HP Service Manager Upgrade Assessment Toolkit

for the supported Windows® operating system

Software Version: 9.35

User Guide

Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

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1 Introducing the Service Manager Upgrade Assessment Toolkit

This chapter provides introduction of the Service Manager Upgrade Assessment Toolkit (hereinafter referred to as Assessment Toolkit) and the reports generated by the toolkit.

Topics in this section include:

- Assessment Toolkit on page 3
- Assessment Report on page 3

Assessment Toolkit

The Assessment Toolkit is critical for both the successful migration from ServiceCenter to Service Manger and the system upgrade from Service Manger lower version to higher ones. Before system migration or upgrade, HP partners can use the Assessment Toolkit to generate Assessment Report and get an overview of the differences between the related ServiceCenter data, the Service Manager out-of-box (OOB) data and the customized data from a real production environment that needs to be migrated as well. Consequently, HP partners are able to decide what data can or cannot be migrated and how it will be migrated.

➤ Currently, the Assessment Toolkit only supports HP ServiceCenter 6.28, HP Service Manager 7.02 and HP Service Manager 7.11. The Assessment Toolkit only provides language support for English, French, German, Chinese and Spanish.

Assessment Report

Generated by the Assessment Toolkit, the Assessment Reports mainly cover the following areas:

- ServiceCenter and Service Manger server system settings
- ServiceCenter and Service Manger business module
- Backend database settings covering p4, RDBMS and partially
- Critical data information of ServiceCenter and Service Manger server which is closely related with the migration
- Customized data detection against OOB data

See Chapter 3, Working with the Assessment Toolkit for detailed instruction about how to generate and export Assessment Reports.

2 Getting Started with the Assessment Toolkit

This chapter contains information about software compatibility of the Assessment Toolkit and provides preliminary instruction for running the Toolkit on Windows.

Topics in this section include:

- Software Compatibility on page 5
- Building Signatures for ServiceCenter and Service Manager Tables on page 6
- Setting Up the Assessment Toolkit on page 8

Software Compatibility

The Assessment Toolkit is developed using the following software applications and is considered compatible with these versions only.

- JRE 1.6 (32-bit) and 1.7 (32-bit)
- HP ServiceCenter 6.28
- HP Service Manager 7.02, 7.11

➤ For HP Service Manager 7.02 and 7.11, you need to append `heartbeatinterval:60` to the `sm.ini` file in the <Service Manager installation directory>\Server\RUN directory. For HP ServiceCenter 6.28, you need to append `sctimeramount:60` to the `sc.ini` file in the <ServiceCenter installation directory>\Server\RUN directory.

The Assessment Toolkit supports the following platforms and databases:

- Windows 7, Windows 2003, Windows 2008 R2, Windows 2012
- SQL Server 2000, 2005 and 2008
- Oracle 9, 10 and 11
- DB2 Universal Database (UDP) 8.1, 9.1, 9.5 and 9.7

The Assessment Report can be viewed using the following applications:

- Microsoft Internet Explorer 7 (HTML)
- Mozilla Firefox 3.6 (HTML)
- Opera 11 (HTML)
- Adobe Reader 9 (PDF)
- Microsoft Word 2003 or higher (Doc)

Building Signatures for ServiceCenter and Service Manager Tables

Before running the Assessment Toolkit to compare related tables in ServiceCenter and Service Manager and generate reports, you need to build signatures for these tables using the Differential Upgrade Wizard utility. The following instruction describes how to build signatures for the tables:

1 Back up records from the *signaturemake* table and *patches* table on the ServiceCenter or Service Manager servers. You can unload them to local `.unl` files such as `patches_orig.unl` and `signaturemake_orig.unl`, which can be used to recover the original records after signatures building.

2 Unzip the Service Manager Upgrade Assessment Toolkit release package with Winzip or Winrar. Or you can unzip the release package with the following command:

`jar xf sc2sm.assesstool.standalone.jar`

3 Load the unload file:

— If you are working with HP ServiceCenter 6.28:

   a Start a client session and log in to the ServiceCenter system with a system administrator account. From the System Navigator, click **Toolkit** > **Database Manager**. Right-click the form and select **Import/Load**.

   b In the Import/Load panel, type `<unzipped Assessment Toolkit home directory>\pre_signature\SC628\pre_unloadscript_sc628.unl` in the File Name field.

   c Select **winnt** from the File Type drop-down list, and then click **Load FG**.

— If you are working with HP Service Manager 7.02 or 7.11:

   a Start a Windows client session and log in to the Service Manager system with a system administrator account. From the System Navigator, click **Tailoring** > **Database Manager**. Click **More** or the More Actions menu, and select **Import/Load**.

   b In the Import/Load panel, type `<unzipped Assessment Toolkit home directory>\pre_signature\SM711\pre_unloadscript_sm711.unl` in the File Name field.

   c Select **winnt** from the File Type drop-down list, and then click **Load FG**.

The following related records will be added to ServiceCenter or Service Manager *signaturemake* table and *patches* table:

— For ServiceCenter server:

   – *signaturemake* record with table.name *scmandant*

   – *signaturemake* record with table.name *eventin*

   – *signaturemake* record with table.name *eventout*

   – *signaturemake* record with table.name *eventfilter*

   – *signaturemake* record with table.name *ocmprofile*

— For Service Manager server:

   – *signaturemake* record with table.name *scmandant*

- *signaturemake* record with table.name *eventin*
- *signaturemake* record with table.name *eventout*
- *signaturemake* record with table.name *eventfilter*
- *signaturemake* record with table.name *ocmprofile*
- *signaturemake* record with table.name *FolderDef*
- *signaturemake* record with table.name *FolderRights*
- *signaturemake* record with table.name *Todo*

➤ You can select a language when you start the ServiceCenter or Service Manager client session. Only signatures for the selected language will be created.

4 Run the Differential Upgrade Wizard to build signatures.

— If you are working with HP ServiceCenter 6.28:

From the System Navigator, click **Utilities** > **Tools** > **Differential Upgrade** > **Differential Upgrade Wizard**.

— If you are working with HP Service Manager 7.02 or 7.11:

From the System Navigator, click **Tailoring** > **Differential Upgrade** > **Differential Upgrade Wizard**.

5 Select **Build Signatures** and click **Next**.

6 Type the name of the system in the **System Name** text box.

7 Select **SC2SM** from the **Patch Record** drop-down list. This option is created in step 3.

8 Browse to locate or define the **Export Filename**. This is an external file that will store the signature records.

9 (Optional) Select **Signature RAD components for delete processing** to delete all related RAD panel components.

10 (Optional) Select **Run in background** if you want background processing. If you run in background, ServiceCenter or Service Manager creates a schedule record and creates the unload when the schedule record runs. If you choose Run in background, do the following:

— Select **Repeat Daily** to create signature records daily. This step is optional.

— Click the drop-down list to choose the **Date/Time to Run** schedule for background processing.

11 Click **Next** to build signatures.

12 Check the records in *signatures* table to verify the related tables are properly signed.

13 (Optional) To remove the table records added by previous steps and recover the original data after building the signatures, remove all records in *patches* and *signaguremake* tables first. Then you can import the original records from `patches_orig.unl` and `signaturemake_orig.unl` which are backed up.

Setting Up the Assessment Toolkit

The Assessment Toolkit is standalone. You do not need to install it. However, before generating reports, you must set up connections for the Assessment Toolkit to connect with ServiceCenter and Service Manager servers and get related data. To generate database information related reports, you also need to configure the database server connetion for the Assessment Toolkit.

To set up server and database connections for the Assessment Toolkit, follow these steps:

1   Install JDK7.

   a   Download J2SE 5.0 from http://www.oracle.com/technetwork/java/javase/downloads/jdk7-downloads-1880260.html.

   b   Install JDK7.

   c   Verify the installation by using the `java -version` command.

