

IBM® Security Access Manager for Enterprise Single
Sign-On
Version 8.2

*AccessAgent on Virtual Desktop
Infrastructure Guide*



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Sign-On
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Note

Before using this information and the product it supports, read the information in “Notices” on page 19.

Edition notice

Note: This edition applies to version 8.2 of IBM Security Access Manager for Enterprise Single Sign-On, (product number 5724–V67) and to all subsequent releases and modifications until otherwise indicated in new editions.

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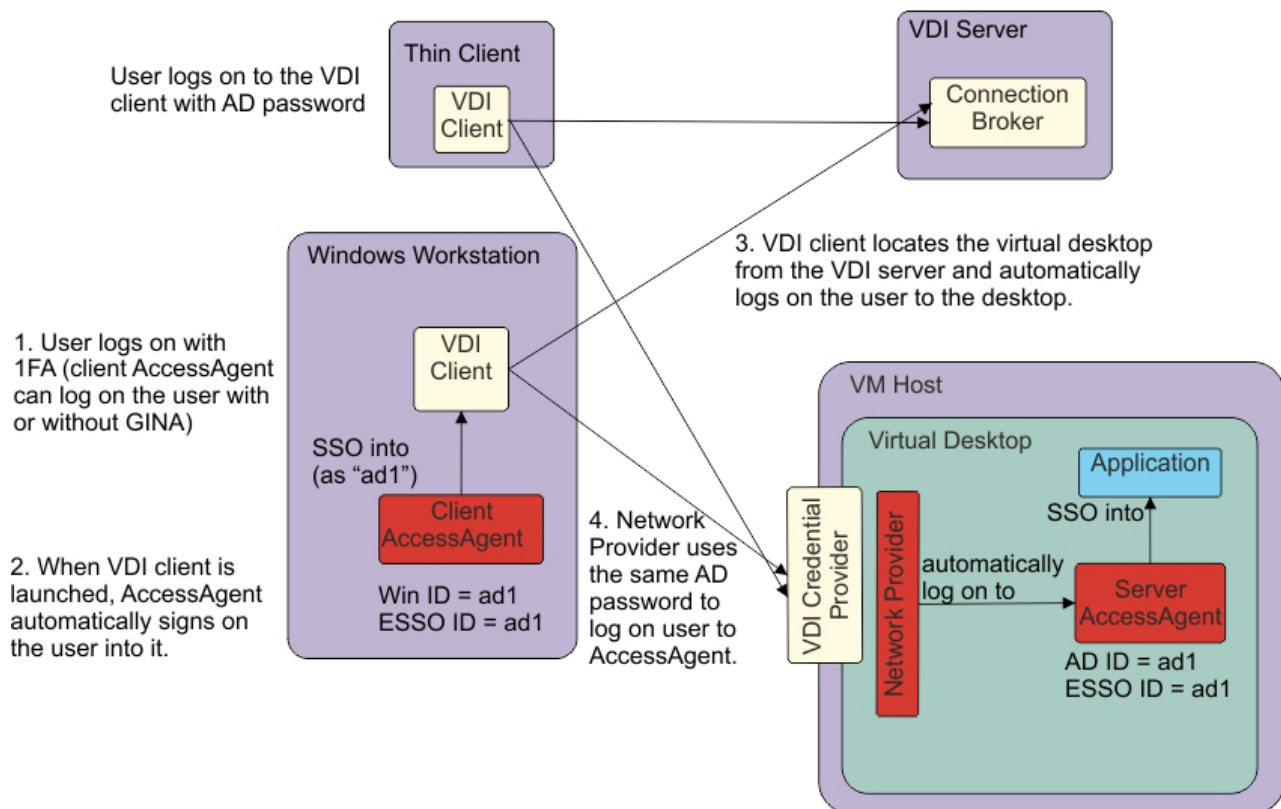
Chapter 1. Overview

A Virtual Desktop Infrastructure consists of desktop operating systems hosted within virtual machines on a centralized server. IBM® Security Access Manager for Enterprise Single Sign-On supports single sign-on to virtual desktops and applications on these virtual desktops through AccessAgent.

