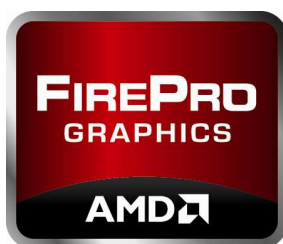


ATI FirePro™ RG220

& PCoIP with Parallels

Revision 1.0



P/N: AN_WS_RG220_Parallels
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Revision History

Revision	Date	Comments
1.0	27-Jun-2011	<ul style="list-style-type: none">Initial release by Auco (AC) Griffin and Michael Wilkie

TABLE OF CONTENTS

1. OVERVIEW	4
1.1 HARDWARE REQUIREMENT	4
1.2 SOFTWARE REQUIREMENT	4
1.3 REFERENCES:	4
2. CONFIGURATION	5
2.1 HARDWARE CONFIGURATION.....	5
2.2 SOFTWARE CONFIGURATION.....	7
2.3 TROUBLE-SHOOTING/ISSUES	13

1. OVERVIEW

This document is intended to give a basic understanding of how to configure the ATI FirePro™ RG220 and the PCoIP clients for a direct connection to the Host System. It assumes that user has basic understanding of ATI FirePro RG220 and its features (see References).

1.1 HARDWARE REQUIREMENT

- ATI FirePro RG220 card
- AMD FirePro 2D/3D graphics card to run the host machine
- Thin Client: Dell FX100 or WYSE
 - Each thin client station consists of a monitor, keyboard and mouse, and network cables
- Desktop system capable of handling at least one PCI or PCI-e graphics card and one PCI-e x8 or x16 slot for the ATI FirePro RG220
- Virtualization Technology support in the system BIOS
- Processor: Workstation or Server based on at least a quad core processor
- Memory: at least 8GB of RAM
- Hard Drive: Depending on the number of clients, each client requires 10Gb of space at a minimum (standard setup is 32Gb)
- Monitor, keyboard, and mouse for host system
- Network cable(s), Cat5 or better

1.2 SOFTWARE REQUIREMENT

- Parallels Workstation 4.0 Extreme Software
- Host Operating System
 - Windows 64Bit OS
 - Windows XP SP2 or SP3, Windows 7, or Windows Vista SP1
 - 64bit Linux
 - RHEL 5.3, 5.4, and 5.5
 - Other distributions might work but were not tested
- Guest/Client Operating System
 - Windows 64Bit OS
 - Windows XP SP2 or SP3, Windows 7, or Windows Vista SP1
 - Windows 32Bit OS
 - Windows XP SP3, Windows 7
 - 64Bit Linux
 - RHEL 5.3, 5.4, and 5.5
 - Fedora 10
 - Other distributions might work but were not tested

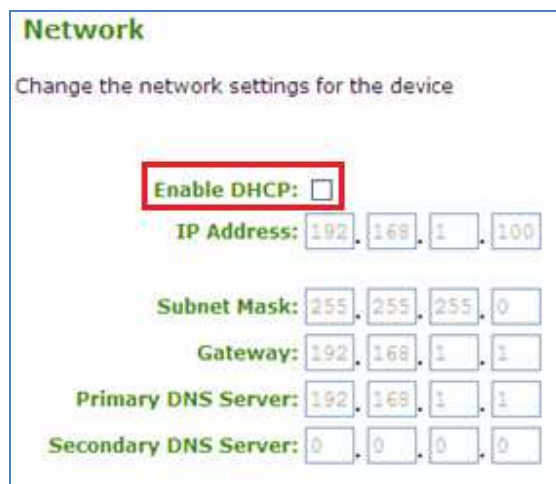
1.3 REFERENCES:

- ATI FirePro RG220 Remote Workstation Graphics:
<http://www.amd.com/us/products/workstation/graphics/firepro-remote-graphics/Pages/rq220.aspx>
- ATI FirePro RG220 DataSheet:
<http://www.amd.com/us/Documents/ATI-FirePro-RG220-Datasheet.pdf>
- ATI FirePro RG220 white paper:
http://www.amd.com/us/Documents/48441A_FirePro_RG220_Whitepaper.pdf
- Parallel Software: <http://www.parallels.com>

