



Microsoft®

System Center Operations Manager

Guide to SQL Server Dashboards

Microsoft Corporation

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The Operations Manager team encourages you to provide any feedbacks on this guide by sending them to sqlmpsfeedback@microsoft.com.

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Guide to SQL Server Dashboards

SQL Server Dashboards represent an accessible template designed to create and customize visualizations for any of your tasks.

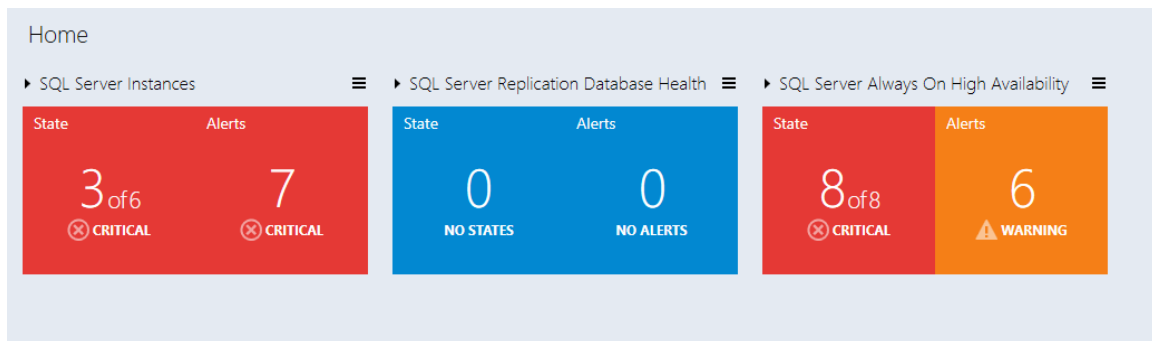
This guide is based on version 7.0.0.0 RTM of the Management Pack for Microsoft SQL Server 2017+.

Introduction to Microsoft SQL Server Dashboards

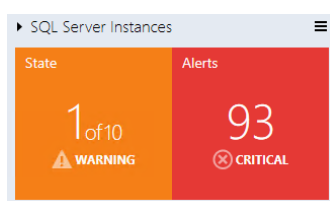
Microsoft SQL Server Dashboards provides an ability to create and customize visualization on the fly. There are two views in the SQL Server Dashboards; Datacenter and Instance. The Datacenter view is an aggregated view. The Instance level provides detailed information about the selected object.

Datacenter View

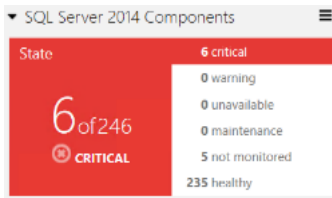
The Datacenter view is the home page of the Dashboard, which provides information about the datacenter health state in an aggregated way. It is possible to drill down from the Datacenter view to the Instance view in order to investigate the root cause of the issue. It is possible to return to the home page from any Instance view by clicking the Home part of the navigation pane.



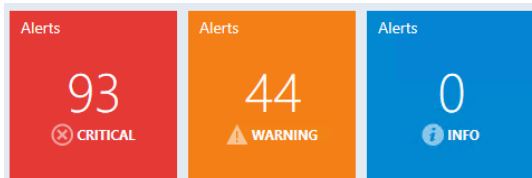
Datacenter View Tiles



All group tiles on the Datacenter view are collapsed by default. A tile consists of two parts; the left part displays the number of objects within a group in the worst state and a total number of objects. The right part of the widget displays the number of alerts with the highest severity.



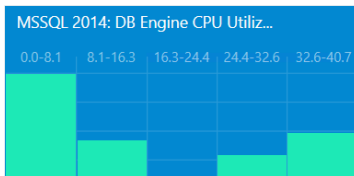
The expanded mode shows the number of objects in other states in addition to the data, which is displayed in the collapsed mode.



By default, the expanded mode displays three Alert widgets: Critical, Warning and Info. The number of alerts for each alert type is displayed within the corresponding widget.



The Aggregated state monitor tile provides the number of the objects' selected classes per state.



The Aggregated performance tile shows five columns each representing the number of the objects' selected classes in the current data range.



Note

Use menu button in the upper right corner of the Datacenter View to add a new group. In order to add a new tile in a group, use menu button in the upper right corner of the group.



Note

It is possible to edit or remove the tile by selecting a corresponding menu item from the right-click context menu.



Note

Background color, time interval, and refresh rate settings applied to Datacenter View and all Instance Views can be set from the Datacenter View menu and Instance View menu.

Instance View

Instance view of the Dashboard opened while drilling into a group or an object from the previous Instance view or Datacenter Dashboard is provided below:

Summary

Home ▶ SQL Server Instances

SQL Server Instances objects

Filter

- ⊖ **CRITICAL**
 - KDVCLUSTER2.MSSQLSERVER
 - W16BOX-VNEXT1-3.MSSQLSERVER
 - W16BOX-VNEXT1-3.VNEXTCTP
- ⊕ **HEALTHY**
 - SQLAON-037.MSSQLSERVER
 - SQLAON-038.MSSQLSERVER
 - W16BOX-VNEXT1-3.SQLEXPRESS_TRUE

Details

Class
MSSQL on Windows: Local DB Engine

Account Name
kdv\administrator

Audit Level
Failure

Authentication Mode
Mixed Mode (Windows Authentication and SQL Server Authentication)

Cluster
True

Connection String
KDVCLUSTER2.KDV/local

Display Name
KDVCLUSTER2.MSSQLSERVER

Monitoring

Related Objects State Alerts

1 of 9

⊗ CRITICAL

1

⊗ CRITICAL

DB Engine Health Status

✓

HEALTHY

20.10.2017 14:03:01

Blocking Sessions

✓

HEALTHY

20.10.2017 14:03:01

Managed Backup System Health Policy

⊗

CRITICAL

20.10.2017 14:03:09

Managed Backup User Action Health...

⚠

WARNING

20.10.2017 14:03:09

Service Pack Compliance

✓

HEALTHY

20.10.2017 14:03:01

Service Principal Name...

✓

HEALTHY

20.10.2017 14:03:03

Stolen Server Memory (MB)

✓ HEALTHY ↑ 1,9·10³ MB

Active Alerts (7) Show alerts from all levels

Filter	Name	Age	Resolution State	Repeat Count
	⚠ MSSQL on Windows: The...	0 Day(s), 1 hour(s)	New	0
	⚠ MSSQL on Windows: XTP...	0 Day(s), 1 hour(s)	New	0
	⚠ MSSQL on Windows: XTP...	0 Day(s), 1 hour(s)	New	0
	⚠ MSSQL on Windows: Average...	0 Day(s), 1 hour(s)	New	0
	⚠ MSSQL on Windows: Average...	0 Day(s), 1 hour(s)	New	0
	⊗ MSSQL on Windows: The...	0 Day(s), 1 hour(s)	New	0
	⊗ MSSQL on Windows: Database...	0 Day(s), 1 hour(s)	New	0

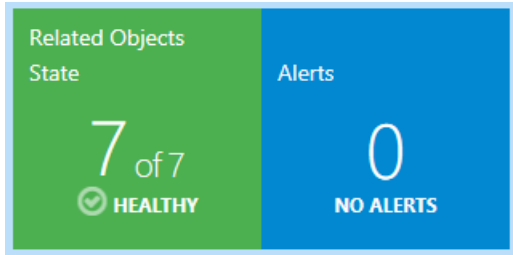


Note

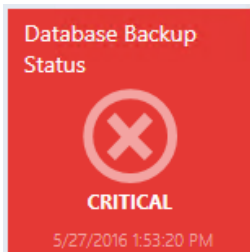
Double-click the name of an object in the object widget to drill down to Instance Dashboard of the related objects (double-click Related Objects tile does the same). “Back” button is available in the upper-left corner of the navigation pane for navigating back to the previous Instance View.

Instance View Tiles

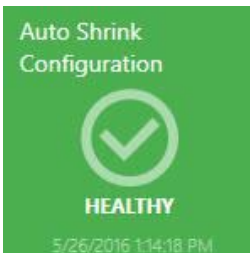
The tiles display information about the current state of the monitors as well as the latest performance data. Depending on the current state and the configuration, the tiles will have different background colors and layout. Please refer to examples below for illustrations of the tile capabilities.



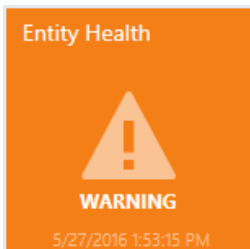
Related objects tile displays the number objects that are either hosted on the selected entity or linked by a containment. Double-clicking the tile opens Instance View for the related objects.



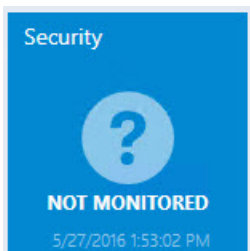
The monitor is in a critical state.



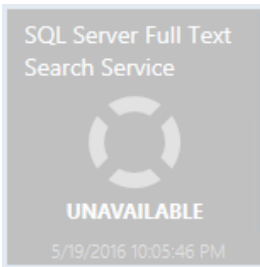
The monitor is in a healthy state.



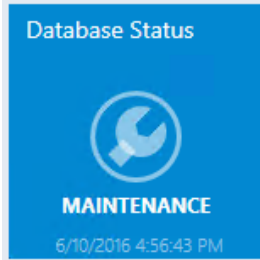
The monitor is in a warning state.



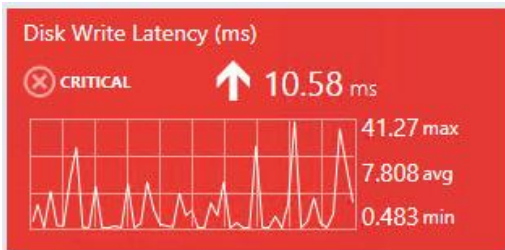
The monitor is disabled.



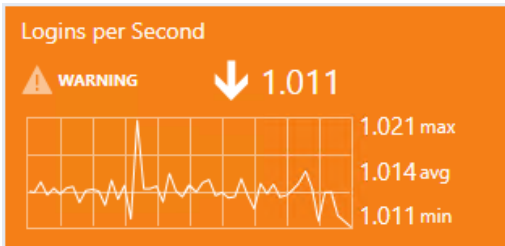
The monitor is unavailable.



