

Guide to Microsoft System Center Management Pack (RC0) for SQL Server 2017 Replication

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Published: June, 2017

The Operations Manager team encourages you to provide any feedbacks on the management pack by sending them to sqlmpsfeedback@microsoft.com.

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# Guide to Microsoft System Center Management Pack for SQL Server 2017 Replication

This guide is based on version 6.7.60.0 of the Management Pack for Microsoft SQL Server 2017 Replication.

## Changes History

| **Release Date** | **Changes** |
| --- | --- |
| June, 2017 (version 6.7.60.0 RC0) | * Added a number of monitors and performance rules to create the same Health model as presented in SQL Server 2008-2016 Replication management packs
* Improved and refactored the management pack modules
* Fixed a number of issues
 |
| April, 2017 (version 6.7.40.0 CTP1) | Original release of this management pack |

## Get Started

In this section:

* [Supported Configurations](#_Supported_Configurations)
* [Management Pack Scope](#_Management_Pack_Scope)
* [Prerequisites](#_Prerequisites)
* [Files in this Management Pack](#_Files_in_this)
* [Mandatory Configuration](#_Mandatory_Configuration)

### Supported Configurations

This management pack is designed for the following versions of System Center Operations Manager:

* System Center Operations Manager 2012 R2
* System Center Operations Manager 2016

A dedicated Operations Manager management group is not required for this management pack.

The following table details the supported configurations for the Management Pack for Microsoft SQL Server 2017 Replication:

|  |  |
| --- | --- |
| **Configuration** | **Support** |
| SQL Server 2017 | 64-bit SQL Server 2017 Database Engine on 64-bit OS |
| Clustered servers | No  |
| Agentless monitoring | Yes |
| Virtual environment | Yes |

Note that neither SQL Server Express edition (SQL Server Express, SQL Server Express with Tools, SQL Server Express with Advanced Services) support SQL Server Agent, Log Shipping, Always On, OLAP Services and Data Mining, SQL Server In-Memory OLTP, Analysis Services and Integration Services.

In addition, SQL Server Express and SQL Server Express with Tools do not support Reporting Services and Full text search. However, SQL Server Express with Advanced Services support Full text search and Reporting Services with limitations.
All SQL Server Express editions support Database mirroring as Witness, and Replication as Subscriber only.

For more information, see features supported by SQL Server 2017 editions:

[https://msdn.microsoft.com/library/cc645993(v=sql.130).aspx](https://msdn.microsoft.com/library/cc645993%28v%3Dsql.130%29.aspx)

### Management Pack Scope

Management Pack for Microsoft SQL Server 2017 Replication enables the monitoring of following features:

* SQL Server 2017 Replication

Note

Please refer to “Monitoring Scenarios” section for a full list of monitoring scenarios supported by this management pack.

Note

For more information and detailed instructions on setup and configuration, see “Configuring the Management Pack for Microsoft SQL Server 2017 Replication” section of this guide.

Note

This management pack does not discover database engines and database objects. It is recommended to import the Microsoft System Center Management Pack for SQL Server 2017 to enable discovery, monitoring and health rollup for SQL Server 2017 Replication databases. This management pack depends on management pack for SQL Server 2017, i.e. installation of management pack for SQL Server 2017 is required.

### Prerequisites

As a best practice, you should import the Windows Server Management Pack for the operating system you are using. The Windows Server Management Packs monitor aspects of the operating system that influence the performance of computers running SQL Server, such as disk capacity, disk performance, memory utilization, network adapter utilization, and processor performance.

### Files in this Management Pack

The Management Pack for Microsoft SQL Server 2017 Replication includes the following files:

| **File** | **Description** |
| --- | --- |
| Microsoft.SQLServer.2017.Replication.Windows.Discovery.mpb | This management pack discovers Microsoft SQL Server 2017 Replication Instances. |
| Microsoft.SQLServer.2017.Replication.Windows.Monitoring.mpb | This Management Pack enables the monitoring of Microsoft SQL Server 2017 Replication and depends on the Microsoft SQL Server 2017 Replication (Discovery) Management Pack. |
| Microsoft.SQLServer.2017.Replication.Windows.Views.mp | This Management Pack contains views and folder structure for Microsoft SQL Server 2017 Replication management packs. |
| Microsoft.SQLServer.2017.Replication.Windows.Presentation.mp | This Management Pack adds SQL Server 2017 Replication Dashboards. |
| Microsoft.SQLServer.2017.Replication.Library.mpb | This Management Pack is the core library for all versions of SQL Server Replication.  It defines all SQL Server Replication base classes and relationships |
| Microsoft.SQLServer.2017.Replication.Library.Views.mpb | This Management Pack is the core library views for all versions of SQL Replication. |
| Microsoft.SQLServer.2017.Replication.Library.Presentation.mp | This Management Pack adds SQL Server Replication Library Dashboards. |
| Microsoft.SQLServer.Generic.Presentation.mp | This Management Pack defines common folder structure and views. |
| Microsoft.SQLServer.Generic.Dashboards.mp | This Management Pack contains generic SQL Server dashboards. |
| Microsoft.SQLServer.Visualization.Library.mpb | This Management Pack contains basic visual components required for SQL Server dashboards. |

### Mandatory Configuration

To configure Management Pack for Microsoft SQL Server 2017 Replication complete following steps:

* Review the “Configuring the Management Pack for Microsoft SQL Server 2017 Replication” section of this guide.
* Grant required permissions as described in “Security Configuration” section of this guide.
* Enable the Agent Proxy option on all agents that are installed on servers, which host an Instance of SQL Server 2017 Replication. For more information about enabling Agent Proxy option see “How to enable Agent Proxy option” section of this guide.
* Import the Management Pack.
* Associate SQL Server 2017 Replication Run As profiles with accounts that have appropriate permissions. For more information about configuring Run As profiles see “How to configure Run As profile” section of this guide.

## Management Pack Purpose

In this section:

* [Monitoring Scenarios](#_Monitoring_Scenarios)
* [Data Flow](#_Data_Flow_1)

Note

For details on the discoveries, rules, monitors, views, and reports contained in this management pack, see following sections of this guide:

* [Appendix: Management Pack Objects and Workflows](#_Appendix:_Management_Pack)
* [Appendix: Management Pack Views and Dashboards](#_Appendix:_Management_Pack_1)

### Monitoring Scenarios

#### Discovery of SQL Server Replication Objects

The Management Pack for SQL Server 2017 Replication enables the discovery and monitoring of all the SQL Server Replication related components. The management pack supports both agent and agentless monitoring, and automatically selects the monitoring type used by the management pack for SQL Server 2017 to monitor the appropriate SQL Server instance. Replication objects discovered and monitored by the management pack are as follows:

* Distributor
* Publisher
* Subscriber
* Publication
* Subscription

Each managed replication object is discovered and monitored using a number of rules and monitors. Please refer to the “Appendix: Management Pack Objects and Workflows” section for the full list of rules and monitors targeted to replication objects.

#### Distributor Discovery and Monitoring

For each managed database engine, the distributors on it are discovered and monitored using a number of rules and monitors. Please refer to the “Appendix: Management Pack Objects and Workflows” section for the full list of rules and monitors targeted to distributor.

For more information, see [Distributor and Publisher Information Script in the MSDN Library](http://msdn.microsoft.com/library/ms151797.aspx)

#### Publisher Discovery and Monitoring

For each managed database engine, the publishers are discovered and monitored using a number of rules and monitors. Please refer to the “Appendix: Management Pack Objects and Workflows” section for the full list of rules and monitors targeted to publisher.

For more information, see [Distributor and Publisher Information Script in the MSDN Library](http://msdn.microsoft.com/library/ms151797.aspx)

#### Subscriber Discovery and Monitoring

For each managed database engine, the subscribers are discovered and monitored using a number of rules and monitors. Please refer to the “Appendix: Management Pack Objects and Workflows” section for the full list of rules and monitors targeted to subscriber.

#### Publication Discovery and Monitoring

For each managed publisher instance, the publications are discovered and monitored using a number of rules and monitors. Please refer to the “Appendix: Management Pack Objects and Workflows” section for the full list of rules and monitors targeted to publication.

#### Subscription Discovery and Monitoring

For each managed subscriber instance, the subscriptions are discovered and monitored using a number of rules and monitors. Please refer to the “Appendix: Management Pack Objects and Workflows” section for the full list of rules and monitors targeted to subscription.

#### Many Publication Snapshots on the Same Drive

Space monitoring introduced by this management pack may be noisy in environments where many publications’ snapshots share the same media. In such cases, an alert for a publication’s snapshot is generated when the amount of free space on the hard drive reaches the threshold. To reduce the noise, turn off the space monitors for “Snapshot Available Space (%)” and use Operating System Management Pack to monitor space on the hard drive.

