# **HP Service Manager**

# 

# Release Notes

## Software version: 7.11.532 Patch 19 / July 2012

This document provides an overview of the changes made to HP Service Manager for 7.11.532 Patch 19. It contains important information not included in the manuals or in online help.

Documentation Updates	2
In This Version	3
New Parameters and JavaScript Global Methods	
Case-Insensitive LDAP Login	
Upgrade of the LW-SSO Framework to Version 2.5	7
Encryption of the Database Login Credentials	
Support of AIX 6.1 and 7.1	7
Updated DLL Files for the ODBC Driver	
Increased Maximum Size of Web Client Log File with Log Rotation Enabled	7
Displaying the Display List After Adding a Field to a QBE List	7
Enhancements	8
Fixes	8
Web Client	
Windows Client	
Server	
Application	19
Documentation	19
Known Problems, Limitations, and Workarounds	22
Installation Notes	23
Web Tier Installation	24
Windows Client Installation	
Server Update Installation	25
Application Unload Installation	
ODBC Driver Update Installation	28
Verified Environments	28
Local Language Support	28
Support	29
Legal Notices	30

# **Documentation Updates**

The first page of this release notes document contains the following identifying information:

- Version number, which indicates the software version.
- Publish date, which changes each time the document is updated.

To check for recent updates or to verify that you are using the most recent edition, visit the following URL: <a href="http://h20230.www2.hp.com/selfsolve/manuals">http://h20230.www2.hp.com/selfsolve/manuals</a>

This site requires that you register for an HP Passport and sign in. To register for an HP Passport ID, go to: <a href="http://h20229.www2.hp.com/passport-registration.html">http://h20229.www2.hp.com/passport-registration.html</a>

Or click the **New users - please register** link on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

**Note:** To view files in PDF format (\*.pdf), Adobe Acrobat Reader must be installed on your system. To download Adobe Acrobat Reader, go to the following web site: <a href="http://www.adobe.com/">http://www.adobe.com/</a>

# In This Version

Service Manager Version 7.11, build 532 patch 19 (SM 7.11p19) includes several customer requested software enhancements and fixes. Refer to the sections below for information about the defects and enhancements included in this cumulative patch.

## New Parameters and JavaScript Global Methods

The following parameters were introduced (or updated) in this release.

### cache\_slots (updated)

The default value of this parameter has been changed from 2003 (which is too low) to 9973 to improve system performance. For more information, see <a href="QCCR1E71918">QCCR1E71918</a>.

For detailed information about this parameter, see the Service Manager help.

## usedmemcompmode

This parameter determines how used memory is calculated. The default value is 0, which is the old method.

#### Location:

sm.ini

Server's OS command prompt

#### Requires restart of Service Manager server?

Yes

#### **Default value:**

0

#### Possible values:

0: Used=Committed + Reserved

1: Used=Committed, No Log

2: Used=Committed, Log

#### Example usage

Command line: sm -httpPort:13080 -usedmemcompmode:2

Initialization file (sm.ini): -usedmemcompmode:2

See <u>QCCR1E71853</u>.

### Web parameter: tracesoap

This parameter defines whether to log SOAP information in the Web server. If you add the parameter "tracesoap=true" in the Web browser URL at login time, all request/response SOAP messages during the current session will be logged until you log out or the session expires.

The SOAP information will be logged in the Web server. By default, it will be logged in the sm.log file located in the Web server's home directory. For example, C:\Program Files\Apache Software Foundation\Tomcat 6\sm.log. The SOAP message logging is defined in WEB-INF/log4j.properties as follows:

**Note**: By default, the logging level is "ALL". It is recommended that you NOT change this setting. The root logger level setting in log4j.properties has no effect on the SOAP logging level. For example, no matter the root logger level is info, warn, or error, Service Manager always logs SOAP messages in the Web server.

SOAP messages are logged with a "DEBUG" prefix, which look like the following:

```
DEBUG http-8080-4 TraceSoap - request:
DEBUG http-8080-4 TraceSoap - response:
```

#### Location

Web browser URL

### Requires restart of Web application server?

No

#### **Default value**

false

#### Possible values

true or false

#### Example usage

http://localhost:8080/webtier/index.do?tracesoap=true

**Note**: This parameter is valid only when set at login, and once set at login it will remain valid until you log out or the session times out.

## JavaScript method: SCFile.getMessages()

Returns an array of messages generated by the Document Engine from a previous SCFile.doAction().

#### **Syntax**

SCFile.getMessages();

### **Arguments**

There are no arguments allowed for this method.

#### Return values

Returns an array of messages from previous SCFile.doAction() call.

#### Example

This example does the following:

- Uses the Document Engine add to create a new incident record from variable values.
- Shows a validation failed due to invalid assignment group.
- SCFile.doAction() returns 71, "validation failure".
- SCFile.getMessages() returns messages generated from the Document Engine.

```
var numberValue;
var callbackContact;
var categoryValue;
var assignmentValue;
var descriptionValue;
var actionType;
var resultionCodeValue;
var resolutionValue;
```

```
function insertIncident( num, name, cat, group, desc )
print( "Creating new incident record..." );
var newIncident = new SCFile( "probsummary" );
newIncident.number = num;
newIncident.callback_contact = name;
newIncident.category = cat;
newIncident.assignment = group;
newIncident.description = desc;
var rc = newIncident.doAction('add');
if ( rc == RC_SUCCESS )
print( "Success. Created new record " + newIncident.getText() );
return newIncident.number
} e
lse
print( "Could not create record. " + RCtoString( rc ) );
print( "Reason: "+ newIncident.getMessages() );
return null
}
}
numberValue = "IM11121"
callbackContact = "ADMINISTRATOR, SYSTEM";
categoryValue = "network";
assignmentValue = "HELPDESK";
descriptionValue = null;
interactionID = insertIncident( numberValue, callbackContact,
categoryValue, assignmentValue, descriptionValue );
Output
```

Category specified is invalid. Reason: Category specified is invalid. Could not create record. Validation failed creating new incident record...

