Guide to the Configuration and Use of SFTP Clients for Uploading Digital Treatment Planning Data to IROC RI

The Quality Assurance Review Center has tested two SFTP client programs for submitting digital data to IROC RI. This includes one commercial package (Ipswitch WS FTP Pro), as well as the command-line sftp program (OpenSSH) in Linux. Procedures for configuring these programs to submit data are outlined below.

Other client programs may also support upload of data to IROC RI as long as they are capable of connecting to the SFTP/SSH2 server (**sFTP.qarc.org**, current IP address **174.67.111.241**) using network port 22. Configuration of these programs will likely be similar to those shown below.

WS FTP Professional (Windows PC)

WS FTP Professional is a commercial FTP client software package, available from Ipswitch, Inc. (http://www.ipswitchft.com/Individual/Products/Ws_Ftp_Pro/Evaluation.aspx). Versions of WS FTP Pro as early as 8.02 are known to support SFTP/SSH2 connections. The example shown below is for WS_FTP 12 Professional 2009.
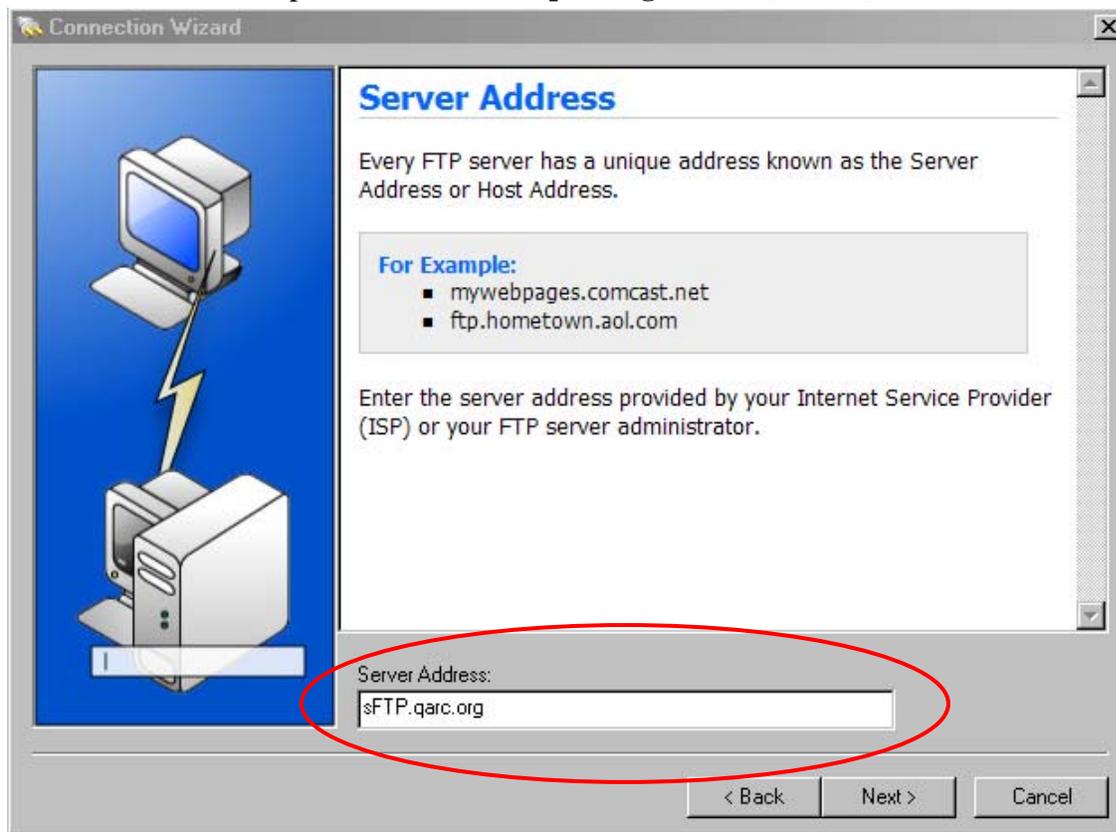
Once it is installed, start up WS FTP Pro and click on "Connect" to open the Remote Host menu. Click on "Create Site…", enter a Site Name, and click [Next >]. The Site Name is how to identify the Site, it can be IROC RI, the username (qarc-xxx), etc.
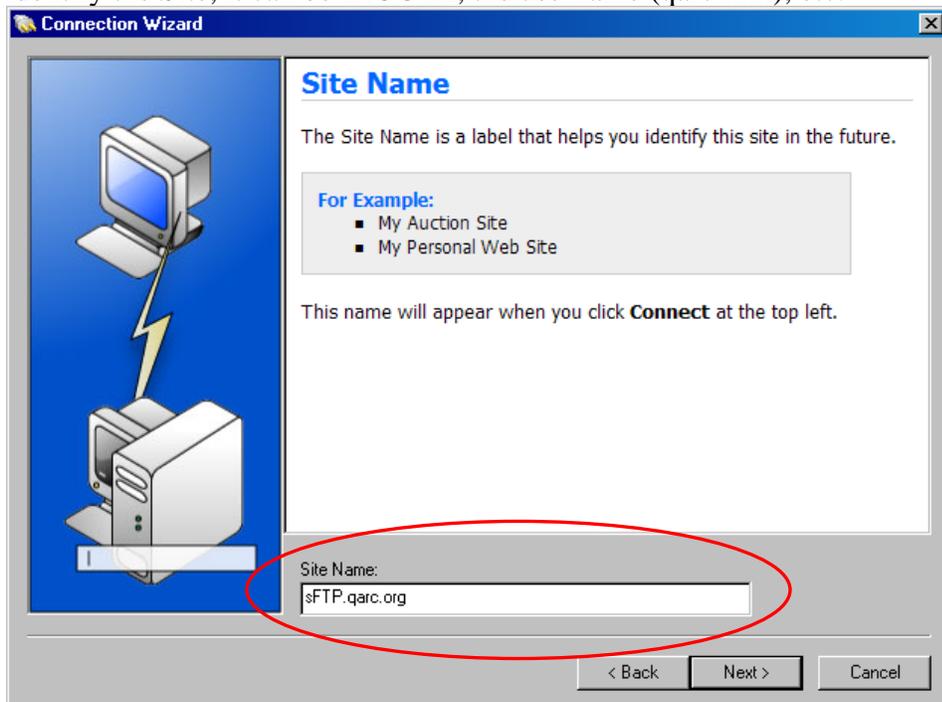
In the Connection Type dialog, select "SFTP/SSH". Click [Next>].

