WebCenter 21.07

Maintenance Guide

ESKO✱

Contents

1. Copyright Notice

Correspondence regarding this publication should be forwarded to:

Esko Software BV

Kortrijksesteenweg 1095

B – 9051 Gent

info.eur@esko.com

2. Maintenance

2.1. Installation Tips

2.1.1. Create a Detailed Installation Log

For Installation debugging and troubleshooting purposes, you can create a detailed installation log file for any Esko Installer programs. To do this:

Run setup using the following syntax: Path+program space /v"/l*v space path+logfilename

- For example: For ArtiosCAD Enterprise installation from CD-ROM in my D:\ drive,

- Open a command prompt and Change to the D:\ drive

- Type: setup /v"/l*v c:\temp\ACsetup.log"

2.2. WebCenter Schema

Every time a new installation or upgrade is performed, the Database Schema scripts should always be run. Schema changes are guaranteed for each version and build.

Since WebCenter 12.1, the database schema scripts can be run automatically from the installer, which is recommended. In case a problem occurs, or additional parameters are needed, the scripts can still be run manually.

Note: Since WebCenter 12.1, no files need to be copied to the database server in case the database is not installed on the Application Server. The scripts can simply be run from the Application Server itself.

To run the database scripts manually from the Application Server, execute the following steps:

1. Open a command prompt and go to `\Esko\Artios\WebCenter\ServerTools`.
2. Type `update_db.bat` to check your current configuration.
3. To run the database script, type `update_db.bat` and at least the "sa" password for MSSQL or "sys as dba" for Oracle. This operation can take a considerable amount of time in case there are a lot of projects and documents with attributes.
4. In case of errors check the `servertools.log` in `\Esko\Artios\WebCenter\ServerTools`.

2.3. Cleaning Up the Database and FileStore

Items deleted through WebCenter's web interface are not permanently deleted from the Database or the FileStore, only removed from the user interface. An Admin may be able to restore them if necessary.

To delete them permanently (to keep the Database and FileStore sizes manageable), you should run the **Cleanup Utility**.

Note: We recommend you run this regularly (every week for example).

Important: Do not run this utility during busy hours. The users might experience database deadlocks.

Read also *https://wiki.esko.com/display/KBAS/KB74647891:+WebCenter+-+Use+of+Cleanup+Utility+in +WebCenter*

- To run the utility:

  On the **Application Server**, go to `C:\Esko\Artios\WebCenter\ApplicationServer \Cleanup` and double-click `cleanup.bat`.

  You don't need to enter any parameter in the script. It will run and close itself automatically when done.

  This cleans up all FileStore files and Database records deleted through the WebCenter interface.
- To configure the utility to only clean up files and records deleted a certain time ago in the interface:
  a) On the **Application Server**, go to `Artios\WebCenter\ApplicationServer\Cleanup \config` and open `access.properties` in a text editor.
  b) For each table, change **age=0** to the number of hours ago files and records must have been deleted for them to be cleaned up.

     For example, enter **168** hours if you want to only clean up files and records that were deleted at least 1 week ago in the interface.
  c) Save and close `access.properties`.
  d) Restart the WebCenter services on the Application Server.
- To schedule the Cleanup Utility to run automatically, use the Windows Scheduler.

2.4. Temporarily Block Access to a WebCenter Site

You may sometimes be required to bring down a WebCenter server for maintenance or upgrade. To prevent users from accessing yourWebCenter sites at that point, you can stop all IIS services on the Web Server. However, this will give anyone who types in your URL an error message, "Page Cannot Be Found". Alternatively you can convey the message in a user-friendlier page.

To redirect a virtual site to a specific page:

1. On the Web Server, open IIS Manager and expand Web Site node.
2. Right click on an WebCenter instance that should show the maintenance page and choose **Properties**.

3. Select option **Manage Virtual Directory** > **Advanced Settings**.

4. In the popup window there should be a "Physical Path" option set to the tomcat directory of WebCenter_Inst

   Note: This path typically is like <drive>:\Esko\Artios\WebCenter\WebServer\tomcat\webapps\WebCenter_Inst

5. Set this Physical path to some other folder on the system containing the maintenance page (e.g. c:\maintenance). Create your nice maintenance page and put it in the maintenance folder as the "index.html" (e.g. c:\maintenace\index.html)

6. Test changes in IIS Manager.

7. Right click on the Virtual Site name and choose <Browse>.

8. You should see your custom page display correctly in right half of console.

9. You can test changes using Internet URL.Open a web browser and type in the site's URL. You be brought to your custom page as well.

10. Repeat these steps for each WebCenter virtual site you wish to block access.

To stop redirecting sites to a custom page:

• Change each WebCenter Virtual Site to use its own Tomcat directory.

• On the Web Server, open IIS Manager.

• Expand your Web Site node until you see your WebCenter virtual sites listed. Right click on an WebCenter Virtual Site that is redirecting (i.e. WebCenter_Dev).

• Choose Properties.

• On the Virtual Directory tab, locate the Local Path field.

• Click <Browse> button. Change to \Artios\WebCenter\WebServer\Tomcat\webapps directory.

• Select the folder name that matches the virtual site name (i.e. WebCenter_Dev). Click <Apply>.

• On Documents tab, highlight your custom page name at top of the list. Select <Remove> button. Click <Apply>, then <OK>.

• Ensure WebCenter services are all started on the Web Server and the Application Server.

• Test this site in IIS Manager. Right click on the Virtual Site name and choose <Browse>.

• You should reach the WebCenter login page. Test this site using Internet URL.

• Open a web browser and type in the site's URL. You be brought to same WebCenter login page.

• Repeat these steps for each WebCenter virtual site you desire to allow access.

2.5. Moving the FileStore

WebCenter's FileStore is installed by default on the Application Server within the `\Artios\WebCenter\` directory. The name and location can be changed as long as it meets the below requirements (even if it is a non-Windows system):

• Default share is named FileStore and can be renamed using alphanumeric characters only. For example: instead of using default location `C:\Artios\WebCenter\FileStore`, you may create a new share on D: partition called **ESKOFS** instead, `D:\ESKOFS`.

- New destination share must have local user called BGSYSTEM. There is a default password which can be changed as per your requirement. Ensure that the Password never expires.
- It is NOT recommended that the group EVERYONE is given access to the new destination share. If so, please remove this share and security permission.
- New local user BGSYSTEM must have full share and security permissions to the new destination share.
- The new destination share must be reachable from the WebCenter's Application Server.
- If you are configuring a production Automation Engine server instead of the OBGE (not recommended), the Automation Engine production server's local user BGSYSTEM also requires full permissions to the new destination share via Windows networking.
- WebCenter's Application Server should maintain constant connection to the new destination share and at no point shall lose the connection and if so then all WebCenter services must be restarted.

To move the FileStore from its default location:

1. Create the new share and ensure it meets the above requirements.
2. Test communication to new share from the Application Server.

   - From Application Server, log in as local user BGSYSTEM.
   - Browse to the new share.
   - Create a new text file within new share. Delete test file after successful writing.
3. Stop IIS and WebCenter Services on both the Web and the Application Server. This ensures that no files are in use and locked for backup.

   - On Web Server: IIS Admin, Word Wide Web Publishing, HTTP SSL, and WebCenter Tomcat.
   - On the Application Server: WebCenter JBOSS, and WebCenter CAD-X.
4. Backup the Web Server, Application Server, Database, and current FileStore share. You may want to have a full normal backup of any \Artios directory on both servers, as well as a full backup of current FileStore share.
5. Move entire contents of current FileStore share to its new destination share.

After the move, follow these steps to ensure it works correctly:

1. After move is completed, ensure new share is not marked as 'Read Only'. If so, remove the attribute on share and all subfolders and files.
2. Uninstall WebCenter completely. Please note that changing configuration files is not supported. A reinstall is **always** required.
3. Inspect the old FileStore share's **Properties**. Record the total size, number of files and folders. Use this information after the reinstall is finished for comparison.
4. Rename old share (i.e. \Artios\WebCenter\FileStoreOLD).
5. Reinstalling WebCenter using the new FileStore share. **You must use a UNC path to the new FileStore share in these files**. You CANNOT use a mapped network drive.
6. On WebCenter's Application Server, configure the OBGE to use the new FileStore location.

   - Using the Pilot, login as an admin user.
   - Delete the old container and add a new container.
   - Using the Configure tool (Tools - Configure) delete the container pointing to the old FileStore share (FileStore@<application_server_name>).
   - Using the Configure tool, create a new container pointing to the new FileStore share (<new_share_name>@<new_server_name>).
   - Delete the old hotfolder or Access Point and add a new hotfolder/Access Point.

- Convert the old JDF Folder to a normal folder.
- Convert the new hotin folder to a JDF hotfolder or Access Point Folder.
- Expand the new container pointing to the new FileStore share.
- Configure the hotin and hotout folders of your new JDF hotfolder or Access Point.
- Make sure your Folder is Active.

7. Restart IIS and WebCenter services on both Web Server and Application Server.

8. Test WebCenter with the new FileStore location.

9. Login to WebCenter as an admin or a project manager.

10. Create a new project.

11. Upload a new "Graphics File" document. Follow the successful upload link to the document details. Ensure you see a "Checking and Registering" message in the document header.

