

Remote Desktop Services Management Pack Guide for Windows Server 2016 and above

Microsoft Corporation

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The Operations Manager team encourages you to provide feedback on the monitoring pack by providing a review on the monitoring pack’s page in the [Management Pack Catalog](http://go.microsoft.com/fwlink/?LinkID=82105)

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Revision History

| **Release Date** | **Changes** |
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| December 2021 (10.0.6.0 version) | * Version agnostic support has been implemented Windows Server 2016 and above * Fixed Problem with the scoping of the Incorrect classes is associated in “Distributed Application” * Fixed Library MP dependency on Windows Server 2012 R2 * Fixed Library views dependency on Windows Server 2012 R2 * Renamed Statistics Views * Added Performance Counter Rules  1. Terminal Service Gateway\Successful connections 2. Terminal Service Gateway\Failed connections   Note: MP Upgrade is not supported from 10.0.5.0. backup overrides MPs, delete all RDS Mps, and install the new version 10.0.6.0 |
| March 2017(10.0.5.0 version) | RDS MP 2016 Released; document updated to reflect the new MP version. |

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# Remote Desktop Services Management Pack Guide for Windows Server 2016 and above

The Remote Desktop Services Management Pack helps you manage your computers that are running Remote Desktop Services on Windows Server 2016 by monitoring the health of the following Remote Desktop Services role services:

 Remote Desktop Session Host:Remote Desktop Session Host (RD Session Host) enables a server to host RemoteApp programs or session-based desktops. Users can connect to RD Session Host servers in a session collection to run programs, save files, and use resources on those servers.

 Remote Desktop Licensing: Remote Desktop Licensing (RD Licensing) manages the licenses required to connect to a Remote Desktop Session Host server or a virtual desktop. You can use RD Licensing to install, issue, and track the availability of licenses.

 Remote Desktop Web Access: Remote Desktop Web Access (RD Web Access) enables users to access RemoteApp and Desktop Connection through the **Start** menu on a computer that is running Windows 8, Windows 7, or through a web browser. RemoteApp and Desktop Connection provides a customized view of RemoteApp programs and session-based desktops in a session collection, and RemoteApp programs and virtual desktops in a virtual desktop collection.

 Remote Desktop Gateway: Remote Desktop Gateway (RD Gateway) enables authorized users to connect to virtual desktops, RemoteApp programs, and session-based desktops on an internal corporate network from any Internet-connected device.

 Remote Desktop Connection Broker: Remote Desktop Connection Broker (RD Connection Broker):

* Allows users to reconnect to their existing virtual desktops, RemoteApp programs, and session-based desktops.
* Enables you to evenly distribute the load among RD Session Host servers in a session collection or pooled virtual desktops in a pooled virtual desktop collection.
* Provides access to virtual desktops in a virtual desktop collection.

 Remote Desktop Virtualization Host: Remote Desktop Virtualization Host (RD Virtualization Host) integrates with Hyper-V to deploy pooled or personal virtual desktop collections within your organization by using RemoteApp and Desktop Connection.

When there is problem with the availability or performance of one of these components, Microsoft System Center Operations Manager 2016 and above uses the Windows Server 2016 and above Remote Desktop Services Management Pack to detect the issue and alert you so that you can diagnose the problem and fix it.

The management pack can help you identify issues before they disrupt your infrastructure, improving the availability and performance of the Windows-based servers that your business depends on.

* Note

**Remote Desktop Multipoint Services** role health it is not monitored with this version of Remote Desktop Management Pack.

## Document version

This guide was written based on the 10.0.6.0 version of the Windows Server 2016 and above Remote Desktop Services Management Pack.

## Getting the latest management pack and documentation

You can find the Windows Server 2016 and above Remote Desktop Services Management Pack in the [Microsoft](http://go.microsoft.com/fwlink/?LinkId=82105) System Center Marketplace (http://go.microsoft.com/fwlink/?LinkId=82105).

## Supported configurations

The following table details the supported configurations for the Remote Desktop Services Management Pack:

| **Configuration** | **Support** |
| --- | --- |
| Windows Server 2016 and above | All editions |

**refer below links:**

SCOM 2019 : [System requirements for System Center Operations Manager | Microsoft Docs](https://docs.microsoft.com/en-us/system-center/scom/system-requirements?view=sc-om-2019#microsoft-monitoring-agent-operating-system)

SCOM 2016 : [System requirements for System Center Operations Manager | Microsoft Docs](https://docs.microsoft.com/en-us/system-center/scom/system-requirements?view=sc-om-2016#software-requirements-for-operations-manager-components)

# Getting Started

This section describes the actions you should take before you import the management pack, any steps you should take after you import the management pack, and information about customizations.

