

# Advanced Bundle Management Concepts with ZCM 11 Lab

ZEN16

**Novell Training Services**

[www.novell.com](http://www.novell.com)

ATT LIVE 2012 LAS VEGAS

**Novell®**

---

## Legal Notices

Novell, Inc., makes no representations or warranties with respect to the contents or use of this documentation, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc., reserves the right to revise this publication and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes.

Further, Novell, Inc., makes no representations or warranties with respect to any software, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc., reserves the right to make changes to any and all parts of Novell software, at any time, without any obligation to notify any person or entity of such changes.

Any products or technical information provided under this Agreement may be subject to U.S. export controls and the trade laws of other countries. You agree to comply with all export control regulations and to obtain any required licenses or classification to export, re-export or import deliverables. You agree not to export or re-export to entities on the current U.S. export exclusion lists or to any embargoed or terrorist countries as specified in the U.S. export laws. You agree to not use deliverables for prohibited nuclear, missile, or chemical biological weaponry end uses. See the [Novell International Trade Services Web page \(http://www.novell.com/info/exports/\)](http://www.novell.com/info/exports/) for more information on exporting Novell software. Novell assumes no responsibility for your failure to obtain any necessary export approvals.

Copyright © 2012 Novell, Inc. All rights reserved. No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express written consent of the publisher.

Novell, Inc., has intellectual property rights relating to technology embodied in the product that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the U.S. patents listed on the [Novell Legal Patents Web page \(http://www.novell.com/company/legal/patents/\)](http://www.novell.com/company/legal/patents/) and one or more additional patents or pending patent applications in the U.S. and in other countries.

Novell, Inc.  
404 Wyman Street, Suite 500  
Waltham, MA 02451  
U.S.A.  
[www.novell.com](http://www.novell.com)

**Online Documentation:** To access the latest online documentation for this and other Novell products, see the [Novell Documentation Web page \(http://www.novell.com/documentation\)](http://www.novell.com/documentation).

## Novell Trademarks

For Novell trademarks, see the [Novell Trademark and Service Mark list \(http://www.novell.com/company/legal/trademarks/tmlist.html\)](http://www.novell.com/company/legal/trademarks/tmlist.html).

## Third-Party Materials

All third-party trademarks are the property of their respective owners.

---

# Contents

<b>SECTION 1</b>	<b>Advanced Bundle Management Concepts with ZENworks Configuration Management 115</b>	
	<b>Advanced Bundle Management with ZCM 11SP2</b>	<b>5</b>
Exercise 1-1	Start the lab environment .....	6
Exercise 1-2	Create application to install, uninstall, verify Microsoft Office 2010 .....	7
Exercise 1-3	Create launch applications .....	19
Exercise 1-4	Publish bundles .....	22



## SECTION 1    **Advanced Bundle Management Concepts with ZENworks Configuration Management 11**

### **Advanced Bundle Management with ZCM 11SP2**

ZENworks 11 SP2 provides a powerful set of capabilities for deploying software to a variety of devices including Windows, Macintosh and OS-X devices. This capability is collectively referred to as Bundle Management. In this workbook you will use ZENworks bundle management to deploy Microsoft Office 2010 Professional to Windows 7 devices. This workbook is divided into the following sections:

- [“Start the lab environment” on page 6](#)
- [“Create application to install, uninstall, verify Microsoft Office 2010” on page 7](#)
- [“Create launch applications” on page 19](#)
- [“Publish bundles” on page 22](#)

### **Exercise 1-1 Start the lab environment**

If your instructor has not previously started the lab environment you will need to follow these steps to get your ZENworks Server and test workstation started.

1. Start the ZENworks Primary Server.
  - a. Launch VMware Workstation.
  - b. Power on the **Advanced Bundles Server** virtual machine.
2. Power on the **Win7-Client** virtual machine.
3. Login to the Windows 7 Workstation as **Administrator** with a password of **n0v3ll**
4. At the ZENworks Login window, click **Cancel**.
5. In VMware select **VM > Settings**.
6. Click the **Options** tab.
7. Select Shared Folders and ensure that **Always Enabled** is selected, if not then select it and click **OK**.

You now have the necessary virtual machines to complete the rest of the exercises in this workbook.

