

Alternative Desktop Computing

DeTOS 7

Administration Manual

For Devon IT Thin Clients and VDI Blaster PCs



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Devon IT, Inc.
1100 First Avenue
King of Prussia, PA 19406 U.S.A.
www.devonit.com

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1.0 Introduction

1.1 What is DeTOS?

Devon Terminal Operating System (DeTOS) is an embedded Thin Client Operating System designed to be simple, secure and centrally manageable. It is an operating system utilized in Devon IT thin clients as well as Devon IT's VDI Blaster software. DeTOS can be used to access hosted desktops using Microsoft Remote Desktop Services, VMware View, Citrix XenApp or XenDesktop, web based applications, and more.

1.2 DeTOS Features

- **Simple:** Configuring a session out of the box is quick and painless using the DeTOS intuitive web based control panel. The same control panel can be used either locally from the thin client or remotely from the management software.
- **Modern:** DeTOS can connect to hosted desktops using industry's best protocols: PCoIP, ICA, RDP, SPICE. DeTOS also includes a built-in browser that allows accessing web based applications or kiosk usage.
- **Centrally managed:** DeTOS-based terminals can be centrally managed using Devon IT's Echo Thin Client management software.
 - Echo is shipped as a virtual appliance, so it is easy to set up
 - Echo can automatically discover and inventory the thin clients on your network.
 - Echo has the concept of default profile. Using a default profile, additional thin clients are automatically configured when you plug them into your network.
 - Echo allows you to update the thin client's firmware. Updates can be scheduled to happen outside of production hours, i.e., over the weekend.
 - Echo allows you to remotely take control of thin clients (shadowing) to help troubleshooting users issues.

1.3 DeTOS Installation

No installation is required for customers who have purchased DeTOS based thin clients from Devon IT. Your thin client already contains a factory installed DeTOS operating system. A USB reflash utility is, however, available if you need to reinstall the operating system at any point in the future.

Visit our website at, <http://www.devonit.com/software/detos/downloads> , for more information.

1.4 What is VDI Blaster?

VDI Blaster allows you to repurpose your current Windows XP based PCs into stateless thin client devices. It extends the useful life of your hardware and allows you to manage your PCs centrally using Devon IT's Echo Thin Client management software. VDI Blaster can be installed without erasing the existing XP installation, and can be uninstalled at any time, reverting the PC back to its normal Windows OS boot mode. When PCs reach end of life, they can simply be replaced by a thin client with minimal disruption.

Aside from a few minor exceptions, the DeTOS that runs on Devon IT thin clients and the DeTOS that is installed via VDI Blaster are essentially the same operating system.

1.5 VDI Blaster Installation Methods

1.5.1 Standard Installation Method

There standard installation method for VDI Blaster is the Windows Installer Executable.

- **vdi-blaster-*<date and version>*-wininstaller.exe**: Using this executable, VDI Blaster can be installed without erasing the existing XP installation. Uninstall it at any time to revert the PC back to its normal Windows OS boot mode. See section 1.6 for more information.

1.5.2 Experimental Features

Devon IT includes some experimental features with its current VDI Blaster product release. It is recommended that you utilize these experimental options similar to the way you would utilize beta software. Both features listed below are offered in ISO (.iso) formats. You may use CD burning software to write the ISO image to a CD or use Unetbootin* to write the image to a bootable USB Flash Drive.

- **vdi-blaster-*<date and version>*-hinstall.iso**: If you prefer to **overwrite** your PC's existing operating system with VDI Blaster DeTOS, then you may use the hinstall iso. Please note, this will overwrite all contents of your current hard disk and if you choose to reinstall the original operating system sometime again in the future, then you will need to do so with your PC's original installation CD.
- **vdi-blaster-*<date and version>*-livecd.iso**: This version of VDI Blaster allows you to run DeTOS on a PC without altering the current operating system or files already installed on your computer's hard drive. DeTOS will run completely off of the USB Flash Drive or CD media and is a great way to test VDI Blaster without actually installing it.

1.6 Using the VDI Windows Installer Executable

This section describes the hardware requirements and installation steps for installing VDI Blaster DeTOS on a PC, without overwriting the existing Windows XP operating system.

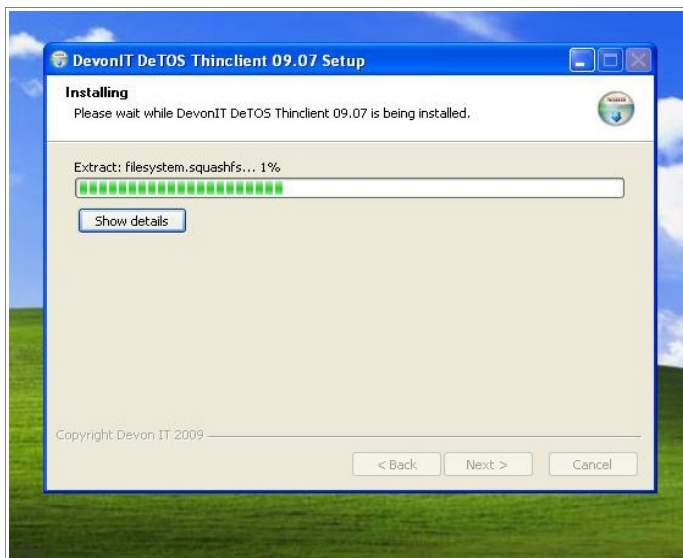
1.6.1 Hardware Requirements

- A PC running Microsoft Windows XP (32-bit)
- NTFS* formatted hard drive with 1GB available disk space
- Minimum 1GHz CPU, 512MB RAM

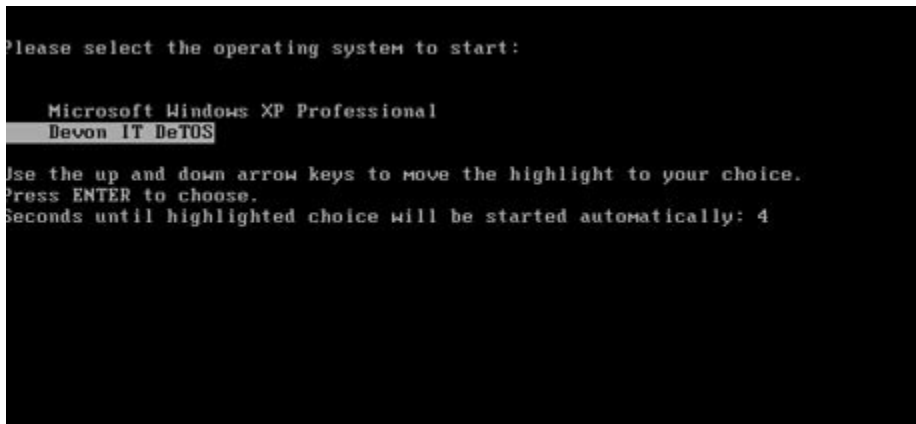
*NTFS is the default file system for Windows XP.

1.6.2 Installation Steps

1. Log in as Administrator on the PC you want to repurpose and run the VDI Blaster Setup executable.

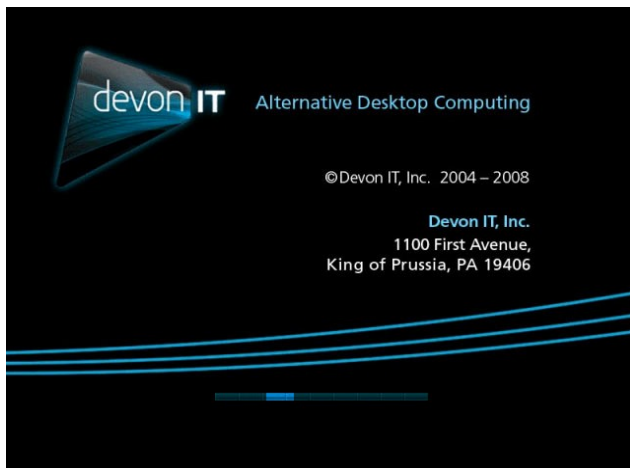


- Once installation is complete, reboot the PC. It is now configured to automatically boot into thin client mode. Optionally, you may edit the win.ini file if you want to change the default behavior. You will see 2 entries, one for Windows XP and one for **Devon IT DeTOS** (Devon Terminal Operating System).



After installing VDI Blaster, the PC's default boot option will be DeTOS.

- Provided the hardware detection for the video card, network card and sound card is successful, you should see the PC acquire a DHCP address (this is the default behavior) and start a graphical desktop. If you see a black screen please contact vdiblaster@devonit.com and provide your PC model or specifications. Should the VDI Blaster not work on your PC, you can reboot the PC and select "Windows XP" during the boot up sequence with the keyboard arrow keys.



