HP Service Manager

Software Version: 9.21

For the supported Windows® and Unix® operating systems

Patch 10 Release Notes

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Contents

This document is an overview of the changes made to HP Service Manager 9.21 for patch 10. It contains important information that is not included in other documentation.

What's New in This Release

This section describes important changes in this release.

> **Important:** Based on customer feedback, the overall quality of Service Manager has been an area of concern over the last number of years. To that end, the Service Manager R&D team has spent a significant amount of effort improving the quality of Service Manager, and recent customer feedback is very positive. Many defects that have been in the product for many years are now fixed in the SM 9.3x. The issues resolved in this build patch cover only the most critical fixes. To gain better performance and user experience, we strongly recommend that you apply the latest binaries from SM 9.3x instead of this build patch.
>
> In most cases SM 9.3x binaries are compatible with SM 7.1x and SM 9.2x applications. Therefore, you are not required to perform a full upgrade to take advantage of the latest Service Manager technology. Specific compatibility details are listed in the SM 9.3x release notes.

Server parameter: sslProtocols

This parameter enables you to specify the protocols to use when Service Manager clients (Windows, web, or web services) are connecting to the server through Secure Socket Layer (SSL) or when the Service Manager server is connecting as a client to another application through SSL.

> **Note:** It provides an option to disable the SSLv3 protocol for Service Manager for security considerations (by specifying `sslProtocols:TLSv1,TLSv1.1,TLSv1.2`).

To specify the protocols for SSL connections, follow these steps:

1. Add this parameter to the sm.ini file. The parameter value should be a comma-separated list of any combinations of the following values: SSLv3, TLSv1, TLSv1.1, and TLSv1.2. The default value is: `SSLv3,TLSv1,TLSv1.1,TLSv1.2`.

   For example:

   `sslProtocols:TLSv1,TLSv1.1,TLSv1.2`

If this parameter is not present in the sm.ini file, the default value is used.

2. Restart the server.

Certifications

This release includes the following support matrix changes.

Added support

- Firefox 24 and later

Discontinued support

- Firefox versions 17 through 23

See also the compatibility matrix for Service Manager 9.21 on the HP Software Support Matrices site:

https://softwaresupport.hp.com/group/softwaresupport/support-matrices

Enhancements

This release includes the following enhancements.

CR	Problem	Solution
QCCR1E98986	Mozilla Firefox 24 is not certified for the Service Manager web client.	Mozilla Firefox 24 and latest versions are now certified for the Service Manager web client. **Note:** By default, Firefox 26 blocks all Java plugins. Therefore, when you use the telephony, workflow, or Visualize CI plugins with Firefox 26, you are prompted for authorization before the plugin starts. Simply click "Allow " to continue. For detailed information, refer to its release notes: http://www.mozilla.org/en-US/firefox/26.0/releasenotes/
QCCR1E99002	Firefox versions 17 to 23 are no longer required in the support matrix documentation.	Firefox versions 17 to 23 are deleted from the Support Matrix. The entry for Firefox is modified to "Firefox 24 or greater (Extended Support Releases are recommended)."

Fixed Defects

This release fixes the following defects.

Server

CR	Problem	Solution
QCCR1E70834	The Load Balancer and background processes unexpectedly terminate in a horizontally scaled Service Manager environment.	This "jgroups node got shunned" issue is solved by changing the JGROUP configuration.
QCCR1E70925	When the views under the 'group by' feature are refreshed or initially displayed, the first group is automatically expanded after upgrading to Service Manager 7.11.410 (Patch 17) in the Web client.	Now the To Do queue groups will not be automatically expanded when you switch between queues or views.
QCCR1E76724	After deleting the unique key of cm3r, a signal 11 happened while doing an IR regeneration. This issue occurs because the SM server does not check to see if a unique key or IR key exists before it starts a key regeneration, and thus causes a signal 11.	The Service Manager server now checks if the number of unique keys or IR keys is zero. If yes, the server then issues a warning message to the client that indicates the IR regen cannot be performed without a unique key.
QCCR1E101263	User session crash on saving particular datadict record (cm3t).	The "buffer out of bound" Java stream bug is fixed.