The monitor is under maintenance.



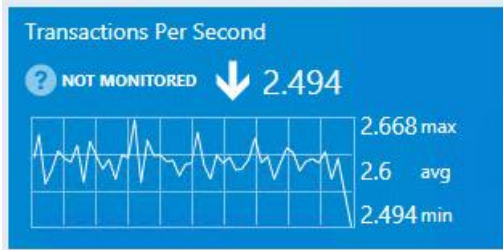
The monitor is in a critical state. The data for the selected Time Range is being displayed.



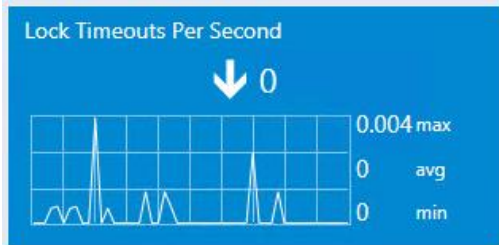
The monitor is in a warning state. The data for the selected Time Range is being displayed.



The monitor is in a healthy state. The data for the selected Time Range is being displayed.



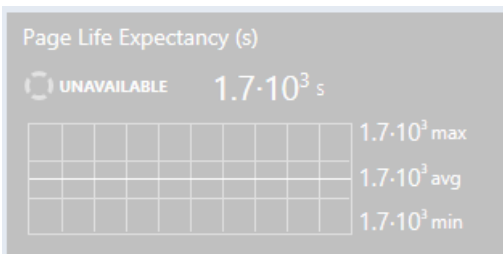
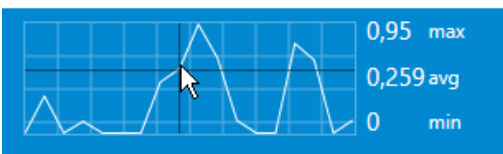
The monitor is disabled. The data for the selected Time Range is being displayed.



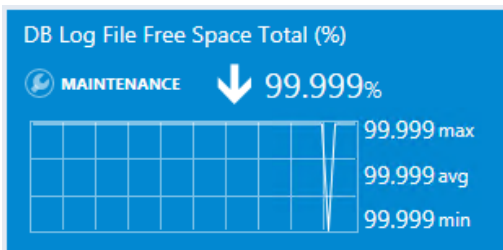
The performance counter has no correlated monitor (note that there is no icon in the top-right corner). The data for the selected Time Range is being displayed.

Date	Value
6/10/2015 1:43	0,558 %

It is possible to view the exact value of the performance metric by hovering the cursor over the performance chart.



The monitor is unavailable. The data for the selected Time Range is being displayed.



The monitor is under maintenance. The data for the selected Time Range is being displayed.

How to Create and Configure a Datacenter Dashboard

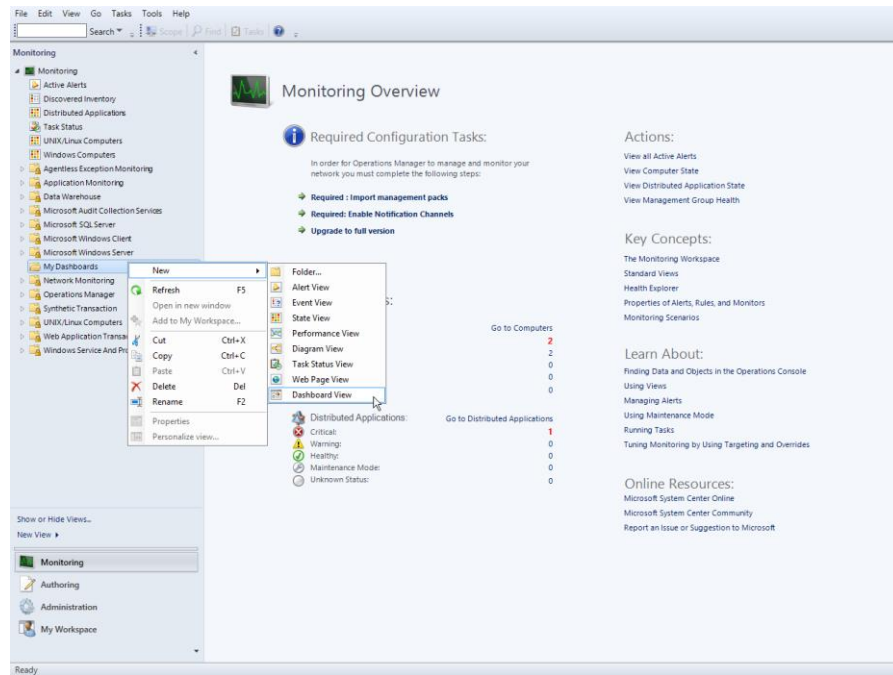
Create Datacenter and Instance Dashboards

Create a Datacenter Dashboard

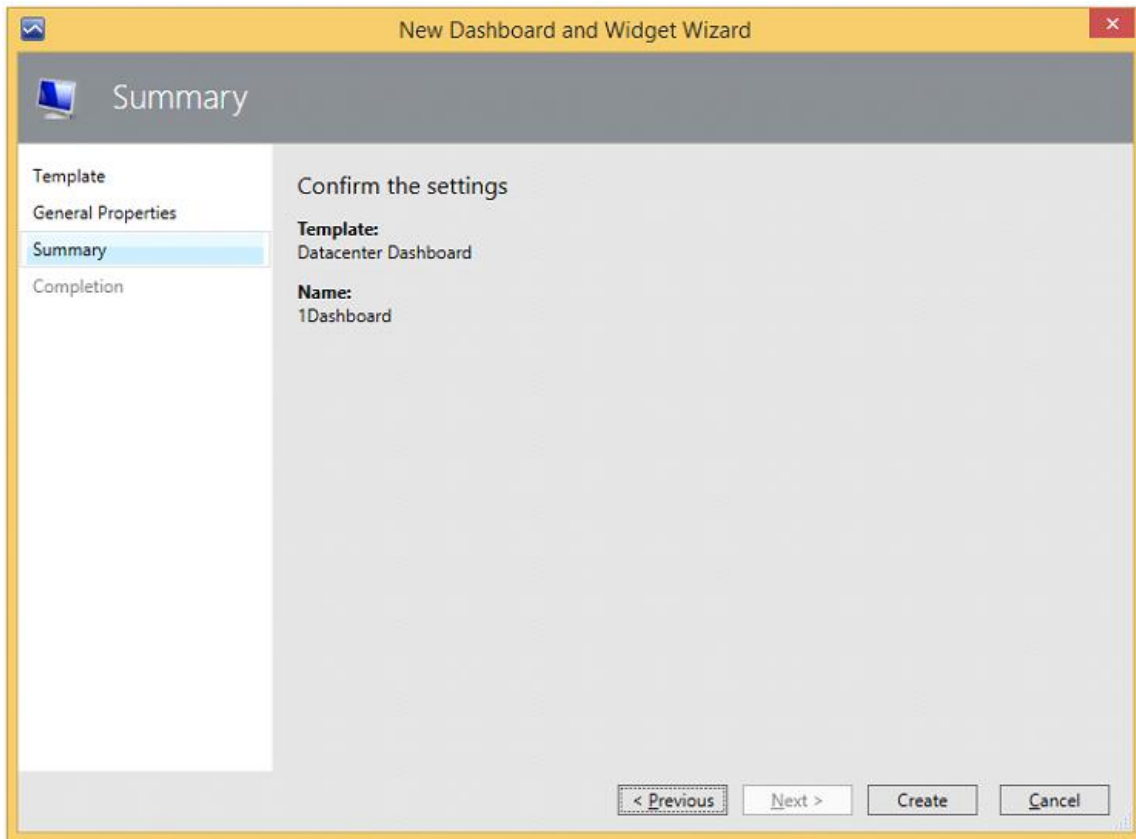
Open “New Dashboard and Widget Wizard”

Go to “Monitoring” tab and select the folder for a new Dashboard.

Right click -> New -> Dashboard View.



On “New Dashboard and Widget Wizard” page select “SQL Server Dashboards” template. Specify the new Dashboard name and Click “Create” button:



The name of the dashboard is used as a display name, while the description filed is not displayed on the dashboard.

Initial State of a Newly Created Datacenter Dashboard


A new Dashboard has no groups by default, and only “Home” note (not clickable) that represents the root of breadcrumbs and Datacenter Menu. Note that while the dashboard is in “Loading...” state, the Hamburger button and “Home” title are not displayed.

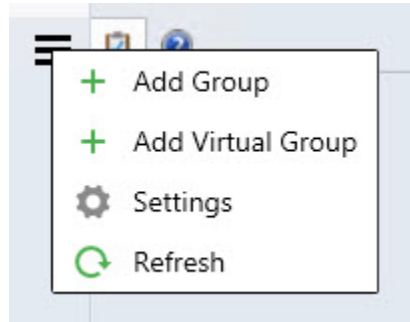


Adjust Datacenter Dashboard

To set up a Datacenter Dashboard, it is necessary to add some Groups and to provide corresponding widgets to each Group.

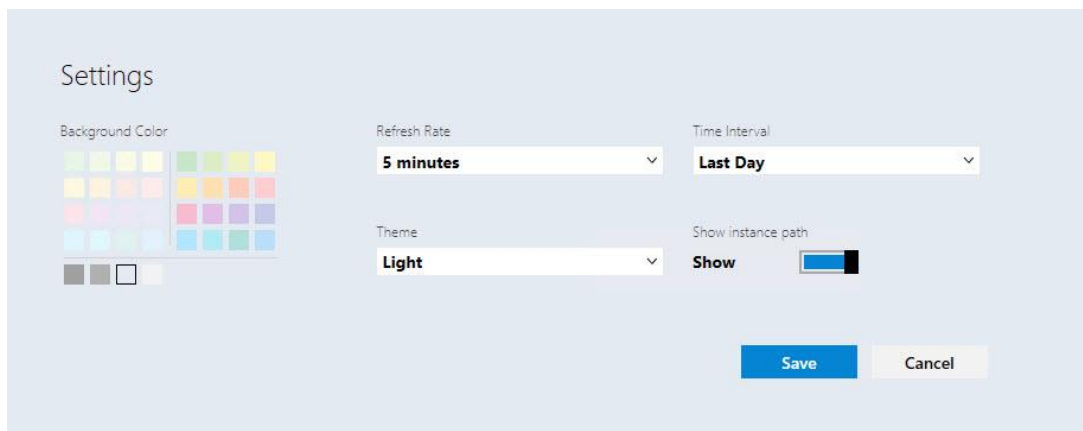
Personalization of Datacenter View

Datacenter Dashboard menu is accessible by left or right click on the  menu button; it allows user to add a group, add a virtual group, configure the settings and refresh the Dashboard.

