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# **OM SYSTEM**

## **OM Dictation Management System R8**

### **Virtual Environment Installation Guide**

Ver.1.00

2024/08/22

OM Digital Solutions Corporation  
Voice & Sound Solutions Group

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# 1 Introduction

This installation guide describes the requirements and setup procedures for running ODMS R8 in a virtual environment using Windows Terminal Service, Citrix XenApp/ XenDesktop, and VMware Horizon view platforms. ODMS R8 is available for use in a virtual environment with Windows Terminal Service.

ODMS R8 usually installs the Dictation Module/Transcription Module and Device Customization Program on the Guest PC, but if you want to use it in a virtual environment, you can install them on a Windows Server or virtual OS. However, if you want to use ODMS R8 in a virtual environment, you can also use it in a virtual environment by installing the Dictation Module/Transcription Module and accessing from a Guest PC.

Depending on the virtual environment used, the OM Client Virtual Driver is required for the Guest PC.

In addition, since the software is used by multiple users, it must be installed with the ODMS R8 Multi-user License corresponding to the number of users.

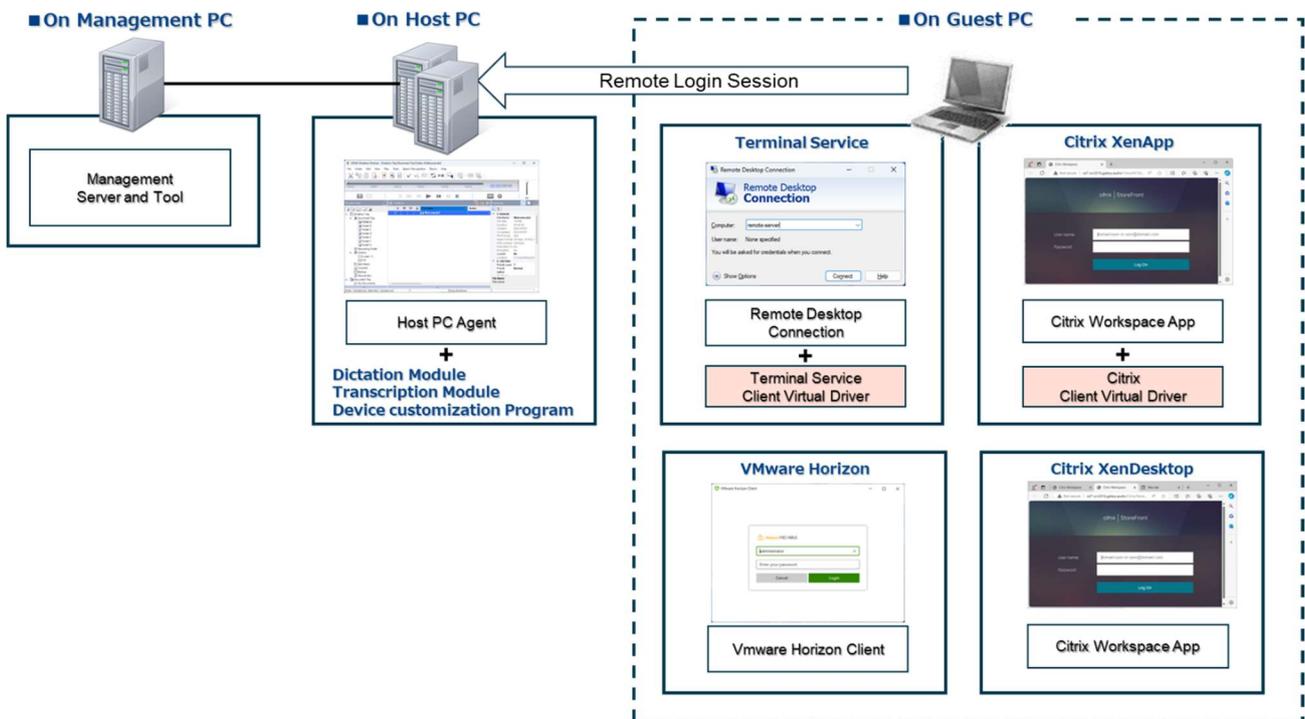
The ODMS R8 Multi-user License must be obtained from your Dealer/Distributor.

## 2 System Overview

ODMS R8 usually installs the Dictation Module/Transcription Module/Device Customization Program on the Guest PC, but if you want to use it in a virtual environment, install the Dictation Module/Transcription Module/Device Customization Program on a Windows Server or virtual OS. However, when using in a virtual environment, it is possible to install the Dictation Module /Transcription Module on a Windows Server or virtual OS and access it from a Guest PC to use it in a virtual environment as well.

On the Guest PC, install Remote Login Client software to support client connection to the network and virtual access to applications, or "Remote Desktop Connection", "Citrix Workspace App, VMware Horizon Client" or other client apps must be enabled.

In some virtual environments, ODMS R8 requires the "OM Client Virtual Driver" to be installed on the Guest PC to support network communications and to support connected OM Digital Solution devices and audio-related functions.



In addition, since the software is used by multiple users, it must be installed with the ODMS R8 Multi-user License corresponding to the number of users.

The ODMS R8 Multi-user License must be obtained from your Dealer/Distributor.

## 2.1 System Requirement

The following table shows the operating conditions for ODMS R8 in a virtual environment.

Item	Condition
Client OS	- Windows 10 / 11 Windows 10 or Windows 11 based Thin Client PC
CPU	2 GHz or higher *Not supported single core processor
Memory	2 GB or more (Windows 10) 4 GB or more (Windows 11)
Network	100 Mbit/s or faster transfer rate, TCP/IP network protocol
Display	1024 x 768-pixel resolution or higher 65,536 colors or more (16.77 million colors or more recommended)
Graphics	DirectX 9 compliant graphics device with WDDM 1.0 or higher driver
USB	With the Dictation Module and Transcription Module: One or more USB ports available
Sound	With the Dictation Module and Transcription Module: A Microsoft WDM- or MME-compliant and Windows-compatible sound device
Virtual Environments (ODMS software running on server OS)	<p>Virtualization Software: (Supported on the server operating system)</p> <ul style="list-style-type: none"> <li>- Remote Desktop Service (Windows Terminal Service), Remote App</li> <li>- Citrix XenApp 7 – 7.2402</li> <li>- Citrix XenDesktop 7 – 7.2402</li> <li>- VMware Horizon 7 – 8.2312</li> <li>- Azure Virtual Desktop</li> </ul> <p>Virtual Desktop Operating System:</p> <ul style="list-style-type: none"> <li>- Windows 10 / 11</li> <li>- Windows Server 2016 / 2019 / 2022</li> </ul> <p>Client Operating System:</p> <ul style="list-style-type: none"> <li>- Windows 10 / 11</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>- Using Citrix virtual environments requires a separate Citrix user license.</li> <li>- Using Remote Desktop Service or Remote App requires a separate RDS CAL license.</li> <li>- Remote connections via Microsoft Store apps are not supported.</li> <li>- Using VMware View requires a separate VMware View user license.</li> </ul>

## 2.2 Support Devices

ODMS R8 supports remote connection of the following OM Digital Solutions devices. When a device is connected to the Guest PC in a virtual environment, the application installed at the remote location can detect, operate, and configure the device.

DVR	DS-9500, DS-9100, DS-9000 DS-2700, DS-2600
RecMic	RM-4010N/4110N RM-4000P/4010P/4015P/4100S/4110S
Foot Switch	RS27N/28N/31N RS27H/28H/31H (Set to Olympus mode)

## 2.3 ODMS App for Virtual Host PC

ODMS R8 applications that can be used in a host PC (or Virtual Host PC) environment are as follows.