CR	Problem	Solution
QCCR1E101528	When you try to retrieve the probsummary records by using a simple query, the legacy connection closes and a "Signal 11" error is generated.	You can now retrieve the probsummary records by using a simple query as expected.
QCCR1E101794	In JavaScript, when you assign an array variable that is not empty to the variable itself and then print its value, the value is NULL.	Now when you assign an array variable that is not empty to the variable itself, the value is not NULL any more.
QCCR1E103870	The sort order of a view is lost when you refresh the view.	The sort order of a view is retained when you refresh the view.
QCCR1E104185	The following error is recorded in the server log file: JRTE E sendResponse() execute failed - Invalid byte 2 of 3-byte UTF-8 sequence	This error is not recorded in the server log file.
QCCR1E104187	The coredump is not generated immediately when an exception is thrown from a JAVA part.	The Java Virtual Machine Tool Interface (JVMTI) is now used to monitor the JVM events. The JVMTI is loaded during the initialization of the JVM. When a JAVA exception is thrown, a callback function that is registered for the exception event is called to generate a coredump. **Note:** To generate a coredump when a JAVA exception is thrown, add the following parameters to the server configuration file (sm.ini) (take Linux for example): `JVMOption0:-agentpath:libsm.so=opt1,opt2` `CatchMethods:findResourceInternal` `ThrowMethods:parse` `enablecoredump:1`
QCCR1E104624	When you save a record, the Service Manager client is terminated unexpectedly.	The Service Manager client is not terminated unexpectedly when you save a record.

CR	Problem	Solution
QCCR1E105515	When you are creating a new change in the Web client, the change category and the first subcategory are expanded, and the first change type is pre-selected.	Now the "change category" group will not be expanded until one of its list item is selected by the user. This change also affects those tab windows brought up by "Change management > Change Queue" or "Incident management > Incident Queue" menu items.
QCCR1E105608	After you apply Service Manager 9.21 Application Patch 3, some fields are added as the "intType" type in the "extaccess" table for some objects (such as "Change" (name=cm3r)). Therefore, the web service no longer works correctly until you remove this added entry.	Now the web service works properly.
QCCR1E110852	The label for the "Apply Template" button is partly truncated in the Enterprise Self-Service (ESS) view.	The label for the "Apply Template" button is displayed completely in ESS view.
QCCR1E111411	Users cannot connect to the Service Manager system occasionally even though they restart the system.	The memory buffer overflow issue is fixed and the system is stable now.
QCCR1E112126	When logging on to Service Manager by using the web client, the change categories are expanded. The first subcategory is also expanded and the first change type is pre-selected.	Now the first category will not be expanded when you click New, Search, or other buttons on the ToDo Queue menu.

CR	Problem	Solution
QCCR1E115291	When you click Knowledge Management > Search Knowledgebase > KM Doc Id to search for a Knowledge Management document, it takes a long time (approximately 2 to 5 minutes), to open the document. The issue occurs for Knowledge Management articles that have a large number of attached files and for all users including Administrator.	The waiting time to open Knowledge Management articles is now acceptable.
QCCR1E116873	The "SCFile.getAttachment" JavaScript function does not work.	The "SCFile.getAttachment" JavaScript function now works as expected.

Web Client

CR	Problem	Solution
QCCR1E101344	A Virtual Join in the Web client displays only the first row of the list instead of the full list.	A Virtual Join in the Web client now displays all rows of the list.
QCCR1E104627	If two Text Area controls in two different notebook tabs share the same input value, and one of the tabs has a DVD visible condition that is evaluated to false, the first line will be the last line after the page is refreshed due to a form submit action.	If two Text Area controls in two different notebook tabs share the same input value, and one of the Tabs has a DVD visible condition evaluated to false, the content in the Text Area remains unchanged after the page is refreshed due to a form submit action.

Known Problems, Limitations, and Workarounds

The following table lists the known issues discovered in this release.

Global ID	Known Issue	Workaround
QCCR1E89890	Grouped Views are not correctly updated after logging a new incident.	When you log a new incident, to keep consistency with actual incidents, the group number is not updated. You need to click the **Refresh** button to update grouped Views.
QCCR1E72809	After closing a ticket (such as an Interaction or Incident) and returning to the view, the queue is not synchronized correctly.	As a workaround, click the **Refresh** button to solve the view display issue.
QCCR1E120715	Service Manager 9.21 JavaMail does not support SSL/TLS connections on a port that needs to use the STARTTLS command (port 25 or 587 of Gmail, for example).	Use the dedicated SMTP SSL/TLS port (port 465 of Gmail, for example).

Documentation Errata

The following documentation item is incorrect.

Location:

Online help: Help topic "Startup parameter: agstackl"

Error: :

The default value of this parameter is 400.

Correction:

The default value of this parameter is 600.

Backout Instructions

If you want to restore your Service Manager system to its original state after installing this patch, follow these guidelines.

Server

To backout your server changes, make a backup before installing the patch and then roll back.

Backup

Before applying the server patch, make a backup of the server installation folder. For example, `C:\Program Files\HP\Service Manager 9.21\Server`.

> **Note:** If you have a load balanced system, be sure to back up the server installation folder for every server instance respectively.

Backout

To restore your Service Manager server to its original state after installing the patch, do the following:

1. Stop the Service Manager server.

2. Remove the existing server installation folder.

3. Copy the backup folder back.

   > **Note:** Make sure that the embedded Tomcat is also replaced with the backup as the version of the embedded Tomcat may have dependency with specific server version.

4. Restart the Service Manager server.

> **Note:** If you have a load balanced system, make sure that every server instance is replaced with its respective backup.