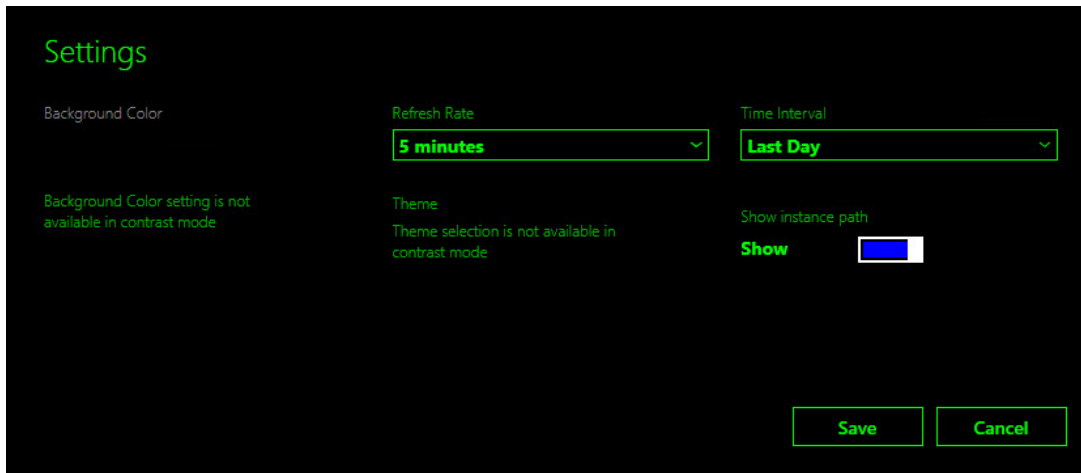


Available settings are as follows:


- “Refresh Rate” – this setting defines how often the Dashboard refreshes the data on a client. This setting does not change the actual collection frequency of metrics on a server. The refresh rate can be set as 5 (default), 15 and 30 minutes.
- “Time Interval” – this setting defines for which period the data should be displayed. The Performance widget on the “Instance” view depends on this setting. The time interval can be set as “Last Day”, “Last Week” and “Last Two Weeks”.
- “Background Color” – this setting allows changing the background color for all views.
- “Theme” – this setting allows choosing “Light” or “Dark” theme for the Dashboard. Background color can be changed manually.
- “Show instance path” checkbox is switched on by default (for more details, see [SQL Instance path property](#) section); when it is switched off, the “Show” title is changing to “Hide”.



- “Contrast” theme is automatically activated, when the corresponding system theme is used. Background and font colors are picked from the system palette.



Add a Group

Click  menu button and select “+ Add Group” item from the drop-down. It is also possible to search for the desired group in “Add group” dialog by typing a corresponding group name.

“Add Group” dialog requires “GROUP” ComboBox field and “DISPLAY NAME” field. When “GROUP” ComboBox field is in the focus, “It is required to select a group” hint is displayed. When “DISPLAY NAME” field is in the focus, “The field is required” hint is displayed. The “GROUP” ComboBox field is in the focus by default after opening “Add Group” view.



Note

The red highlighting disappears only after entering valid data in the field.

The user can open dropdown list of the available groups or type part of a group name and best match groups will be displayed in the dropdown list. The information entered in “GROUP” field can be deleted by pressing “X” button.



To select a group, choose one in the dropdown list (the groups in the dropdown list should be placed in alphabet order). “DISPLAY NAME” field should be populated with a name as well, unless the user has already defined a name.

If the selected group is already added on the board, “The name already exists” hint is displayed when “DISPLAY NAME” field is in the focus.

Note that “Add” button changes its state when it is disabled.

When Data Center dashboard is loaded for the first time or refreshed by the refresh option from Dashboard Menu, a special blink animation is displayed.

 **Note**

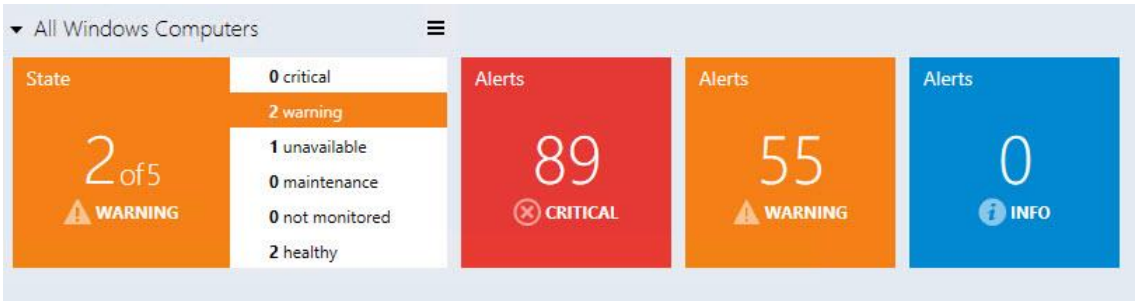
It is possible to create a custom group and populate it with a desired set of objects. Refer to [TechNet](#) for guidance.

New added group is displayed in collapsed (minimized) state by default. To expand the panel click the arrow symbol on the right from the group name.



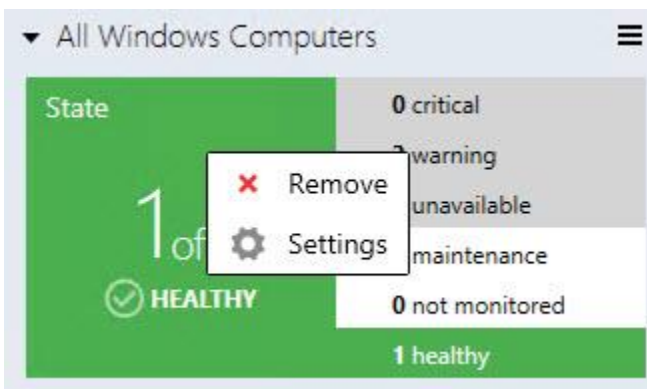
“State” part of the widget displays the worst state of its object, and it is colored according to the represented state (priority list looks like this: critical, warning, unavailable, maintenance, not monitored, healthy). Critical state is red, warning – yellow, unavailable – gray, healthy is green and the rest are blue. For alerts, priority/colors are as follows: critical - red, warning - yellow, info - blue.

In Expanded Mode, State widget changes its representation.

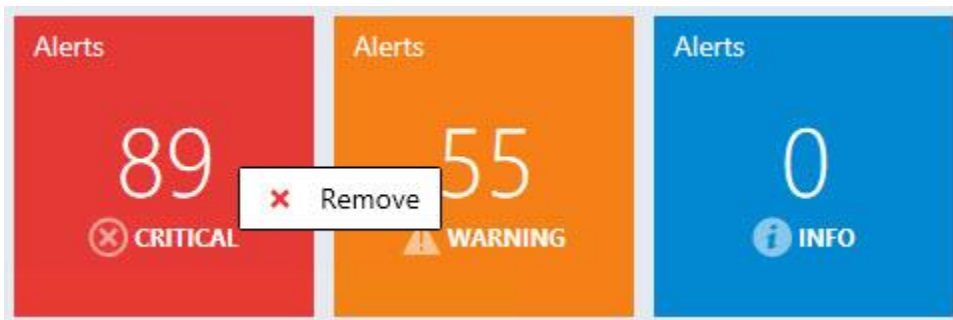


It still displays the worst state and is colored according to the represented state (the priority list looks as follows: critical, warning, unavailable, maintenance, not monitored, healthy), but it also lists all possible states and shows the number of objects in the states.

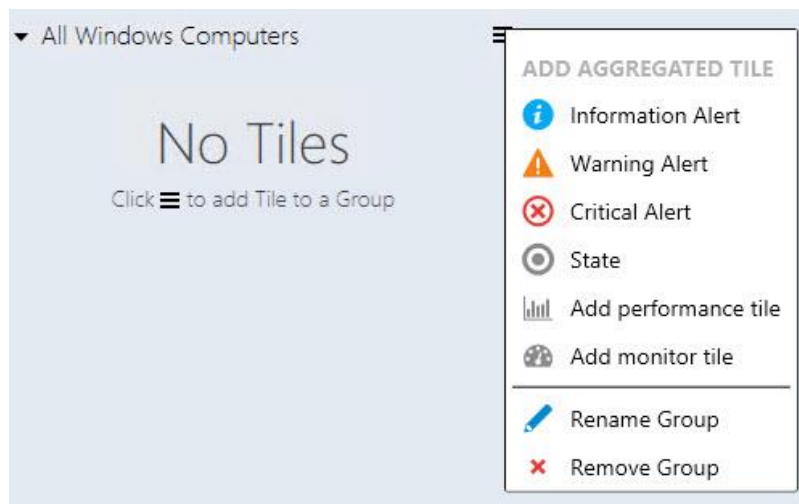
Context menu of "State" tile allows removing it and opening of Enabled States view.



All other tiles (3 types of alerts) can be only removed in the context menu.