12. Wait about a minute and refresh the WebCenter page. You are waiting for Checking and Registering to finish. You will see a 3D thumbnail and 'View and Annotate' will appear in the Document Actions menu.

13. Launch the View and Annotate applet on the new Graphic file.

14. Search and open an existing Graphic file. Ensure you can launch the View and Annotate tool as well.

15. Upload an ArtiosCAD ARD file and ensure can view 3D Model successfully.

16. Download any document.

3. Configuration

3.1. Configuring ArtiosCAD Defaults

To properly configure CAD-X for best WebCenter performance and display, make the necessary changes to the ArtiosCAD settings that WebCenter uses.

The following settings should already be applied after installing ArtiosCAD 12.1 or higher, but you can verify or change them:

1. On the Application Server, open ArtiosCAD.
2. From menu bar, choose **Options** > **Defaults**.
3. Expand **Database Defaults** and open the **General Options**.
4. Make sure the **Design Thumbnail** format is **ArtiosCAD 3D**, click **Apply** then **OK**.
5. Expand **Design Defaults – VRML Export Options for CAD-X**.
6. Make sure **Use compression** is selected, deselect **Automatically Open**, and click **OK**.
7. Set the **View Zoom Factor** to 90%.

To enable different download formats for CAD files, execute the following steps:

1. Expand **Outputs - Artios – Export to Common File Formats**.
2. Repeat the steps below for each export conversion desired for WebCenter downloads:
   a. Open the data item (DXF Inch, etc.) by double clicking it.
   b. Within the **Shown In** section, select **WebCenter**.
   c. Click **OK**.

After changing the Defaults, make sure to save them by choosing **File** > **Save**.

3.2. Configuring to use NAT translation

It is essential for the correct working of WebCenter that the Web Server can find the Application Server via host name resolution and that the host name used for directing the Web Server to the Application Server matches the host name set for the Application Server.

JBoss on the Application Server resolves its own host name dynamically and communicates this to the Web Server. The host name must match the one provided on the Web Server or WebCenter will not work.

The best way to make this work, is if the Web Server can find the Application Server via DNS records or via active directory look-up.

If however this is impossible (for example for security or other reasons), a possible workaround is to manually configure the host mapping on the Web Server. If this workaround is used it is ESSENTIAL that it is properly documented. It will make the system work, but without proper insight into the

configuration, troubleshooting can become problematic (for example when the IP address of the Application Server is changed).

To preform this workaround, open `C:\Windows\System32\drivers\etc\hosts` in a text editor and add the line: `<ip_address> <app_server_host>` (for example: `10.20.30.40 mywcrappserver`), then save the file.

From then on any resolving of the Application Server host name from the Web Server side will result in the provided IP address.

In case of NAT translation it is of course the IP address visible to the Web Server that needs to be used.

3.3. Create Usage Log Files for Each Virtual Site

WebCenter creates Usage Log files for each WebCenter site. Refer to LOG FILES section for details. The location and names of these log files can be changed so that each virtual site has its own set of log files.

For example: I have 3 virtual sites (WebCenter, SamAdams, and BlueMoon). I configure WebCenter site to have different log files than SamAdams and the BlueMoon sites. This way I know who is doing what and from which UI - even though they are all using the same database!

On the Web Server, using Notepad, Edit each site's config.xml appropriately.

• Located in \Artios\WebCenter\Tomcat\webapps\<sitename>\config folder.
• Locate the <MetricsFiles> tag, as seen below:

<MetricFiles>

<MetricsFile id="CheckOut" path="C:\Artios\WebCenter\logs\WebCenterCheckoutLog.txt"/>

<MetricsFile id="Download" path="C:\Artios\WebCenter\logs\WebCenterDownloadLog.txt"/>

<MetricsFile id="Upload" path="C:\Artios\WebCenter\logs\WebCenterUploadLog.txt"/>

<MetricsFile id="Login" path="C:\Artios\WebCenter\logs\WebCenterLoginLog.txt"/>

</MetricsFiles>

• Modify the path and file name of each the 4 log files as desired.

> **Attention:** If you change the path of the log files, be sure that the local Administrators Group and the local IIS users (IUSR_<localcomputername> and IWAM_<localcomputername>) of the Web Server have full permissions to the destination location, and that the new location's local Administrators Group has full permissions to the virtual sites tempfiles folder on the Web Server. Without proper permissions, log files cannot be written there.

• Save Changes and Exit.
• Repeat for each Virtual Site.
• On the Web Server and the Application Server, restart WebCenter services for changes to take affect.

3.4. Modify main configuration files

3.4.1. appconfig.xml

This file contains configurable application data (described below):

- FileStore location (changing not recommended, reinstalling WebCenter is always preferred)
- Log File names and locations
- Search Crawler settings
- ArtiosCAD 2D View layers used in WebCenter (overlays)

- ArtiosCAD Design files print side used

On the Application Server edit `C:\Artios\WebCenter\Config\appconfig.xml` (this is always on the C:\ drive).

- Make modifications, Save changes, and Exit.
- Restart all IIS and WebCenter services on both the Web Server and the Application Server for changes to take effect.

3.4.2. ImageList.ini

The Viewer's configuration file contains the path and location of the FileStore, which holds the pyramid files to be retrieved by viewer.

> ⚠️ **Attention:** If you have moved your FileStore after initial application installation, it is always recommended to reinstall WebCenter.

- on the Application Server, open \Artios\WebCenter\ApplicationServer\program\ImageList.ini and verify that the paths are correct.

3.5. Change file name used at the time of download

A configuration has been added for allowing you to decide how a specific site handles file downloads. Each virtual site has its own configuration, so they can all be different. The purpose is to control the file name assigned to the file being downloaded—whether it keeps the name displayed in WebCenter or the original disk file name it was at the time of upload.

In WebCenter, on the General Information page of any Document, there is new data displayed called "Original Disk Filename". No—this "Original Disk Filename" value is NOT searchable.

Here is an example of how these download settings work:

- Config file set to False.
- Uploaded Peter.txt file as version 1 to WebCenter.

- On Gen Info page, Orig. disk Filename = Peter.txt.

- Locked Peter.txt.
- Uploaded New version —but browsed to Melissa.txt.
- Result was:
- Document remains named Peter.txt as version 2.
- BUT on Gen Info page, Orig. disk Filename = Melissa.txt.
- When choose to download version 2, name of file to be saved is Peter.txt
- Config file set to True.
- Uploaded Craig.txt file as version 1 to WebCenter.

- On Gen Info page, Orig. disk Filename = Craig.txt.

- Locked Craig.txt.
- Uploaded New version —but browsed to Chris.txt.
- Result was:
- Document remains named Craig.txt as version 2.
- BUT on Gen Info page, Orig. disk Filename = Chris.txt.
- When choose to download version 2, name of file to be saved is Chris.txt.

To change the way a specific site downloads files:

- On the Web Server, edit \Artios\WebCenter\WebServer\tomcat\webapps\<sitename>\config \config.xml.
- Locate section below:

<!— Download name option —>

<!— true - to use the uploaded document version file name when downloading —>

<!— false - to use the original document name when downloading à

DocVersionDownloadName value="false"/>

- Change value of DocVersionDownloadName from true to false as desired.
- On the Web Server, Restart WebCenter Tomcat service for changes to take affect.

3.6. Change CAD plotting style in WebCenter and Viewer

- Backup your style.xml file within your FileStore share.
- Within your FileStore share, Browse to \FileStore\views\Style directory.
- Make a copy of style.xml for backup purposes.
- on the Application Server, open ArtiosCAD and modify Defaults.

- From the menu bar, choose Options – Defaults, then expand Plotting Style Catalog.

- Select desired plotting style(s) and make necessary modifications.
- Click <Save as XML> button, and save the file to desktop with exact name of style.xml.
- <OK> to exit, Close Defaults, Save Changes, and Exit ArtiosCAD.

- Copy new style.xml file from desktop into existing FileStore location.

- Copy the new file and replace one in your FileStore in the \FileStore\views\Style directory.

- Changes will take effect immediately, no need to restart any WebCenter services.

4. Backup and Restore Strategy

To properly back up WebCenter and ensure you can recover from a disaster, such as disk failure, there are 3 major components to be able to restore successfully and minimize your downtime:

- WebCenter application, configurations, and Virtual Sites
- WebCenter's FileStore and Database
- OBGE/Automation Engine application, configurations, and Database

In the event of a disaster (disk or system failure) or in case you want to setup a test system that mimics your production environment from a specific point in time, then you will need to rely on whatever Backup Plan you have in place to successfully Restore to a specific state in time.

Backups can be performed using 3 methods: **Full**, **Incremental** and **Differential**. We suggest you choose one of the following Backup Modes:

- **Always Full** - you back up all files every time, whether some of them were changed or not.
- **Full+Incremental** - you create a **Full** backup relatively seldom: once a month, or once a week, or on achieving some important point in your work. You create all other backups with the **Incremental** mode, only backing up files changed since the last backup.

  This approach is good when the project includes too many files to do a **Full** backup each time. It is faster and takes less disk space than a **Full** backup. It also allows you to create backups more frequently.

  However, to restore all the files, you have to restore the last **Full** backup, then all the following **Incremental** backups.

- **Full+Differential** - is an intermediate mode. Each **Differential** backup includes all the project files changed since the last **Full** backup. It takes less time and space than **Always Full**, but more than **Full +Incremental**.