Web Tier

Backup

Before deploying the new web tier, make a backup of the following items:

- web.xml file

- application-context.xml

- splash screen

- style sheets

- any other customizations you made, including your webtier-9.21.war (webtier-ear-9.21.ear) file.

Backout

To roll back to the old web tier:

1. Delete or uninstall the existing web tier.

2. Clear the cache of your web application server (for example, Tomcat).

3. Redeploy the old web tier.

4. Restore your old customizations.

Windows Client

To roll back to your old Windows client, you need to do backup before installing the new Windows client and then reinstall the previous Windows client.

Backup

1. Make a backup of your Windows client home folder, for example,
   C:\Users\<username>\ServiceManager. Your connections and personalized settings are stored in this folder.

2. Make a backup of your security configuration files if any (**Window** > **Preferences** > **HP Service Manager** > **Security**). For example, your CA certificates file and client keystore file.

Backout

1. Uninstall the new Windows client.

2. Reinstall the previous Windows client.

3. Restore your old Windows connections and configurations.

Applications

Backup

> **Tip:** If your application version is 7.11 ap3, 9.21 ap3, 9.30 ap3, 9.31 or later, you are recommended to use Unload Manager to make a backup of the files to be modified by an unload file, because Unload Manager can create a backup of your old data during the installation of the unload; if your application version is other than any of these, Unload Manager is not available and you can use Database Manager instead.

To use Unload Manager to make a backup:

1. Go to **System Administration** > **Ongoing Maintenance** > **Unload Manager**.

2. Double-click **Apply Unload**. A wizard opens.

3. Select the unload file you want to apply, also specify a backup file, and then click **Next**.

   Details of the unload file appear.

4. Double-click a conflicting object in the table to open the merge tool:

   a. Merge the object, and then select the **Reconciled** check box.

   b. Click **Save** to go back to the wizard.

5. Click **Next** after all the conflicting objects are reconciled.

6. Click **Yes** on the confirmation window to apply the unload.

7. Click **Finish**.

   Now, the unload has been applied and at the same time your old data backed up.

To use Database Manager to make a backup:

1. Go to Database Manager, select **Import/Load** from **More** or the More Actions menu, and browse to the unload file.

2. Click **List Contents** on the menu bar, to view a list of files that have been updated in this unload.

   See the following figure for an example.

Process
  {["svc.add.cart", {$L.callnextprocess=true}, {}, {{["se.get.record", {"name", "file", "text", "string1"}, {"incident.id in $L.file", "$L.svcCart", "\"sdID\"", "\"svcCart\""}, not null(incident.id in $
RAD - money.format (10)
scmessage
  {["cs", "10", 20, "Neopravitelná chyba v aplikaci: %S na panelu %S", "error", {}, '02/28/12 15:33:24', 4, "ramuro"]}
  {["de", "10", 20, "Nicht behebbarer Fehler in der Anwendung: %S auf Feld %S", "error", {}, '02/28/12 15:33:32', 3, "ramuro"]}
  {["en", "10", 20, "Unrecoverable error in application: %S on panel %S", "error", {}, '02/28/12 15:33:12', 66, "ramuro"]}
  {["es", "10", 20, "Error irrecuperable en la aplicación: %S en panel %S", "error", {}, '02/28/12 15:33:46', 5, "ramuro"]}
  {["fr", "10", 20, "Erreur non récupérable dans l'application : %S sur le panneau %S", "error", {}, '02/28/12 15:33:46', 3, "ramuro"]}
  {["hu", "10", 20, "Visszaállíthatatlan hiba lépett fel az %S alkalmazásban a %S panelen", "error", {}, '02/28/12 15:33:51', 3, "ramuro"]}
  {["it", "10", 20, "Errore irreversibile nell'applicazione: %S nel riquadro %S", "error", {}, '02/28/12 15:35:08', 3, "ramuro"]}
  {["iten", "10", 20, "Unrecoverable error in application: %S on panel %S", "error", {}, '02/28/12 15:35:23', 3, "ramuro"]}
  {["ja", "10", 20, "şAşvşŠşPğ[şVşĚşûŞÂŞÌTñčţčsČ\\şGşTğ[(şpşlşŽ%S[2]kâşÌ%S[1])", "error", {}, '02/28/12 15:35:34', 3, "ramuro"]}
  {["ko", "10", 20, "어플리케이션에 복구할 수 없는 오류 %S이(가) 패널 %S에서 발생했습니다.", "error", {}, '02/28/12 15:35:44', 3, "ramuro"]}
  {["nl", "10", 20, "Unrecoverable error in application: %S on panel %S", "error", {}, '02/28/12 15:35:51', 3, "ramuro"]}
  {["pl", "10", 20, "\"Nieodwracalny biĮd w aplikacji: %S, panel %S.\"", "error", {}, '02/28/12 15:36:01', 3, "ramuro"]}
  {["pt", "10", 20, "Erro irrecuperável no aplicativo: %S no painel %S", "error", {}, '02/28/12 15:36:14', 3, "ramuro"]}
  {["pt-Br", "10", 20, "Unrecoverable error in application: %S on panel %S", "error", {}, '02/28/12 15:36:24', 3, "ramuro"]}
  {["ru", "10", 20, "Unrecoverable error in application: %S on panel %S", "error", {}, '02/28/12 15:36:35', 3, "ramuro"]}
  {["zh-Hans", "10", 20, "åąČçCÜçÜŽåąkäuĮåĚąçûäąăäąÚåkĮĹ怚ğ¢åtÜÇşĬéČřèŲŲ: %SiĚěäĮÛäąûéŘ¢æŘ¿ %SiĚJ", "error", {}, '03/14/13 01:34:16', 5, "lmingyan"]}
ScriptLibrary
  {["svcCartHelper", "/** @fileoverview svcCartHelper - contains functions used by the Service Catalog module when dealing with svcCart and svcCartItems*   @author Alex Corvino*//** This function i
datadict
  {["activity", {}, "miscellaneous", , , "FALCON", '01/21/96 17:00:00', "cblanck", '06/19/07 00:58:57', , , , , {"cust.visible", "datestamp", "description", "negdatestamp", "number", "operator", "syshom
activity
scmessage
  {["en", "1000", 10, "Please specify Area name", "fc", {}, '12/01/10 09:33:44', 0, "rolfel"]}