Note that if all tiles are removed, the group widget looks as follows:

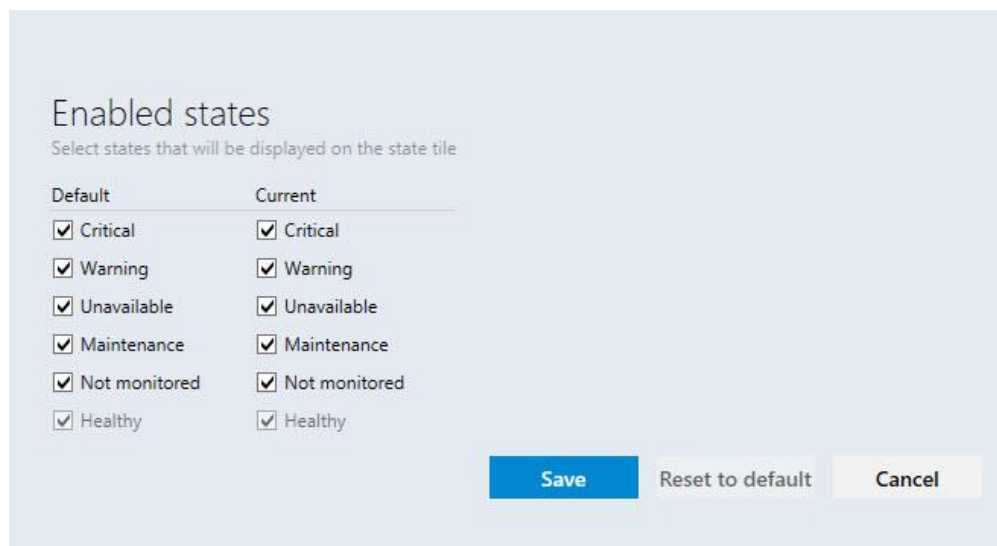


Remove object dialog is similar for all tiles; the display name of the object to be removed differs only.

Alert widget in the expanded mode is separated by alert type. Red widget represents critical alerts, orange for warnings and blue widget for info.

Enabled States

When the user chooses "Settings" item in the group context menu (right mouse click at the group), "Enabled states" view is opened



The user can select states of the group objects, which will be displayed on the state tile in this view

When the user changes “Default” checkboxes settings, “Current” checkboxes settings are changed for all groups in the current Dashboard View.

Note: If “Current” group checkboxes settings were changed previously, changing “Default” checkboxes settings will not affect “Current” checkboxes settings till “Reset to default” settings are applied to this group.

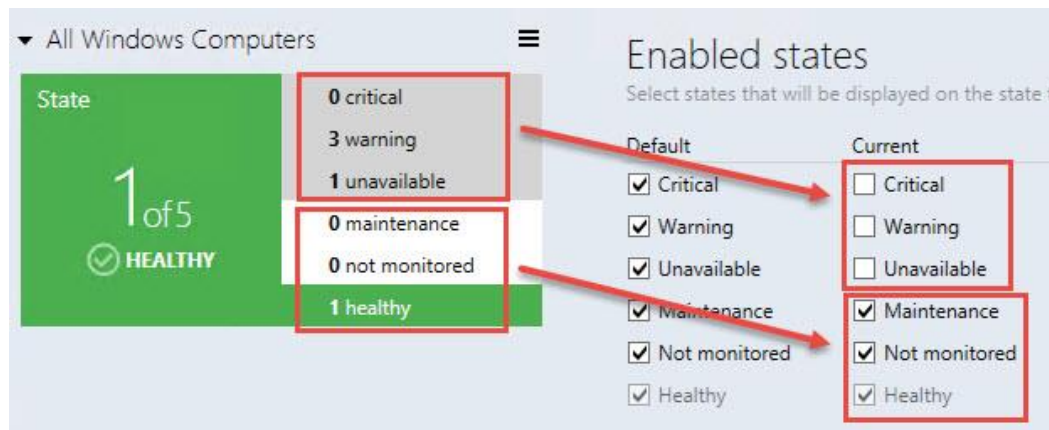
“Current” checkboxes settings applied only for the current Dashboard View group

“Enabled states” window has “Save”, “Reset to default” and “Cancel” buttons. “Esc” button causes cancel action, while “Enter” button saves the inserted data.

“Reset to default” button is disabled if “Default” checkboxes settings match with “Current” checkboxes settings



Note that the objects’ states unchecked at “Enabled states” view have gray backlight, and their states do not participate in forming of “State” tile.



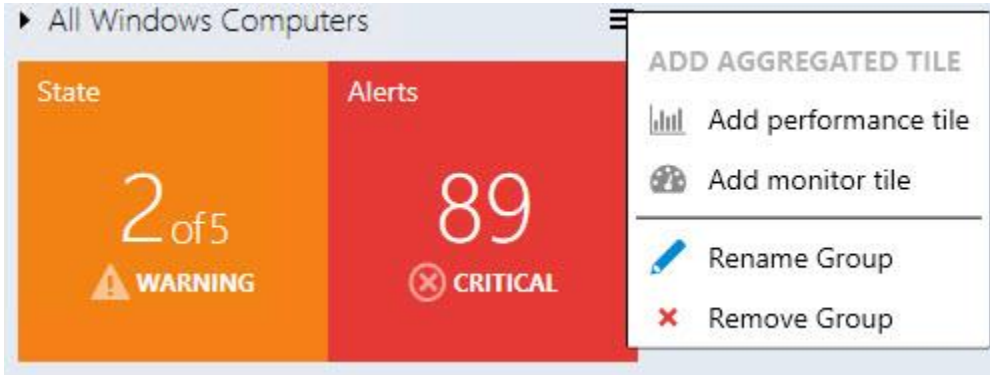
Add Aggregated Tiles

Note

Aggregated tiles are available in Datacenter view only.

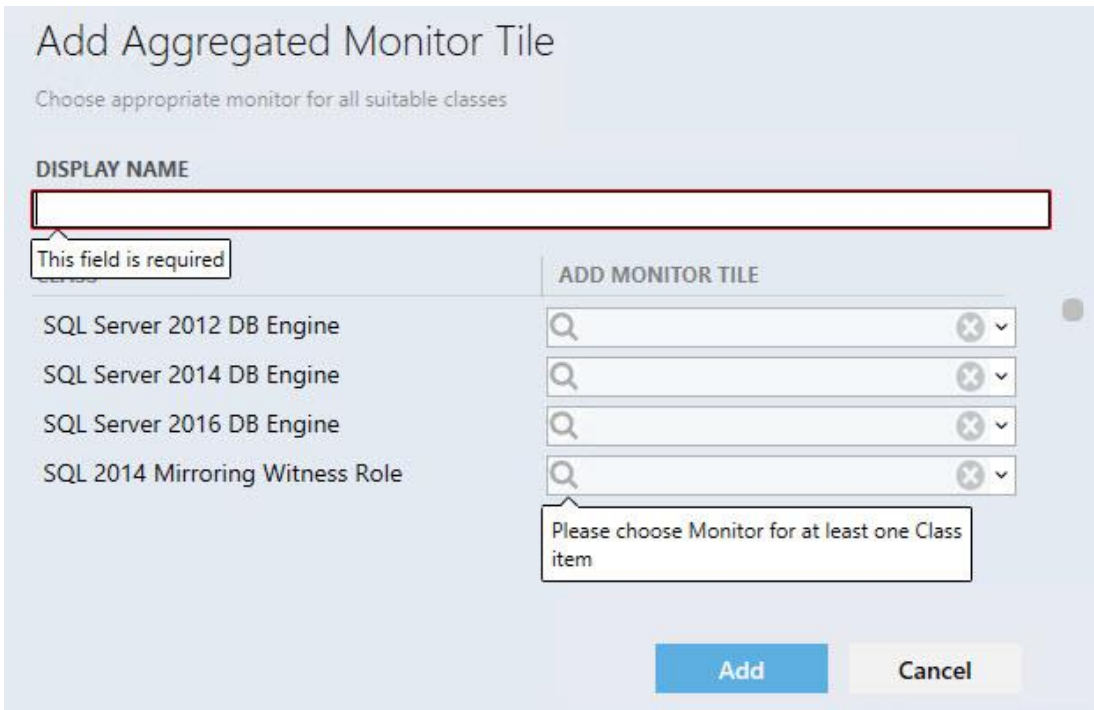
Left or right click on the group menu button calls “Add aggregated tile menu”.

In this menu, the user can add performance tile, add monitor tile, rename and remove the group.



Add an Aggregated Monitor Tile

From Group options menu, the user may call “Add Aggregated Monitor Tile” dialog; while the content is being loaded, a pre-loader is displayed.



The left part of Aggregated Monitor tile consists of a colored donut, which displays relative share of objects in one state against objects in other states, with the total number of entities.



The right part of the tile has a list of states and the number of objects in the states. If there are no objects in a state, a line representing the state is not displayed. Hovering over donut's part, its objects amount or state name changes the backlight.

All aggregated monitor elements have corresponding tooltips:



Add an Aggregated Performance Tile

From Group options menu, the user may call “Add Aggregated Performance Tile” dialog; while the content is being loaded, a pre-loader is displayed.

Add Aggregated Performance Tile
Choose appropriate performance rule for all suitable classes

DISPLAY NAME

This field is required

CLASS	PERFORMANCE RULE
System Center Managed Computer (Server...	Q [x] v
Windows Domain Controller	Q [x] v
.NET Application Monitoring Agent	Q [x] v
Agent	Q [x] v

Please choose Performance Rule for at least one Class item

Add **Cancel**

Display name is a required field that will be automatically populated when the user selects a performance rule. Another selected rule will not override the field. Auto-fill mechanism does not work if the user has already populated the field.

“CLASS” column displays all classes the group contains. “PERFORMANCE RULE” column displays all performance rules of the class.

Note: if all class rules have the same prefix (e.g. "MSSQL SERVER 2014:") the prefix is not displayed. Parent classes are displayed firstly in alphabet order in "CLASS" list, and then children classes are displayed in alphabet order. Rules in "PERFORMANCE RULE" dropdown list are also displayed in alphabet order. The classes for which the rules have already been selected are displayed firstly.