**(End of Exercise)**

## **Exercise 1-2 Create application to install, uninstall, verify Microsoft Office 2010**

The first bundle that you will create in this set of labs is an application that can be used to install, uninstall and verify a Microsoft Office 2010 distribution. In this exercise we will be distributing Microsoft Office 2010 Profession Plus, but the concepts apply to all versions of Microsoft Office 2010. Because of the way the Microsoft Office 2010 installer works it is generally faster to install it from a UNC path if the device has access to a UNC source. In our example the ZENworks server is also acting as a Samba file server that has the Microsoft Office 2010 install media available on the APPS share.

---

NOTE: As part of the lab preparations the Office Customization Wizard was used to create a custom admin answer file and a config.xml file was created to ensure that repair, uninstall and install operations can be performed silently. For more information on these tasks you can refer to the Microsoft Office 2010 administrative documentation.

---

1. Create a credential object that can be used to connect to the file server hosting the installation files for Microsoft Office 2010. A credential object is an object that allows an administrator to securely enter a set of credentials that can be used by other objects in ZENworks.
  - a. On the Windows 7 Workstation device, launch **Internet Explorer**.
  - b. At the ZENworks Control Center login screen, login as **Administrator** with a password of **n0v3ll**
  - c. At the License Notification page, click **OK**.
  - d. In the left-hand navigation pane, click **Configuration**.
  - e. Scroll to the bottom and find the Credential Vault snapshot, then click **New > Credential**.
  - f. In the Credential Name field, enter **Office Credentials**.
  - g. In the Login Name field, enter **office**
  - h. In the Password and Reenter Password fields enter **n0v3ll**
  - i. In the Description field enter **Credentials to access office install files**.
  - j. Click **OK**.
2. Define zone level system variables to store the locations in the registry for common registry keys used to determine if a reboot is required after a piece of software is installed. Defining these at the zone level means that you can use them across multiple bundles as all devices will know about these variables.
  - a. Scroll up to the top of the screen, then click **Device Management**.
  - b. Click **System Variables**.
  - c. Click **Add**.
  - d. In the Name field, enter **PENDINGRENAMESKEY**
  - e. In the Value field enter **HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\Control\Session Manager\PendingFileRenameOperations**

- f. Click **OK**.
  - g. Click **Add**.
  - h. In the Name field, enter **REBOOTREQKEY**
  - i. In the Value field enter  
**HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\WindowsUpdate\Auto Update\RebootRequired**
  - j. Click **OK**.
  - k. Click **Add**.
  - l. In the Name field, enter **UPDATESKEY**
  - m. In the Value field enter  
**HKEY\_LOCAL\_MACHINE\SOFTWARE\MICROSOFT\Updates**
  - n. Click **OK**.
  - o. Click **OK**.
3. Create an empty bundle called Microsoft Office 2010.
    - a. In the left-hand navigation pane, click **Bundles**.
    - b. Select **New > Bundle...**
    - c. At the Select Bundle type page, select **Windows Bundle**; then click **Next**.
    - d. At the Select Bundle category page, select **(Empty Bundle)**; then click **Next**.
    - e. At the Define Details page, in the Bundle Name field enter **Microsoft Office 2010 Installer**.
    - f. Click **Next**.
    - g. At the Summary Page, select **Create as Sandbox**.
    - h. Click **Finish**.
    - i. On the Summary tab, click **Yes** next to the Show Bundle Activity field.
  4. Create system variables that can be used for accessing paths in the application.
    - a. Select the **Settings** tab.
    - b. Click **System Variables**.
    - c. Click **Add**.
    - d. In the Name field, enter **OFFICEPATH**.
    - e. In the Value field, enter **\\sles1164b\apps\office**
    - f. Click **OK**.
    - g. Click **Add**.
    - h. In the Name field, enter **PRODUCTNAME**.
    - i. In the Value field, enter **OFFICE14.PROPLUSR**
    - j. Click **OK**.
    - k. Click **Add**.