  The good thing is that restoring is simpler than for **Full+Incremental** - you will only have to restore the last **Full** backup and the last **Differential** backup.

4.1. What to Back up for WebCenter

- The WebCenter application, configurations, and Virtual Sites.
- The Application Configuration only needs to be backed up after initial installation, upgrades, or when changes are made to application configuration files.
- Virtual Sites need to be backed up when they are initially created and after each modification.
- WebCenter's FileStore and Database.
- The Database and FileStore need to be backed up at least on a daily basis. Furthermore, they must be backed up at the same time. One is useless without the other.
- The database cannot be locked in any way during backup procedures, otherwise WebCenter will stop responding and all WebCenter services will need to be restarted.
- If the database is out-of-sync with the FileStore, or vice-versa, then your clients will receive errors and your data will become corrupt.

- It is recommended that you create a backup plan that will copy the database and FileStore at the same time several times per day, during your peak hours of activity.
- The OBGE/Automation Engine application, configurations, and database.
- If the OBGE was installed on the Application Server, then its application and configuration only needs to be backed up after initial installation, upgrades, or when changes are made to the configuration files.
- If using a Production Automation Engine server rather than the OBGE (which is NOT recommended but is possible), its database should be backed up daily, if not several times per day.
- If backups of the database and FileStore cannot be synchronized fully, it is preferred to first back up the database and immediately thereafter the FileStore. This will ensure all files referred in the database are also present in the FileStore. Files added after the database backup will be orphaned and are best removed after restore using the WebCenter clean up tool.

4.1.1. An Example Backup Plan

- WebCenter application, configurations, Database, and Virtual Sites
- After initial installation/upgrade, make full system backups of the Web, Database, and Application Servers.
- Store these backups off-site on tape for safe keeping.
- When changes to Virtual Sites and/or application configurations are made, retrieve the tapes and back up the Web and/or Application Server in full again. Return tapes to off-site storage when finished.
- OBGE/Automation Engine application, configurations, and database.
- During initial installation, either the OBGE was installed on the Application Server, or a production Automation Engine server was configured. Determine which server was used.
- Using the Server Admin tool, located at **Start** > **Programs** > **Esko** > **Automation Engine**, configure and setup backups for the software application and database:
- On the Automation Engine tab, configure a server software backup and Backup Server Software configuration using the Wizards.
- On the Database tab, use the <Manage Databases> button to Database Properties and Backup Database.
- WebCenter's FileStore and Database
- Hardware Configuration: Configure a mirrored disk RAID subsystem on the Application Server. The rest of the disks should be configured with a different RAID level, such as parity. On the mirrored partition, only the system Operating System is installed and a directory for the purpose of storing temporary backup files, such as "WC_BACKUP". The parity RAID drives will be where WebCenter applications and OBGE are installed.
- Schedule Full backups:
- On the Application Server, use backup software, such as Veritas, to schedule a Full backup of the FileStore to Tape every Sunday at 2 am (a day and time where little or no system activity can be guaranteed).
- On the Database Server, use database backup software, such as Veritas SQL Server Agent, to schedule a Full WebCenter Database backup to Tape at exactly every Sunday at 2 am, the same time as the FileStore backup.
- Store these weekly Full backup tape(s) off-site for safe keeping when not in use during the week.
- Schedule daily Incremental backups to local disk:
- We determined most active hours for WebCenter activity. We choose times of day that will satisfy us in the event we have to recover (8am, 12pm, 4pm, 8pm).

- on the Application Server, schedule daily Incremental backups (8am, 12pm, 4pm, 8pm) to backup FileStore to local disk on the Application Server in directory "WC_BACKUP" on the mirrored disk raid.
- On the Database Server, schedule daily Incremental backup at exactly same time as the FileStore backup (8am, 12pm, 4pm, 8pm), to backup the database to a local disk on the Application Server in the "WC_BACKUP" directory .
- Schedule daily Differential backups to tape.
- We determined a time of day that has least WebCenter activity and ensures that the other daily backups have completed writing to disk (11pm).
- on the Application Server, schedule a Differential backup of the FileStore to Tape every day (except Sunday) at 11pm (a time after the last Incremental backup completes and when little or no system activity can be guaranteed).
- On the Database Server, schedule a Differential backup of database to Tape every day (except Sunday) at exact same time as FileStore backup at 11pm (a time after the last Incremental backup completes and when little or no system activity can be guaranteed).

Example Backup Schedule

Frequency	Day & Time	What	Where	How	To
Manually as needed	At time of installation and when changes are made	Entire system, all partitions (contains WebCenter application files, configurations, Database, and Virtual web Sites)	Web Server, Database Server, and Application Server	FULL	TAPE
Manually as needed	At time of installation and when changes are made	Entire system, all partitions (contains OBGE/Automation Engine app, configurations, and Database)	Application Server or Production Automation Engine server	FULL	TAPE
Weekly	Sundays at 2am	WebCenter's FileStore	Application Server	FULL	TAPE
Weekly	Sundays at 2am	WebCenter's Database	Database Server	FULL	TAPE
Daily	8am, 12pm, 4pm, 8pm	WebCenter FileStore and Database	Application Server	INCREMENTAL	DISK
Daily	8am, 12pm, 4pm, 8pm	WebCenter's Database	Database Server	INCREMENTAL	DISK

Frequency	Day & Time	What	Where	How	To
Daily (except Sundays)	11 pm	WebCenter FileStore and Database	Application Server	DIFFERENTIAL	TAPE
Daily (except Sundays)	11 pm	WebCenter's Database	Database Server	DIFFERENTIAL	TAPE

4.1.2. An Example Restore Plan

> ⚠ **Attention:** Anytime you restore a WebCenter SQL Server database, you must fix orphaned logins before the database is usable. See *Restoring the master database* on page 24 for more information.

PROBLEM: Disk failure on the Application Server, Thursday 6/15/06 at 2:26 pm.

SOLUTION: Assuming the backup schedule is the same as the chart above, this is a 5 part restore plan:

• Determine exact period of data loss and inform specific users of activity that will need to be redone.
• Repair systems
• Restore WebCenter application to a working state.
• Restore WebCenter application configurations.
• Restore data using most recent point of backup for the WebCenter FileStore, Database, and Virtual Sites.

This is a possible course of action:

• Determine data loss risk and begin communicating this to end users.
• Calculate the difference between the time of failure and the time of the last incremental backup to disk.
• In this example, the data loss risk would be 12pm – 2:26pm, approximately 2.5 hours.
• This means that any changes made to WebCenter during these 2.5 hours will be lost.
• Determine which users were logged into WebCenter during the 2.5 hours and inform them they will need to redo this work after system has been restored.
• Using WebCenter usage log files, you can determine what users were logged in at the time of failure.
• Using WebCenter usage log files, you can determine what activities users performed in WebCenter as it relates to Uploads, Downloads, and versioning of files during the 2.5 hours where you will lose data.
• Resolve point of failure in hardware or software.
• Reinstall from original Media or Restore WebCenter application from Tape (no data at this point).
• Ensure that you use the exact same version and build used before point of failure.
• Test blank application.
• Ensure WebCenter application is working in the correct network configuration (such as in a DMZ with SSL security) using a blank database, blank FileStore, and the Installation site is accessible (WebCenter_Inst).
• Ensure that you can create a new project, upload a document, use View and Annotate tool, download a document, etc.

- Restore Database, FileStore, and Virtual Sites
- Using backup Tapes, restore files from the Last FULL Tape Backup (Sunday 6/11/06).
- Then restore files using the previous nights DIFFERENTIAL backup Tapes (Wed 6/14/06).
- Then restore files using ALL the current days incremental backups to Local Disk up until point of failure, ensuring to apply them in proper order (Thurs 8am first then Thurs 12pm).
- Run the database restore script to reset 'WebCenter' user login.
- For the SQL Server, you must run the stored procedure against WebCenter4_0 database.
- Using Query Analyzer, type in these 2 command lines below:

Use WebCenter4_0

Sp_change_users_login auto_fix, WebCenter, null, **Database Password**

- Run the query.
- You should see a message that orphaned records have recovered.
- Restart all IIS, WebCenter, and Database services on the Web Server, Application Server, and Database Server.
- Test the application with the restored data.
- Verify can view existing projects, download docs, and use View and Annotate tool on existing documents.
- Verify can create new projects, upload documents, use View and Annotate tool on new docs, download new docs in existing database, etc.
- Do a FULL backup on all systems.

4.2. Microsoft SQL Server (2008 R2 or later) Backup and Restore

Backing up the WebCenter database is a critical part of its maintenance. If the database is lost, there is no way to rebuild it without a valid backup.

Microsoft SQL Server 2008 R2 or later version uses a master database in conjunction with the WebCenter4_0 database. Both must be backed up regularly in order to be able to recover from a database failure.

4.2.1. Backing up the WebCenter database

To back up the Microsoft SQL Server 2008 R2 or later database used by WebCenter, do the following:

1. Log on to the database server as a member of the local **Administrators** group.
2. Start **SQL Server Management Studio Express** in the Microsoft SQL Server 2008 folder on the **Start** menu.
3. In the **Connect to Server** dialog, enter the server name in the **Server name:** field if it is not there already, followed by **\<instance name>**, such as **MBCAPPSERV\WEBCENTER**.

