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2. Maintenance

2.1 Installation tips

2.1.1 Create 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"/I"v space path+logfile

- For example: For ArtiosCAD installation from CD-ROM in my D:\ drive,
- Open a command prompt and Change to the D:\ drive
- Type: setup /v"/I"v c:\temp\ACsetup.log"

2.2 WebCenter Schema

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

Ensure Database Server can run the Schema batch file locally.

- If WebCenter DBASE and APS are NOT the same server (should be the case most times), you will need to manually get the files to the database server.
- You can either share the \Artios\WebCenter\ApplicationServer\DatabaseSchema directory on the APS with full permissions to the Database Server OR copy the entire DatabaseSchema directory contents to the DBASE server (easiest).

Run appropriate Database Schema batch file (*.BAT).

- From a command prompt, change to schema directory (either locally or via a network share).
- Run WebCenter Schema batch file with parameters using syntax:
  Build_<dbase_type>ServerSchema space <sa password> space <instance name>
- For example: WebCenter is installed on APS on D:\ drive; sa password=HAPPYFEET; Database Engine is SQL Server and the Instance name is MBCDBSERV.
- Copy the entire Schema directory to my DBASE Server in C:\temp.
- On DBASE server, open a command prompt and change to C:\temp\DatabaseSchema.
- Type: build_mssqlserverschema happyfeet MBCDBSERV
- Press Enter and wait until batch file completes and returned to a prompt.
- Check Log files for errors.
- In \DatabaseSchema directory, open each *.log file where Modified Date =today's date.
- From Menu Bar, choose Edit-Find.
• Search each log file for text “MSG”. If no messages found, then there are no errors.
• You MUST resolve any errors before continuing to next step!

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 can 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).

• 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

There will be times when you want to bring down an WebCenter server for maintenance or upgrade. This is when you want an easy way to prevent users from accessing your WebCenter sites. You can simply stop all IIS services on WEB. However, this will give anyone who types in your URL an error message “Page Cannot Be Found”—which is not so user friendly. Expect lots of support calls…the better approach is to put up a page letting users know what is going on. You can easily display a user-friendlier page, such as a “Site currently under maintenance. Please check back in 2 hours”.
To redirect a virtual site to a specific page:
• Create a custom user friendly page.
• Keep it simple—create an HTML page that says the basics of what you need to communicate.
• Save this page as something easy to remember such as “Default_Repair.htm”
• Save your custom page into IIS directory on WEB.
On WEB, logged in as a local administrator, save your page into \inetpub\wwwroot.
This is usually on the C:\ drive.
Save any images that your page uses in the \inetpub\wwwroot\images directory.
Change each WebCenter Virtual Site to use your custom page only.
On WEB, open IIS Manager and expand Web Site node.
Right click on an WebCenter Virtual Site and choose Properties.
Recommend using a development site first, such as WebCenter_Dev).
Do NOT do this for WebCenter_Inst, Jakarta, PreviewImages or ViewServer.
On the Virtual Directory tab, locate the Local Path field and click <Browse> button.
Select the IIS directory where you saved your custom file (should be c:\inetpub\wwwroot).
On Documents tab, click the <Add> button.
Type in the exact name of your custom page, then click <OK>.
Use the Move button to move your custom page to the top of the list (YOU MUST DO THIS!).
Click <OK> then <Apply>.
Test changes in IIS Manager.
Right click on the Virtual Site name and choose <Browse>.
You should see your custom page display correctly in right half of console.
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.
Repeat these steps for each WebCenter virtual site you desire to ‘block access’.

To stop redirecting WebCenter sites to a custom page:

- Change each WebCenter Virtual Site to use its own Tomcat directory.
- On WEB, open IIS Manager.
- Control Panel – Administrative Tools – Internet Information Services.
- 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 WEB and APS.
- 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 APS 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, I created a new share on D: partition called ESKOFS instead, D:\ESKOF5.
- New destination share must have local user called BGSYSTEM with exact password of "Drupa2000" who is a member of the local Administrators Group (both username and password are case sensitive). Password should never expire.
- 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 and local Administrators Group must have FULL share and security permissions to new destination share.
- The new destination share must be reachable from WebCenter’s Application Server via Windows Networking.
- If 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.
- At no point in time can WebCenter’s Application server lose its connection to the new destination share - if so then all WebCenter services must be restarted.

To move the FileStore from its default location:

- Create the new share and ensure it meets the above requirements.
- Test communication to new share from Application Server.
- From Application server, log in as local user BGSYSTEM.
- Using Network Neighborhood, browse to new share.
- Create a new text file within new share. Delete test file after successful writing.
- Stop IIS and WebCenter Services on both Web and Application servers. This ensures that no files are in use and locked for backup and then Move.
- On Application server: WebCenter JBOSS, and WebCenter CADX.
- Backup the web server, application server, database, and current FileStore share.
- You want to have a full normal backup of any \Artios directory on both servers, as well as a full backup of current FileStore share.
- Move entire contents of current FileStore share to its new destination share.