This figure shows the contents of an unload file that contains changes to the following files:

File	Record
Process	svc.add.cart
application	money.format **Note:** The `scmessage` records listed under each RAD application are messages used in this RAD application; no backup is needed for them.
ScriptLibrary	svcCartHelper
datadict	activity

File	Record
dbdict	activity **Note:** The "activity" file with no records actually represents the dbdict record of the activity file.
scmessage	The record whose message class is "fc" and message number is 1000.

3. Go to Database Manager, in the Table field enter a file name you got in step 2, and click the **Search** button.

4. If the format selection page shows, select the proper format by double-clicking it (for example, select the device format for the device file), and then search for the file record.

5. Click **More** (or the More Actions menu) > **Export/Unload** after the file record displays.

   Note: If **Export/Unload** is not available, check the **Administration Mode** check box in Database Manager and try again.

6. In the pop-up window, specify your backup upload file path/name, and click **Unload Appl**.

   Caution: Make sure that **Append to file** is selected.

7. Repeat steps 3 through 6 to back up the rest of the files you got in step 2.

Backout

   Tip: You can use Unload Manager (recommended) or Database Manager (if Unload Manager is not available in your application version) to roll back to your old data, as described in the following.

To roll back to your old data using Unload Manager:

1. Go to **System Administration** > **Ongoing Maintenance** > **Unload Manager**.

2. Double-click **Apply Unload**.

   A wizard opens.

3. Select the unload file generated in the backup process, specify a backup file, and then click **Next**.

   Details of the unload file display.

4. Double-click a conflicting object in the table to open the merge tool:
   a. Merge the object, and then select the **Reconciled** check box.

   b. Click **Save** to return to the wizard.

5. Click **Next** after all the conflicting objects are reconciled.

6. Click **Yes** on the confirmation window to apply the backup unload.

7. Click **Finish**.

To roll back to your old data using Database Manager:

1. Go to Database Manager, click **More** > **Import/Load**.

2. Browse to the backup unload file you created.

3. Click **Load FG**.

Installation Notes

This section provides instructions on installing each component in this patch release.

Digital Signature Notice

HP signs Windows executable files with a digital signature. Since January 2012, this process has been updated to use a new VeriSign root certificate. On a Windows system that does not have the new VeriSign root or intermediate certificate installed, when the user right-clicks the file and then goes to **Properties** > **Digital Signatures** > **Details**, a verification error will display: "The certificate in this signature cannot be verified."
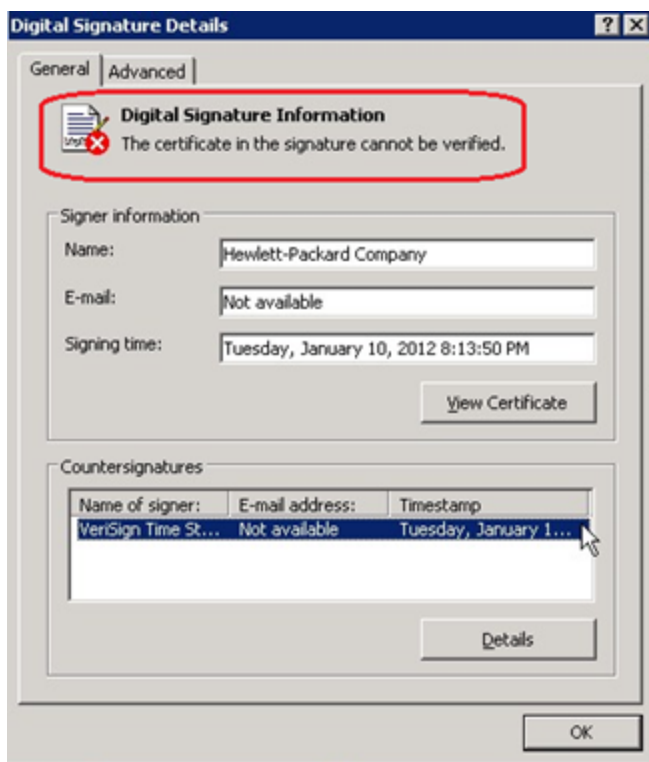
To resolve this issue, either enable Windows Update or download and install the G5 Root certificate as documented at: https://knowledge.verisign.com/support/ssl-certificates-support/index?page=content&actp=CROSSLINK&id=SO19140

