



## **PACS Connectivity Recommendations for Independent Physicians**

### **Introduction**

Grande Ronde Hospital is pleased to provide remote access for independent physicians to the GRH PACS system. Physicians and their authorized staff can utilize their existing Internet connectivity to connect to GRH PACS. The information in this document is based on findings from a pilot project that included independent physicians in the community. From this pilot project, GRH has identified multiple connectivity options of varying cost, complexity, and convenience. These options along with requirements for using the system are explained in detail below.

### **System Requirements**

The system requirements in this document are provided as guidelines to help users successfully establish connectivity to GRH PACS. While meeting these guidelines is an important first step to ensure the best possible experience with GRH PACS, GRH offers no guarantee that simply meeting these requirements alone will ensure one's ability to successfully utilize GRH PACS. Computers not under direct control of GRH may contain hardware or software configurations that conflict with GRH PACS components in such a way as to prevent proper functionality. Due to the nearly infinite hardware/software combinations possible on personal/private computers GRH is not able to provide support or troubleshooting for computers not maintained by GRH beyond verification that the service is functioning normally.

- A broadband or high-speed Internet connection is required. Bandwidth of at least 5 megabits/second is strongly recommended. Dial-up connectivity to GRH PACS is not supported. While connecting to GRH PACS using dial-up service is technologically possible, the performance it provides is unsatisfactory.
- Microsoft Internet Explorer 6.0 or later running on a 32-bit version of Microsoft Windows is recommended and in some cases required.
- GRH PACS may not work when using a computer that has been “locked down” using special security settings. These types of computers are often found in Internet cafes, airport kiosks, and large training or conference centers.
- 2.6 GHz or greater processor
- 1 Gigabyte (GB) of RAM
- 500 Megabytes (MB) of available hard disk space
- 32-bit color support is required for accurate display of image data

## **Connectivity Options**

GRH offers multiple options for connectivity to GRH PACS. Each option presents its own set of advantages and drawbacks as well as overall cost.

### **Option 1 – Site-to-site VPN connection between physician office and GRH**

- A site-to-site VPN connection provides the most seamless experience for accessing GRH PACS and is the method preferred by GRH for connecting to physician offices. Once site-to-site connectivity has been established, users can access GRH PACS using nothing more than the Internet Explorer web browser. This option has additional equipment and internet connection requirements.
  - Advantages
    - No VPN client or web portal login required
    - Seamless experience, users access GRH PACS as they would any other web site
    - “Always on” connectivity with no VPN session timeout
    - Provides connectivity to all networked office computers
    - Provides access to GRH PACS while still allowing access to local network resources
    - Easily supports connectivity to other GRH resources
    - Supports 64-bit Windows
  - Disadvantages
    - Initial cost
    - Typically requires 3<sup>rd</sup> party IT resources for configuration of physician office side of connection
  - Special Requirements
    - Requires equipment that supports site-to-site VPN
    - Requires Internet connection with a static IP address

### **Option 2 – Install VPN client software for simplified access to GRH PACS**

- Installation of VPN client software provides many of the benefits of a site-to-site VPN connection but only while the VPN client connection is active. This option allows physician offices to utilize their existing Internet connection to achieve an experience similar to site-to-site connectivity without additional cost.
  - Advantages
    - Once connected, user experience is similar to site-to-site VPN
    - Easily supports connectivity to other GRH resources
    - Supports 64-bit Windows
  - Disadvantages
    - Adds additional login for user
    - GRH PACS only available while VPN client is connected
    - Subject to VPN session timeout
    - Local network resources unavailable while VPN client is connected
  - Special Requirements
    - Requires VPN client software on each computer used for GRH PACS access