   ▶   Currently, Service Manager Upgrade Assessment Toolkit supports JRE/JDK 6 (32-bit) and 7 (32-bit) . If you have other higher version installed already, you do not need to uninstall it. But the JRE/JDK 6 (32-bit) and 7 (32-bit) root folder must be set as `JAVA_HOME` by verification in step c.

2   Browse to the unzipped Assessment Toolkit home directory and double-click `SCAssessTool.exe` to launch the Assessment Toolkit.

3   In the menu, click **Connect** > **Connect SC**. The SC/SM connection dialog box opens.
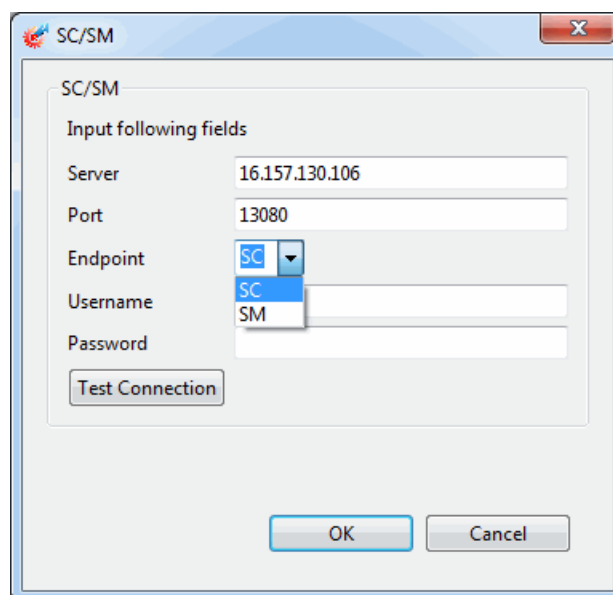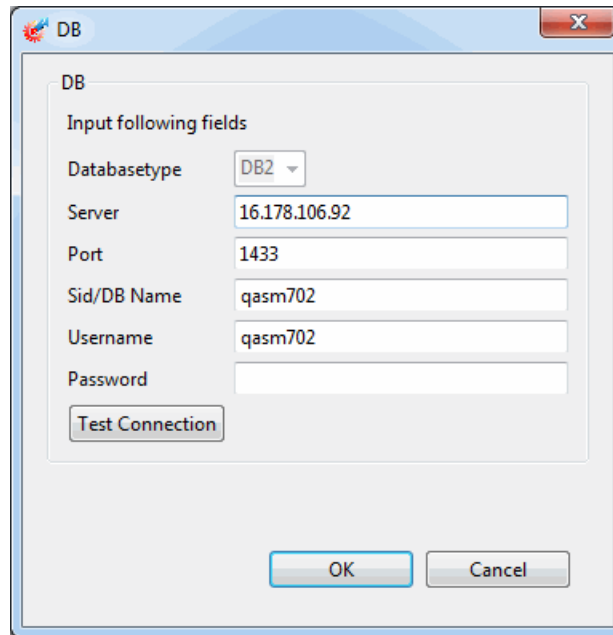
4   Type or select the connection parameters.

Table 1   SC/SM connetion parameters

Parameter	Description
Server	The IP address of the server that hosts the Service Manager or ServiceCenter service.
Port	The port number that your computer uses to connect with the server. **Tip:** You can refer to `sc.ini` or `sm.ini` in the server for identifying the correct port number.
Endpoint	The type of the server that your computer connects with. Select **SC** for ServiceCenter server connection, or select **SM** for Service Manager server connection.
Username	The name that you use to log in to the server. This username should be privileged as the system administrator, which is **falcon** by default.
Password	The password that you use to log in to the server.

You can click **Test Connection** to test the connection.

5   Click **OK** to close the SC/SM connection dialog box.

6   In the menu, click **Connect** > **Connect DB**. The DB connection dialog box opens.

7   Type the connection parameters.

Table 2   DB connetion parameters

Parameter	Description
Database Type	The type of database is identified automatically when the DB connection dialog opens.
Server	The IP address of the computer that hosts the database.
Port	The port number that your computer uses to connect with the database. **Tip:** • The port number of Oracle by default is 1521. • The port number of MSSQL by default is 1433. Note that there is no default value in MSSQL Server 2008, this value must be manually configured. • The port number of DB2 by default is 50000.
Sid/DB Name	The servide name of the database that your computer connects with.
Username	The name that you use to log in to the database.
Password	The password that you use to log in to the database.

You can click **Test Connection** to test the connection.

8   Click **OK** to close the DB connection dialog box.

The connection parameters are stored locally after each successful connection. These parameters will be retrieved and displayed at the next connection event.

3 Working with the Assessment Toolkit

This chapter provides detailed instruction about how to generate and export the Assessment Reports.

Topics in this section include:

Generating Assessment Reports

To generate the Service Manager and ServiceCenter data assessment reports, follow these steps:

1 Launch the Assessment Toolkit and set up connection as described in Setting Up the Assessment Toolkit.

2 From the Report Explorer, select one report or multiple reports in the hierarchy.

3 Right-click on any of the selected reports and select **Run Report** in the menu opened. The report generation wizard opens. Or you can click **Report** > **Run** in the menu to open the report generation wizard.
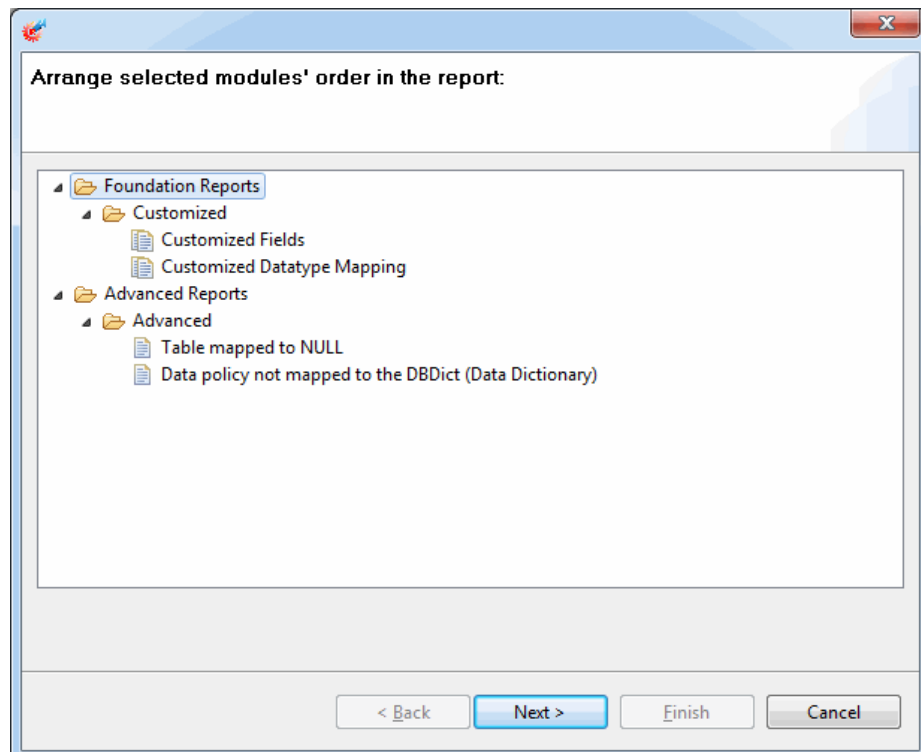
You can rearrange the selected reports by dragging and dropping. Note that the reports can be moved in the same module only. Click **Next** to proceed.