Tip: Right click on the FileStore folder and choose Properties before you begin copy process. Record the total size, number of files and number of folders. Use this information after the move is complete for comparison.
• After move is completed, ensure new share is not marked as 'Read Only'. If so, remove attribute on share and all subfolders and files.
• Rename old share (i.e. \Artios\WebCenter\FileStoreOLD).
• Manually edit WebCenter configuration files to point to new FileStore.
• On Application server, using Notepad, edit the below 5 files and change the location of the FileStore.
• You must use a UNC path to new FileStore share in these files. You CANNOT use a mapped network drive.
  • \Artios\WebCenter\config\appconfig.xml
  • \Artios\WebCenter\ApplicationServer\Program\ImageList.ini
• On WebCenter’s Application server, configure OBGE to use the new FileStore location.
• Using the Pilot, login as admin user.
• Delete old container and add new container.
• Using Configure tool (Tools - Configure) delete container pointing to old FileStore share (FileStore@<application_server_name>).
• Using Configure tool, create new container pointing to new FileStore share (<new_share_name>@<new_server_name>).
• Delete old hotfolder and add new hotfolder.
• In Hotfolders view, convert old hotin hotfolder to a normal folder.
• Convert the new hotin folder to a JDF hotfolder.
• Expand the new container pointing to the new FileStore share.
• Expand JDFHotfolder directory and right click on hotin folder.
• Choose 'convert to hotfolder’, select JDF radio button.
• In Output folder, <Browse> to hotout folder.
• Click <OK> to save.
• Ensure that new hotfolder is "Active".
• Restart IIS and WebCenter services on both Web server and Application server.
• Test WebCenter with new FileStore location.
• Login to WebCenter as admin or a project manager.
• Create a new project.
• Upload a new "Graphics File" document. Follow successful upload link to the document details. Ensure you see "Checking and Registering" message in document header.
• Wait about a minute and refresh WebCenter page. You are waiting for Checking and registering to finish. You will see a 3D thumbnail and 'View and Annotate' appear in Document Actions menu.
• Launch View and Annotate applet on new Graphic file.
• Search and open an existing Graphic file. Ensure you can launch the View and Annotate tool as well.
• Upload an ArtiosCAD ARD file and ensure can view 3D Model successfully.
• Download any document.
3. Configuration

3.1 Configuring ArtiosCAD Defaults

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

- On APS, open ArtiosCAD.
- From menu bar, choose Options ->Defaults.
- Expand Design Defaults – Database.
- Change Thumbnail format to “ArtiosCAD 3D”, <Apply> then <OK>.
- Expand Design Defaults – VRML Export Options for CAD-X.
- Check box ‘Use compression”, Uncheck the box “Automatically Open”, Click <OK>.
- Set “View Zoom Factor” to 90%.
- Expand Outputs - Artios – Export to Common File Formats.
- Repeat below steps for each Export conversion desired to for WebCenter downloads:
  - Open data item (DXF Inch, etc.) by double clicking it.
  - Within Shown In section, check off WebCenter box, <Apply> then <OK>.
  - Expand Outputs 3D – Artios.
  - Double click on “VRML” and select the VRML Options tab.
  - Ensure Include Graphics is checked.
  - Set “View Zoom Factor” to 90%.
  - In Animation section, select “With Toolbar”.
  - Expand Startup defaults – Dimension Format Override.
  - Check box “Override Dimension Format”.
  - In Units list, select inches:”/mm:mm (2nd from bottom), <Apply> then <OK>.
  - Close the Defaults window, <Yes> to Save, <Yes> to Overwrite.
  - Close ArtiosCAD.

3.2 Configuring to use NAT translation

NAT (Network address translation) serves the purpose of masking a server’s true public IP address. WebCenter needs to know the masked address so WEB will be able to access APS. If you use NAT, you will need to do the additional configuration below:

- On WEB, edit \Artios\WebCenter\WebServer\tomcat\webapps\<sitename>\web-inf\classes \n\ndi.properties.
- Change localhost to public IP address of 2nd firewall (or the NAT’d IP address).
- Save Changes and Exit.
- On APS, edit \Artios\WebCenter\ApplicationServer\Jboss\bin\RUN.bat.
Search for word ‘Firewall’ to quickly locate correct section.

Uncomment out line: set JAVA_OPTS=%JAVA_OPTS% -Djava.rmi.server.hostname="applicationserver_hostname"

Replace applicationserver_hostname with public IP address of 2nd firewall.

Save Changes and Exit.