See **QCCR1E68977**.

## Case-Insensitive LDAP Login

In Service Manager earlier than version 7.11p19, when LDAP is enabled for login, the case of the user name in the LDAP server must match that in the RDBMS. As of version 7.11p19, this match is no longer needed. When a user logs in, upper-case (FALCON), lower-case (falcon), and camel case (fAlcOn) can all be used for the user name. See <a href="QCCR1E70459">QCCR1E70459</a>.

The following steps illustrate the new case-insensitive login behavior with the LDAP server and RDBMS:

1 (User "admin" exists in the AD server.) Log in with either "admin" or "ADmin".

**Result**: The login is successful, and user "admin" is automatically added to the operator table.

2 Add user "john.smith" in the AD server, with a Display Name (CN) of "john.smith". Log in as john.SMITH.

Result: The login is successful, and user "john.smith" is automatically added to the operator table.

- 3 Disable LDAP in sm.ini first (otherwise the LDAP user will be also deleted), and then do the following:
  - a Manually delete "john.smith" from the operator table.
  - b Manually add john.SMIth to the operator table.
  - c Enable LDAP in sm.ini.
  - d Log in as John.Smith.

Result: The login is successful, and John.Smith is NOT automatically added to the operator table.

The following table describes more about the LDAP login behavior in this release.

Condition		Behavior
<ul> <li>The LDAP server is not available (because of wrong settings, network problems, etc.).</li> <li>The user has a valid account in the RDBMS.</li> </ul>	The ldapnostrictlogin parameter is set to "1".	The user logs in successfully.
	The ldapnostrictlogin parameter is set to "0".	The user cannot log in.
The ldapauthenticateonly p	parameter is enabled.	The LDAP server is only used during the login process for authentication purpose only; after login, the LDAP server will not be used as a data source for db queries, even if some SM tables, like operator and contacts, were mapped to the LDAP server.
The ldapauthenticateonly parameter is disabled.		The LDAP server is only used during the login process for authentication purpose only; after login, the LDAP server will be used as a data source, and any queries on the operator or contacts file will also query the LDAP server.
The "LDAP is Primary Data Source" option on the file/field LDAP mapping page is selected.		The LDAP server is forcibly the primary data source for login and for other db operations against the relevant table.
The "LDAP is Primary Data Source" option on the file/field LDAP mapping page is not selected.		The LDAP server is forcibly the primary data source for login, but not for other db operations against the relevant table.

## Upgrade of the LW-SSO Framework to Version 2.5

The <webtier>/web/WEB-INF/classes/lwssofmconf.xml file has been updated to use LW-SSO framework version 2.5, which includes a new parameter secureHTTPCookie.

**Important**: In the lwssofmconf.xml file, secureHTTPCookie is set to true by default. This parameter must be set to the same value (true or false) as secureLogin in the web tier configuration file (web.xml). For example, if you want users to access Service Manager using http instead of https (that is, secureLogin is set to false), you should also set secureHTTPCookie to false.

## Encryption of the Database Login Credentials

The configure.jar in the server's RUN folder has been updated. Running the configure.bat file will now encrypt the database login credentials (username/password) in the sm.ini file.

**Note**: You can still manually specify clear-text database login credentials in the sm.ini file; however HP recommends that you encrypt the credentials as described below.

To encrypt the database login credentials of an installed system:

- Extract the server package (.zip or .tar) in this patch, and copy the configure.jar file to your <SM server installation> directory. This will overwrite your old configure.jar file if you did not move it to somewhere else after your installation.
- 2 Run the configure.bat file in the installed system, without loading the demo data.
  The database login credentials in the sm.ini file now have become encrypted strings instead of clear text.

# Support of AIX 6.1 and 7.1

In this release, the Service Manager server has been certified on AIX versions 6.1 and 7.1.

**Important**: The Service Manager server installer requires exactly IBM Java JDK 1.4 (1.4.2 or higher) 32-bit, while IBM Java JDK 1.5 32-bit must be installed as a prerequisite for the Service Manager server to run on AIX. For this reason, both JDK 1.4 and JDK 1.5 must be installed as pre-requisites.

See also **QCCR1E73365**.

## Updated DLL Files for the ODBC Driver

Three .dll files (Scodbc32.dll, sci18n.dll and sccl32.dll) have been updated to allow 16 joined array tables at most (see <a href="QCCR1E67090">QCCR1E67090</a>). For instructions on installing the updated files, see <a href="QDBC Driver Update">QDBC Driver Update</a> <a href="Installation">Installation</a>.

## Increased Maximum Size of Web Client Log File with Log Rotation Enabled

The maximum file size for the web client log "sm.log" has been increased to 5000K and up to 10 rolling files can be kept. This is helpful for SOAP log tracing. See also <a href="QCCR1E74013">QCCR1E74013</a>.

# Displaying the Display List After Adding a Field to a QBE List

After adding a column (field) to a QBE list by using the Modify Columns option, if the column has a Display List and Value List defined in Forms Designer, Service Manager always displays the QBE list with the

column's Display List values instead of its Value List values (which are directly retrieved from the database). See server fix  $\underline{QCCR1E71099}$ .

# **Enhancements**

This patch release includes the following enhancement.

Global ID	Problem	Solution
QCCR1E73365	Service Manager is not supported on AIX 6.1 or AIX 7.1.	Service Manager is now supported on AIX 6.1 or AIX 7.1.
		<b>Important</b> : Both IBM Java JDK 1.4 (1.4.2 or higher) 32-bit and IBM Java JDK 1.5 32-bit must be installed as pre-requisites.

# **Fixes**

This patch release includes the following fixes.

# Web Client

The following items are fixed in the current software release.