- Dictation Module (requires ODMS R8 DM Multi-license)
- Transcription Module (requires ODMS R8 TM Multi License)
- Device Customization Program (No license is required)

**Note: ODTD (OM Downloader Tool for DPM) is not supported.**

When used in a virtual environment, each Multi-license for ODMS R8 is required.

Please contact your Dealer/Distributor to obtain the Multi-license.

Also, please refer to the Installation Guide for ODMS R8 Standalone Launcher for information on installing each application.

## 2.4 ODMS App for Guest PC

ODMS R8 applications to be installed on the Guest PC are as follows

OM Client Virtual Driver is required only when the Host PC is a server OS such as Terminal Service, XenApp, etc. It is not required when the Host PC is a Desktop OS such as Windows 10/11.

The OM Client Virtual Driver supports communication between OM Digital Solutions devices connected to the Guest PC and applications on the server PC. It also supports audio streaming in terminal services sessions.

The OM Client Virtual Driver must be installed when using the following virtual environments

- **Citrix XenApp**
- **Remote Desktop Connection (Terminal Service)**

The Client Virtual Driver installer can be found in the ODMS R8 Standalone Launcher:

Citrix Client Virtual Driver (32/64bit)	\\Citrix_Driver\setup.exe
Terminal Service Client Virtual Driver(64bit)	\\Terminal_Service\x64\setup.exe
Terminal Service Client Virtual Driver(32bit)	\\Terminal_Service\x86\setup.exe

Note:	<ol style="list-style-type: none"><li>1. the OM Client Virtual Driver can be installed and used even if the R8 DM/TM application is installed on the Guest PC.</li><li>2. the version of the client virtual driver used on the Guest PC must be the same as the version of ODMS R8 installed on the server PC.</li></ol>
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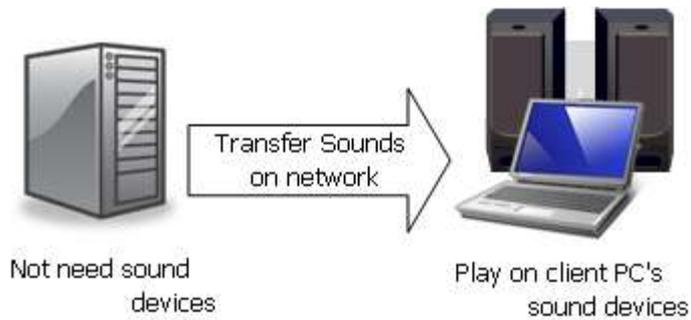
## **2.5 Network connections**

ODMS R8 operating in Citrix, Terminal Service and VMware Horizon support network connection over a Local Area Network (LAN), Wide Area Network (WAN) and Virtual Private Network (VPN).

## 2.6 Sound Transfer

In order to play audio on the Guest PC, the sound device (compatible with Windows) on the Guest PC must be functioning and correctly configured. Therefore, please make sure that the sound device is available and operational on the Guest PC.

Since audio playback takes place on the Guest PC, no sound device is required on the server PC. More importantly, the Citrix, Terminal Services, and VMware client software must be configured to support audio on the client.



## 2.7 Memory and Storage

In a virtual environment, physical memory/storage is allocated to the virtual environment, so settings that exceed physical memory/storage are not possible.

Also, since remote connections consume a large amount of network bandwidth and server resources (CPU, physical memory, and storage), please use higher performance models with Host PC and Guest PC.

## 3 Using ODMS in the virtual environment

Please refer to the following for instructions on how to build each virtual environment.

- [Construction of Windows Terminal Service](#)
- [Construction of Citrix XenApp and XenDesktop](#)
- [Construction of VMware Horizon](#)

After the virtual environment has been built, setup the ODMS R8 components on the Host PC and the Guest PC. Please set up ODMS according to the virtual environment to be constructed as follows.

- [Configure ODMS on Windows Terminal Service](#)
- [Configure ODMS on Citrix XenApp and XenDesktop](#)
- [Configure ODMS on VMware Horizon](#)

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## 4 Windows Terminal Service

This section describes the supported environment for Terminal Service.

Before building your environment, please prepare the following in advance.

### **Preparations**

Host PC side :

- Server PC with Windows Server 2016 or later
- Terminal Services License (RDS CAL): Obtained from Microsoft (\*1)

Guest PC side:

- Guest PC with Windows 10/11

(\*1)

Terminal Services License (CAL) can be used without a license for a grace period (120 days), so we recommend purchasing a CAL as soon as possible after construction.

# 4.1 Construction of Terminal Service

This section describes the steps involved in building a Terminal Service.

## Procedure

### **4.1.1 Setup on Host PC side**

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Step1: Perform Windows Update

- We recommend that you run Windows Update to keep updated with the latest modules.

Step 2: Install the Terminal Services role.

- Open Server Manager and select Server Roles > Add Role.
- Select Remote Desktop Service and click Next.
- On the Select Role Service screen, select Remote Desktop License Manager and Remote Desktop Session Host, then click Next.
- On the Confirm Installation screen, click Install to install.

Step3: Install CAL.

- Open Remote Desktop License Manager.
- In Server Manager, select Tools > Remote Desktop Services > Remote Desktop License Manager.
- Select Actions > Import License.
- Select the license file (.lic) and click Open.

Step4: Remote Desktop Session Host Configuration.

- In Server Manager, select Tools > Remote Desktop Service > Remote Desktop Session Host Configuration.
- On the Connection tab, set the Allow connections option to Enabled.
- Set Network Level Authentication to Request.

### **4.1.2 Setup on Guest PC side**

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Step1: Perform Windows Update

- We recommend that you run Windows Update to keep updated with the latest modules.

Step2: Open Remote Desktop Connection Client

- Open the Remote Desktop Connection client.
- Enter the IP address or hostname of the terminal server to connect.
- Enter a user name and password, then click Connect.

Step3: Confirmation of remote connection

- Please confirm that the desktop screen of the server is connected remotely.

## 4.2 Configure ODMS on Terminal Service

This section describes the steps involved in setting up the ODMS Apps on the established Terminal Service environment.

Before installing ODMS App, make sure that a remote connection is established between the Host PC and the Guest PC.

### **Procedure**

Host PC side :

- ODMS R8 Standalone Launcher
- ODMS R8 multi-user License : Get it from your dealer or distributor

Guest PC side:

- ODMS R8 Standalone Launcher

### **4.2.1 Setup on Host PC side**

Install the following ODMS Apps with ODMS R8 Standalone Launcher.

Step 1: Install ODMS R8

- Install ODMS R8 on the host PC.  
(Enter the ODMS R8 Multi-license you obtained when entering the license key in the Setup Wizard to install.)

Step2: Install DCP R8.

- Multiple devices can be set up via remote connection.
- Install if administrator wants to set up user's devices.

### **4.2.2 Setup on Guest PCs side**

Step 1: Install OM Client Virtual Driver

Install one of the appropriate Client VDs in ODMS Launcher's Terminal Service folder.

- \Terminal Service\x64 // for 64bit PC
- \Terminal Service\x86 // for 32bit PC

Step 2: Confirm the connection

- Open Remote Desktop Connection and start the remote desktop screen of the server PC.
- On the remote desktop, start ODMS R8.
- Connect the client OM Digital Solutions devices (Voice Recorder, RecMic, Foot Switch).
- Confirm that the devices can be recognized by ODMS R8 at the remote connection.

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### **4.2.3 Security Settings**

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Once you are operating in a virtual environment, [review Security](#) for your environment.

### **4.2.4 Troubleshooting**

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If you are unable to connect properly, please refer to the [Appendix](#) to try to resolve the problem.

## 5 Citrix XenApp and XenDesktop

This section describes the supported environments for Citrix XenApp and XenDesktop Server. Before building your environment, please prepare the following in advance.