For example:

BEFORE:
rem Uncomment this line to set the application server hostname if you are having RMI
rem trouble due to NAT and a firewall.
rem set JAVA_OPTS=%JAVA_OPTS% -Djava.rmi.server.hostname="applicationserver_hostname"

AFTER:
rem Uncomment this line to set the application server hostname if you are having RMI
rem trouble due to NAT and a firewall.
set JAVA_OPTS=%JAVA_OPTS% -Djava.rmi.server.hostname="66.55.44.33"

Clear your browser’s cache.

Restart all WebCenter services on both WEB and APS for changes to take effect.

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 WEB, 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"/> 
  </MetricFiles>
• Modify the path and filename 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 local IIS users (IUSR_<localcomputername> and IWAM_<localcomputername>) of WEB 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 WEB. Without proper permissions, log files cannot be written there.

• Save Changes and Exit.
• Repeat for each Virtual Site.
• On WEB and APS, 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), modify as needed:

• FileStore location
• Log File names and locations
• Search Crawler settings
• ArtiosCAD 2D View layers used in WebCenter (overlays)
• ArtiosCAD Design files print side used

On APS edit C:\Artios\WebCenter\Config\appconfig.xml (will always be on C:\ drive).

• Make modifications, Save changes, and Exit.
• Restart all IIS and WebCenter services on both WEB and APS 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, then you must manually modify this file to reflect the new UNC paths.

• On APS, edit \Artios\WebCenter\ApplicationServer\program\ImageList.ini and verify that the paths are correct.

3.5 Change filename 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
filename 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 WEB, 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 -->

  DocVersionDownloadName value="false"/>

- Change value of DocVersionDownloadName from true to false as desired.
- On WEB, 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 APS, 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 backup 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 the case when 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 to choose one of the following three approaches of using the Backup Modes:

- "Always Full" - every time you back up all files, 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. All other backups you create with Incremental mode, getting backed up only files changed since the last backup (whatever its mode was). This approach is good when the project includes too many files to back up them all each time. It’s fast and takes less time for incremental backups. Incremental backups take less disk space. It allows you to create backups frequently. However, to restore all the files, you have to restore the last full backup, and all the following incremental backups.
- "Full+Differential" - is intermediate between the first two approaches. It is also good when the conditions are intermediate. 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 (2) - you'll have to restore the last full backup and the last differential backup.

4.1 What to Backup for WebCenter

- 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 frequently 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.
- Veritas has a SQL Backup Agent that backs up active databases without locking them. There are other products on the market that do this too—you need to ensure that your backup process does not lock the database.
- 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.

- **OBGE/Automation Engine application, configurations, and Database**
- If the OBGE was installed on the APS, 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.

### 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, DBASE, and APS servers.
- Store these backups offsite on Tape for safe keeping.
- When changes to Virtual Sites and/or application configurations are made, retrieve the tapes and backup the WEB and/or APS server in full again. Return tapes to offsite storage when finished.
- **OBGE/Automation Engine application, configurations, and Database**
- During initial installation, either the OBGE was installed on the APS, or a production Automation Engine server was configured. Determine which server was used.
- Using the Server Admin tool, located on Start Menu –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 APS. 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 APS, use backup software, such as Veritas, to schedule 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 DBASE, use database backup software, such as Veritas SQL Server Agent, to schedule 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) offsite 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 APS, schedule daily Incremental backups (8am, 12pm, 4pm, 8pm) to backup FILESTORE to local disk on APS in directory “WC_BACKUP” on the mirrored disk raid.
  - On DBASE, schedule daily Incremental backup at exactly same time as the FILESTORE backup (8am, 12pm, 4pm, 8pm), to backup Database to local disk on APS in directory “WC_BACKUP”.
- 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 APS, schedule a Differential backup of 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 DBASE, 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

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Day &amp; Time</th>
<th>What</th>
<th>Where</th>
<th>How</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manually as</td>
<td>At time of</td>
<td>Entire system, all partitions (contains WebCenter application files,</td>
<td>WEB, DBASE, and APS servers</td>
<td>FULL</td>
<td>TAPE</td>
</tr>
<tr>
<td>needed</td>
<td>installation</td>
<td>and when changes are made</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and when changes</td>
<td>WebCenter configs, Database, and Virtual web Sites</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly</td>
<td>Sundays at 2am</td>
<td>WebCenter's FILESTORE</td>
<td>APS</td>
<td>FULL</td>
<td>TAPE</td>
</tr>
<tr>
<td>Weekly</td>
<td>Sundays at 2am</td>
<td>WebCenter's Database</td>
<td>DBASE</td>
<td>FULL</td>
<td>TAPE</td>
</tr>
<tr>
<td>Daily</td>
<td>8am, 12pm,</td>
<td>WebCenter FILESTORE and Database</td>
<td>APS</td>
<td>INCREMENTAL DISK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4pm, 8pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily</td>
<td>8am, 12pm,</td>
<td>WebCenter's Database</td>
<td>DBASE</td>
<td>INCREMENTAL DISK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4pm, 8pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily (except</td>
<td>11 pm</td>
<td>WebCenter FILESTORE and Database</td>
<td>APS</td>
<td>DIFFERENTIAL TAPE</td>
<td></td>
</tr>
<tr>
<td>Sundays)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 4.1.2 An Example Restore Plan

**Attention:** Anytime you restore an WebCenter SQL Server database, you must fix orphaned logins before the database is usable. See *Restoring the master database* for more information.