4 (Optional) The Select baseline page opens only when the target baseline folder of specific Service Manager version or ServiceCenter version does not exist. In this page, you can select another baseline from the drop-down list.
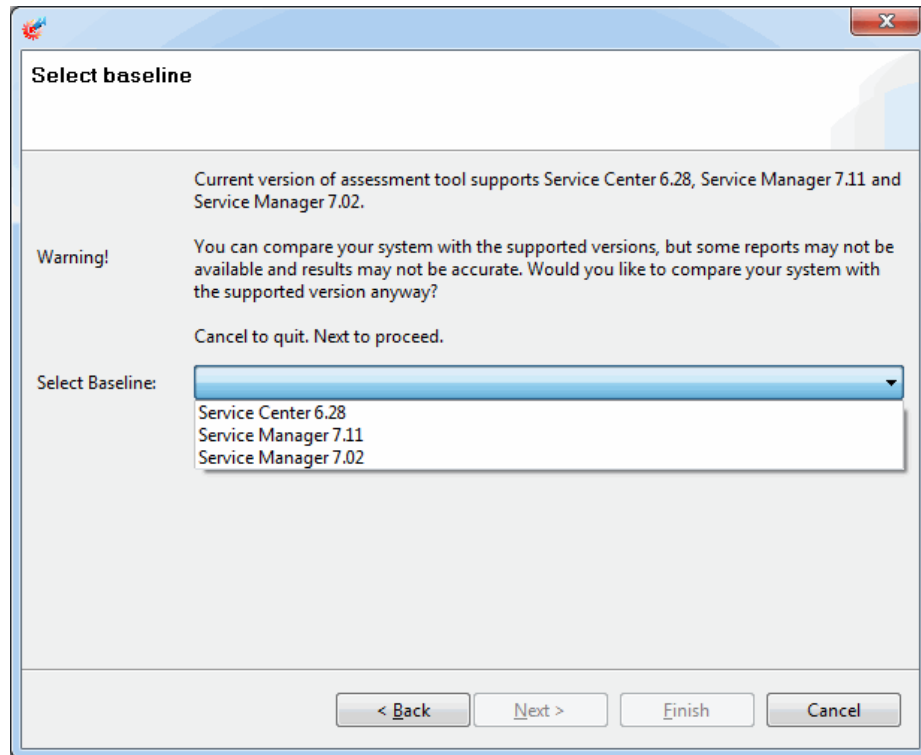
5   Select the default master report template (default.prpt) or your customized template from the Report Template drop-down list:
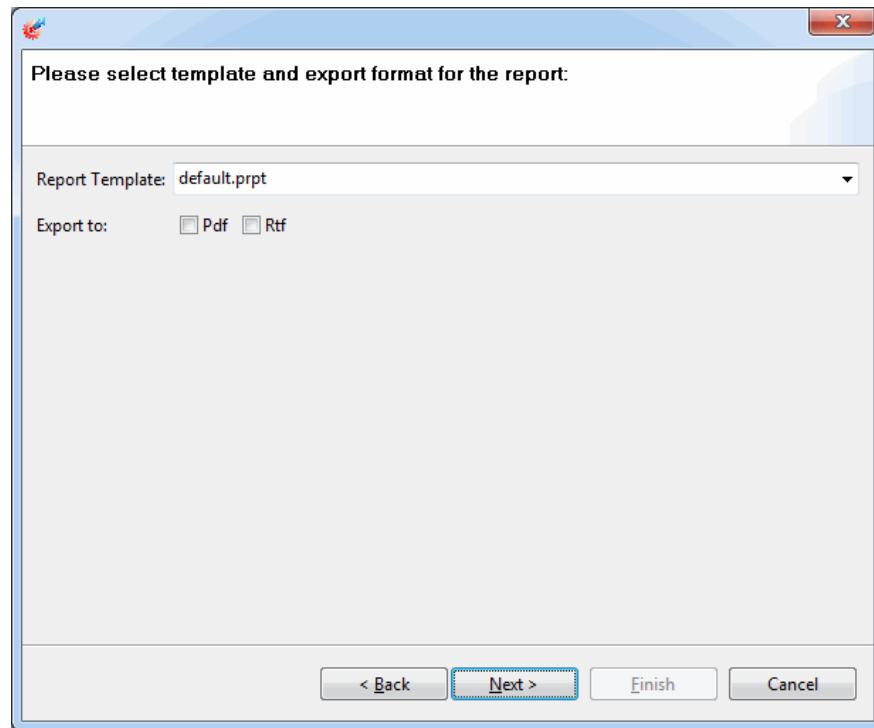

For more information about the master report template customization, see Customizing Report Template on page 17.

6   In the wizard window, select **Pdf**, **Doc** or both options to export the master report. The Assessment Toolkit will convert the generated report to your selected format and save it to your computer. Click **Next**.

7   The Assessment Toolkit begins to generate the selected reports, and the overall status is displayed in the progress bar. You can click **Cancel** to terminate and exit the generation process of all reports.
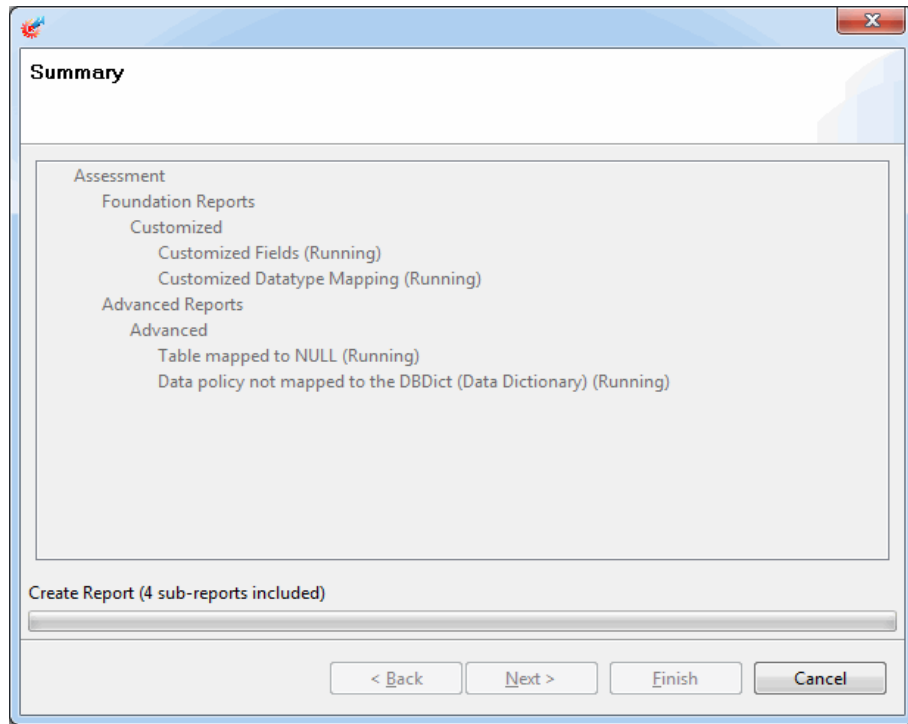

Seperate progress bar for each report is displayed in Progress View panel of the Assessment Toolkit. You can click the corresponding red icon to terminate the generation process of any single report.
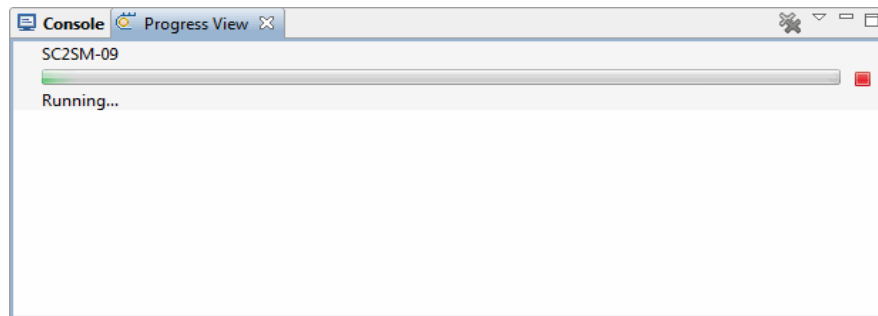