   If you used the default instance and not a named instance, just enter the server name.
4. Click **Connect**.
5. Click the plus sign (**+**) next to the **Databases** folder icon to expand it.
6. Right click **WebCenter4_0**, click **Tasks**, and then click **Back Up**.

7. In the Back Up Database - WebCenter4_0 dialog, set the **Backup type**: to either **Full** or **Differential**.

   Full is a complete backup, while **Differential** is everything that has changed since the last full backup. The first backup must be a full backup.

   A recommended strategy is to make a **Full** backup once a week and a **Differential** backup on the other days.

8. In the **Backup set** group, enter the current date in the **Description:** field.

9. In the **Destination** group, select either **Disk** or **Tape**.

   Tape is unavailable if there is no tape drive attached to the system. Most installations will use Disk.

   A default backup location and file name is shown. To change the location and file name, first select the default location and click **Remove**, and then click **Add** and enter a new location and file name.

   A disk backup may only be made to an internal physical disk on the system; you may not specify an external drive or a network drive.

10. Click **Options** in the **Select a page** pane.

11. In the **Overwrite media** group, select **Overwrite all existing backup sets** for a full backup. For a differential backup, leave **Append to the existing backup set** selected.

12. Click **OK** to start the back up.

13. Click **OK** when informed that the back up of database 'WebCenter4_0' completed successfully.

Copy the backup file whose location was set in step 9 to a different hard drive or networked drive. It is also recommended that the location is part of your general backup strategy.

The WebCenter database is now backed up.

4.2.2. Backing up the master database

The master database does not need to be backed up as frequently as the WebCenter database, but it still should be backed up regularly.

To back up the master Microsoft SQL Server 2008 R2 database, do the following:

1. Log on to the database server as a member of the local **Administrators** group.

2. Start **SQL Server Management Studio Express** in the Microsoft SQL Server 2008 folder on the **Start** menu.

3. In the **Connect to Server** dialog, enter the server name in the **Server name:** field if it is not there already, followed by **\<instance name>**, such as **MBCAPPSERV\WEBCENTER**.

   If you used the default instance and not a named instance, just enter the server name.

4. Click **Connect**.

5. Click the plus sign (+) next to the **Databases** folder icon to expand it.

6. Click the plus sign (+) next to the **System Databases** folder icon to expand it.

7. Right click **master**, click **Tasks**, and then click **Back Up**.

8. In the **Backup set** group, enter the current date in the **Description:** field.

9. In the **Destination** group, select either **Disk** or **Tape**.

   Tape is unavailable if there is no tape drive attached to the system. Most installations will use Disk.

   A default backup location and file name is shown. To change the location and file name, first select the default location and click **Remove**, and then click **Add** and enter a new location and file name.

A disk backup may only be made to an internal physical disk on the system; you may not specify an external drive or a network drive.

10. Click **Options** in the **Select a page** pane.
11. In the **Overwrite media** group, select **Overwrite all existing backup sets**.
12. Click **OK** to start the backup.
13. Click **OK** when informed that the backup of database 'master' completed successfully.

Copy the backup file whose location was set in step 9 to a different hard drive or networked drive. It is also recommended that the original location is part of your general backup strategy.

The master database is now backed up.

4.2.3. Restoring the WebCenter database

There are three situations in which you would have to restore the WebCenter database: a hard drive failure, a corrupt database file, or corrupt data within the database.

Recovering from a hard drive failure

When the hard drive holding the WebCenter database fails, after you have replaced it and reloaded the Microsoft SQL Server 2008 R2 software (if necessary), do the following to restore the WebCenter database:

1. Log on to the database server as a member of the local **Administrators** group.
2. Start **SQL Server Management Studio Express** in the Microsoft SQL Server 2008 folder on the **Start** menu.
3. In the **Connect to Server** dialog, enter the server name in the **Server name:** field if it is not there already, followed by **\<instance name>**, such as **MBCAPPSERV\WEBCENTER**.

   If you used the default instance and not a named instance, just enter the server name.
4. Click **Connect**.
5. Once connected to the database, right-click the **Databases** folder and click **Restore Database** on the context menu.
6. In the Restore Database dialog, in the **Source for restore** group, click **From device**.
7. Click the **...** (Browse) button at the end of the **From device:** field.
8. In the Specify Backup dialog, click **Add** and select the file to which you backed up the WebCenter database, for example **WebCenter4_0.bak**.
9. Click **OK**. The selected file should be listed in the **Backup location:** field in the **Specify Backup** dialog.
10. Click **OK**. A list of full and differential backup sets should appear.
11. Select all the backup sets in the Restore column. If you chose to not have full backups overwrite each other, select the most recent **Full** backup and all the **Incremental** backups (or the last **Differential** backup) taken after it.
12. In the **Destination for restore** group, in the **To database:** list, select **WebCenter4_0**.
13. Click **OK** to start restoring.

Click **OK** when informed that the restore completed successfully.

The database should now be restored and ready for use by WebCenter.

Recovering from a corrupt database file

If the database file becomes corrupted and unreadable, meaning **WebCenter4_0.mdf** still exists but Microsoft SQL Server 2008 R2 cannot read it, do the following to restore the WebCenter database:

1. Log on to the database server as a member of the local **Administrators** group.
2. Start **SQL Server Management Studio Express** in the Microsoft SQL Server 2008 folder on the **Start** menu.
3. In the **Connect to Server** dialog, enter the server name in the **Server name:** field if it is not there already, followed by **\<instance name>**, such as **MBCAPPSERV\WEBCENTER**.

    If you used the default instance and not a named instance, just enter the server name.
4. Click **Connect**.
5. Once connected to the database, right-click the **Databases** folder and click **Restore Database** on the context menu.
6. In the **Restore Database** dialog, in the **Source for restore** group, click **From device**.
7. Click the **...** button (Browse) at the end of the **From device:** field.
8. In the Specify Backup dialog, click **Add** and select the file to which you backed up the WebCenter database, for example **WebCenter4_0.bak**.
9. Click **OK**. The selected file should be listed in the **Backup location:** field in the **Specify Backup** dialog.
10. Click **OK**. A list of full and differential backup sets should appear.
11. Select all the backup sets in the Restore column. If you chose to not have full backups overwrite each other, select the most recent **Full** backup and all the **Incremental** backups (or the last **Differential** backup) taken after it.
12. In the **Destination for restore** group, in the **To database:** list , select **WebCenter4_0**.
13. In the **Select a page** pane, click **Options**.
14. In the **Restore options** group, select **Overwrite the existing database**.
15. Click **OK** to start the restore.

Click **OK** when informed that the restore completed successfully.

The database should now be restored and ready for use by WebCenter.

Recovering from corrupt data

If the database file contains corrupted data, meaning that Microsoft SQL Server 2008 R2 can read the database but that there is missing or incorrect data, think carefully about the restoration, as whatever data was added to the database since the last backup will be lost after the restoration with no way to recover it. You should ensure as few users as possible are using WebCenter before performing this procedure.

1. Log on to the database server as a member of the local **Administrators** group.
2. Start **SQL Server Management Studio Express** in the Microsoft SQL Server 2008 folder on the **Start** menu.
3. In the **Connect to Server** dialog, enter the server name in the **Server name:** field if it is not there already, followed by **\<instance name>**, such as **MBCAPPSERV\WEBCENTER**.

    If you used the default instance and not a named instance, just enter the server name.
4. Click **Connect**.

5. Once connected to the database, expand the **Databases** folder, right-click **WebCenter4_0**, and then click **Properties** on the context menu.

6. In the **Select a page** pane, click **Options**.

7. In the **Other options:** list, scroll to the bottom and double-click **Database Read-Only** to change its value from `False` to `True`.

8. Click **OK**.

9. Click **OK** to confirm changing the properties of the database and to close all other connections.

10. Right-click the **Databases** folder and click **Restore Database** from the context menu.

11. In the Restore Database dialog, in the **Source for restore** group, click **From device**.

12. Click the **...** button (Browse) at the end of the **From device:** field.

13. In the Specify Backup dialog, click **Add** and select the file to which you backed up the WebCenter database, for example **WebCenter4_0.bak**.

14. Click **OK**. The selected file should be listed in the **Backup location:** field in the **Specify Backup** dialog.

15. Click **OK**. A list of full and differential backup sets should appear.

16. Select all the backup sets in the Restore column. If you chose to not have full backups overwrite each other, select the most recent **Full** backup and all the **Incremental** backups (or the last **Differential** backup) taken after it.

17. In the **Destination for restore** group, in the **To database:** list , select **WebCenter4_0**.

18. Click **OK** to start restoring.

Click **OK** when informed that the restore completed successfully.

The database should now be restored, automatically set back to multi-user mode, and ready for use by WebCenter.

Restoring the master database

If the master database is damaged or absent, as long as the **sa** user can connect to the database and backups have been made, use the above procedures to restore the master database, substituting **master** in the **System Databases** folder for **WebCenter4_0** as necessary.

If the master database is lost because of a disk crash and no connections are possible, uninstall and reinstall Microsoft SQL Server 2008 R2 and then restore the WebCenter4_0 database using the procedures described above.