**PROBLEM:** Disk failure on APS, 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).
4. Backup and Restore Strategy

- 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 SQL Server, must run 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, oicu812

- Run the query.
- You should see a message that orphaned records have recovered.
- Restart all IIS, WebCenter, and Database services on WEB, APS, and DBASE.
- Test application with 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 2005 Express Edition 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 2005 Express Edition 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 2005 Express Edition 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 2005 folder on the Start menu.
3. In the Connect to Server dialog box, 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 system 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 box, 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 an incremental 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 filename is shown. To change the location and filename, first select the default location and click Remove, and then click Add and enter a new location and filename. 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 backup.

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 2005 Express Edition 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 2005 folder on the Start menu.
3. In the Connect to Server dialog box, 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 system 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 filename is shown. To change the location and filename, first select the default location and click Remove, and then click Add and enter a new location and filename. A disk backup may only be made to a 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 2005 Express Edition 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 2005 folder on the Start menu.
3. In the Connect to Server dialog box, enter the server name in the Server name: field if it is not there already, followed by \<instance name>, such as MBCAPPSER\WEBCENTER. If you used the default instance, just enter the system 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 box, 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 box.
10. Click OK. A list of full and differential backup sets should appear.
11. Select all the backup sets by checking the checkboxes in the Restore column. If you chose to not have full backups overwrite each other, select the most recent full backup and all the differentials taken after it.
12. In the Destination for restore group, in the To database: drop-down list box, select WebCenter4_0.
13. 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 a corrupt database file

If the database file becomes corrupted and unreadable, meaning WebCenter4_0.mdf still exists but Microsoft SQL Server 2005 Express Edition can not 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 2005 folder on the Start menu.
3. In the Connect to Server dialog box, 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, just enter the system 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 box, 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 box.

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

11. Select all the backup sets by checking the checkboxes in the Restore column. If you chose to not have full backups overwrite each other, select the most recent full backup and all the differentials taken after it.

12. In the Destination for restore group, in the To database: drop-down list box, select WebCenter4_0.

13. In the Select a page pane, click Options.

14. In the Restore options group, check the Overwrite the existing database checkbox.

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 2005 Express Edition 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 2005 folder on the Start menu.

3. In the Connect to Server dialog box, 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, just enter the system 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 box, 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 box.

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

16. Select all the backup sets by checking the checkboxes in the Restore column. If you chose to not have full backups overwrite each other, select the most recent full backup and all the differentials taken after it.

17. In the Destination for restore group, in the To database: drop-down list box, select WebCenter4_0.

18. Click OK to start the restore.

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 2005 Express Edition 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 2005 Express Edition, 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’, ‘oicu812’,’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 APS and WEB, ensure IIS and WebCenter services are Started and configured to start Automatically.

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

Testing each facet of WebCenter in the exact order below helps to easily and quickly identify points of failure, if any. Otherwise it can be like finding a needle in a haystack. Details on how to do each step and resolve problems are in Troubleshooting section later in this document.

- IIS Connectivity – use IIS Manager to access WebCenter_Inst site
- IIS Security settings – can access homepage after logging in
- Database connection and Schema – can add a new record to database
- FileStore connectivity – can write a file to FileStore and then retrieve it
- View Data generation – can upload a graphic file and OBGE does its job
- View and Annotate applet – can launch applet successfully on a Graphic file

5.1.1 Verify IIS is working

- On WEB, 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 starting for some reason.

5.1.2 Verify Tomcat is working

- On WEB, from a web browser type: //<WEBservername>:8081 (such as //MBCWEBSERV:8081).
- If you get Tomcat’s home page, Tomcat is working (see screenshot below).
5.1.3 Test IIS connectivity

- On WEB, 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 #1 reason for this error…
- 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, meaning you have a port conflict on port 1099. You will need to configure WebCenter to use a different port that is not in use already.

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.

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 filename 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 APS, 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 APS, 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 filename 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 Test View and Annotate Applet

• Logged into WebCenter, locate a Graphic document type that has successfully generated view data, meaning that there is an action called “View and Annotate” on the document actions menu.
• Click “View and Annotate” action to launch Applet.
• The page will change and go blank for a moment, perhaps even turn light grey.
• You should see the Java Sun logo with progress bar appear then the tool will launch and display the Graphic File (as seen below).
• If you get a Red ‘X’ in top left corner instead (as seen below), then Java is being blocked from downloading or installing on your computer. This usually happens when either 1) a company’s firewall or Proxy Server prevents automatic downloads or 2) browser settings need to be modified to allow applets.