The reports processing is also indicated by the console messages. All errors and key information are logged in Console panel as illustrated in the following example:
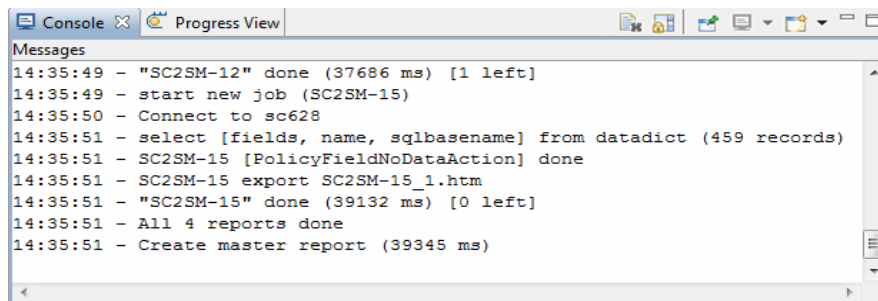
8   When the process is completed, the reports generation results are summarized and displayed:
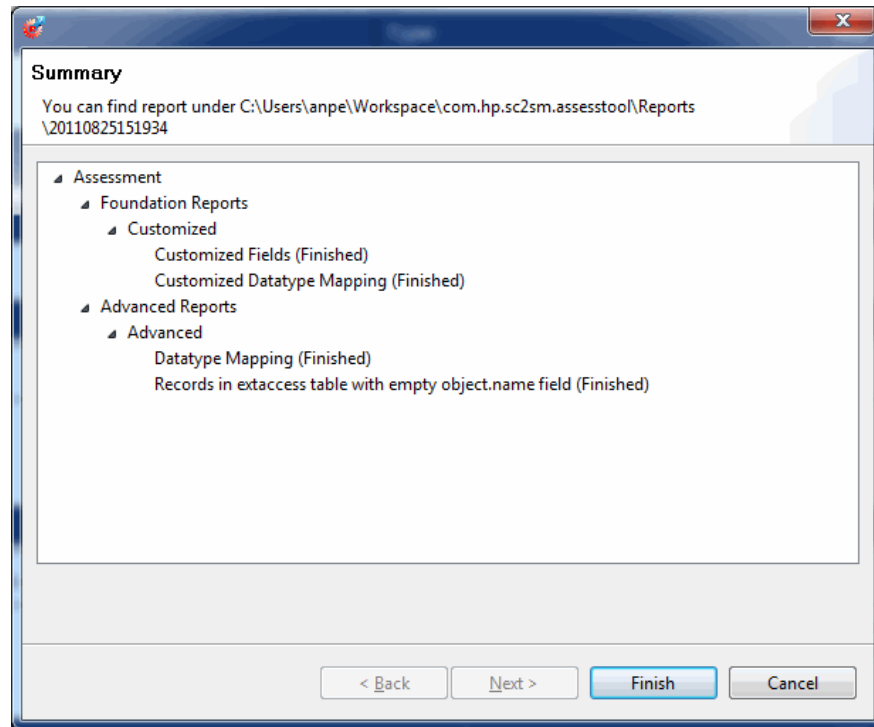
9   Review your report generation results. If any reports failed to generate, click **Back** and refer to (Optional) Regenerating Failed Reports for the required steps once the problem get fixed. Otherwise click **Finish** to display the reports index page:
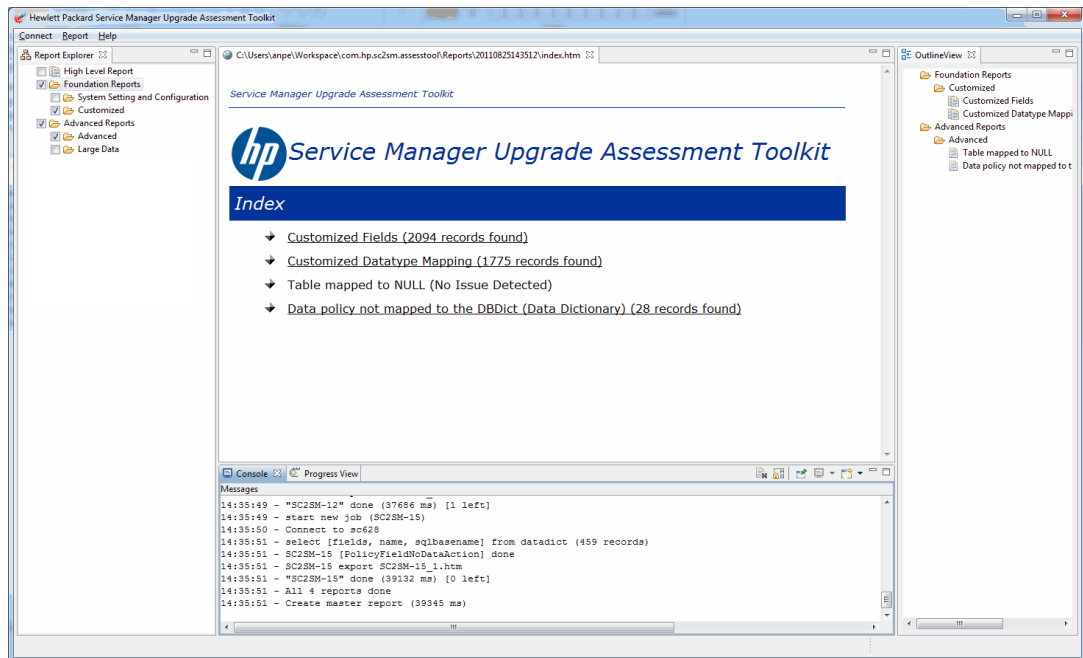
You can click the links to view the reports in HTML format. All exported reports are stored locally in the <Service Manager Upgrade Assessment Toolkit home directory>\reportHtml\timestamp folder.

▶ When generating the Assessment Report, logged data which records processing failures, errors messages and processing duration of the assessment utility by utility module is stored in the <Service Manager Upgrade Assessment Toolkit home directory>\log folder.

(Optional) Regenerating Failed Reports

To regenerate the failed reports when regenerating the master report, follow these steps:

1 In the menu, click **Report** > **Run last** to open the following dialog. IDs of the failed reports are displayed in the Error Report List:
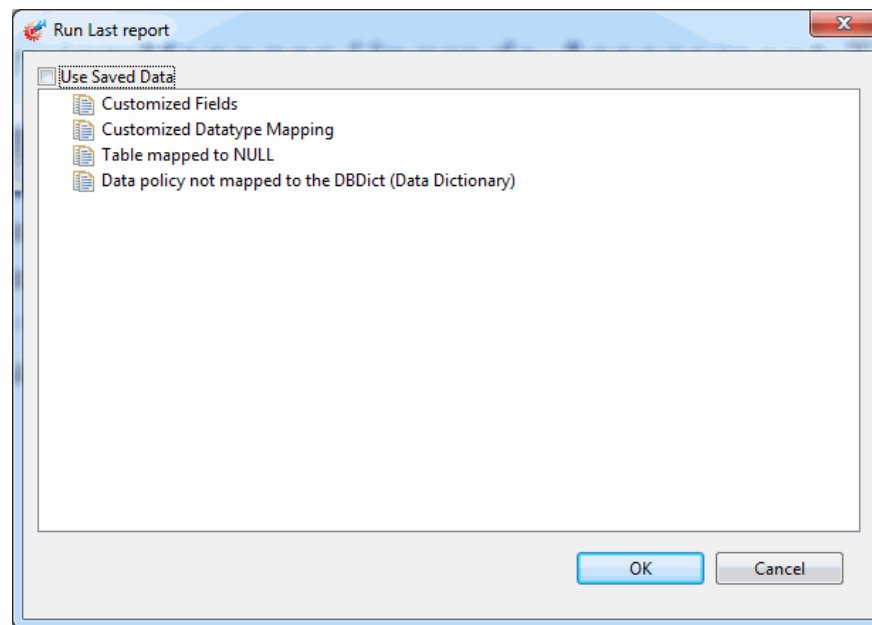
2 Select **Use Saved Data** and click **OK**, the Assessment Toolkit will regenerate the failed reports only. The reports which are successfully generated in step 7 will be retrieved from the local storage and appended to the new master report. By selecting this option, the report generating time can be significantly reduced, particularly for those reports containing big data volume.

