



Determining SQL  
Server 2014 Core  
Licensing  
Requirements at  
SA Renewal



# Contents

- 2 Overview
- 2 How to Create a SQL Server 2014 Transition Report
- 4 Step 1: Be Ready with Machine Properties and Inventory
- 4 Step 2: Assign Processor Licenses
- 6 Step 3: Assign the Core Factor
- 7 Step 4: Calculate the Core Licenses Needed for Each Machine
- 8 Step 5: Determine the Total Core License Requirement
- 9 At the time of Renewal
- 10 Appendix: Microsoft Assessment and Planning (MAP) Toolkit
- 10 Discover SQL Server installations
- 10 Install the MAP Toolkit
- 11 Set Up the SQL Server Scan
- 11 Generate MAP Reports

- 12 SQL Server 2014 Transition Report: Isolate Inventory
- 14 SQL Server 2014 Transition Report: Review Inventory
- 14 SQL Server 2014 Transition Report: Add Virtual Machine (VM) Hosts
- 15 SQL Server 2014 Transition Report: Assigned and Calculated values
- 16 Links and References

© 2014 Microsoft Corporation. All rights reserved.

This document is for informational purposes only. MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS SUMMARY.

Microsoft provides this material solely for informational and marketing purposes. Customers should refer to their agreements for a full understanding of their rights and obligations under Microsoft's Volume Licensing programs. Microsoft software is licensed not sold. The value and benefit gained through use of Microsoft software and services may vary by customer. Customers with questions about differences between this material and the agreements should contact their reseller or Microsoft account manager. Microsoft does not set final prices or payment terms for licenses acquired through resellers. Final prices and payment terms are determined by agreement between the customer and its reseller. Eligibility for Software Assurance benefits varies by offering and region and is subject to change. The Terms and Conditions of your Volume License Agreement and the Terms and Conditions under which any specific Software Assurance benefits are offered will take precedence in the case of any conflict with the information provided here. For eligibility criteria and current benefit program rules, see the Microsoft Product List.

## **About this Document**

This document does not supersede or replace any of the legal documentation covering SQL Server 2014 use rights. Specific product license terms are defined in the product Software License Terms or—in the case of Microsoft Volume Licensing—in the Microsoft Volume Licensing agreement under which the software was acquired and/or the Microsoft Volume Licensing Product Use Rights (PUR). This is not a legal use rights document. Program specifications and business rules are subject to change.

## **Determining SQL Server 2014 Core Licensing Requirements**

This document was created to help customers determine SQL Server 2014 core licensing requirements for their deployed SQL Server databases, specifically at the time of their Software Assurance renewal. It provides guidance to help customers inventory SQL Server instances within their organizations and determine the associated SQL Server license requirements, which are needed when renewing existing processor licenses into SQL Server 2014 core licenses. This document should be used in conjunction with the SQL Server 2014 Licensing Guide, which can be found here: <http://go.microsoft.com/fwlink/?LinkId=230678>

## Overview

With the release of SQL Server 2012 in April 2012, the Per Processor licensing model was phased out, and a Per Core licensing model was introduced. Continuing with SQL Server 2014, both Enterprise and Standard Editions can be licensed using the Per Core model. With the Per Core licensing model, you will need to ensure that all cores on the physical server are licensed – unless you are licensing virtual machines (VMs) individually, in which case all virtual cores must be licensed.

If you have Software Assurance (SA) on SQL Server 2008 R2 processor licenses, you are eligible to renew into core licenses at the end of your SA term. You may renew each processor license into either a minimum of four cores or into your actual core license needs, which may be greater than four cores per processor. If you require more than four cores per processor to be correctly licensed for SQL Server 2014, you need to identify those qualifying processors and ensure that you renew into the correct number of cores. For full details on the licensing grant into core licenses, please see the **Microsoft Product List**.

In order to prepare for the renewal process, it is necessary to be fully aware of how existing SQL Server processor licenses are assigned in the environment. This document provides step-based guidance for the creation of an SQL Server 2014 Transition Report, which is used to assess how these SQL Server installations will transition to the SQL Server 2014 licensing model. The Transition Report is a useful resource for inventorying and documenting an organization's SQL Server instances and licensing requirements. It also contains the necessary information needed for renewing SQL Server processor licenses into SQL Server 2014 core licenses.