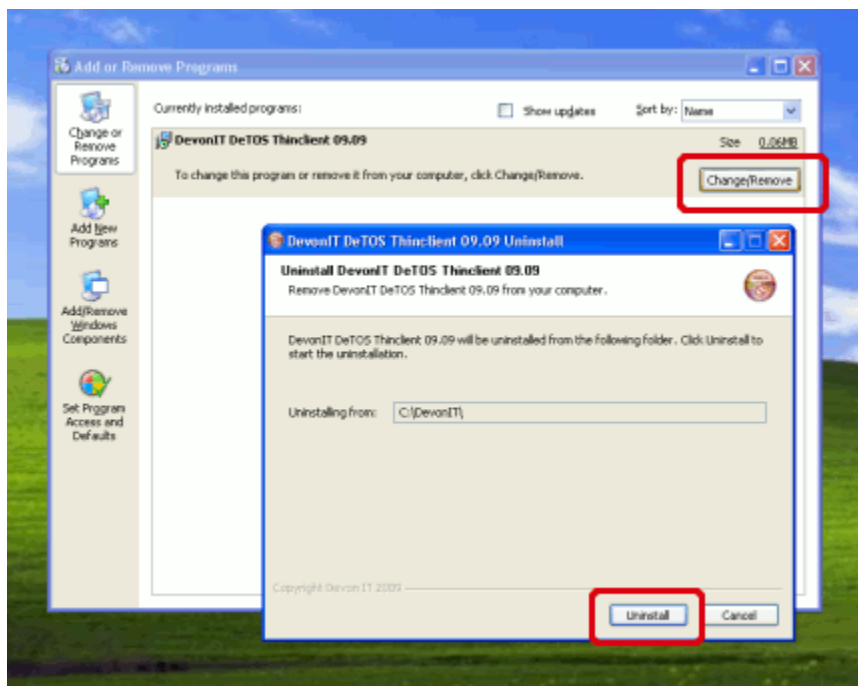
Devon IT Splash screen during bootup.



Empty DeTOS Desktop after first boot completes.

1.6.3 How to Uninstall VDI Blaster DeTOS

1. Reboot the PC. During boot up you will see the OS boot menu briefly appear on your screen. Use the arrow keys on your keyboard to select the “Windows XP” option for bootup.
2. Log in as the Administrator account for that XP system.
3. Open ”**Start Menu → Control Panel → Add or Remove Programs**”, select the program named, **Devon IT DeTOS Thinclient**, and then press the **Change/Remove** button to uninstall VDI Blaster.
4. The VDI Blaster software will no longer exist on your hard drive and the default boot option will revert back to its original setting of “Windows XP”.



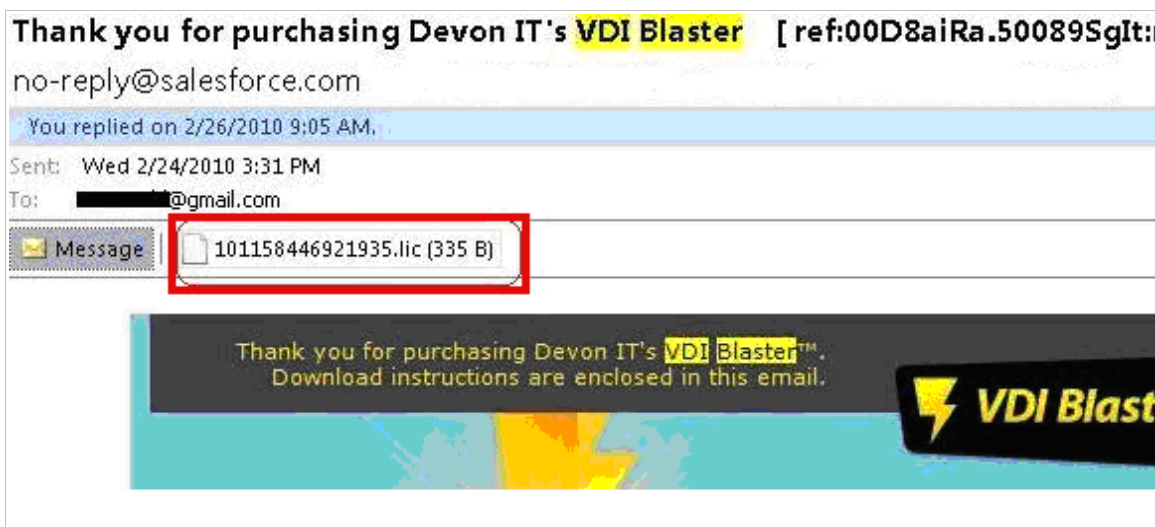
Open “Start → Control Panel → Add or Remove Programs” to uninstall VDI Blaster.

1.7 VDI Blaster Licensing

This section describes how to install your VDI Blaster license. It is assumed you already have a Devon IT Echo Management Server online. If this is not the case, then please revisit this section once your management server is up and running.

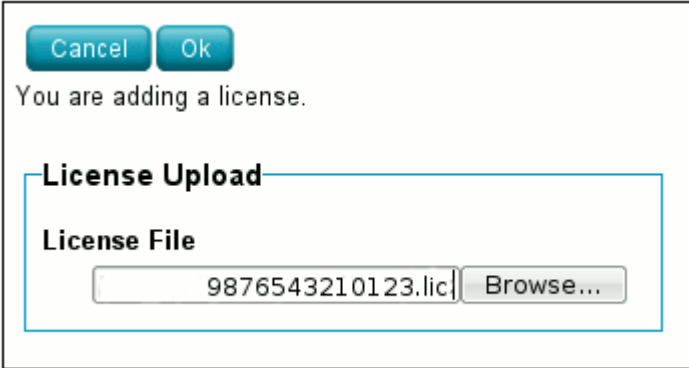
1.7.1 Receiving a License File from Devon IT

Upon completing the purchase of VDI Blaster, you received an email from Devon IT that provided you the necessary information for downloading the software from our site. Attached to this same email you will find your license file. Save this file to your local PC and then follow the steps below to install this license in Devon IT's thin client management software.



1.7.2 How to Install the License

1. Open a web browser, enter the address to your management server (ie. ws-broker), and then click the Web Based Administration Tool icon to log into the Admin GUI.
2. From the top of the page, select **Admin** → **Manage Licenses** to open a new screen displaying the current inventory of licenses.
3. Select **Add** → **License** from the top of this page. The details pane on the right-hand side will display a "License Upload" form.



Cancel Ok

You are adding a license.

License Upload

License File

9876543210123.lic Browse...

4. Click the **Browse** button to search for the license file (.lic) on your local machine and then press the **OK** button.
5. A new entry will appear in the License table on the left hand side of the page. Your license is now successfully installed.

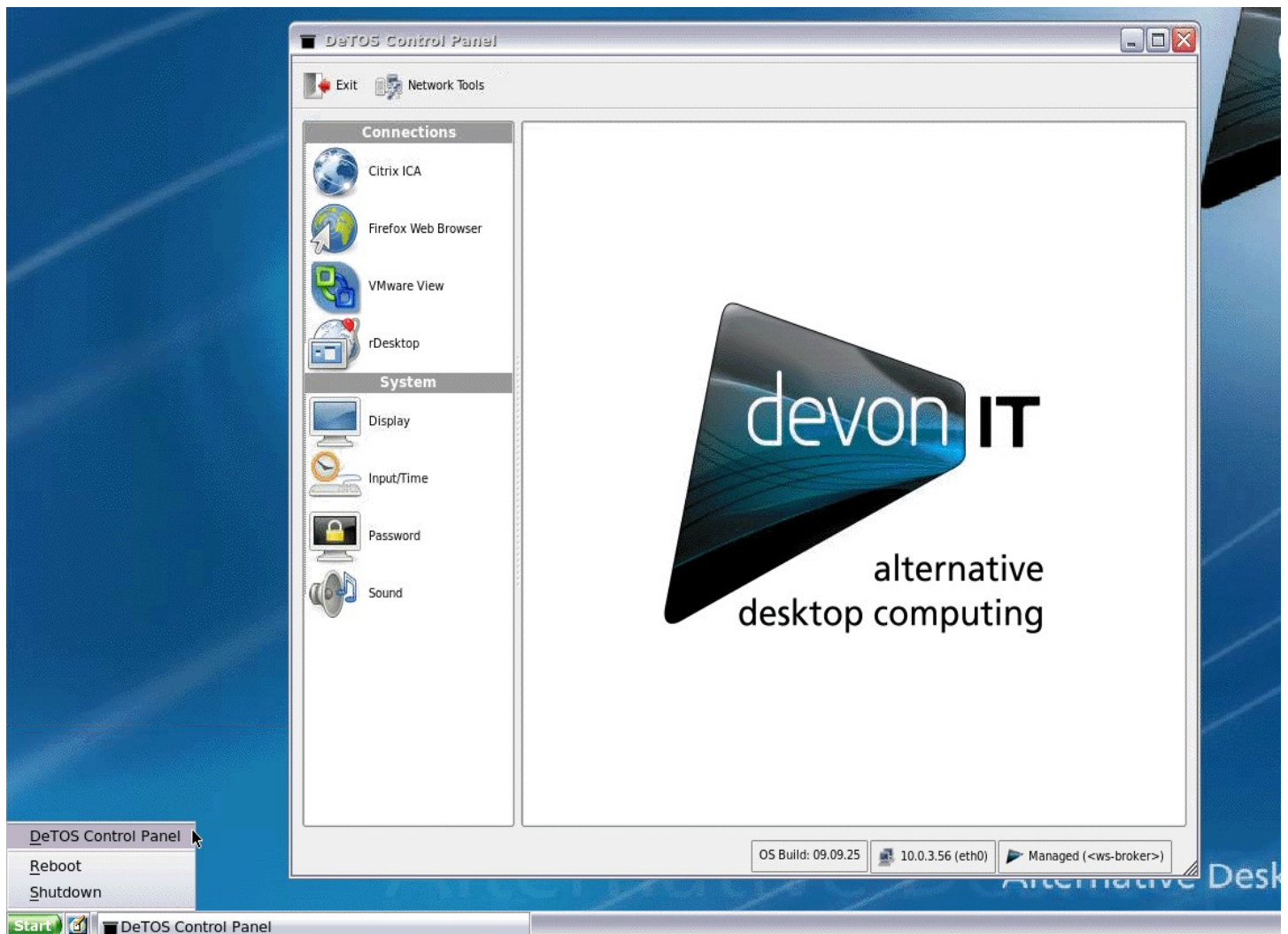
▼ Licenses 1/1		
Manage Licenses for terminals.		
Transaction Id▲	Allowed Devices	Expiration Date
9876543210123	1	2010-11-24 00:00:00

2.0 Getting Started

After the initial bootup, or when booting up after having selected the “Reset to factory settings”, your thin client will display the DeTOS desktop and taskbar. To get started, you will probably want to do the following:

- Check that your thin client is connected to the network
- If you have set up a management server in your network, check that the thin client was able to contact the management server and is indeed in managed mode
- Create a desktop shortcut to allow thin client users to get connected to a remote server. (See Chapter 5, “Connections”, for more information.)