▶ Note that the **Use Saved Data** option is unselected by default. Without this option, the Assessment Toolkit will retrieve report data from the current connected ServiceCenter server or Service Manager server regardless of the server environment alternation since last report generation, and regenerate all the selected reports from the beginning. This can be time consuming especially when the reports contain a lot of data in actual production environment.

⚑ The local data storage will not be purged automatically. If you encountered the error messages such as the disk space is full, you need to manually clean up the disk space.

4 Customizing the Assessment Reports

This chapter describes how to customize the default Assessment Report settings such as the report templates and parameter configuration. A brief introduction about new report creation is also included in this chapter.

Topics in this section include:

- Customizing Report Template on page 17
- Configuring Common Parameter on page 18
- Customizing High Level Report Configuration on page 20

Customizing Report Template

You can create new Assessment Report templates or make further changes to the default templates for the master report and the individual reports.

Aspects Need Attention When Creating New Template

Pentaho Report Designer is a report designer tool bundled in the Pentaho Open Source Business Intelligence suites with a graphical user interface for creating and editing report definitions. The resulting .prpt files can be executed by the Assessment Toolkit as report remplates.

The following steps only describe the aspects you need to pay attention to when creating custom report templates for the Assessment Reports. For more information about how to create a report, refer to the Pentaho Report Designer help.

1 Launch the Pentaho Report Designer.

2 Create a new report and save it to your computer. This is the new report template.

3 Do the following in the new report template:

  a Click **Report Header**, type a report title.

  b (Optional) Type a description for this report.

  c Click **No Data** and then add individual reports as necessary. The individual reports should be listed with sequence numbers.

4 Save and close the report.

Customizing Master Report Template

The out-of-box master report template is `default.prpt`, which is stored in <Service Manager Upgrade Assessment Toolkit home directory>\config\template.

To customize the master report template, follow these steps:

1   Create a new template or modify the `default.prpt` file using Pentaho Report Designer.

2   Copy your customized master report template to the <Service Manager Upgrade Assessment Toolkit home directory>\config\template folder.

3   When generating the master report with the Assessement Toolkit later, you can select the newly created or customized master template from the **Report Template** drop-down list as described in step 5 of Generating Assessment Reports.

Creating Individual Report Template

To create the template for an individual report, follow these steps:

1   Create a new template using Pentaho Report Designer. The name of this template must be in the following format:

    `<report id>.prpt`

    For example, `SC2SM-08.prpt`. You can refer to the configuration file (`reports.xml`) for the ID of an individual report.

2   Copy your customized individual report template to the <Service Manager Upgrade Assessment Toolkit home directory>\config\template\subreport folder.

3   Modify the report configuration file (`reports.xml`) and add a template parameter for the target report. When generating the master report with the Assessement Toolkit later, the customized individual report template will be used for the target report.

    See the following code example for individual report template parameter configuration. The bold line indicates that your customized template is applied to the Customized Records report:

```
<report id="SC2SM-08">

<!-- Template file names for this report. This template file must be
saved under config\template\subreport. -->

        <param key="template" value="SC2SM-08.prpt"/>
```

Configuring Common Parameter

The out-of-box report configuration file is `reports.xml`, which is stored in <Service Manager Upgrade Assessment Toolkit home directory>\config. This configuration file can be used as a starting point for the development of more detailed, customer-specific reports. You can customize the configuration for each report in `reports.xml` before report generations.

See the following code example for some common report parameters used in report generation:

```
<report id="SC2SM-28" name="Check for records that are truncated due to
RDBMS mapping" desc="Examines the ServiceCenter database to identify all
records(by table) which exceed the maximum records length. This report
is not required for Service Manager.">
      <action
class="com.hp.sc2sm.assesstool.report.action.advance.RecordExceedMaxLen
gthAction">
            <params key="sqldatatype">
                  <value>varchar</value>
                  <value>varchar2</value>
                  <value>char</value>
                  <value>nchar</value>
                  <value>nvarchar</value>
                  <value>nvarchar2</value>
                  <value>raw</value>
            </params>
            <params key="tables">
                  <value>Alertlog</value>
                  <value>ApprovalLog</value>
                  <value>menu</value>
            </params>
            <table>
                  <column id="tablename" title="Table" />
                  <column id="fieldname" title="Field" />
                  <column id="record" title="Record" />
                  <column id="recordlength" title="Record Length" />
                   <column id="maxfieldlength" title="Max Field Length" />
            </table>
      </action>
</report>
```

In this example, the following common parameters can be configured:

- `report id`: ID of this report.
- `name`: Name of this report.
- `description`: Description of this report.

The other parameters may differ between various reports. For the reports which need mandatory configuration, detailed parameter information is provided in Assessment Report Suites.

Customizing High Level Report Configuration

The out-of-box High Level Report configuration file is `reports.xml` as well. You can customize the configuration for each section before report generations.

Configuring General Information High Level Report

See the following code example for General Information High Level Report configuration. The parameters that can be customized are displayed as bold lines:

```xml
<!-- The parameter value of Target_Version will be retrieved from this
configuration file and displayed in high level report general
information section. This parameter can be customized. -->

<prameter key="Target_Version" value="Service Manager 9.30" />

<!-- The Column parameter defines the table column information. If the
column name is changed, make sure to modify it in report template file
as well. -->

        <table>

                <column id="Customer" />

                <column id="Date" />

                <column id="Base Version" />

                <column id="Target Version" />

        </table>
```

Configuring Overall Assessment High Level Report

See the following code example for Overall Assessment High Level Report configuration. The parameters that can be customized are displayed as bold lines:

```
<!-- The threshold parameters define the Service Manager assessment and
the RDBMS assessment related threshold values, based on which the status
icons (normal, warning or error) are displayed in the high level report.
-->
        <param key="error" value="10" />

        <param key="warn" value="4" />


<!-- The transactiontables parameter defines the table list which will
be compared against ServiceCenter and Service Manager out-of-box tables
to get the count of tables which have customized fields. You can
customize this parameter to add more tables to the list or remove tables
from the list. -->
        <params key="tables">

                <value>Alert</value>

                <value>Alertlog</value>

                <value>Approval</value>
```

Configuring Detailed Assessment High Level Report

Configuring ServiceCenter/Service Manager Assessment High Level Report

See the following code example for ServiceCenter/Service Manager Assessment High Level Report configuration. The parameters that can be customized are displayed as bold lines:

```
<!-- The threshold parameters define the ServiceCenter/Service Manager
assessment related threshold values, based on which the status icons
(normal, warning or error) are displayed in the high level report. -->
        <param key="error" value="10" />

        <param key="warn" value="2" />


<!-- The tables parameter defines the table list which will be scanned
for customized records. You can customize this parameter to add more
tables to the list or remove tables from the list. -->
        <params key="tables">
                <value>displayoption,screen.id</value>

                <value>validity</value>

                <value>link,name</value>

                <value>environment,name</value>

        </params>
```

Configuring RDBMS Assessment High Level Report

Configuration of the RDBMS Assessment High Level Report includes the `table` parameter and the `threshold` parameter, both of which are described in the previous sections. You can refer to Configuring General Information High Level Report for detailed information about how to configure the `table` parameter, and then refer to Configuring Overall Assessment High Level Report for how to configure the `threshold` parameter.