Global ID	Problem	Solution
QCCR1E31847	Users cannot add favorites in the Japanese localized version of Web Client.	Users can add favorites in the Japanese localized version of Web Client.
QCCR1E32210	Users are unable to view an attachment from the web client when getAbsolutePath() in Attachment.java returns greater than 255 characters.  Note: This issue is most likely to occur on WebSphere systems, where the deployment path to the temp directory is prefixed by various WebSphere nodename and server names and an attachment file full path is dependent on the length of WAR file name and the installation path of the application server.	The Web tier now supports long full paths (greater than 255 characters) for attachments when running on Linux, Unix, or Windows with an NTFS file system.  Note: This issue still exists when, in rare cases, the web tier is running on Windows with a FAT file system.  Note: If the user uses a very long file name or folder name, which causes the full path of the file to exceed 255 bytes, the user will not be able to delete the web application server's temporary file/folder generated on uploading the file (normally under the web application server)
		installation directory). Deleting the temporary file/folder will fail with a system warning message that states the file name is too long. In this case, the user can do the following to delete

Global ID	Problem	Solution
		the file:
		Rename the temporary file to a short name, and then delete it.
		2 If the delete still fails, open the system command prompt, type "dir/x" to display the file's short name and then run the "rmdir {short name} /S" to delete the folder.
		This patch introduces a known issue in which the user cannot open an attachment on the Windows client if the file name is longer than 120 characters.
QCCR1E59527	In environments deploying a case- sensitive RDBMS in combination with a case-insensitive LDAP server for authentication, it might be impossible for users to successfully log in to Service Manager (SM).  After login, the System Navigator displayed an empty tree and the main screen was partially rendered, which resulted in an inability to use SM.	If LDAP is used for authentication, users can now successfully log in with a lowercase, uppercase, or mixed-case user name and use SM properly after login.
		Without LDAP authentication, the case- sensitivity of login depends on the case- sensitivity setting of the RDBMS.
		<b>Note</b> : To take advantage of this fix, both the SM server and clients must be upgraded to SM 9.30p2 / SM 9.21.p5 / 7.11p19 or later.
QCCR1E61880	After updating a few other fields of a problem ticket, the user received the following error message when updating the Affected CIs field using Fill: "Cannot find related information in device using query: true and logical.name#"Work In Progress".	Reset the focus field so that when the focus is moved, the Web Tier will send the correct field to the background and fetch the correct records. The error no longer occurs.
QCCR1E62821	Using the ALT+CTRL+C key command in the Web client to start spell check does not work when using the OS's Polish language pack. Instead, an HTML error page is displayed.	Now, if the specified language dictionary cannot be found in Service Manager, a default dictionary will be used, which prevents the error page from being displayed.
QCCR1E64183	There is no pop-up window to save the generated file when using Internet Explorer (IE) to generate an unload file.	The issue was resolved by changing the messages used to generate the unload file from <ml> to <div> tags, so that IE can render the messages properly.</div></ml>
	<b>Note</b> : It works fine with Firefox.	Known issue in IE7/IE8:
		The generated unload file will be blocked by IE with the default settings and the following message will be shown at the top of current page: "To help protect your security, Internet Explorer blocked this site from downloading

Global ID	Problem	Solution
		files to your computer".
		To avoid this known issue, perform the following steps to apply specific setting in IE7/IE8:
		Click <b>Tools &gt; Internet Options</b> .
		2 Click the <b>Security</b> tab, and then click <b>Custom level</b> .
		3 Scroll to the Downloads section of the list, and then, under "Automatic prompting for file downloads", click <b>Enable</b> .
		4 Click <b>OK</b> , click <b>Yes</b> to confirm that you want to make the change, and then click OK again.
QCCR1E67758	When searching for changes, fill-enabled data on a Comfill object that is Select Only cannot be deleted on the web client. If a user uses the Fill option, chooses a value, and then realizes the chosen value is incorrect, highlighting the value of the field and removing the value does not work. Pressing the backspace or delete key does not work either.	A change was made to the Select Only property to allow deletion by accepting an empty value even if the combo box is Select Only.
QCCR1E69003	In the Web Tier for Service Manager 7.11, if the value of the Subform Input property contains an apostrophe (for example, a Contact Name of "O'Malley, John"), the pop-up subform is prevented from opening.	The pop-up subform renders correctly when the Input property contains an apostrophe.
QCCR1E69316	In Trusted Sign-On (TSO) mode, when a user pressed F5 on the browser multiple times during initial communications between the client and server, multiple server sessions were established.	In TSO mode, when the user launches the web client in a browser, a login progress screen displays, which instructs the user to wait and not to refresh the screen. Even if the user ignores this warning and presses F5 or the refresh button on the browser, Service Manager will not establish new sessions for the user.
QCCR1E69436	At lower resolutions, an unnecessary horizontal scroll bar appears in certain forms.	This issue occurred because the expected sizes of widgets were too large. Now, control of the horizontal scroll bar is set as follows:  Note: It is assumed that the screen resolution is
		<ul> <li>not lower than 1024*768.</li> <li>If the width of a detail form is smaller than 500px, a horizontal scroll bar displays.</li> </ul>
		• If the width of a detail form is larger than 500px, Image widgets on the form will resize with the browser size; however, re-