To check the network connection status, click the **DeTOS** button and then select **DeTOS Control Panel**.



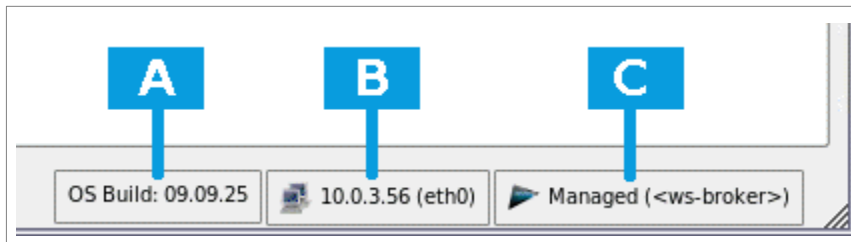
Along the bottom of the DeTOS Control Panel is a row of status messages. These messages include the OS Build for DeTOS, the terminal's current IP address, and a Thin Client Management Connection Indicator.

DeTOS default factory setting is to use DHCP. If you have a DHCP server on your network, the status bar should show you the leased IP address. If you want the thin client to use a fixed IP address please refer to this guide's network section (4.4). A message of “<no ip address>” will appear if network connectivity is lost or never established in the first place. This

may be related to a loose or faulty network cable. It may also be an indication of DHCP issues. If you need to troubleshoot a network issue, please refer to the network diagnostic section below.

Along with the IP address, the control panel status section also shows you whether your thin client is in managed or unmanaged (stand alone) mode. By default, DeTOS based terminals will try to locate a management server. If a management server can be reached, the terminal switches to the managed mode where it “pulls” its configuration from the management server. If not, it will stay in standalone/unmanaged mode and use its local configuration.

The Control Panel status area also shows the DeTOS build version. The OS build is a string based on the build date, using the following syntax: YY.MM.DD.

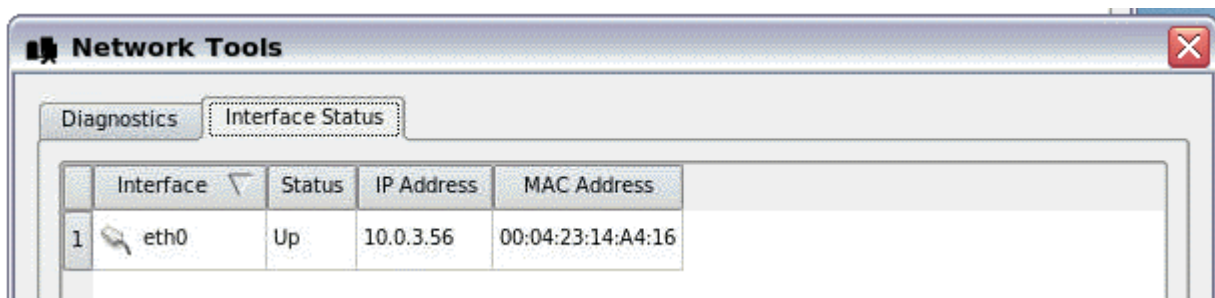


2.1 Network Tools

The toolbar along the top of the DeTOS Control Panel window contains two buttons: **Exit** and **Network Tools**. Clicking the **Network Tools** button will open a separate, smaller window that provides you with current network status and useful diagnostic programs. The **Exit** button will close out the entire DeTOS Control Panel window.

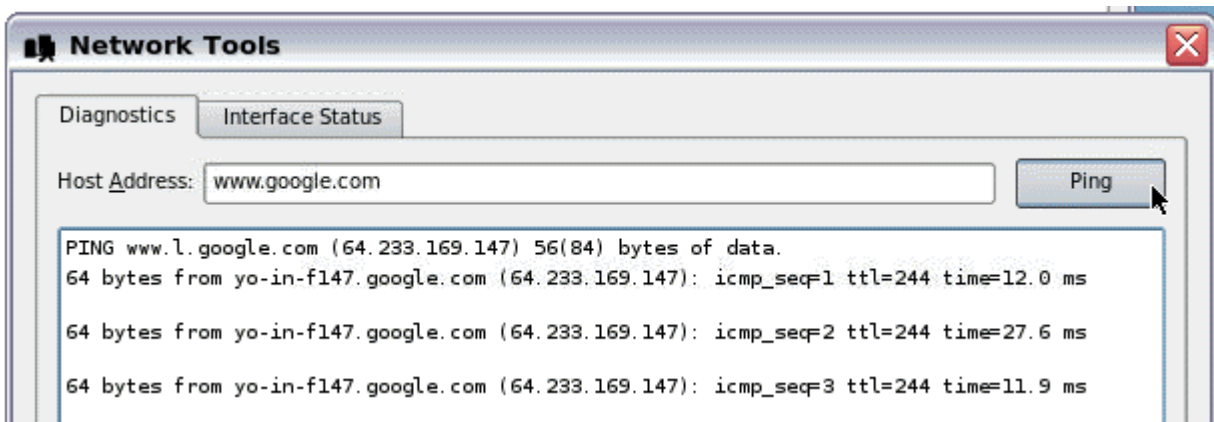
2.1.1 Interface Status

Click the **Interface** tab along the top of the Network Tools window to view the IP address that is currently assigned to this terminal. The MAC Address for this machine is also reported on this screen.



2.1.2 Diagnostics

If you are experiencing difficulty connecting to servers on certain segments of your LAN, then you may want to use the ping command to verify you are reaching specific servers and/or gateways on the subnet in question. To use ping, select the Diagnostics tab from the Network Tools window. In the **Host Address** field, type in the IP address you want to test against and then press the **Ping** button.



If there is an error in the delivery to the destination, the ping command displays an error message. Otherwise, replies will continuously display for each packet successfully sent and received. Press the **Stop** button to terminate the ping loop.

Troubleshooting management server connectivity issues:

The DeTOS Agent running on your terminal will periodically attempt to contact an Echo Management Server named "ws-broker" on your local area network. When successful, this box will read as "Managed". Otherwise, the icon will change to a red circle and the status will say "Unmanaged". In this case, verify that your Echo server is online and accessible on your LAN. Also be sure to check your DNS server to verify that an entry for "ws-broker" exists and points to the IP address of your Echo server.

2.2 The DeTOS Control Panel

The DeTOS Control Panel is the local tool for configuring **connections** and **system settings** on terminal.

- **Connections:** Your terminal has the ability to connect to remote servers utilizing several types of protocols. The rDesktop client uses the RDP protocol and allows you to connect to Microsoft Windows Terminal Servers. The Citrix ICA client is used to establish connections to Citrix Presentation and XenApp servers. The VMware View client allows you to connect to a VMware View server, which in turn, provides the end-user with their own virtual desktop session. Lastly, you may create a Firefox Web Browser connection to surf the web. This can be used for several purposes:
 - Connect to a web applications; e.g., a webmail server.
 - Connect to a connection broker web interface; e.g., Citrix XenDesktop.
 - Use the thin client as a Kiosk (select the “Enable Kiosk Mode” button under the “Kiosk Mode” panel)

- **System Settings:** These are the display, sound, keyboard, mouse, printer and date/time configurations for your terminal. Also under the System section, is the ability to set an administrative password for the control panel and change the local storage mode.

3.0 Persistence

3.1 About Persistence

3.1.1 Definition

Persistence, within the scope of thin client computing, refers to the continuing existence of connections and settings after a terminal has been rebooted.

3.1.2 Default Behavior

By default, or after resetting your terminal to default factory setting, DeTOS is set to persistent mode. This means that any configuration change you make will persist across reboots. You can change this to a stateless mode where the thin client settings and connections are dynamically “pulled” from the management server, or a snapshot mode where you define the desired configuration and prevent users from making any changes.

3.2 Persistence in DeTOS Thin Clients

Devon IT offers two strategies for achieving persistence on DeTOS-based thin clients:

3.2.1 Strategy #1: Maintain Profiles via Remote Management Server

DeTOS thin clients can be centrally managed using Devon IT’s Echo Thin Client management software. Using Echo, administrators can create several connections and settings and then group them together to form one single collection called a **profile**. This profile can then be assigned to one or more thin clients. Now with profiles in place, each time a terminal is booted up and discovered by Echo, all connections and system settings within its assigned profile are immediately applied – or “pushed” out -- to that terminal.

3.2.2 Strategy #2: Allow Configurations to be Stored Locally on the Terminal

The second approach for achieving persistence is to allocate a specific area of the local DOM for reading *and writing* of system settings and connections. DeTOS not only provides for this type of feature, but actually allows for even greater flexibility by offering two variations of this strategy:

- **Enable Local Storage:** While running in this mode, DeTOS will write to the local DOM each and every time configurations are added, deleted or modified under the DeTOS Control Panel. Note, this is the default selected mode for brand new or recently reflashed DeTOS thin clients.
- **Enable Snapshot Storage:** When this mode is selected, DeTOS allows writes to the local DOM, but in a more finely controlled manner. An administrator can configure the settings and then store the current configurations to the DOM by “taking a snapshot”. The only settings and connections that will persist across reboots are the ones captured during the snapshot. The terminal essentially falls back into a non-persistent operating mode after the snapshot and discards any new configurations from here on out – or until a new snapshot is taken. In a way, this mode can be thought of as a hybrid of the standard Enable Local Storage and No Local Storage modes.