5 Assessment Report Suites

The Assessment Toolkit provides HP partners with a suite of Assessment Reports. Each report is designed to meet the analytical needs of a generic Service Manager or ServiceCenter business user. With Assessment Reports, you can easily estimate migration effort and identify potential data migration problems. This chapter describes each Assessment Report with brief description.

Topics in this section include:

- System Setting and Configuration Reports on page 24
- Customized Reports on page 25
- Advanced Reports on page 27
- Large Data Reports on page 29
- High Level Report on page 34

➤ For some reports which need mandatory configuration, detailed parameter information is also provided in this chapter. Make sure to customize the configuration for these reports accordingly in `reports.xml` before report generations. Refer to the following list for the reports which need mandatory configuration:

- Database Size
- Customized records
- Table with null/duplicate key
- Records with the prefix if within their ID
- Checking Field lengths for tables mapped from P4 to RDBMS
- Not licensed OOB schedule records
- Check the schedule/eventout/eventin cleanup
- List any request line items or task records, SYSBLOB, SYSATTACHMENT which are orphaned
- Check for records that are truncated due to RDBMS mapping

System Setting and Configuration Reports

System Setting and Configuration Reports provide detailed information about several types of ServiceCenter and Service Manager system setting-related and configuration-related data reports.

Report name	Description
Source version of Applications / RTE	Displays the current ServiceCenter or Service Manager RAD Application version as well as the RTE (Run Time Environment) version.
Table Size	Lists the top 10 tables with the biggest size and displays the size of each table to assit with the assessment as this will impact the upgrade utility's time when executed.
RDBMS information	Lists the actual RDBMS details in order to provide sufficient information of how the ServiceCenter / Service Manager RDBMS is currently configured as well as the actual state. For example, the Assessment Toolkit will check and return the database type and version, codepage, character set, etc.
List tables whose case-sensitive is not set	The Assessment Toolkit examines the RDBMS against the ServiceCenter 6.2.x application data mapping table to verify whether all fields have been mapped using upper, lower and mixed-case. This report lists the tables which are not set to be case-sensitive. This is required when the ServiceCenter instance is set to case-sensitive.
Database Size	Lists the phyisical size of the database in KB/MB/GB. This is required to judge whether a data archive is required prior to an upgrade or as part of a system health check. You can add template parameters for this report as below: ``` <report id="SC2SM-03"> <!-- Template file names for this report. There should be several template files configured for this report if the customer want to customize the template file for this report. For each DB type, there should be one template file. All report template files must be saved under config\template\subreport, and the template file name must contain the DB type. For example, the SC2SM-03_DB2.prpt template file is dedicated for DB2 database. --> <params key="template"> <value>SC2SM-03_DB2.prpt</value> <value>SC2SM-03_SQLSERVER.prpt</value> <value>SC2SM-03_ORACLE.prpt</value> </params> </report> ```

Customized Reports

Customized Reports provide customized data related reports.

Report name	Description
Customized Tables	The Assessment Toolkit searches the ServiceCenter / Service Manager database for customized tables which have been added / deleted / modified that would be different from an OOB (Out-of-the-box) version. This report lists all customized tables.
Customized Fields	The Assessment Toolkit searches the ServiceCenter / Service Manager database for customized columns / fields have been added / deleted / modified that would different from an OOB version. This report lists all customized fields.

Report name	Description

Customized Records	Lists all customized records for the following tables to find where these tailoring objects have changed from the OOB *version, inbox, macro, wizard, menu, format, formatctrl, link, Object, Process, States, displayscreen, displayoption, scripts, code*. This will assist in both estimating the time required with conflict resolution as well as identifying changes objects during a health check to guage the complexity of a potential upgrade.
	
	You can add template and other parameters for this report as below:
	
	<pre><report id="SC2SM-08">
	<!-- Template file names for this report. This template file must be saved under config\customized_records. -->
	    <param key="template" value="SC2SM-08.prpt"/>
	        <param key="compareDetail" value="false" />
	        <param key="showModifyDetail" value="false" />
	        <params key="tables">
	            <value>dbdict</value>
	            <value>menu</value>
	            <value>format</value>
	            <value>link</value>
	            <value>Object</value>
	            <value>scripts</value>
	            <value>displayscreen</value>
	            <value>macro</value>
	            <value>Process</value>
	            <value>States</value>
	            <value>wizard</value>
	            <value>inbox</value>
	            <value>formatctrl</value>
	            <value>displayoption</value>
	            <value>code</value>
	        </params>
	</report></pre>

Customized datatype mapping	Lists all datatype mapping which does not match the OOB datatype mapping for all the standard OOB tables.

Advanced Reports

Advanced Reports provide reports for detail SC/SM key data which relates closely to future migration.

Report name	Description
Datatype mapping	Lists all database types used to map tables to the RDBMS from P4. For each database type, this report provides the mapping detail (taken from the sqldbinfo record) and the table / field using a particular data type to assist in diagnosing any data problems that may be incountered during the upgrade.
Table mapped to 'n' data types for MSSQL	Lists all tables that are mapped using *n*, *nchar* and *nvarchar* data types on SQL Server. This report is targeted for ServiceCenter / Service Manager instances searching.
Table mapped to NULL	Lists all tables that are mapped using NULL tables, which need to be identified prior to running the upgrade.
Records in extaccess table with empty object.name field	The Assessment toolkit searches the extaccess definition and return the list of records where the `object.name` field has no value. These records need to be fixed prior to running the upgrade utility in order to avoid failures.
Table/field/record mapped as binary Objects	Lists all tables and specific fields/records, where that have been mapped as binary objects within a table. This information is useful for both upgrading ServiceCenter to Service Manager or as a general system health check of either ServiceCenter or Service Manager.
Data policy not mapped to the DBDict (Data Dictionary)	Lists all data policy records with no corresponding dbdict record. This information is useful when upgrading ServiceCenter to Service Manager but not required for general Service Manager health check.
Table mapping check against the RDBMS System tables	Validates the following tables are mapped as system tables: *cascadeupd, code, coderevision, displaycache, displayoption, displayscreen, formatctrl, ioaction, ioactionrevision, link, linkline, notification, notificationrevision, Process, rcenv, schedule, scripts, ScriptLibrary, ScriptLibraryrevision, slaprofile, triggers, upgraderesults, wizard.* **Note:** This is a ServiceCenter 6.2.x report and is not required for Service Manager. The table mapping check is to ensure these tables have been mapped from P4 to the RDBMS correctly.
Checking the lengths of the datapolicy sqlbasename field value	For all data policy records, the Assessment toolkit verifies that the sqlbasename field is populated and its length is less than/equal to 13 characters. This report lists all records that do not meet this criteria. This validation is required to ensure that any corrections may required prior to running the upgrade from SericeCenter to Service Manager.