After restoring the WebCenter 4_0 database subsequent to reinstalling Microsoft SQL Server 2008 R2, recreate the WebCenter user login for the database by doing the following:

1. Log on to the database server as a member of the local **Administrators** group.

2. Start a command prompt.

3. Type `osql -Usa -P"sa_user_password" -Sdatabase_server \instance_name` and press **enter**. If you are using the default instance, use `-Sdatabase_server` instead.

4. At the 1> prompt, type the following: `sp_addlogin 'webcenter', 'Database Password','WebCenter4_0'` and press **enter**.

5. At the 2> prompt, type `go` and press **enter**.

6. At the 1> prompt, type `use WebCenter4_0` and press **enter**.

7. At the 2> prompt, type `go` and press **enter**.

8. At the 1> prompt, type `sp_change_users_login update_one, webcenter, webcenter, null` and press **enter**.

9. At the 2> prompt, type `go` and press **enter**.

10. At the 1> prompt, type `exit` and press **enter**.

11. Close the command prompt window and log off the database server.

The database is now restored and ready for use by WebCenter.

5. Troubleshooting

5.1. Testing WebCenter

On the Application Server and the Web Server, ensure IIS and the WebCenter services are started and configured to start automatically.

After starting/restarting the WebCenter services, always wait a few moments until the CPU processor activity on both servers become idle (<5%) before attempting to access the login page.

Testing each facet of WebCenter in the exact order below helps to easily and quickly identify points of failure, if any.

• IIS Connectivity – use IIS Manager to access the WebCenter_Inst site
• IIS Security settings – can access the home page after logging in
• Database connection and Schema – can add a new record to the database
• FileStore connectivity – can write a file to the FileStore and then retrieve it
• View Data generation – can upload a graphic file and the OBGE does its job
• View and Annotate applet – can launch the applet successfully on a Graphic file
• View the status in the Trouble shooting tool for **View Server Deployment Status**

5.1.1. Verify IIS is working

• On the Web Server, from a web browser type: //<webservername> (such as //MBCWEBSERV).
• If you get an "Under Construction" page, IIS is working.
• If you get "The page cannot be displayed", then most likely IIS services are not started or still starting.

5.1.2. Verify Tomcat is working

• On the Web Server, from a web browser type: //<webservername>:8081 (such as // MBCWEBSERV:8081).
• If you get Tomcat's home page, Tomcat is working.
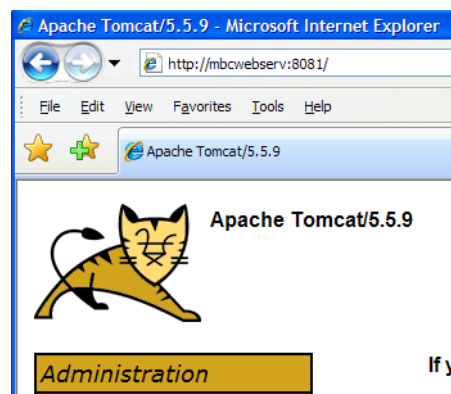
5.1.3. Test IIS connectivity

- On the Web Server, open IIS Manager and expand the website node.
- Right click on WebCenter_Inst virtual directory; choose Browse (only test with this directory for now).
- Wait… watch progress in status bar. Will take longer very first time…
- You should be brought to login page (login.jsp). If you get to this page, then you know IIS is responding.
- If not, verify IIS and WebCenter services are all Started. This is one of the most common errors.

- If services are all Started and still cannot access login page from IIS Manager, then see if you can bypass IIS and talk to Tomcat directly.
- Close IIS Manager and Open a web browser.
- In address URL type: http://<name_web_server>:8081/WebCenter_Inst (case sensitive)
- You should be brought to login page (login.jsp).
- If you can access this way using port 8081, then you know IIS cannot talk to Tomcat.
- Check whether 32-bit applications is set to **False** in IIS.

- Check via netstat whether TomCat is listening on port 8009.

5.1.4. Test IIS security settings

- Logon to WebCenter as username admin (if this is a new database, the password will be blank).

- Wait… watch progress in status bar. Will take longer very first time…You should be brought to the home page (homepage.jsp).

- If you get to this page, then you know that your security settings within IIS Manager are correct.
- If you get an error page, then you must look at your IIS settings for this virtual directory. Most of the time Execute Permissions and Application Protection settings need to be modified. This happens when the IIS default settings for the entire Web Site have been customized. You will experience

this most often when a customer is installing WebCenter into an existing IIS web server. Also check whether 32-bit applications are enabled in IIS.

5.1.5. Test Database connection and schema

- After logging in as user Admin successfully, create a new project. If you can add a new project successfully then your Database schema has been created correctly.
- If you cannot add a new project or receive SQL errors, run the Database Schema batch file again and ensure there are no error messages.

5.1.6. Test FileStore connectivity

- Still logged in as Admin, upload a PDF or Word Document as type "Other" to the project you just created.
- When receive successful message, click on file name link to view document Online.
- Either a new web browser window will open or native application will launch automatically and display contents of file. If you can view the contents of the file, then you know your FileStore is configured and working properly.
- If you cannot open and view it, then you may have FileStore permission issues. Did you move your FileStore off the Application Server? If so, go back and follow those directions again.

5.1.7. Test View Data Generation

- After correctly configuring WebCenter and OBGE on the Application Server, you should be able to upload ArtiosCAD design files, PDF, and Esko Graphic files as document type "Graphics File" and successfully use the View and Annotate tool on these types of documents. This means that the Checking and Registering message disappears and "View and Annotate" action is added to the document action list in top right corner.
- If the Checking and Registering message seems to take forever to disappear or never disappears, you can watch the communication between the two to see what is happening. To do this, open the OBGE and watch the jdf hotfolder activity.
- on the Application Server, login to Pilot as user admin.
- Expand the FileStore container.
- Expand JDFHotFolder - hotin subfolders. This is the folder in which WebCenter composes a JDF ticket and drops it off in this location for Automation Engine (OBGE) to pick it up and take action.
- Minimize Pilot.
- Open a web browser and login to WebCenter as user ADMIN.
- Upload a document of type "Graphics file" to a project.

> ⚠️ **Attention:** As soon as you click Upload button you must act quickly to do next few steps to be able to watch real-time communication between WebCenter and the OBGE.

- After upload says successful, immediately click file name link to jump to Graphic Details page.
- In document header you should see message next to document name "Checking and Registering...".
- Quickly minimize WebCenter, maximize Pilot.

- Watch creation of JDF ticket appear in the hotin folder.
- In the FileStore Container View within the monitor pane, you should see when Automation Engine (OBGE) begins processing the JDF ticket.
- You should see a running task named "Prepare for Viewer". Task should finish fast (definitely less than 1 minute).
- Once task finishes (successful or failed), you can see the JDF ticket move to the hotout folder.
- Minimize Pilot, maximize WebCenter.
- You should still be on that document's details page with "Checking and registering..." message still displaying.
- Refresh your browser window (F5).
- The "Checking and registering..." message should disappear and View and Annotate action appears in Document Action Menu.
- If task failed, a red 'X' and failure message will appear next to document name and no new action will appear in menu. Review the task log file within Pilot to see why task failed.

5.1.8. Cannot access WebCenter login page anymore

- Restart WebCenter Services in the correct order. Either use the batch files on the desktop or do them manually as below:

    - Stop all IIS and WebCenter services on the Web Server and the Application Server.
    - Start services on the Application Server first (JBoss, CAD-X, FlexLM, BGMD).
    - Then start services on the Web Server (IIS and Tomcat).
    - Wait until the CPU activity is idle on all servers (<5% activity).
    - Try to access the installation site (WebCenter_Inst) again.
    - Verify you are using the correct URL.
    - Ensure you are using the correct case– the W, C, and I are uppercase in WebCenter_Inst.
    - Test WebCenter's individual components.
- Do all of the previous steps under *Testing WebCenter* on page 26. This can rule out a port conflict or installation problem.
- Determine if the Code and web pages are of the same version.
- If you can access the installation site (WebCenter_Inst) but not a custom deployed site, it is possible that the installation site pages are a different version than your other virtual sites.
- For sites to be on different versions, WebCenter was upgraded but your custom sites were not. In this case, your WebCenter application has new code and is expecting the web pages to be version B and able to read new code, but the pages are still version A. This won't work.
- After an upgrade the only site that gets upgraded automatically is "WebCenter_Inst". Use the deployment tool to redeploy new sites.
- Determine if your configuration files are corrupted.
- Certain non-XML standard editors, such as WordPad or FrontPage, corrupt XML files when used and Java cannot compile them. The most common file that gets corrupted is APPCONFIG.XML.
- on the Application Server, browse to C:\Artios\WebCenter\Config (always on the C:\ drive).
- Open appconfig.XML file using a web browser.
- Right click on the file and choose Open With and chose any browser.
- You may sometimes receive the error page saying "The XML page cannot be displayed" as seen below.