Web Tier Installation

The Web Tier update consists of a compressed file, sm9.21.755-P10_Web_Tier.zip. The specific upgrade process depends on your particular Web application server, but follows the same steps as deploying a new installation. For more information, refer to the *Service Manager Interactive Installation Guide*.

The upgrade does not automatically save your Web Tier customizations. To keep your changes, you must save your customized files and replace the new version of these files with your customized version.

> **Note:** The Service Manager introduces important changes to the Web tier Directory structure since SM 9.21 Patch 5 release. For more information on these changes, see the release notes of SM 9.21 Patch 5 and the "Updates to the Service Manager Web Tier Directory Structure" white paper at the HP Software Support Web site: https://softwaresupport.hp.com

To install the new Web Tier:

1. Make necessary backups. For details, see "Backout Instructions" on page 16.

2. Delete or uninstall the existing webtier-9.21.war (or the webtier.ear-9.21.ear) file.

3. Clear the cache of your web application server (for example, Tomcat).

4. Deploy the new webtier-9.21.war (or the webtier.ear-9.21.ear) file following the instructions in the Service Manager Installation Guide.

   > **Note:**
   >
   > - It is recommended to enable HTTPOnly cookies in your web application server to help prevent malicious JavaScript injection. To enable HTTPOnly cookies, see Enabling HTTPOnly cookies in your Web Application Server.
   >
   > - It is best practice to deploy with a unique context root. For example: `/webtier-9.21.755`

5. Use a diff utility to compare the new Web tier's `web.xml` file against your backed-up version to ensure that any new parameters are properly merged into the files used in your final deployment. Do this for `application-context.xml` as well as any other files you may have customized (such as style sheets and splash screens).

6. Make any new customizations necessary for your deployment.

> **Note:** Be sure to set the `securelogin` and `sslport` parameters.

7. Restart the web application server.

> **Note:** Before accessing the new Web Tier, HP recommends that all users empty their browser cache.

Enabling HTTPOnly cookies in your Web Application Server

It is recommended to enable HTTPOnly cookies in your web application server to help prevent malicious JavaScript injection. Following are some examples for how to enable HTTPOnly cookies in different web application servers:

Web Application Server	How to Enable 'HTTPOnly' Cookies
Tomcat 6.0.20+	Can be enabled for all web applications in conf/context.xml: `<Context useHttpOnly="true"> ... </Context>`
Oracle WebLogic 9.2 MP4, 10.0 MP2, and 10.3.1	Enabled by default.
Oracle WebLogic 10.3.0	You need to apply a security patch (p8176461_103_Generic), and after that HttpOnly cookies are enabled by default. The security patch can be downloaded using My Oracle Support (MOS).

JBoss 5.1	Enable by setting useHttpOnly=true in the context.xml file, which is located in jboss/server/<myserver>/deploy/jbossweb.sar/.
	
	`<Context cookies="true" crossContext="true">`
	`  <SessionCookie secure="true" httpOnly="true" />`
	
	`</Context>`

Web Application Server	How to Enable 'HTTPOnly' Cookies
IBM WebSphere 7.0.0.27	Enable through the following properties: • com.ibm.ws.security.addHttpOnlyAttributeToCookies • com.ibm.ws.webcontainer.httpOnlyCookies **Known issue:** If Service Manager 9.21 is deployed on WAS 7.0.0.27, and FireFox is used to search "Approved Document" in the Knowledge Management module, you may encounter an automatic logout issue. Follow these steps to fix this issue by removing the incorrect URL for the background-image used for the knowledge document: 1. Log on to the Windows client. 2. From the Navigation menu, click **Knowledge Management** > **Manage Document Types**. 3. Select the **Reference** record. 4. Modify the **Default View** from the **Associated Document View** view list. 5. Remove the incorrect URL in the CSS class .documentTitle. For example, remove the following: `url("44ee44677b0f021810318488:kmrtBackground.gif: kmattachments:2")`. 6. Save the change. 7. Do the same for the other four records to avoid other similar problems.
IBM WebSphere 8.0.0.5	Enabled by default.