Users can access the virtual desktops and applications from a desktop PC client or thin client.

AccessAgent support for Virtual Desktop Infrastructure workflow

The following diagram describes the workflow for Virtual Desktop Infrastructure support.



Virtual desktop infrastructure

The Virtual Desktop Infrastructure consists of several components.

The following table lists the different VMware View Virtual Desktop Infrastructure and Citrix Virtual Desktop Infrastructure components.

Component	VMware View Virtual Desktop Infrastructure	Citrix Virtual Desktop Infrastructure
Client software	VMware View Client This component is installed on all the computers and thin clients through which you want to access the virtual desktops.	Citrix Web Access This component provides users with web access to their virtual desktops.
Base image agent	VMware View Agent This component is installed on all the virtual desktop templates and pools that are remotely accessed through the VMware View Client. Use this component to register the computer with the server to gain access to the computer.	Virtual Desktop Agent The desktop-side components of Citrix XenDesktop.
Connection server	VMware View Composer Use this component to rebalance, recompose, or refresh desktop images regularly.	Citrix XenController This component creates and manages virtual desktops for users.
Administrative console	VMware View Administrator This component is available on the computer where you installed the VMware View Connection Server.	Citrix Desktop Studio The console from which Administrators can install, configure, create, and manage virtual desktops.

Chapter 2. Configurations and limitations for a Virtual Desktop Infrastructure

This section describes the supported configurations and limitations for single sign-on on a Virtual Desktop Infrastructure.

AccessAgent configuration guidelines

The following configuration is supported:

- AccessAgent supports:
 - VMware View versions 4.5 and 4.6
 - Citrix XenDesktop version 5.5
- The virtual desktop base image can be any of the following platforms:
 - Windows XP 32-bit
 - Windows 7 32-bit and 64-bit
- The virtual desktop can connect to the IMS Server.
- The user is registered to IBM Security Access Manager for Enterprise Single Sign-On.
- Active Directory password synchronization is enabled.
- EnNetworkProvider is enabled.

Note: When EnNetworkProvider is enabled, the Wallet caching option (`pid_wallet_caching_option`) policy is not respected. Wallet is always cached upon first logon from any virtual desktop.

- Personal desktop mode is supported. See *IBM Security Access Manager for Enterprise Single Sign-On Planning and Deployment Guide* for more information.

To achieve good performance:

- Ensure that the **Enhanced Cached Wallet Security** policy in the default machine policy template, is disabled.

The **Enhanced Cached Wallet Security** policy is used to bind Wallets to physical machines with unique characteristics. This policy is not suitable for the Virtual Desktop Infrastructure with provisioning. This policy cannot be overridden through a registry setting.

- Every *N* weeks, recompose the virtual desktop template after AccessAgent synchronizes with the IMS Server so that the latest system data is cached into the updated base image. Unnecessary data synchronizations are avoided when new virtual desktops are activated. This step is important for non-persistent desktops.
- For deployments with non-persistent desktops:
 - Allocate additional server capacity so that AccessAgent can download the user Wallet upon every logon.
 - Run the cached Wallet pruning script to remove expired and duplicated cached Wallets that are more than 30 days old in the IMS Server database.

Limitations

This supported configuration has the following limitations:

- Second-factor authentication is not supported on the virtual desktop.
- EnGINA and EnCredentialProvider are not supported on the virtual desktop.

Chapter 3. Single sign-on setup

To set up single sign-on support on a Virtual Desktop Infrastructure, Administrators must:

Table 1. Single sign-on setup

VMware	Citrix XenDesktop
<ol style="list-style-type: none">1. Verify the VDI environment.2. Create the VDI machine policy template for the base image.3. Configure the base image.4. Create virtual desktop pools. <p>For complete documentation, see "Creating Desktop Pools" from http://www.vmware.com/pdf/view45_admin_guide.pdf.</p>	<ol style="list-style-type: none">1. Verify the VDI environment.2. Create the VDI machine policy template for the base image.3. Configure the base image.4. Create a machine catalog. <p>For complete documentation, see http://support.citrix.com/proddocs/topic/xendesktop-rho/cds-create-new-scheme-rho.html.</p>
Optional tasks: <ul style="list-style-type: none">• Update the base image after changes on the AccessAgent.• Customize AccessProfiles.	Optional tasks: <ul style="list-style-type: none">• Update the base image after changes on the AccessAgent.• Customize AccessProfiles.