3.2.3 Case Examples

The Local Storage section of the DeTOS Control Panel allows you to select one of three modes for how local storage is utilized: **No Local Storage**, **Enable Local Storage**, or **Enable Snapshot Storage**. Three case examples are provided below to help you decide which of these 3 options will work best for you.

Case 1: “I don’t want users to mess up the thin client’s configuration and I am currently using, or plan to use, Devon IT’s Echo Management software to centrally manage my terminals.”

Solution: *You will be utilizing strategy #1, as described in section 3.2.1. Choose the **No Local Storage** option on the terminal and make sure you have a Devon IT Echo Management Server properly configured and accessible on your LAN. With persistence disabled, the thin client becomes stateless and relies completely on the management server for all its configurations.*

Case 2: “I simply want the thin client to maintain its configuration settings locally. I do not want to rely on a management server.”

Solution: *Choose the **Enable Local Storage** radio button option. While running in this mode, DeTOS will write to the local DOM each and every time configurations are added, deleted, or modified. A remote management server is not needed.*

Case 3: “I like the idea of having a non-persistent terminal with an assigned profile, but do not want to use the Echo management software. What’s the alternative?”

Solution: *Choose the **Enable Snapshot Storage** radio button option, press Apply, and then reboot. Next, configure the terminal as desired, and then press the “Take Snapshot” button. From now on the thin client will use the same exact configuration as when the snapshot was taken - even after being rebooted. A remote management server is not needed.*

3.3 Achieving Persistence in VDI Blaster PCs

Once you have installed the VDI Blaster software, for all intents and purposes, your PC has been converted into a thin client terminal and now possesses virtually all of the same attributes and behaviors one would expect from a typical thin client device. Your PC now runs in a stateless, non-persistent mode. This means any connections or system settings configured in the DeTOS Control Panel will be discarded on reboot *unless* the terminal is being remotely managed by Devon IT's Echo Thin Client Management server. More specifically, **profiles** must be created and applied to these newly converted thin client terminals to maintain persistent settings across multiple system reboots.

The VDI Blaster terminals run a service, called DeTOS Agent, that communicates back and forth with the Echo server. When a terminal is booted, the DeTOS Agent will announce its presence to the Echo server by continuously sending XML-based messages known as *heartbeats*. By default, the agent will be sending these messages out to a server named `ws-broker` *.

Once the agent *heartbeats* into the server for the first time, the discovery process begins and various information about that device will be displayed in a new row in the "Terminals" table in Echo. The default name of the device will be set to a unique identifier, consisting of 32 alphanumeric characters. The terminal's IP Address and MAC Address are also reported in this row. The best method for identifying newly discovered terminals is to match these two addresses with the IP and MAC addresses reported on the terminal's Interface Status screen..

Name	IP Address	Last Contact▲	Last Terminal Mes
e5dce3b61e5311b28e17001c590115d5	10.0.3.56	2009-10-02 12:07:41	Agent Started

Once you locate your terminal in the inventory table, it is recommended that you rename that terminal entry to a more meaningful value. To do this, right-click the terminal row and select **Rename** from the context menu. On the right hand side of the screen, enter a new name in the **Name** field and press the **OK** button.

Name▲	IP Address	Last Contact	Last Terminal Mess
Marcus' Test PC	10.0.3.56	2009-10-02 13:11:31	Agent Started

Another important step that occurs during the discovery process is the application of profiles. Upon receiving a heartbeat message, Echo will determine whether a profile has been associated to this terminal. If so, then all connections and settings included in that profile will immediately be applied to that terminal. If the terminal does not have a profile associated with it, then the next step that Echo takes is to search for a special profile named **default** in its profile inventory and proceed to apply all connections and settings defined within that "default" profile to the terminal. At this point, if a default profile isn't found, then Echo has reached the end of its profile search and the result will be a terminal that simply has no connections or settings permanently associated with it.

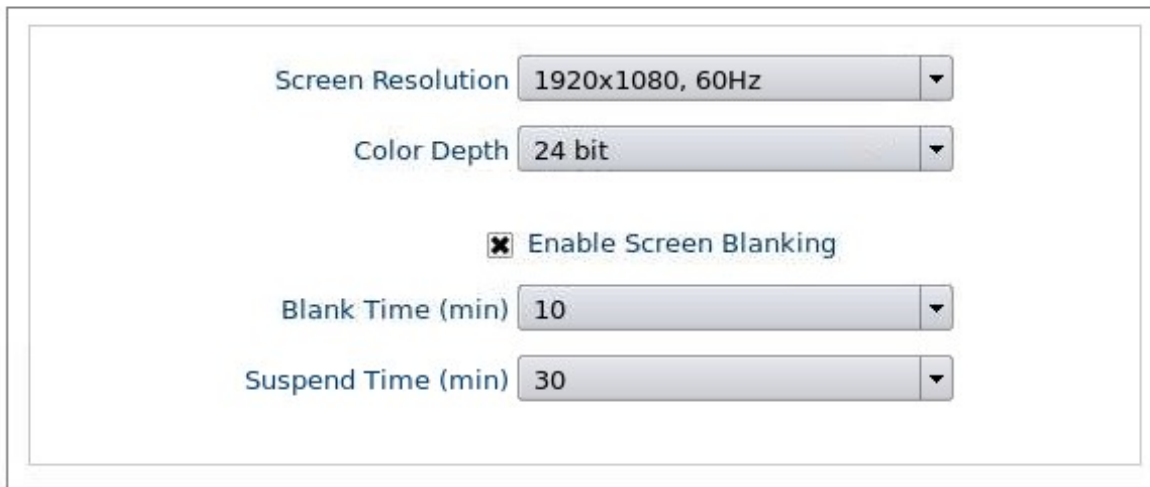
4.0 System Settings

4.1 Display Settings

This section describes the various display options available in the DeTOS Setup.

1. From the DeTOS Desktop, select [DeTOS](#) → [DeTOS Control Panel](#)
2. Click the [Display](#) icon on the left hand side of the Setup window.

Display Settings



Screen Resolution 1920x1080, 60Hz

Color Depth 24 bit

Enable Screen Blanking

Blank Time (min) 10

Suspend Time (min) 30

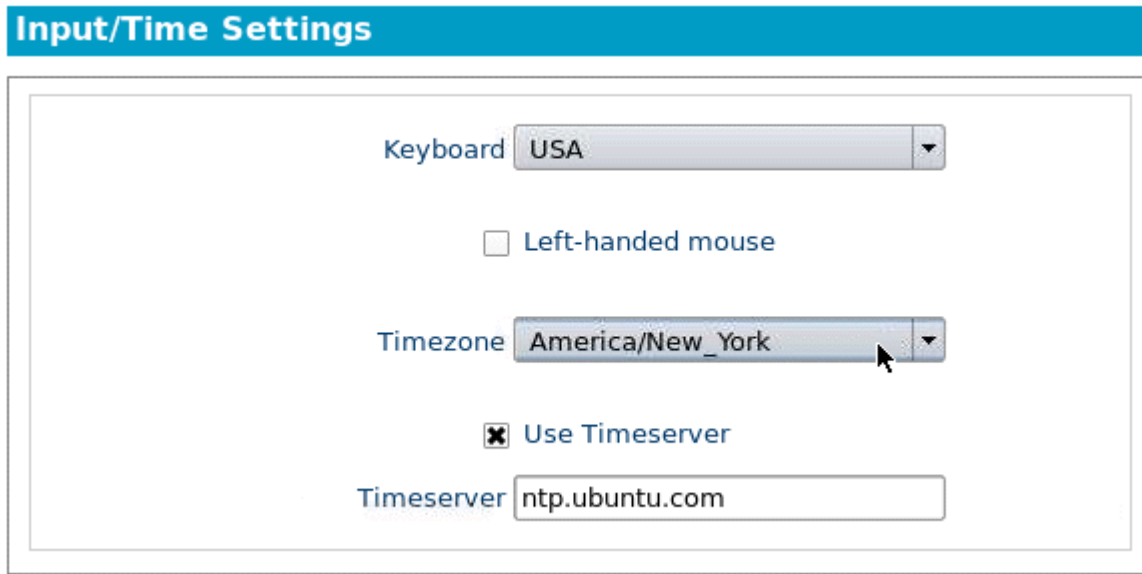
- **Screen Resolution:** Select the desired resolution from the dropdown list OR select [Auto-Detect](#) to allow DeTOS to automatically choose the best resolution for the attached monitor.
- **Color Depth:** All supported color depths for your monitor will be listed in this dropdown box.
- **Enable Screen Blanking:** Checking this box will reveal two timeout values for screen blanking and suspend time.

Once you are finished, press the **Apply** button for the changes to take effect. If you selected [Auto-Detect](#) for the screen resolution, then the change in resolution will occur on next reboot. Otherwise, all other display changes will take effect immediately.

4.2 Input/Time

This section allows you to configure keyboard, mouse, and time settings for the terminal.

1. From the DeTOS Desktop, select [DeTOS](#) → [DeTOS Control Panel](#)
2. Click the [Input/Time](#) icon on the left hand side of the Setup window.



Input/Time Settings

Keyboard

Left-handed mouse

Timezone

Use Timeserver

Timeserver

- **Keyboard:** By default, **us** is selected. Switching to a new keyboard language will alter the keyboard mapping for both local input as well as RDP sessions.
- **Left-Handed Mouse:** Mark this checkbox if you are using a left handed mouse and need to invert the right and left click buttons.
- **Timezone:** The timezone options are organized geographically by region and then city.
- **Timeserver:** Defining a timeserver allows the terminal to query an NTP service in order to keep its date and time in sync. By default, this is enabled and set to Ubuntu's timeserver.