• Try these steps to resolve:
  • Install Java manually
  • Visit www.java.com, choose correct OS (Windows or Mac), download and install the free Java Software.
  • Close any open browser windows.
  • Try to access Viewer applet again.
  • If Java is installed on the client, but you still get a Red ‘X’, then most likely your browser settings are locked down tightly and blocking Applets.
  • Ensure browser options allow applets
• Ensure that under Advanced settings within your Internet Options, you have a section for Java Sun and that “Use JRE .... <for applet> (requires restart)” is there and checked. If not checked, check it and reboot computer. Try again.
• In Internet Options where you can define custom settings for the Internet zone, customize current settings to ensure the below are set to Enabled or Prompt, but not Disabled:
  • Run Active X controls and plug-ins.
  • Java VM
  • Scripting – Active Scripting
  • Scripting of Java Applets
  • Close any open browsers and try again.
  • Clean out Java cache
  • From Control Panel – Java, delete Temporary Internet Files and check Applets, Applications, Other Files. After deleting these can close Java console and try again.
  • If still cannot use Applet then need to contact your system administrator as some other local setting is preventing the applet from running on this client.

5.1.9 Cannot access WebCenter login page anymore

• Restart WebCenter Services in the correct order. Either use the batch files on desktop or do them manually as below:
  • Stop all IIS and WebCenter services on WEB and APS.
  • Start services on APS first (Jboss, Cadx, FlexLM, BGMD).
  • Then Start services on WEB (IIS and Tomcat).
  • Wait until CPU activity is idle on all servers (<5% activity).
  • Try to access installation site (WebCenter_Inst) again.
  • Verify you are using correct URL.
  • Ensure you are using correct case sensitivity – the W, C, and I are CAPS in WebCenter_Inst.
  • Test WebCenter individual components.
  • Do all of the previous steps under “Testing WebCenter.” This can rule out a port conflict or installation problem.
  • Determine if Code and web pages are the same version.
  • If can access 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”. It is your job to 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 APS, browse to C:\Artios\WebCenter\Config (will always be on C:\ drive).
  • Open appconfig.XML file using Internet Explorer (a web browser).
  • Right click on the file and choose Open With…choose Internet Explorer.
5. Troubleshooting

- You do NOT want to receive 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.

![Image of error message]

- 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 settings again.
- Once you have restored the file, you must restart all IIS and WebCenter Services on WEB and APS for the new file to take effect.
- Verify IIS ISAPI filters are correct
- On the WEB, open IIS Manager.
  - Right click on web server name node, and choose Properties.
  - On ISAPI Filters tab, WCTomcat should have a green arrow pointing up (✓).
  - Right click on WebCenter_Inst node, choose Properties.
  - In Application Settings section, ensure Application Name = “WebCenter_Inst” and isn’t blank.
  - If blank, choose Create button to create it.
  - Right click on Jakarta node, choose Properties.
  - On Virtual Directory Tab, local path should = \Artios\WebCenter\WebServer\Tomcat\bin\win32\i386
  - If not, Browse to it.
  - Review IIS and WebCenter Log files for obvious errors. Refer to LOG FILES section for log file locations and details.

5.2 Easily identify when WebCenter is ready to access

WebCenter services load a lot of data into memory during startup of its services. It is important to watch the CPU activity before accessing an WebCenter site. You want both WEB and APS servers to have CPU activity < 5% before accessing site otherwise all components may not have started and you may experience error messages.

- 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 WEB and APS:
  - Create a new shortcut in Start Menu-Programs-Startup folder.
5.3 Performance tuning for large volume of concurrent users

In addition to increasing WebCenter system’s hardware, there are configuration changes required to allow a large volume of concurrent users.

**Attention:** Always use Notepad when editing configuration files—WordPad adds encoding which WebCenter cannot transform, therefore it will interpret the file as corrupted.

**Disclaimer:**
- The values here are suggestions as performance fine-tuning is not an exact science.
- As your hardware and expected number of concurrent users will differ, fine-tuning may be required with different parameters.
- It is important to note that the values below should be in tune with the machine’s performance. Setting a service to run 1000 threads when the machine actually can’t handle the load will bog down the machine and affect everyone. You might be better off letting that individual user simply time out. The long and short of it is don’t assume that super high thread counts will lead to better performance. The quality of the machine matters.
- The other suggestions for improvement gains should users have high-end servers, potentially with multiple CPUs and lots of memory.

**Jboss tuning:**
- Database connections
  - On APS, edit \Artios\WebCenter\ApplicationServer\JBoss\server\default\deploy\wc5-ds.xml.
  - This file specifies the database connection pool used by Jboss. The tag of interest is max-pool-size. This specifies the maximum number of db connections that can exist in the pool.
  - If a large volume of users is expected, this number should be set to 2x the maximum number of concurrent expected. This will help mitigate the possibility that a user will not be able to get a connection on a very loaded system.