### **Preparations**

Host PC side :

- Server PC for Xen Server (Linux based hypervisor)
- Server PC (Windows Server 2016 or later) for Xen Center (virtual PC management within Xen Server)
  
- XenServer Installation ISO CD // Download from Citrix Web site and create CD
- XenCenter Installer(.zip file) // Download from Citrix Web site
- XenApp and XenDesktop Installation (.iso) // Download from Citrix website
  
- Citrix XenApp and XenDesktop license: Get it from Citrix

Guest PC side:

Windows 10/11 PC // For user connection  
Citrix Workspace App or Receiver App // Download from Citrix website

## 5.1 Construction of XenApp and XenDesktop

XenApp and XenDesktop can be built in a variety of ways depending on the size of the system, but this section describes the procedure for building a relatively small to medium-sized system.

### Procedure

#### **5.1.1 Setup on the Management PC side**

- The appropriate amount of memory and storage space is required according to the number of users.
- Make sure the server PCs for XenServer and XenCenter are connected to the network.

##### Step1: Perform Windows Update

- We recommend that you run Windows Update to keep updated with the latest modules.

##### Step 2: Install XenServer on the server PC.

- Create the downloaded XenServer installation media and follow the instructions to install the software.
- Log in to the XenServer console screen and set the appropriate IP address, host name, and login password.

##### Step3: Install XenCenter on a Windows server PC

- Run the downloaded Xen Center installer and follow the instructions to install.
- Log in to XenCenter with your login password.
- After logging in to XenCenter, register XenServer and Citrix user licenses.

##### Step4: Set up Citrix Delivery Controller on a Virtual PC

- Create a new Virtual PC for Delivery Controller and install Windows Server.
- Extract and run the downloaded iso image of Virtual App and Desktops.
- At this time, select whether to build with XenApp or XenDesktop and install Citrix Delivery Controller.

##### Step5: Setup of Store Front

- Install Store Front to store virtual PC desktop and application information.

##### Step6: Setup of Citrix Studio

- Install Citrix Studio, a configuration tool for Citrix Delivery Controller.
- Citrix Studio is a tool for managing and optimizing user access, user authentication, license assignment, and session management in virtual desktop and application delivery environments.

#### **5.1.2 Setup on Virtual Host PCs (Virtual Delivery Agents) side**

Citrix VDA is an agent that is installed on a virtual or physical machine; the VDA communicates with the Delivery Controller to deliver applications and desktops to users.

##### Step1: Setup of Citrix Virtual Delivery Agent (hereinafter referred to as VDA)

- Create a new Virtual PC for Delivery Controller and install Windows Server.
- Extract the downloaded Virtual App and Desktops iso image, install Citrix VDA, and set the Citrix Delivery Controller computer name.

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## 5.1.3 Delivery Group settings

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### Step 1: Setup Citrix Studio

Delivery Controller and launch Citrix Studio and follow the wizard to set up the following items.

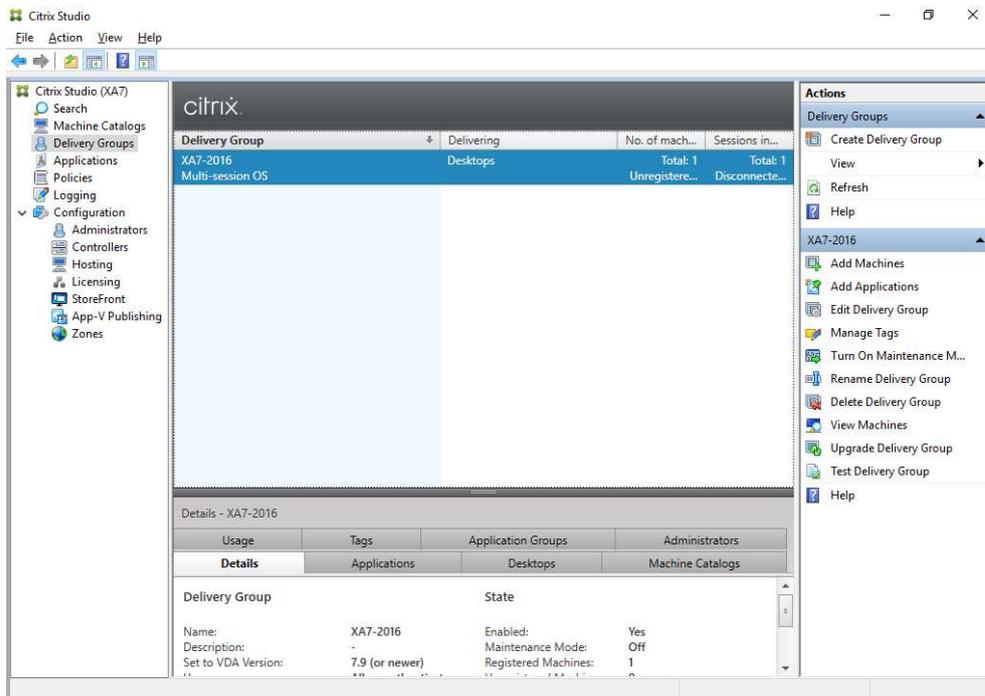
- Store Front : Create a public site: Specify a site name.
- Licensing Settings: Access My Citrix to obtain and set up a Citrix License file (.lic).
- Create a machine catalog: Specify the VDA PCs, login method, and users to be published.

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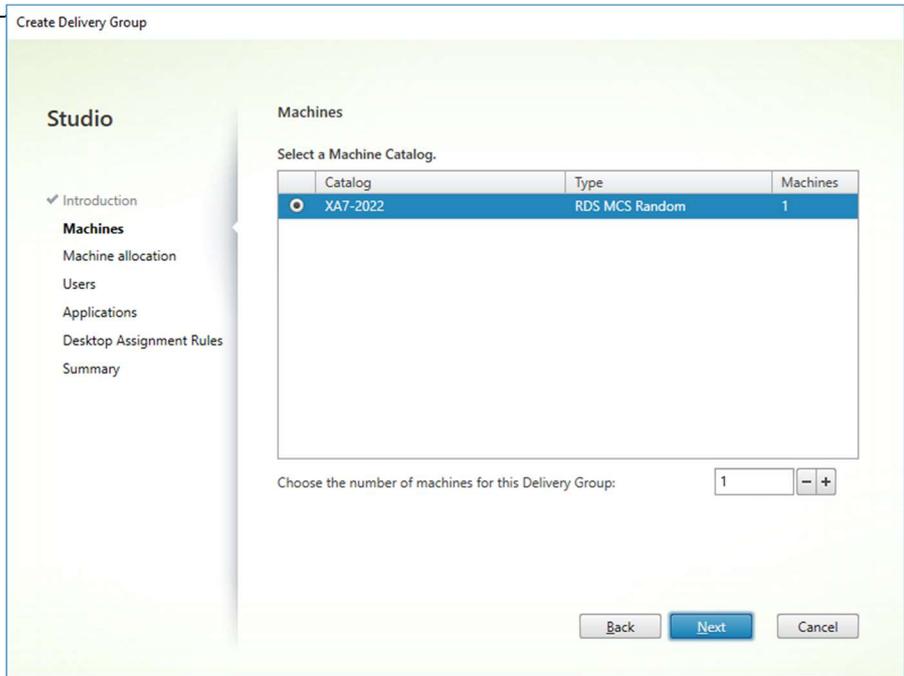
## Publishing Desktop and Applications