- l. In the Name field, enter **OFFICE64KEY**.
  - m. In the Value field, enter  
**HKEY\_LOCAL\_MACHINE\SOFTWARE\WOW6432NODE\Microsoft\Windows\CurrentVersion\Uninstall\\${PRODUCTNAME}**
  - n. Click **OK**.
  - o. Click **Add**.
  - p. In the Name field, enter **OFFICEKEY**.
  - q. In the Value field, enter  
**HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\\${PRODUCTNAME}**
  - r. Click **OK**.
  - s. Click **OK**.
5. Create actions to distribute the 64-bit office setup answer files to the local temp directory from the content repository.
- These files were created using the Office 2010 Customization Toolkit. They include information indicating that Windows shortcuts should not be created for the Office applications and the license key to be used during installation.
- a. Click the **Actions** tab.
  - b. Click the **Install** tab.
  - c. Click **Add > Install File(s)**
  - d. Change the Action Name to **Admin MSP 64-bit**
  - e. Click **Add**.
  - f. Click **Add**.
  - g. Click **Browse**.
  - h. Browse to **z:\advbundles\64\MSOffice.MSP**; then click **Open**.
  - i. Click **OK**.
  - j. In the Destination Directory field, enter **%temp%**.
  - k. Click **OK**.
  - l. Click the **Requirements** tab.
  - m. Click **Add Filter**.
  - n. In the first dropdown select **Architecture**.
  - o. In the third dropdown select **64**.
  - p. At the Add Action - Install File(s) page, click **OK**.
6. Create actions to distribute the 32-bit office setup answer files to the local temp directory from the content repository.
- a. Click **Add > Install File(s)**
  - b. Change the Action Name to **Admin MSP 32-bit**

- c. Click **Add**.
  - d. Click **Add**.
  - e. Click **Browse**.
  - f. Browse to **z:\advbundles\32\MSOffice.MSP**; then click **Open**.
  - g. Click **OK**.
  - h. In the Destination Directory field, enter **%temp%**.
  - i. Click **OK**.
  - j. Click the **Requirements** tab.
  - k. Click **Add Filter**.
  - l. In the first dropdown select **Architecture**.
  - m. In the third dropdown select **32**.
  - n. At the Add Action - Install File(s) page, click **OK**.
  - o. Click **Apply** to save the actions you have created thus far.
7. Create actions to install the 64-bit version of Microsoft office on the machine from a network server when a UNC path is available.
- a. Click **Add > Launch Executable**.
  - b. Change the Action Name to **Install 64-bit Office**.
  - c. In the Command field, enter **\${OFFICEPATH}\x64\setup.exe**
  - d. In the Command Line Parameters field, enter **/adminfile  
%temp%\MSOffice.MSP /config  
\${OFFICEPATH}\x64\ProPlusr.WW\config.xml**
  - e. In the Return Codes field, enter **0,3010**.
  - f. Under Environment Variables, click **Add**.
  - g. In the Name field, enter **SEE\_MASK\_NOZONECHECKS**
  - h. In the Value field, enter **1**.
  - i. Click **OK**.
  - j. Click the **Advanced** tab.
  - k. Select **When action is complete**
  - l. Select **Run as dynamic administrator**
  - m. Click the magnifying glass icon
  - n. Click the **arrow** next to Credentials.
  - o. Click **Office Credentials**; then click **OK**.
  - p. Click the **Requirements** tab.
  - q. Click **Add Filter**.
  - r. In the first dropdown select **Architecture**.
  - s. In the third dropdown select **64**.

- t. Click **Add Filter Set**.
  - u. In the first dropdown select **Registry Key Exists**.
  - v. In the text field enter **\${OFFICE64KEY}**
  - w. In the next dropdown, select **No**.
  - x. Click **Add Filter**.
  - y. In the first dropdown select **Registry Key Exists**.
  - z. In the text field enter **\${OFFICEKEY}**
  - aa. In the next dropdown, select **No**.
  - ab. Change the Combine Filters dropdown to **or**
  - ac. Click **OK**.
  - ad. Click **Apply**.
8. Create actions to install the 32-bit version of Microsoft office on the machine from a network server when a UNC path is not available.
- a. Click **Add > Launch Executable**.
  - b. Change the Action Name to **Install 32-bit Office**.
  - c. In the Command field, enter **\${OFFICEPATH}\x86\setup.exe**
  - d. In the Command Line Parameters field, enter **/adminfile  
%temp%\MSOffice.MSP /config  
\${OFFICEPATH}\x86\ProPlusr.WW\config.xml**
  - e. In the Return Codes field, enter **0,3010**.
  - f. Under Environment Variables, click **Add**.
  - g. In the Name field, enter **SEE\_MASK\_NOZONECHECKS**
  - h. In the Value field, enter **1**.
  - i. Click **OK**.
  - j. Click the **Advanced** tab.
  - k. Select **When action is complete**
  - l. Select **Run as dynamic administrator**
  - m. Click the magnifying glass icon
  - n. Click the **arrow** next to Credentials.
  - o. Click **Office Credentials**; then click **OK**.
  - p. Click the **Requirements** tab.
  - q. Click **Add Filter**.
  - r. In the first dropdown select **Architecture**.
  - s. In the third dropdown select **32**.
  - t. Click **Add Filter**.
  - u. In the first dropdown select **Registry Key Exists**.