Edit Aggregated Performance Tile

Choose appropriate performance rule for all suitable classes

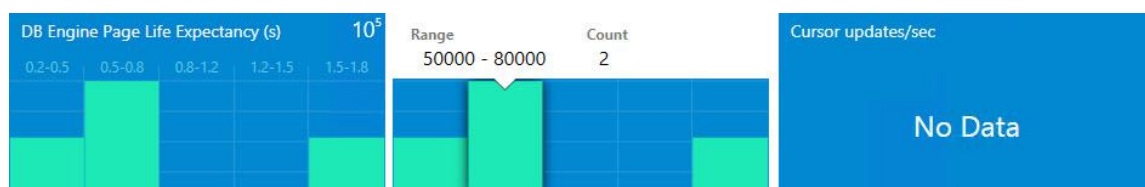
DISPLAY NAME

Collect System\System Uptime

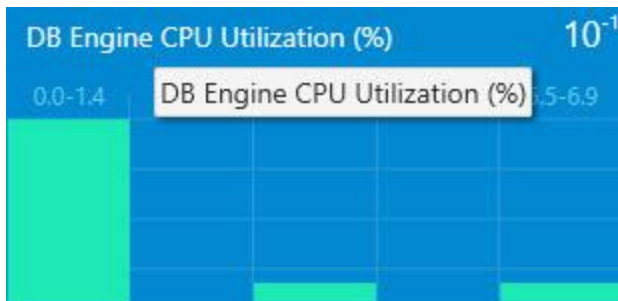
CLASS	PERFORMANCE RULE
Agent	Collect System\System Uptime <input type="button" value="X"/> <input type="button" value="v"/>
System Center Managed Computer (Server...	<input type="text" value=""/> <input type="button" value="X"/> <input type="button" value="v"/>
Windows Domain Controller	<input type="text" value=""/> <input type="button" value="X"/> <input type="button" value="v"/>
.NET Application Monitoring Agent	<input type="text" value=""/> <input type="button" value="X"/> <input type="button" value="v"/>

"X" button wipes the selected data. Validation messages disappear when conditions are met.

Enter and Esc buttons have Save and Cancel configuration correspondingly. When the user adds a performance tile into a collapsed group, the group is expanded automatically and the screen is centered on the widget.



A performance tile has 5 columns. Each column represents a range of values. Upon hovering over a column, a tooltip with detailed information is displayed. In the top right corner of the widget, the degree of the values can be displayed. If chosen performance rule(s) return nothing, the widget displays “No Data” message. Values the widgets return appear to be the last values received from the agents. The Aggregated performance tile name has a corresponding tooltip:



Add a Virtual Group

A virtual group with many classes can be added to Datacenter Dashboard.

The screenshot shows the "Add Virtual Group" form. It has a title "Add Virtual Group" and a subtitle "Select displayed classes and specify display name". The form contains a "DISPLAY NAME" text input field, a "CLASS" dropdown menu with a search icon and a close button, and a message "Please choose at least one Class" below the dropdown. At the bottom right, there are "Add" and "Cancel" buttons.

Adjust Instance Dashboard

Note

Instance tiles are available in Instance View only.

By double-clicking any group of a group widget or a virtual group, the user drill-downs to Instance Dashboard. The object tree is displayed at the top of the Instance Dashboard view

◀ Home ▶ All Windows Computers ▶ SQL14-068.AT-SQLMP.local ▶ SQL2014SERVST ▶ ErrorHekatonTest2014 ▶ PRIMARY

The user will see a list of group objects in the first level of the group or virtual group.

◀ Home ▶ **SQL Server Instances**
SQL Server Instances objects


If the user drills-down into the group object, the list of group object children will be displayed:

◀ Home ▶ SQL Server Instances ▶ **MSSQLSERVER**
MSSQLSERVER children

Note that if the group object or its child does not have any child, the user can't drill-down into it.

“Back” button opens previous Instance Dashboard. The user can click on any element to navigate directly to its dashboard. All objects of the group or children of the object are sorted by their state; the most critical ones are placed on the top of the list.

“Details” widget lists all properties of the selected entity. When the user opens the dashboard, the first element is selected automatically, but if the user selects another object, the selection remains even if a refresh event occurs.

By clicking  icon in the header of the dashboard all data is copied into the clipboard. If the user hovers over a property in the details widget, a similar button is displayed in there to allow copying the property data.

Filter searches through entity name and entity path or thought entity name only

Filter

(It depends on the configuration of “Show instance path” checkbox in “Settings” view)

Show instance path
Show

“Active alerts” displays all object alerts excluding the closed ones (custom alerts are displayed as well).

Name	Age	Resolution State	Repeat Count
The SQL Server Service Broker, or...	0 Day(s), 6 hour(s)	New	1
SQL 2012 DB Average Wait Time...	0 Day(s), 0 hour(s)	New	0

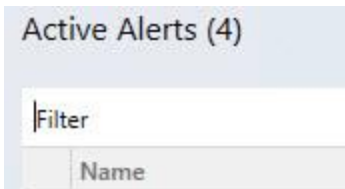
Note: number of active alerts is displayed in brackets next to the “Active Alerts” title

Active Alerts (15)

Object alerts and its children’s alerts are displayed if “Show alerts from all levels” checkbox is switched on.



Alerts can be filtered by their names by means of “Filter” field.



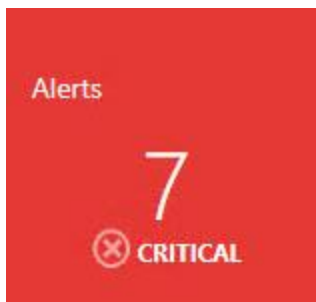
“Related objects” and “Alerts” tile is displayed by default and cannot be deleted. The tile has logic similar to aggregated state tile. By double-clicking on the tile, the user drills-down further to the children of the selected object.



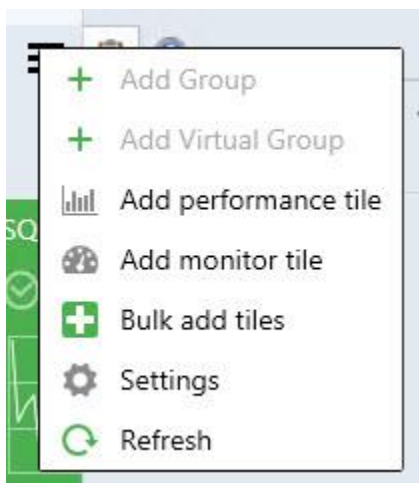
“Related objects” tile shows object’s next level children. The color of the tile complies the worst state color of its children. Under the name of the tile, the user can see amount of object children in the worst state and the total number of children. The state name and state icon of the worst object children state is displayed under the number of the object children.



“Alerts” tile displays the amount of its children’s worst alerts + its children’s children worst alerts. The color of the tile complies the color of its children’s worst alerts. The severity name and severity icon of its worst children’s alerts is displayed under the number of alerts.




From the menu of Monitoring section, the user can add a performance tile, add a monitor tile, add performance and monitor tile by using “Bulk add tiles” view, customize dashboard view settings by using “Settings” menu and refresh dashboard view.

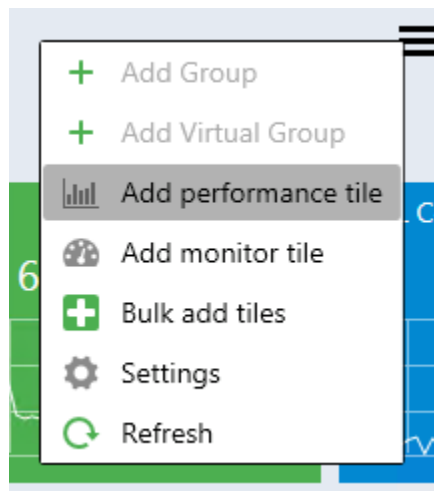


Double-clicking on performance tile opens Performance view. Double-clicking on monitor tile opens Health explorer.

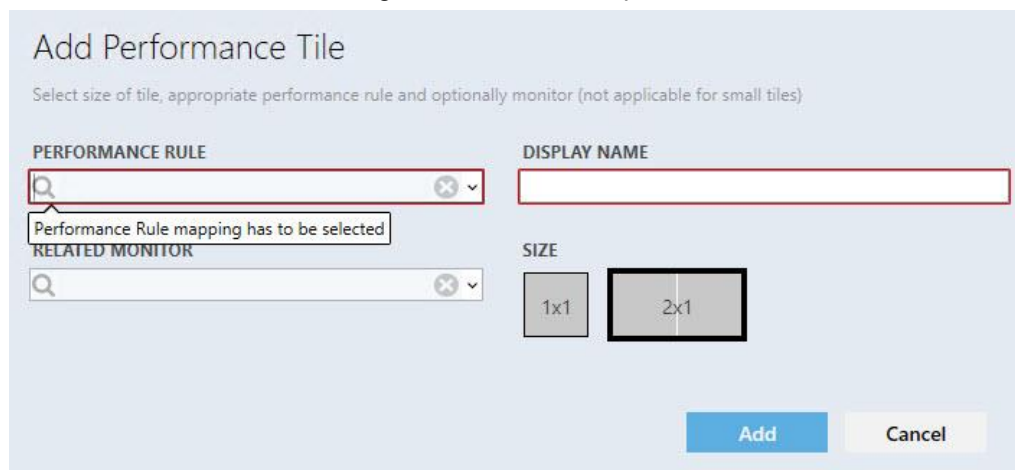
Add a Performance Tile

Double-click the Group to drill-down from Datacenter to Instance level.

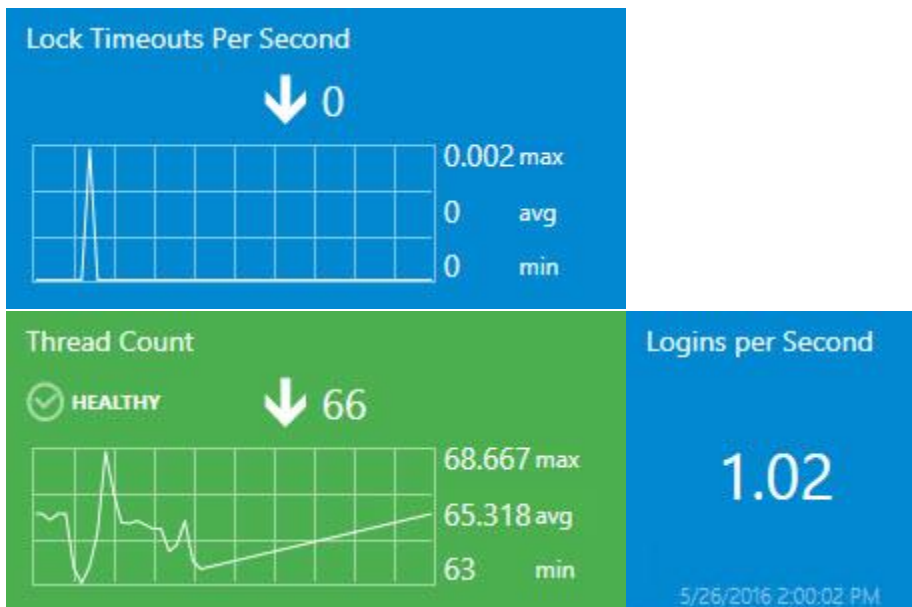
Click  menu button to add a performance tile.