## Before you import the management pack

For the Remote Desktop Services Management Pack to function optimally, your computers must meet the following requirements:

 Each RD Session Host server can be managed Operations Manager 2016 and above.

 Each Remote Desktop license server can be managed Operations Manager 2016 and above.

 Each RD Connection Broker server can be managed Operations Manager 2016 and above.

 Each RD Web Access server can be managed Operations Manager 2016 and above.

 Each RD Gateway server can be managed Operations Manager 2016 and above.

 Each RD Virtualization Host server can be managed Operations Manager 2016 and above.

 The Windows Server Base Operating System Management Pack can be installed on a computer running Operations Manager 2016 and above.

## Files in this management pack

To monitor Remote Desktop Services, you must first download the Remote Desktop Services Management Pack from DLC.

The Remote Desktop Services Management Pack includes the following files:

| **File Name** | **Description** |
| --- | --- |
| Microsoft.Windows.Server.RemoteDesktopServices.2016.mp | Required for monitoring computers running Remote Desktop Services roles. |
| EULA.RTF | End User License Agreement. |

## How to import the Remote Desktop Services Management Pack

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

After the Remote Desktop Services Management Pack is imported, create a new management pack in which you store overrides and other customizations.

## Create a new management pack for customizations

Most vendor management packs are 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, Operations Manager 2016 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:

 It simplifies the process of exporting customizations that were created in your test and pre-production environments to your production environment. For example, instead of exporting a Default Management Pack that contains customizations from multiple management packs, you can export just the management pack that contains customizations of a single management pack.

 You can delete the original management pack without first needing to delete the Default Management Pack. A management pack that contains customizations is dependent on the original management pack. This dependency requires you to delete the management pack with customizations before you can delete the original management pack. If all of your customizations are saved to the Default Management Pack, you must delete the Default Management Pack before you can delete an original management pack.

 It is easier to track and update customizations to individual management packs.

For more information about using management packs, see [Using Management Packs](http://technet.microsoft.com/en-us/library/hh212709.aspx) (http://technet.microsoft.com/en-us/library/hh212709.aspx).

# Optional Configuration

You can configure the Remote Desktop Services Management Pack for your environment and your preferences.

The following table lists optional configurations for the Remote Desktop Services Management Pack and specifies where you can find more information about each option.

| **Configuration option** | **Additional information** |
| --- | --- |
| Change the default settings by overriding rules or monitors. | See [How to Override a Rule or Monitor](http://technet.microsoft.com/en-us/library/hh212869.aspx) on Microsoft TechNet (http://technet.microsoft.com/en-us/library/hh212869.aspx) |
| Enable rules or monitors. | See [How to Enable or Disable a Rule or Monitor](http://technet.microsoft.com/en-us/library/hh212818.aspx) on Microsoft TechNet (http://technet.microsoft.com/en-us/library/hh212818.aspx) |

# Security Considerations

You may need to customize your management pack. Certain accounts cannot be run in a low-privilege environment or must have minimum permissions.

## Low-privilege environments

The Remote Desktop Services Management Pack uses the agent action account to perform discovery and to run rules, tasks, and monitors. The agent action account can run as Local System or as a named account. When running as Local System, the agent action account has all the privileges needed to discover objects and to run rules, tasks, and monitors.

To use the Remote Desktop Services Management Pack in a low-privilege environment, the account must have the following privileges on the target computer:

 Must be a member of the local users group

 Must be a member of the local Performance Monitor users group

 Must be granted the Log On Locally user right

## Computer groups

You can manage access in Operations Manager. For more information about managing access, see [Managing Access in Operations Manager](http://technet.microsoft.com/en-us/library/hh212687.aspx) on Microsoft TechNet (http://technet.microsoft.com/en-us/library/hh212687.aspx).

In the Remote Desktop Services Management Pack, you can scope and authorize roles by using the Remote Desktop Services Computer Group, which is a group that contains all computers running Remote Desktop Services.

## Agentless monitoring

You can use the Remote Desktop Services Management Pack to monitor agentless-managed computers. However, to run a task on an agentless-managed computer, you must change the action account to an account that has access to the target computer.