Note that the creation of this Transition Report will require support from Licensing and IT professionals to indicate where processor licenses are currently assigned. Additionally, support from IT professionals may be required to discover instances of SQL Server deployed in the environment, if this information is not readily available. Microsoft recommends using the Microsoft Assessment and Planning (MAP) Toolkit to discover SQL Server instances. Detailed guidance for using the MAP Toolkit is provided in the appendix of this document.

## How to Create a SQL Server 2014 Transition Report

This section provides guidance on building a SQL Server 2014 Transition Report, which offers an easy way to view and understand licensing requirements. Please note that this document describes steps to build a Transition Report. It does not provide comprehensive licensing terms for SQL Server 2014 or previous versions, nor does it provide guidance on how the current SQL Server installations are licensed. Instead, it is focused on providing a framework to record SQL Server installation inventory and licensing information.

The purpose of a SQL Server 2014 Transition Report is to:

- Identify each physical computer where SQL Server is running and licensed through Per Processor licensing.
- Determine how many processor licenses are assigned to each server.
- Calculate the number of SQL Server 2014 core licenses required for each server.

With this information, you will be able to record your total core license requirement and eligibility to exchange your existing processor licenses at SA renewal.

The following table shows a SQL Server 2014 Transition Report populated with sample data. The report is composed of five key components, and we will walk through the five corresponding steps you can take to build your report:

1. Inventorying your hardware and entering machine properties
2. Specifying the SQL Server Processor licenses assigned to each server, organized by product edition
3. Specifying the Core Factor for the physical processors on that machine
4. Calculating the core licenses needed for each machine
5. Determining the total core license requirement for your transition to SQL Server 2014.

The following is an example of a report that you can build using an inventory of your SQL deployments and the SQL Server licenses you own. Microsoft recommends using the Microsoft Assessment and Planning (MAP) Toolkit to help gather the server inventory data for your report. Please see the **Appendix: Microsoft Assessment and Planning (MAP) Toolkit** for details on how to use the MAP Toolkit to accomplish this.

Machine Properties and Inventory								Processor Licenses Assigned		Core Factor Assigned	Core Licenses Needed	
Computer Name	Machine Type	Machine Serial Number	Number of Processors	Cores per Processor	Total Physical Cores	CPU	SQL Server Edition Installed	Enterprise	Standard	Core Factor	Enterprise	Standard
PPE-SHOST-52	Physical	D12983	2	4	8	Intel (R) Xeon (R)	Standard		2			8
PPE-SHOST-53	Physical	D12984	2	6	12	Intel (R) Xeon (R)	Enterprise	2		1	12	
PPS-SHOST-54	Physical	D16897	2	12	24	AMD Opteron 6172 - 12 core Processor	Enterprise	2		.75	18	
HPD-SHOST-11	Host	4JK924	4	8	32	Intel (R) Xeon (R)		4		1	32	
SH11-VM1	Virtual						Enterprise					
SH11-VM2	Virtual						Standard					
<b>Total Core License Requirement</b>											62	8

## Step 1: Be Ready with Machine Properties and Inventory

The first section of this report, **Machine Properties and Inventory**, represents the first set of data that will be needed to determine the licensing requirements for SQL Server 2014. This data is specific to the servers on which SQL Server is installed and includes:

- The computer name (server name) and whether it is a physical or virtual deployment
- The number of processors on the server
- The number of cores in the processor
- The total number of physical cores in the server
- The processor name and model
- The SQL Server edition that is running on the server.

Machine Properties and Inventory							
Computer Name	Machine Type	Machine Serial Number	Number of Processors	Cores per Processor	Total Physical Cores	CPU	SQL Server Edition Installed
PPE-SHOST-52	Physical	D12983	2	4	8	Intel (R) Xeon (R)	Standard
PPE-SHOST-53	Physical	D12984	2	6	12	Intel (R) Xeon (R)	Enterprise
PPS-SHOST-54	Physical	D16897	2	12	24	AMD Opteron 6172 - 12 core Processor	Enterprise
HPD-SHOST-11	Host	4JK924	4	8	32	Intel (R) Xeon (R)	
SH11-VM1	Virtual						Enterprise
SH11-VM2	Virtual						Standard

If you don't have this information readily available, you can find detailed guidance on how to collect this data using the MAP Toolkit in the appendix of this document. Once you are able to gather where SQL Server is running in your organization, the next step is to understand which of those servers have SQL Server processor licenses assigned to them.