Verifying the VDI environment

An Administrator must verify the VDI environment before preparing the base image and the virtual desktops.

Using VMware View

Prepare the VMware components. See http://www.vmware.com/support/pubs/view_pubs.html for the product documentation.

1. Verify that the View Connection Server is running.
2. Verify that the VMware vCenter Server settings and the View Composer Settings are correct.

Using Citrix XenDesktop

Prepare the Citrix XenDesktop components. See <http://support.citrix.com/proddocs/topic/xendesktop-rho/cds-install-wrapper-rho.html> for the product documentation.

Verify that the Citrix XenController is running.

Creating the VDI machine policy template for the base image

Use a machine policy template to apply a set of policies specific for Virtual Desktop Infrastructure support.

Procedure

1. Log on to AccessAdmin.
2. Select **Machine Policy Templates > New template**.

3. Set the name of the new template to VDI BaseImage MPT.

Note: The name is case-sensitive, so **Example** and **example** are two different template names.

4. Specify a criteria to assign a machine policy template. For example: **machine tag**.

Note:

- If you use machine tag, assign a name for it. The machine tag name must be the same with the value specified in the VDI_config.reg file. The default value is vdi_tag_example.
 - You can also use other criteria such as IP address, host name or others. See "Setting machine criteria" in the *IBM Security Access Manager for Enterprise Single Sign-On Administrator Guide*.
5. Enable Network Provider in this machine policy template.
 - a. Navigate to **AccessAgent Policies > Logon/Logoff Policies**.
 - b. Set the value of **Enable Network Provider** to **Yes**.
 6. Click **Add** to save the new settings.
 7. Under **Machine Policy Assignment**, select the **VDI BaseImage MPT** template and click the **Up arrow** icon until the **VDI BaseImage MPT** is at the top of the **Machine Policy template assignments** list.
 8. Verify that the base image machine name is removed from the IMS Server using AccessAdmin.

Configuring the base image

An Administrator must configure AccessAgent on the base image to support single sign-on on a Virtual Desktop Infrastructure.

Before you begin

- Ensure that you have created the VDI BaseImage MPT machine policy template. See "Creating the VDI machine policy template for the base image" on page 5.
- Verify the VDI environment.
- Ensure that the VDI Agent is installed on the virtual machine before AccessAgent.
 - For VMware View: VMware View Agent
 - For Citrix XenDesktop: Virtual Desktop Agent
- Ensure that base image can communicate with VMware View or Citrix XenDesktop server. For example: ping <server name>
- Make a copy or know the location of the following files:
 - AccessAgent installer
 - VDI_config.reg. See Appendix B, "VDI settings," on page 17 for the content of this file.
- Verify that the base image machine name is removed from the IMS Server using AccessAdmin.

About this task

All virtual desktops are created from a base image. Different desktop pools use different base image.

This task consists of:

- Pre-configuring and installing AccessAgent.
- Configuring and applying the registry settings.

Procedure

1. Configure the SetupHlp.ini file in the AccessAgent installer.
 - a. Open the <AccessAgent_installer>\Config\SetupHlp.ini file with any file editor.
 - b. Set **EnginaEnabled** to 0. Default value is 1.
 - c. Set **EncentuateCredentialProviderEnabled** to 0. Default value is 1.
 - d. Set **DisableWin7CAD** to 0. Default value is 1.
 - e. Ensure that **EncentuateNetworkProviderEnabled** is set to 1. Default value is 1.
 - f. Save the file.
2. Copy the VDI_config.reg file into the <AccessAgent_installer>\Reg folder.

Important:

- Make sure that the **MachineTag** name in this registry file, is the same as the machine tag criteria specified in the **VDI BaseImage MPT** machine policy template. See step 4 on page 6 from “Creating the VDI machine policy template for the base image” on page 5.
 - Assign a proper VDI group name in the registry file. This can be your VDI pool name. The VDI group name that you specify in the registry file is used as the host name for managing the policies in AccessAdmin.
3. Install AccessAgent.
 - a. Set the IMS Server location.
 - b. Ensure that the machine Wallet is downloaded.