2. CONFIGURATION

2.1 HARDWARE CONFIGURATION

- Install the ATI FirePro RG220 card/s in the system in either the PCI-e x 8 or x 16 slot/s
- Install the host graphics adapter (does not need to support 3D for the purpose of a host)
- Initial Card Configuration instructions:
 - Connect an RJ45 cable to Ethernet controller attached to system
 - Connect the other end to the RJ45 Output of ATI FirePro RG220 Input
 - Open Network Settings -> TCP/IP(v4) Settings --> Input the following:
 - IP address: 192.168.1.101
 - Subnet mask: 255.255.255.0
 - Default gateway: 192.168.1.1
 - Open Internet Explorer browser and enter 192.168.1.100 in the address bar
 - When the certificate screen comes up click on Continue to this web site
 - Click login (no password needed)
 - Move the mouse to Configuration and click on Initial Setup
 - On the screen that comes up put the checks in for Enable HD audio and Enable Microsoft boxes
 - Take the check out of the DHCP box and set the IP to 192.168.1.100 if it isn't already
 - Click on Apply and then continue
 - Disconnect the network cable from the host machine network
 - Reset the Network settings to DHCP
- Configuration of the Thin client
 - Turn the unit on
 - Click on “Options” (top Left)
 - Click on “Configuration”
 - Click on Unlock (enter password if there is one)
 - Uncheck the box “Enable DHCP:”



- Set the IP to 192.168.1.101
- Select “Apply” to save the settings
- Click on the “VMWare View” tab



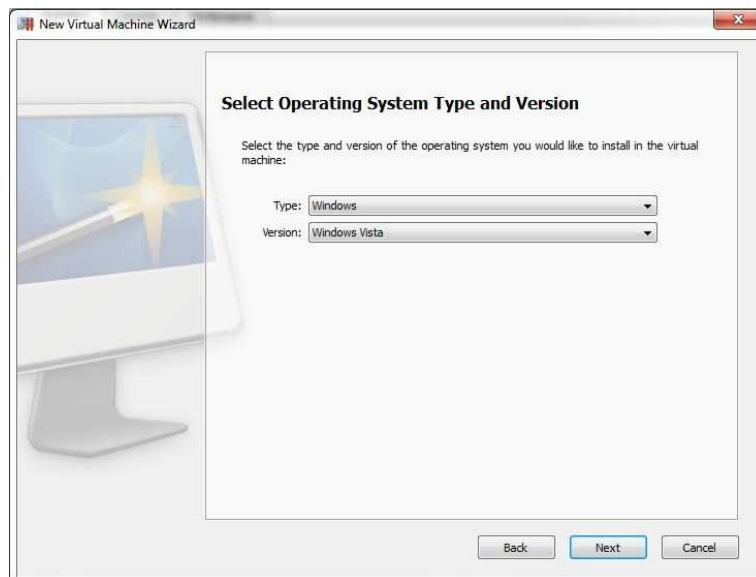
- Uncheck the “Enable VMWare View” box
 - Select “Apply” to save the settings
 - Click OK and restart the unit
 - Connect the ATI FirePro RG220 Output to the Thin Client via the RJ45 connection
- Connect the network cable for the client to the ATI FirePro RG220 direct via the outgoing connection or through a switch to the outgoing connection of the ATI FirePro RG220 card



