



## Thank you for your interest in a Wyse 9000 series WinTerm!

This class of device is running the Windows XPe operating system and offers broad support for many third party devices and software and is the ideal solution to complex thin client requirements.

### About this guide

This guide is intended to supplement the WinTerm XPe referenced guide PDF available in the support section at [www.wyse.com](http://www.wyse.com). The intended audience is System Administrators or any support staff involved in the configuration of a Windows XPe based Wyse WinTerm for evaluation. It is assumed that the users of this guide are familiar with the installation and configuration of Windows 2000 or XP operating systems as well as the installation of device drivers and software for these platforms.

The information contained in this guide will assist with the configuration of a WinTerm for the purposes of evaluation or proof of concept work by customers. It is not intended as a definitive guide or as a set of best practices for the deployment of Wyse devices.

### About Windows XPe Thin Clients

The first question many administrators ask is “what makes a Wyse XPe device different to a standard PC with XP?” Quick comparisons of some of the important points to be considered are:

- No HDD, the device is solid state without any moving parts. A piece of non-volatile RAM (flash) holds the operating system and data. This appears as an IDE hard drive to the OS.
- Windows XPe is a cut down version of Windows XP, it has all unused drivers, system file protection and applications stripped out. Software installations often fail as the installer program assumes the standard XP support files will be available.
- Wyse has configured the standard XPe image to auto-login as a user called “User” with a locked down profile and the RDP and ICA client available.
- The standard Wyse XPe image utilises a RAM Disk Drive (Z:) to store all temp files.
- The standard Wyse image has a write filter, this prevents any permanent changes to the operating system occurring. Once the device is re-booted any changes made to the system are lost.
- Media size and hardware specifications are small. Typical flash size is only 256 MB and CPU speeds of less than 1 GHz are common. The paradigm behind this is to keep the power and image configuration to a minimum. Remember server based computing is all about moving applications to the server not configuring thin clients as PC's!

## Configuration Example


In the following example an administrator wishes to perform a few tasks as part of a proof of concept for the deployment of a Wyse XPe WinTerm. He will need to perform the following tasks to complete a successful evaluation. These tasks include:

- Remove the RDP client from user access and create a custom ICA connection
- Add a shortcut to the local intranet on the users desktop.
- Install a browser plug-in for Internet Explorer
- Install a printer and driver

### Step 1 – Configure the User Desktop

Power on the unit and the default user desktop appears; on this desktop are the Citrix Program Neighbourhood, Remote Desktop, and Internet Explorer icons. An icon in the start-up folder is also present that launches an application to set the terminal time to an external time source.

- a) Choose **Start-Shutdown-Log off User** whilst holding down the right shift key. This brings up the standard Windows login graphical user interface (GUI).
- b) Login as the user Administrator and password Administrator (capital A). You are now logged into the terminal as the local administrator with some additional icons.
- c) Double click the red **Disable Write Filter** icon on the desktop. A dialog box appears on the desktop, wait until it disappears and the unit reboots. The Right Shift key may be used as the unit boots to present the Windows login GUI again. Log back in as Administrator.
- d) In the task tray check the status of the write filter, a red icon should be on near the clock indicating the write filter is disabled. Any changes made to the WinTerm will now be saved.

 **Caution!** Leaving the write filter disabled for general use or filling the available flash space with the write filter disabled can render the terminal inoperable. Always enable the write filter after configuration tasks.

- e) From Windows Explorer browse to the All Users profile and locate the desktop folder (C:\Documents and Settings\All Users\Desktop) and delete/move the Remote Desktop icon.
- f) Create a custom internet shortcut to the internal intranet in the same folder (Right click in the folder and select **new-shortcut** and enter the <http://intranet-address> and call the shortcut Intranet)

## Step 2 – Install an application

Whilst the write filter is still off we can install an application, in this case it is the Google toolbar browser plug-in.

- a) While logged in as administrator you will need to access the application installation package. This could be from USB key, CD (if available) or via network share, in this case we will use the web download at <http://toolbar.google.com>.
- b) Download the toolbar installer (choose run from location) at the Google toolbar page and follow the prompts to install the application.