## Step 2: Assign Processor Licenses

Machine Properties and Inventory								Processor Licenses Assigned	
Computer Name	Machine Type	Machine Serial Number	Number of Processors	Cores per Processor	Total Physical Cores	CPU	SQL Server Edition Installed	Enterprise	Standard
PPE-SHOST-52	Physical	D12983	2	4	8	Intel (R) Xeon(R)	Standard		2
PPE-SHOST-53	Physical	D12984	2	6	12	Intel (R) Xeon(R)	Enterprise	2	
PPS-SHOST-54	Physical	D16897	2	12	24	AMD Opteron 6172 - 12 core Processor	Enterprise	2	
HPD-SHOST-11	Host	4JK924	4	8	32	Intel (R) Xeon(R)		4	
SH11-VM1	Virtual						Enterprise		
SH11-VM2	Virtual						Standard		

For this section of the report, you will need to know which processor licenses are assigned to each server. To gather this information, for each physical machine or host machine listed in the report you will need to:

1. Review the edition of SQL Server (e.g., Datacenter, Enterprise or Standard) installed on that machine or installed in VMs hosted on that machine.

**Note on virtual deployments:** When renewing from processor licenses into core licenses, the number of core licenses you will renew into will be based on the attributes of the host machine and not the VMs. In the process of creating a SQL Server Transition Report, the VMs are examined only to identify where SQL Server is installed and what edition is running.

2. Determine the SQL Server edition of processor licenses assigned to the machine that are covered with Software Assurance.

**Note on SQL Server Datacenter, Workgroup or Web Processor licenses:** If you have these editions, you will need to add the relevant columns into the "Processor Licenses Assigned" section. If you own SA on these editions, these licenses will be renewed into core licenses as follows:

- a) Datacenter Processor licenses will renew into a minimum of eight Enterprise Edition core licenses.
- b) Workgroup Processor licenses will renew into a minimum of four Standard Edition core licenses.
- c) Web Edition Processor licenses will renew into a minimum of four Standard Edition core licenses.

If these licenses are assigned to processors with more than the minimum mentioned above, you are eligible to renew into your actual core license needs.

**Note on Server + CAL Licenses:** Many customers have both processor licenses and server licenses (server + CAL licensing model). Any machine licensed Server + CAL must be hidden or removed from this report, as those licenses remain server + CAL licenses and are not renewed into core licenses. Only workloads fully licensed by eligible processor licenses under active SA are eligible for transitions into core licenses.

**Note on Cross Edition Rights:** While all the processor licenses assigned to a particular computer are typically of the same edition, an installation can be properly licensed by assigning processor licenses of multiple editions and leveraging cross-edition rights.

3. Enter the processor license count for each edition into the "Processor Licenses Assigned" columns. The number of processor licenses eligible for renewal into more than the minimum number of core licenses cannot be greater than the number of physical processors on the server. If more processor licenses under SA have been assigned to a server than physical processors exist, they are eligible for the minimum renewal into cores. If processor licenses are not assigned to a specific server, these licenses will be eligible for the minimum SQL Server 2014 core values.

### Step 3: Assign the Core Factor

Machine Properties and Inventory								Processor Licenses Assigned		Core Factor Assigned
Computer Name	Machine Type	Machine Serial Number	Number of Processors	Cores per Processor	Total Physical Cores	CPU	SQL Server Edition Installed	Enterprise	Standard	Core Factor
PPE-SHOST-52	Physical	D12983	2	4	8	Intel (R) Xeon(R)	Standard		2	
PPE-SHOST-53	Physical	D12984	2	6	12	Intel (R) Xeon(R)	Enterprise	2		1
PPS-SHOST-54	Physical	D16897	2	12	24	AMD Opteron 6172 - 12 core Processor	Enterprise	2		.75
HPD-SHOST-11	Host	4JK924	4	8	32	Intel (R) Xeon(R)		4		1
SH11-VM1	Virtual						Enterprise			
SH11-VM2	Virtual						Standard			

The *core factor* is a multiplier used in calculating the number of core licenses you will need for a server with a given processor type. To simplify the Transition Report, focus on those servers containing more than four cores per processor. (All servers with processors containing four cores or less will renew into the minimum core renewal amounts.) The core factor for the remaining servers can be left blank in the report.

