

Dell EMC Microsoft Storage Spaces Direct Ready Nodes for VDI

Microsoft Remote Desktop Services for Dell EMC Microsoft Storage Spaces Direct Ready Nodes

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Deployment Guide

Abstract

This deployment guide provides instructions for deploying Microsoft Remote Desktop Services core components for virtual desktop infrastructure (VDI) on Dell EMC Microsoft Storage Spaces Direct Ready Nodes software-defined storage technology in a Microsoft Windows Server 2016 Hyper-V environment.

[Dell EMC Ready Solutions for VDI](#)

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Dell EMC
Hopkinton, Massachusetts 01748-9103
1-508-435-1000 In North America 1-866-464-7381
www.DellEMC.com

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CHAPTER 1

Overview

This chapter presents the following topics:

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Document purpose

This guide describes how to install the following Microsoft Remote Desktop Services (RDS) components on Dell EMC Microsoft Storage Spaces Direct Ready Nodes:

- **Remote Desktop (RD) Connection Broker**—Enables users to connect to virtual desktops or RemoteApp programs and session-based desktops while evenly distributing the load to their respective collections.
- **Remote Desktop Web Access**—Enables users to access RemoteApp and Desktop Connections through the **Start** menu on a computer that is running Windows 7 through Windows 10, or through a web browser. RemoteApp and Desktop Connection provide 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 Virtualization Host**—Integrates with Hyper-V to deploy pooled or personal virtual desktop collections within your organization.

The following components are also part of the RDS environment but are outside the scope of this deployment guide:

- **Remote Desktop 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 Licensing**—Manages the licenses that are required to connect to an RDS host server or a virtual desktop. Use RD Licensing to install, issue, and track the availability of licenses.
- **Remote Desktop Session Host (RDSH)**—Enables a server to host RemoteApp programs or session-based (personal or shared) desktops. Users can connect to RDSH servers in a session collection to run programs, save files, and use resources on those servers.

This guide does not replace the Microsoft RDS documentation. For more information about deploying Remote Desktop Services, see [Welcome to Remote Desktop Services](#) and [Build and deploy your Remote Desktop Services deployment](#).

The following information is outside the scope of this deployment guide:

- Installation or setup of the Licensing role—It is assumed that an existing License server is available with a compliant license. For details about setting up RDS licensing, installing licenses, and activating licenses, see [License your RDS deployment with client access licenses \(CALs\)](#).
- Configuration of high availability for Connection Broker—For a detailed description about how to implement high availability for the Connection Broker, see [Add the RD Connection Broker server to the deployment and configure high availability](#). Microsoft SQL Server standard edition is required for Connection Broker high availability.
- Microsoft Windows 10 optimization—These optimizations depend on business IT policies. For more information, refer to your local IT policies.

Audience

This guide is intended for decision makers, managers, architects, developers, and technical administrators of IT environments who need an understanding of how to

deploy Microsoft Remote Desktop Services on Dell EMC Microsoft Storage Spaces Direct Ready Node.

We value your feedback

Dell EMC and the authors of this document welcome your feedback on the solution and the solution documentation. Contact EMC.Solution.Feedback@emc.com with your comments.

Authors: Dell EMC Ready Solutions for VDI team, Donna Renfro

CHAPTER 2

Hardware and Software Requirements

This chapter presents the following topics:

- [Storage Spaces Direct Ready Node prerequisites](#).....10
- [Remote Desktop Services component requirements](#)..... 10

Storage Spaces Direct Ready Node prerequisites

Ensure that your environment meets the hardware and software requirements for installing Remote Desktop Services (RDS) components on a Microsoft Storage Spaces Direct Ready Node.

This guide assumes that the following prerequisites have been met:

- Dell EMC Microsoft Storage Spaces Direct Ready Node has been deployed according to Dell EMC recommendations and the following components are in place and configured:
 - Dell EMC Microsoft Storage Spaces Direct Ready Node
 - Microsoft Server 2016 with Hyper-V role
 - DHCP
 - NTP
 - Active Directory/DNS
 - Physical switches
 - RDS Licensing role and installed licenses
 - Optionally, SQL Server Standard, which is required for Connection Broker high availability
 - Dell EMC Storage Spaces Direct Ready Node been deployed according to Dell EMC guidelines. [Dell EMC Storage Spaces Direct Ready Node documentation](#) provides more information.
 - Remote Desktop Services is installed according to [Build and deploy your Remote Desktop Services deployment](#).