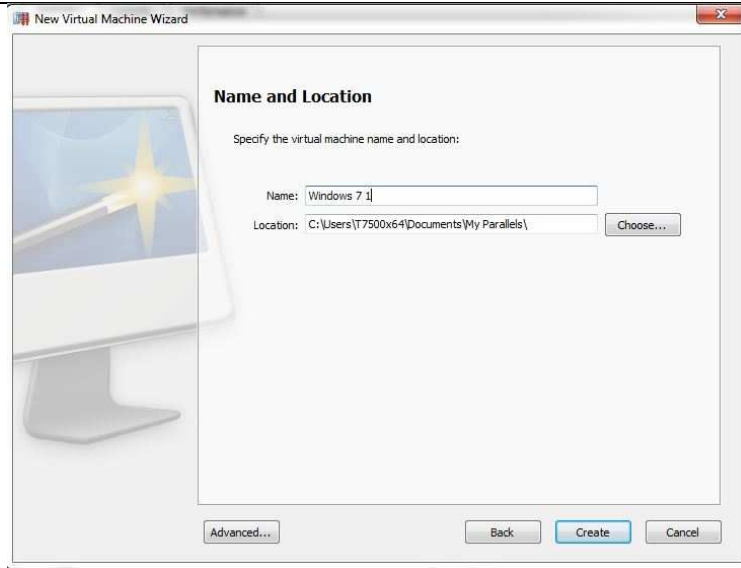
2.2 SOFTWARE CONFIGURATION

On the Host machine, OS will be installed and configured. After that, each Thin Client can install its software individually or it can also be done at the Host machine. Each Thin Client can have different versions of the OS and software as desired – see the above section for the OS recommendation (see References for Parallel software on supported OS)

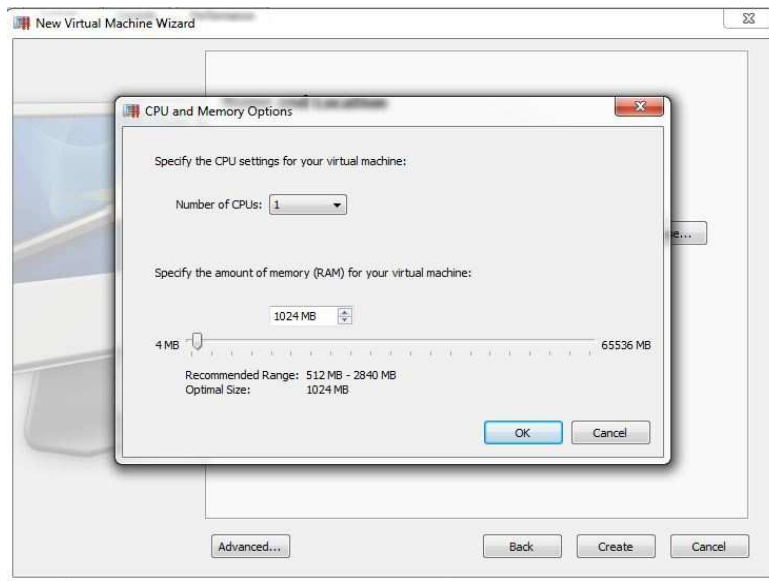
- Install host OS from the OS disc copy (or if the system already configured with an OS on it, no other work needed)
- Install all necessary windows updates such as DOTNET3.5 or above, DirectX9 or better.
- Install host graphics driver and any other drivers for the system (mouse, network, audio, etc)
- Install ATI FirePro RG220 Graphics card driver (download at amd.com)
- Install Parallel software and then run update at the end of the installation process.
- Launch Parallel application
- In Parallel application, go to **File >New Virtual Machine**, pop-up window:



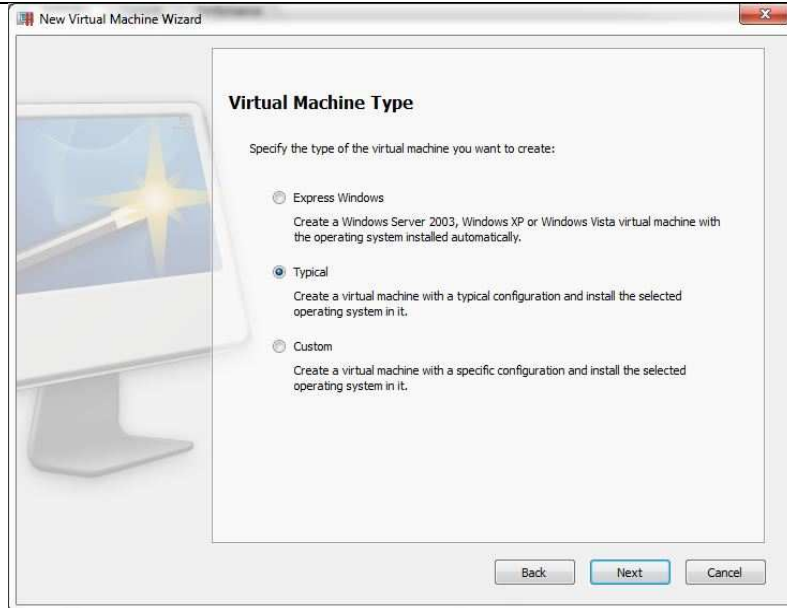
- Select the Type of OS install and the Version of the OS
- Click “Next”
- Give the Virtual Machine a Name and Location (if other than default) and then click the Advanced button on the bottom left of the window