**Thread pool**
- On APS, edit \Artios\WebCenter\ApplicationServer\JBoss\server\default\conf\jboss-service.xml.
- Look for attribute called MaximumPoolSize under the thread pool service. The default is 10.

**Tomcat tuning:**
- Load
  - When Tomcat is under load, it can be starved for resources. When this happens, Tomcat pegs the CPU at 100% as he is busy-waiting and spends a lot of time trying to create new resources that it cannot, and/or is waiting for resources to become available.
  - These adjustments will allow incremental improvements in the number of concurrent users, however, a condition exists where Tomcat pegs the CPU trying to handle too many requests.
- Isapi redirector tuning
• Workers are Tomcat instances which process servlet requests. Workers are pooled and dispatched to Web Server threads. Refer to http://tomcat.apache.org/connectors-doc/config/workers.html for more information.
• For IIS the default pool size is 10. When WC is under load, Tomcat will spend a lot of time trying to find available workers from its pool as evidenced by the CPU peg and the extended isapi.log message unable to get free endpoint for worker ajp13 from 10 slots.
• To overcome the default number of slots for IIS, on WEB edit <Artios>\WebCenter\WebServer\Tomcat\conf\workers.properties.
  • Look for the cachesize property. This property will now allow the workers to be cached in the pool beyond the limit of 10 imposed by IIS. We are not 100% sure what this value will be, but it will need to be uncommented and set to a value in line with the number of expected concurrent users. It is now being set to 250.
  • The property worker.ajp13.cache_timeout=60 has now been added so that redirector connections to the Tomcat ajp connector can be cleaned up.

Tomcat threads tuning:

• Tomcat can create a certain number of threads that allow it to handle concurrent connections. When WC is under load, this thread limit may be reached as evidenced by the Tomcat error message Severe: All threads (XYZ) are currently busy, waiting. Refer to http://Tomcat.apache.org/Tomcat-5.5-doc/config/http.html for more information.
• To overcome the thread limitation, on WEB edit: \<Artios>\WebCenter\WebServer\Tomcat\conf\server.xml.
  • The maxThreads property for the AJP 1.3 Connector has been upgraded to 400. The maxThreads for the AJP connector should be the same as the http connector.
  • For communicating with Tomcat directly via http, look for the maxThreads property associated with the non-SSL HTTP/1.1 Connector. This property determines the maximum number of concurrent threads. By default this property is 200. It should be set to 400.
  • To verify Tomcat’s status, open a web browser and access URL http://<web_server_name>:8081.
  • You will get Tomcat’s precompiled homepage.
  • Click on the Tomcat Manager link, then Server Status to determine what resource level Tomcat is at.
  • Be sure the Tomcat user has the manager role.
  • This feature requires authentication, so login as username Tomcat with password of Tomcat.
  • On WEB, edit \<Artios>\WebCenter\WebServer\Tomcat\conf\Tomcat-users.xml.
  • Add the role called manager.
  • Add the manager role to the Tomcat user.
5.4 Log files

5.4.1 Installation

A log of how WebCenter was installed, repaired, or upgraded will always be located on the WEB server on the root of the C partition as C:\WCInstall.log. You can review this file for obvious errors and to see what settings were entered during initial installation.

5.4.2 Site Usage

These log files are located on WEB server by default, in \Artios\WebCenter\logs. Usage Log files record activities such as:

- Logins/Logoffs (including when session time-out and when user presses LOGOFF button)
- File CheckOuts/CheckIns (Lock & Downloads and Upload of new versions)
- File Downloads/Uploads (including when downloads start, finish, and fail)

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

- Browse to \Artios\WebCenter\Logs folder
- Ensure that these users and Group below have Full permissions to log and tempfiles folders: IUSR_<WEB_servername>, IWAM_<WEB_servername>, SYSTEM, Administrators Group

What's in WebCenterLoginLog.txt?

<table>
<thead>
<tr>
<th>Action Date/Time</th>
<th>User</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOGOUT Apr 21, 2006 4:23:18 PM</td>
<td>JOEC</td>
<td>Reason: user logged out</td>
</tr>
<tr>
<td>LOGIN Jun 13, 2006 9:46:01 AM</td>
<td>MELISSAA</td>
<td></td>
</tr>
<tr>
<td>LOGOUT Jun 13, 2006 10:14:53 AM</td>
<td>MELISSAA</td>
<td>Reason: session timed out</td>
</tr>
</tbody>
</table>

What's in WebCenterCheckoutLog.txt?

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

What's in WebCenterDownloadLog.txt?