#### Maintenance Job Failure

Replication uses the maintenance jobs that are monitored by the “**MSSQL 2017 Replication: The Maintenance Job(s) Failed on Distributor Alert Rule**”:

* Reinitialize subscriptions having data validation failures
* Agent history clean up: distribution
* Replication monitoring refresher for distribution.
* Replication agents checkup
* Distribution clean up: distribution
* Expired subscription clean up

For more information, see [Run Replication Maintenance Jobs (SQL Server Management Studio) in the MSDN Library](http://msdn.microsoft.com/library/ms151232.aspx)

#### Job Failure

The management pack defines a monitor targeted at the Distributor and Subscriber. These monitors oversee the replication agents’ jobs and change the monitor state when the job has the following states:

* Job Exist But Never Run and Has Not Schedule
* Job Expired
* Job Failed
* Job is Disabled
* Job is Enabled but Schedule is Disabled
* Job Execution Failed and was Not in Accordance with the Schedule
* Job is Retry
* Job Never Run
* Job Never Run But Schedule Exist
* Job Successfully Done But Not in Accordance with the Schedule
* Job Execution was Stopped and was Not in Accordance with the Schedule
* Previous Job Execution Failed
* Previous Job Execution was Stopped
* Unknown State of the Job

Please refer to “Appendix: Management Pack Objects and Workflows” section for the full list of rules and monitors targeted to Replication Agents.

### Data Flow

The following diagrams show the data flows in this management pack for:

* [Logical structure](#_Logical_structure)

* [Publication flow](#_Publication_flow_1)

* [Replication Database Health](#_Replication_Database_Health_1)

See Terms and Definitions Appendix for more details on the diagrams contents.

#### Logical Structure



#### Publication Flow







#### Replication Database Health

Replication Database Health is built for the Databases participating in replication process as published database.

##### Top-level Structure



##### Virtual Distributor Level Structure



**Replication agent** files are located under <*drive*>:\Program Files\Microsoft SQL Server\100\COM. The following table lists the replication executable names and file names. Click the link for an agent to view its parameter reference.

|  |  |
| --- | --- |
| **Agent Executable** | **File Name** |
| [Replication Snapshot Agent](http://msdn.microsoft.com/library/ms146939.aspx) | snapshot.exe |
| [Replication Distribution Agent](http://msdn.microsoft.com/library/ms147328.aspx) | distrib.exe |
| [Replication Log Reader Agent](http://msdn.microsoft.com/library/ms146878.aspx) | logread.exe |
| [Replication Queue Reader Agent](http://msdn.microsoft.com/library/ms147378.aspx) | qrdrsvc.exe |
| [Replication Merge Agent](http://msdn.microsoft.com/library/ms147839.aspx) | replmerg.exe |

In addition to replication agents, a replication has a number of jobs that perform scheduled and on-demand maintenance.

**Replication Maintenance Jobs**

Replication uses the following jobs to perform scheduled and on-demand maintenance.

|  |  |  |
| --- | --- | --- |
| **Clean up job** | **Description** | **Default schedule** |
| Agent History Clean Up: Distribution | Removes replication agent history from the distribution database. | Runs every ten minutes |
| Distribution Clean Up: Distribution | Removes replicated transactions from the distribution database. Deactivates subscriptions that have not been synchronized within the maximum distribution retention period. | Runs every ten minutes |
| Expired Subscription Clean Up | Detects and removes expired subscriptions from publication databases. | Runs every day at 1:00 A.M. |
| Reinitialize Subscriptions Having Data Validation Failures | Detects all subscriptions that have data validation failures and marks them for re-initialization. The next time the Merge Agent or Distribution Agent runs, a new snapshot will be applied at the Subscribers. | No default schedule (not enabled by default). |
| Replication Agents Checkup | Detects replication agents that are not actively logging history. It writes to the Microsoft Windows event log if a job step fails. | Runs every ten minutes. |
| Replication monitoring refresher for distribution | Refreshes cached queries used by Replication Monitor. | Runs continuously. |

##### Virtual Publisher level Structure



##### Virtual Subscriber level Structure



## Configure the Management Pack

This section provides guidance on configuring and tuning this management pack.

In this section:

* [Best Practice: Create a Management Pack for Customizations](#_Best_Practice:_Create)

* [How to import a Management Pack](#_How_to_import)
* [How to enable Agent Proxy option](#_How_to_enable)
* [How to configure Run As profile](#_How_to_configure)
* [Security Configuration](#_Security_Configuration)
	+ [Run As Profiles](#_Run_As_Profiles)

* + [Required permissions](#_Required_permissions)

### Best Practice: Create a Management Pack for Customizations

The Management Pack for Microsoft SQL Server 2017 Replication is sealed so that you cannot change any of the original settings in the management pack file. However, you can create customizations, such as overrides or new monitoring objects, and save them to a different management pack. By default, the Operations Manager saves all customizations to the default management pack. As a best practice, you should instead create a separate management pack for each sealed management pack you want to customize.

Creating a new management pack for storing overrides has the following advantages:

 When you create a management pack for the purpose of storing customized settings for a sealed management pack, it is helpful to base the name of the new management pack on the name of the management pack that it is customizing, such as “Microsoft SQL Server 2017 Replication Overrides”.

* Creating a new management pack for storing customizations of each sealed management pack makes it easier to export the customizations from a test environment to a production environment. It also makes it easier to delete a management pack, because you must delete any dependencies before you can delete a management pack. If customizations for all management packs are saved in the Default Management Pack and you need to delete a single management pack, you must first delete the Default Management Pack, which also deletes customizations to other management packs.

For more information about sealed and unsealed management packs, see [Management Pack Formats](http://go.microsoft.com/fwlink/?LinkId=108355). For more information about management pack customizations and the default management pack, see [About Management Packs](http://go.microsoft.com/fwlink/?LinkId=108356).

How to Create a New Management Pack for Customizations

|  |
| --- |
| 1. Open the Operations console, and then click the Administration button.2. Right-click Management Packs, and then click Create New Management Pack.3. Enter a name (for example, MSSQL2016 Replication MP Customizations), and then click Next.4. Click Create. |

### How to Import a Management Pack

For more information about importing a management pack, see [How to Import an Operations Manager Management Pack](http://technet.microsoft.com/library/hh212691.aspx).

### How to Enable Agent Proxy Option

To enable **Agent Proxy option** complete following steps:

1. Open the Operations Console and click the **Administration** button.

2. In the Administrator pane, click Agent Managed.

3. Double-click an agent in the list.

4. On the Security tab, select Allow this agent to act as a proxy and discover managed objects on other computers.

### How to configure Run As Profiles

To configure Run As profiles, follow one of the scenarios described below:

1. SCOM Default Action Account is mapped to either Local System account, or any Domain User account, which is placed in the Local Administrators group on the operating system of the monitored machines. Note that the used account must be granted with SA rights in the monitored SQL Server instances (Domain User account can be granted with SA rights by granting SA to BUILTIN\Administrators local group in the SQL Server security access list). In this case, monitoring of SQL Server instances will work out of the box, except for some configurations described below.
2. SCOM Default Action Account is mapped to either Local System account or Domain User account as in the scenario described above, but SA rights cannot be granted to it, as long as the security policy prohibits granting SA rights to SCOM Default Action account. If the security policy permits to grant SA rights to a separate Domain User account, which will be used for launching SQL Server MP workflows only, perform the following steps:
3. Create a new Domain User account and add this account to Local Administrators group on each monitored server.
4. Grant SA rights to this account in SQL Server.
5. Create a new Action account in SCOM and map it to the Domain User account created above.
6. Map the new Action account to all SQL Server MP Run As Profiles.

Note

Please refer to “Run As Profiles” section for the detailed explanation of what Run As profiles are defined in Management Pack for Microsoft SQL Server 2017 Replication.

### Security Configuration

This section provides guidance on configuring the security for this management pack.

In this section:

* [Run As Profiles](#_Run_As_Profiles)
* [Required Permissions](#_Required_permissions)
* [TLS 1.2 Protection](#_TLS_1.2_Protection)

#### Run As Profiles

The Run As profiles are included into GPMP (Dashboards management pack). Therefore, shared Run As profiles shipped since SQL Server 2016 release are used. At that, a new Run As profile is added to support SQL Authentification (SQL Authentification is supported only for SQL Server 2017). The list of Run As profiles is as follows:

* Microsoft SQL Server 2016 and 2017 Discovery Run As Profile – this profile is associated with all discoveries.
* Microsoft SQL Server 2016 and 2017 Monitoring Run As Profile – this profile is associated with all monitors and rules.
* Microsoft SQL Server 2016 and 2017 Task Run As Profile – this profile is associated with all tasks.
* Microsoft SQL Server 2017 SQL Credentials Run As Profile – this profile is used for authentication versus Microsoft SQL Server 2017 Instances using SQL Credentials.