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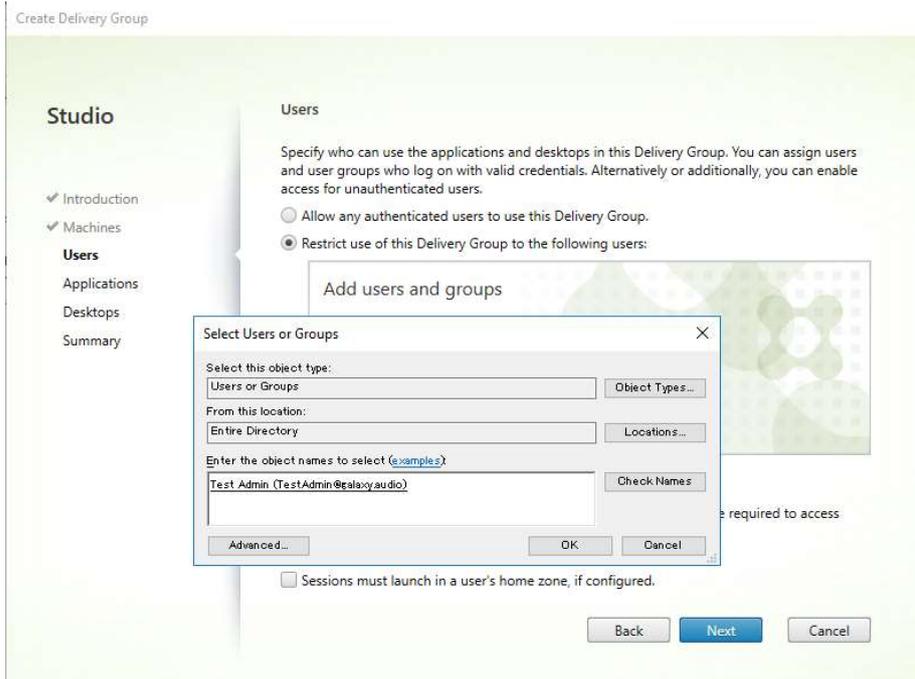
Step 1: Within the Citrix Studio select "Delivery Groups" then click "Create Delivery Group" to open the setup wizard.



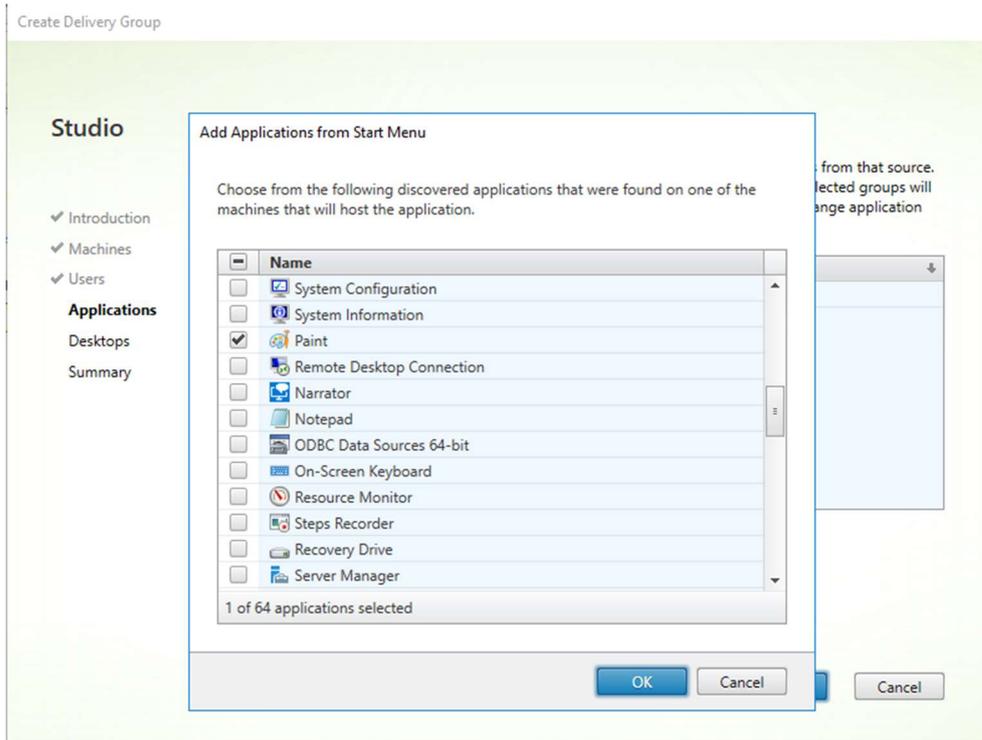
Step 2. On the Introduction page, click "Next", then for "Machines", add the appropriate number of machines and click Next.



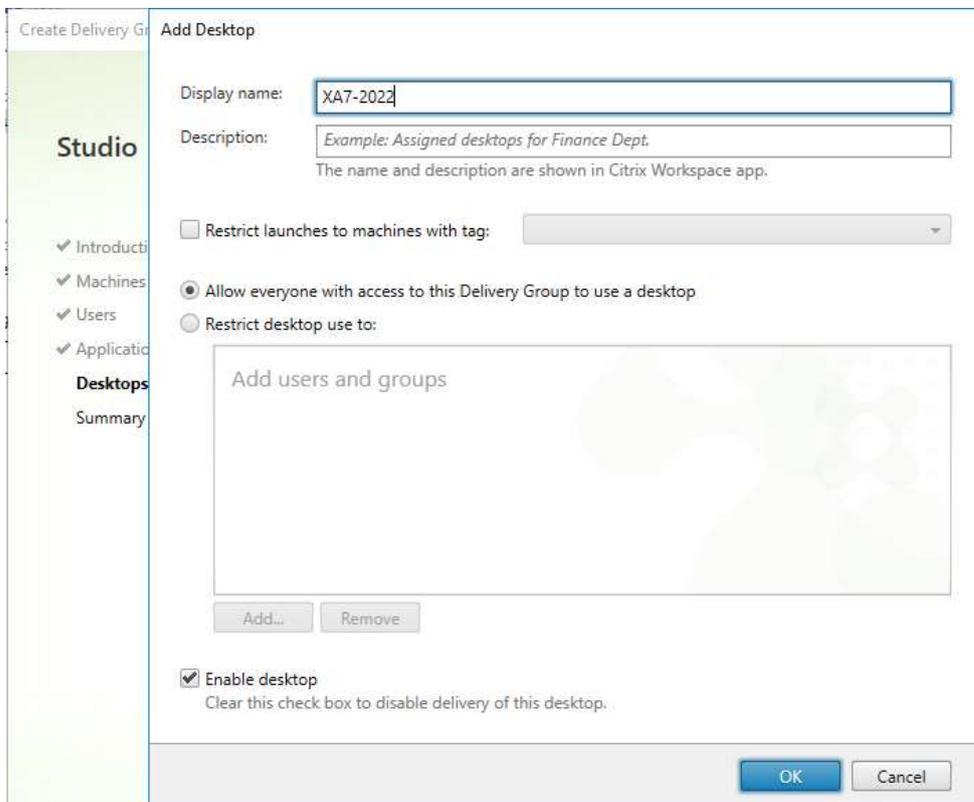
Step 3. Regarding users, by default, all domain users are allowed access. If you want to limit the number of logged-in users, check the "Restricted user..." checkbox and click the "Add" button to add users.



Step 4. If you want to set up distribution by Application, click the Add... button on the Application screen, From Start menu. Select the application you wish to publish from the "From Start menu...".



Step 5. For Desktop, click the "Add" button to set the display name of the desktop. Confirm that the "Enable desktop" checkbox is enabled.



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## 5.1.4 Setup on Guest PCs side

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Citrix Workspace App is client software for Guest PCs to access Citrix virtual desktops and applications.

It is a client software for Guest PCs to access Citrix virtual desktops and applications.

Step 1: Download the Citrix Workspace App from the Citrix site.

Step 2: Install Citrix Workspace App.