Global ID	Problem	Solution
		sizing of animated GIFs in Internet Explorer is not supported.
		• In some forms (for example, the System Status form (system.status.list.g), you may find the text on some buttons are truncated if your monitor is set to a lower screen resolution. If so, re-design the form (system.status.list.g), and reduce the width of the list table on the right side. On the other hand, if the height of the table is too large, you may find that the horizontal scroll bar is missing; in this case you can move the vertical scroll bar to the bottom of the page so that the horizontal scroll bar appears, and you can also reduce the height of the table in Forms Designer.
QCCR1E69847	You cannot select more than two approval groups for the Change Management Security Profile.	You can select more than two approval groups for the Change Management Security Profile.
QCCR1E70013	When you open a linked record using a Fill button in a Web client, dropdown lists on the record that you opened do not work correctly. No options appear when you click a dropdown list.	All dropdown lists work correctly in a Web client when you open a linked record using a Fill button.
QCCR1E70511	A java.util.ConcurrentModificationException occurs when users use the HTML Viewer. This issue could occur when multiple clients are accessing the same HTML Viewer object simultaneously.	No ConcurrentModificationException occurs when users use the HTML Viewer.
QCCR1E71070	After a failed attempt of an employee self- service (ESS) user to access Service Manager, the client session still remains for that user. This issue occurs in an LWSSO-enabled environment.	The web client now terminates the session before forwarding the request to the authFailure.jsp page.
QCCR1E71294	SOAP messages are not logged even though you set the tracesoap parameter to true.	Soap message are now logged as expected if the user sets the tracesoap parameter to true.
QCCR1E71421	The "Export to Excel/ Export to text" option is not working on the Web client (using Internet Explorer) when there is a marquee. The 'Your file had been exported successfully' message displays, but no file is saved and there is no dialog prompt to save or download file.	When there is a marquee in the form, the "Export to Excel/ Export to text" option is now working correctly on both Internet Explorer and Firefox.

Global ID	Problem	Solution
QCCR1E71734	The copyright date on the splash screen and the about page needs to be updated to the current year.	Copyright date in the splash screen and about page are updated to the current year.
QCCR1E72233	Some Comfill controls display an empty value instead of the appropriate value in the Web client.	Comfill controls display the correct value.
QCCR1E72743	The Web client ignores the "Invisible" settings in the fields of the "Data policy" table.	The Web client no longer ignores the "Invisible" settings in the fields of the "Data policy" table.
		Known issues:
		<ul> <li>If a field within a structure is configured to be invisible in the data policy, it will still be visible.</li> </ul>
		• If a field is configured as "invisible = true" and it is used in a select() expression as output, this field will still display the value of the field configured as "invisible=true" when this expression is used in a "value list condition" of another field. For example, the "value list condition" of the "New Update Type" field in the "IM.update.incident" form, is set as the following:
		"select("activity.name","activitytype","table", "probsummary","visible","YES")"
		If activity.name is configured as invisible, the value list will still be displayed in "New Update Type".
QCCR1E73869	After deploying certain SM7.11 patches, the CM3R group widgets seem to overlap.	After deploying certain SM7.11 patches, the CM3R group widgets are displayed normally.
QCCR1E74013	By default, the MaxFileSize value of log4j.appender.R is only 100K. This value should be increased.	Now by default, the maximum file size for sm web client log "sm.log" is increased to 5000K and up to 10 rolling files can be kept.

# Windows Client

The following items are fixed in the current software release.

Global ID	Problem	Solution
QCCR1E57462	Cannot mass update incidents, as an "Unrecoverable Error refreshing screen" occurred in the Windows client.	Mass Update and Mass Close operations can be executed without triggering the exception now.

Global ID	Problem	Solution
QCCR1E73687	When scrolling through documents in the Knowledge Management Pending Documents Queue, the Pending Documents list freezes after you select documents several times. The selected document does not load, and the Pending Documents list remains frozen indefinitely. The issue occurs when Record List is turned on. Additionally, an error message appears when you click the Next or Previous buttons.	The Pending Documents list no longer freezes after you select documents several times, and the selected document is loaded correctly. When you click the Next or Previous button, no error messages appear.

# Server

The following items are fixed in the current software release.

Global ID	Problem	Solution
QCCR1E31928	Web Service RetrieveIncidentListRequest has the potential to cause a Java Heap Space out-of-memory error when retrieving a list of records.	Updated the server code so that the following applies for the request response:  • When there is neither a start
		attribute nor a count attribute, return all records/keys.
		<ul> <li>When there is a valid start value but no count attribute, return all records starting from the start attribute.</li> </ul>
		<ul> <li>When there is a valid start attribute and valid count attribute, return the number of keys/records starting from the start attribute.</li> </ul>
		• When there is a negative start attribute, return from the first record.
		<ul> <li>When there is a negative count attribute, return one record.</li> </ul>
		<ul> <li>When the start attribute is bigger than the total number of records/keys, no record is returned.</li> </ul>
QCCR1E49322	When using the dbdict utility to rename the SQL name of a field, it fails if the current SQL name is a reserved word in the database.	The column names in the generated statement are enclosed between double quotes, which allows the SQL name of a field to become a reserved word.
QCCR1E51838	With Mandanten security enabled, the group views in the ToDo list display no records.	The group views in the ToDo list display records correctly.

Global ID	Problem	Solution
QCCR1E54248	When Service Manager processes a web service request and sends a response, the response is not understood by the requesting application. This behavior results in the following error message:  "type" attribute in <cmn:messages> tag not matching Common.xsd schema definitions.</cmn:messages>	A code change was implemnted in Common.xsd, so that "StringType" is always used as the base type of "MessageType."
QCCR1E56867	Memory requirement for each thread on the server is high, as the XML response node is being duplicated.	Eliminated the duplicate DOM object requirement.
QCCR1E57907	The dbcount on joinsvcDisplay(JOIN) counts all records instead of those in qbe.	The dbcount on joinsvcDisplay(JOIN) now counts records based on the query condition in qbe.
QCCR1E59119	Servlet container processes crash when parsing a large query with more than 2500 conditions.	Servlet container processes do not crash.
QCCR1E59527	In environments deploying a case-sensitive RDBMS in combination with a case-insensitive LDAP server for authentication, it might be impossible for users to successfully log in to Service Manager (SM).  After login, the System Navigator displayed an empty tree and the main screen was partially rendered, which resulted in an inability to use SM.	If LDAP is used for authentication, users can now successfully log in with a lowercase, uppercase, or mixed-case user name and use SM properly after login.  Without LDAP authentication, the casesensitivity of login depends on the casesensitivity setting of the RDBMS.  Note: To take advantage of this fix, both the SM server and clients must be upgraded to SM 9.30p2 / SM 9.21.p5 /7.11p19 or later.
QCCR1E65095	The "Does not Contain" comparison does not work for an ARRAY text field.	The "Does not Contain" comparison now works correctly for an ARRAY text field.
QCCR1E65328	When running the "reportlic:1" command, it displays the correct count of Log-in Licenses for named and floating users. However, while comparing the output, named and floating users are not consistent between the summary and detail lists.	The detail list displays the count of named and floating users correctly.
QCCR1E65597	During upgrade, errors occur after a change to the dbdict on one of the following tables: code, format, link, counters, ScriptLibrary, scmessage, dbdcit, or datadict.	Changes were made to close/reopen certain files if the dbdict is changed.
QCCR1E66601	Formatting applied to Knowledge Documents was lost when the document was	When invoking Use Solution on a Knowledge Document in an interaction record, formatting will be properly