By default, all discoveries, monitors, and tasks defined in the SQL Server management packs use accounts defined in the “Default Action Account” Run As profile. If the default action account for a given system does not have the necessary permissions to discover or monitor the instance of SQL Server, then those systems can be bound to more specific credentials in the “Microsoft SQL Server 2017 …” Run As profiles, which do have access.

**Note**

For more information about configuring Run As profiles, see “How to configure Run As profiles” section of this guide.

#### Required Permissions

This section describes how to configure required permissions for the Management Pack for Microsoft SQL Server 2017 Replication. All workflows (discoveries, rules and monitors) in this management pack are bound to Run As profiles described in “Run As Profiles” section. To enable the monitoring, appropriate permissions should be granted to Run As accounts and these accounts should bound to respective Run As Profiles. Subsections below describe how to grant permissions at Operating System and SQL Server level.

Note

Please refer to “Run As Profiles” section for the detailed explanation of what Run As profiles are defined in Management Pack for Microsoft SQL Server 2017 Replication.

**Note**

For more information about configuring Run As profiles, see “How to configure Run As profiles” section of this guide.

#### TLS 1.2 Protection

Operating protection of connections in SQL Server is provided by means of TLS protocol. In order to have the ability to use TLS 1.2 protocol, your environment should meet the following prerequisites:

1. SQL Server should be updated to version that supports TLS 1.2.
2. Make sure that your environment meets the prerequisites provided in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| **OS Version** | **SCOM Version** | **.NET Version** | **PowerShell version** |
| Windows 2012 and above | **version**>= MINIMAL\_SUPPORTED\*\* | (2.0<=**version**<4.0) with TLS 1.2 update\*and(4.0<=**version**<4.6) with TLS 1.2 update\* | >=3.0 |
| Windows 2012 and above | **version**>= MINIMAL\_SUPPORTED\*\* | (2.0<=**version**<4.0) with TLS 1.2 update\*and**version**>=4.6  | >=3.0 |
| Windows 2008R2 and below | **version**>=2012 SP1 UR10**version**>=2012 R2 UR7 | (2.0<=**version**<4.0) with TLS 1.2 update\*and**version**>=4.6  | >=2.0 |
| Windows 2008R2 and below | **version**>=2012 SP1 UR10**version**>=2012 R2 UR7 | (2.0<=**version**<4.0) with TLS 1.2 update\*and(4.0<=**version**<4.6) with TLS 1.2 update\*  | >=2.0 |
| Windows 2008R2 and below | **version**<2012 SP1 UR102012 R2<=**version**<2012 R2 UR7 | (2.0<=**version**<4.0) with TLS1.2 update\* | 2.0 |

\* .NET Framework TLS 1.2 updates can be downloaded from [TLS 1.2 support for Microsoft SQL Server](https://support.microsoft.com/kb/3135244) page (**Client component downloads** section).

\*\* Minimal supported SCOM versions are stated in Supported Configurations section.

## View Information in the Operations Manager Console

### Version-Independent (Generic) Views and Dashboards

This management pack uses common folder structure introduced with the first release of Management Pack for SQL Server 2017. The following views and dashboards are version-independent and show information about all versions of SQL Server:

 SQL Server Replication

Active Alerts

All Replication Related Objects

 SQL Server Replication Database Health

“All Replication Related Objects” diagram view provides an information about all SQL Server Replication objects and their relations.

“SQL Server Replication Database Health” state view provides information about all databases participating in replication as published database. From this view, it is easy to open the diagram view specific to the published database.

### SQL Server 2017 Replication Views

The Management Pack for Microsoft SQL Server 2017 Replication introduces the comprehensive set of state, performance and alert view, which can be found in the dedicated folder:

Monitoring

Microsoft SQL Server

  SQL Server 2017 Replication

 SQL Server 2017 Replication

  SQL Server 2017 Replication Views

Note

This management pack provides a separate folder for SQL Server 2017 Replication. Therefore, other Replication objects are not displayed in this folder.

Note

Please refer to “Appendix: Management Pack Views and Dashboards” section of this guide for the full list of views.

Note

Some views may contain very long list of objects or metrics. To find a specific object or group of objects, you can use the Scope, Search, and Find buttons on the Operations Manager toolbar. For more information, see the “[Finding Data and Objects in the Operations Manager Consoles](http://technet.microsoft.com/library/hh212890.aspx)” article in the Operations Manager Help.

### Dashboards

This management pack includes a set of rich dashboards, which provide detailed information about SQL Server 2017 Replication. Each dashboard has a navigation widget (located in the leftmost part of the dashboard), which can be used to switch the current presentation context, i.e. the information displayed by other widgets depends on the object selected in the navigation widget.

Note

The Replication dashboards have three personalization settings:

* “Refresh Rate” – this setting defines how often dashboard refreshes data on a client. This setting does not change the actual collection frequency of metrics on a server.
* “Time Interval” – this setting defines for which period to display data. The Performance widget on the “Instance” view depends on this setting.
* “Background Color” – change background color for all views.

**Note**

Use menu button  of Datacenter Dashboard or a group In order to add a group or tile.

Note

To delete or edit a tile just right click on the tile and select required action.

Note

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

For more information, see Guide to Microsoft System Center Management Pack for Microsoft SQL Server Dashboards

#### Replication Components Datacenter Dashboard

The Replication Components Datacenter Dashboard is dashboard for SQL Server version-independent Replication. This dashboard contains four groups by default: Replication Database Health Group, Distributors Group, Publishers Group and Subscribers Group.



#### SQL Server 2017 Replication Datacenter Dashboard

The SQL Server 2017 Replication Datacenter Dashboard is a specific dashboard for SQL Server 2017 Replication. This dashboard contains only SQL Server 2017 Replication group by default that contains all SQL Server 2017 Distributors, Publishers and Subscribers.



## Links

The following links connect you to information about common tasks that are associated with System Center Management Packs:

1. [Management Pack Life Cycle](http://go.microsoft.com/fwlink/?LinkId=717826)
2. [How to Import an Operations Manager Management Pack](http://go.microsoft.com/fwlink/?LinkId=717823)
3. [Creating a Management Pack for Overrides](http://go.microsoft.com/fwlink/?LinkId=717827)
4. [Managing Run As Accounts and Profiles](http://technet.microsoft.com/library/hh212714.aspx)
5. [How to Export an Operations Manager Management Pack](http://go.microsoft.com/fwlink/?LinkId=717828)
6. [How to Remove an Operations Manager Management Pack](http://go.microsoft.com/fwlink/?LinkId=717829)

For free training on System Center Operations Manager, see the [System Center 2012 R2 Operations Manager Management Pack](http://go.microsoft.com/fwlink/?LinkId=717830) course at the Microsoft Virtual Academy (MVA).

For questions about the Operations Manager and management packs, see the [System Center Operations Manager community forum](http://go.microsoft.com/fwlink/?LinkID=179635) (http://go.microsoft.com/fwlink/?LinkID=179635).

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## Appendix: Terms and Definitions