In "Add Performance Tile" dialog, select the desired performance tile.

A screenshot of the 'Add Performance Tile' dialog box. The title is 'Add Performance Tile' with a subtitle 'Select size of tile, appropriate performance rule and optionally monitor (not applicable for small tiles)'. It contains two search fields: 'PERFORMANCE RULE' and 'RELATED MONITOR'. The 'PERFORMANCE RULE' field has a tooltip that says 'Performance Rule mapping has to be selected'. Below the search fields are two size options: '1x1' and '2x1', with the '2x1' option selected and highlighted with a black border. At the bottom right are 'Add' and 'Cancel' buttons.

There are 3 types of performance tiles: 2x1 without a linked monitor, 2x1 with a linked monitor and 1x1 tile.



Display name is populated automatically when the user selects a rule for the first time. The drop-down supports advanced filtering options based on the entered text. If the user adds same tile twice and uses automatic display name population, the date and time are added automatically to the rule\monitor name at the “DISPLAY NAME” field.

PERFORMANCE RULE	DISPLAY NAME
tion: Stored Procedures Invoked Per Second	red Procedures Invoked Per Second 16-05-26 03:26:07

If all rules have similar prefix, the prefix is not displayed in the alike rules.

The circle with a cross removes all data from the field.

When a rule is selected, validation messages disappear and “Add” button becomes enabled.

When the user tries to add performance tile with already existed “DISPLAY NAME”, a corresponding error tooltip message is displayed:

DISPLAY NAME
oker Activation: Stored Procedures Invoked Per Second
SIZE

If the user selects a monitor, the tile would have linked monitor and the tile color will depend on the monitor state. If the user selected a monitor, but sets 1x1 size right after, the data in the monitor field becomes disabled and is not saved in the configuration if the user added the tile, but becomes enabled again if the user returns 2x1 size.

RELATED MONITOR

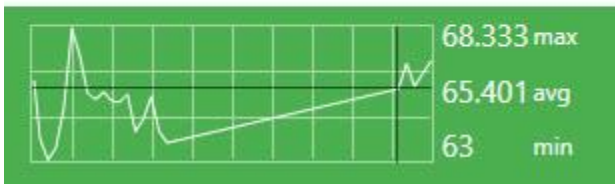
CPU Utilization (%) ✕ ▼

SIZE

1x1

Upon hovering over the graph, a tooltip with the date and value is displayed.

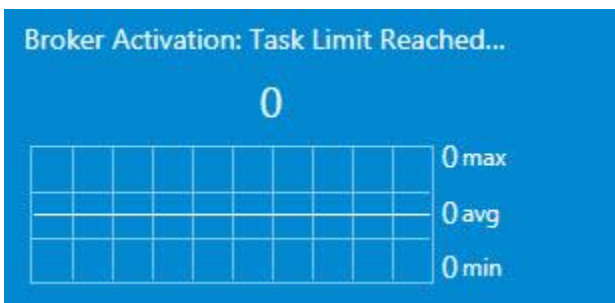
Date	Value
5/26/2016 1:45 PM	65.9



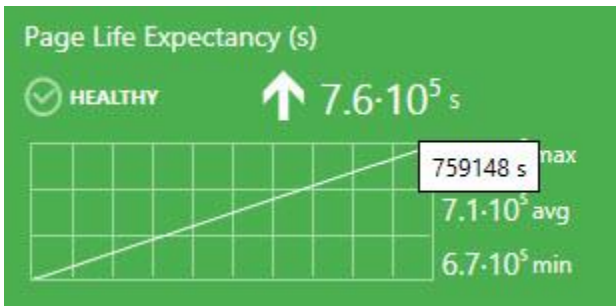
The widget has kind of trend line, which is represented by the arrow. Near the arrow, the user can see the last value of the index.



If the rule value has not been changed during the displayed period, the trend arrow is not displayed.



Note that if the index last value is too long to be fully displayed in the tile, it is displayed in the tooltip.



Minimum, maximum and average rule value is displayed near the chart. Measurement units are displayed if the rule has them in its name in brackets. The user can select a period to be displayed in the 2x1 tile chart of the dashboard view “Settings” menu.



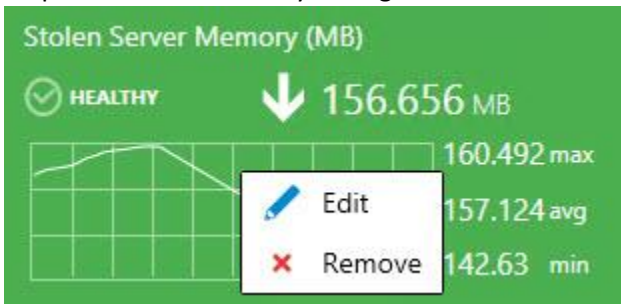
1x1 tile displays only the last value. The same data is displayed in the 2x1 version right under the widget name.



Please note that the last value of date and time is displayed under the rule last value in the 1x1 performance tile. If there is no data in SCOM database for the set period, the widget returns “No Data” message.




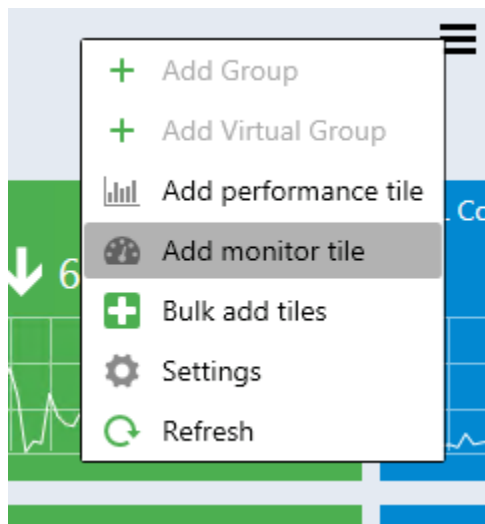
2 options are available by the right click on the tile: edit and remove.



Add a Monitor Tile

Double-click the Group to drill-down from Datacenter to Instance level.

Click  menu button to add a monitor tile.



In "Add Monitor Tile" dialog, select the desired monitor.

Add Monitor Tile

Select appropriate monitor

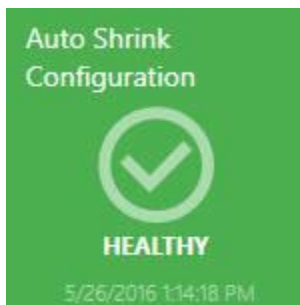
ADD MONITOR TILE

Monitor mapping has to be selected

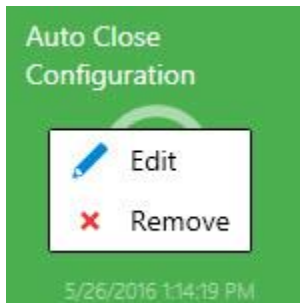
DISPLAY NAME

Add
Cancel

The control has logic similar to the performance dialog.



The monitor has a name, state indicator and the date when the state has been changed for the last time. 2 options are available by the right click on the tile: edit and remove:



Move the Tiles

The tiles can be moved by means of drag-n-drop.

Datacenter Dashboards allow the following methods of tile moving:

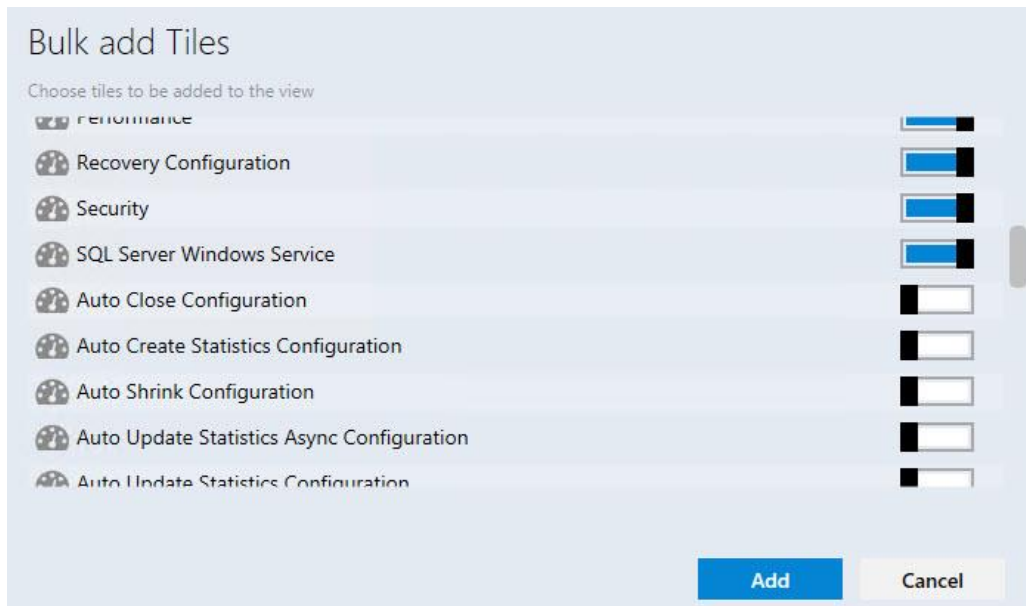
1. Moving of the groups in Datacenter View.
2. Moving of the aggregated tiles within the expanded group in Datacenter View.
3. Moving of the tiles in Instance View.

Performance View and Health Explorer

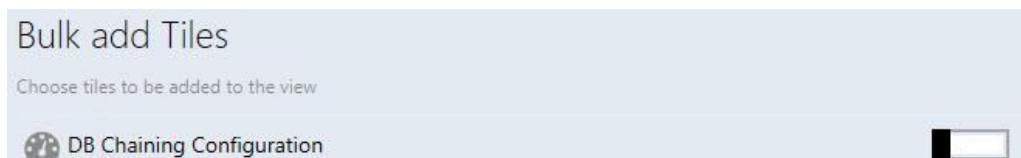
To open Performance View and Health Explorer, it is necessary to double-click the corresponding tile (performance tile and monitor tile respectively).