Global ID	Problem	Solution
	used as a solution for an interaction.	applied to all HTML tags.
QCCR1E67090	When running reports that include more than 7 array tables with the 6.2.8 ODBC	The ODBC driver now allows 16 joined array tables at most.
	driver, Crystal Reports crashes.	For more information, see <u>Updated DLL</u> <u>Files for the ODBC Driver</u> .
QCCR1E67275	Number prefixes are not generated as expected.	The number prefixes and suffixes are generated correctly even if there are no triggers on the number table.
QCCR1E67562	Request for a way of turning off the "Triggers have been turned on" and "Triggers have been turned off" messages in the log file.	Now, you can use the rtm parameter to turn the "Triggers have been turned on" and "Triggers have been turned off" messages on or off.  To turn the messages on, set the value of the rtm parameter equal or greater than 2.
QCCR1E67592	Service Manager (SM) nodes are terminated when a user navigates to the incident queue. There are no log messages or other diagnostic information when the SM nodes are started from services, while an exception occurs when the nodes are started from the command line. This issue occurs when a globallist record that contains a tab character in its values is being called.	SM nodes are no longer terminated when a globallist record that contains a tab character in its values is being called.
QCCR1E67946	Slow system performance occurred and reviewing the system status revealed that several background processes were idle for over three hours.	Fixed the Service Manager load balancer so that load is now distributed evenly across all available servlet containers.
QCCR1E68005	When a user connects through Trusted Signon (TSO) and exceeds the maximum number of concurrent logins, the server gives an error message.	When the Service Manager client log-in fails, the correct message(s) will be displayed.
QCCR1E68788	Performing a column sort in a View produces an error and client termination in UNIX- based systems.	No errors occur when performing a column sort in a View.
QCCR1E68977	Several custom background processes are reading incoming records from Connect-IT (Inbound E-Mail, NetIQ, Webforms, etc.) and asynchronously creating interactions and	An SCFile.getMessages() function is provided for reading such messages directly in JavaScript code.
	incidents. JavaScript is being used and currently only the return code coming from .doAction can be validated.  var rc = incFile.doAction("")  The validation message itself (for example:	For details about this function, see New Parameters and JavaScript Global Methods.

Global ID	Problem	Solution
	invalid category: Incident) is written to the sm.log file. Currently, developers and implementers cannot read this message directly in the JavaScript code instead of manually checking the log file.	
QCCR1E69154	Unable to see localized values and display lists on dynamic forms.	Service Manager now uses the global lists variable 'display.variable' to set display list values and the proper language will be displayed.
QCCR1E69423	After the RTE binary patch 9.21P3HF4 and web client 9.21P3HF4 were applied, there were issues when users worked in the web client. The session often aborted unexpectedly with following error: "Logout successful".	The "Logout successful" error no longer occurs.
QCCR1E69448	Signal 11 encountered when a user is updating an incident record: RTE E Caught XML API exception scxmlapi(40).	When one user is inserting data or updating data in a file (for example, probsummary) while another user is updating the dbdict record at the same time, Service Manager no longer generates a "Signal 11" error.
QCCR1E70053	When using an unsupported SQL data type in a SQL mapping in Service Manager during a record insert, a corrupt error message is displayed.	Now, when using an unsupported SQL data type in a SQL mapping in Service Manager during a record insert, the correct error message is displayed including the numeric representation of the unsupported data type.
QCCR1E70184	After applying Patch 14 to Service Manager 7.0.2, the number of database connections increases over time until no further connections remain.	The resource leak, which was introduced by HTTP GET requests, has been fixed.
QCCR1E70218	An unload file from a DB2 system cannot be loaded into an Oracle system.	The unload files can now be loaded from DB2 with no problem.
QCCR1E70418	Service Manager servlets report a potential memory leak.	Memory is now released properly when it is finished being used.
QCCR1E70459	Service Manager (SM) versions 9.20 and later require that LDAP operators should match the case of the SM DB operators. However, this is not mandatory before SM9.20. After upgrading from SM version 7.10 to version 9.2x or later, some users may not be able to log in anymore with an error "Invalid username/password".	Now, login is case-insensitive, so end users can log in using "FALCON", "falcon", or "faLCon." Additionally, the case of the user name in the LDAP server does not need to match that in the RDBMS anymore.  For more information, see Case-Insensitive LDAP Login.