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>User</th>
<th>File</th>
<th>Version</th>
<th>Unique Doc ID</th>
<th>Size</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun 7, 2006 3:13:30 PM</td>
<td>BEAPM</td>
<td>123_Hoegaarden_silver_front.pdf</td>
<td>1</td>
<td>000002_000000683</td>
<td>85373</td>
<td>Download Started</td>
</tr>
<tr>
<td>Jun 7, 2006 3:13:30 PM</td>
<td>BEAPM</td>
<td>123_Hoegaarden_silver_front.pdf</td>
<td>85373</td>
<td>Download Finished</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun 8, 2006 2:17:24 PM</td>
<td>MIKEG</td>
<td>Scope_fc.pdf</td>
<td>1</td>
<td>000002_000001681</td>
<td>1068473</td>
<td>Download Started</td>
</tr>
<tr>
<td>Jun 8, 2006 2:17:50 PM</td>
<td>BEAPM</td>
<td>WebCenterDownload.zip</td>
<td>196608</td>
<td>Download failed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What's in WebCenterUploadLog.txt?

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

Tomcat Service

These log files are located on WEB in \Artios\WebCenter\WebServer\tomcat\logs directory.

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

IIS Services

These log files are located on WEB in \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 (ex122205.log)

<table>
<thead>
<tr>
<th>Time of request</th>
<th>IP address</th>
<th>Method</th>
<th>Page returned to client</th>
<th>Status code</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:09:52</td>
<td>10.31.226.94</td>
<td>GET</td>
<td>/WebCenter_Inst/images/logo_esko.gif</td>
<td>200</td>
</tr>
<tr>
<td>17:09:52</td>
<td>10.31.226.94</td>
<td>GET</td>
<td>/WebCenter_Inst/images/bg_Dots2.gif</td>
<td>200</td>
</tr>
<tr>
<td>17:10:18</td>
<td>10.31.226.94</td>
<td>POST</td>
<td>/WebCenter_Inst/dologin.jsp</td>
<td>200</td>
</tr>
<tr>
<td>17:10:18</td>
<td>10.31.226.94</td>
<td>GET</td>
<td>/WebCenter_Inst/home.jsp</td>
<td>200</td>
</tr>
<tr>
<td>17:10:18</td>
<td>10.31.226.94</td>
<td>GET</td>
<td>/WebCenter_Inst/homepage.jsp</td>
<td>200</td>
</tr>
</tbody>
</table>

JBoss Service

These log files are located on APS in \Artios\WebCenter\ApplicationServer\JBoss\server\default\log directory.

- Boot.log and Server.log
- These record JBOSS startup activity.
- The Created date and time of this file represents the last time WebCenter JBOSS service was Started or Restarted.
- server.log.YYYY-MM-DD
• Records server activity for the specified day, where YYYY-MM-DD refers to the calendar Year, Month, and Day.

**JBoss and Mail Connectivity**

This log file is located on APS in `\Artios\WebCenter\ApplicationServer\JBoss\server\default\log` directory.

- `WebCenter4_0App.log`.
- Similar to JBOSS’s server.log, this is where configuration issues from the appconfig.xml file are logged.
- Specifically you can find errors communicating with e-mail server here
- This log file is located on APS in `\Artios\WebCenter\logs` directory.
- `appxN.N.log`
- Logs some additional information about e-mail errors and Viewer data.

**Viewer Applet**

This log file is located on APS in `\Artios\WebCenter\ApplicationServer\program` directory.

- `imageList.log`
- Logs information about View & Annotate Tool.

### 5.4.3 Change logging level for troubleshooting

You can change the appconfig.xml logging level:

- **Severe** = the default value; logs the least amount of detail
- **Finest** = logs the most java detail
- **All** = logs everything **preferred when troubleshooting**

On the APS, using Notepad, edit `c:\artios\webcenter\config\appconfig.xml`.

- In the tag `<log_file_name>` change the level value from ‘SEVERE’ to ‘ALL’.
- Save changes and exit.
- Restart WebCenter services on APS and WEB.

### 5.5 Interacting with services for troubleshooting

You can change any service to display activity in real-time via a command window. To turn this feature on:

- In Control Panel – Administrative Tools – Services, locate a service.
- Right click on it and choose Properties.
- On Logon tab, check the box ‘Allow service to interact with desktop’.
- Repeat steps for all services desire to monitor on all servers.
- Restart the changed Services.
5. Troubleshooting

- Now a black MS-DOS-like command window will always appear when service is running– do not close these windows as it will ‘KILL’ the service and it will restart itself.
- If you tile them so that you can see all window activity you can watch for errors.

5.6 Possible Problems

5.6.1 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.

Restart your database services and try again

Verify you are using the correct Instance name

- Using the provided management tools, such as Enterprise Manager for SQL Server, identify the correct Instance name or use OSQL commands to verify you have correct Instance name.
- On the APS, edit C:\Artios\WebCenter\ApplicationServer\JBoss\server\default\deploy\wc5-ds.xml.
- Ensure you have the correct instance name on the JDBC data source entry.
- Save any changes and restart WebCenter services on APS only.
- Restart database service on DBASE (MSSQLSERVER or Oracle service).
- For example: My SQL Server 2000 database instance is named MBCDBINST. My <connection-url> should be: jdbc:inetd:7:MBCDBINST?database=WebCenter4_0&amp…
- On DBASE, look to see if the database services say Status of “Started”. If not, check Event Log for errors.