### **Option 3** – Access GRH PACS via GRH AAA web portal

- GRH offers GRH PACS access via the GRH Anywhere, Anytime Access web portal. This option uses special browser plug-ins to provide connectivity without requiring installation of VPN client software. This option provides significant convenience but is more susceptible to software incompatibilities.
  - Advantages
    - No VPN client software required
  - Disadvantages
    - Utilizes Java-based browser plug-in
    - Adds additional login for user
    - GRH PACS only available while connected to GRH AAA
    - Subject to VPN session timeout
    - Additional browser windows may be confusing for users
    - May not support connectivity to other GRH resources
    - 64-bit Windows not supported
  - Special Requirements
    - Requires Sun Java Runtime Environment (JRE) 1.5 or later
    - Requires 32-bit version of Windows
    - If using Windows Vista or Windows 7, User Account Control (UAC) must be disabled

### **Designated Computer Option**

Regardless of the connectivity option selected, physician offices have the option of using a computer designated for GRH PACS access only. If using a designated computer, GRH Information Technology will assist with the configuration of this computer to ensure successful access and proper functionality. Physicians may purchase a new computer or repurpose an existing computer for GRH PACS use. Once configured, the computer hardware and software must not be modified without involvement of GRH Information Technology. This option may be attractive to those who prefer to avoid the risk of spending time and resources troubleshooting potential incompatibilities on a non-designated computer. Physicians should consider the following when making this decision:

- Advantages
  - Guarantee of proper functionality
  - Little time required of physician and/or physician staff for setup
  - No cost if using an existing computer
- Disadvantages
  - Access limited to designated computer
  - Computer not available for other use
  - Cost if purchasing a new computer

### **Support Information**

If you need assistance accessing or using GRH PACS please contact the IT Helpdesk

### **GRH Information Technology Helpdesk**

#### Hours

Monday – Friday: 7am – 5pm

#### Phone

Internal – 1410

External – 963-1410

## Frequently Asked Questions

- **When I try to access PACS via GRH AAA, the Application Access pop-up window does not load correctly**
  - The Application Access pop-up window is required to direct PACS application traffic appropriately within your GRH AAA session. This component requires Sun JRE version 1.5 or later. Some newer versions of JRE may cause problems if not configured correctly. The following configuration changes may help resolve this issue:
    - Open “Java” from the Windows Control Panel
    - On the “General” tab click “Settings” under the “Temporary Internet Files” section
    - Clear the “Keep temporary files on my computer” checkbox and click “OK”
    - On the “Advanced” tab expand the “Java Plug-in” entry in the list (if present) and clear the “Enable the next-generation Java Plug-in” checkbox
    - Restart your browser for the changes to take effect
  
- **I want to access PACS via GRH AAA from a Windows Vista or Windows 7 computer. Why must I disable UAC?**
  - The Application Access window used by GRH AAA for PACS needs to make temporary changes to the Windows hosts file. UAC prevents modifications to this file causing this operation to fail. To turn off UAC:
    - Click **Start**, and then click **Control Panel**.
    - In **Control Panel**, click **User Accounts**.
    - In the **User Accounts** window, click **User Accounts**.
    - In the **User Accounts** tasks window, click **Turn User Account Control on or off** (Windows Vista) or **Change User Account Control settings** (Windows 7).
    - If UAC is currently configured in Admin Approval Mode, the **User Account Control** message appears. Click **Continue**.
    - If using Vista, clear the **Use User Account Control (UAC) to help protect your computer** check box, and then click **OK**. If using Windows 7, move the slider all the way down to the bottom and click **OK**.
    - Click **Restart Now** to apply the change right away, or click **Restart Later** and close the **User Accounts** tasks window.
  
- **Why can't I access GRH PACS from my Mac or Linux computer?**
  - McKesson Horizon Rad Station Distributed is a Windows only application developed by the McKesson Corporation. Unfortunately McKesson does not offer a Mac or Linux version of the software. GRH's underlying remote access technologies support Mac and Linux operating systems, but GRH has no control over the platforms supported by software from the McKesson Corporation.
  
- **Why is GRH PACS so much slower from my home or office than from the hospital?**
  - Connecting to GRH PACS from a home or office computer utilizes an Internet connection and performance is limited by the speed of the Internet connection at that location. Home and business Internet connections typically range in speed from 1 to 10 megabits per second. In contrast computers at GRH are physically connected to the same local network that hosts the PACS system at 1 gigabit (1000 megabits) per second which is 100 to 1000 times the speed of the average Internet connection.