In the Server Address panel, enter "**sFTP.qarc.org**". Click [Next >].

Enter your login credentials, including your User ID (begins with "**qarc-**") and assigned password. Click [Next >].

You should now be able to login to the SFTP server using the profile you have just configured. When you connect to the server for the first time, you will be asked whether you wish to accept the server's host key. Click "Trust this key" and [OK] to accept the IROC RI ftpatc server host key.

You should see window similar to the one below with your local file system on the left side and the remote (IROC RI SFTP server) directory on the right. Note that you are logged in to your private home directory (/) on the SFTP server. You will only be able to modify files within your own **incoming** directory.
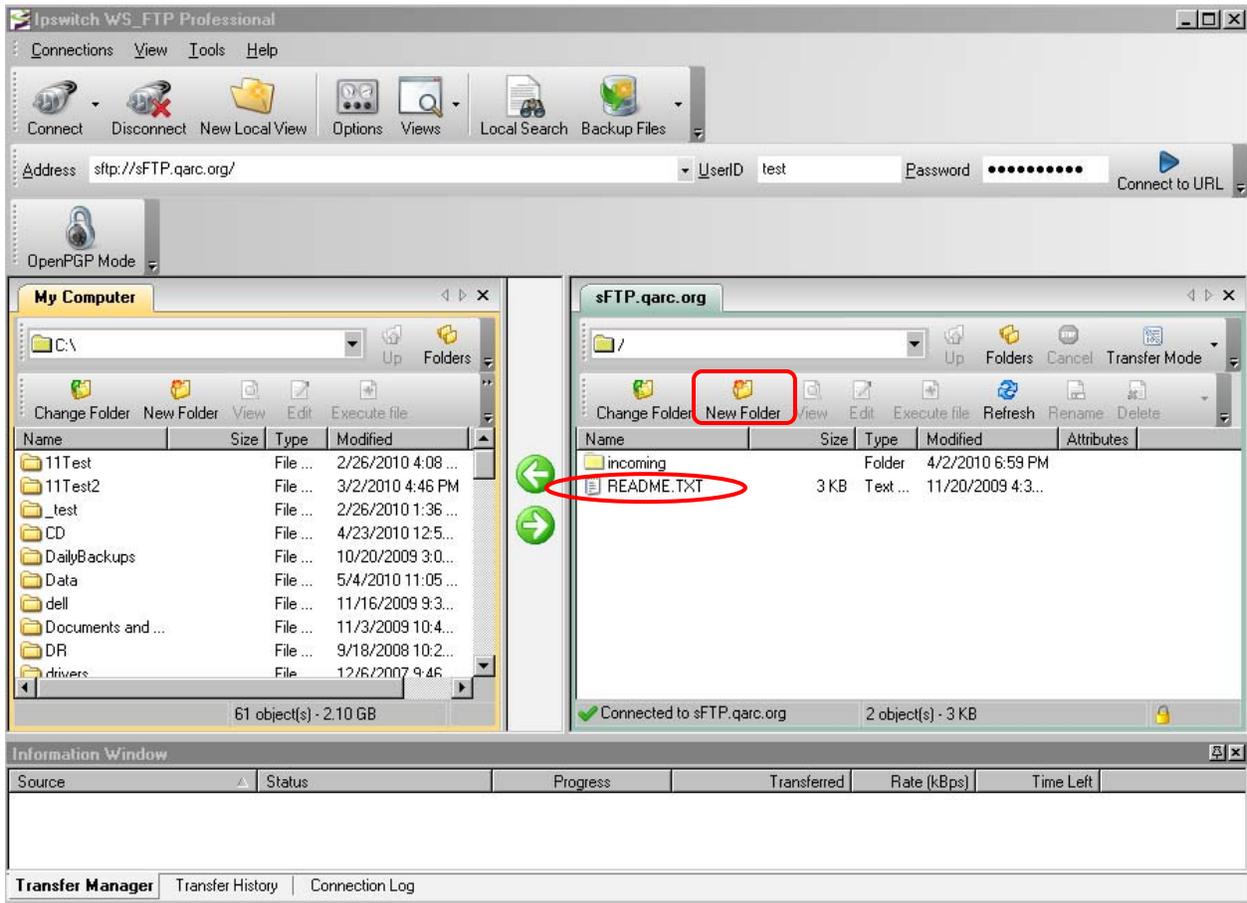
Double-click on the **incoming** directory icon to enter the /incoming directory. Click on the "**New Folder**" icon on the right-hand side and enter a directory name to create a new directory in which to upload data; enter a descriptive name for this directory. (Please use only alphanumeric characters, "_", and "-" and avoid using spaces in the directory name.) Click OK to create the directory. Double-click the newly-created directory icon to enter this directory.

Navigate to the local directory containing the data files to be uploaded on the left-hand "Local Site:" window. Use the right arrow in the middle to upload selected files from the local directory (left side) to the IROC RI server (right side) Check the status window (bottom) to note the status of file transfers. Select File →Disconnect to logout.

Please remember to send an email to sFTP@QARC.org announcing your upload when your transfer is complete.