| Term | Definition |
| --- | --- |
| Distributor | Distributor is a database instance that acts as a store for replication specific data associated with one or more Publishers. Each Publisher is associated with a single database (known as a distribution database) at the Distributor. In many cases, a single database server instance acts as both Publisher and Distributor. This is known as a local Distributor. When Publisher and Distributor are configured on separate database server instances, the Distributor is known as a remote Distributor. |
| Distribution database | Distribution database stores replication status data, metadata about the publication, and, in some cases, acts as a queue for data moving from Publisher to Subscribers. In many cases, a single database server instance acts as both Publisher and Distributor. This is known as a local Distributor. When Publisher and Distributor are configured on separate database server instances, the Distributor is known as a remote Distributor. |
| Publisher | Publisher is a database instance that makes data available to other locations through replication. A Publisher can have one or more publications, each defining a logically related set of objects and data to replicate. |
| Publication | Publication is a collection of one or more articles from one database. Such grouping of multiple articles into a publication makes it easier to specify a logically related set of data and database objects that are replicated as a unit. A publication can contain different types of articles, including tables, views, stored procedures, and other objects. When tables are published as articles, filters can be used to restrict the columns and rows of the data sent to Subscribers. |
| Article | Article identifies a database object that is included in a publication. |
| Subscriber | Subscriber is a database instance that receives replicated data. A Subscriber can receive data from multiple Publishers and publications. Depending on the selected replication type, a Subscriber can also pass data changes back to the Publisher, or republish the data to other Subscribers. |
| Subscription | Subscription is a request for a copy of a publication to be delivered to a Subscriber. A subscription defines what publication will be received, where and when. There are two types of subscriptions: push and pull. |
| Push subscription | Push subscription is represented by a subscription created and administered at the Publisher. The distribution agent or merge agent for this subscription runs at the Distributor. For more information about subscriptions, see [Subscribe to Publications](http://msdn.microsoft.com/library/ms151170.aspx). |
| Pull Subscription | Pull subscription is represented by a subscription configured and maintained at each recipient. The subscribers administer the synchronization schedules and can pull changes whether they consider it necessary. For more information about subscriptions, see [Subscribe to Publications](http://msdn.microsoft.com/library/ms151170.aspx). |
| Virtual Distributor | Virtual Distributor is a virtual entity, which serves to represent a real distributor on the diagram view for a Replication Database Health. |
| Virtual Publisher | Virtual Publisher is a virtual entity serves to represent a real publisher on the diagram view for a Replication Database Health. |
| Virtual Subscriber Host | Virtual Subscriber Host is a virtual entity that contains Virtual Subscribers. |
| Virtual Subscriber | Virtual Subscriberis a virtual entity serves to represent a real Subscriber on the diagram view for a Replication Database Health. |
| Virtual Publication Host | Virtual Publication Host is a virtual entity that contains Publications. |
| Publication database | Publication database is the database on the Publisher that is the source of data and database objects to be replicated. |
| Virtual Subscription | Virtual Subscriptionis a virtual entity serves to represent a real **subscription** on the diagram view for a Replication Database Health. The purpose of this entity is to hide all subscriptions when the diagram is opened for the first time. |

## Appendix: Management Pack Views and Dashboards

 Root

  Microsoft SQL Server

 SQL Server 2017 Replication [version independent folder]

 Active Alerts – [target: Replication Alerts Scope Group, scope: SQL Server Replication Objects]

 All Replication Related Objects – [target: Replication Flow Group, scope: All replication related objects]

 SQL Server Replication Database Health – [target: Distribution Databases, scope: SQL Server Published Databases]

Summary

  SQL Server 2017 Replication [version dependent folder]

Active Alerts – [target: SQL Server 2017 Replication Alerts Scope Group, scope: SQL Server 2017 Replication Objects]

Distributors – [target: Distributor SQL 2017, scope: SQL Server 2017 Replication Distributors]

Publications – [target: Publication SQL 2017, scope: SQL Server 2017 Replication Publications]

Publishers – [target: Publisher SQL 2017, scope: SQL Server 2017 Replication Publishers]

Subscribers – [target: Subscriber SQL 2017, scope: SQL Server 2017 Replication Subscriber]

Subscriptions – [target: Subscription SQL 2017, scope: SQL Server 2017 Replication Subscription]

Summary

 Performance

 Distributor Performance Collections – [target: Distributor SQL 2017, scope: Performance counter objects]

 Publisher Performance Collections – [target: Publisher SQL 2017, scope: Performance counter objects]

 Subscriber Performance Collections – [target: Subscriber SQL 2017, scope: Performance counter objects]

 SQL Server Replication Views [version independent folder]

Distributors – [target: Generic Distributor, scope: SQL Server Replication Distributors]

Publications – [target: GenericPublication**,** scope: SQL Server Replication Publications]

Publishers – [target: Generic Publisher, scope: SQL Server Replication Publishers]

Subscribers – [target: Generic Subscriber, scope: SQL Server Replication Subscribers]

Subscriptions – [target: Generic Subscription, scope: SQL Server Replication Subscriptions]

## Appendix: Management Pack Objects and Workflows

The Management Pack for Microsoft SQL Server 2017 Replication discovers the object types described in the following sections.

**MSSQL 2017 on Windows Replication: Alerts Scope Group**

SQL Server 2017 on Windows Replication Alerts Scope Group

**MSSQL 2017 on Windows Replication: Alerts Scope Group - Discoveries**

**MSSQL 2017 on Windows Replication: Alerts Scope Group Discovery**

Discovery of Alerts Scope Group

**MSSQL 2017 on Windows Replication: Distributor**

SQL Server 2017 on Windows Distributor is a SQL Server instance that acts as a store for replication specific data associated with one or more Publishers

**MSSQL 2017 on Windows Replication: Distributor - Discoveries**

**MSSQL 2017 on Windows Replication: Distributor Discovery**

The object discovery discovers all distributors of an instance of Microsoft SQL Server 2017 on Windows.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Distributor - Unit monitors**

**Unsynchronized Subscriptions on Distributor**

This monitor detects unsynchronized subscriptions for specific Distributors.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Number of samples | Indicates how many times a measured value should breach a threshold before the state is changed. | 12 |
| Per-Subscription threshold | Per-Subscription threshold | 0 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |
| Unhealthy subscriptions count threshold | Unhealthy subscriptions count threshold | 0 |

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**Pending Commands on Distributor**

There are pending commands on the Distributor waiting for delivery.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Number of samples | Indicates how many times a measured value should breach a threshold before the state is changed. | 6 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Threshold | Threshold | 5 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**One or more of the Replication Agents are retrying on the Distributor**

This monitor checks if any of the following Replication Agents are retrying an operation: Distribution Agent, Log Reader Agent, Merge Agent, Queue Reader Agent or Snapshot Agent.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Failed jobs count threshold | Failed jobs count threshold | 1 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Per-Job threshold | Per-Job threshold | 3 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Availability of the Distribution database from a Subscriber**

This monitor checks availability of the Distribution database from the Subscriber.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | No |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| CredSsp Enabled | Indicates that CredSsp is enabled prior to running this workflow. Will leave it enabled after the run | true |
| Database Names | List of names for databases that should be checked, delimited by ',' symbol |  |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Port | Port of wsman service | 5985 |
| Prefix | Name of the wsman service | wsman |
| Subscriber Names | List of names of subscribers that should be used as a check source, delimited by '|' symbol |  |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |
| Transport | Prefix of the protocol to access the wsman service | http |

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**Replication Queue Reader Agent State for Distributor (aggregated for all Publications)**

This monitor checks the status of the Queue Reader Agent services for all Publications on the Distributor. Note: This monitor is disabled by default. Please use overrides to enable it when necessary.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | No |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Estimated Job Duration | Threshold which is being used to check the job schedule compliance | 15 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Show Jobs with Unknown State | Include jobs with unknown state to the monitor output and alert context. Will affect health. | false |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Total daily execution time of the replication agent**

This monitors the total daily execution time of the replication agents, Distribution, Log Reader, Merge, Queue Reader and Snapshot on the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Error Threshold | Error Threshold | 4 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Measurement Period (hours) | Period of time used for measurement (hours) | 24 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |
| Warning Threshold | The monitor will change the state to Warning if the value drops below this threshold. | 3 |

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**Percent of Deactivated Subscriptions**

Percent of Deactivated Subscriptions Monitor

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Error Threshold | Error Threshold | 10 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |
| Warning Threshold | The monitor will change the state to Warning if the value drops below this threshold. | 0 |

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**SQL Server Agent State for Distributor**

This monitor checks if the SQL Server Agent is running on Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 600 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Replication Agents failed on the Distributor**

This monitor checks if the following Replication agent jobs are in a healthy state: Distribution agent, Merge agent, Queue Reader agent, Log reader agent or Snapshot agent. If any of the agents are in a failed state, the monitor will be triggered.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Failed jobs count threshold | Failed jobs count threshold | 1 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Per-Job threshold | Per-Job threshold | 1 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Replication Log Reader Agent State for the Distributor (aggregated for all Publications)**

This monitor checks the state of the Replication Log Reader for all Publications serviced by the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Estimated Job Duration | Threshold which is being used to check the job schedule compliance | 15 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Show Jobs with Unknown State | Include jobs with unknown state to the monitor output and alert context. Will affect health. | false |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Availability of the Distribution database**

This monitor checks the availability of the Distribution database from the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Replication Merge Agent State for the Distributor (aggregated for all Subscriptions)**

This monitor checks the state of the Merge agents for all Subscriptions on the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Estimated Job Duration | Threshold which is being used to check the job schedule compliance | 15 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Show Jobs with Unknown State | Include jobs with unknown state to the monitor output and alert context. Will affect health. | false |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Publication Snapshot Available Space**

The monitor reports a warning when the available disk space for the publication Snapshot drops below the Warning Threshold setting. This is indicated as a percentage of the snapshot files folder size. The monitor reports a critical alert when the available space drops below the Critical Threshold.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Error Threshold | Error Threshold | 10 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |
| Warning Threshold | Warning Threshold | 20 |

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**Percent of Expired Subscriptions**

Percent of Expired Subscriptions Monitor

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Error Threshold | Error Threshold | 10 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |
| Warning Threshold | The monitor will change the state to Warning if the value drops below this threshold. | 0 |