- v. In the text field enter **\${OFFICEKEY}**
  - w. In the next dropdown, select **No**.
  - x. Click **OK**.
  - y. Click **Apply**.
9. Create actions to remove the answer file from the machine.
- a. Click **Add > File Removal**.
  - b. Change the Action Name to **Delete Answer File**
  - c. In the Full Path to Source Files/Directories field, enter **%temp%\MSOffice.MSP**
  - d. Click **Add**.
  - e. Click **OK**.
  - f. Click **Apply**.
10. Add an action to reboot the machine if a reboot was required.
- a. Select **Add > Reboot/Shutdown**
  - b. Select **Display a warning message before doing Reboot/Shutdown**.
  - c. Select **Allow user to cancel**.
  - d. Click **Add**.
  - e. In the Prompt field, enter **Microsoft Office 2010 has been successfully installed but requires a reboot prior to being available. The machine will reboot in 5 minutes if you do not click Cancel**.
  - f. Click **OK**.
  - g. Click the **Requirements** tab.
  - h. Click **Add Filter**.
  - i. In the Dropdown, select **Registry Key Exists**
  - j. In the text field enter **\${PENDINGRENAMESKEY}**
  - k. Click **Add Filter**.
  - l. In the Dropdown, select **Registry Key Exists**
  - m. In the text field enter **\${REBOOTREQKEY}**
  - n. Click **Add Filter**.
  - o. In the Dropdown, select **Registry Key Value**
  - p. In the first text field ,enter **\${UPDATESKEY}**
  - q. In the next text field, enter **UpdateExeVolatile**
  - r. In the last field, enter **0**
  - s. Change the Combine filters with setting to **or**
  - t. Click **OK**.
  - u. Click **Apply**.

11. Flag the device as a managed device and assign the bundle to the managed device.
  - a. In the left-hand navigation pane, click **Devices**.
  - b. Click **Workstations**.
  - c. Click **HQ**.
  - d. Click **win7-client**
  - e. In the Test Device field, click **Set**.
  - f. Click the **Relationships** tab.
  - g. Under Assigned Bundles, click **Add**.
  - h. Click **Microsoft Office 2010 Installer**.
  - i. Click **OK**.
  - j. Select the **Desktop** checkbox; then click **Next**.
  - k. At the Schedules and flags page, click **Next**.
  - l. At the Finish page, click **Finish**.
  - m. Minimize Internet Explorer.
12. Test the application.
  - a. Right click the ZENworks icon in the system tray.
  - b. Select **Refresh**.
  - c. Double-click the **Microsoft Office 2010 Installer** icon on the desktop.
  - d. While the install is happening you can proceed with the next section.
13. Update the Verify action set to properly verify the 64-bit version of Microsoft Office installation in the event of a problem.
  - a. Restore **Internet Explorer**
  - b. In the left-hand navigation pane, click **Bundles**.
  - c. Click **Microsoft Office 2010 Installer**.
  - d. Click the **Actions** tab.
  - e. Click the **Verify** tab.
  - f. Select the checkbox in front of **Verify Install Actions**.
  - g. Click **Remove**.
  - h. Click **Add > Launch Executable**.
  - i. Change the Action Name to **Verify 64-bit Office**.
  - j. In the Command field, enter **\${OFFICEPATH}\x64\setup.exe**
  - k. In the Command Line Parameters field, enter **/repair ProPlusr /config \${OFFICEPATH}\x64\ProPlusr.WW\config.xml**
  - l. In the Return Codes field, enter **0,3010**.
  - m. Under Environment Variables, click **Add**.