Report name	Description
Checking Field lengths for tables mapped from P4 to RDBMS	The Assessment Toolkit checks the field lengths in the RDBMS against the mapping table. This report lists the fields lengths for systems which are mapped out to RDBMS. You can configure parameters for this report as below: ``` <report id="SC2SM-18"> <!-- List table name, field name and field type(depends on database) which need to be checked. For the field length, it can be configurable in parameter value for each below. --> <param key="notification|str.condition" value="varchar2(255)" /> <param key="inbox|query" value="varchar2(256)" /> <param key="inbox|normalized.query" value="varchar2(255)" /> <param key="inbox|short.query" value="varchar2(256)" /> <param key="inbox|short.normalized.query" value="varchar2(256)" /> <param key="inbox|inbox.name" value="varchar2(256)" /> <param key="operator|password" value="varchar2(137)" /> <param key="signatures|object.name" value="varchar2(255)" /> <param key="upgradepseudolog|message" value="varchar2(255)" /> <param key="upgradeobjects|object.name" value="varchar2(255)" /> <param key="SYSATTACHMENTS|topic" value="varchar2(40)" /> </report> ```
Validation check on the weekly.duration field in the caldutyhours table	Lists all conditions in the weekly.duration field that will bring failure to the ServiceCenter to Service Manager upgrade process when you choose to upgrade SLA records (make sure the weekly.duration field is populated in the caldutyhours table correctly).
List the count of all records within the M (Main) and A (Array) tables	The Assessment toolkit checks how the tables are mapped. If all the tables are mapped using array tables, this may not be the most efficient method and could be tuned. Data returned from the report provides a count of the records within the M and A tables as well as table identification.
Search queries in SC/SM that are NOT fully indexed	Lists all queries that are not fully indexed in either format control or inboxes.

Report name	Description
List P4 shadowed tables to RDBMS	Lists any P4 files that have been shadowed to an RDBMS database table.
Record count for all tables	Lists record counts for all SC/SM tables.
List all the arrays used as keys	Lists all the fields mapped as array type and used as keys prior to upgrade.

Large Data Reports

Large Data Reports consist of six individual reports, which cover huge volume data processing. When generating these reports, the ServiceCenter or Service Manager server performance will be significantly degraded even with server Out of Memory exception. It is recommended that only one report is selected to run under this category.

Report name	Description

Table with null/ duplicate key	The Assessment toolkit examines data and validates the presence of null/duplicate keys. This report lists the tables with null/duplicate keys. This information is required prior to an upgrade as the results need to be examined prior to running and upgrade or during a system health check for database tuning.
	
	 You can add parameters for this report as below:
	
	 <pre><!-- In the actions section, you need to config which tables to be scanned. Otherwise, the Assessment toolkit will scan the data in all tables. -->
	    <params key="tables">
	        <value>activity</value>
	        <value>inbox</value>
	    </params></pre>

Report name	Description
Records with the prefix if within their ID	Lists all records with a given prefix, which is identified within their identification number (ID). This prefix should be a sign that they have migrated from another system previously. You can add parameters for this report as below: <pre> <report id="SC2SM-20"> <action id="prefixId"> <!-- Lists all tables which should be included in this report. --> <params key="tables"> <value>displayscreen</value> <value>displayoption</value> </params> <!-- Lists all prefix need to be matched against the IDs of the tables' records. --> <params key="prefix"> <value>im</value> <value>listpages</value> </params> </action> </report></pre>
Check the schedule/ eventout/eventin cleanup	The Assessment toolkit checks the status of the tables - Schedule/ Eventin/Eventout to determine whether they are being properly cleaned up and will show records with the failed processing status. You can configure parameters for this report as below: <pre> <report id="SC2SM-23"> <!-- Configure the exact value of the failed status for server activities. --> <param key="message" value="failed processing" /> <!-- Lists all tables which should be included in this report. Key is table name, value is the field to be checked. --> <action id="StatusCheckAction"> <param key="schedule" value="status" /> <param key="eventout" value="evstatus" /> <param key="eventin" value="evstatus" /> </action> </report></pre>

Report name	Description
Not licensed OOB schedule records	Lists all the records within the OOB schedule table that may be active but not within licensed modules and therefore be disabled. You can configure parameters for this report as below:

```
   <report id="SC2SM-21">
<!-- List all mapping details between licensed module
and the class of schedule table. -->
     <param key="sla" value="SLA" />
     <param key="problem" value="Problem Management"
/>
     <param key="change" value="Change Management" /
>
     <param key="contract" value="Contract
Management" />
     <param key="ocm" value="Request Management" />
     <param key="KMUpdate" value="Knowledge
Management" />
<!-- List the values of the class in schedule table
that are included in Foundation module. All of them
are considered to be licensed, although they are not
list in the "Licensed Product" of "Version
Information".-->
     <params key="Foundation">
        <value>agent</value>
        <value>report</value>
        <value>gie</value>
        <value>event</value>
        <value>lister</value>
        <value>marquee</value>
     </params>
</report>
```

Report name	Description
Check for records that are truncated due to RDBMS mapping	The Assessment toolkit checks the ServiceCenter database to identify all records (by table) which exceed the maximum records length. This report is not required for Service Manager. You can configure parameters for this report as below:

```
<report id="SC2SM-28">
    <action id="tableCount">
```
```
<!-- Lists all RDBMS datatypes that contain the field
length constraint, such as VARCHAR(60), VARCHAR2(60),
CHAR(1), etc. The Assessment Toolkit only compares
the field length based on the datatype defined as
following. Otherwise, the comparison will be ignored.
-->
```
```
        <params key="sqldatatype">
            <value>varchar</value>
            <value>varchar2</value>
            <value>char</value>
            <value>nchar</value>
            <value>nvarchar</value>
            <value>nvarchar2</value>
            <value>raw</value>
        </params>
```
```
<!-- The "tables" key indicates the tables list where
the Assessment Toolkit reads the records for
comparison. To read all tables in SC/SM server, use
<value>all</value>. However, this is not recommended
because when the records of all tables are queried,
the system performance will be significantly
degraded. -->
```
```
        <params key="tables">
            <value>Alertlog</value>
            <value>ApprovalLog</value>
            <value>menu</value>
        </params>
    </action>
</report>
```
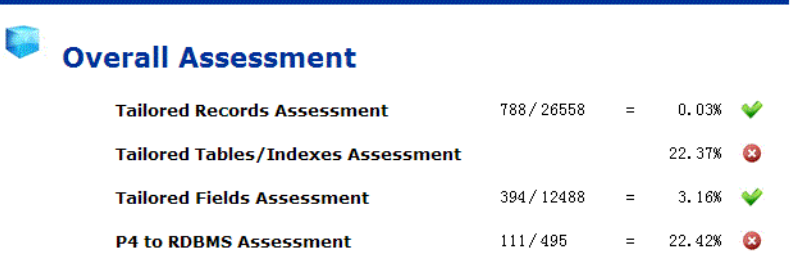
Report name	Description
List any request line items or task records, SYSBLOB, SYSATTACHMENT which are orphaned	The Assessment toolkit checks all the request line items/change tasks, searches and lists all line items with null parent request (orphaned). For SYSATTACHMENTS/SYSBLOB, the Toolkit searches and lists all where the parent interaction, incident, change, request, etc. does not exist (orphan attachment/blob).