Global ID	Problem	Solution
QCCR1E70544	The Service Manager server experiences high CPU load and servlets stop responding to client requests. Over time, an administrator has to restart the service to recover from this condition.	This high CPU load issue has been resolved.
QCCR1E71047	When attempting to consume a third-party WSDL web service from Service Manager through an SSL channel and using Run WSDL to JS or a ScriptLibrary record, the connection aborts with the following error:	Service Manager now can verify the certificate file and consume a WSDL web service.
	22464(5750788) 11/23/2011 17:18:15 RTE E soap_sendRequest failed in step 0 with rc 22 - errnum 0 22464(5750788) 11/23/2011 17:18:15 RAD E SOAP request failed - TCP error 22 - SSL authentication failed in tcp_connect(): check password, key file, and ca file. 22464(5750788) 11/23/2011 17:18:15 RAD E Script <unknown script=""> line 0: ERROR uncaught exception: SOAP request failed - TCP error 22 - SSL authentication failed in tcp_connect(): check password, key file, and ca file. at char 1</unknown>	
QCCR1E71099	Users need to display Value Lists instead of the data directly retrieved from the database in a QBE list when adding a field by using Modify Columns.	Value Lists can be displayed instead of the data directly retrieved from the database in a QBE list when adding a field by using Modify Columns.
		<b>Note</b> : This server fix requires the QCCR1E71099_SM711P19.unl file from the platform_unloads directory. For more information, see <u>Application unload installation</u> .
QCCR1E71853	The "NativeMemory" size never shrinks.	To resolve this issue, the usedmemcompmode parameter has been added. This parameter determines how used memory is calculated according to the following:
		0:used=committed + reserved; 1:used=committed,no log; 2:used=committed,log.
		The default is 0, which is the old Service Manager method.
		See also parameter <u>usedmemcompmode</u> .
QCCR1E71918	The default value of parameter cache_slots, currently set at 2003 is too low. It should be	The default value of cache_slots is now set to 9973.  Note: If this parameter is not set or set to

Global ID	Problem	Solution
	set to a larger value (approximately 10000).	be greater than 100,000 or less than 300, the default value (9973) is used; if it is set to a non-prime number, the smaller one of its neighboring prime numbers is used instead.
QCCR1E71934	Licenses are not being released when users log out from the system. The value output from the 'reportlic' parameter does not match the number of users on system status screen. As a consequence, the number of license slots run out and Service Manager has to be restarted to clear the issue. Licenses should be released when users log out from the system and 'reportlic' should match the number of users on system status screen.	Now when users execute "sm -reportlic", Service Manager provides a mechanism to purge the zombie license users and release their licenses.
QCCR1E72046	Log files report servlet terminations and out- of-memory errors. A resource is locked and the system seems to hang.	This issue was caused by running 32-bit applications on a 64-bit HP-UX system. To resolve this issue, the applications were recompiled to maintain compatibility on 64-bit HP-UX systems.
QCCR1E72566	Service Manager performance on the AIX platform is significantly worse than other platforms when multiple users are executing workflows that make heavy use of JavaScript.	Optimized JavaScript execution in SM for AIX so that property names are only retrieved as needed.
QCCR1E72843	An attempt to add a field to the probsummary table in dbdict fails with a "Signal 11" error.	This issue occurred because of a null pointer that causes the "Signal 11" error. This issue is resolved by verifying that a pointer is not null.
QCCR1E73384	During normal operation of the HP Operations Orchestration 7 integration with Service Manager 7.11, the Service Manager server refuses Web service connections and issues the following warnings: "Server low on memory"	This issue is caused by a memory leak. To solve this issue, a close() method is now called on the Page reference of the Lexer html parser to release the memory.
QCCR1E73543	Bound variables in Oracle SQL statements cause significant performance issues when combined with Mandanten security restrictions. This issue is compounded by Mandanten because the Mandanten restrictions are duplicated in the SQL statements. This behavior results in additional bound variables.	Now, the Mandanten query restriction is appended only once.

# Application

Global ID	Problem	Solution
QCCR1E71099	Users need to display Value Lists instead of the data directly retrieved from the database in a QBE list when adding a field by using Modify Columns.	Value Lists can be displayed instead of the data directly retrieved from the database in a QBE list when adding a field by using Modify Columns.  Note: This is the application-side fix of the described issue. To completely solve the issue, upgrade the server to this patch and load the QCCR1E71099_SM711P19.unl file from the platform_unloads directory. See server fix QCCR1E71099 and Application Unload Installation.

# Documentation

The following application updates are included in the current software release.

Global ID	Problem	Solution
Global ID  QCCR1E47547	Help topic "JavaScript global method: makeSCWebURL": The example code is incorrect for this help topic. A variable named URL is created and returned without ever being set. It is webtier which is getting the return value for the makeSCWebURL and should be returned from this function, not URL.	The example code in the topic should be updated to the following:  function createURLquery( table, query) {  var url;  var webtier;  var webserver;  var doceng;  var hashkey;  var action;  print( "Parameters: table=" + table + "query="" + query + print( "Converting special characters in query to valid URI format");  queryURI = encodeURIComponent( query );  print( "Converted: old query="" + query + "" new query="" + query URI + """ );  webserver = "http://pdoref02/sc/index.do";  doceng = "docEngine";  hashkey = "";  action = "";
		webtier = makeSCWebURL( webserver,

Global ID Problem Solution

doceng,
table,
queryURI,
hashkey,
action);
url=encodeURIComponent(webtier);
print( "Creating URL from information provided..."
);
print( "The value of webtier is:\n" + webtier );
print( "The value of url is:\n" + url );
return url;
}

var tablename = "incidents"
var SCquery = "incident.id=\"SD1001\""

createURLquery( tablename, SCquery);

QCCR1E49518

No documentation is available about how relationship models are used with Change and Request types. The "Service Manager record relationship models" topic should be updated to the following:

Service Manager Service Desk relationship models are methods to control the relationships between records inside Service Manager. The Service Desk relationship models affect four record types: Service Desk interaction records, Incident Management incident tickets, Change Management change requests, and Request Management quote orders. A Service Desk Agent can:

Open an incident, complaint, or request for information in Incident Management.
Open a request for change in Change Management.

Open a Request Management quote to order a product or service. For example, if a user complains that a printer has stopped working and the Service Desk Agent determines that an older printer is not compatible with a new laptop, the agent can open a Request Management quote to order a new printer for the user. Once the order is placed, the Service Desk Agent can close the interaction record and add the quote order number for the new printer to the resolution note of the interaction. The quote order is also associated to the interaction is at a closed status the agent can refer back to the closed interaction to check the status of the related quote order.