## Step 3 – Install Hardware

In this step we shall install a printer and third party driver; the printer is a Xerox Document Centre 440. This driver may be downloaded from the Xerox web site. When installing this driver it will assume that the PCL support files are available to Windows however on XPe they are not.

1. Download the WHL Xerox Document Centre 440 PCL5e driver from the Xerox web site and extract to a location such as a network share accessible to the WinTerm.
2. Start the **Add a printer** wizard on the **Start-Settings-Printers and Faxes** menu, select LPT1 as the port and **un-tick** the **automatically detect** option.
3. When prompted for the printer, choose the **Have Disk** option and browse to the extracted Xerox files on the network share and locate the XR440PLC.INF. If warned by Windows about unsigned drivers click yes to continue the installation.
4. The installation will stop as the PCL support files are not available; to complete the installation you will need to locate the i386 folder on a Windows XP Pro SP1 CD. You can browse to the required files to complete the installation.
5. When an installation of this type fails a quick search on a full Windows XP Pro computer of the same service pack level as the XPe WinTerm (in our example SP1), or the installation files (i386 folder) can resolve these type of problems. In some cases it may be required to manually register missing .dll's with regsvr32.exe to correctly replace files.

## Step 4 – Final configuration

In this stage the configuration is completed for testing.

1. With write filter still off log back in as User (**Start-Shut Down-Log off Administrator**), the device will automatically log back in as the user: User (Password User).
2. Open the Citrix Program Neighbourhood application and create a new custom ICA connection, when complete right click on the new connection and select **Create Desktop Shortcut**. A new icon is now on the desktop.
3. Log back off and using the right shift key to get the login GUI, log back in as Administrator. Double click the green **Enable Write Filter** icon on the desktop and the terminal will now reboot.
4. Once rebooted the WinTerm will have a green icon in the task tray near the clock indicating the write filter is on. The desktop will have no RDP icon, a new custom ICA connection and a shortcut to the internal intranet. The terminal is ready for testing!

## Configuration Issues

On the surface this is an easy setup with a simple application installation however it raises issues that need consideration when configuring XPe devices.

- Installation files are usually expanded first in the temp directory, on terminals this is a 16MB RAM disk. The RAM disk can be increased slightly from the Ramdisk applet in the control panel however sometimes it requires workarounds. One common workaround is locating the temp directory on a network share for the duration of the installation to allow the package to install. At completion the temp directory is then moved back to the Z: drive.
- Overall application size, the flash disk fills up at a remarkable pace once applications are stored locally. Filling the flash can corrupt the flash drive leaving the terminal inoperable.
- User experience may not be as transparent as desired without careful planning. In the example above the Google toolbar was installed, this application prompts users with dialog boxes when features are used for the first time. This includes the add popup blocker or auto-complete of forms. With the write filter on as soon as the WinTerm is rebooted it will forget these preferences and the user will once again be prompted with dialog boxes and information from auto form completion will have been lost. This is a simple example however embedding local applications needs careful planning and configuration. Remember the object is to deliver server based applications, not application heavy clients.
- Installation failures are common when the installer requires certain support files. Check installation log files and add support files prior to installation to resolve this issue. The skills required here are the same as repackaging applications for deployment with any package deployment suite, for example Microsoft's SMS. Many of the same "tricks of the trade" may be used to resolve failing driver and application issues.
- ☒ • The write filter may take some time to flush the current settings from RAM. **Be patient** when disabling the filter and **do not** power off the unit or double click the disable icon again, this can corrupt the operating system.

## Summary

This was a simple example that endeavoured to highlight some of the configuration details that need planning when deploying a WinTerm for evaluation and to provide some insight into their design.

In a full pilot or deployment Wyse Rapport can simplify these tasks and make imaging and management a breeze. A workgroup edition of this software is included with any Wyse thin client purchase and with evaluation units. Many software add-ons are also available as packages that can be "pushed" to a terminal from the Rapport console which greatly reduces the time an administrator requires configuring devices. Please consult with your reseller as to your requirements to see what software add-ons are available.

For any questions or assistance during your evaluation please contact your reseller or Wyse Technical support, thank you for evaluating Wyse 9000 series WinTerm!



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