For the remaining applicable servers (with more than four cores per processor), you will need to determine the core factor for the specific type of processors running on each physical and host machine. The core factor table works by multiplying the total number of cores on the server by the core factor that is associated with the processor type in the server. For each physical machine or host machine listed in the report:

- Review the type of the CPU and the number of physical cores for that CPU.
- Enter a value for the **Core Factor** from the table below into the "Core Factor Assigned" column.

Processor Type	Core Factor*
All processors not mentioned below	1
AMD 31XX, 32XX, 33XX, 41XX, 42XX, 43XX, 61XX, 62XX, 63XX Series Processors with 6 or more cores	0.75
Dual Core Processors	2
Single Core Processors	4

\*This Core Factor Table is subject to change. Please refer to the SQL Server 2014 PUR to ensure that you have the current Core Factor Table.

## Step 4: Calculate the Core Licenses Needed for Each Machine

Machine Properties and Inventory								Processor Licenses Assigned		Core Factor Assigned	Core Licenses Needed	
Computer Name	Machine Type	Machine Serial Number	Number of Processors	Cores per Processor	Total Physical Cores	CPU	SQL Server Edition Installed	Enterprise	Standard	Core Factor	Enterprise	Standard
PPE-SHOST-52	Physical	D12983	2	4	8	Intel (R) Xeon (R)	Standard		2			8
PPE-SHOST-53	Physical	D12984	2	6	12	Intel (R) Xeon (R)	Enterprise	2		1	12	
PPS-SHOST-54	Physical	D16897	2	12	24	AMD Opteron 6172 - 12 core Processor	Enterprise	2		.75	18	
HPD-SHOST-11	Host	4JK924	4	8	32	Intel (R) Xeon (R)		4		1	32	
SH11-VM1	Virtual						Enterprise					
SH11-VM2	Virtual						Standard					

The next step in the SQL Server 2014 Transition Report is to calculate the core licenses needed for each machine.

### 1. Calculate core license requirements using your processor licenses assigned.

First, you will need to calculate core licensing requirements based on your Processor license edition:

- Multiply the **Processor Licenses Assigned** by 4 for each processor license (or 8 if the processor license is for SQL Server 2008 R2 Datacenter Edition).
- Enter this number in the appropriate **Core Licenses Needed** column for each physical machine.

### 2. Calculate core license requirements using your hardware inventory and core factor.

Next, you will need to calculate the number of core licenses required for each physical machine or host machine in the Transition Report with a core factor (servers containing processors with more than four cores).

There is one exception for which adjustments may need to be made prior to calculating your core licenses, which should only apply to a small percentage of servers:

- AMD Bulldozer Processors (Opteron 3200, 4200 and 6200 series) may not be represented correctly in the MAP report with regard to the total number of cores. Windows Server 2008 R2 or newer for example may report a 16 core processor as only having eight physical cores. Core licensing requirements must be calculated based on the total number of cores in those processors. You can qualify these by looking at the CPU column to see the physical name and number of cores. You may need to manually adjust the "Cores per Processor" column to match this number.

To calculate the total number of core licenses required for each physical machine or host machine listed in the report:

- Multiply the **Total Physical Cores** by the **Core Factor** to determine the number of core licenses required to properly license the installation.
- If greater than the value calculated from the processor license, enter this number into the appropriate **Core Licenses Needed** column for the correct edition of SQL Server deployed.