You can configure parameters for this report as below:

```
<!-- List module and talbe relationship in sysblob
and sysattachment tables as below. Rule
key="modulename in sysattachment table-table name in
sc/sm | field name" -->
<params key="moduleRelation">
<value>incidents-incidents|incident.id</value>
<value>problem-probsummary|id</value>
<value>rootcause-rootcause|id</value>
<value>knownerror-knownerror|id</value>
<value>kmattachments-kmattachments|id</value>
<value>kmdocument-kmdocument|id</value>
<value>svcCatalog-svcCatalog|name</value>
<value>civisualizationdecorator-civisualizationdecor
ator|name</value>
<value>civisualizationdevice-civisualizationdevice|d
evice.type&amp;device.subtype</value>
</params>
```
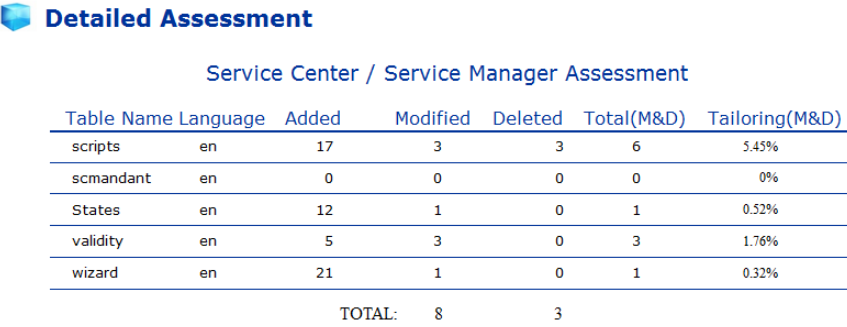
High Level Report

High Level Report consists of summary information that covers almost all the report areas. This report does not provide any detailed report data as generated in other Assessment Reports. Instead, only general information such as the result count, the level value and the status icon (normal, warning or error) are displayed in this report. To configure the thresholds for each report where warning or error levels are reached, see Configuring Overall Assessment High Level Report.
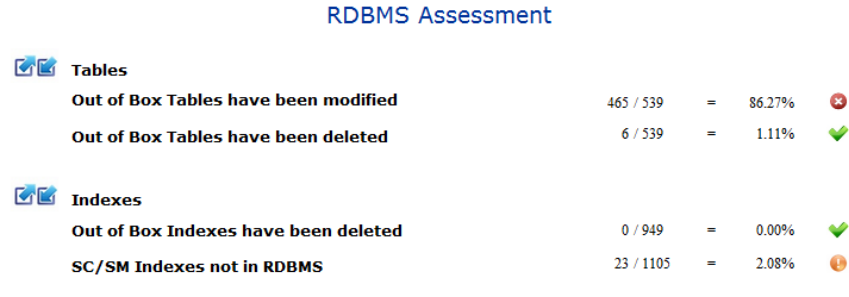
The following reports are included in High Level Report:

Report name	Description
General Information high level report	Provides general ServiceCenter or Service Manager server migration or upgrade related information as listed below: • **Customer:** The ServiceCenter or Service Manager customer name, which is retrieved from the table on the servers. • **Date:** The report generation date. • **Base Version:** The current ServiceCenter or Service Manager server version. • **Target Version:** The target Service Manager version which will be migrated to. This value should be configured in high level report configuration file as described in Configuring General Information High Level Report. You can refer to the following screenshot as an example:

Report name	Description
Overall Assessment high level report	Provides overall ServiceCenter or Service Manager server table customized fields and RDBMS convertion related information as listed below:

• **Tailored Records Assessment:**

The overall percentage of customized records of all tables defined under "SM/SC assessment" of "Detailed assessment".

• **Tailored Tables/Indexes Assessment:**

Summary RDBMS percentage = The percentage of (Out Of Box Tables have been modified + Out Of Box Tables have been deleted + Out Of Box Indexes exist + SC/SM Server Out Of Box Indexes exist) / 4

The Assessment toolkit compares the Summary RDBMS percentage with RDBMS summary, and displays normal, warning or error icon in this report.

• **Tailored Fields Assessment:**

The count of changes in ServiceCenter or Service Manager tables' fields. The table list can be configured in high level report configuration file as described in Configuring Overall Assessment High Level Report.

Value of Service Manager Assesmment = (customizedFieldCount / fieldCount) x 100

fieldCount = Sum of all tables' fields count

customizedFieldCount = Sum of customized tables' fields count

• **P4 to RDBMS Assessment:**

The count of the tables in current ServiceCenter or Service Manager servers that have been converted from P4 to RDBMS.

Value of RDBMS Assessment = (dbTableCount / tableCount) x 100

tableCount = all tables count

dbTableCount = count of tables have been converted to database from p4

You can refer to the following screenshot as an example:

Overall Assessment

Tailored Records Assessment	788 / 26558	=	0.03%	✓
Tailored Tables/Indexes Assessment			22.37%	✗
Tailored Fields Assessment	394 / 12488	=	3.16%	✓
P4 to RDBMS Assessment	111 / 495	=	22.42%	✗

Report name	Description
Detailed Assessment high level report	**ServiceCenter/Service Manager Assessment high level report:** Discovers the customized records which are significant to Service Manager upgrade for some tables. The table list can be configured in `reports.xml` (showNum , the value can be `true` or `false`) as described in Configuring Overall Assessment High Level Report. **Note:** The **Total(M&D)** column consists of the total number of the modified and the deleted tables. The **Tailoring(M&D)** column consists of the percentage of the modified and the deleted tables. You can refer to the following screenshot as an example: showNum=true showNum=false

Report name	Description
RDBMS Assessment high level report	Provides detailed backend RDBMS related information as listed below:

- **Out Of Box Tables have been modified:**

  The value of percentage indicates all OOB RDBMS tables which have been modified in DDL.

  Value of percentage = (Tablemodifiedcount / Tablecount) x 100

  Tablemodifiedcount = The count of all OOB RDBMS tables which have been modified in DDL

  Tablecount = The count of all OOB RDBMS tables in DDL

- **Out Of Box Tables have been deleted:**

  The value of percentage indicates all OOB RDBMS tables which have been deleted.

  *Value of percentage = (Tabledeletedcount / Tablecount) * 100*

  Tabledeletedcount = The count of all OOB RDBMS tables which have been deleted in DDL

  Tablecount = The count of all OOB RDBMS tables in DDL

- **Out Of Box Indexes have been deleted:**

  The value of percentage indicates all indexes within OOB RDBMS tables which have been deleted from current RDBMS.

  Value of percentage = (Indexednotexistedcount / OOBindexcount) x 100

  Indexednotexistedcount = The count of indicate all indexes within OOB RDBMS tables which have been deleted from current RDBMS

  OOBindexcount = The count of all OOB RDBMS indexes in DDL

- **SC/SM Indexes not in RDBMS:**

  The value of percentage indicates all indexed within OOB ServiceCenter or Service Manager tables which have been defined in ServiceCenter or Service Manager servers but not exist in current RDBMS.

  Value of percentage = (Indexesnotexistedcount / ServerIndexescount) x 100

  Indexesnotexistedcount = The count of all indexed within OOB ServiceCenter or Service Manager tables which have been defined in ServiceCenter or Service Manager servers but not exist in current RDBMS.

  ServerIndexescount = The count of all indexes in current server

To generate related information in this report, make sure to log in to the database first as stated in Setting Up the Assessment Toolkit on page 8.

Report name	Description
	You can refer to the following screenshot as an example:

To generate individual reports included in High Level Report, it is a mandatory step to configure the template parameters for them. The default template file is `SC2SM-00-[report name].prpt`, which is stored in <Service Manager Upgrade Assessment Toolkit home directory>\config\template\subreport. See the following code example for High Level Report template parameter configuration:.

```
    <report id="SC2SM-00" name="High Level Report" paging="false"
header="false">

    <!-- This template parameter is mandatory and it defines the report
template file used by High Level Report. -->

            <param key="template" value="SC2SM-00-info.prpt" />

            <param key="template" value="SC2SM-00-overall.prpt" />

            <param key="template" value="SC2SM-00-smdetail.prpt" />

            <param key="template" value="SC2SM-00-rdbmsdetail.prpt" />

    </report>
```