Bulk Add Tiles

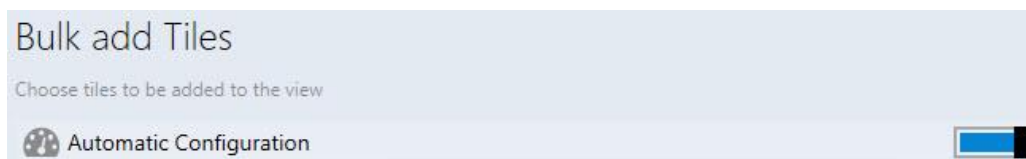
The user can use “Bulk add Tiles” menu for quick adding of monitors and performance tiles in the instance view (all object rules and monitors are displayed in the “Chose tiles to be added to the view” list).



The checkboxes for already added tiles are switched off (monitor tiles, which are added as a part of 2x1 performance tile, are considered as already added)



Note that checkboxes are switched on for the tiles, which haven't been added to the instance view yet.



Performance and monitor tiles have different icons:



The same performance and monitor tiles can be added many times by means of “Bulk add Tiles” menu. The date and time parameters will be added to “DISPLAY NAME” for each subsequent adding of repeated performance/monitor tiles.

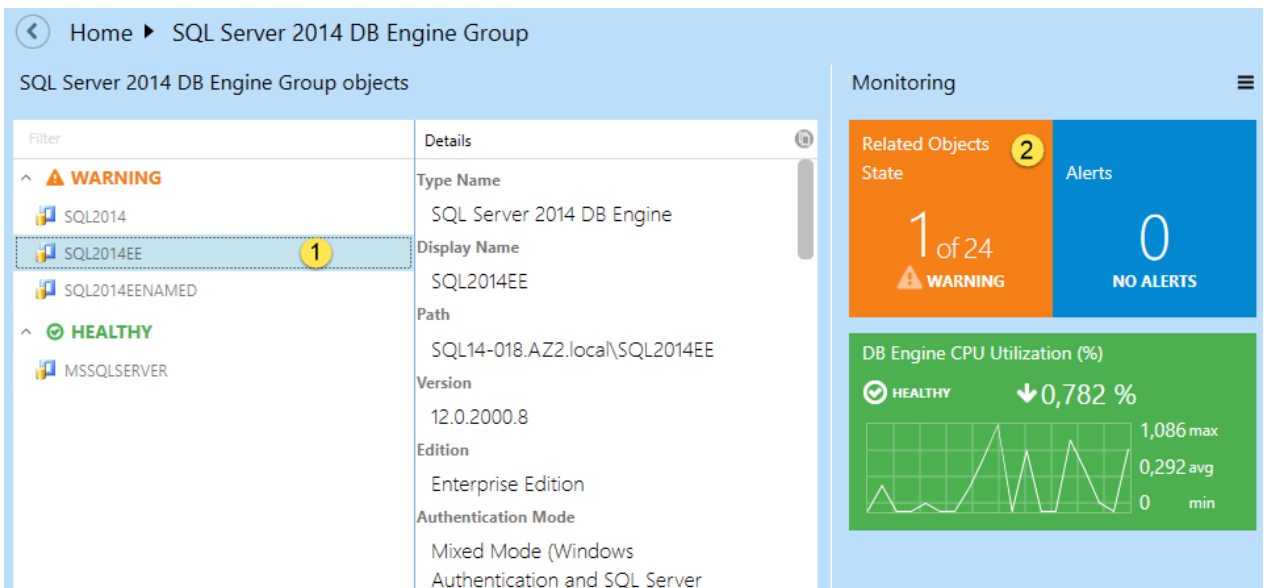


Instance Dashboard Navigation

Drill-down to the Related Objects

Drilling-down can be performed as follows:

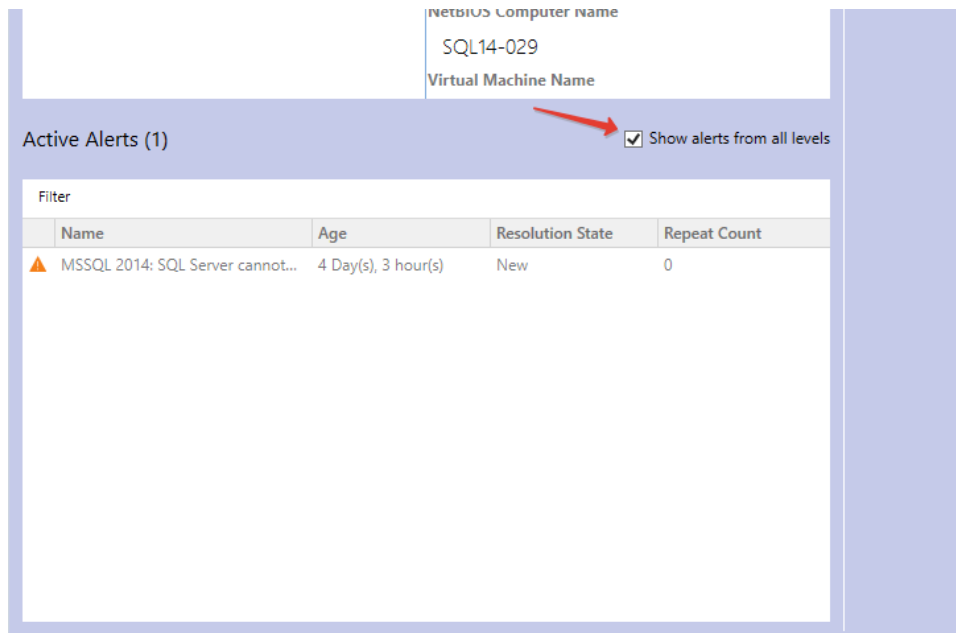
1. Select an object from the left pane and double-click “Related Objects State” widget.




2. Double click the object from the left pane.

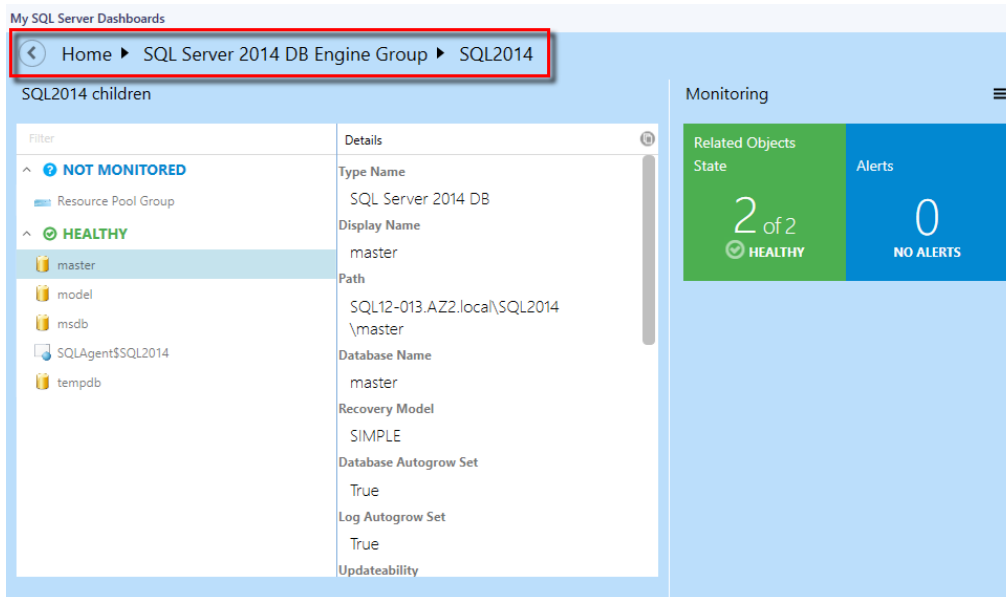
Use “Show Alerts” Function

The function allows seeing the list of alerts in the object. To activate the function check the corresponding checkbox.



Use Navigation Pane

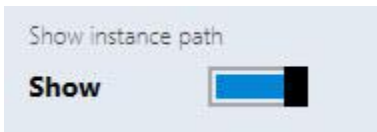
To move to any location in the path just click it. To move to the parent view click  button.



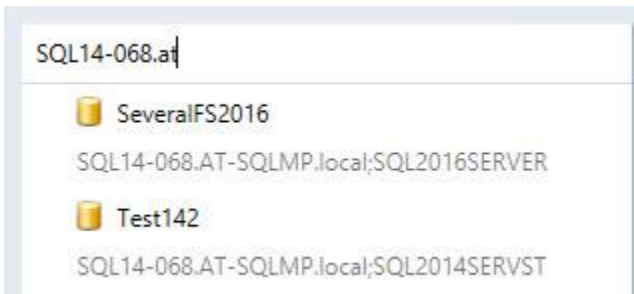
SQL Instance Path Property



Dashboard object path is shown after switching on the “Show instance path” checkbox in the dashboard “Settings” menu:



The user can search objects in the instance view by path and by name if “Show instance path” checkbox is switched on. To perform a search, start typing the name of the object in “Filter” field.



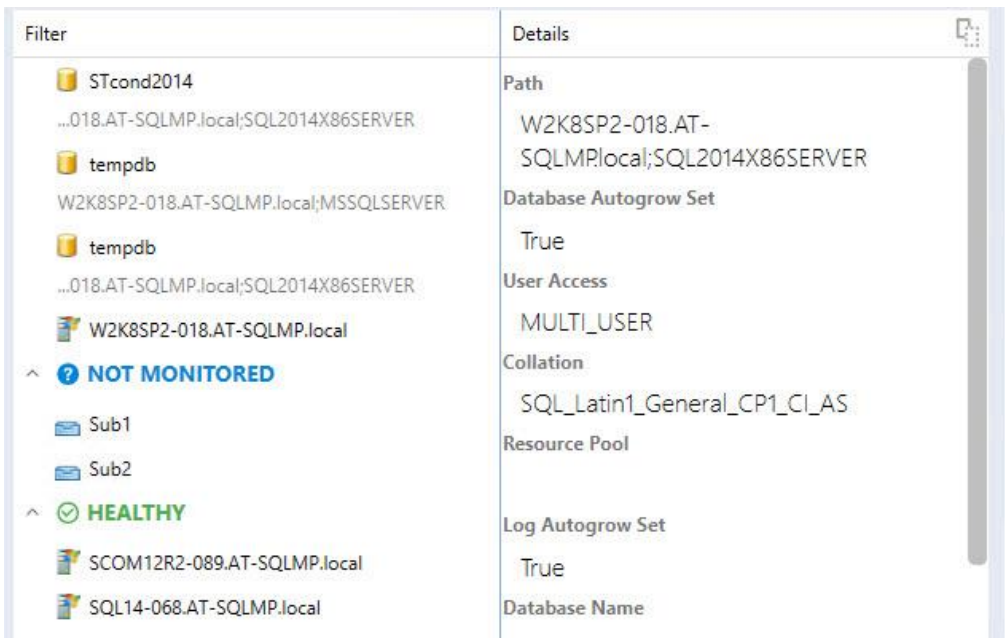
Note that the user can search objects in the instance view by name only if “Show instance path” checkbox is switched off.



