

# **ZENworks 11 SP2**

## **Test Scenarios for *Imaging***

This document contains test scenarios for ZENworks 11 SP2 Beta 1.

### **Purpose of the Test Scenarios**

The purpose of these exercises is to familiarize you with the some of new features added to ZENworks 11 SP2 Imaging.

### **Assumptions:**

We assume that you have installed a ZENworks 11 SP2 Server.

### **Test Scenarios:**

There are 10 test scenarios in this document.

1. [Downloading and Uploading the Tuxera Driver from ZCC](#)
2. [Verifying the Tuxera driver status and file changes after upload.](#)
3. [Observing the Pre-configuration and Post-configuration changes on Windows after restoring the system using Tuxera.](#)
4. [Taking and Restoring an image partition-wise.](#)
5. [Verifying the functionality of the legacyntfs switch.](#)
6. [Restoring images on Dell devices.](#)
7. [Restoring an image on multiple systems by using multicasting.](#)
8. [Replication of Tuxera driver to Satellites and Secondary Servers.](#)
9. [Taking and Restoring images using Preboot bundles and Restoring images with Addon bundles.](#)
10. [Verifying the functionality of the booted-editor script.](#)

## Test Scenario #1: Downloading and Uploading the Tuxera Driver from ZCC

### **Objective:**

To be able to download the Tuxera driver and then upload the same through ZCC.

### **Steps:**

1. Log in to ZENworks Control Center.
2. Click *Configuration > Device Management > Preboot Services > Third Party NTFS Driver Integration Settings*.
3. Download the latest high performance NTFS driver from the hyperlink provided and save it on your local system.
4. Upload the Driver to the Server by browsing through the file-system..
5. Click *Apply*.
6. Click *Ok* to exit the preboot services page.
7. After a few minutes, in the *Preboot Services* page, click *Status* under *Third Party NTFS Driver Settings*, to check the upload status.

### **Expected Results:**

1. The Tuxera driver is downloaded successfully.
2. The Tuxera driver is uploaded to the server from a local system through the ZENworks Control Center.

### **Logs:**

If you are unable to successfully perform the scenario, send us the *loader-messages.log* file..

## Test Scenario #2: Verifying the Tuxera driver status and file changes after upload.

### **Objective:**

To verify the status of the Tuxera driver and the file changes after a successful upload.

### **Steps:**

1. Log in to ZENworks Control Center.
2. Click *Configuration > Device Management > Preboot Services > Third Party NTFS Driver Integration Settings*.
3. Click *Status* to verify the upload status.

### **Expected Results:**

1. The status of the driver upload is displayed as *Available*.
2. The *tftp* folder on the server contains the *tntfs.ko* and *HighPerfDriver.conf* files.
3. The *winutils* folder on the server contains the *bootcd\_tntfs.iso* file.
4. The system to be imaged is booted from the *bootcd\_tntfs.iso* file or from the *PXE to ZENworks Maintenance mode* and the *tntfs* driver is loaded by default.
5. The system to be imaged is booted from the *bootcd\_tntfs.iso* file and the *ZEN partition* is installed and the *tntfs* driver is loaded by default.

### **Logs:**

If you are unable to successfully perform the scenario, send us the *loader-messages.log* file.

### Test Scenario #3: Observing the Pre-configuration and Post-configuration changes on Windows after restoring the system using Tuxera.

#### Objective:

To perform the pre-configuration and post-configuration tasks on Windows as follows:

1. Pre-configuration: Taking an image of Windows 7 operating system, preferably a 64-bit device.
2. Post-configuration: Comparing the time taken for restoring the image by using Win PE and Tuxera.

#### Steps:

Perform the pre-configuration tasks as follows:

1. Setup the ZENworks 11 SP 2 Adaptive Agent with Windows 7 operating system.
2. Install different applications that you use regularly on the system. For example, you can install MS Office, Anti-virus, Partition Magic, and so forth.
3. Enable the File encryption and File Compression features.
4. Create bundles to install applications from the ZENworks Control Center.
5. Add shortcuts to the Start menu, Desktop, Quick Launch, and System tray.
6. Run the *zac fsg -d* command.
7. Run the *sysprep* command. Use the *answer* file with *sysprep* to provide system-name, user account, and other settings required for the new system.
8. Boot the system by using the ZENworks PXE or the *bootcd\_tntfs.iso* file.
9. Enable additional developer logs by using the *export DEVELOPER\_LOG=a* command.
10. Take the image of the device and note the time for the process completion. The Tuxera driver is used by default. You can verify this by checking the *imglog* file.
11. Take the image of the device by using the Win PE third-party tool and note the time for the process completion.
12. Restore the image taken by using Tuxera and Win PE, and note the time taken for completion of both the processes.