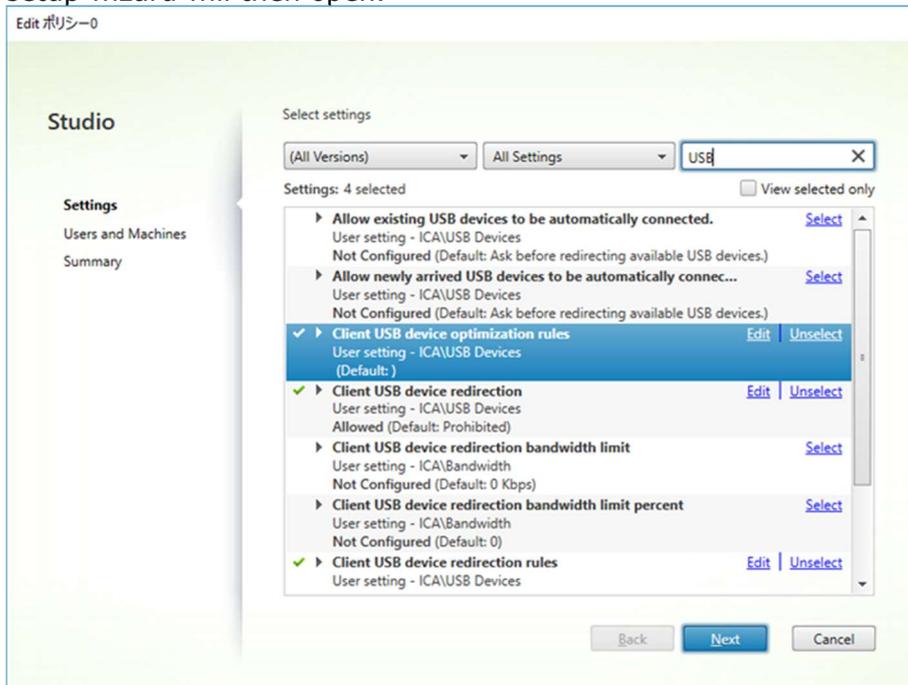
The browser will launch and the Citrix login screen will appear. Log in using your user account and confirm that the desktop icon list is displayed.

## 5.1.5 Configuring the Citrix Policies

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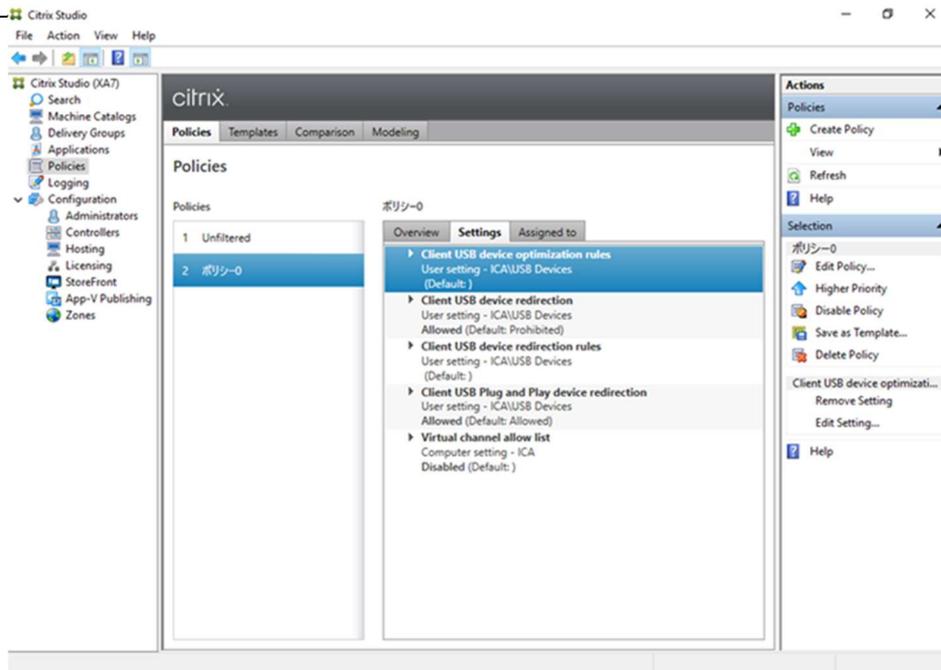
This section describes what Citrix Policies you need to enable to ensure OM Digital Solutions devices and audio gets redirected.

Step 1. Within the Citrix Studio select "Policies" then click "Unfiltered" and "Edit Policy...". The setup wizard will then open.



Step 2. On the "Setting" page, filter by "USB" and refer to and set the following policy.

- **Client USB device optimization rules : User setting**
- **Client USB device optimization rules : Allowed**
- **Client USB device redirection rules : User setting**
- **Client USB Plug and Play device redirection : User Setting**



When settings are complete, click Next.

**Step 3.** On the "Summary" page, click "Finish".

## 5.2 Configure ODMS on Citrix XenApp and XenDesktop

This section describes the procedure for setting up ODMS, assuming that a Citrix virtual environment has already been created.

### **Procedure**

Host PC side :

- ODMS R8 Standalone Launcher
- ODMS R8 Multi-License : Get it from your dealer or distributor

Guest PC side:

- ODMS R8 Standalone Launcher

### **5.2.1 Setup on Virtual Host PCs side**

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Install the following ODMS Apps with ODMS R8 Standalone Launcher.

Step 1: Install ODMS R8

- Install ODMS R8 on the host PC.  
(Enter the ODMS R8 Multi-license you obtained when entering the license key in the Setup Wizard to install.)

Step 2: Install DCP R8

- Multiple devices can be set up via remote connection.
- Install DCP R8 if the administrator wants to set up user devices.

### **5.2.2 Setup on Guest PCs side**

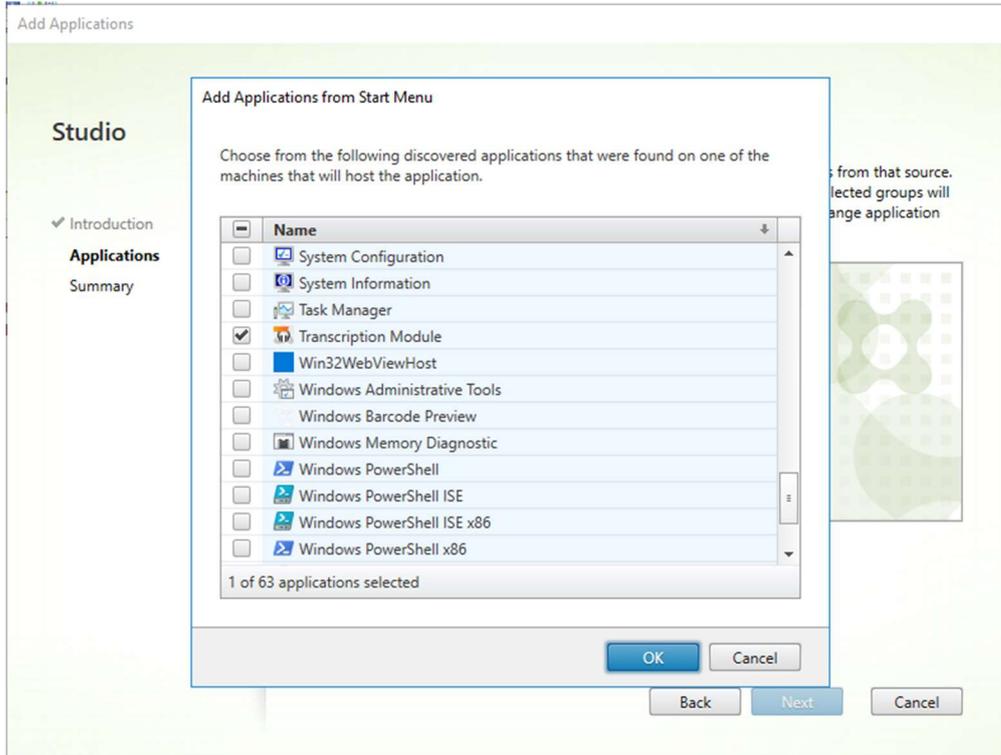
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We will assume that the Citrix Workspace App is already installed on the Guest PC. In this section, we will only install the OM Client Virtual Driver for XenApp.