Note: The machine Wallet is not downloaded until you restart the computer.

AccessAgent automatically applies the SetupHlp.ini settings and the registry settings to the base image.

4. Verify that the correct **VDI BaseImage MPT** machine policy template is assigned to the base image.
 - a. Log on to AccessAdmin.
 - b. Search the machine and check the assigned template.
5. Restart the computer.
6. Install the latest fixpack (if any).
7. Log on to the computer through Windows logon with a domain account that is registered with the IMS Server.
8. Verify that you are automatically logged on to AccessAgent with the same domain account you used during the Windows logon.
9. Shut down the computer.
10. Take a snapshot of the virtual machine where you pre-configured and installed AccessAgent.
 - a. Assign a name for the virtual machine snapshot and provide a description for it.
 - b. Click **OK**.

- c. Ensure that the snapshot is complete before you create a virtual desktop pool.

Results

AccessAgent is installed and with the required policies configured.

You created the base image to be used for the virtual desktops.

What to do next

- For VMware View: Create a virtual desktop pool.
- For Citrix XenDesktop: Create a machine catalog.

Creating virtual desktop pools

Create pools of desktops to deliver View desktop access to users. You can choose from automated pool or manual pool.

Before you begin

Complete the following tasks:

- “Verifying the VDI environment” on page 5.
- “Configuring the base image” on page 6.

About this task

This task is intended for Administrators.

Administrators must see "Creating Desktop Pools" and "Entitling Users and Groups" in the http://www.vmware.com/pdf/view45_admin_guide.pdf for the detailed steps and explanations. This is a high-level procedure for VMware View Virtual Desktop Infrastructure version 4.5.

Procedure

1. Log on to the VMware View Administrator with a domain user account.
2. Select **Inventory > Pools**.
3. Click **Add** to start the Add Pool wizard.
4. Define the pool and its settings by following the wizard.
5. Select the vCenter server.

Full virtual machines

Desktop sources will be full virtual machines that are created from a VMware vCenter Server template.

View Composer linked clones

View Composer linked clones share the same base image and use less storage space than full virtual machines. The user profile for linked clones can be redirected to persistent disks that will be unaffected by operating system updates and refreshes.

6. Configure the vCenter settings.

Important: This step uses the base image you created from “Configuring the base image” on page 6.

- a. Under Virtual Machine Settings, browse for the default image.

- b. Select the virtual machine to be used as the parent virtual machine for this desktop pool.
 - c. Select the snapshot of the base image that has the installation of AccessAgent.
 - d. Click **OK**.
7. Specify the virtual machine folder and the resource settings for the vCenter settings.
8. Continue with the wizard.
9. Review the configuration summary and click **Finish** to add the desktop pool in the Pools page.
10. Double-click the desktop pool that you created to view the details and for additional configurations.
11. Select the users who can access the desktops in the pool you created.
12. Click **OK**.

Results

The desktop pool is created and users are assigned to the desktop pool.

Users can start accessing the virtual desktops created from the desktop pool.

Creating a machine catalog

In Citrix XenDesktop, create a Catalog of machines and desktop groups to deliver desktops to users.

Before you begin

Complete the following tasks:

- “Verifying the VDI environment” on page 5.
- “Configuring the base image” on page 6.

About this task

This task is intended for Administrators.

See <http://support.citrix.com/proddocs/topic/xendesktop-rho/cds-create-new-scheme-rho.html> for the detailed steps and explanations. This is a high-level procedure for Citrix XenDesktop.

Procedure

1. Log on to Citrix Desktop Studio with a domain user account.
2. Click **Machines > Create Catalog**.
3. Follow the wizard. Select the settings as per your requirement.
4. On the **Master Image** page, select the snapshot of the base image that has the installation of AccessAgent.
5. Follow the wizard. Select the settings as per your requirement.