The following table lists the required software.

Table 1 Required software

| Software | Version |
|-------------------------------|--|
| Microsoft Windows | 10 |
| Microsoft Windows Server 2016 | 2016 GA release <ul style="list-style-type: none"> • Datacenter edition is required for Storage Spaces Direct. • Standard Edition can be used for the Web Access, Connection Broker, and Gateway servers. Server 2016 provides the Storage Spaces Direct, Hyper-V, and Remote Desktop Services components. |

For more information, see [Dell EMC Microsoft Storage Spaces Direct Ready Nodes](#).

Remote Desktop Services component requirements

The following table lists the minimum virtual machine requirements for Microsoft RDS components.

Table 2 Minimum virtual machine requirements

| Component | Virtual machine software | vCPUs | Dynamic Memory Startup Min Max | Hard drive |
|---|--|-------|--------------------------------|------------|
| Remote Desktop Services Connection Broker and Licensing | Microsoft Windows Server 2016 | 4 | 8GB 4GB 10GB | 60 GB |
| Remote Desktop Services Gateway and Web Access | Microsoft Windows Server 2016 | 4 | 4GB 2GB 10GB | 40 GB |
| Remote Desktop Services Virtualization Host | This software is installed on the parent partition of Hyper-V servers that makes up the Storage Spaces Direct cluster. | | | |

CHAPTER 3

Installation and Configuration

This chapter presents the following topics:

- [Installing Remote Desktop Services](#)..... 14
- [Adding an external license server](#)..... 15
- [Creating a desktop collection](#)..... 15

Installing Remote Desktop Services

Install Remote Desktop Services (RDS) to manage user access, optimize connections, and create desktop and server images.

Before you begin

Review [Build and deploy your Remote Desktop Services deployment](#) .

The following procedure assumes that Server 2016 VMs have been created for the RDS management roles (that is, Connection Broker, Web Access). In addition, the Hyper-V role is required on each host with the RDS Virtualization host installed. To be available in the RDS deployment, all servers must be added to Server Manager.

Procedure

1. From Server Manager on one of the servers in the Storage Spaces Direct cluster, click **Manage** and select **Add Roles and Features**.
2. On the **Before you begin** screen, click **Next**.
3. Under **Select installation type**, select **Remote Desktop Services** and click **Next**.
4. Under **Select deployment type**, select **Standard deployment** and click **Next**.
5. Under **Select deployment scenario**, select **Virtual machine-based desktop deployment** and click **Next**.
6. On the **Review role services** screen, click **Next**.
7. On the **Specify RD Connection Broker server** screen, choose one of the management servers that was previously added to Server Manager from the Server Pool and click the arrow button to add the server to the **Selected** list.

Note

During initial deployment, you can select only one Connection Broker.

8. On the **Specify RD Web Access server** screen, select one of the servers from the Server Pool and click the arrow button to add the server to the **Selected** list.

Note

- During initial deployment, you can select only one Web Access server.
- You can also install the Web Access server on the Connection Broker.

9. On the **Specify RD Virtualization Host server** screen, select all of the Hyper-V servers in the cluster that will host VDI sessions and click the arrow button to add them to the **Selected** list.

Note

- The RD Virtualization Host role service is installed on all the servers that you select.
 - The RD Virtualization Host role service might require a server restart.
-

10. On the **Confirm selections** screen, select **Restart destination servers automatically**, if required. Confirm your selections and click **Deploy**.

Results

The **View progress** dialog box shows the progress of the installation. RD Virtualization host servers might restart during the deployment. Remote desktop service components are installed on the selected servers. If the current server restarts, this dialog box appears when the user logs on again.

Adding an external license server

For Remote Desktop Services (RDS) to check the licensing status of virtual desktop sessions, specify a license server.

Before you begin

An existing license server must be available.

Procedure

1. On Server Manager, in the **Remote Desktop Services** navigation area, select **Overview**.
2. Under **Deployment Overview**, select **Tasks > Edit Deployment Properties**.
3. Select **RD Licensing** in the displayed dialog.
4. Select **RDS licensing mode** (either per device or per user).
5. Specify the name of the license server and click **Add**. Add more license servers, if required, and click **OK**.

Results

The specified license servers are used to verify RDS licenses.

Creating a desktop collection

A Desktop Collection contains Virtual Desktop machines that are presented to users who access the collection through the Remote Desktop Web Access server (RDWA).