5.6.2 Cannot connect to Application Server

This usually means one of 4 things:

- WebCenter JBOSS service on APS is Stopped or has not finished loading yet.
- On APS, verify WebCenter_Jboss service is Started. Restart it.
- On APS, check CPU processor for level of activity. Wait until < 5% utilization before attempting to access an WebCenter site.
- There is a JBOSS port conflict on the APS.
- Do port testing to ensure that port 1099, 4444, and 2500 are not in use when all WebCenter and OBGE services are stopped on the APS.
- During installation of WEB, the name of the APS was not entered correctly.
- On WEB, Using Notepad, Edit \Artios\WebCenter\WebServer\tomcat\webapps\WebCenter_Inst \WEB-INF\classes\jndi.properties.
- Ensure name of the APS is correct with the correct port number.
5.6.3 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.

5.6.4 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.

5.6.5 Cannot access WebCenter site from external Internet

In this case you can access the site by using WEB 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 (i.e. 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 within the DMZ.
• Ensure IIS on WEB 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.

5.6.6 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. Before this will work, we must import that site’s SSL certificates.
into Automation Engine’s keystore. Otherwise, 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
```

See [Securing WebCenter using SSL](#) in the Installation Guide for more information.

### 5.6.7 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, oicu812`
- Alternately, follow the instructions at the end of [An Example Restore Plan](#).

### 5.6.8 Problems caused by APC PowerChute Software

Servers stop functioning normally. There is a known bug in UPS (Uninterruptible Power Supply) software called PowerChute, which controls UPS’s made by APC (American Power Conversion). The solution is to upgrade to version 7.x or later as described by answer document 7202 at the APC website:


### 5.6.9 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.

### 5.6.10 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 APS.
• 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.

5.6.11 Index searching error... Connection reset by peer

<table>
<thead>
<tr>
<th>Error</th>
</tr>
</thead>
</table>

Index searching error Error details: 00000_0000000001, Connection reset by peer: socket write error

This means WebCenter’s Search Engine is stopped.
• Restart all WebCenter services on WEB and APS for the connection to be reset properly.

5.6.12 Index searching module initialization error

<table>
<thead>
<tr>
<th>Error</th>
</tr>
</thead>
</table>

Index searching module initialization error Error details: IndexMgrTMBean.search(), searcher not initialized

This means WebCenter’s Search Engine (WebCenter Search Crawler) on WEB was recently started and has not completed building all of search indices yet. Once indices are built, the message will go away.

5.6.13 The Page cannot be displayed

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

5.6.14 The Viewer suddenly stopped working on a Windows XP client

This is a known problem with Windows XP, when an older version of Java is installed on client by another application.

To fix, clean out the Java Applet Cache. This will allow our applet to use the most recent Java version.
• From Control Panel, open Java configuration.
• On General tab, in ‘Temporary Internet Files’ section, click the <Delete Files> button.
5. Troubleshooting

- Check all settings, choose <OK> to empty cache.
- Click <OK> to exit.
- Attempt to access Viewer tool again. Applet should load now.

5.7 E-mail Troubleshooting

**Symptom:** If 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 is 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 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 `EHLO` command in the Command Prompt window, to make sure it is prepared to accept incoming e-mail messages. Output of the 'EHLO' command should return `OK` on the last line if the output returns other results, you should consult the mail server administrator.

**Symptom:** If 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 side and/or server side. You should first check the Application server and Web server logs for any error messages.

**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`

**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 JBoss' JMX Console that is used to inspect all running JBoss services. To open the JMX Console, open a browser and point to the following link: `http://<App. Server Host Name>:8086/jmx-console/` where `<App. 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). Just a note - even though JMX console is listening on port 8080 by default, WebCenter uses port 8086.

When you open the JMX Console, you have to locate the appropriate E-mail Notifications JMS queue, which actually is a JBoss service. It is found in the jboss.mq.destination section (near the bottom of the services list) with the name name=WebCenterEmail Queue,service=Queue. Follow this link to go to the management interface of the MBean service. From here you can:

- Check how many messages are waiting in the JMS queue (by invoking listMessageCounter() method).
- View messages that are currently present on the queue (by invoking listMessages() method).
- Clear the whole queue (by invoking removeAllMessages() method); this will however delete all the waiting messages and they will be lost forever.

**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’s 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.
5.8 Troubleshooting proxy servers

5.8.1 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.

5.8.2 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. In Internet Explorer, this is found under Internet Options, Connections. There 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_fastservcrtltnt_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.