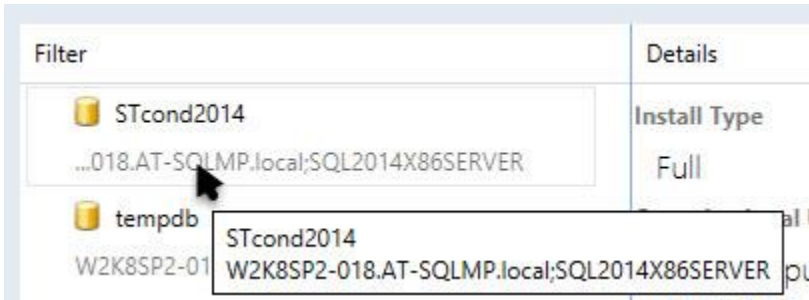
The user can search objects in the instance view by any part of the object path and by any part of the object name.



Path line of an object without a path is hidden; path lines of all other instances are displayed.



A tooltip with object name and object path appears when the user hovers over the dashboard object, and "Show instance path" checkbox is switched on/off.



A tooltip with object name appears only when the user hovers over the dashboard object with empty path line.

Filter	Details
<ul style="list-style-type: none"> STcond2014 ...018.AT-SQLMP.local;SQL2014X86SERVER tempdb W2K8SP2-018.AT-SQLMP.local;MSSQLSERVER tempdb ...018.AT-SQLMP.local;SQL2014X86SERVER W2K8SP2-018.AT-SQLMP.local NOT MONITORED Sub1 Sub2 HEALTHY SCOM12R2-089.AT-SQLMP.local SQL14-068.AT-SQLMP.local 	<ul style="list-style-type: none"> Install Type Full Organizational Unit CN=Computers, SQLMPDC=loca Active Directory SID Physical Processors 1 Network Name SCOM12R2-089. IP Address 172.31.3.223,

The “Filter” field is cleared every time the user changes the dashboard level.

The user can use filter field even if the dashboard group has objects with empty path line and objects with path at path line simultaneously.

Configure Run As Profiles

When the SQL Server management pack is imported for the first time, it creates a new Microsoft SQL Server Replication SCOM SDK Discovery Run As Profile, which allows creating low privilege environments for System Center Operations Manager.

To configure permissions on the System Center Operations Manager Management Server:

1. Create SSREPLSDK account on the domain controller.
2. Grant Local Administrator permissions to SSREPLSDK account.

To configure permissions on the System Center Operations Manager:

1. Open SCOM console and navigate to “Administration” pane.
2. Select “User Roles” view (located under “Security” folder).
3. Right click on “Operations Manager Operators” role and click “Properties” in the context menu.
4. In the “General Properties” tab, click “Add” button.
5. Find SSREPLSDK user and click “OK”.
6. Click “OK” button to apply the changes, and close “User Role Properties” dialog.

Known Issues and Troubleshooting

Configuration of signed SQL Server Dashboards cannot be saved if Default Management Pack is removed

Issue: Signed SQL Server Dashboards store their configuration changes in Default Management Pack (Microsoft.SystemCenter.OperationsManager.DefaultUser).

Resolution: Import Default Management Pack. In further versions of the MP, it will be possible to set a custom MP to store the configuration.

SQL Server Dashboards may display obsolete data

Issue: The Operations Manager database should be synchronized with Data Warehouse. If the default synchronizing procedure has not been executed for a long period, the Dashboards become unable to get the most recent data.

Resolution: Restart System Center Data Access service and perform other required actions to reactivate Delta Synchronization.

The Operations Manager console may crash in case of SCOM server connection failure

Issue: If the Operations Manager console loses connection to SCOM server, SQL Server Dashboards may crash. It can happen due to network issues or SCOM server issues (e.g. if the console is left unattended for a long time).

Resolution: Check connection with SCOM server. Reopen the Operations Manager console.

When configuration of a SQL Server Dashboards is edited simultaneously by a few operators, the last change is applied only

Issue: When a user edits SQL Server Dashboard from the Operations Manager console and Web console simultaneously, the “Last changes apply” algorithm is implemented to resolve this situation.

Resolution: Reopen the Dashboard, or wait until the data is refreshed.

The Operations Manager console may behave unresponsive in case of a configuration save failure

Issue: In some rare cases, SCOM is unable to save updated Dashboard configuration successfully. In this case, dialogs on SQL Server Dashboards become unresponsive (e.g. OK button in “Add Group” dialog). The user can find error details in Application event log.

Resolution: Reopen the Operations Manager console.

Objects may be displayed with “Not monitored” state in case if there are 1000 objects or more

Issue: When there are 1000 objects or more discovered simultaneously (and the discovery process is not over yet), the Dashboard may be loaded correctly, but all objects will have “Not monitored” state.

Resolution: Wait until the data is refreshed.

Alerts may be displayed with “0” value in case if there are 5000 objects or more

Issue: When there are approximately 5000 objects or more discovered simultaneously (and the discovery process is not over yet), it is possible that the number of objects will be loaded and displayed correctly, but the alerts will be displayed with 0 value.

Resolution: Wait until the data is refreshed.

Silverlight version of the Operations Manager console may not receive remote changes

Issue: Any changes made in Silverlight version of the Operations Manager console from a remote workstation may not be saved.

Resolution: Reopening of the Dashboard or reloading of the console is ineffective. To apply any changes, please access the console directly.

Usage of some special Windows themes may lead to a crash of the Operations Manager console

Issue: Some changes in Windows color scheme (e.g. changing of foreground text color to another color) may lead to a crash of the Operations Manager console.

Resolution: Please use standard Windows themes and text colors.

Procedures are not deleted from data warehouse storage

Issue: The stored procedures may remain in data warehouse storage even after uninstallation of GPMP.

Resolution: After uninstallation of the manager packs, the stored procedures are to be deleted manually.

Timeouts difficulty

Issue: While working with the Dashboard (especially while processing large data volumes), a user may face a situation when the processes cannot be completed within the preset timeout.

Resolution: Timeout values for queries execution in Datawarehouse DB may be set by the user manually via the server registry. One can create “HKLM\SOFTWARE\Microsoft\Microsoft Operations Manager\3.0\Data Warehouse” key and add REG_DWORD type value with “Search Command Timeout Seconds” name. The server will use this value instead of default 180 seconds.

Certain display problems may occur while working with the groups in web version of the Operations Manager console

Issue: A problem with displaying add/delete forms may occur while using Silverlight web version of the Operations Manager console: the text of the form may be loaded earlier than the form itself, if the Dashboard contains 8 or more groups.

Resolution: Unknown.

Dashboards may work slowly if used rarely

Issue: When used rarely or after a long break, the dashboards may work rather slowly due to large amounts of the collected data to be processed; especially, it is related to large environments (2000+ objects).

Resolution: Below is a “warming up” script, which may be used to create an SQL job to run on some schedule. Before scheduling it as an SQL job, please test how long these queries will be executing (if you will schedule it to run too often or execution time is too long, that may kill the performance). If you have dashboards with thousands of objects to load, then time to load the content will be 10+ seconds anyway. It was tested with 600 000 objects, and the dashboard loading time was 1-2 minutes.

```
USE [OperationsManagerDW]
```

```
EXECUTE [sdk].[Microsoft_SQLServer_Visualization_Library_UpdateLastValues]
```

```
EXECUTE [sdk].[Microsoft_SQLServer_Visualization_Library_UpdateHierarchy]
```

Colors in Microsoft Silverlight may be assigned incorrectly

Issue: ComboBox colors and main ScrollViewer background may be displayed incorrectly, especially in the dark theme.

Resolution: Unknown.

Certain issues may appear during rapid changes performed in Datacenter view

Issue: If user rapidly changes datacenter dashboard views while the loader is displayed, the last selected view can still be opened, but the queries of the previously closed views will not be cancelled.

Resolution: Unknown.

Dashboards may get stuck while loading

Issue: When there are more than 50K objects on a Dashboard monitored by multi-instance performance collection rules, Datawarehouse DB statistics may get broken, and the Dashboard loading time could get much longer than usual. Moreover, extensive TempDB and Log space usage (~2-5 GB) can be noticed.

Resolution: Wait for some time until the Dashboard is loaded, then run *sp_updatestats* stored procedure in Datawarehouse DB.

Outdated group names may be displayed in the Instance view

Issue: If a group is renamed, or any already renamed groups are present in SCOM, the old group names may be displayed in SQL Server Dashboards Instance view. In addition, if some groups are renamed in SCOM after importing the dashboards, their old names may be still displayed in the Instance view.

Resolution: Unknown.

Limited access role users may not see SQL instances on SQL Server Roles dashboard

Issue: If a user is assigned to a limited access role (e.g. with access to SSAS Instance group, SSRS Instance Group, and SQL Server DB Engine Group only), no SQL instances are visible on SQL Server Roles dashboard.

Resolution: As long as SQL Server Roles dashboard is currently based on Server Roles Group, the user should obtain access to "Server Roles Group" to make SQL instances visible on the dashboard.

Datacenter view dashboard refresh animation is not displayed

Issue: When the Datacenter view dashboard is refreshed by means of the corresponding button in the hamburger drop-down menu, no refresh animation is displayed.

Resolution: Unknown.