Press the **Apply** button for the changes to take effect.

4.3 Local Storage (DeTOS Thin Clients Only)

The Local Storage section of the DeTOS Control Panel allows the administrator to choose one of three modes for how local storage is utilized.

1. From the DeTOS Desktop, select **DeTOS** → **DeTOS Control Panel**
2. Click the **Local Storage** icon on the left hand side of the Setup window.

- No Local Storage:** Selecting this mode disables persistence. The thin client becomes stateless and relies completely on the management server for all its configurations. Be sure to press the **Apply** button and then **reboot** the terminal for this mode to take effect.
- Enable Local Storage (default):** While running in this mode, DeTOS will write to the local DOM each and every time configurations are added, deleted or modified under the DeTOS Control Panel. Press the **Apply** button and then **reboot** the terminal for this mode to take effect.
- Enable Snapshot Storage:** To utilize local storage in a “profile-like” manner. Be sure to press the Apply button, and then **reboot**. Upon reboot, configure the terminal as desired, and then press the “**Take Snapshot**” button. From now on the thin client will use the same exact configuration as when the snapshot was taken - even after being rebooted.
- Clear Local Storage:** Press this button to clear out all settings currently stored in local or snapshot storage. Be sure to **reboot** the terminal after you pressed this button.
- Take Snapshot:** While running in a Snapshot Storage mode, you may press this button to capture the terminal's current configurations,. Be sure to **reboot** the terminal after you pressed this button.

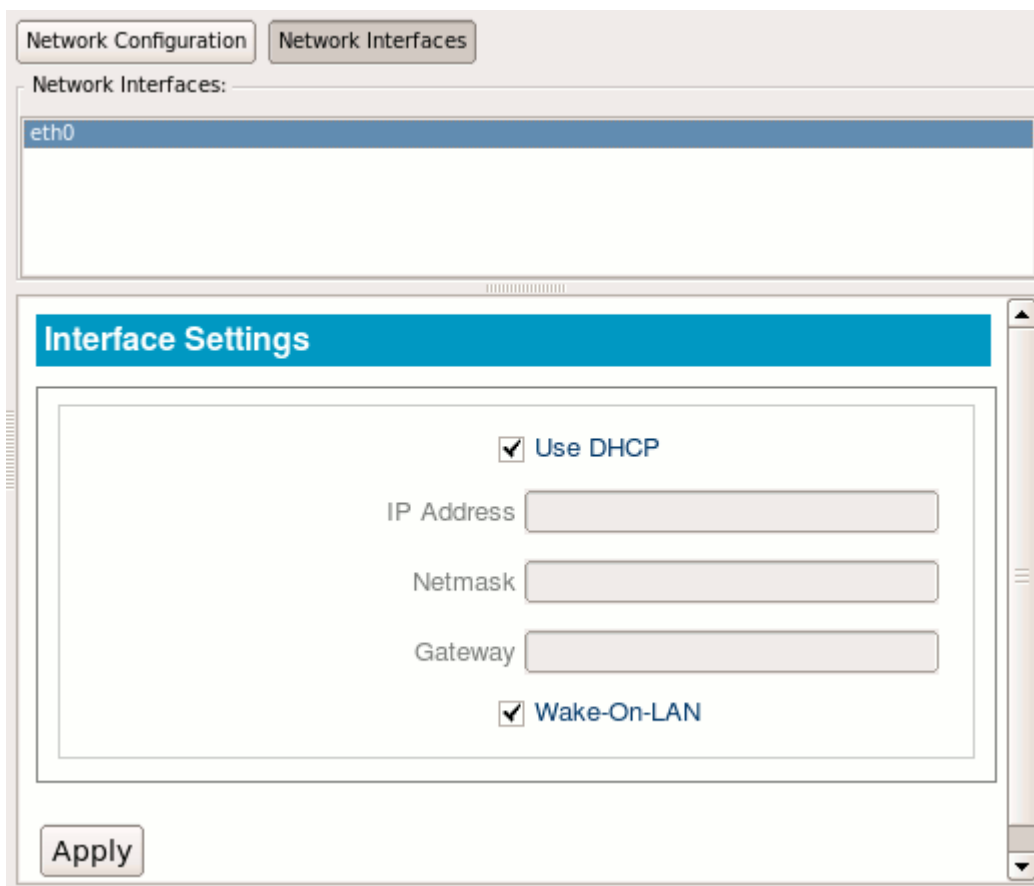
HELPFUL TIP: No matter which persistence option you select, it is recommended that you password protect the DeTOS Control Panel to prevent your end-users from accidentally (or intentionally) changing the mode. See section “4.5 Password” for more information.

4.4 Network

By default, the terminal attempts to contact a DHCP server on your network during boot up. If you have a DHCP server on your network, then the terminal will acquire an IP address automatically and no further network configuration is required on your part.

If you need to set a Static IP address on a DeTOS Thin Client*:

1. From the DeTOS Desktop, select [DeTOS](#) → [DeTOS Control Panel](#)
2. Click the Network icon on the left hand side of the Setup window.
3. Click the “Network Interfaces” tab found near the top of the window.
4. Deselect the “Use DHCP” checkbox.
5. Type in appropriate values for the IP Address, Netmask, and Gateway address fields and then press **Apply**.



6. Press the **Apply** Button for the changes to take effect. There may be a 15-20 second delay during this time. No reboot is required.

* **Static Network Settings are not available in VDI Blaster DeTOS.**

7. Click the “Network Configuration” tab found near the top of the window if you would like to make any changes to the Host name or edit the DNS servers and Search Path.

The screenshot shows a window titled "Network Configuration" with a sub-tab "Network Interfaces". The main content area is titled "Network Settings" and contains four input fields:

- Hostname: 00-1C-59-01-02-68
- Primary DNS: 68.87.64.150
- Secondary DNS: 68.87.75.198
- DNS Search Path: hsd1.pa.comcast.net.

An "Apply" button is located at the bottom left of the window.

8. Changes to network configuration settings will take affect immediately after pressing the **Apply** button. There may be a 15-20 second delay during this time. No reboot is required.

4.5 Password

A System Password can be set to restrict access to the DeTOS Control Panel.

NOTE

Once a system password is set, the user will be prompted for the password when they attempt to open the DeTOS Control Panel. If the Cancel button is pressed, then the Control Panel will open in a read-only mode. A small padlock icon will also appear along the bottom of the Control Panel window, indicating that edits are disallowed.

To set the Password:

1. Select **DeTOS** → **DeTOS Control Panel**
2. Click the **Password** icon on the left hand side of the Setup window.
3. Enter a Password in the **Password** field*.
4. Re-enter the same password in the **Confirm** field.
5. Press the **Apply** button.

*Note: The password must be at least 8 characters long.

4.6 Sound

This section allows you to adjust the master volume level for the terminal.

1. From the DeTOS Desktop, select **DeTOS** → **DeTOS Control Panel**
2. Click the **Sound** icon on the left hand side of the Setup window.
3. Enter a value between 0 – 100 in the **Volume** field.
4. Press the **Apply** button to save.

4.7 Printer Settings

DeTOS supports redirected printing to a locally attached USB or Parallel printer. Once the Printer Settings are properly configured and applied, redirected printing will be enabled for all RDP, Citrix ICA, and VMware View connections created on your terminal.*

1. From the DeTOS Desktop, select **DeTOS** → **DeTOS Control Panel**
2. Click the **Printer** icon on the left hand side of the Setup window.

The screenshot shows a window titled "Printer Settings" with a blue header. Inside the window, there are three input fields: "Printer Name" containing "MyLocalPrinter", "Driver Name" containing "Lexmark E238", and "Connect to" with a dropdown menu currently set to "USB".

- **Printer Name:** Enter a name for this printer. **Do not use spaces!**
- **Driver Name:** Make sure the driver for the printer you will be using has been installed on the server(s) you plan on connecting to. To check the exact driver name on a Windows server:
 - a) Under Start Menu, select “Settings” then “Printers and Faxes”
 - b) Select “File” then “Server Properties”
 - c) Select the “Drivers” tab. This will display installed printer drivers.
 - d) Find the driver name of the printer you will be using. The driver name that appears here, must be entered into the Driver Name field the exact same way -- including spaces and proper case. For example, if the driver name on the server is reported as **Lexmark E238**, then you must type **Lexmark E238** into the Driver Name field. Values like *LexmarkE238*, *lexmark e238*, and *LExmark E238*, will NOT work.
- **Connect To:** Select the appropriate connection type from this dropdown list. (USB or Parallel).

Press the **Apply** button to save. The printer changes will take place immediately upon pressing Apply. No reboot is necessary. Now when you launch any of your RDP, Citrix ICA, or VMware View connections, you will find your printer under the “Printers & Faxes” window and it will be automatically designated as the default printer.

* **Printing from the local web browser in DeTOS is not supported at this time. DeTOS does not include printer drivers on the local operating system.**

4.8 VPN

DeTOS includes a Cisco-Compatible VPN Client that supports connections to the following devices:

- ✓ Cisco VPN Concentrator 3000 Series
- ✓ Cisco IOS Routers
- ✓ Cisco PCI / ASA Security Appliances
- ✓ Juniper/Netscreen

To configure the VPN Client:

1. From the DeTOS Desktop, select [DeTOS](#) → [DeTOS Control Panel](#)
2. Click the [VPN](#) icon on the left hand side of the Setup window.
3. This will open a VPN setup screen with 5 fields. The description of these fields are listed below. Please consult your company's network administrator if you are unsure what values to enter here.