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**Replication Snapshot Agent State for Distributor (aggregated for all Publications)**

This monitor checks the state of the Snapshot Agent services for all Publications on the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Estimated Job Duration | Threshold which is being used to check the job schedule compliance | 15 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Show Jobs with Unknown State | Include jobs with unknown state to the monitor output and alert context. Will affect health. | false |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Distribution Agents state (aggregated for all Publications)**

This monitor checks the state of the Distribution agents for all publications serviced by this Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Estimated Job Duration | Threshold which is being used to check the job schedule compliance | 15 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Show Jobs with Unknown State | Include jobs with unknown state to the monitor output and alert context. Will affect health. | false |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Distributor - Dependency (rollup) monitors**

**MSSQL 2017 on Windows Replication: Database Performance Rollup**

This monitor rolls up the performance state from Database to Microsoft SQL Server 2017 on Windows Replication

**MSSQL 2017 on Windows Replication: Distributor - Rules (alerting)**

**MSSQL 2017 on Windows Replication: The Maintenance Job(s) Failed on Distributor Alert Rule**

The Maintenance Job(s) Failed on Distributor Alert Rule

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Priority | Defines Alert Priority. | 2 |
| Severity | Defines Alert Severity. | 2 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Distributor - Rules (non-alerting)**

**MSSQL 2017 on Windows Replication: Count of the Queue Reader Instances for the Distributor**

Count of the Queue Reader Instances for the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Log Reader Agent: Delivered Commands per Second**

The number of commands per second delivered to the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of the Merge Agent Instances for the Distributor**

Count of the Merge Agent Instances for the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Snapshot Agent: Delivered Commands per Second**

The number of commands per second delivered to the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of the Snapshot Agents Instances for the Distributor**

Count of the Snapshot Agent Instances for the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Log Reader Agent: Delivered Transactions per Second**

The number of transactions per second delivered to the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Merge Agent: Download Changes per Second**

The number of rows per second replicated from the Publisher to the Subscriber (aggregated for Distributor).

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Merge Agent: Uploaded Changes per Second**

The number of rows per second replicated from the Subscriber to the Publisher.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of Pending Commands in the Distribution Database**

Count of commands in the Distribution database pending replication.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Merge Agent: Conflicts per Second**

The number of conflicts per second occurring during the merge process.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Deactivated Subscriptions (%)**

The percentage of Deactivated Subscriptions for the Distributor

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of the Distribution Agent Instances for the Distributor**

Count of the Distribution Agent Instances for the Distributor

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Replication Snapshot Available Space (%)**

The amount of space left on media hosting a Replication Snapshot.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Distribution Agent: Delivered Commands per Second**

The number of commands per second delivered to the Subscriber.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Expired Subscriptions (%)**

The Percentage of Expired Subscriptions for the Distributor

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of Failed Replication Agents Jobs on the Distributor**

Count of Failed Replication Agents Jobs on the Distributor

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of the Log Reader Agent Instances for the Distributor**

Count of the Log Reader Agent Instances for the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of Unsynchronized Subscriptions for the Distributor**

Count of unsynchronized subscriptions for the Distributor

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Threshold | Threshold | 0 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of Publications for the Distributor**

Count of Publications for the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Distribution Agent: Delivered Transactions per Second**

The number of transactions per second delivered to the Subscriber.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Log Reader Agent: Delivery Latency**

The current amount of time (in milliseconds) elapsed from when transactions are applied at the Publisher to when they are delivered to the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of Subscriptions for the Distributor**

Count of Subscriptions for the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Snapshot Agent: Delivered Transactions per Second**

The number of transactions per second delivered to the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Distribution Agent: Delivery Latency**

The current amount of time (in milliseconds) elapsed from when transactions are delivered to the Distributor to when they are applied at the Subscriber.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Group**

A group containing all SQL Server 2017 on Windows Replication components

**MSSQL 2017 on Windows Replication: Group - Discoveries**

**MSSQL 2017 on Windows Replication: Populate SQL Server 2017 on Windows Replication Group**

This discovery rule populates the SQL Server 2017 on Windows Replication group with all SQL Server 2017 on Windows Replication components.

**MSSQL 2017 on Windows Replication: Monitoring Pool Alert Collection**

MSSQL 2017 Replication Monitoring Pool Alert Collection on Windows. This object is used to collect Windows module errors and warnings from event log of nodes that are the members of the SQL Server 2017 Monitoring Pool.

**MSSQL 2017 on Windows Replication: Monitoring Pool Alert Collection - Discoveries**

**MSSQL 2017 on Windows Replication: Discover Local Alert Collections**

This rule discovers a Local Alert Collection for a MSSQL 2017 on Windows Replication. This object is used to collect module errors and warnings from event log of SCOM agents that monitor Local SQL Server 2017 DB Engine instances.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |

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**MSSQL 2017 on Windows Replication: Discover Monitoring Pool Alert Collections**

This rule discovers a Monitoring Pool Alert Collection for a MSSQL 2017 on Windows Replication. This object is used to collect module errors and warnings from event log of nodes that are the members of the SQL Server 2017 Monitoring Pool.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |

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**MSSQL 2017 on Windows Replication: Monitoring Pool Alert Collection - Rules (alerting)**

**MSSQL 2017 on Windows Replication: Monitoring Warning**

The rule traces monitoring workflows warnings and generates error alerts.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | Yes |
| Priority | Defines Alert Priority. | 1 |
| Severity | Defines Alert Severity. | 1 |

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**MSSQL 2017 on Windows Replication: Monitoring Error**

The rule traces monitoring workflows errors and generates error alerts.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | Yes |
| Priority | Defines Alert Priority. | 1 |
| Severity | Defines Alert Severity. | 2 |

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**MSSQL 2017 on Windows Replication: Discovery error**

The rule traces discovery workflows errors and generates error alerts.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | Yes |
| Priority | Defines Alert Priority. | 1 |
| Severity | Defines Alert Severity. | 2 |

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**MSSQL 2017 on Windows Replication: Discovery warning**

The rule traces discovery workflows warnings and generates error alerts.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | Yes |
| Priority | Defines Alert Priority. | 1 |
| Severity | Defines Alert Severity. | 1 |

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**MSSQL 2017 on Windows Replication: Publication**

A publication is a collection of one or more articles from one database. The grouping of multiple articles into a publication makes it easier to specify a logically related set of database data and objects that are replicated as a unit.

**MSSQL 2017 on Windows Replication: Publication - Discoveries**

**MSSQL 2017 on Windows Replication: Publication Discovery**

The object discovery discovers all publications of a Publisher of Microsoft SQL Server 2017 on Windows

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Publication - Unit monitors**

**All Subscriptions are Synchronizing for Publication**

All Subscriptions are Synchronizing

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Replication Log Reader Agent State for Publication**

This monitor checks the status of the Replication Log Reader Agent service for Publications.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Estimated Job Duration | Threshold which is being used to check the job schedule compliance | 15 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Show Jobs with Unknown State | Include jobs with unknown state to the monitor output and alert context. Will affect health. | false |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Replication Snapshot Agent State**

This monitor checks the status of the Replication Snapshot Agent service for Publications.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Estimated Job Duration | Threshold which is being used to check the job schedule compliance | 15 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Show Jobs with Unknown State | Include jobs with unknown state to the monitor output and alert context. Will affect health. | false |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Publisher**

SQL Server 2017 on Windows Publisher is a SQL 2017 on Windows instance that makes data available to other locations through replication.

**MSSQL 2017 on Windows Replication: Publisher - Discoveries**

**MSSQL 2017 on Windows Replication: Publisher Discovery**

The object discovery discovers Publishers of an instance of Microsoft SQL Server 2017 on Windows.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Publisher - Unit monitors**

**Subscriptions state for Publisher**

This monitor checks whether there are any inactive subscriptions for any publications.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**SQL Server Agent State for Publisher**

This monitor checks if the SQL Server Agent is running on Publisher.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 600 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Publisher - Rules (non-alerting)**

**MSSQL 2017 on Windows Replication: Count of Publications for the Publisher**

Count of Publications for the Publisher.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Subscriber**

SQL Server 2017 on Windows Subscriber is a SQL 2017 on Windows instance that receives replicated data.