Windows Client Installation

Note: In this release, the embedded JRE in the Windows client was upgraded to JRE 7 Update 55.

The Windows client update consists of a compressed file, sm9.21.755-P10_Windows_Client.zip, which contains the executable installation files.

To install the Windows client update:

1. Stop the Service Manager Windows client.

2. Make necessary backups. For details, see "Backout Instructions" on page 16.

3. Uninstall the Service Manager Windows client. (Your connection and personalized settings are retained.)

4. Run `setup.exe` and install the client by following the instructions in the Service Manager Installation Guide.

5. Check the version in **Help** > **About Service Manager Client**.

    The client should be Release: **9.21.755**.

Windows Client Configuration Utility Installation

Service Manager 9.21p10 includes an updated version of the Windows Client Configuration Utility (sm9.21.755-P10_Windows_Client_Configuaration.zip), where the embedded JRE has been upgraded. It is intended only for customers who have upgraded their Windows client to version 9.21p10 (or later).

For detailed installation instructions, see the *Service Manager 9.20 Installation Guide*, which is available from the HP Software Support Site:

**https://softwaresupport.hp.com/group/softwaresupport/search-result/-
/facetsearch/document/KM912628**

Server Update Installation

The server update for your operating system (OS) consists of a compressed file, `sm`9.21.755-P10_
`<OS>.zip` (or `.tar`), which contains the Service Manager server files. These files add to or replace the files in the `[SM Server Root]\` (`[SM Server Root]/`) `RUN`, `irlang`, `legacyintegration`, and `platform_unloads` directories.

> **Note:** If you have a load balanced system, you must upgrade all server instances.

> **Caution:** This server update will upgrade the embedded Tomcat to version 6.0.36, and therefore requires additional steps.

> **Note:** The SM9.21p10 server requires JRE 1.7 (except for Solaris 9). For Windows and Linux, the embedded JRE has already upgraded to JRE 1.7; for other Unix-based platforms, you need to manually perform this JRE upgrade.
>
> The JRE upgrade will cause external web service calls over SSL to fail if the remote endpoint does not support Server Name Indication (SNI), which is by default activated in JRE 1.7. Once Service Manager is upgraded to use JRE 1.7, it starts to use SNI extensions during the SSL handshake. If the remote endpoint does not support SNI, the web service call will fail with an error message. To solve this issue, do either of the following:
>
> - Activate SNI at the remote end point (recommended)
>
> - If the remote endpoint does not support SNI extensions, and SNI cannot be activated, add the following JVMOption<n> parameter either to the `sm.ini` file, or to the start command of the servlet(s) in the `sm.cfg` file:
>
>   JVMOption2:-Djsse.enableSNIExtension=false

To install the Server update:

1. Stop all Service Manager clients.

2. Stop the Service Manager server.

3. Make a backup of the Server installation directory. See also "Backout Instructions" on page 16.

4. Delete the `RUN/tomcat` directory. Tomcat in this directory will be upgraded to version 6.0.36 when you extract the server files later.

5. Delete the `RUN/lib` directory.

6. For Windows and Linux platforms, delete the `RUN/jre` directory.

   > **Note:** This step is required only when you are upgrading from a server version earlier than 9.21p7. This is to avoid conflicts between the old 1.6-based JRE and new 1.7-based JRE.

7. Extract the compressed files for your operating system into the main Service Manager directory on the server. The default path is: `C:\Program Files\HP\Service Manager 9.21\Server`.

8. For UNIX servers, set the file permissions for all Service Manager files to 755.

9. For UNIX servers other than Solaris 9, manually upgrade to JRE1.7.

> **Note:** Solaris 9 does not support JRE7. You can run the SM server on Solaris 9 with only JRE 1.6.0_20 or later.

   a. Install either JDK1.7 or JRE1.7 for your specific platform.

Solaris 10	JRE1.7 (update 15 or greater)
HP-UX	JRE1.7 (JRE_7.0.04 or greater)
AIX	JRE1.7 (SR4 or greater)

   b. Set your JAVA_HOME environment variable to point to JDK1.7 (if you have JDK1.7 installed) or JRE1.7 (if you have only JRE1.7 installed).

   c. Execute `\RUN\removeLinks.sh` to remove the old symbolic links and then execute `\RUN\setupLinks.sh` to create new symbolic links.

   d. Run the following command to check that the JRE version is 1.7:

      `RUN\jre\bin\java –version`

10. If you have made any customizations/changes to the original `RUN/tomcat` folder, restore them in the new `RUN/tomcat` folder.

11. Make sure the server is stopped, and run the `sm -unlockdatabase` command.

> **Note:** The purpose of this step is to prevent stale license information from being kept in the system. In a scaling implementation, you can run this command from any one of your servers.