- If you receive this message, your APPCONFIG.XML is corrupt. This means that someone edited this file with WordPad or an editor that changed the XML formatting.
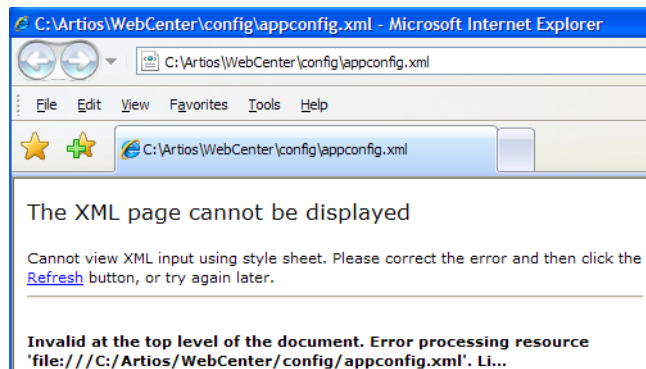
- To fix a corrupted page, you can restore this file from a known good backup, or reinstall WebCenter on the Application Server only. The latter means you will have to reconfigure most of the settings again.

- On restoration of the file, you must restart all IIS and WebCenter Services on the Web Server and Application Server for the new file to take effect.

  - Verify IIS ISAPI filters are correct
  - On the Web Server, open IIS Manager.
  - Right click on web server name node, and choose Properties.
  - On the ISAPI Filters tab, WCTomcat should have a green arrow pointing up.
  - Right click on WebCenter_Inst node, choose Properties.
  - In the Application Settings section, ensure Application Name ="WebCenter_Inst" and is not blank.
  - If blank, choose Create button to create it.
  - Right click on Jakarta node, choose Properties.
  - On Virtual Directory Tab, local path should be

```
\Artios\WebCenter\WebServer\Tomcat\bin\win32\i386
```

  If not, browse to it.

- Review IIS and WebCenter log files for obvious errors. Refer to the log files section for log file locations and details.

5.2. Easily Identify when WebCenter is Ready to Access

WebCenter services loads a lot of data into memory during startup of its services. It is important to watch the CPU activity before accessing a WebCenter site.

You want both the Web Server and the Application Server to have a CPU activity of under 5% before accessing the site, otherwise all components may not have started and you may experience error messages. Another way is to check whether `wcr_jboss_srv.exe` threads exceed 160 and `wcr_tomcat_srv.exe` threads exceed 100.

To help watch the CPU activity easily, add the CPU performance monitor to the system tray of each WebCenter server. To do this (on both the Web Server and the Application Server):

1. Create a new shortcut in the **Start Menu** > **Programs** > **Startup** folder.
2. Browse to `Windows\system32\TASKMGR.EXE`.
3. Set the shortcut to Run "Minimized".

5.3. Log files

5.3.1. Installation

A log of how WebCenter was installed, repaired, or upgraded will always be located on the Web Server right under the C:/ drive (`C:\WCInstall.log`). You can review this file for obvious errors and to see what settings were entered during the initial installation.

Web Server logfile rotation

Web server log files are split into day-encompassing blocks in the same way that the Application server log files are. This means that shortly after midnight, each day all the logs recorded the previous day on the Web server are zipped into a single ZIP archive with the time stamp of the day in the archive name for easier troubleshooting for the administrator.

This logic adds all the following log file types on the Web server into the target archive:

- catalina.log
- SDK.log
- localhost_access.log
- localhost.log

Note: Some of those log file types may not always exist for that particular day. For Example, Access log file is only written if a servlet error occurred during that time period in the Web server.

Shared log file age limit

Both the Application and Web server log files share the age-limit. The length of time the log file archives are to be stored in the system can be set. Log file archives older than the set value will be removed shortly after midnight each day.

5.3.2. Site Usage

Usage log files are located on the Web Server by default, in `\Artios\WebCenter\logs`. They record activities such as:

- Logins/Logoffs (including when sessions time out and when users click **Logout**).

  `WebCenterLoginLog.txt` example:

  ```
  Action Date/Time User Reason
  LOGOUT Apr 21, 2006 4:23:18 PM JOEC Reason: user logged out
  LOGIN Jun 13, 2006 9:46:01 AM MELISSAA
  LOGOUT Jun 13, 2006 10:14:53 AM MELISSAA Reason: session timed out
  ```

• File CheckOuts/CheckIns (Lock & Downloads and Upload of new versions).

`WebCenterCheckoutLog.txt` example:

```
Action Date/Time User File Unique Doc ID Size (bytes)
CHECKIN Jun 7, 2006 2:13:08 PM MIKEG ACAD Demo.ARD 00002_0000025472 50176
CHECKOUT Jun 8, 2006 2:07:20 PM CHRISJ R.ARD 00002_0000025613 10240
CHECKIN Jun 8, 2006 2:07:54 PM CHRISJ R.ARD 00002_0000025614 10240
CHECKOUT Jun 9, 2006 8:24:15 AM CHRISJ 4A.ARD 00002_0000025688 4098
CHECKIN Jun 9, 2006 8:24:25 AM CHRISJ 4A.ARD 00002_0000025689 40912
```

• File Downloads/Uploads (including when downloads start, finish, and fail).

`WebCenterDownloadLog.txt` example:

```
Date/Time User File Version Unique Doc ID Size Status
Jun 7, 2006 3:13:30 PM BEAPM 123_Hoegaarden_silver_front.pdf 1 00002_0000000683 85373
 Download Started
Jun 7, 2006 3:13:30 PM BEAPM 123_Hoegaarden_silver_front.pdf 85373 Download Finished
Jun 8, 2006 2:17:24 PM MIKEG Scope_fc.pdf 1 00002_0000001681 1068473 Download Started
Jun 8, 2006 2:17:50 PM BEAPM WebCenterDownload.zip 196608 Download failed
```

`WebCenterUploadLog.txt` example:

```
Date/Time User File Project Size Status
Jun 9, 2006 2:14:10 PM DAZZ docB1.txt bea p 115 Upload started
Jun 9, 2006 2:14:10 PM DAZZ docB1.txt bea p 115 5 Upload finished
Jun 12, 2006 8:15:10 AM ADMIN CMM_CASE.JPG permtest666 0 Upload started
Jun 12, 2006 8:15:10 AM ADMIN CMM_CASE.JPG permtest666 182090 Upload finished
Jun 12, 2006 1:59:57 PM ADMIN DCS.ct bjrtest 0 Upload started
Jun 12, 2006 1:59:58 PM ADMIN DCS.ct bjrtest 189672 Upload finished
```

Note:

On the Web Server, the local Administrators Group, the SYSTEM user, and both IIS users need full permissions to the log folder(s) location and the tempfiles folder within each virtual site. To do this:

• Browse to the `\Artios\WebCenter\Logs` folder

• Ensure that these users and group have full permissions to the `log` and `tempfiles` folders: IUSR_<Web Server_servername> , IWAM_< Web Server_servername>, SYSTEM, Administrators Group.

Tomcat Service

These log files are located on the Web Server in \Artios\WebCenter\WebServer\tomcat\logs directory. You can also download them from the *WebCenter user interface*.

• isapi.log
• Logs IIS to JSP redirection.
• *.log, Catalina*.log, host-manager*.log, localhost*.log, and manager*.log
• Logs various start-up information and service errors.

IIS Services

These log files are located on the Web Server in the `\Windows\system32\LogFiles\W3SVC1` directory. They follow the format of `exYYMMDD.log`, where `YYMMDD` refers to the calendar Year, Month, and Day.

The date and time the log file was created represents the first request made on that day. These log all HTTP and HTTPS requests for that specific date. If there is no client activity on an WebCenter site that day, no log file is created.

- For example: `ex122205.log` was created at 5:46 am.
- This means that the first site activity for WebCenter was at 5:46 am and this log file contains all activity made on 12-22-2005.

Example IIS log file:

```
Time of       IP address   Method    Page returned                Status
request          of client             to client                   code
17:09:52  10.31.226.94  GET   /WebCenter_Inst/images/logo_esko.gif      200
17:09:52  10.31.226.94     GET   /WebCenter_Inst/images/bg_Dots2.gif       200
17:10:18  10.31.226.94  POST  /WebCenter_Inst/dologin.jsp       200
17:10:18  10.31.226.94  GET    /WebCenter_Inst/home.jsp      200
17:10:18  10.31.226.94  GET    /WebCenter_Inst/homepage.jsp      200
```

JBoss Service

These log files are located on the Application Server in the `\Artios\WebCenter\Application-Server\JBoss\server\default\log` directory. You can also download them from the *WebCenter user interface*.

- `Boot.log` and `Server.log`: These record JBOSS startup activity. The created date and time of this file represents the last time the WebCenter JBoss service was started or restarted.
- `server.log.YYYY-MM-DD`: this records the server activity for the specified day, where YYYY-MM-DD refers to the calendar Year, Month, and Day.

Viewer Applet

This log file is located on the Application Server in `\Artios\WebCenter\ApplicationServer\program` directory.

- `imageList.log`: This logs information about the View & Annotate Tool.

5.3.3. Change logging level for troubleshooting

You can adapt the logging level in `<webcenter_install>\ApplicationServer\Jboss\server\default\deploy\jboss-logging.xml`.

Levels are:

- - NONE = don't log anything
  - SEVERE = logs only the important issues
  - WARNING = logs all of the above but also possibly unexpected but less critical problems
  - INFO = logs all of the above and a lot of information about internal state
  - FINE, FINER, FINEST = logs all of the above and debugging output in 3 levels of detail
  - ALL = logs everything

Log levels should not be changed in general, but might be changed for troubleshooting reasons (increase logging) or on heavy loaded systems to reduce disc spamming with logging data (reduce logging).