The following can be set in the Service Desk Environment Profile record and are models for Global ID Problem Solution

managing Service Desk record relationships:

Full Service Desk Model: In this model, the state of a Service Desk interaction record changes when each related record closes. The closed state of an interaction record depends on the notification value chosen for the "Notify By" field in the interaction record. For example, if the notification value is "Telephone," the interaction record has a required action before it is closed. This action describes why the customer must be contacted. It also prevents the interaction record from closing until all required actions are complete. In this case, the interaction record goes into the Open-Callback state before it is closed. For more information, see Full Service Desk model. All Records close Independently: In this model, all Service Desk interaction records close independently. The state of related records does not affect closing an interaction record, and closing the interaction record does not affect related records.

Close Interactions when Related Record closes: In this model, when the last related record closes, the Service Desk interaction record closes.

Cannot close Related Record until Interactions are closed: In this model, records related to a Service Desk interaction cannot close until the interaction record is closed.

Cannot close Interactions until Related Records are closed: In this model, a Service Desk interaction record cannot close until all related Incident Management tickets, Change Management requests, and Request Management quotes are closed.

Note: The updated document will be available in the online help of the next release of Service Manager.

QCCR1E71557

Documentation is needed on how to use the new configure.jar file of the server. The Service Manager server configure.jar file has been updated to enable encryption of the Service Manager database login credentials (username/password).

For more information, see <u>Encryption of the Database Login Credentials</u>.

# Known Problems, Limitations, and Workarounds

This software release has the following limitation.

Global ID	Problem	Workaround
QCCR1E63663	The Service Manager (SM) client loses connectivity during JavaScript execution of the file.list RAD application.	No workaround available.  Created a knowledge article (KM1166532), which states that Service Manager does not currently support calls from JavaScript on RAD applications that use the rio/fdisp panels.  Note: This information has been added to the HP Service Manager Programming Guide for the next version (Call a RAD application).
QCCR1E57385	When Service Manager is running on Unix, the legacy listener may log intermittent signal 11 upon CIT initial connectivity test if execshield is not set properly.	Use one of the following solutions to solve this issue on Unix.  Solution 1:  Connect Connect-It to the Web Services connector instead of the Legacy Listener connector.  Solution 2:  Before connecting Connect-It to the Legacy Listener connector, do the following:  Add usethreading:0 in the sc.ini file, which is located in <service installation="" manager="" path="" server="">\LegacyIntegration\RUN.  Note: For 64-bit RedHat Linux servers only, you can alternatively run the following shell commands as root:  # sysctl -w kernel.exec-shield=0  # sysctl -w kernel.randomize_va_space=0  2 Start the legacy listener.</service>
QCCR1E69449	The user encountered a signal 11 while updating an incident: RTE E Caught XML API exception scxmlapi(40).  This is because another user was updating the probsummary dbdict record at the same time.	When modifying a dbdict record, ensure that there are no other users updating records or inserting records in the same file.  For example, when updating the probsummary dbdict, make sure that there are no other users updating existing incidents or opening new incidents.

# Global ID Problem Workaround

QCCR1E67491

When the collation of the db instance is Chinese\_PRC\_BIN, Web service clients fail to connect to Service Manager (SM). Only ASCII operator names are supported, so only ASCII operator names can be used.

**Note**: This issue only exists in Web service integrations. Therefore, the SM clients do not have this problem.

When SM is handling an incoming SOAP request, the authorization string is decoded by BASE64Decoder. SM uses the decoded string value to construct a UTF-8 string that is used in the RTE. However, the authorization string is in the header and SM does not know the charset or encoding of the underling string value, which is BASE64 encoded.

Therefore, if the underlying string value is not UTF-8 this problem will occur. In SM, when fetching an operator record from the database, no matter what collation the database uses, the operator record finally will get a UTF-8 operator value. However, even if users put the same value in the authorization header, the operator name may differ because of the charset/encoding issue. Because of this, the operator will fail to log on.

This is a limitation of SM. Do not use non-ASCII characters in operator names.

Created a knowledge article (KM1442479) to document this limitation.

# Installation Notes

Before using patch 7.11.303 and all subsequent patches, you must manually remove the files listed below. Remove the following files from the server's "\RUN\lib" directory:

- saaj-impl-2.1.jar
- saaj-api-2.1.jar
- jgroups-all-2.5.0.jar

Remove the following files from the server's "\RUN\lib\endorsed" directory:

- xercesImpl-jaxp-1.3.2.jar
- xalan-jaxp-1.3.2.jar
- jaxp-api-1.3.2.jar
- dom-jaxp-1.3.2.jar
- sax-jaxp-1.3.2.jar

### Web Tier Installation

The Web Tier update consists of a compressed file, sm711.532-P19\_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 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.

### To install the Web Tier update:

- Back up your web.xml file, splash screen, style sheets, and any other customizations you made, including your webtier-7.11.war (or the .ear) file.
- 2 Delete or uninstall the existing webtier-7.11.war (or the .ear) file.
  - **Note**: The "Update Application" function in WebSphere Application Server 6.x allows you to redeploy using a new copy of webtier-7.11.war (.ear). First, update the web.xml in the webtier-7.11.war (.ear) file, and then redo the shared library configuration. For more information, see the IBM WebSphere documentation.
- 3 Deploy the new webtier-7.11.war (or the .ear) file following the instructions in the Service Manager Installation Guide.
  - Note: It is best practice to deploy with a unique context root. For example: /webtier-7.11.532
- 4 Replace the new versions of any files you customized with your customized versions.
- 5 Make any new customizations necessary for your deployment. Be sure to set the secureLogin and sslPort parameters.
- 6 Restart the Application server.

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

### Windows Client Installation

The client update consists of a compressed file, sm7.11.532-P19\_Windows\_Client.zip, which contains client.exe.

### To install the Windows client update:

- 1 Stop the Service Manager Windows client.
- 2 Uninstall the Service Manager Windows client. (Your connection and personalized settings are retained.)
- 3 Run setup.exe and install the client by following the instructions in the Service Manager Installation guide and Release Notes for your version.
- 4 Check the version in **Help > About Service Manager Client**. The client should be Release: 7.11.532.