**MSSQL 2017 on Windows Replication: Subscriber - Discoveries**

**MSSQL 2017 on Windows Replication: Subscriber Discovery**

The object discovery discovers Subscribers of an instance of Microsoft SQL Server 2017 on Windows.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Subscriber - Unit monitors**

**SQL Server Agent State for Subscriber**

This monitor checks if the SQL Server Agent is running on Subscriber. Note that SQL Server Agent Windows Service is not supported by any edition of SQL Server Express. Therefore, this monitor is not applicable for SQL Server Express cases.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 600 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Load of Replication agents on Subscriber**

Replication agents (Distribution and Merge) load on Subscriber

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Error Threshold | Error Threshold | 4 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Measurement Period (hours) | Period of time used for measurement (hours) | 24 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |
| Warning Threshold | The monitor will change the state to Warning if the value drops below this threshold. | 3 |

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**Subscriber Agent is Retrying**

The Subscriber Agent (Distribution, Log Reader, Merge, Queue Reader and Snapshot) is Retrying Monitor. Note that SQL Server Agent Windows Service is not supported by any edition of SQL Server Express. Therefore, this monitor is not applicable for SQL Server Express cases.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Failed jobs count threshold | Failed jobs count threshold | 1 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Per-Job threshold | Per-Job threshold | 3 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Subscriber - Rules (non-alerting)**

**MSSQL 2017 on Windows Replication: Count of Subscriptions for the Subscriber**

Count of Subscriptions for the Subscriber.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 900 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Count of the Failed Replication Jobs for the Subscriber**

Count of the Failed Replication Jobs for the Subscriber

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Subscription**

SQL Server 2017 on Windows Subscription is a request for a copy of a publication to be delivered to a Subscriber.

**MSSQL 2017 on Windows Replication: Subscription - Discoveries**

**MSSQL 2017 on Windows Replication: Subscription Discovery**

The object discovery discovers all subscriptions of a Subscriber of Microsoft SQL Server 2017 on Windows.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Subscription - Unit monitors**

**Subscription latency**

This monitor checks the latency for commands in the Distribution database waiting to be delivered to the Subscribers.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Threshold | Threshold | 60 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Replication Merge Agent State for Subscription**

This monitor checks the status of the Replication Merge Agent service for Subscription. Note that SQL Server Agent Windows Service is not supported by any edition of SQL Server Express. Therefore, this monitor is not applicable for SQL Server Express cases.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Estimated Job Duration | Threshold which is being used to check the job schedule compliance | 15 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Show Jobs with Unknown State | Include jobs with unknown state to the monitor output and alert context. Will affect health. | false |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Distribution Agent State for Subscription**

This monitor checks the status of the Replication Distribution Agent services for Subscription. Note that SQL Server Agent Windows Service is not supported by any edition of SQL Server Express. Therefore, this monitor is not applicable for SQL Server Express cases.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Estimated Job Duration | Threshold which is being used to check the job schedule compliance | 15 |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Show Jobs with Unknown State | Include jobs with unknown state to the monitor output and alert context. Will affect health. | false |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**Subscription Pending Commands**

There are pending commands on the Distributor for specific Subscription waiting delivery.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Number of samples | Indicates how many times a measured value should breach a threshold before the state is changed. | 6 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Threshold | Threshold | 20 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017 on Windows Replication: Subscription - Rules (non-alerting)**

**MSSQL 2017 on Windows Replication: Count of Pending Commands**

Count of commands pending replication in distribution database for the Subscription.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | No |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017: Generic Replication Alerts Scope Group**

SQL Server Replication Alerts Scope Group contains SQL Server objects which can throw alerts.

**MSSQL 2017: Generic Replication Alerts Scope Group - Discoveries**

**MSSQL 2017: Replication Alerts Scope Group Discovery**

Discovery of Alerts Scope Group

**MSSQL 2017: Generic Replication Alerts Scope Group**

The Generic Replication Alerts Scope Group contains SQL Server objects which can raise alerts.

**MSSQL 2017: Generic Replication Alerts Scope Group - Discoveries**

**MSSQL 2017: Replication Alerts Scope Group Discovery**

Discovery of Alerts Scope Group

**MSSQL 2017: Generic Replication Database Health**

This class is a dynamic application used to group Publishers, distributors and Subscribers which are linked with a single Publisher database.

**MSSQL 2017: Generic Replication Database Health - Discoveries**

**MSSQL 2017: Generic Replication Database Health Discovery**

The object discovery discovers the aggregate health containers and relationships for objects related to a published database.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Timeout (seconds) | 15 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |

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**MSSQL 2017: Generic Replication Database Health - Dependency (rollup) monitors**

**Virtual Publisher Configuration Rollup**

Virtual Publisher Configuration Rollup

**Virtual Subscriber Host Availability Rollup**

Virtual Subscriber Host Availability Rollup

**Virtual Subscriber Host Performance Rollup**

Virtual Subscriber Host Performance Rollup

**Virtual Publisher Performance Rollup**

Virtual Publisher Performance Rollup

**Virtual Distributor Configuration Rollup**

Virtual Distributor Configuration Rollup

**Virtual Distributor Security Rollup**

Virtual Distributor Security Rollup

**Virtual Publisher Availability Rollup**

Virtual Publisher Availability Rollup

**Virtual Subscriber Host Configuration Rollup**

Virtual Subscriber Host Configuration Rollup

**Virtual Distributor Performance Rollup**

Virtual Distributor Performance Rollup

**Virtual Distributor Availability Rollup**

Virtual Distributor Availability Rollup

**Virtual Publisher Security Rollup**

Virtual Publisher Security Rollup

**Virtual Subscriber Host Security Rollup**

Virtual Subscriber Host Security Rollup

**MSSQL 2017: Generic Replication Distributor Group**

A Distributor Group is a group of Distributors.

**MSSQL 2017: Generic Replication Distributor Group - Discoveries**

**MSSQL 2017: Generic Replication Distributor Group Memberships Discovery**

The Discovery of Memberships in a Distributor Group

**MSSQL 2017: Generic Replication Distributor Group - Dependency (rollup) monitors**

**Generic Distributor Availability Rollup for the Distributor Group**

Generic Distributor Availability Rollup for the Distributor Group

**Generic Distributor Security Rollup for the Distributor Group**

Generic Distributor Security Rollup for the Distributor Group

**Generic Distributor Performance Rollup for the Distributor Group**

Generic Distributor Performance Rollup for the Distributor Group

**Generic Distributor Configuration Rollup for the Distributor Group**

Generic Distributor Configuration Rollup for the Distributor Group

**MSSQL 2017: Generic Replication Distributor Instances Group**

Distributor Instances Group is a group that contains all SQL Server instances with a Distributor.

**MSSQL 2017: Generic Replication Distributor Instances Group - Dependency (rollup) monitors**

**Instance Performance Rollup for the Distributor Instance Group**

Instance Performance Rollup for the Distributor Instance Group

**Generic Distributor Configuration Rollup for the Distributor Instance Group**

Generic Distributor Configuration Rollup for the Distributor Instance Group

**Generic Distributor Security Rollup for the Distributor Instance Group**

Generic Distributor Security Rollup for the Distributor Instance Group

**Instance Security Rollup for the Distributor Instance Group**

Instance Security Rollup for the Distributor Instance Group

**Generic Distributor Performance Rollup for the Distributor Instance Group**

Generic Distributor Performance Rollup for the Distributor Instance Group

**Instance Configuration Rollup for the Distributor Instance Group**

Instance Configuration Rollup for the Distributor Instance Group

**Generic Distributor Availability Rollup for the Distributor Instance Group**

Generic Distributor Availability Rollup for the Distributor Instance Group

**Instance Availability Rollup for the Distributor Instance Group**

Instance Availability Rollup for the Distributor Instance Group

**MSSQL 2017: Generic Replication Flow Group**

This group is a collection of Publishers, distributors and Subscribers. It contains all objects related to the replication which can be found in the System Center Operations Manager database.