Note that these changes can be made to the app server logging without needing to restart the JBoss, the configuration is reloaded dynamically.

Logging can be changed for the console by changing the name attribute value of the level node in the console handler: `/logging/console-handler/level`

```
<level name="ALL"/>
```

It can be changed to any of the mentioned levels.

Logging can be changed for the file based log by copying the level node mentioned above to: `/logging/periodic-rotating-file-handler/level` and again adapting the level.

It is also possible to do more granular logging adaptions, for that just go to the bottom of the config file.

```
<logger category="com.esko">
 <level name="INFO" />
</logger>

<logger category="com.esko.webcenter.src.root.BaseObjectDB">
 <level name="INFO" />
</logger>

<logger category="WEBCENTER">
 <level name="INFO" />
</logger>

<logger category="appx">
 <level name="INFO" />
</logger>

<!--<logger category="com.esko.webcenter.search12">
 <level name="ALL"/>
</logger>-->
```

Here you see different possibilities to raise or lower the logging level.

The WEBCENTER category is used by some of the historical webcenter code. Recent or updated webcenter code will use a category matching it's class (e.g. 'com.esko.webcenter.src.util.Statement'). This allows to adapt logging levels up to the class. So the following would silence any logging information coming from the statement class.

```
<logger category="com.esko.webcenter.src.util.Statement">
 <level name="NONE"/>
```

The categories are hierarchical (with the '.' as separator) which means that you do not need to declare each an every class all the time.

```
<logger category="com.esko.webcenter.search12">
 <level name="ALL"/>
```

The example above will enable all (full detail logging) for all the classes/categories in the reworked search component. The actual logging level is determined by the best match declared here. So this specific example will enable all logging for 'com.esko.webcenter.search12.SomeClass' but 'com.esko.webcenter.src.util.Statement' will not be affected. That one is covered by the second last example or if that is not defined by 'com.esko'.

5.4. Interacting with services for troubleshooting

You can change any service to display activity in real-time by starting a .bat file:

- To start TomCat, open a command window on the Web Server at `\WebServer\tomcat\bin`. Enter `wcr_tomcat_srv_cmdrun.bat` to start the service interactively.

- To start JBoss, open a command window on the Application Server at `\ApplicationServer\JBoss\bin`. Enter `wcr_jboss_srv_cmdrun.bat` to start the service interactively.

- To start CadX, open a command window on the Application Server at `\ApplicationServer\CadXServer\bin`. Enter `wcr_cadx_srv_cmdrun.bat` to start the service interactively.

5.5. Possible Problems

5.5.1. Cannot connect to Database

If you attempt to access login page or login and then receive this error, these are the common causes:

1. You lost the connection to your database server for some reason.
2. You did not use the correct instance name during installation.

Something is preventing the database services from starting or staying started. First try the following first: Restart your database services. Verify you are using the correct Instance name.

In case that does not help, perform the following steps:

- Check the log files `JBoss\server\default\log\{server.log,boot.log}`. The inability to connect to the database is clearly indicated: `'ConnectionException'`.

- Read and interpret the messages that are passed by the: 'ConnectionException', they are quite descriptive.

Three of the most common connection problems are:

- The database is local but TCP is not enabled:

  - Look for the 'SQL Server Configuration Manager' in the Windows **Start** menu and start it.

  - In the network section, select Protocols for the WCR database (typically WEBCENTER) and enable TCP.

  - Go to the server services and restart the database in order to make the TCP enablement effective.

  - Restart the WebCenter Application Server.

- Browser is not enabled:

  - Go to the server that contains the database and ensure the database browser service is running.

  - Restart the WebCenter Application Server.

- If it still does not work, you may try enabling the same option on the Application Server service and restarting the Application Server again.
- The connection information is incorrect:

    - Use SQL Management Studio (it should be on the Application Sever since it is a prerequisite) and verify the connection information.
    - Once you have the correct connection information, we recommend you uninstall the Application and Web Server and reinstall them.

5.5.2. Cannot connect to Application Server

This usually means one of 4 things:

- WebCenter JBOSS service on the Application Server is stopped or has not finished loading yet.
- on the Application Server, verify WebCenter_Jboss service is Started. Restart it.
- on the Application Server, open the Task Manager; in the process view enable the threads column; the app server is started when the number of thread reaches or exceeds about 160.
- There is a JBOSS port conflict on the Application Server.
- Do port testing to ensure that port 1099, 4444, 2500 and 3873 are not in use when all WebCenter and OBGE services are stopped on the Application Server.
- During the Web Server installation, the name of the Application Server was not entered correctly.
- On the Web Server, Using Notepad, Edit \Artios\WebCenter\WebServer\tomcat\webapps \WebCenter_Inst\Web Server-INF\classes\jndi.properties.
- Ensure name of the Application Server is correct with the correct port number.

Note: The Web Server needs to locate the Application Server based on the host name (strict requirement, see NAT section).

- Restart WebCenter services on both the Web and the Application Server if changes were made.
- The Web Server cannot access the Application Server (meaning Tomcat can't talk to JBOSS).
- Ensure you can telnet to the Application Server's IP address on WebCenter ports (default 1099, 4444, 2500, 3873) from the Web Server.
- Use this syntax: telnet <ip_address> <port_number>.
- Ensure that you get a Java response and successfully can telnet on each port.
- Ensure that if you are using NAT that you have configured the Web Server and the Application Server appropriately.

5.5.3. Page 404 after logging in

In this case you can access WebCenter's login Page. However after you enter in login credentials, you receive a "Page 404" rather than WebCenter's home page.

- 99% of the time this is because all WebCenter services haven't finished starting completely.

5.5.4. Could not load a valid license for WebCenter

Usually this means you don't have a license or the license has expired.

- Make sure you have a WebCenter License and you have activated it (see the License Manager User Guide for more information).

- Contact Support hotline to ensure your license has not expired.

5.5.5. Cannot access WebCenter site from external Internet

In this case you can access the site by using the Web Server machine name or IP address within the LAN (i.e. MBCWEBSERV/WebCenter_Inst), but you cannot access the site(s) using the registered domain name over the internet (for example http://www.meeberboxcompany.com/WebCenter_Inst).

- Verify that your ISP has registered this domain name with an 'A' record setup with your ISP.
- Verify that your ISP is forwarding HTTP and HTTPS traffic for this domain name to your firewall.
- Verify that your Firewall routes HTTP and HTTPS traffic to the Web Server server within the DMZ.
- Ensure IIS on the Web Server is configured to receive HTTP or HTTPS traffic on correct port and assigned IP address.
- Refer to the **Exposing WebCenter to the Internet** section in the Installation Guide to review the things needed to access your site from the external Internet.

Note: It is recommended not to use internal server names as this will cause certificate errors for valid certificates.

5.5.6. Automation Engine error when publishing to WebCenter site

You will only get this message on Automation Engine servers that attempt to publish files to a secured WebCenter site that uses `https://`.

If for example the SSL certificates haven't been installed properly on the WebCenter Web Server, all Automation Engine Publish tasks will fail with the following error message:

```
javax.net.ssl.SSLHandshakeException:
sun.security.validator.ValidatorException: PKIX path building failed:
sun.security.provider.certpath.SunCertPathBuilderException: unable to
find valid certification path to requested target
```

To fix this, you can either:

- make sure the certificates are installed properly on the WebCenter Web Server (see *Secure your WebCenter Site with SSL* in the Installation Guide),

- import the WebCenter site's SSL certificates into Automation Engine's keystore (see *Install SSL Certificates on the Workflow Production Server* in the Installation Guide).

5.5.7. Cannot use WebCenter SQL Server Database after a restore

Anytime you restore an WebCenter SQL Server database, you must run a stored procedure to fix orphaned logins before the database is usable.

- Run a manual query against WebCenter4_0 database: sp_change_users_login auto_fix, webcenter, null,Database Password

- Alternately, follow the instructions at the end of *An Example Restore Plan* on page 19.

5.5.8. VRML 3D Animations "stutter" and some graphics may be missing

When viewing a 3D Model on a server, this is to be expected as servers generally do not have good quality graphics cards.

For clients, when both ArtiosCAD and Cortona are running on same video card, both using Direct3D or OpenGL to draw 3D designs with a moderate amount of graphics, there is competition for video card memory. This causes Cortona to "stutter" while running animations and some graphics may be missing. There are 3 possible workarounds:

- Close ArtiosCAD and re-open VRML in Cortona.
- Specify that Cortona is to use 'R98 Renderer'.
- Upgrade your Video Card.

5.5.9. No license present to use the Launch API

Sometimes this error appears when trying to use the View and Annotate tool. Sometimes everything seems to stop working in WebCenter all of a sudden. To resolve:

- Restart WebCenter and OBGE services on the Application Server.
- Try again. If still get error, then verify that the Graphics license has the Task Launching API module in it (flfastif).
- On OBGE edit \Esko\bg_data_system_v010\licenses.dat.
- Verify that it contains an 'flfastif'. If not, have a new license file generated.

5.5.10. The Page cannot be displayeds

This means that IIS and/or WebCenter Tomcat service on the Web Server are Stopped.

5.6. E-mail Troubleshooting

Symptom: You get a "Mail Server Connection Error" while trying to send a Test Mail.

Possible resolution: This means that the service cannot connect to the specified mail server. It can either be down, not accepting external mail session connections, or unreachable from your current subnet.