Perform the post-configuration tasks as follows:

1. Use Compressed and Encrypted files.
2. Re-partition the drives on the system and de-fragment the partitions. Run the *chkdsk* command for each drive on the system.
3. Install new applications through bundles.
4. Install new applications manually.
5. Uninstall the bundles.
6. Manually uninstall the applications by using the Add/Remove programs feature.
7. Unregister the Agent from the server.
8. Install the latest Service Packs and System Updates.
9. Switch the system to Hibernate and Sleep modes.
10. Log in to the device as a different user.
11. Create new user accounts and modify the existing user accounts by using all possible options.

**Expected Results:**

1. On rebooting the restored system, it automatically gets registered to the primary server with a new GUID.
2. All features of the Compressed files and Encrypted files are retained.
3. Re-partitioning the device and running the *chkdsk* command does not give any errors.
4. All applications can be explored and launched from the shortcut for the newly created bundles.
5. Installing and Uninstalling all applications manually and by using bundles is successful.
6. ZENworks 11 SP2 Agent gets unregistered.
7. Service Packs and Sytem Update installations do not cause malfunctioning of the operating system.
8. The system recovers successfully from the Hibernate and Sleep modes.
9. Logging in to the system as an existing user does not create a temporary profile.

**Logs:**

If you are unable to successfully perform the scenario, send us the *sidChange.log*, *imglog*, *novell-pbserv.log* files and output of the *dmesg* command.

## Test Scenario #4: Taking and Restoring an image partition-wise

### Objective:

To take and restore an image of a system partition-wise.

### Steps:

To take an image of a system, do the following:

1. Boot the system into the ZENworks Maintenance mode through PXE, or by using the *bootcd\_tntfs.iso* file.
2. Run the export *DEVELOPER\_LOG=a* command, then run the *img* command.
3. Press F5 to take an image.
4. On the *Make Image* page, select *Server*, then *Next*.
5. Provide the path to the image archive directory.
6. Select the partitions you want and take the image of the same.

**Note:** To take an image of the device and restore an image partition-wise, refer to *Pre-requisites for taking an image of a device* in [Appendix A](#)

To restore an image, do the following:

1. Boot the system into the ZENworks Maintenance mode through PXE, or by using the *bootcd\_tntfs.iso* file.
2. Run the export *DEVELOPER\_LOG=a* command, then run the *img* command.
3. Press F6 to restore the image.
4. On the *Restore Image* page, select *Server*, then *Next*.
5. Provide the path to the image archive directory.
6. Select *Specify Advanced Options*. Click *Next*.
7. In the *Restore Image* page, select the Disk partition that you want to restore.
8. Click *Add Assignment*.
9. In the *Available Image partitions* page, select the destination where you want to restore the image.
10. Click *Ok*.
11. Click *Next* to start the restoration process.

### Expected Results:

Partitions are restored successfully.

### Logs:

If you are unable to successfully perform the scenario, send us the *sidChange.log*, *imglog*, *novell-pbserv.log* files and output of the *dmesg* command.

## Test Scenario #5: Verifying the functionality of the legacyntfs switch.

### **Objective:**

To be able to use the *legacy NTFS* driver by using the *legacyntfs* switch.

### **Steps:**

1. Boot the system into the ZENworks Maintenance mode by using PXE or the *bootcd\_tntfs.iso* file.
2. Run the *export DEVELOPER\_LOG=a* command.
3. Take an image of the device by using the *img -legacyntfs* command.

### **Expected Results:**

The imaging engine uses the *legacy NTFS* driver instead of the default Tuxera driver.

**Note:** An image that you take using the *legacy ntfs* driver is restored by the *legacy NTFS* driver. Also, if the *tntfs.ko* file is not uploaded, you need not use the *legacyntfs* switch. In such situations the imaging engine uses the legacy driver. When the *tntfs.ko* driver is present, the imaging engine uses the Tuxera driver.

### **Logs:**

If you are unable to successfully perform the scenario, send us the *sidChange.log*, *imglog* and *novell-pbserv.log* files.

## **Test Scenario #6: Restoring images on Dell devices**

### **Objective:**

To be able to use the Tuxera driver to restore images on devices having Dell Utility partitions or ZENworks partitions.

### **Steps:**

1. Create the Dell utility partition on your system
2. Install the ZENworks partition, then install Windows.
3. Take an image of the system and restore it.

### **Expected Results:**

The image is restored and the system boots successfully.

### **Logs:**

If you are unable to successfully perform the scenario, send us the *sidChange.log*, *imglog* and *novell-pbserv.log* files.



## Test Scenario #7: Restoring an image on multiple systems by using multicasting.

### Objective:

To restore an image on multiple systems by using multicasting of Windows and comparing the time taken with respect to the *legacyntfs* driver.

### Steps:

1. Setup the ZENworks 11 SP2 Adaptive Agent with Windows 7 operating system.
2. Install different applications that you use regularly on the system. For example, you can install MS Office, Anti-virus, Partition Magic, and so forth.
3. Take an image of the system.
4. Create a multicast image bundle, and accordingly create the required hardware rule.
5. Reboot the system in the multicast setup in order for the system to boot using the PXE or the *bootcd\_tntfs.iso* file and pick the imaging task assigned.
6. Repeat the multicast test for the image taken by using the legacy driver. For information on the legacy NTFS driver, see [Verifying the functionality of the legacyntfs switch](#).
7. Repeat the multicast test for imaging engine based multicast session.