> **Caution:** This step is required the first time you upgrade to 9.21p6 or later; it is also required whenever you change the server's IP address after your upgrade to 9.21p6 or later.

12. Restart the Service Manager server.

13. Restart the Service Manager clients.

14. Check the version in **Help** > **About Service Manager Server**. The server should be Release: 9.21.755.

Application Unload Installation

If a platform fix (in most cases, a server fix) also requires an applications change to resolve the relevant issue, an unload file is provided. Unload files introduced in earlier patches are also included in this cumulative release. If you have not already applied them for a previous patch, you should also apply the unload files that are intended for your applications version. For more details about these applications updates, see the Release Notes for those patches.

This patch release includes the unload files that come with the server update. When you extract sm9.21.755-P10_<OS>.zip (or .tar), it will add the files to the following directory:

[SM Server Root]\platform_unloads ([SM Server Root]/platform_unloads)

> **Note:** Unload files should be installed in their patch order. That is, those introduced in patch 1 should be applied first, then those introduced in patch 2, and so on. However, unload files introduced in the same patch can be installed in a random order, unless otherwise specified.

Unload File Naming Convention

The unload files use the following naming convention: <CR_ID>_SMxxxPxx_SMxxx.unl, where:

- <CR_ID>: The identification number of the applications defect that the unload file fixes. For example, QCCR1E12345. Note that this is always the number of the parent CR of a CR family (if any).

- SMxxxPxx: The minimum Service Manager patch level that requires the unload file. For example, SM921P2, which means the unload file comes with the server updates in Service Manager 9.21 patch 2 and should be used for patch 2 or higher.

  > **Note:** Sometimes this portion contains an additional hot fix number, for example, SM711P16HF8. This example means the unload file is intended for Service Manager 7.11 patch 16 Hot Fix 8 or higher.

- SMxxx: The Service Manager applications version that requires the unload file. For example, SM711,

which means the unload file is intended only for Service Manager applications version 7.11.

> **Note:** If the applications version suffix is omitted, the unload file is then intended for all applications versions compatible with the server version, unless otherwise specified. For example, for Service Manager server 9.21, the compatible applications versions are 7.11 and 9.20.

New Application Updates Introduced in This Patch

None.

Application Updates in Previous Patches

The following table lists the unload files introduced in previous patch release.

Unload file	Introduced in 9.21 patch	Used for applications version(s)	Description
QCCR1E29881_ SM921P1.unl	P1	7.11 and 9.20	Includes application changes to reduce database I/O on login.
QCCR1E57766_ SM921P1.unl	P1	7.11 and 9.20	Includes application changes to reduce jgroups traffic on login.
QCCR1E59753_ SM921P2.unl	P2	7.11 and 9.20	Includes application changes to fix the ToDo bar.
QCCR1E31545_ SM921P2_ SM711.unl	P2	7.11	Prevents backslashes included in a template from being duplicated in the output. > **Note:** This file is not required for Applications 7.00.
QCCR1E31545_ SM921P2_ SM920.unl	P2	9.20	Prevents backslashes included in a template from being duplicated in the output.
QCCR1E48580_ SM921P3_ SM711.unl	P3	7.11	Enables translation of Display/Value lists on dynamic forms. This is a required fix for the Export to Excel redesign.

Unload file	Introduced in 9.21 patch	Used for applications version(s)	Description
QCCR1E48580_ SM921P3_ SM920.unl	P3	9.20	Enables translation of Display/Value lists on dynamic forms. This is a required fix for the Export to Excel redesign.
QCCR1E48513_ SM921P3_ SM711.unl	P3	7.11	Lists the records in the right group order when a record list is refreshed.
QCCR1E58562_ SM921P3_ SM711.unl	P3	7.11	Includes applications changes for Export to Excel redesign.
QCCR1E58562_ SM921P3_ SM920.unl	P3	9.20	Includes applications changes for Export to Excel redesign.
QCCR1E67610_ SM921P4.unl	P4	7.11 and 9.20	Enables you to block potentially dangerous attachments.
QCCR1E67072_ SM921P4.unl	P4	7.11 and 9.20	Enables you to improve the Knowledge Management update process (KMUpdate) performance.
QCCR1E67647_ SM921P5.unl	P5	7.11 and 9.20	Updated the scmessage record from "Doc Engine call failed" to include the message number.
QCCR1E70163_ SM921P5_ SM711.unl	P5	7.11	Prevents the KMUpdate process from terminating when the Search Engine server is shut down or an indexing document error occurs.
QCCR1E70163_ SM921P5_ SM920.unl	P5	9.20	Prevents the KMUpdate process from terminating when the Search Engine server is shut down or an indexing document error occurs.
QCCR1E71099_ SM921P6_ SM711.unl	P6	7.11	Enables the Value Lists to be displayed instead of the data directly retrieved from the database in a QBE list when adding a field by using Modify Columns.
QCCR1E71099_ SM921P6_ SM920.unl	P6	9.20	Enables the Value Lists to be displayed instead of the data directly retrieved from the database in a QBE list when adding a field by using Modify Columns.