- n. In the Name field, enter **SEE\_MASK\_NOZONECHECKS**
  - o. In the Value field, enter **1**.
  - p. Click **OK**.
  - q. Click the **Advanced** tab.
  - r. Select **When action is complete**
  - s. Select **Run as dynamic administrator**
  - t. Click the magnifying glass icon
  - u. Click the **arrow** next to Credentials.
  - v. Click **Office Credentials**; then click **OK**.
  - w. Click the **Requirements** tab.
  - x. Click **Add Filter**.
  - y. In the first dropdown select **Architecture**.
  - z. In the third dropdown select **64**.
  - aa. Click **Add Filter**.
  - ab. Select **Registry Key Exists**.
  - ac. In text box enter **\${OFFICE64KEY}**
  - ad. Change the last dropdown to **No**.
  - ae. Click **OK**.
  - af. Click **Apply**.
14. Update the Verify action set to properly verify the 32-bit version of Microsoft Office installation in the event of a problem.
- a. Click **Add > Launch Executable**.
  - b. Change the Action Name to **Verify 32-bit Office**.
  - c. In the Command field, enter **\${OFFICEPATH}\x86\setup.exe**
  - d. In the Command Line Parameters field, enter **/repair ProPlusr /config \${OFFICEPATH}\x86\ProPlusr.WW\config.xml**
  - e. In the Return Codes field, enter **0,3010**.
  - f. Under Environment Variables, click **Add**.
  - g. In the Name field, enter **SEE\_MASK\_NOZONECHECKS**
  - h. In the Value field, enter **1**.
  - i. Click **OK**.
  - j. Click the **Advanced** tab.
  - k. Select **When action is complete**
  - l. Select **Run as dynamic administrator**
  - m. Click the magnifying glass icon
  - n. Click the **arrow** next to Credentials.

- o. Click **Office Credentials**; then click **OK**.
  - p. Click the **Requirements** tab.
  - q. Click **Add Filter**.
  - r. In the first dropdown select **Architecture**.
  - s. In the third dropdown select **32**.
  - t. Click **Add Filter Set**.
  - u. In the first dropdown select **Architecture**.
  - v. In the third dropdown select **64**.
  - w. Click **Add Filter**.
  - x. Select **Registry Key Exists**.
  - y. In text box enter **#{OFFICE64KEY}**
  - z. Change the last dropdown to **Yes**.
  - aa. Click **OK**.
  - ab. Click **Apply**.
15. Update the Verify action set to reboot if required.
- a. Select **Add > Reboot/Shutdown**
  - b. Select **Display a warning message before doing Reboot/Shutdown**.
  - c. Select **Allow user to cancel**.
  - d. Click **Add**.
  - e. In the Prompt field, enter **Microsoft Office 2010 has been successfully repaired but requires a reboot prior to being available. The machine will reboot in 5 minutes if you do not click Cancel**.
  - f. Click **OK**.
  - g. Click the **Requirements** tab.
  - h. Click **Add Filter**.
  - i. In the Dropdown, select **Registry Key Exists**
  - j. In the text field enter **#{PENDINGRENAMESKEY}**
  - k. Click **Add Filter**.
  - l. In the Dropdown, select **Registry Key Exists**
  - m. In the text field enter **#{REBOOTREQKEY}**
  - n. Click **Add Filter**.
  - o. In the Dropdown, select **Registry Key Value**
  - p. In the first text field ,enter **#{UPDATESKEY}**
  - q. In the next text field, enter **UpdateExeVolatile**
  - r. In the last field, enter **0**
  - s. Change the Combine filters with setting to **or**

- t. Click **OK**.
  - u. Click **Apply**.
16. Update the Uninstall action set to properly uninstall the 64-bit version of Microsoft Office installation if required.
- a. Click the **Uninstall** tab.
  - b. Click **Options**.
  - c. Select **Enable Uninstall**.
  - d. Select **Allow user to perform uninstall**.
  - e. Click **OK**.
  - f. Select the checkbox in front of **Undo Install Actions**.
  - g. Click **Remove**.
  - h. Click **Add > Launch Executable**.
  - i. Change the Action Name to **Uninstall 64-bit Office**.
  - j. In the Command field, enter **\${OFFICEPATH}\x64\setup.exe**
  - k. In the Command Line Parameters field, enter **/uninstall ProPlusr /config \${OFFICEPATH}\x64\ProPlusr.WW\config.xml**
  - l. In the Return Codes field, enter **0,3010**.
  - m. Under Environment Variables, click **Add**.
  - n. In the Name field, enter **SEE\_MASK\_NOZONECHECKS**
  - o. In the Value field, enter **1**.
  - p. Click **OK**.
  - q. Click the **Advanced** tab.
  - r. Select **When action is complete**
  - s. Select **Run as dynamic administrator**
  - t. Click the magnifying glass icon
  - u. Click the **arrow** next to Credentials.
  - v. Click **Office Credentials**; then click **OK**.
  - w. Click the **Requirements** tab.
  - x. Click **Add Filter**.
  - y. In the first dropdown select **Architecture**.
  - z. In the third dropdown select **64**.
  - aa. Click **Add Filter**.
  - ab. Select **Registry Key Exists**.
  - ac. In text box enter **\${OFFICE64KEY}**
  - ad. Change the last dropdown to **No**.
  - ae. Click **OK**.