### Expected Results:

1. The system restored by using the multicast works properly.
2. The Tuxera driver multicast takes comparatively lesser time than the legacy NTFS driver..

### Logs:

If you are unable to successfully perform the scenario, send us the *sidChange.log*, *imglog* and *novell-pbserv.log* files.

## Test Scenario #8: Replication of Tuxera driver to Satellites and Secondary Servers.

### **Objective:**

To replicate the Tuxera driver to all Satellite and Secondary servers in the zone.

### **Steps:**

1. Login to ZENworks Control Center.
2. Click *Configuration > Content > Satellite Server Replication*.
3. Click the *New Satellite Servers added to the system will include content in this container by default* option.
4. In the *Content Replication* page, configure the *Fixed Interval* for content replication.
5. Upload the *tntfs* driver and check the *Status* button for the replication status. For more information, see [Downloading and Uploading the Tuxera Driver from ZCC](#) and [Verifying the Tuxera driver status and file changes after upload](#)
6. Use satellite and secondary servers and repeat the above scenario.

### **Expected Results:**

1. All scenarios that are valid for imaging on the primary server, are also valid for secondary and satellite servers.
2. The Tuxera driver is successfully replicated to all imaging servers in the zone.

### **Logs:**

If you are unable to successfully perform the scenario, send us the *novell-loader-messages.log* file.

## **Test Scenario #9: Taking and Restoring images using Preboot bundles and Restoring images with Addon bundles.**

### **Objective:**

To be able to configure and use preboot bundles to take and restore images and to use *zmg addon* and *win addon* bundles to restore images from primary and satellite servers.

### **Steps:**

1. Setup the ZENworks 11 SP2 Adaptive Agent with Windows 7 operating system.
2. Install different applications that you use regularly on the system. For example, you can install MS Office, Anti-virus, Partition Magic, and so forth.
3. In the *ZCC Workstation Summary* page, select the *Workstation task* for taking an image and follow the wizard prompts to complete the wizard for creating the *Take Image* bundle.
4. Reboot the system to be imaged by using PXE or the *bootcd\_tntfs.iso* file in Auto mode to pick the *Take image* task.
5. Create an Addon image from *win addon* and from the *zmg explorer* tool.
6. Create a ZENworks preboot imaging bundle with addons.
7. Assign the bundle created to a registered system or to a non-registered system by using the Hardware rule.

### **Expected Results:**

1. The system picks the tasks successfully and takes the image and restores it.
2. The Addon package is restored successfully.

### **Logs:**

If you are unable to successfully perform the scenario, send us the *sidChange.log*, *imglog* and *novell-pbserv.log* files.

## **Test Scenario #10: Verifying the functionality of the bootcd-editor script.**

### **Objective:**

To create a ZENworks *bootcd* ISO file from the *bootcd-editor* script to verify its functionality.

### **Steps:**

1. On the ZENworks server, browse to the *winutils* folder.
2. Run the following command to create the *bootcd\_tntfs.iso* file:  
For Linux: *./bootcd-editor.sh <location of the downloaded tntfs.ko file> <desired destination to the save the ISO>*  
For Windows: *bootcd-editor.bat <location of the downloaded tntfs.ko file> <desired destination to the save the ISO>*

### **Expected Results:**

The *bootcd\_tntfs.iso* file is created in the mentioned destination location.

## APPENDIX A: Pre-requisites required for taking and restoring image partition-wise

While taking an image from a device, take a backup of the MBR of the system as follows:

1. Export the MBR to a file by using the `dd if=/dev/sda of=mbr_win7.bin bs=512 count=1` command.
2. Upload the MBR file to server.  
If the system has 100MB partition ( on Windows 7, or Windows Vista), take an image of the 100 MB partition separately by using the *legacyntfs* switch.

To restore the images partition-wise, do the following:

1. Delete all the partitions by using the *img -pd* command. For example,  
`img -pd 1`  
`img -pd 2`  
1 and 2 in the above commands correspond to the hard disk partition number.
2. Create the partitions by using the *img -pc* command. For example.  
`img -pc 1 -type=NTFS -size=100 -legacyntfs`(for the 100 MB partition for Windows 7, or Windows Vista)  
`img -pc 2 -type=NTFS` (to restore the [C:\drive](#))
3. Mark the partition 1 as *Active* by using the *img -pa 1* command.
4. Restore images partition-wise. Restore the 100MB partition separately by using the *legacyntfs* switch.
5. Restore the MBR on the device after restoration. Download the MBR file from the server and run the `dd if=mbr_win7.bin of=/dev/sda bs=446 count=1` command.
6. Run the *sidchange -i* command.