Applying Unload Files

Tip: If your application version is 7.11 ap3, 9.21 ap3, 9.30 ap3, 9.31 or later, you are recommended to use Unload Manager to load an unload file, because Unload Manager can help you create a backup of your old data and reconcile conflicts during the installation of the unload; if your application version is other than any of these, Unload Manager is not available and you can use Database Manager instead.

To load an unload file using Unload Manager:

1. Go to **System Administration** > **Ongoing Maintenance** > **Unload Manager**.

2. Double-click **Apply Unload**. A wizard opens.

3. Select the unload file you want to apply, also specify a backup file, and then click **Next**. Details of the unload file appear.

4. Double-click a conflicting object in the table to open the merge tool:

    a. Merge the object, and then select the **Reconciled** check box.

    b. Click **Save** to go back to the wizard.

5. Click **Next** after all the conflicting objects are reconciled.

6. Click **Yes** on the confirmation window to apply the unload.

7. Click **Finish**.

    Now, the unload has been applied and at the same time your old data backed up.

To load an unload file using Database Manager:

1. Make sure the Windows client is configured for server-side load/unload.

    a. From the Windows client, go to **Window** > **Preferences** > **HP Service Manager**.

    b. Unselect **Client Side Load/Unload** if is flagged.

    c. Restart the Windows client.

2. Open **Tailoring** > **Database Manager**.

3. Right-click the form or open the More Actions menu and select **Import/Load**.

4. Browse to the unload file, and view the contents of an unload file before importing it by clicking **List Contents**.

5. Make a backup copy of all files to be modified by this unload. For detailed steps, see "Backout Instructions" on page 16.

6. Fill in the following fields.

Field	Description
File Name	Type the name and path of the file to load.
Import Descriptor	Since unload files do not require an Import Descriptor record, leave this field blank.
File Type	Select the source operating system of the unload file.
Messages Option — All Messages	Select this option to see all messages that Service Manager generates loading the file.
Messages Option — Totals Only	Select this option to see only the total number of files Service Manager loads.
Messages Option — None	Select this option to hide all messages that Service Manager generates when loading the file.

7. Click **Load FG**.

ODBC Driver Update Installation

Note: This release does not contain any ODBC Driver update. The latest ODBC Driver patch has been shipped with the SM9.21p6 release, which you can download from the following site:

https://softwaresupport.hp.com/group/softwaresupport/search-result/-/facetsearch/document/KM00234051

The ODBC Driver update contains the following updated files:

- Scodbc32.dll

- sci18n.dll

- sccl32.dll

To install the ODBC Driver update:

1. Extract the files to your ODBC Driver installation folder, for example: `C:\Program Files\Peregrine Systems\ServiceCenter 6.2\ODBC Driver`.

2. When prompted, replace the three old DLL files with the new ones.

Knowledge Management Import Utility Update Installation

Note: This release does not contain any Knowledge Management update. The latest Knowledge Management Import Utility patch has been shipped with the SM9.21p7 release, which you can download from:

https://softwaresupport.hp.com/group/softwaresupport/search-result/-/facetsearch/document/KM00438944

To install the knowledge Management Import Utility Update:

1. Extract `km-import-9.21.zip` in the Knowledge Management package (sm9.21.624-P7_KM.zip) to a local drive.

2. For detailed instructions on the use of the import utility, see the README file packaged in the `km-import-9.21.zip` file.

Service Manager Verified Environments

The Compatibility Matrix lists supported versions of operating systems, browsers, HP Software products, and other compatibility and support information.

Note: Most of the support areas require that you register as an HP Passport user and sign in. Many also require an active support contract. To find more information about support access levels, go to Access levels.

To register for an HP Passport ID, go to HP Passport Registration.

To access the Compatibility Matrix:

1. Use a browser to navigate to the Software Support Online (SSO) web page:

   https://softwaresupport.hp.com/group/softwaresupport/support-matrices

2. Log on with your Customer ID and password or your HP Passport sign-in.

3. Navigate to the applicable information.

Local Language Support

UTF-8 is part of the Unicode standard, which enables you to encode text in practically any script and language. Service Manager 9.21 supports UTF-8 as an encoding method for new or existing data. It can support multiple languages that adhere to the Unicode standard on the same server.

Service Manager 9.21 or later does not provide language packs. A language pack of Service Manager 9.20 is available for each of the following languages: Japanese, French, Italian, German, Spanish, Korean, Russian, Brazilian Portuguese (UI only), Dutch (UI only), Polish (UI only), Czech (UI only), Hungarian (UI only), and Simplified Chinese.

Service Manager 9.21 or later can only work with Service Request Catalog (SRC) 1.20, which is English only.