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Best Practices for Upgrading the Virtual Desktop Agent

Citrix XenDesktop 4

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Introduction

Citrix recently released updates for the Citrix XenDesktop 4.0 Virtual Desktop Agent designed to improve the end user virtual desktop experience. Service Pack 1 which includes Hotfixes 1, 2, and 3 for the Citrix XenDesktop 4 Virtual Desktop Agent was released in July 2010. As administrators prepare to upgrade their existing environment with the most recent Virtual Desktop Agent (VDA), there are different implementation considerations for different types of virtual desktop deployments. This paper addresses upgrading the VDA on virtual desktops in two distinct categories:

- Pooled Desktops, also known as hosted VM-based desktops, are defined as a group of virtual desktops that utilize a single virtual desktop image delivered by the Provisioning Services feature of XenDesktop. Guidance for updating the VDA in this environment is provided in the Pooled Desktops section.
- Assigned Desktops are defined as a group of virtual desktops that utilize a dedicated virtual machine for each desktop. Assigned desktops do not utilize Provisioning Services. Guidance for updating the VDA in this environment is provided in the Assigned Desktops section.

This document provides administrators with best practices for upgrading the Citrix XenDesktop 4.0 Virtual Desktop Agent to Service Pack 1 or any specific Hotfix version on both pooled and assigned desktops. Citrix Consulting recommends that administrators adhere to the best practices documented in this paper to avoid any risks of environment corruption.

Virtual Desktop Agent

The Virtual Desktop Agent is a set of desktop-side components for XenDesktop. This set of components consists of:

- The Citrix Desktop Service manages communication between the delivery controller and the desktops. It handles initial brokering of connections, settings for connections, and interaction with sessions from the Citrix Delivery Services Console.
- The Citrix ICA Service manages communication between the endpoint device and the desktop. It handles the remoting of graphics from the desktop to the endpoint device and the remoting of input from the endpoint device to the desktop. Several drivers are associated with this service for handling the remoting of display, keyboard, and mouse.
- Additional supporting services help with other XenDesktop features such as auto-reconnection, printing, and encryption.

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Virtual Desktop Agent Upgrade Recommendations

Before upgrading the Virtual Desktop Agent in an existing XenDesktop environment, there are certain considerations that must be taken into account when planning an upgrade:

- When upgrading the VDA it is not necessary to uninstall the existing VDA from the virtual desktop. The upgrade process will detect the existing VDA and configurations, such as Farm OU, and upgrade the VDA with the existing configurations intact.

- Changes to the registry may be required during the VDA upgrade process; therefore, administrators must ensure that any firewall or intrusion detection software with registry restrictions is disabled before the upgrade and re-enabled after the upgrade is completed.

- VDA upgrades must be performed within a console session or through an automated software deployment mechanism. Citrix does NOT recommend performing VDA upgrades in an RDP or ICA session. It is NOT recommended to have Citrix XenDesktop end users execute the VDA upgrade while connected to their virtual desktop.

- Citrix Consulting highly recommends that administrators validate the upgrade in a non-production environment prior to performing the upgrade in the XenDesktop production environment.

Pooled Desktops

For upgrading the VDA on Pooled Desktops that utilize the Citrix Provisioning Services feature of XenDesktop, Citrix Consulting recommends administrators follow the steps mentioned below:

1. Create a copy of the existing vDisk for backup purposes. Please note that this vDisk is the shared virtual desktop where the desired VDA upgrade will be performed.

2. Assign the backup copy of the vDisk to the target device that will be used to perform the VDA upgrade.

3. Change the vDisk to Private Image mode which allows for read/write operations.

4. Boot the target device from the vDisk.

5. Connect to the console of the target device and perform the VDA upgrade as described in the Manual Virtual Desktop Agent Installation section of this document.

6. Confirm the VDA upgrade was successful.

7. Put the updated vDisk with the new VDA in shared mode and push the newer vDisk utilizing the automatic vDisk update option of Provisioning Services.

For step-by-step guidance on updating the vDisk in a Provisioning Services environment reference the Managing vDisk section within the [Citrix Provisioning Services Administrator's Guide](#).

Assigned Desktops

For Assigned Desktops, Citrix Consulting recommends that administrators perform the VDA upgrade using either Group Policy Objects (GPO) or by leveraging the automated deployment option of enterprise systems management software. Once the centralized deployment option is selected, Citrix Consulting recommends administrators follow the steps mentioned below:

1. Ensure that there are no active user connections to the assigned desktops by confirming the status of the desktops from Citrix Delivery Services Console.

2. Enable the GPO policy or enterprise system management software to push the VDA upgrade.

3. Reboot the desktops from the Citrix Delivery Services Console by right clicking on the assigned desktops.

4. Access the console of a single virtual desktop to ensure that the upgrade was successful.

5. Ensure that the GPO or enterprise system management software will not attempt to execute the VDA upgrade again when users logon.

For step-by-step guidance on updating the VDA on assigned desktops via a GPO reference http://support.citrix.com/article/CTX121493.

Manual Virtual Desktop Agent Installation

In order to install the most recent Service Pack or any other VDA upgrade manually on an individual desktop image or within a centralized image, Citrix Consulting recommends administrators follow the steps mentioned below:

1. Start a console session.

   Citrix does NOT support installing Service Pack 1 in an RDP or ICA session. Service Pack 1, as well as any other Virtual Desktop Agent (VDA) upgrades, must be installed in a console session.

2. Download the respective install files.

3. Ensure that the account used to access the desktop is either a member of the administrators group for the virtual desktop or a domain administrator (domain administrators are automatically added to the desktop's administrators group).

4. Extract the compressed file and save the enclosed .msi file on the desktop that is being updated.

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5. Open the .msi file. The Citrix Virtual Desktop Agent Setup Wizard starts.

6. Follow the steps in the wizard.

   During the installation the TCP/IP port and the Windows firewall can be reconfigured.

   If Group Policies are not being used to manage farm membership, the farm membership can also be changed during install. Please make sure the machine on which the VDA is being installed is part of the relevant domain.

7. After the installation has finished, restart the machine.

Conclusion

By following the best practices noted in this document, administrator can ensure a successful upgrade and avoid any potential outages to their XenDesktop environment while performing the Citrix XenDesktop VDA upgrade.

Appendix A – Software Specifications

The best practices mentioned in this document are valid for the following software versions:

Product	Software Version
Citrix XenDesktop	4
Citrix Provisioning Services	5.6, 5.1, 5.0, 4.5
Citrix XenDesktop Hotfixes	1,2 and 3
Citrix XenDesktop Service Pack	1

Appendix B – References

- How to Use Group Policy Objects with XenDesktop:
  http://support.citrix.com/article/CTX121493

- Service Pack 1 XDE400VDAWX64SP1 (Version 4.0.5010) - For Citrix XenDesktop 4.0 Virtual Desktop Agent x64 Download: http://support.citrix.com/article/CTX126019

- XenDesktop 4 Feature Pack 1 Downloads:
  http://www.citrix.com/English/ss/downloads/results.asp?productID=163057

- Automatically Updating vDisks in Provisioning Services (pg123):
  http://support.citrix.com/servlet/KbServlet/download/23696-102-647031/AdministratorsGuide.pdf

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Revision	Change Description	Updated By	Date
0.1	First draft	Consulting Solutions	July 7, 2010
0.2	Update based on SP1	Consulting Solutions	July19, 2010
0.3	QA Review	Consulting Solutions	July 22, 2010
0.4	Final Version	Consulting Solutions	July 23, 2010

About Citrix

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