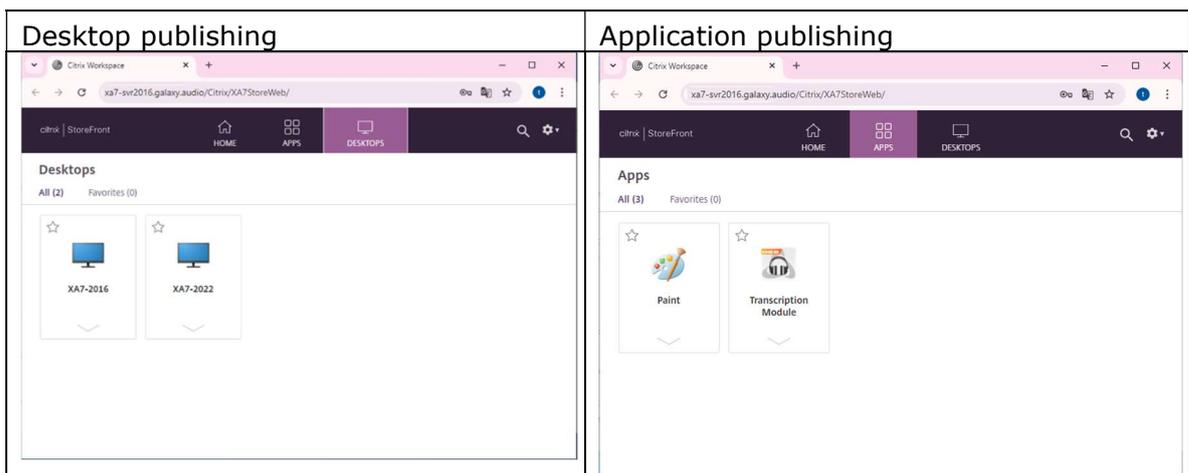
Case of XenApp	Case of XenDesktop
<p>Step 1: Install Citrix Client VD in the Citrix folder of ODMS Launcher. \\Citrix\Setup.exe</p> <p>Step 2: Once you have restarted GuestPC, log in from the Citrix portal site.</p> <p>NOTE: • <b>When Citrix WorkspaceApp is updated, Citrix Client VD must also be reinstalled.</b></p>	<p><b>OM Client Virtual Driver is not required.</b></p> <p>Connect the OM device and check if the device is recognized by ODMS.</p>

### 5.2.3 Publish ODMS as an application

Normally, you can use ODMS for desktop publishing, but if you want to distribute ODMS as an application, select the "Add Application" section in the right pane, "From Start menu..." and simply check the "Dictation Module" or "Transcription Module" checkbox.



When accessing the URL of Store Front with a browser from a Guest PC and logging in, the Desktop and Application are available to the public.



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## **5.2.4 Security Settings**

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Once ODMS starts in the virtual environment, [review the Security settings](#) for your environment.

Please change the security settings carefully, as changing the security settings may cause symptoms such as no sound, recording, or device not being recognized.

## **5.2.5 Troubleshooting**

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If the OM device does not connect properly, please refer to [Appendix](#) to try to resolve the problem.

## 6 VMware Horizon

This section describes the supported environments for VMware Horizon.  
Before building your environment, please prepare the following in advance.

### **Preparations**

Host PC side :

- ESXi Server PC (Linux based hypervisor)
  
- ESXi Server installation image (.iso)
- vCenter Installation image (.iso)
- Horizon Connection Server installer (.exe)
- Horizon Agent installer (.exe)
- Horizon Agent Direct Connection installer (.exe) // Option
  
- VMware Horizon user license key
- VMware vCenter license key

Guest PC side:

- Windows 10/11 PC // for user connection
- VMware Horizon Client // Download from website

# 6.1 Construction of VMware Horizon

## Procedure

### **6.1.1 Setup on the Management PC side**

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- The appropriate amount of memory and storage space is required for the number of users.
- Make sure that the ESXi server PC is connected to the network.

Step 1: Install ESXi on the server PC.

- Create the downloaded ESXi installation image (.iso) installation media and follow the instructions to install.
- Log in to the ESXi console screen and set the appropriate IP address, host name, and login password for your environment.

Step 2: Install vCenter

- Copy the vCenter iso image to the Storage repository.
- Open the ESXi IP address in a browser, log in, select the Create VM menu, and during the wizard, install vCenter by specifying the vCenter iso image in the Storage repository.

After installing vCenter, set the IP address, host name, and login password according to the environment.

- <https://{ESXi IP address}:5480>  
to access vCenter Management and confirm that the settings are correct.  
Set the IP address, host name, and login password according to your environment after installation.

Step 3: Installing Connection Server

- Copy the Windows Server iso image to the repository.
- Select "Create VM" menu, and during the wizard, specify the Windows Server iso image to set up the server OS. After installation, set the host name and login password according to the environment.
- After setting up, start the Connection Server installer, and in the installation Options, **check the USB Redirection item.**

### **6.1.2 Setup on Virtual Host PCs (Delivery Agent PCs) side**

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Step 1: Install the virtual Host PC for distribution

- Copy the vCenter iso image to the Storage datastore in the management tree.
- Open the ESXi IP address in a browser, log in, select the Create/Register VM menu in the management tree, and during the wizard, install vCenter by specifying the iso image copied in the datastore.
- After installing vCenter, set the IP address, host name, and login password according to the environment.

Step 2: Launch and install the Horizon Agent installer.

- Copy the Windows 10/11 iso image to the Storage datastore in the management tree.
- Select the Create/Register VM menu in the management tree, and during the wizard, specify the iso image copied to the datastore to install the OS.

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- This setup is repeated according to the number of virtual PCs built. Please take a snapshot of your virtual PCs and back them up.

- Horizon Agent Direct Connection installer enables remote connection to virtual PCs without Connection Server. It is optional and should be installed as needed.

### **6.1.3 Delivery Settings**

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Step1: Configuring the Horizon Console

Log in to the Connection Server and launch the Horizon Administrator Console in a browser.

[https://{server\\_ip}/admin](https://{server_ip}/admin)

- Server Certificate Settings
- vCenter Server Registration
- User authentication
- Registration of Virtual Host PC

### **6.1.4 Setup on Guest PCs side**

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Install VMware Horizon Client on the Guest PC side.

Step 1: Install XenServer on the server PC.

- Run the downloaded VMware Horizon Client installer, follow the wizard instructions, and reboot the PC.

Step 2: Start VMware Horizon Client

- Start VMware Horizon Client and add the IP address of the Connection Server with Add.
- After logging in to the server, the Delivery Group will be displayed, and confirm that the registered Virtual PC is displayed and started.

## 6.2 Configure ODMS on VMware Horizon

In this section, please follow the steps below to set up ODMS Apps on the Citrix environment you have built.

Before installing ODMS, make sure that a remote connection is established between the Host PC and the Guest PC.

### **Procedure**

Host PC side :

- ODMS R8 Standalone Launcher
- ODMS R8 Multi-License : Get it from your dealer or distributor

Guest PC side:

- ODMS R8 Standalone Launcher

### **6.2.1 Setup on Host PCs side**

---

Log in to the virtual Host PC for distribution and install the following ODMS Apps with ODMS R8 Standalone Launcher.

Step 1: Installation of ODMS R8

- Install ODMS R8 on the Host PC.