Cisco VPN

Gateway	<input type="text"/>
Group Name	<input type="text"/>
Group Secret	<input type="text"/>
Username	<input type="text"/>
Password	<input type="text"/>

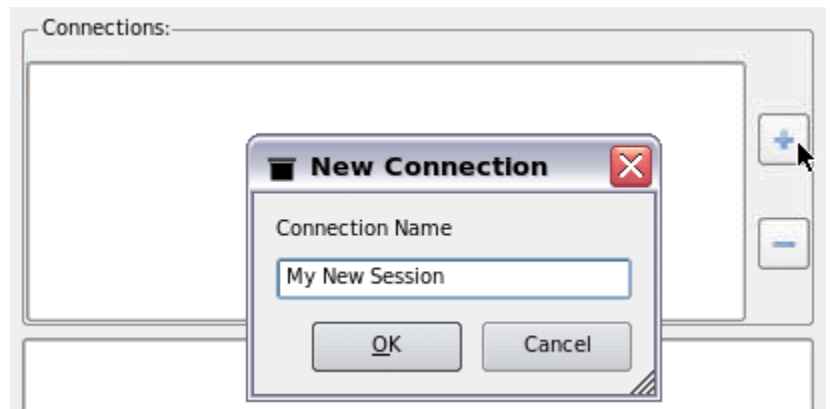
- **Gateway:** IP or hostname of the VPN device
- **Group Name:** Group name used when connecting.
- **Group Secret:** Group secret used when connecting.
- **Username:** User account to log in with.
- **Password:** Password for the user.

5.0 Connections

5.0.1 Adding New Connections

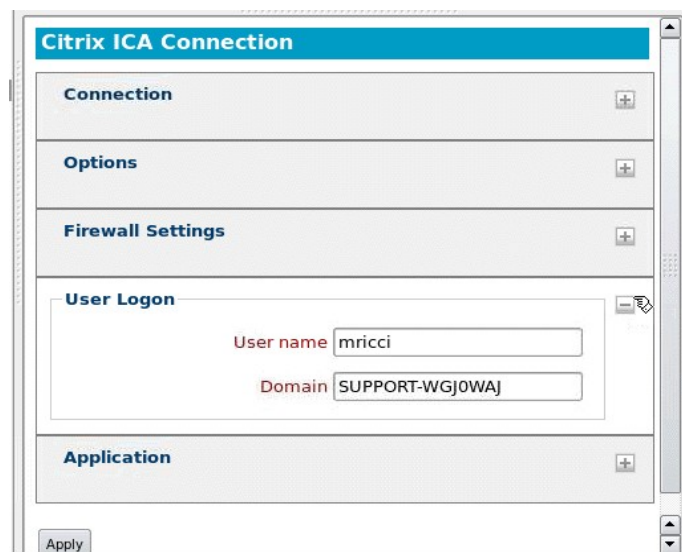
No matter what type of connection you are creating, the first few steps are always the same.

1. From the DeTOS Desktop, select **DeTOS → DeTOS Control Panel**
2. Click one of the icons listed under the **Connections** bar, on the left-hand side of the Setup window.
3. The main window will split into two separate frames. The top frame will list all existing connections for this particular type or protocol. To add a new connection, click the plus [+] button.



Click the Plus [+] button to begin creating a new connection.

4. You will be prompted to enter a name for this connection. Enter a name for this connection and press the **OK** button to continue.
5. The bottom frame will display configuration fields that are specific to the connection type you are creating. Some connections, like Firefox Web Browser, will only have a couple of fields required for configuration and be listed on one single form. Connections that have several configuration options associated with them, like RDP and Citrix, will have their settings grouped and sorted under separate form sections, called **form panels**. These panels can be open and closed by clicking the plus/minus button found along the top, right-hand side of each panel box.



The number of form panels will vary, depending on the type of connection you are creating. Click the plus/minus buttons to expand and collapse these sections.

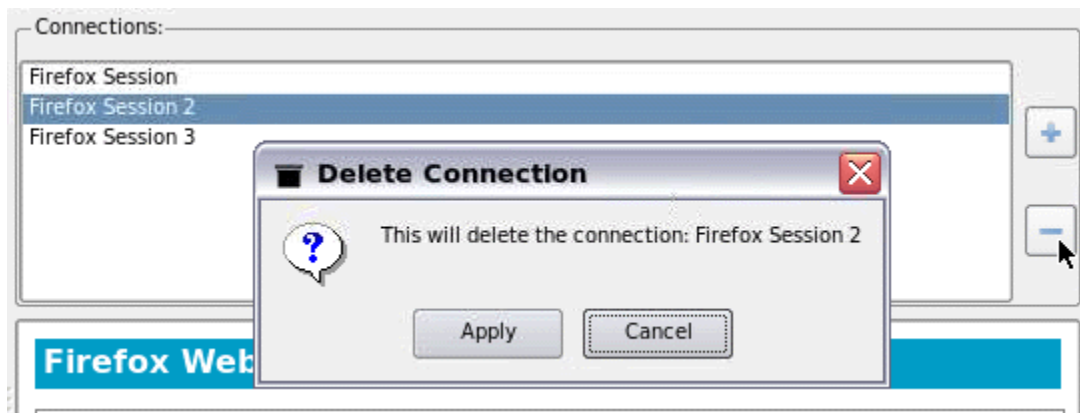
- Once you are finished setting up your connection, click the Apply button along the bottom of the frame. An icon for the new session will be created on the DeTOS Desktop. The end user can simply double-click this icon to launch the connection.



As you create connections in the DeTOS Control Panel, icons for those sessions will appear on the desktop. Double-click the icon to launch that session.

5.0.2 How to Rename or Delete Connections

- From the DeTOS Desktop, select **DeTOS** → **DeTOS Control Panel**
- Click one of the icons listed under the **Connections** bar that pertains to the session type you need to remove.
- From the list of existing connections, click the name to highlight the entry line.
 - To Rename:** Double-click the entry. Your pointer will change to a cursor, allowing you to type in a new name for this connection.
 - To Delete:** Press the minus [-] button to remove that connection. You will be asked to confirm the removal.



5.1 Citrix ICA

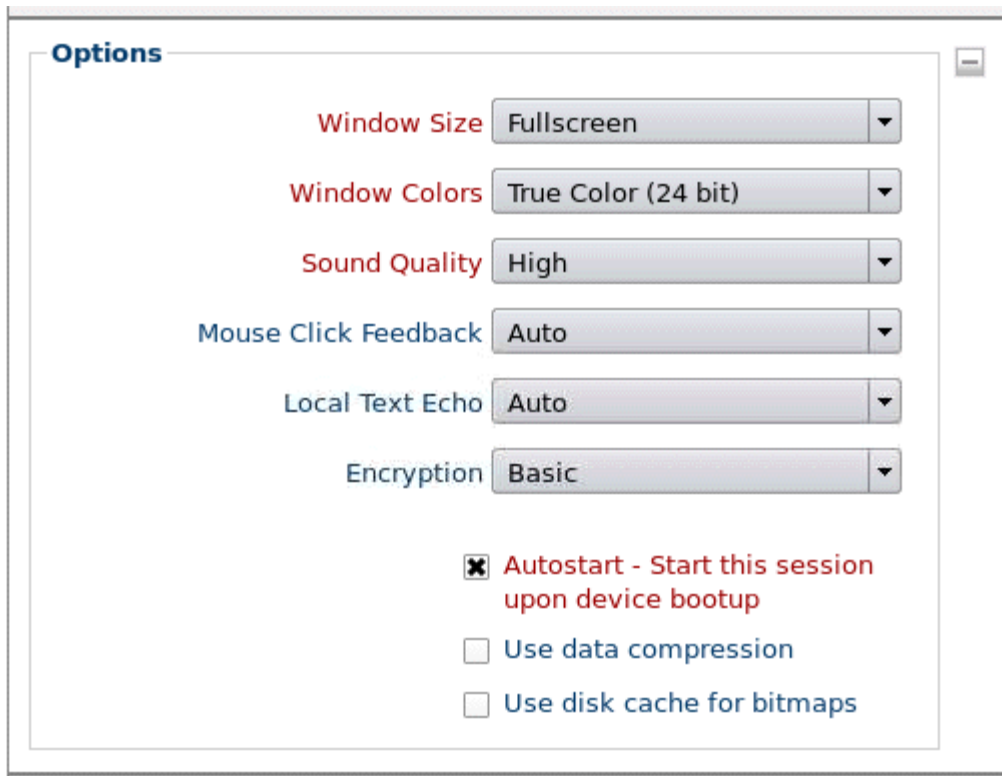
The Citrix Receiver client in DeTOS allows you to connect to Citrix XenApp Servers (formerly known as Presentation Server). This Citrix client also contains the necessary plugin used for connecting to XenDesktop via the thin client's local web browser.

5.1.1 The "Connection" section

The first section displayed for a Citrix ICA session is **Connection**. This form panel will already be expanded for you.

- **Connection Type:** Select either Local Area Network or Wide Area Network.
- **Server Location:** Type in the IP address or hostname of your Citrix server.
- **Protocol:** Select the appropriate protocol needed for connecting to your Citrix Server.
- There are two methods for connecting to your Citrix Server – *Server* or *Application*:
 - (1) **Published Applications:** If you wish to connect to a published application on your Citrix Server, then select the radio button, called **Published Application**.
 - (2) **Server:** If you wish to connect to the desktop of your Citrix Server, then select the radio button, called **Server**.
- **Browse for Name:** Mark the checkbox called, **Browse for Name**. Then click the **Browse** button once. This will contact the server and populate the list. Now click the down arrow on the **Name** list and select your server name or published application name.