Before you begin

Ensure that a Windows VDI master image that has been prepared with Sysprep Generalize exists on at least one of the RD Virtualization hosts.

Procedure

1. From Server Manager on one of the servers in the Storage Spaces Direct cluster, select **Remote Desktop Services > Collection**.
2. Select **Tasks > Create Virtual Desktop Collection**.
3. Read the information under **Before you begin**, and then click **Next**.
4. Under **Name the collection**, enter a name for the collection and click **Next**.
5. Under **Specify the collection type**, select either **Pooled virtual desktop** or **Personal virtual desktop**. Select **Automatically create and manage virtual desktops** and click **Next**.

The **Specify the virtual desktop template** screen shows the available VMs on all the RD Virtualization Host servers.

6. Select a Virtual Desktop Template that has been prepared with **Sysprep Generalize** and click **Next**.

Note

- At this point, the system does not differentiate between server images or Windows desktop images. It does not indicate whether the image is prepared with Sysprep Generalize.
 - If you choose an image that is not correctly prepared, the system warns you after you click **Next**.
-

7. On the **Specify the virtual desktop settings** screen, select either of the following options and then click **Next**:

- **Provide unattended installation setting**
 - **Use an existing Sysprep answer file** and provide the location of the file.
-

Note

If you choose **Use an existing Sysprep answer file**, the system automatically proceeds to step 9 after you click **Next**.

8. Under **Specify the unattended installation settings**, select the time zone and select one of the following options, and then click **Next**:

- **Select the organizational unit** and choose the domain name and first level organizational unit.
- **Specify the distinguished name of the organizational unit** and provide the distinguished name in the text box (for example, OU=VDI, OU=Department A, DC=mydomain, DC=com).

9. Under **Users and groups**, add user groups that can access the desktop collection (for example **domain\domain users**), and specify how many desktops to create and the desktop naming scheme. Click **Next**.

A prefix and a suffix define the desktop naming scheme. For example, if you specify the prefix as `col-` and the suffix as `0`, the desktops are named starting at `col-1`, `col-2`, and so on.

10. Under **Specify virtual desktop allocation**, specify how the desktops are distributed on each RD Virtualization Host. Enter the correct number of **New Virtual Desktops** in the text box opposite each server. Click **Next**.
11. Under **Specify virtual desktop storage**, select **Store on a Cluster Shared Volume (CSV)** and enter the location of the Storage Spaces Direct shared storage that is available to each RD Virtualization Host server (for example, `C:\ClusterStorage\Vol1\VDI`). By default, the **Automatically roll back the virtual desktop when the user logs off** option is checked. Disable this option, if necessary. Click **Next**.
12. If user profile disks are required to preserve user data, under **Specify user profile disks**, select **Enable user profile disks** and specify a location and maximum size of the profile disks. Click **Next**.
- User profile disks are normally placed on shared storage.
13. Under **Confirm selections**, review the deployment selections and go back to modify previous screens, if necessary. When you are satisfied with the deployment selections, click **Create**.

The **View progress** screen appears. The first action is **Exporting the virtual desktop**. You cannot close the screen until the export is complete. When the

virtual desktop is exported, a second progress bar on the screen shows the progress of the virtual desktop creation. You can close the screen at this time.

Note

If you close the progress screen, to follow the progress later from the Server Manager Remote Desktop Services navigation area, right-click the collection and choose **Task Status Details**.

Results

The collection is visible on Server Manager from the **Remote Desktop Services** navigation area.

CHAPTER 4

References

This chapter presents the following topics:

- [Dell EMC documentation](#)..... 20
- [Microsoft documentation](#).....20

Dell EMC documentation

The following Dell EMC documentation provides additional and relevant information. Access to these documents depends on your login credentials. If you do not have access to a document, contact your Dell EMC representative.

- [Dell EMC Ready Solutions for VDI](#)
- [Dell EMC Microsoft Storage Spaces Direct Ready Nodes](#)
- [Dell EMC Microsoft Storage Spaces Direct Ready Nodes for VDI - Reference Architecture for Microsoft RDS](#)

Microsoft documentation

The following Microsoft documentation provides additional and relevant information:

- [Welcome to Remote Desktop Services](#)
- [Plan and design your Remote Desktop Services environment](#)
- [Build and deploy your Remote Desktop Services deployment](#)
- [Planning Storage Spaces Direct](#)
- [Storage Spaces Direct hardware requirements](#)
- [Understanding Storage Spaces Direct](#)