(When entering the license key in the Setup Wizard, enter the ODMS R8 Multi-license that you have obtained to install the software.)

Step 2: Install DCP R8

- Multiple devices can be set up via remote connection.
- Install if the administrator wants to set up user devices.

### **6.2.2 Setup on Guest PCs side**

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For VMware Horizon, the OM Client Virtual Driver is not required.

- Launch VMware Horizon Client and login.
- After logging in, the desktop or application to be published will appear on your site, make sure it is up and running.

### **6.2.3 Security Settings**

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Once ODMS starts in the virtual environment, [review the Security settings](#) for your environment.

Please change the security settings carefully, as changing the security settings may cause symptoms such as no sound, recording, or device not being recognized.

### **6.2.4 Troubleshooting**

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If the OM device does not connect properly, please refer to [Appendix](#) to try to resolve the problem.

# 7 Appendix

## 7.1 Security Settings

A virtual environment consists of multiple servers, Host PCs, and Guest PCs, and therefore has different security risks than a normal environment.

Please make sure to properly configure the necessary security settings on each PC.

Below are the key points for security settings.

1. Security enhancement of Management PC and Virtual Host PC
    - Perform Windows Update and apply the latest OS and patches.
    - Consider strong passwords and authentication methods for user accounts. Consider strong passwords and authentication methods for user accounts, such as multi-factor authentication (MFA).
    - Use firewall settings and Intrusion Detection Systems (IDS): Use a firewall to block unauthorized access and an IDS to detect intrusions.
    - Perform regular backups: Create regular backups of the host system and all VMs and store them offsite.
    - Encrypt virtual disks: Encrypt virtual disks to prevent data leakage.
    - Monitor network traffic: Monitor network traffic between virtual machines to detect malicious activity.
  2. Security enhancement through policy settings for virtual environments
    - Policy settings (GPOs) for each virtual environment, if provided, can be added to further enhance security.
      - Limit the number of devices recognized: Limit the number of devices recognized, especially those recognized as storage.
      - Restrict unnecessary user operations: Grant only the minimum privileges necessary to perform required tasks.
      - Appropriately configure firewall settings, port settings, etc., depending on the environment.
- Please take other security measures as necessary.
  - Please refer to the [manufacturer's website](#) for connection problems.

## 7.2 Troubleshooting for virtual environments

Below are the Troubleshooting sites of each virtual environment manufacturer.

Terminal Service	<a href="#">Remote Desktop Services Troubleshooting</a>
Citrix XenApp and XenDesktop	<a href="https://docs.citrix.com/en-us/citrix-virtual-apps-desktops/2402-ltsr/technical-overview.html">https://docs.citrix.com/en-us/citrix-virtual-apps-desktops/2402-ltsr/technical-overview.html</a>
VMware Horizon	<a href="https://techzone.omnissa.com/resource/understand-and-troubleshoot-horizon-connections#understanding-horizon-connections">https://techzone.omnissa.com/resource/understand-and-troubleshoot-horizon-connections#understanding-horizon-connections</a>

## 7.3 Troubleshooting for ODMS using virtual environments

### 7.3.1 Common

No.	Summary	Detail
1	Can not use voice recognition functions.	On all virtual environments, you cannot use the voice recognition functions. This is because Nuance Dragon speech recognition software does not support virtual environments.
2	When playing an audio file, a choppy sound is played.	In virtual environment, when the transfer rate is high, sometimes a choppy sound may be played. In this case, please hide the level meter indicator in the Option setting dialog when it is displayed in Direct Recording Window or Playback Control.
3	When using RecMic connected to PC, the response of operation (button or slider) is slowly.	By environment, this issue occurs that virtual PC is not update to latest condition. Please apply service packs and patches and update the virtual PC to latest version.

### 7.3.2 For both Citrix XenApp/Terminal Service session

No.	Summary	Detail
1	Can not playback/control sounds on <b>DVRs</b>	On both Citrix XenApp/Terminal Service session, there are some limitations on playing back and editing sounds on DVRs below. <ul style="list-style-type: none"><li>- Can not playback sound on DVRs</li><li>- Can not edit sounds, includes insert/delete index marks, edit job data, Edit Dictation, Change Status, change priority, etc.</li></ul>
2	Can not <b>upload</b> sounds into DVRs	On both Citrix XenApp/Terminal Service session, you cannot upload any sound files into DVRs connected to Guest PC. Of course, you can download sounds from DVRs.
3	When playing audio file on client side, choppy audio was played.	On both Citrix XenApp/Terminal Service session, audio data and screen information is transferred via specific transfer protocol. When a network bandwidth is low, there is a case which the issue occurs. In this case, If set to hide the level meter in "Playback Control", it will improved.

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### 7.3.3 For Citrix XenApp session

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No.	Summary	Detail
1	Noise on sound	When using Citrix XenApp, playback may be interrupted periodically. For solutions, please refer to the Citrix Presentation Server/Client manuals.

### 7.3.4 For Citrix XenApp/Desktop session

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No.	Summary	Detail
1	WMA file is not supported on Citrix XenApp/XenDesktop.	<p>Before versions of XenApp/Desktop, wma file is not built-in support. However, in some previous versions, Hotfix program was released as can playback wma files.</p> <p>Since it takes a long time to support this, we decide this behavior is a limitation.</p>

### 7.3.5 For Terminal Service session

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No.	Summary	Detail
1	Playback volume control	ODMS R8, control playback volume without using Microsoft RDP Audio Driver. Playback volume is controlled via volume control and wave control of client playback mixer device using volume slider of DM/TM. Therefore, you have to set the client playback mixer device to appropriate volume.
2	Playback of stereo sound file	Stereo sound files are played as mono sound to eliminate or reduce CPU overload
3	Operating in Workgroup type network (no Domain)	<p>To operate the ODMS R8 in virtual environment in a Workgroup network, the Guest account must be enabled and the "Simple file sharing" activated.</p> <p>To activate Simple file sharing, open "My Computer" (or Windows Explorer window). From the menu, select [Tools] -&gt; [Folder Options...] to open the Folder Options window.</p> <p>From the Folder Options window, select the [View] tab and from the "Advanced settings" list, select the box "Use simple file sharing (Recommended)" and then click OK.</p> <p>To enable Guest account, check the Users group on the PC and make sure the Guest account is enabled (Disabled is unchecked).</p>

### 7.3.6 For VMware connection

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No.	Summary	Detail
1	A restriction of Communication Type	<p>If the communication protocol is not set to VMware Blust or PCoIP, ODMS R8 will not recognize any HID devices.</p> <p>In your login screen, please confirm that the communication protocol is set to "VMware Blust".</p>
2	Cannot change the speaker setting on VMware horizon view.	<p>In VMware Horizon, when you try to change speaker setting on ODMS, it cannot change the speaker setting by ODMS, and Only VMware Horizon can change the speaker setting itself.</p> <p>No sound output from ODMS when changing to different speakers from VMware Horizon.</p>