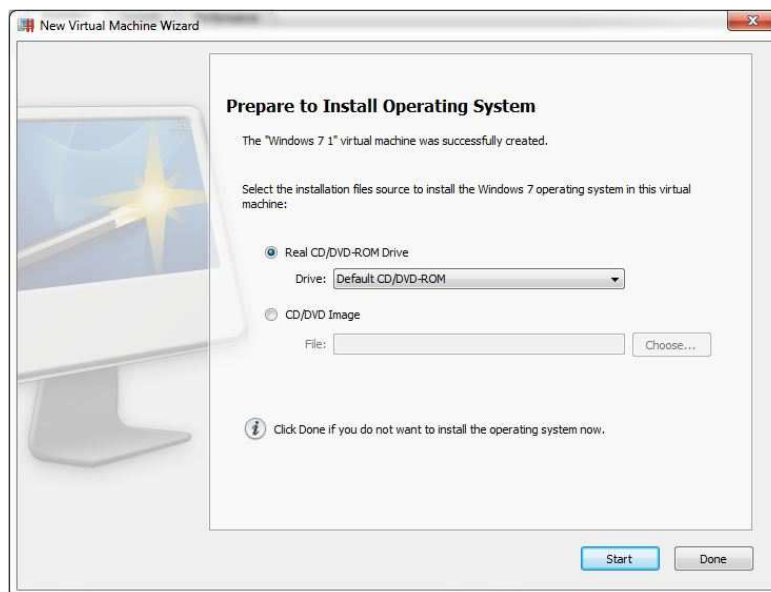
- On the Advanced window, select the number of virtual processors and memory that should be assigned to this virtual machine



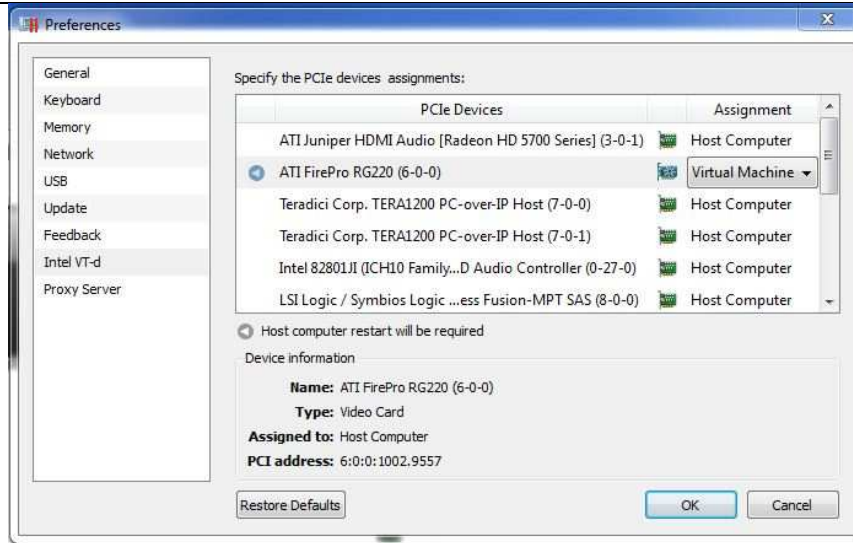
- Click "OK"
- Click "Create"
- Select "Typical" on the Virtual Machine Type page