**Example 1:**  
Enterprise Edition running on 2 processors  
with 6 cores and a core factor of 1

$$\begin{array}{r}
 2 \text{ (total processors on the server)} \\
 6 \text{ (cores per processor)} \\
 \times \quad 1 \text{ (core factor from the table below)} \\
 \hline
 = \quad 12 \text{ core licenses required}
 \end{array}$$

**Example 2:**  
Standard Edition running on 2 processors  
with 12 cores and a core factor of 0.75

$$\begin{array}{r}
 2 \text{ (total processors on the server)} \\
 12 \text{ (cores per processor)} \\
 \times \quad 0.75 \text{ (core factor from the table below)} \\
 \hline
 = \quad 18 \text{ core licenses required}
 \end{array}$$

**Step 5: Determine the Total Core License Requirement**

Machine Properties and Inventory								Processor Licenses Assigned		Core Factor Assigned	Core Licenses Needed	
Computer Name	Machine Type	Machine Serial Number	Number of Processors	Cores per Processor	Total Physical Cores	CPU	SQL Server Edition Installed	Enterprise	Standard	Core Factor	Enterprise	Standard
PPE-SHOST-52	Physical	D12983	2	4	8	Intel (R) Xeon (R)	Standard		2			8
PPE-SHOST-53	Physical	D12984	2	6	12	Intel (R) Xeon (R)	Enterprise	2		1	12	
PPS-SHOST-54	Physical	D16897	2	12	24	AMD Opteron 6172 - 12 core Processor	Enterprise	2		.75	18	
HPD-SHOST-11	Host	4JK924	4	8	32	Intel (R) Xeon (R)		4		1	32	
SH11-VM1	Virtual						Enterprise					
SH11-VM2	Virtual						Standard					
<b>Total Core License Requirement</b>											62	8

The final step is to sum up the total number of core licenses that you are eligible to renew your processor licenses into for all your servers. Select the **Core Licenses Needed** column header in the Excel workbook and view the calculated sum of the column at the bottom of the frame.

## At the time of Renewal

### Renewing Software Assurance on processor licenses

If you are renewing Software Assurance into core licenses, there are a couple of final things to consider:

1. You must renew into the total number of core licenses required for each server.
2. Processor licenses will be exchanged for core licenses. Once renewed, you will now own core licenses instead of processor licenses.

### Not Renewing

If you choose not to renew Software Assurance on your processor licenses, you should consider the following:

1. You can continue to run SQL Server 2008 R2 under the processor use rights with the license.
2. Processor licenses with active Software Assurance expiring after April 1, 2014 have upgrade rights to SQL Server 2014 based on specific use rights. For the purposes of determining SQL Server 2014 use rights, if you upgrade to SQL Server 2014 core-based software, you will use a fixed (perpetual) "core equivalence" value for each existing SQL Server 2008 R2 processor license with expiring SA. This core equivalence value is equal to either:
  - a. The minimum number of core licenses that could have been renewed into; or
  - b. The actual number of cores in a physical processor, multiplied by the applicable core factor for that processor type. You can use the above transition report as an inventory of the actual number of cores in use to document perpetual SQL Server 2014 core equivalent values for your processor licenses.
3. The total number of processor licenses eligible to receive more than the minimum core equivalency cannot exceed the total number of physical processors in the licensed server.
4. Processor licenses with fixed core equivalence values can be combined with SQL Server 2014 core licenses of the same edition to support deployment on hardware that requires additional core licenses.

For more information, please see the SQL Server 2014 Licensing Guide at <http://go.microsoft.com/fwlink/?LinkId=230678>, or contact your local Microsoft representative.

## Appendix: Microsoft Assessment and Planning (MAP) Toolkit

The Microsoft Assessment and Planning (MAP) Toolkit provides customers a valuable resource for determining SQL Server 2014 core licensing requirements for their deployed SQL Server databases. The MAP Toolkit, available as a free download, is an agentless utility that can be configured to scan the servers in the environment. The MAP Toolkit can generate reports that describe the SQL Server instances, virtual host to guest mappings and physical machine properties that are required to generate a SQL Server 2014 Transition Report.