Results

You have a Catalog of machines. To deliver desktops to users from your Catalog, allocate the machines to users by creating desktop groups. See <http://support.citrix.com/proddocs/topic/xendesktop-rho/cds-create-desktops-t-rho.html>

Users can start accessing the virtual desktops created from your Catalog.

Updating the base image after changes on the AccessAgent

Update AccessAgent in the base image to apply a fix pack or change a registry policy.

About this task

This task is intended for Administrators.

Procedure

1. Log on to the virtual machine you used for the base image.
2. Update AccessAgent in the base image. You can update AccessAgent by:
 - Applying the latest AccessAgent fix pack.
 - Updating the registry policies. See Appendix B, “VDI settings,” on page 17 for the configurable policies.
3. Wait for AccessAgent to synchronize with any changes in the system policies and AccessProfiles.
4. Take a snapshot of the virtual machine where you applied the fix pack.
5. If you are using VMware View:
 - a. Log on to the VMware View Administrator.
 - b. Select the desktop pool.
 - c. Open VMware View Composer.
 - d. Click **Recompose** to apply the new versions of the base image to all users or a subset of the linked clones.
6. If you are using Citrix XenDesktop:
 - a. Log on to the Citrix Desktop Studio.
 - b. Click **Machines**.
 - c. Select your Catalog.
 - d. Click **Update machine**.

Related information:

Updating User Desktops: <http://support.citrix.com/proddocs/topic/xendesktop-rho/cds-update-master-vm-rho.html>

Using AccessProfiles

Use an AccessProfile to automatically log on the user to the VDI portal.

The AccessProfile can be used if there is an AccessAgent installed in the client computer. The AccessProfile is used with AccessAgent to single sign-on the user to the VDI portal. The AccessProfile uses automatic authentication service. You can customize this profile to use domain authentication service.

Table 2. AccessProfiles

AccessProfile for	File name
VMware View	VMWareViewClient.eas
Citrix XenDesktop	XenDesktopWebAccess.eas

Important: If you are using Citrix XenDesktop, update the XenDesktopWebAccess.eas profile. Edit the site signature to match the actual Citrix Web Access URL. See the *IBM Security Access Manager for Enterprise Single Sign-On AccessStudio Guide* for the procedure.

Chapter 4. User workflows for accessing the virtual desktop

Users can log on to a virtual desktop from a computer with AccessAgent or from a thin client.

The following topics describe the differences between these workflows.

- “Accessing the virtual desktop from client computer with AccessAgent installed”
- “Accessing the virtual desktop from client computer without AccessAgent” on page 14

Accessing the virtual desktop from client computer with AccessAgent installed

If users use a local computer with an installed AccessAgent, they can automatically log on to the virtual machine and on the selected virtual desktop.

Using VMware

1. Verify that you have the following components installed on the client computer:
 - VMware View Client
 - AccessAgent
2. Ensure that you have a VMware AccessProfile.
3. On your local computer, log on to AccessAgent.
4. Open the VMware View Client.
5. Specify the **Connection Server** IP address or host name.
6. Click **Connect**. The Log On window is displayed.
7. Select the virtual desktop you want to use.
8. Click **Connect**.

Using Citrix XenDesktop

1. Verify that you have the following components installed on the client computer:
 - Citrix Online Plug-in or Citrix Receiver
 - AccessAgent
2. Ensure that you have a Citrix XenDesktop AccessProfile.
3. Ensure that you installed the Citrix plugin. Otherwise, you are prompted to install the plugin when you log on to Citrix Web Access.
4. Open Citrix Web Access. For example: `http://<server name>\Citrix\DesktopWeb`.
5. Select the virtual desktop or desktop group.

Results

You are connected to the selected virtual desktop.

You are automatically logged on to AccessAgent in the virtual desktop.

You can single sign-on to applications in the virtual desktop.

Accessing the virtual desktop from client computer without AccessAgent

Users can access a virtual desktop from a thin client or from a local computer without an installed AccessAgent. In this scenario, users are not automatically logged on to the virtual machine.

Using VMware

1. Verify that you have a VMware View Client installed.
2. Open the VMware View Client.
3. Specify the **Connection Server** IP address or host name.
4. Click **Connect**. The Log On window is displayed.
5. Enter your domain user account password.
6. Click **Login**.
7. Select the virtual desktop to be used.
8. Click **Connect**.