## Server Update Installation

The server update for your operating system (OS) consists of a compressed file, sm7.11.532-P19 < OS > .zip

(or .tar), which contains the Service Manager server files. These files add to or replace the files in the [SM Root]\([SM Root]/) RUN, irlang, legacyintegration, and platform\_unloads directories.

#### To install the Server update:

- 1 Stop all Service Manager clients.
- 2 Stop the Service Manager server.
- 3 Make a backup of the RUN directory.
- 4 Extract the compressed files for your OS into the main Service Manager directory on the server. The default path is: C:\Program Files\HP\Service Manager 7.11.
- 5 For UNIX servers, set the file permissions for all Service Manager files to 755.
- 6 Remove the following files from the "\RUN\lib" directory:
  - saaj-impl-2.1.jar
  - saaj-api-2.1.jar
  - jgroups-all-2.5.0.jar
- Remove the following files from the "\RUN\lib\endorsed" directory:
  - xercesImpl-jaxp-1.3.2.jar
  - xalan-jaxp-1.3.2.jar
  - jaxp-api-1.3.2.jar
  - dom-jaxp-1.3.2.jar
  - sax-jaxp-1.3.2.jar
- 8 Restart the Service Manager server.
- 9 Restart the Service Manager clients.
- 10 Check the version in **Help > About Service Manager Server**. The server should be Release: 7.11.532.

## **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 sm7.11.532-P19\_<OS>.zip (or .tar), it will add the files to the following directory:

[SM Root]\platform\_unloads([SM 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.

## 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, QCCR1Exxxx\_SM930P4.unl is normally intended for applications versions 7.11, 9.20, and 9.30 (which are compatible with Service Manager server 9.30), unless otherwise specified in the unload file description. For information on the applicable applications versions for each unload file included in the current patch, see <u>Unload Files Included in the Current Patch</u>.

### Unload Files Included in the Current Patch

The following are unload files included in the current patch release.

Unload file	Introduced in 7.11 patch	Used for apps version(s)	Description
QCCR1E71099_SM711P19.unl	P19	7.11	Displays Value Lists instead of the data directly retrieved from the database in a QBE list when adding a field by using Modify Columns. See server fix QCCR1E71099.
QCCR1E67072_SM711P18.unl	P18	7.11	Improves the performance of the Knowledge Management update process (KMUpdate).
QCCR1E67610_SM711P18.unl	P18	7.11	Enables Service Manager to block potentially dangerous attachments.
QCCR1E49721_SM711P17.unl	P17	7.11	Allows a translation of Display/Value Lists on dynamic forms. This is a required fix for the Export to Excel redesign.
QCCR1E56678_SM711P17.unl	P17	7.11	Lists the records in the right group order when a record list is refreshed.
QCCR1E58562_SM711P17.unl	P17	7.11	Includes applications changes for the Export to Excel redesign.

Unload file	Introduced in 7.11 patch	Used for apps version(s)	Description
QCCR1E59385_SM711P16.unl	P16	7.11	Improves performance by removing the duplicate select from JavaScript sloDisplay.getListSLOs.  — If you haven't tailored the JavaScript sloDisplay, load QCCR1E59385_SM711P16.unl file  — If you have tailored the JavaScript, see installation for tailored sloDisplay JavaScript in the SM711 patch 17 release notes.
QCCR1E59389_SM711P16.unl	P16	7.11	Improves performance by removing extra selects from the various displayscreen and displaycache records.
			— If you haven't tailored the display screens, load QCCR1E59389_SM711P16.unl.
			— If you have tailored the display screens, see installation for <u>tailored</u> <u>displayscreen and displaycache records</u> in the SM711 patch 17 release notes.
QCCR1E55713_SM711p15.unl	P15	7.11	Includes application changes to reduce database I/O on login.
QCCR1E57766_SM711p15.unl	P15	7.11	Includes application changes to reduce jgroups traffic on login.
QCCR1E55852_SM711p14.unl	P14	7.11	Includes a new activity timer that makes the communication between SM processes more efficient.

### To load an unload file:

- 1 Make sure the Windows client is configured for server-side load/unload.
  - a) From the Windows client, go to **Window > Preference > 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 options menu and select **Import/Load**.
- 4 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.	

Field	Description
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.

**Note:** You can view the contents of an unload file before importing it by clicking **List Contents**.

5 Click Load FG.

## **ODBC** Driver Update Installation

The ODBC Driver update consists of the sm711.532\_P19\_ODBC.zip file, which contains the following updated files:

- Scodbc32.dll
- sci18n.dll
- sccl32.dll

To install the ODBC Driver update:

- Extract the files to your ODBC Driver installation folder, for example: C:\Program Files\Peregrine Systems\ServiceCenter 6.2\ODBC Driver.
- When prompted, replace the three old DLL files with the new ones.

# Verified Environments

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

### To access the Compatibility Matrix:

- Use a browser to navigate to the Software Support Online (SSO) Web page: http://support.openview.hp.com/sc/support\_matrices.jsp
- 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 7.11 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.

# Support

You can visit the HP Software support web site at:

### www.hp.com/go/hpsoftwaresupport

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- · Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

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 the following URL:

http://h20230.www2.hp.com/new access levels.jsp

To register for an HP Passport ID, go to the following URL:

http://h20229.www2.hp.com/passport-registration.html

# **Legal Notices**

### Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

### Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

### Copyright Notice

© Copyright 1994-2012 Hewlett-Packard Development Company, L.P.

#### Trademark Notices

- Adobe™ is a trademark of Adobe Systems Incorporated.
- Java<sup>™</sup> is a registered trademark of Oracle and/or its affiliates.
- Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.
- Oracle® is a registered US trademark of Oracle Corporation, Redwood City, California.
- UNIX® is a registered trademark of The Open Group.

For a complete list of open source and third party acknowledgements, visit the HP Software Support Online web site and search for the product manual called HP Service Manager Open Source and Third Party License Agreements.