## Discover SQL Server installations

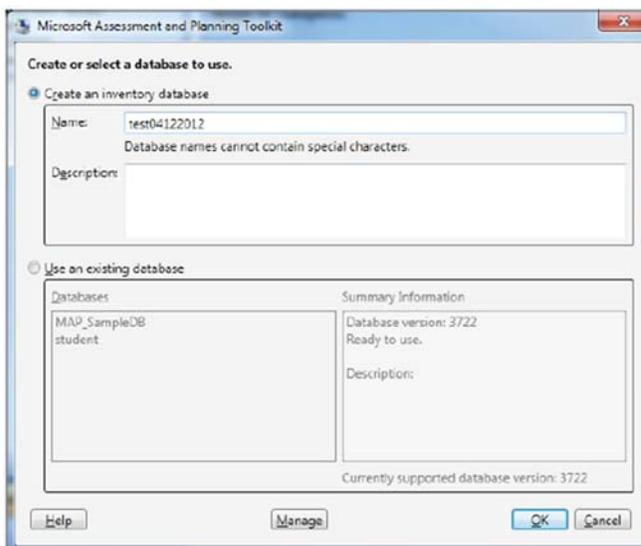
The MAP Toolkit provides agentless functionality to discover SQL Server installations throughout the environment and generate reports. The following sections provide steps to obtain and configure MAP:

Note: Due to an OS incompatibility in Windows XP and Windows Server 2003, the MAP Toolkit may be unable to inventory the number of physical cores for a computer. To address this, install the following QFEs on these machines before running the MAP scan:

- [http://support.microsoft.com/kb/936235 \(Windows XP\)](http://support.microsoft.com/kb/936235)
- [http://support.microsoft.com/kb/932370 \(Windows Server 2003\)](http://support.microsoft.com/kb/932370)

## Install the MAP Toolkit

Identify a computer in the environment where MAP will be installed. MAP can be installed on a Windows Desktop or Windows Server machine (full specification in the MAP ReadMe file) which has connectivity to the servers throughout the environment where SQL Server is installed.

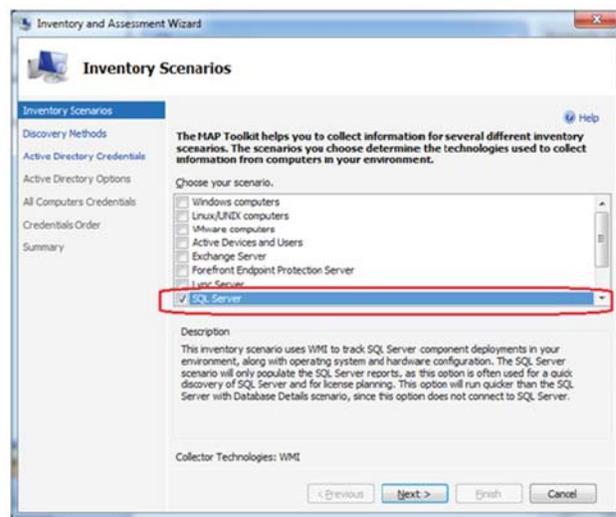


The steps to install MAP are as follows:

1. Download the most recent version of the MAP Toolkit from [www.microsoft.com/map](http://www.microsoft.com/map).
2. Run the *Microsoft Assessment and Planning Toolkit Setup Wizard*, which will guide you through the installation of the application files and SQL Server database. [Note: This step requires local administrator rights on the computer.]
3. Launch MAP from the Start Menu.
4. You will be asked to create a new inventory database to store the inventory results. (See below). Give the database a descriptive name and then click OK. [Note: Subsequently, you can get to this screen from the File menu > Select A Database.]

## Set Up the SQL Server Scan

Once installed, it is necessary to tell MAP what to scan, provide appropriate credentials to inventory the target machines, and start the scan. Launch the *Inventory and Assessment Wizard* by selecting the “Go” button to the right of “Perform an Inventory”.



The *Inventory and Assessment Wizard* is fully documented in the Getting Started Guide that is installed as part of the download (“Section 2: Collect Inventory”). It is important to specify the following inventory scenarios in order to retrieve the data needed to populate a Transition Report (see below):

- **SQL Server**
- **VMware computers (if VMware is in use)**

The remaining pages of the wizard focus on setting the scope of the MAP scan, and providing the necessary credentials. Note: MAP requires the credentials of one or more domain accounts with Local Administrator rights to access the remote Windows environments where SQL Server is installed. The final page of the wizard provides a summary of the settings, and will start the scan once the “Finish” button is pressed. A status screen provides updates and indicates completion.