- af. Click **OK**.
  - ag. Click **Apply**.
17. Update the Uninstall action set to properly uninstall the 32-bit version of Microsoft Office installation if required.
- a. Click **Add > Launch Executable**.
  - b. Change the Action Name to **Uninstall 32-bit Office**.
  - c. In the Command field, enter **\${OFFICEPATH}\x86\setup.exe**
  - d. In the Command Line Parameters field, enter **/uninstall ProPlusr /config \${OFFICEPATH}\x86\ProPlusr.WW\config.xml**
  - e. In the Return Codes field, enter **0,3010**.
  - f. Under Environment Variables, click **Add**.
  - g. In the Name field, enter **SEE\_MASK\_NOZONECHECKS**
  - h. In the Value field, enter **1**.
  - i. Click **OK**.
  - j. Click the **Advanced** tab.
  - k. Select **When action is complete**
  - l. Select **Run as dynamic administrator**
  - m. Click the magnifying glass icon
  - n. Click the **arrow** next to Credentials.
  - o. Click **Office Credentials**; then click **OK**.
  - p. Click the **Requirements** tab.
  - q. Click **Add Filter**.
  - r. In the first dropdown select **Architecture**.
  - s. In the third dropdown select **32**.
  - t. Click **Add Filter Set**.
  - u. In the first dropdown select **Architecture**.
  - v. In the third dropdown select **64**.
  - w. Click **Add Filter**.
  - x. Select **Registry Key Exists**.
  - y. In text box enter **\${OFFICE64KEY}**
  - z. Change the last dropdown to **Yes**.
  - aa. Click **OK**.
  - ab. Click **Apply**.
18. Update the Uninstall action set to reboot if required.
- a. Select **Add > Reboot/Shutdown**
  - b. Select **Display a warning message before doing Reboot/Shutdown**.

- c. Select **Allow user to cancel**.
  - d. Click **Add**.
  - e. In the Prompt field, enter **Microsoft Office 2010 has been successfully uninstalled but a reboot is required. The machine will reboot in 5 minutes if you do not click Cancel**.
  - f. Click **OK**.
  - g. Click the **Requirements** tab.
  - h. Click **Add Filter**.
  - i. In the Dropdown, select **Registry Key Exists**
  - j. In the text field enter **\${PENDINGRENAMESKEY}**
  - k. Click **Add Filter**.
  - l. In the Dropdown, select **Registry Key Exists**
  - m. In the text field enter **\${REBOOTREQKEY}**
  - n. Click **Add Filter**.
  - o. In the Dropdown, select **Registry Key Value**
  - p. In the first text field, enter **\${UPDATESKEY}**
  - q. In the next text field, enter **UpdateExeVolatile**
  - r. In the last field, enter **0**
  - s. Change the Combine filters with setting to **or**
  - t. Click **OK**.
  - u. Click **Apply**.
19. Test the new capabilities of the application.
- a. Minimize Internet Explorer.
  - b. Verify that Microsoft Office is installed by looking in the Programs and Features control panel.
  - c. Right click the ZENworks icon in the system tray.
  - d. Right click Microsoft Office 2010 Installer and click **Uninstall**. This should remove Microsoft Office 2010. You can verify this with the same control panel when the Uninstalling screen is complete.

**(End of Exercise)**

### **Exercise 1-3 Create launch applications**

In the Admin answer file the option to create icons for Microsoft Office has been disabled. This is to encourage the end user to launch the office applications from ZENworks delivered shortcuts. This allows you to ensure that the full application management lifecycle capabilities are available to you. In this exercise you will create applications that can be used to launch the various Microsoft Office applications and chain them to the Office Installer bundle.