# Understanding Management Pack Operations

This section describes the objects that the Remote Desktop Services Management Pack discovers, how health rolls up, console views that display monitoring and performance information related to Remote Desktop Services, and key monitoring scenarios.

## Objects the Remote Desktop Services Management Pack discovers

The Remote Desktop Services Management Pack discovers the object types described in the following list. For information about discovering objects, see [Finding Data and Objects in the Operations Manager Consoles](http://technet.microsoft.com/en-us/library/hh212890.aspx) on Microsoft TechNet (http://technet.microsoft.com/en-us/library/hh212890.aspx).

Note

Not all the objects are automatically discovered. To discover those that are not automatically discovered, you must use overrides.

The Remote Desktop Services Management Pack discovers the following objects:

 RD Session Host server

 Remote Desktop license server

 RD Gateway server

 RD Connection Broker server

 RD Web Access server

 RD Virtualization Host server

## Classes

The following table describes the classes defined in this management pack.

| **Available classes** | **Description** |
| --- | --- |
| Microsoft.Windows.Server.2016.RemoteDesktopServicesRole | Computer group containing all computers running Remote Desktop Services |
| Microsoft.Windows.Server.2016.RemoteDesktopServicesRole.Service | Computer group containing computers running at least one Remote Desktop Services role service |
| Microsoft.Windows.Server.2016. RemoteDesktopServicesRole.Service.RDSessionHost | Computer group containing computers running the Remote Desktop Session Host role service |
| Microsoft.Windows.Server.2016. RemoteDesktopServicesRole.Service.RDLicensing | Computer group containing computers running the Remote Desktop Licensing role service |
| Microsoft.Windows.Server.2012. RemoteDesktopServicesRole.Service.RDConnectionBroker | Computer group containing computers running the Remote Desktop Connection Broker role service |
| Microsoft.Windows.Server.2016. RemoteDesktopServicesRole.Service.RDGateway | Computer group containing computers running the Remote Desktop Gateway role service |
| Microsoft.Windows.Server.2016. RemoteDesktopServicesRole.Service.RDWebAccess | Computer group containing computers running the Remote Desktop Web Access role service |
| Microsoft.Windows.Server.2016. RemoteDesktopServicesRole.Service.RDVirtualizationHost | Computer group containing computers running the Remote Desktop Virtualization Host role service |

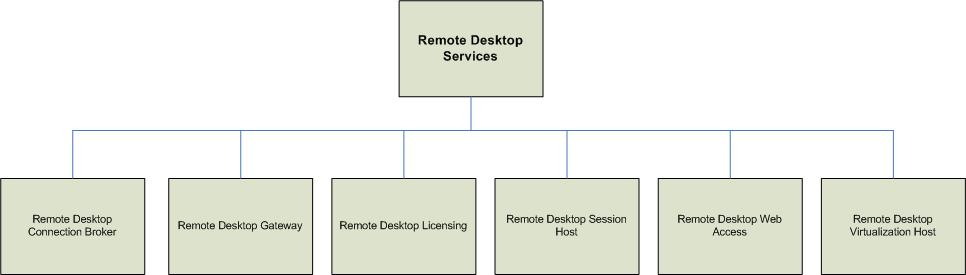
## How health rolls up

The Remote Desktop Services Management Pack views Remote Desktop Services as a hierarchy. The health of each level depends on the health of the level below it. The top level contains the following: RD Session Host role service, RD Virtualization Host role service, RD Gateway role service, RD Licensing role service, RD Connection Broker role service, and RD Web Access role service. The lowest level monitors for a server's service states, events, and counters. When a number of these monitors changes state, the level above changes state to match; in other words, the health of the lower level rolls up to the level above it.

For example, the state of the RD Session Host server's performance monitors rolls up to the RD Session Host server's overall performance state. In the meantime, the state of the RD Session Host server’s health monitors rolls up to the RD Session Host server's overall availability state. The performance state and the availability state then roll up to set the overall state of the RD Session Host server.

The Remote Desktop Services Computer Role is the highest-level object in the health hierarchy and is hosted as a computer role of the computer object. Below the Remote Desktop Services Computer Role, one or more role service classes exist depending on which of the various role services have been added to the server with the Remote Desktop Services role installed. Each of these role services has its own state that is driven by various monitors, and the state of all these role services is reflected back to the Remote Desktop Services Computer Role.

A diagram illustrating how health rolls up is shown below.



## Viewing information in the Operations Manager Console

After your Remote Desktop Services Management Pack has had time to gather some data, you begin to see monitoring information in the Operations Manager Console. The Microsoft Windows Remote Desktop Services folder contains views that present information about the state, health, and performance of Remote Desktop Services.

