

In order to use the CAMS document comparison (Was/Is) functionality, you must download and install a diff program, such as Windiff. SAP does not include a diff program in the CAMS delivery.



Current CAMS customers can continue to use tkDiff; however, this requires some setup as described in the *CAMS Upgrade Master Guide*.

If no diff program is defined, the Was/Is functionality will not work. Attempts to use it will display an error message.

### Prerequisite

You have downloaded the diff program.

### Procedure

1. The diff program must be installed either in the **same** location on all client drives, e.g., `C:/Program Files/WinDiff`, or in a shared location. It must be in a directory location that is outside the CAMS directory structure.
2. You must then set the *Diff (Was/Is) program* configuration parameter to point to the directory in which the diff program is installed. For example, to use Windiff installed in the `Program Files` directory on all client drives, you would set the configuration parameter as `C:/Program Files/WinDiff/windiff.exe`.

To set the *Diff (Was/Is) program* configuration parameter, select the *CAPP Maintenance* → *Configuration Parameters* → *Common* menu and then click the *Miscellaneous Parameters* bar to open that section.