Using Citrix XenDesktop

1. Verify that you have a Citrix Online Plug-in or Citrix Receiver installed.
2. Ensure that you installed the Citrix plugin. Otherwise, you are prompted to install the plugin when you log on to Citrix Web Access.
3. Open Citrix Web Access. For example: `http:\\<server name>\Citrix\DesktopWeb`.
4. Log on with your user name and password.
5. Select the virtual desktop or desktop group.

Results

You are connected to the selected virtual desktop.

You are automatically logged on to AccessAgent in the virtual desktop.

You can single sign-on to applications in the virtual desktop.

Appendix A. Troubleshooting

You might encounter issues when accessing the virtual desktop. Misconfiguration can cause these issues.

Misconfiguration issues

Issue 1: Logon to Windows succeeded. Log on to AccessAgent using EnNetworkProvider failed.

Symptom: When user logs on to the virtual desktop, VMware View Client automatically logs on the user to Windows. However, the user is not automatically logged on to AccessAgent.

Cause: Any of these factors can cause this issue:

- Active Directory password synchronization is not enabled.
- The **VDI BaseImage MPT** machine policy template is not applied in the base image.
- The required registry settings are not applied in the base image. See Appendix B, “VDI settings,” on page 17.
- The virtual machine cannot connect to the IMS Server and there is no cached Wallet.

Solution:

- Verify that the Active Directory password synchronization is enabled.
- Verify that EnNetworkProvider is enabled in the **VDI BaseImage MPT** machine policy template and that this template is applied to the base image and virtual desktops. See “Creating the VDI machine policy template for the base image” on page 5.
- Make sure that the **VDI BaseImage MPT** machine policy template is at the **top** of the Machine Policy template assignments list. See step 7 on page 6 from “Creating the VDI machine policy template for the base image” on page 5.
- Verify that automatic logon succeeds in the base image.
- The virtual machine can connect to the IMS Server.

Issue 2: Logon to Windows failed. ESSO GINA or ESSO Credential Provider is displayed.

Symptom: When user logs on to the virtual desktop through VMware View Client, the user is not automatically logged on to Windows. The user is prompted with the ESSO GINA or ESSO Credential Provider.

Cause: The required AccessAgent installer settings were not configured before AccessAgent was installed in the base image.

Solution:

1. Uninstall AccessAgent from the base image.
2. Reconfigure the base image.

Important: Ensure that the **EnginaEnabled** and **EncentuateCredentialProviderEnabled** settings in the AccessAgent installer are set to 0.

3. Log on to the VMware View Administrator.

4. Select the desktop pool.
5. Open VMware View Composer.
6. Click **Recompose** to apply the new versions of the base image to all users or a subset of the linked clones.

Issue 3: Logon to Windows failed. Microsoft Credential Provider is displayed.

Symptom: When user logs on to the virtual desktop through VMware View Client, the user is not automatically logged on. The user is prompted with the Microsoft Credential Provider. This issue occurs only in Windows 7.

Cause: The **DisableWin7CAD** setting in the AccessAgent installer is not configured correctly.

Solution:

On the base image:

1. Open the Local Security Policy Console.
 - a. Click the **Start** menu.
 - b. Type Local Security Policy.
 - c. Press **Enter**.
2. Expand the **Local Policies**.
3. Click **Security Options**.
4. Double-click **Interactive logon: Do not require CTRL+ALT+DEL**.
5. Select **Disabled**.
6. Click **OK**.
7. Log on to the VMware View Administrator.
8. Select the desktop pool.
9. Open VMware View Composer.
10. Click **Recompose** to apply the new versions of the base image to all users or a subset of the linked clones.

Appendix B. VDI settings

Ensure that you apply the required registry settings to support Virtual Desktop Infrastructure.

Required registry settings

The settings required for Virtual Desktop Infrastructure support are:

```
[HKEY_LOCAL_MACHINE\SOFTWARE\IBM\ISAM ESS0\DeploymentOptions]
"VDIGroupName"="vdi_pool_example"
"MachineTag"="vdi_tag_example"
```

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