5.1.2 The “Options” section

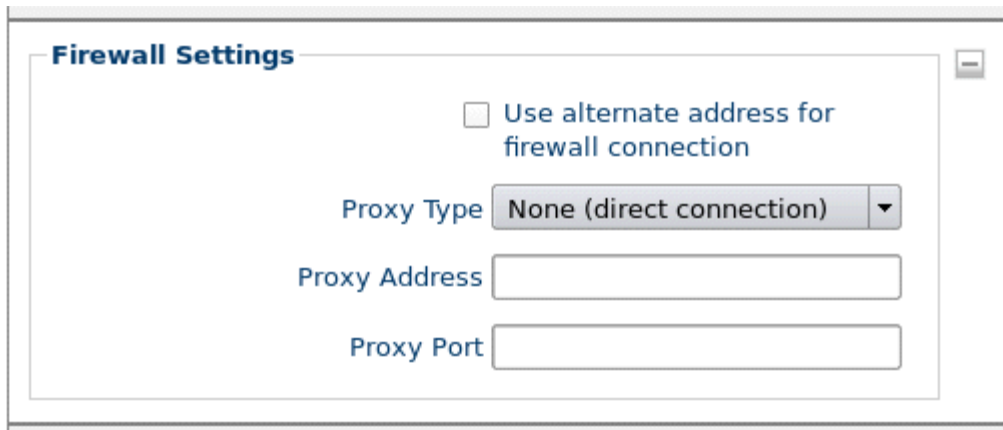


The screenshot shows the 'Options' dialog box with the following settings:

- Window Size: Fullscreen
- Window Colors: True Color (24 bit)
- Sound Quality: High
- Mouse Click Feedback: Auto
- Local Text Echo: Auto
- Encryption: Basic
- Autostart - Start this session upon device bootup
- Use data compression
- Use disk cache for bitmaps

- **Window Size:** Select the type of window you want your ICA session to display in.
 - **Fullscreen:** The ICA session will take up the entire display.
 - **Fixed Size:** You may select fixed sized windows, such as 640x480, 800x600, and 1024-x768
 - **Percentage Based:** You may select a size based on the percentage of available desktop display, such as 25%, 50%, and 75%
- **Window Colors:** Color depth options are 4-bit, 8-bit, 16-bit, and 24-bit
- **Sound Quality:** Adjust the quality of sound.
- **Citrix SLR (SpeedScreen Latency Reduction) Options:** Enabling the following two options are usually only needed when high latency is occurring and/or poor bandwidth conditions exist.
 - **Mouse Click Feedback:** The mouse cursor will change to an hourglass as soon as a user performs a mouse click on an event and will wait for a response from the server before it changes back.
 - **Local Text Echo:** This option allows a user to see the character they type into their session on the screen, without this key press hitting the actual server at that time.
- **Encryption:** Select the appropriate level of encryption to be used when connecting to this Citrix Server.
- **Autostart:** Enable this checkbox to automatically launch this session after the thin client completes its boot procedure.
- **Use data compression:** In an environment where system and client resources are not a concern, data compression can be used to decrease the amount of data that must be sent across the network.
- **Use disk cache for bitmaps:** Allows graphical objects to be stored in the local disk cache on the client device.

5.1.3 The “Firewall Settings” section



The screenshot shows a dialog box titled "Firewall Settings". It contains the following elements:

- A checkbox labeled "Use alternate address for firewall connection" which is currently unchecked.
- A "Proxy Type" dropdown menu with "None (direct connection)" selected.
- A "Proxy Address" text input field.
- A "Proxy Port" text input field.

- **Use alternate address for firewall connection:** Mark this checkbox if you need the ICA session to connect to the Citrix server's external IP address. The *external* address for the server is specified as the *alternate* address.
- **Proxy Settings:** If your Citrix environment utilizes a proxy server, then select the appropriate type from the **Proxy Type** field. Enter the address of the server and port number in the **Proxy Address** and **Proxy Port** fields, respectively.

5.1.4 The “User Logon” section



The screenshot shows a dialog box titled "User Logon". It contains the following elements:

- A "User name" text input field containing the text "mricci".
- A "Domain" text input field containing the text "SUPPORT-WGJ0WAJ".

- **User Name:** Specifies the name of a user account to log on as. This is an optional field.
- **Domain:** Specifies the domain to log on to. This is an optional field.

5.1.5 The “Application” section



The screenshot shows a configuration window titled "Application". Inside the window, there are two text input fields. The first field is labeled "Application" and the second field is labeled "Working Directory".

- **Application:** Specifies the path of the application on the Citrix server to be automatically launched when the connection is made. This is an optional field.
- **Working Directory:** Specifies the working directory used for the application.

5.2 Firefox Web Browser

The following section describes the steps for configuring the local Firefox web browser on DeTOS.

5.2.1 The “General” section

Firefox Web Browser

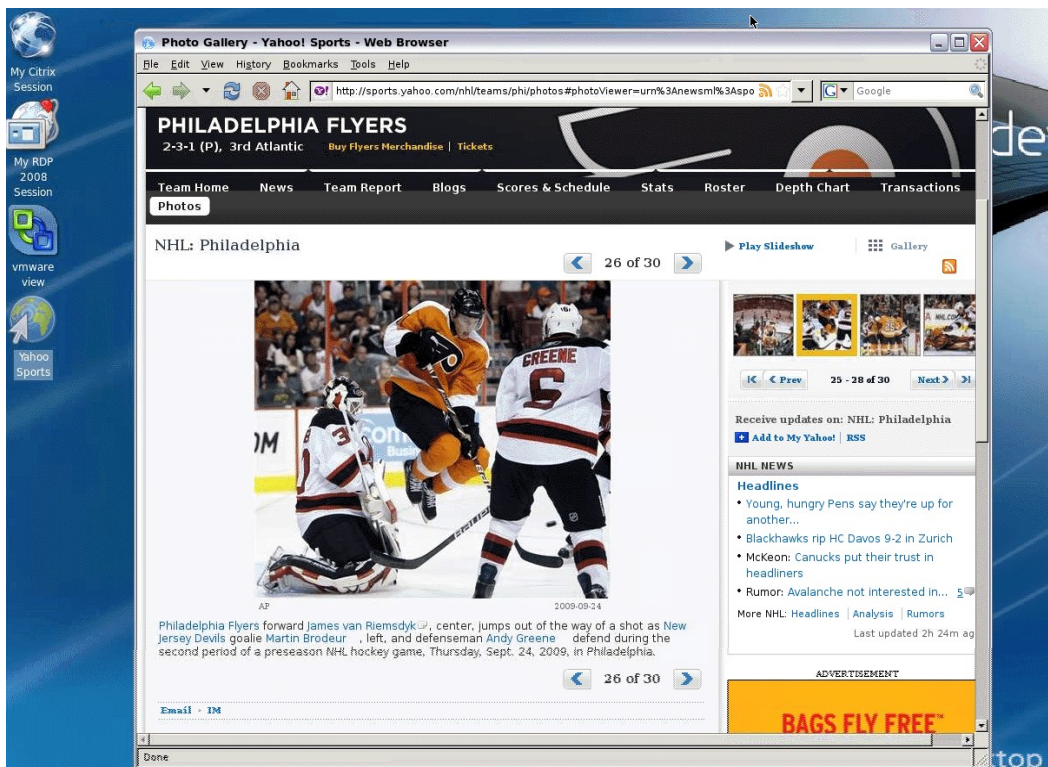
General

Start URL

Autostart - Start this session upon device bootup

- **Start URL:** Specifies the initial web page to appear when the browser is first launched.
- **AutoStart:** Enable this checkbox to automatically launch this session after the thin client completes its boot procedure.

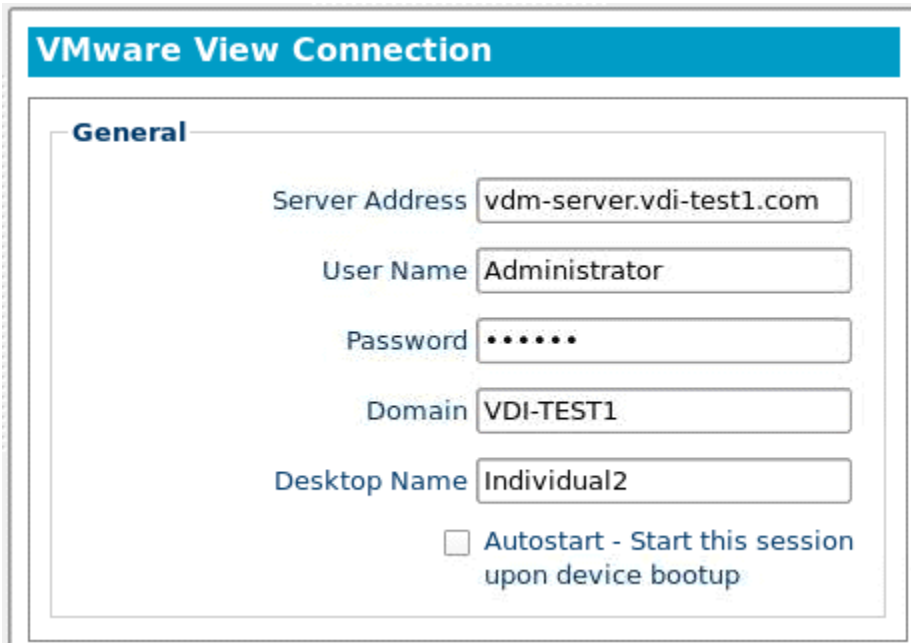
Click the Apply button to save the connection. Double-click the Firefox icon the desktop to launch the browser session. Browser plugins for Flash Player and Java have been pre-installed.