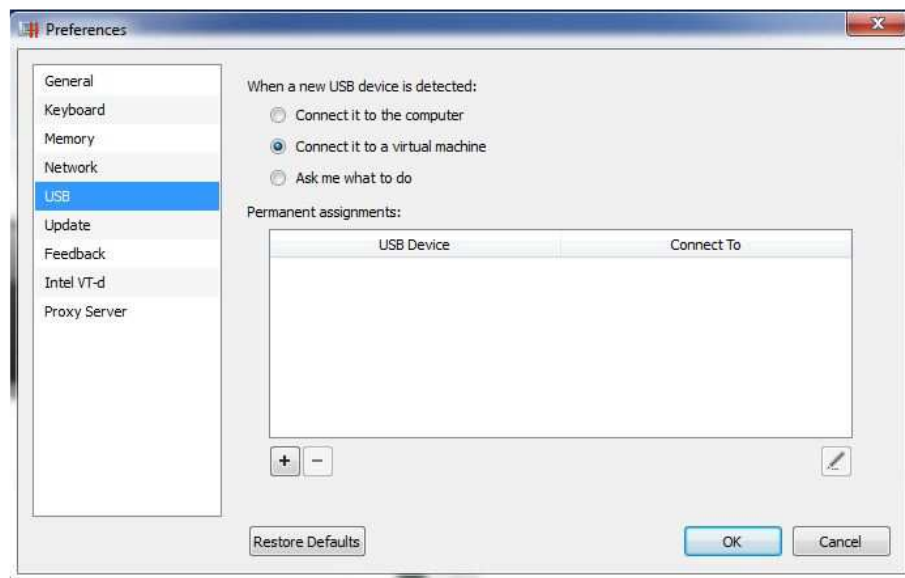
- Click “Next”
- Select the location of the Operating System image that is being installed (Default is to pull this from the OS disc)



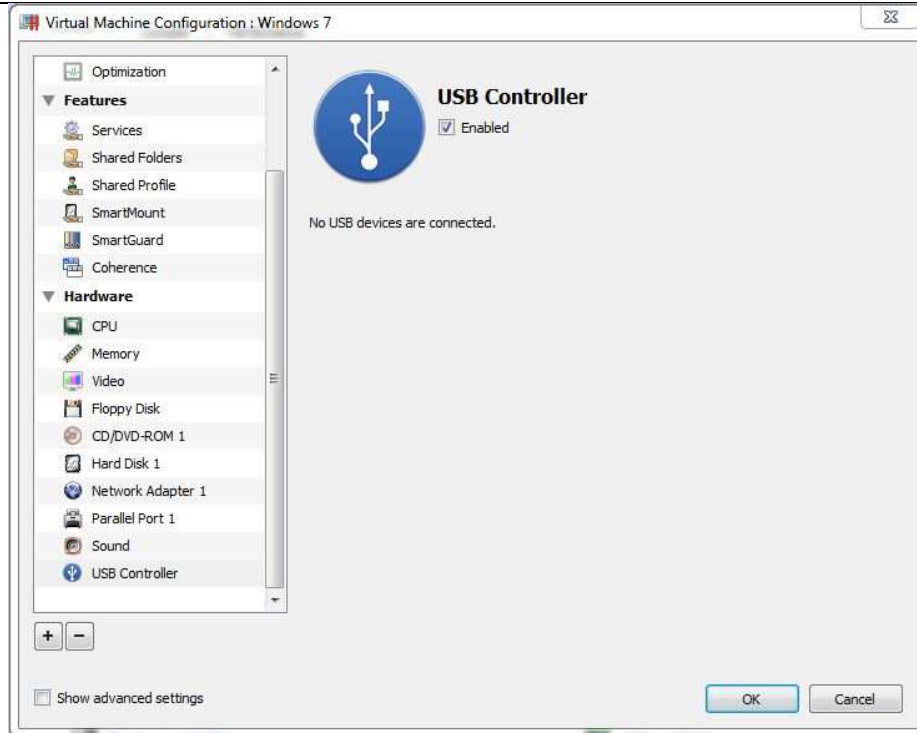
- Click “Start”
- Go through the regular Operating System install steps
- After the Operating System is installed and running in the bottom right of the Parallels window, click on “Install Parallels tools” (this will run automatically and reboot the system)
- Once the Operating System is up and running again launch Parallels window
- Click on File > Preferences
- Click on “Intel Vt-d” and set the ATI FirePro RG220 card listed in PCIe Devices to Virtual Machine for each card installed in the Host system



- Click on USB and click on radio button for Connect to Virtual Machine to attach the mouse and keyboard to the virtual machine environment