1. Restore Internet Explorer.
2. Create an application to launch Microsoft Word.
  - a. In the left-hand pane, click **Bundles**.
  - b. Click **New > Bundle...**
  - c. At the Select Bundle type page, select **Windows Bundle**; then click **Next**.
  - d. At the Select Bundle category page, select **Simple Application**; then click **Next**.
  - e. In the Bundle Name field, enter **Microsoft Word**.
  - f. Click the magnifying glass button next to the Icon field.
  - g. Click **Browse**.
  - h. Browse to **z:\advbundles\word.png**; then click **Open**.
  - i. Click **OK**.
  - j. Click **Next**.
  - k. In the Command field, enter **%ProgramFiles%\Microsoft Office\Office14\winword.exe**
  - l. Click **Next**.
  - m. Click **Create as Sandbox** and **Define Additional Properties**.
  - n. Click **Finish**.
  - o. Click the **Install** tab.
  - p. Click **Add > Install Bundle**.
  - q. Change the Action Name to **Install Microsoft Office**.
  - r. Click the magnifying glass button.
  - s. Click **Microsoft Office 2010 Installer**.
  - t. Click **OK**.
  - u. Click **OK**.
  - v. Click **Apply**.
  - w. Click the **Launch** tab.
  - x. Click **Launch Executable**.
  - y. Change the Action name to **Launch Word**.
  - z. Click the **Requirements** tab.

- aa. Click **Add Filter**
  - ab. In the dropdown select **Architecture**.
  - ac. Click **Add Filter Set**.
  - ad. In the dropdown select **Architecture**.
  - ae. In the second dropdown select **64**.
  - af. Click **Add Filter**.
  - ag. Select **Registry Key Exists**
  - ah. In the text field enter **\${OFFICEKEY}**
  - ai. Click **OK**
  - aj. Click **Apply**.
  - ak. Click **Add > Launch Executable**.
  - al. Change the name to **Launch 32-bit Word on 64-bit**
  - am. In the Command field enter **%ProgramFiles(x86)%\microsoft office\office14\winword.exe**
  - an. Click the **Requirements** tab.
  - ao. Click **Add Filter**.
  - ap. In the dropdown select **Architecture**
  - aq. In the second dropdown select **64**.
  - ar. Click **Add Filter**
  - as. Select **Registry Key Exists**.
  - at. In the text field enter **\${OFFICE64KEY}**
  - au. Click **OK**.
  - av. Click **Apply**
  - aw. Click the **Summary** tab.
  - ax. Click **Yes** next to Show Bundle Activity.
3. Test your application.
- a. Go to the **Relationships** tab.
  - b. Under Device Assignments, click **Add**.
  - c. Click **Workstations**.
  - d. Click **OK**.
  - e. Click **Desktop**.
  - f. Click **Next**.
  - g. Click **Next**.
  - h. Click **Finish**.
  - i. Minimize Internet Explorer.

- j. Right click the ZENworks icon and click **Refresh**.
  - k. When the refresh finishes click **Word**. This should cause Office to be installed and then launch Word.
4. Create a copy of the Word application and modify it to launch Microsoft Excel.
- a. Restore Internet Explorer
  - b. At the top of the screen next to the Displayed Version dropdown, click Publish.
  - c. Select Publish as a new bundle.
  - d. In the Name field, enter Microsoft Excel.
  - e. Click Create as Sandbox.
  - f. Click Next.
  - g. Check the checkbox in front of Workstations.
  - h. Click Next.
  - i. Click Finish. Notice that you are now on the details pages of the Microsoft Excel application.
  - j. Click the Actions tab.
  - k. Click the Launch tab.
  - l. Click Launch Word.
  - m. Change the action name to Launch Excel.
  - n. Change winword.exe to excel.exe.
  - o. Click OK.
  - p. Click Launch 32-bit Word on 64-bit.
  - q. Change the action name to Launch 32-bit Excel on 64-bit.
  - r. Change winword.exe to excel.exe.
  - s. Click OK.
  - t. Click Apply.

**(End of Exercise)**

### **Exercise 1-4 Publish bundles**

In order for the bundles you have been testing to be available to all devices to which they are assigned, you need to Publish the bundle so that the assignment no longer flows to only test devices. To do this:

1. In the left-hand navigation pane, click Bundles.
2. Check the boxes in front of Microsoft Excel and Microsoft Word.
3. Select Action > Publish Bundles.
4. At the Publish options, make sure **Publish as new version** is selected; then click **Next**.
5. Click the checkboxes in front of both bundles; then click Next.
6. Check the **Publish sandbox-only bundles that this bundle depends on** checkbox.
7. Click **Next**.
8. Click **Finish**. This bundle is now available to all Workstations since it is assigned to the Workstations folder.

**(End of Exercise)**