### Views

The Remote Desktop Services Management Pack includes a variety of views that you can use to check the status or performance of your features and services. The Remote Desktop Services Management Pack provides the default views described in the tables in the following sections.

#### Overall

| **View name** | **Description** |
| --- | --- |
| Active Alerts | Displays active alerts from all Remote Desktop Services features |
| Remote Desktop Services 2016 and above State | Displays state and attributes for your Remote Desktop Services computers |

#### Health monitoring

| **View name** | **Description** |
| --- | --- |
| RDS RD Licensing Server Health | A dashboard view that displays the state of, and the alerts for, the Remote Desktop Licensing service |
| RDS RD Connection Broker Server Health | A dashboard view that displays the state of, and the alerts for, the Remote Desktop Connection Broker service |
| RDS RD Session Host Server Health | A dashboard view that displays the state of, and the alerts for, the Remote Desktop Session Host server |
| RDS RD Virtualization Host Server Health | A dashboard view that displays the state of, and the alerts for, the Remote Desktop Virtualization Host server |
| RDS RD Web Access Server Health | A dashboard view that displays the state of, and the alerts for, the Remote Desktop Web Access server |
| RDS RD Gateway Server Health | A dashboard view that displays the state of, and the alerts for, the Remote Desktop Gateway server |

#### Performance

| **View name** | **Description** |
| --- | --- |
| RDS RD Session Host Session Statistics | A dashboard view that displays performance data for active Remote Desktop sessions and total Remote Desktop sessions |
| RDS RD Virtualization Host Statistics | A dashboard view that displays statistics for virtual machines running on the RD Virtualization Host |
| RDS RD Gateway Session Statistics | A dashboard view that displays performance data for RD Gateway |

## Key monitoring scenarios

The Remote Desktop Services Management Pack monitors the availability and performance of the following servers: the RD Session Host server, the Remote Desktop license server, the RD Connection Broker server, the RD Web Access server, the RD Gateway server, and the RD Virtualization Host server. The following table describes the key monitoring scenarios:

| **Scenario** | **Description** |
| --- | --- |
| RD Session Host server performance | Checks the status of the RD Session Host server by using three key performance monitors that are enabled by default: the number of active sessions, the number of inactive sessions, and the total processor time per session.  When the number of active sessions approaches the performance limit of the computer's hardware, the monitor changes to a critical health state and alerts you.  When a number of inactive sessions exceeds the idle session limit field of either the Remote Desktop Services node in Group Policy or the Remote Desktop Session Host Configuration console, the monitor changes to a critical state and alerts you.  When the total processing time per session exceeds 80 percent of the CPU's total capacity for 15 minutes, the monitor changes to a critical state and alerts you. |
| RD Session Host server monitoring | Ensures that the Remote Desktop Services service is running, and tests for connectivity to the Remote Desktop license server and the RD Connection Broker server. It also monitors the number of open sessions and disconnected sessions. |
| Remote Desktop license server monitoring | Ensures that the Remote Desktop Licensing service is running, and that Remote Desktop Services client access licenses (RDS CALs) are installed and available on the Remote Desktop license server. The Remote Desktop Licensing database file is restored when there is a modification to the old database file. |
| RD Gateway server monitoring | Ensures that the Remote Desktop Gateway service is running and checks that it is able to connect to the RD Session Host server. Monitors the number of current connections. |
| RD Connection Broker server monitoring | Ensures that the Remote Desktop Connection Broker service is running. Monitors the availability and configuration of the RD Web Access role service. |
| RD Web Access server monitoring | Ensures that the RD Web Access server is running. Monitors connectivity between the RD Session Host server and the RD Web Access server. |

### Performance Rules

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Terminal Service Gateway | Performance data is collected for the following Remote Desktop Terminal Service Gateway  performance indicators:   |  | | --- | | * Connection request authorization time | | * Current connections | | * Successful connections | | * Failed connections | | * Failed Connection Authorization | | * Failed Resource Authorization | |
| Terminal Services | Performance data is collected for the following Remote Desktop Terminal Services  performance indicators:   |  | | --- | | * Active Sessions | | * Inactive Sessions | | * Total Sessions | |
| Hyper-V Virtual Machine Summary | Performance data is collected for the following Remote Desktop Hyper-V Virtual Machine Summary  performance indicators:   |  | | --- | | * Running | | * Turned Off | |