## Specific Notes:

- **Make sure the configuration is complete:** MAP only scans usage on servers and network segments identified during configuration. Incomplete configuration will give incomplete results
- **Scan over a period of time when the maximum number of servers and VMs are running:** MAP only counts servers running at the time it scans. If the number of machines fluctuates seasonally, run the scan in the busiest season.
- **Repeat scans are incremental:** MAP will add newly discovered installations to its local store if a scan is repeated. This provides a convenient way to capture a broad set of machines, since scans can be repeated multiple times.
- **Access through firewalls:** MAP requires exceptions for Remote Administration, File and Print access and WMI access in order to inventory the remote environments. [Full details in the *Getting Started Guide*]

## Generate MAP Reports

Once the scan has been completed, the following reports can be generated:

- SQL Server Usage Tracker Report
- Inventory Results Report

The steps to generate the SQL Server Usage Tracker Report are as follows:

- Open the MAP console.
- Navigate to the "SQL Server" node under the "Software Usage Tracking" node.
- Click the "Generate report" link under "Tasks" (top right).

This action causes an Excel workbook to be created in the My Documents folder of the server or workstation where MAP is installed. You can also click the view menu to access it.

The file is named:

**SQLServerUsageTracker-<date & timestamp>.xlsx**

The steps to generate the Inventory Results report are as follows:

- Navigate to the "Machine Summary" node under the "Data Collection" node.
- Click the "Generate report" link under "Tasks" (top right).

Similar to the above, this action causes an Excel workbook to be created in the My Documents folder of the server or workstation where MAP is installed.

The file is named:

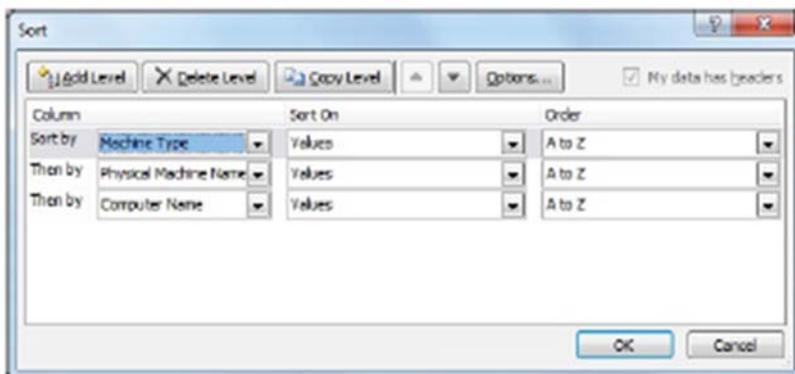
**InventoryResults-<date & timestamp>.xlsx**

# SQL Server 2014 Transition Report: Isolate Inventory

The SQL Server 2014 Transition Report is derived from the SQL Server Usage Tracker Report generated by the MAP Toolkit. Take a copy of the SQL Server Usage Tracker workbook produced by MAP and isolate the inventory for the Transition Report as follows:

- **Select the “SQL Server License Tracking” Sheet.** Open the copy of the workbook and select the SQL Instance Details sheet. Each row in the report represents an instance of SQL Server that has been discovered by MAP.
- **Sort rows by: Machine Type, then Physical Machine Name.** Apply a multi-level sort by selecting the table header row and all rows in the table, and then choose the Sort option from the Data menu.

See below:



Also, check for multiple instances of SQL Server running on the same machine, and retain the highest edition. Additionally, if there are standby systems such as instances within clusters that are not running and do not require a separate license, then delete those rows as well.