First, try to connect to the mail server manually. This is done by running the **telnet** command from the command prompt on the appropriate Application Server.

The syntax for telnetting to the mail server is: **telnet <MAIL SERVER NAME> <LISTENING PORT>**

For example, **telnet mail.eskowebcenter5.com 25** tries to connect to the mail server `mail.eskowebcenter5.com` that is listening for mail session connections on port 25.

If the telnet command connects to the server, you should also send a **EHLO** command in the Command Prompt window, to make sure it is prepared to accept incoming e-mail messages. The Output of the

EHLO command should return **OK** on the last line. If the output return another result, consult your mail server administrator.

Symptom: Sending a Test Mail succeeded but WebCenter notifications are not sent.

Possible resolution: This situation points toward a possible error in notification handling on the client and/or server side. You should first check the Application Server and the Web Server logs for any error messages.

On the Application Server:

- mail service is logging under this header: com.esko.webcenter.service.MailDispatcher onMessage
- notification message e-mail creation and sending to a JMS queue is logging under this header: com.esko.webcenter.mail.MailNotificationBean

On the Web Server:

- notification message data preparation is logging under this header: com.esko.webcenter.jsp.TaskNotificationMgr (where the Task part is replaced by an appropriate Notification Type that you're looking for; other possibilities might be ApprovalNotificationMgr, ProjectNotificationMgr and so on; search for NotificationMgr inside the Web Server log file).

Note: WebCenter MBean Services will have their own log files in the future.

If you cannot find any suspicious log messages related to any of the notification dispatchment phases, you should also check the **JMS E-mail Queue** for corrupted messages that block correct messages from being sent.

To check a JMS Queue, open the JBoss admin console that is used to inspect all running JBoss services. To open the admin console, open a browser and point to the following URL: `http:// <Application Server Host Name>:8086/admin-console/` where `<Application Server Host Name>` is the host name of the machine that is running the WebCenter JBoss (if it is the current machine, then you can just use localhost).

Note: Even though the JMX console is listening on port 8080 by default, WebCenter uses port 8086.

When you open the admin console, you have to locate the appropriate E-mail Notifications JMS queue, which actually is a JBoss service. It is found at `<hostname> > JBossAS Servers > JBoss AS 6 (default) > JMS Manager > JMS Queues > jms.queue.WCRMailQueue`. From here you can check how many messages are waiting in the JMS queue (message count). From the control section you can also flush the queue.

An alternate way to flush the queue is disabling e-mail in the WebCenter e-mail settings. If you don't plan to use notifications, e-mail should always be disabled to prevent the mail queue from filling up.

Symptom: If the e-mail notification seems to be sent correctly, but the recipient doesn't receive it:

Possible resolution: This situation indicates that there are issues on the mail server side. The e-mail service within WebCenter is only responsible for connecting to an appropriate mail server and dispatching e-mail message through this connection. Further processes that run on the mail server side are out of the scope of WebCenter. There are several aspects of the mail server configuration that affect if the WebCenter notifications really get sent to the appropriate recipients:

- **Spam policy**: messages may be considered spam by the server. It is important to have a valid e-mail address in the FROM address field on the E-mail Environment Setup page in case there is a spam policy in place on the appropriate Mail Server
- **Authenticated mail session**: this situation is already observed by the e-mail service, but some mail servers might be configured more strictly in this respect.

- **Internal vs. external recipient addresses**: some mail servers are configured to process outgoing e-mail messages based on their target e-mail addresses. The distinction is between internal addresses and external addresses is determined by the domain part of the address. For example, the domain part of user@esko.com is esko.com. The mail server may be configured to dispatch e-mail messages to an internal address (so, from the example above, a mail server with hostname of xxxx.esko.com would consider user@esko.com to be internal, while user@elsewhere.cz would be external), but it would not send any messages to an external target.

All these issues are determined by the setup of a given mail server, so if you encounter any indications toward such issues, consult the mail server administrator.

But how would you find out what happens on the mail server when the WebCenter mail service communicates with it? There is an option to turn on a debug mode for mail sessions in the Mail Dispatcher MBean.

To do so, open the JMX Console of the running WebCenter JBoss Server and open the management interface of the Mail Dispatcher Mbean (at the bottom of the entire list of registered Mbeans under the section **webcenter** and service name **service=MailDispatcher**). Inside the management interface is a List of Mbean Attributes.

Change the **DebugSession** attribute to **TRUE**, which will switch the mail session to debug mode.

If you turn on debug mode, the log file on the Application Server will contain a log of the communication between the WebCenter mail server and the mail server. Inspect these extra log messages to see what your problem may be and report the results to the mail server administrator.

5.7. Troubleshooting proxy servers

5.7.1. The influence of proxy servers on your configuration

A proxy server services the requests of its clients by forwarding requests to other servers. The client is mostly a browser but it can also be another computer program like Automation Engine.

The proxy server provides the resource by connecting to the specified server and requesting the service on behalf of the client. A proxy server may optionally alter the client's request or the server's response, and sometimes it may serve the request without contacting the specified server.

A proxy server that passes all requests and replies unmodified is usually called a gateway or sometimes tunnelling proxy.

For the Automation Engine to WebCenter connectivity, proxy servers that just act as a gateway are ideal. No extra configuration is required.

- In the other case (not a pure gateway) it can happen that the proxy server is programmed to act differently than expected on the Automation Engine calls to WebCenter.
- It might decide to just not pass them through; Automation Engine to WebCenter upload fails.

- It might request authentication; nobody there to answer the authentication request since Automation Engine is an automatic program.

- It might bother the Java viewing.

- It might slow down the communication.

- It might bother the JMS connectivity in the approval feedback.

Most problems can be solved by bringing the proxy server closer to the ideal gateway situation. However, in many cases it is difficult to convince the local IT people to do any changes to the setup.

5.7.2. How to detect proxy problems?

Proxy problems are mostly detected because certain operations between Automation Engine and WebCenter fail:

- Upload from Automation Engine to WebCenter fails.
- Approval feedback from WebCenter to Automation Engine fails.

Proxy problems are not the only possible reasons why these operations can fail. Other reasons are:

- Wrong parameters in the upload ticket (mistakes with user accounts, passwords, network address of the web server, …).
- Broken networks

The best way to troubleshoot is as follows:

- Check whether you can reach WebCenter from a normal internet browser from the Automation Engine computer. If that doesn't work, first troubleshoot this. Check whether WebCenter itself is on the internet (can you reach it from anywhere?). If that works, try reaching Google from the Automation Engine computer. If that doesn't work, your Automation Engine computer is not connected to the internet. Contact local IT to get this fixed. If you can reach Google, but not WebCenter and you can reach WebCenter from outside, then there is a big chance that proxy settings are in the game.

- If you can reach WebCenter from a browser but upload doesn't work, then first check the connection in Automation Engine configure (there is a check button). If this works, double check the ticket settings. If it doesn't work, it means that Automation Engine doesn't have the same abilities to go to the internet as a browser. Mostly this means that the browser has a proxy setting in use.

In your browser, check the LAN settings for your internet connection. This is usually found under Internet Options, Connections where you normally can see whether a proxy server is used and what settings it uses for the HTTP connection. These same settings need to be used by Automation Engine.

You need:

- Name of the proxy server for HTTP, further called proxyHost
- Port number, further called proxyPort
- In some cases (not so common) it is also possible that the proxy server demands authentication. You might see this because an authentication window displays when trying to connect to Google or WebCenter via the browser. In that case you'll also need a username and a password. You should get this from local IT. This username is further called proxyUser and the password is proxyPassword.

- We have a tool (makeurlconnection.jar) to test a connection with these settings before even trying them out of Automation Engine. The tool is used as follows:
    - Save the **makeurlconnection.jar** file somewhere on the disk of the Automation Engine server. Open a command prompt, go to that directory and type the following command:
    - Simplest form:

```
Java.exe -jar makeurlconnection.jar
      http://the_url_to_the_login_page_of_their_webcenter.
```

Note: The above command supposes that java.exe is in the path. If not, you need to specify the location of java.exe, for example.

```
"C:\Program Files\Java\jre1.6.0_01\bin\java.exe" ... (other parameters as
      above)
```

It also supposes that it is Java 1.6. It is possible you need to install Java 1.6 first.

This checks whether a connection can be made without specifying anything about the proxy server. If this works, you get the WebCenter login html code dumped on your screen (scroll back to verify this). If it doesn't work, you either get an error message or it hangs (type Ctrl-C in that case).

In case it doesn't work, try specifying the just-found parameters. The most complex form is:

```
Java.exe -Dhttp.proxyHost="name of their proxy server" -Dhttp.proxyPort="80"
      -Dhttp.proxyUser="their_domain_if_applicable\user name" -Dhttp.proxyPassword="guess
 what comes
      here" -jar makeurlconnection.jar
      http://the_url_to_the_login_page_of_their_webcenter.
```

Note: All the parameters are case-sensitive. Get help from your local IT administrator if necessary.

Once you know these settings, you need to use them in Automation Engine.

Running cfsedt2.bat in ..\bg_prog_fastserverctltnt_v070\com_win. Browse to the keys as shown in the screenshot and modify the values. Do a "net stop bgmd" and "net start bgmd" to activate the changes. Then the upload from Automation Engine to WebCenter should work.