Screenshot of the local Firefox Web Browser running on DeTOS.

5.3 VMware View

The VMware View client allows you to connect to a VMware server, which in turn, provides the end-user with their own virtual desktop session. The following section describes the basic steps for configuring the View Client in DeTOS.



The screenshot shows a dialog box titled "VMware View Connection" with a "General" tab. The fields are as follows:

Field	Value
Server Address	vdm-server.vdi-test1.com
User Name	Administrator
Password	••••••
Domain	VDI-TEST1
Desktop Name	Individual2

There is also a checkbox labeled "Autostart - Start this session upon device bootup" which is currently unchecked.

- **Server Address:** Enter the Hostname or IP address of your VDM Broker.
- **User Name:** Specifies the name of a user account to log on as.
- **Password:** Specifies the user's password.
- **Domain:** Specifies the domain to log on to.
- **Desktop Name:** If the user of this terminal should always connect to the same desktop, then you may consider entering its name into this field. If you choose to leave the field empty, then the user will be prompted to select an available desktop at the time they connect to the VDM server.
- **AutoStart:** Enable this checkbox to automatically launch this session after the thin client completes its boot procedure.

5.4 rDesktop

5.4.1 The “General” section

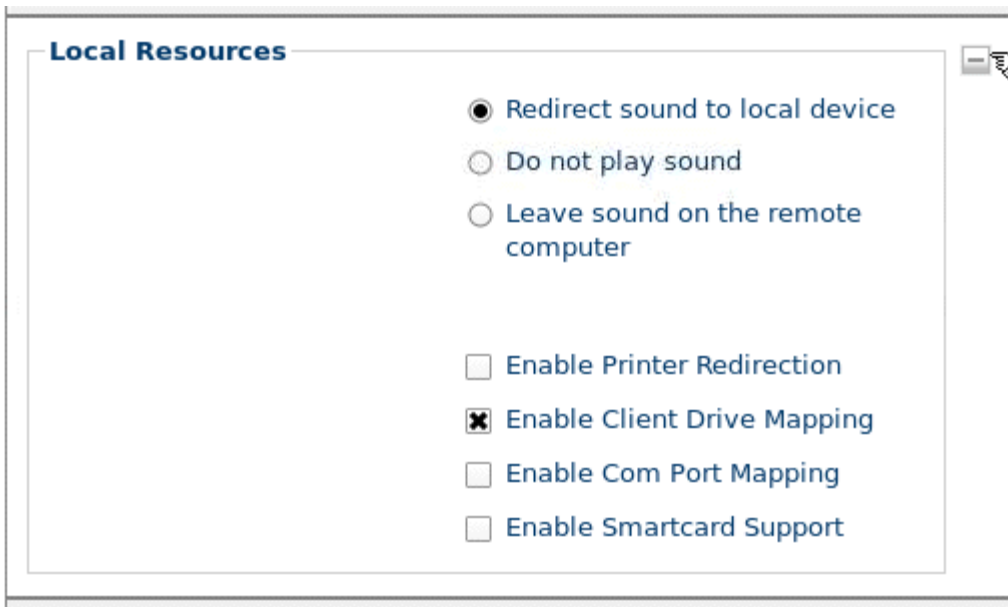
The first section displayed for an rDesktop session, is named General. This form panel will already be expanded for you.

- **Server Name:** Enter the hostname or IP address of the Windows Terminal Server.
- **User Name:** Specifies the name of a user account to log on as. This is optional.
- **Domain:** Specifies the domain to log on to.

5.4.2 The “Display” section

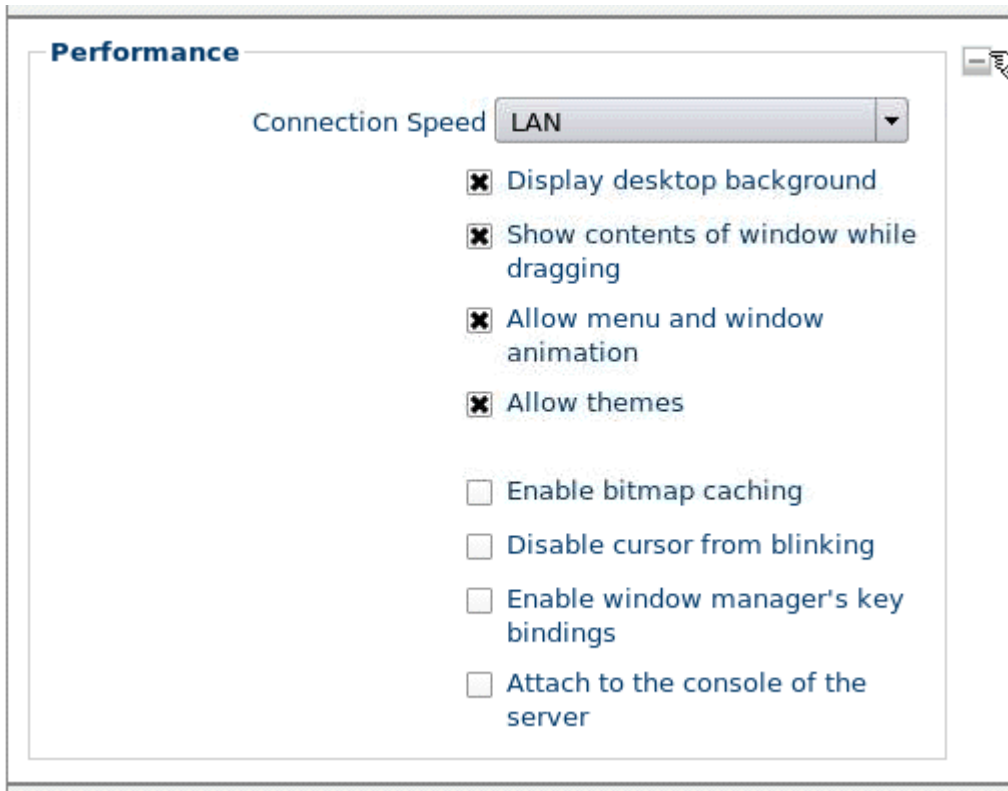
- **Operate in full screen mode:** The RDP session will take up your entire display and will not allow minimization.
- **Operate in maximized window mode:** This option will display the RDP session in a window. You will be able to maximize and minimize this window.
- **Use specified screen size:** The RDP session will launch in a fixed sized window, specified by the dimensions chosen in the dropdown list below.
- **Color depth for this connection:** Select the desired color depth for this RDP session.

5.4.3 The “Local Resources” section



- **Sound Redirection Options:** By default, sound from the server will redirect to the local terminal. If you do not want sound to be sent to the local device, then select either **Do not play sound** or **Leave sound on the remote computer**.
- **Enable Printer Redirection:** Mark this checkbox to redirect printing to a printer attached to the local terminal.
- **Enable Client Drive Mapping:** Allows the user to plug USB Flash Drives locally into the terminal and access the contents of the drive via the RDP session.
- **Enable Com Port Mapping:** Redirects serial devices on your terminal to the server.
- **Enable Smartcard Support:** Specifies whether redirection of Smart Cards is permitted during server authentication.

5.4.4 The “Performance” section



- **Connection Speed:** Specifies the RDP Experience. As you change connection options in this dropdown box, associated behaviors in the checkboxes below will be selected or deselected accordingly.
- **Enable bitmap caching:** Enable caching of bitmaps to disk (persistent bitmap caching).
- **Disable cursor from blinking:** Indicates that *cursor blinking* should be disabled during the RDP session.
- **Enable window manager's key bindings:** By default rdesktop attempts to grab all keyboard input when it is in focus.
- **Attach to the console of the server:** The session will connect to the console of the server (requires Windows Server 2003 or newer).

5.4.5 The “Start a Program” section



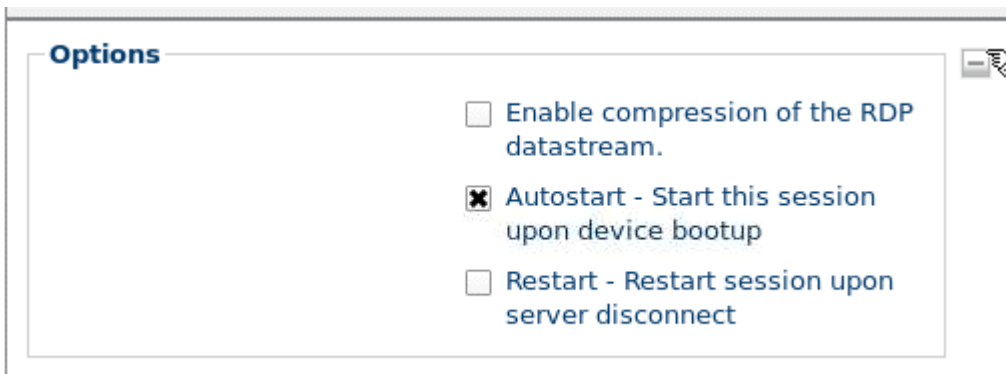
Start a Program

Program path and filename

Working Directory

- **Application:** Specifies the path of the application on the Terminal server to be automatically launched when the connection is made. This is an optional field.
- **Working Directory:** Specifies the working directory used for the application.

5.4.6 The “Options” section



Options

Enable compression of the RDP datastream.

Autostart - Start this session upon device bootup

Restart - Restart session upon server disconnect

- **Enable compression of the RDP datastream:** In an environment where system and client resources are not a concern, data compression can be used to decrease the amount of data that must be sent across the network.
- **AutoStart:** Enable this checkbox to automatically launch this session after the thin client completes its boot procedure.
- **Restart:** Indicates whether an attempt is made to automatically reconnect to the host if a connection is lost.