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# 7.4 FAQ

## 7.4.1 For both Citrix/Terminal session

No.	Summary	Detail
<b>1. Sound Issues</b>		
1	No sounds on "Edit Job Data" dialog	When you use DM/TM on Citrix/TS session, you cannot use the preview function on "Edit Job Data" dialog during downloading from DVRs. This is a restriction of ODMS R8. you cannot playback any sounds on the DVRs. In this case, the sound file is still on the DVR connected to the Guest PC. Therefore, you cannot review it.
2	Can not change Speaker/Mic device from DM/TM	You cannot change speaker and microphone device from the DM/TM's menus. This is a limitation of the Windows OS. To solve this problem, you will need to set the speaker/microphone device as the default device on the system. Please open "Sound" property dialog from "Setting" and configure it as the default.  the OS does not permit this operation. Therefore, you will need to set it manually.
3	Can not playback any sounds and its playback time is shown as "00:00:00" on the indicator	The sound filters have not been registered correctly. Please reinstall both the DM/TM and the OM Client Virtual Driver. If you use Windows Server, Windows Media Player may not have been installed. Please re-install WMP and try again.
<b>2. On Logging in to the remote session</b>		
1	DD6 does not start	The Client Virtual Driver may not be loaded correctly. Log off the remote session, reinstall the Client Virtual Driver. Then, try again.
2	A runtime error happens in DD6	If you connect multiple devices to the PC, such as recorders and RecMic devices, please disconnect all of them and login again.
<b>3. On starting softwares up</b>		
1	DM or TM does not start (without the splash window)	- DM or TM does not work when other OM Digital Solutions Audio software, such as "DSSPlayer Standard" are opened. Please close them and try again. - An old process may still have been left running. Log off the remote session, login, then try again.
2	An error message appears on starting up	<b>1. "The device detection and play/record functions for audio files are not available because the driver for Citrix/Terminal Service is not installed on the Guest PC"</b> The OM Client Virtual Driver may not be loaded correctly. Log off the remote session, and reinstall the OM Client Virtual Driver. Then, try again. <b>2. "The dictation cannot be played. The audio device needed to play the dictation cannot be found."</b> DM/TM cannot find any available audio devices on the Guest PC. Please confirm the audio device driver is available and works fine on your Guest PC.
<b>4. On connecting devices</b>		
1	Does not recognize any devices	The OM Client Virtual Driver may not be loaded correctly. Log off the remote session, and re-install the OM Client Virtual Driver. Then, try again.
2	Cannot see any files on the DVRs	

## 7.4.2 For Citrix session

No.	Summary	Detail
1	Can not install Citrix Client Virtual Driver	No Citrix client software has been installed. When you install a Citrix Workspace App by a limited user, please re-install it with administrator permission. After that, please install our OM Client Virtual Driver.
2	Cannot playback an WMA format	In case under Citrix environment, WMA files cannot be played back. When you encounter such a situation.
3	Cannot recognize any OM Digital Solutions device of Storage Mode auto matically in XenDesktop connection	It is possible that auto-detection of USB flash drives is disabled in Citrix Workspace App for Windows, please try the following  Device will be recognized with auto-detect, by setting following registry keys on Guest PC. HKLM\SOFTWARE\Citrix\ICA Client\GenericUSB\Devices "AutoRedirectStorage"=dword:00000001 0: Disables auto-redirectation 1: Enables auto-redirectation  In addition, when exist in the following registry key, this value is used with precedence. HKLM\SOFTWARE\Policies\Citrix\ICA Client\GenericUSB\Devices "AutoRedirectStorage"=dword:00000001
4	Cannot recognize any OM Digital Solutions device of Composite Mode in XenDesktop connection	In XenDesktop environment, when connect a device of Composite Mode, "Other applications may use the device." message will be displayed. In this case, please try the following  Case of 32bit OS: HKLM\SOFTWARE\Citrix\ICA Client\GenericUSB "EnableForceRestartForHID"=dword:00000001  Case of 64bit OS: HKLM\SOFTWARE\Wow6432Node\Citrix\PortICA\GenericUSB "EnableForceRestartForHID"=dword:00000001
5	OM Digital Solutions devices not recognising in ODMS but appears redirected in XenDesktop	This only affects mobile recorders that are set to storage mode and RecMics.  Please do either or all of the following:  Go to Devices under Citrix Preferences ensure the devices are not set to optimised redirection and switch to generic redirection in the virtual channel.  Set the mobile recorder to composite mode and this will recognize automatically in generic mode.  Set the following registry key and this will recognise the RecMic automatically in generic mode. HKLM\SOFTWARE\Citrix\ICA Client\GenericUSB\Devices "AutoRedirectAudio"=dword:00000001
6	How to configure RecMic devices to be redirected on XenDesktop automatically.	To recognize the RecMic devices to XenDesktop automatically, the following registry setting is needed.  HKLM\SOFTWARE\Citrix\ICA Client\GenericUSB\Devices

		"AutoRedirectAudio"=dword:00000001
7	Foot control not recognising in ODMS within XenApp	<p>In XenApp environments using Citrix Workspace App, in rare cases the foot controller may be redirected to a Citrix session and the foot controller will not be recognized within the ODMS software.</p> <p>Please try the following:</p> <ol style="list-style-type: none"> <li>1. Go to Devices under Citrix Preferences and untick redirect devices to session.</li> <li>2. Set a USB redirection rule and deny the foot control from redirecting to the citrix session.</li> </ol> <p>The citrix client drivers will handle the device connection to the session therefore USB redirection is not needed for devices in a XenApp environment.</p>
8	Unable to perform recording in Direct Recording Window in XenApp Storage mode	<p>If ODMS does not have a microphone device capable of recording, the Record button is disabled and recording cannot be performed. However, if a DVR with a Storage Mode that can be changed to Composite Mode is connected, recording can be performed.</p> <p>On the other hand, recording in the XenApp environment is performed using the microphone (treated as a PC microphone) specified as the "specified device" on the Guest PC.</p> <p>In the XenApp environment, recording is performed until the DVR in Storage Mode is switched to Composite Mode as in the Local operation described above, but when it is switched to Composite Mode, the association between the DVR and the microphone device is not properly performed, so even if the switch is made to DRW Recording itself cannot be performed. This is a limitation of the XenApp environment, but we have added a condition to determine whether or not recording is possible in the XenApp environment,</p> <p>Even if there is no microphone device that can record, but a Storage Mode DVR is connected, recording is set to not be possible in the XenApp environment.</p>

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### 7.4.3 For Terminal Service session

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No.	Summary	Detail
1	Can not playback any sound	<p>Failed to register sound filters in the installation of TS Client VD(1) Our TS Client VD intermediates sounds between the Server and the Guest PC. When the installation of TS Client VD fails, some sound filters aren't registered correctly to the Guest PC and you can't hear any sound on the Guest PC in this situation. Please check that you installed our client VD using Administrative permission and try reinstallation. Sometimes this will solve this problem. (This solution is applied only to TS. On Citrix session, Client VD does not intermediate any sounds.)</p> <p>Failed to register sound filters in the installation of TS Client VD(2) If you install TS Client VD using administrative permission, check your registry on the Guest PC. If you cannot find the keys below in your registry, sound filters may not have been installed on the Guest PC.</p> <p>{379D73EE-F1EE-4edd-A8D0-FF95C9A80F85} {9F1642AE-1C3B-4400-9AA4-AD140A44E836}</p> <p>If you encountered this situation, please contact OM Digital Solutions dealer.</p>

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## 7.4.4 For VMware connection

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No.	Summary	Detail
1	Cannot recognize a HID device.	Configure USB device filters and redirecting Human Interface Devices (HIDs) in View Client  For more detail, please refer the following VMware web site.
2	Mouse pointer does not track the movement of a HID device.	Mouse pointer does not track the movement of a redirected USB human interface Device  For more detail, please refer the following VMware web site.
3	How to make sure which models VMware Horizon is supported.	It this can be found in VMware website.
4	Cannot recognize any device of Composite Mode.	In VMware environment, when you connect a device in Composite Mode, "Other applications may use the device." message will be displayed. In this case, you will need to set the following registry key.  This issue occurs when OM Digital Solution DVRs or RecMic is connected to Guest PC set as DefaultAudioDevice and Device Handler is opened by Windows Audio Device Service. We have already requested a solution to this from VMware corp.
5	Poor playback audio quality	In VMware environment you may experience poor playback audio quality such as audio being distorted, stuttering, or dropping out.  Please visit the VMware website link below for workarounds on improving the audio playback quality.