**MSSQL 2017: Generic Replication Flow Group - Discoveries**

**MSSQL 2017: Generic Replication Flow Group Discovery**

Discovery of Memberships in a Replication Flow Group

**MSSQL 2017: Generic Replication Flow Group - Dependency (rollup) monitors**

**Subscriber Instance Group Availability Rollup for the Replication Flow Group**

Subscriber Instance Group Availability Rollup for the Replication Flow Group

**Subscriber Instance Group Security Rollup for the Replication Flow Group**

Subscriber Instance Group Security Rollup for the Replication Flow Group

**Subscriber Group Performance Rollup for the Replication Flow Group**

Subscriber Group Performance Rollup for the Replication Flow Group

**Distributor Group Availability Rollup for the Replication Flow Group**

Distributor Group Availability Rollup for the Replication Flow Group

**Distributor Instance Group Configuration Rollup for the Replication Flow Group**

Distributor Instance Group Configuration Rollup for the Replication Flow Group

**Subscriber Group Availability Rollup for the Replication Flow Group**

Subscriber Group Availability Rollup for the Replication Flow Group

**Subscriber Group Configuration Rollup for the Replication Flow Group**

Subscriber Group Configuration Rollup for the Replication Flow Group

**Publisher Instance Group Security Rollup for the Replication Flow Group**

Publisher Instance Group Security Rollup for the Replication Flow Group

**Publisher Group Performance Rollup for the Replication Flow Group**

Publisher Group Performance Rollup for the Replication Flow Group

**Distributor Instance Group Performance Rollup for the Replication Flow Group**

Distributor Instance Group Performance Rollup for the Replication Flow Group

**Subscriber Instance Group Performance Rollup for the Replication Flow Group**

Subscriber Instance Group Performance Rollup for the Replication Flow Group

**Distributor Instance Group Security Rollup for the Replication Flow Group**

Distributor Instance Group Security Rollup for the Replication Flow Group

**Distributor Group Security Rollup for the Replication Flow Group**

Distributor Group Security Rollup for the Replication Flow Group

**Publisher Group Configuration Rollup for the Replication Flow Group**

Publisher Group Configuration Rollup for the Replication Flow Group

**Publisher Instance Group Configuration Rollup for the Replication Flow Group**

Publisher Instance Group Configuration Rollup for the Replication Flow Group

**Publisher Group Security Rollup for the Replication Flow Group**

Publisher Group Security Rollup for the Replication Flow Group

**Subscriber Instance Group Configuration Rollup for the Replication Flow Group**

Subscriber Instance Group Configuration Rollup for the Replication Flow Group

**Publisher Group Availability Rollup for the Replication Flow Group**

Publisher Group Availability Rollup for the Replication Flow Group

**Publisher Instance Group Performance Rollup for the Replication Flow Group**

Publisher Instance Group Performance Rollup for the Replication Flow Group

**Distributor Instance Group Availability Rollup for the Replication Flow Group**

Distributor Instance Group Availability Rollup for the Replication Flow Group

**Publisher Instance Group Availability Rollup for the Replication Flow Group**

Publisher Instance Group Availability Rollup for the Replication Flow Group

**Distributor Group Configuration Rollup for the Replication Flow Group**

Distributor Group Configuration Rollup for the Replication Flow Group

**Distributor Group Performance Rollup for the Replication Flow Group**

Distributor Group Performance Rollup for the Replication Flow Group

**Subscriber Group Security Rollup for the Replication Flow Group**

Subscriber Group Security Rollup for the Replication Flow Group

**MSSQL 2017: Generic Replication Publication**

Generic Publication.

**MSSQL 2017: Generic Replication Publication - Dependency (rollup) monitors**

**Database Performance Rollup**

Database Performance Rollup

**Database Configuration Rollup**

Database Configuration Rollup

**Database Availability Rollup**

Database Availability Rollup

**Database Security Rollup**

Database Security Rollup

**MSSQL 2017: Generic Replication Publisher Group**

A Publisher Group is a group of Publishers.

**MSSQL 2017: Generic Replication Publisher Group - Discoveries**

**MSSQL 2017: Generic Replication Publisher Group Memberships Discovery**

The Discovery of Memberships in a Publisher Groups

**MSSQL 2017: Generic Replication Publisher Group - Dependency (rollup) monitors**

**Generic Publisher Availability Rollup for the Publisher Group**

Generic Publisher Availability Rollup for the Publisher Group

**Generic Publisher Performance Rollup for the Publisher Group**

Generic Publisher Performance Rollup for the Publisher Group

**Generic Publisher Security Rollup for the Publisher Group**

Generic Publisher Security Rollup for the Publisher Group

**Generic Publisher Configuration Rollup for the Publisher Group**

Generic Publisher Configuration Rollup for the Publisher Group

**MSSQL 2017: Generic Replication Publisher Instances Group**

A Publisher Instances Group is a group that contains all SQL Server Instances with Publishers.

**MSSQL 2017: Generic Replication Publisher Instances Group - Dependency (rollup) monitors**

**Instance Configuration Rollup for the Publisher Instance Group**

Instance Configuration Rollup for the Publisher Instance Group

**Instance Security Rollup for the Publisher Instance Group**

Instance Security Rollup for the Publisher Instance Group

**Generic Publisher Security Rollup for the Publisher Instance Group**

Generic Publisher Security Rollup for the Publisher Instance Group

**Instance Availability Rollup for the Publisher Instance Group**

Instance Availability Rollup for the Publisher Instance Group

**Generic Publisher Availability Rollup for the Publisher Instance Group**

Generic Publisher Availability Rollup for the Publisher Instance Group

**Instance Performance Rollup for the Publisher Instance Group**

Instance Performance Rollup for the Publisher Instance Group

**Generic Publisher Performance Rollup for the Publisher Instance Group**

Generic Publisher Performance Rollup for the Publisher Instance Group

**Generic Publisher Configuration Rollup for the Publisher Instance Group**

Generic Publisher Configuration Rollup for the Publisher Instance Group

**MSSQL 2017: Generic Replication Seed**

An installation of Microsoft SQL Server Replication Seed.

**MSSQL 2017: Generic Replication Seed - Discoveries**

**MSSQL 2017 on Windows Replication: Discover SQL Server 2017 on Windows Replication (seed)**

This discovery rule discovers a seed for a Microsoft SQL Server 2017 on Windows Replication Database Health. This object indicates that the particular server computer contains an installation of Microsoft SQL Server 2017 on Windows with Replication Distributor configured.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |

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**MSSQL 2017: Generic Replication Subscriber Group**

Subscriber Group is a group that contain all Subscribers.

**MSSQL 2017: Generic Replication Subscriber Group - Discoveries**

**MSSQL 2017: Generic Replication Subscriber Group Memberships Discovery**

Discovery of Memberships in a Subscriber Group

**MSSQL 2017: Generic Replication Subscriber Group - Dependency (rollup) monitors**

**Generic Subscriber Configuration Rollup for the Subscriber Group**

Generic Subscriber Configuration Rollup for the Subscriber Group

**Generic Subscriber Availability Rollup for the Subscriber Group**

Generic Subscriber Availability Rollup for the Subscriber Group

**Generic Subscriber Security Rollup for the Subscriber Group**

Generic Subscriber Security Rollup for the Subscriber Group

**Generic Subscriber Performance Rollup for the Subscriber Group**

Generic Subscriber Performance Rollup for the Subscriber Group

**MSSQL 2017: Generic Replication Subscriber Instances Group**

Subscriber Instances Group is a group that contains all SQL Server Instances with Subscribers.

**MSSQL 2017: Generic Replication Subscriber Instances Group - Dependency (rollup) monitors**

**Generic Subscriber Configuration Rollup for the Subscriber Instance Group**

Generic Subscriber Configuration Rollup for the Subscriber Instance Group

**Instance Security Rollup for the Subscriber Instance Group**

Instance Security Rollup for the Subscriber Instance Group

**Instance Availability Rollup for the Subscriber Instance Group**

Instance Availability Rollup for the Subscriber Instance Group

**Instance Performance Rollup for the Subscriber Instance Group**

Instance Performance Rollup for the Subscriber Instance Group

**Instance Configuration Rollup for the Subscriber Instance Group**

Instance Configuration Rollup for the Subscriber Instance Group

**Generic Subscriber Performance Rollup for the Subscriber Instance Group**

Generic Subscriber Performance Rollup for the Subscriber Instance Group

**Generic Subscriber Security Rollup for the Subscriber Instance Group**

Generic Subscriber Security Rollup for the Subscriber Instance Group

**Generic Subscriber Availability Rollup for the Subscriber Instance Group**

Generic Subscriber Availability Rollup for the Subscriber Instance Group

**MSSQL 2017: Generic Replication Subscription**

Generic Subscription.

**MSSQL 2017: Generic Replication Subscription - Dependency (rollup) monitors**

**Database Availability Rollup**

Database Availability Rollup

**Database Performance Rollup**

Database Performance Rollup

**Database Security Rollup**

Database Security Rollup

**Database Configuration Rollup**

Database Configuration Rollup

**MSSQL 2017: Generic Replication Virtual Alerts Scope Group**

The Virtual Replication Alerts Scope Group contains Virtual Replication objects which can raise alerts.

**MSSQL 2017: Generic Replication Virtual Alerts Scope Group - Discoveries**

**MSSQL 2017: Replication Replication Virtual Alerts Scope Group Discovery**

Discovery of Virtual Alerts Scope Group

**MSSQL 2017: Generic Replication Virtual Distributor**

Virtual Distributor.