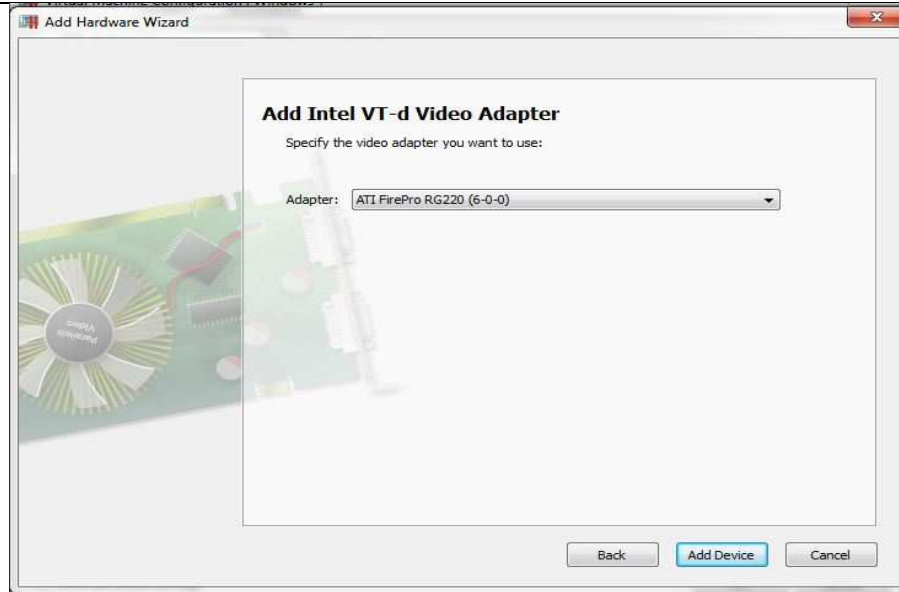
- Click "OK"
- Click Virtual Machine > Configuration, a popup will come up with a list of devices connected to the Virtual Machine



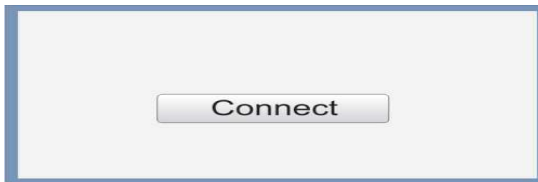
- Click on the Plus button in the bottom left and a popup of additional device will come up
- Click on Video Card



- Click "Next"
- Assign the address for the card by pressing the down arrow



- This is based on the addressing of the system bus (will need to try this a couple of times to get the addressing correct to specific Thin Clients)
- Click “Add Device”
- Start the Virtual Machine
- Go to the Thin Client and click “Connect”



- Depending on the configuration of the Thin Client it will auto connect to the Host or a pop-up window will show the address, check the address and click “OK” to connect



- Once the Client Operating System is running, install the video driver for the ATI FirePro RG220 for the specific Operating System that is being used for the client
- The client is fully functional and ready to install any applications needed at each client

2.3 TROUBLE-SHOOTING/ISSUES

- Recommend to not enable or use audio as if it is installed and enabled, all clients system will get same audio output.
- If the Thin Client does not connect to the Host System
 - Shutdown the Client Operating System
 - Verify the Device Address for the ATI FirePro RG220 card then re- start the Client Operating System
 - Try moving the network cable to the Incoming connection on the card then re- start the Client Operating System
 - Try another network cable then re- start the Client Operating System
- If the Mouse and Keyboard do not connect
 - Disconnect the mouse and keyboard from the thin client and reconnect them
 - Shutdown the Client Operating System
 - Click Virtual Machine > Configuration
 - Set USB to “Ask me what to Do”
 - Start the Client Operating System
 - A popup will come up asking what to do with the Mouse and Keyboard
 - Select Virtual Machine: if there are more than one Client Operating Systems and Thin Clients, select the Thin Client’s Operating system of which the devices are attached to
- If the Client Operating System fails to load
 - Click the Shutdown Button in the Parallels window
 - On the next launch of the Client Operating System, click the mouse in the window
 - The Client Operating System will come up to the menu to select how to start the Operating System
 - The Client Operating system will be slow through this part as only 1 processor is being used with 128M of memory
 - Select how the Operating System should start and try again
 - If it fails a second time, shutdown the Client Operating System and select “Safe mode” on the next launch (it will run slowly)
 - Restart the Operating System in normal mode

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