# SQL Server 2014 Transition Report: Review Inventory

It is important to review the data from the MAP reports to ensure that it is complete and accurate. Specific issues to be addressed are:

Issue	Resolution
<b>Deployments where only components are installed</b>	<p>This occurs when a component such as Analysis Services, Reporting Services or Integration Services is deployed, but no SQL Server instance is installed. To address this, update the Transition Report by specifying the computer manually.</p> <p>Note: You can use the Component tab of the SQL Server Assessment MAP report to determine these machines.</p>
<b>Missing Host to Guest Mappings</b>	<p>This can occur when MAP does not have access to the host servers.</p> <p>Update the Transition Report by providing the Physical Machine Name manually.</p>
<b>Missing Physical Processor Core count</b>	<p>This can occur due to an OS incompatibility in Windows XP and Windows Server 2003. To address this:</p> <ul style="list-style-type: none"><li>• Update the Transition Report manually; or</li><li>• Apply QFEs and re-run the MAP scan <b>with a new database</b> (Note: A new database is necessary because MAP scans are incremental). QFEs are:<ul style="list-style-type: none"><li>– <a href="http://support.microsoft.com/kb/936235">http://support.microsoft.com/kb/936235</a> (Windows XP)</li><li>– <a href="http://support.microsoft.com/kb/932370">http://support.microsoft.com/kb/932370</a> (Windows Server 2003)</li></ul></li></ul>
<b>Unknown versions of SQL Server</b>	<p>This can occur due to evaluation editions or partial installs/uninstalls.</p> <p>Update the Transition Report by deleting these rows manually.</p>

# SQL Server 2014 Transition Report: Add VM Hosts

The SQL Server Usage Tracker Report generated by the MAP Toolkit lists all the discovered instances of SQL Server and the machine properties of the computers where SQL Server is installed. It does not, however, provide details of any VM hosts which are hosting VMs where SQL is installed. This information must, therefore, be added manually.

The name of the VM host is provided by the **Physical Machine Name** column in the SQL Server Usage Tracker. The Inventory Results report contains the details for that computer.

- **Add Virtual Hosts for VMs.** The sort operation grouped VMs by VM host (i.e. Physical Machine Name). For each VM host, review the entire list of values in the Computer Name column of the Transition Report to determine if that VM host is already listed.
  - **If the host is already present** in the **Computer Name** column, insert a copy of that row above group of VMs with that host name, change the Machine Type to "Host", and delete the original row.
  - **If the host is not listed** in the **Computer Name** column, add an entry for this host by selecting the row containing the first VM with that value in **Physical Machine Name**, and inserting a new row. Populate the fields as follows:

Column	Value
<b>Computer Name</b>	<enter the name of the VM host>
<b>Machine Type</b>	"Host"
<b>Physical Machine Name</b>	"N/A"
<b>SQL Server Product Name</b>	<leave blank>
<b>SQL Server Edition</b>	<leave blank>
<b>CPU</b>	<find value in corresponding row in Inventory Results MAP report>
<b>Machine Serial Number</b>	<find value in corresponding row in Inventory Results MAP report>
<b>Number of Processors</b>	<find value in corresponding row in Inventory Results MAP report>
<b>Number of Total Cores</b>	<find value in corresponding row in Inventory Results MAP report>

## SQL Server 2014 Transition Report: Assigned and Calculated Values

Once the inventory for the Transition Report has been assembled, add columns for the assigned and calculated values:

- Create six new columns in the table. Title the new columns:
  - Number of Cores Per Processor
    - Calculate this column by:  $(\text{Number of Cores}) / (\text{Number of Processors})$
  - Enterprise Processor Licenses
  - Standard Processor Licenses
  - Core Factor
  - Enterprise Core Licenses
  - Standard Core Licenses
- Optionally reformat the table to look like the Transition Report sample shown previously.

# Links and References

The following links offer SQL Server 2014 and MAP reference material:

SQL Server website

<http://www.microsoft.com/sqlserver/en/us>

SQL Server 2014 Licensing Overview

<http://www.microsoft.com/sqlserver/en/us/get-sql-server/licensing.aspx>

SQL Server 2014 Licensing Guide

<http://go.microsoft.com/fwlink/?LinkId=230678>

Microsoft Assessment and Planning (MAP) Toolkit

<http://technet.microsoft.com/en-us/library/bb977556.aspx>

## **Windows Hotfix:**

Windows 7 and Windows Server 2008 R2 optimization issue for certain AMD hardware

<http://support.microsoft.com/kb/2645594>