**MSSQL 2017: Generic Replication Virtual Distributor - Discoveries**

**MSSQL 2017: Generic Replication Database Health Discovery**

The object discovery discovers the aggregate health containers and relationships for objects related to a published database.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Timeout (seconds) | 15 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |

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**MSSQL 2017: Generic Replication Virtual Distributor - Unit monitors**

**All Publishers Discovered for Distributor**

This monitor checks that all Publishers are discovered for the Distributor.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Generate Alerts | Defines whether the workflow generates an Alert. | True |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 300 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 200 |
| Timeout for database connection (seconds) | The workflow will fail and register an event, if it cannot access the database during the specified period. | 15 |

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**MSSQL 2017: Generic Replication Virtual Distributor - Dependency (rollup) monitors**

**Database Availability Rollup**

Database Availability Rollup

**Database Security Rollup**

Database Security Rollup

**Generic Distributor Performance Rollup**

Generic Distributor Performance Rollup

**Database Performance Rollup**

Database Performance Rollup

**System Entity Performance Rollup**

System Entity Performance Rollup

**System Entity Security Rollup**

System Entity Security Rollup

**Database Configuration Rollup**

Database Configuration Rollup

**System Entity Availability Rollup**

System Entity Availability Rollup

**System Entity Configuration Rollup**

System Entity Configuration Rollup

**Generic Distributor Configuration Rollup**

Generic Distributor Configuration Rollup

**Generic Distributor Availability Rollup**

Generic Distributor Availability Rollup

**Generic Distributor Security Rollup**

Generic Distributor Security Rollup

**MSSQL 2017: Generic Replication Virtual Publication Host**

Virtual Publication host.

**MSSQL 2017: Generic Replication Virtual Publication Host - Discoveries**

**MSSQL 2017: Generic Replication Database Health Discovery**

The object discovery discovers the aggregate health containers and relationships for objects related to a published database.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Timeout (seconds) | 15 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |

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**MSSQL 2017: Generic Replication Virtual Publication Host - Dependency (rollup) monitors**

**Generic Publication Security Rollup**

Generic Publication Security Rollup

**Generic Publication Performance Rollup**

Generic Publication Performance Rollup

**Generic Publication Configuration Rollup**

Generic Publication Configuration Rollup

**Generic Publication Availability Rollup**

Generic Publication Availability Rollup

**MSSQL 2017: Generic Replication Virtual Publisher**

Virtual Publisher.

**MSSQL 2017: Generic Replication Virtual Publisher - Discoveries**

**MSSQL 2017: Generic Replication Database Health Discovery**

The object discovery discovers the aggregate health containers and relationships for objects related to a published database.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Timeout (seconds) | 15 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |

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**MSSQL 2017: Generic Replication Virtual Publisher - Dependency (rollup) monitors**

**Database Performance Rollup**

Database Performance Rollup

**Generic Publisher Configuration Rollup**

Generic Publisher Configuration Rollup

**Generic Publisher Availability Rollup**

Generic Publisher Availability Rollup

**Virtual Publication Host Security Rollup**

Virtual Publication Host Security Rollup

**Database Availability Rollup**

Database Availability Rollup

**System Entity Availability Rollup**

System Entity Availability Rollup

**System Entity Security Rollup**

System Entity Security Rollup

**Generic Publication Security Rollup**

Generic Publication Security Rollup

**Virtual Publication Host Configuration Rollup**

Virtual Publication Host Configuration Rollup

**Database Configuration Rollup**

Database Configuration Rollup

**Virtual Publication Host Performance Rollup**

Virtual Publication Host Performance Rollup

**Generic Publisher Security Rollup**

Generic Publisher Security Rollup

**Generic Publication Performance Rollup**

Generic Publication Performance Rollup

**Generic Publication Configuration Rollup**

Generic Publication Configuration Rollup

**Generic Publisher Performance Rollup**

Generic Publisher Performance Rollup

**System Entity Configuration Rollup**

System Entity Configuration Rollup

**System Entity Performance Rollup**

System Entity Performance Rollup

**Generic Publication Availability Rollup**

Generic Publication Availability Rollup

**Database Security Rollup**

Database Security Rollup

**Virtual Publication Host Availability Rollup**

Virtual Publication Host Availability Rollup

**MSSQL 2017: Generic Replication Virtual Subscriber**

Virtual Subscriber.

**MSSQL 2017: Generic Replication Virtual Subscriber - Discoveries**

**MSSQL 2017: Generic Replication Database Health Discovery**

The object discovery discovers the aggregate health containers and relationships for objects related to a published database.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Timeout (seconds) | 15 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |

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**MSSQL 2017: Generic Replication Virtual Subscriber - Dependency (rollup) monitors**

**System Entity Security Rollup**

System Entity Security Rollup

**System Entity Performance Rollup**

System Entity Performance Rollup

**Generic Subscriber Availability Rollup**

Generic Subscriber Availability Rollup

**Virtual Subscription Security Rollup**

Virtual Subscription Security Rollup

**Generic Subscriber Performance Rollup**

Generic Subscriber Performance Rollup

**System Entity Availability Rollup**

System Entity Availability Rollup

**Generic Subscriber Security Rollup**

Generic Subscriber Security Rollup

**System Entity Configuration Rollup**

System Entity Configuration Rollup

**Generic Subscriber Configuration Rollup**

Generic Subscriber Configuration Rollup

**Virtual Subscription Configuration Rollup**

Virtual Subscription Configuration Rollup

**Virtual Subscription Performance Rollup**

Virtual Subscription Performance Rollup

**Virtual Subscription Availability Rollup**

Virtual Subscription Availability Rollup

**MSSQL 2017: Generic Replication Virtual Subscriber Host**

Virtual Subscriber host.

**MSSQL 2017: Generic Replication Virtual Subscriber Host - Discoveries**

**MSSQL 2017: Generic Replication Database Health Discovery**

The object discovery discovers the aggregate health containers and relationships for objects related to a published database.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Timeout (seconds) | 15 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |

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**MSSQL 2017: Generic Replication Virtual Subscriber Host - Dependency (rollup) monitors**

**Virtual Subscriber Performance Rollup**

Virtual Subscriber Performance Rollup

**Virtual Subscriber Security Rollup**

Virtual Subscriber Security Rollup

**Virtual Subscriber Availability Rollup**

Virtual Subscriber Availability Rollup

**Virtual Subscriber Configuration Rollup**

Virtual Subscriber Configuration Rollup

**MSSQL 2017: Generic Replication Virtual Subscription**

Virtual Subscription.

**MSSQL 2017: Generic Replication Virtual Subscription - Discoveries**

**MSSQL 2017: Generic Replication Database Health Discovery**

The object discovery discovers the aggregate health containers and relationships for objects related to a published database.

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| **Name** | **Description** | **Default value** |
| Enabled | Enables or disables the workflow. | Yes |
| Interval (seconds) | The recurring interval of time in seconds in which to run the workflow. | 14400 |
| Synchronization Time | The synchronization time specified by using a 24-hour format. May be omitted. |  |
| Timeout (seconds) | Timeout (seconds) | 15 |
| Timeout (seconds) | Specifies the time the workflow is allowed to run before being closed and marked as failed. | 300 |

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**MSSQL 2017: Generic Replication Virtual Subscription - Dependency (rollup) monitors**

**Generic Subscription Configuration Rollup**

Generic Subscription Configuration Rollup

**Generic Subscription Security Rollup**

Generic Subscription Security Rollup

**Generic Subscription Availability Rollup**

Generic Subscription Availability Rollup

**Generic Subscription Performance Rollup**

Generic Subscription Performance Rollup

**Replication Database Health Group**

Replication Database Health Group is group of Replication Database Health objects

**Replication Database Health Group - Discoveries**

**MSSQL 2017: Replication Library Database Health Group Memberships Discovery**

Discovery of Memberships of Replication Library Database Health Group

**SQL Server Alerts Scope Group**

SQL Server Alerts Scope Group contains SQL Server objects which can throw alerts.

**SQL Server Alerts Scope Group - Discoveries**

**MSSQL 2017: Replication Alerts Scope Group Discovery**

Discovery of Alerts Scope Group

## Appendix: Known Issues and Troubleshooting

##### Subscription Discovery errors may occur.

**Issue:** Subscription Discovery error may occur while trying to detect Distributor for push subscription. The issue occurs when Distributor and Subscriber are located on different machines. The corresponding errors are displayed in Subscriber event log.

**Resolution:** No resolution.

##### The "Load of Replication agents on Subscriber" monitor returns empty property bag.

**Issue:** "Load of Replication agents on Subscriber" monitor returns empty property bag: in Health Explorer for this monitor, “Details” status displays empty Context Message.

**Resolution:** No resolution.

##### The "Replication Snapshot Agent State for Distributor (aggregated for all Publications)" monitor do not change its state if the Distributor snapshot folder is unreachable.

**Issue:** The "Replication Snapshot Agent State for Distributor (aggregated for all Publications)" monitor do not change its state if the Distributor snapshot folder is unreachable.

**Resolution:** No resolution.