Command-line sftp (Linux)

A command-line sftp program (OpenSSH) is included with most Linux distributions. An
example of uploading all *.dcm files from a directory named data is shown below.

1. The **cd data** command is used to enter the user's local data directory.
2. A connection to the SFTP server is opened using
    sftp qarc-inst@sFTP.qarc.org (where **qarc-inst** is the user name of your
    regular FTP account. (The password of your regular FTP account is entered at the next
    prompt.)
3. The **cd incoming** command is used to enter the user's writable upload directory on the
    SFTP server.
4. A new upload directory is created using the **mkdir** command, and **cd** is used to enter
    the newly created directory.
5. Finally, the **put *.dcm** command is used to start the upload. (Note that, unlike the FTP
    put command, wildcards may be used for **put** in sftp.)
6. The connection is closed using the **quit** command.

```
% cd data
% sftp qarc-inst@sFTP.qarc.org

Connecting to sFTP.qarc.org...

The authenticity of host 'sFTP.qarc.org (174.67.111.241)'
can't be established.RSA key fingerprint is
81:0e:26:07:2c:c2:20:9c:21:b6:5d:c9:80:b1:5e:e2.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'sFTP.qarc.org' (RSA) to the
list of known hosts.
qarc-inst@sFTP.qarc.org's password:
sftp> cd incoming
sftp> mkdir TEST_Feb_22_2007
sftp> cd TEST_Feb_22_2007
sftp> put *.dcm
Uploading CT020001.dcm to
/incoming/TEST_Feb_06_2006/CT020001.dcm
CT020001.dcm
CT020001.dcm
100%  513KB 843.2KB/s   00:00
Uploading CT20002.dcm to /incoming/TEST_Feb_06_2006/CT20002.dcm
CT020002.dcm
CT020002.dcm
100%  513KB 753.9KB/s   00:00
sftp> ls
.
..
CT020001.dcm
CT020002.dcm
sftp> quit
%
```

More complete instructions for using this program are found in the Linux SFTP manual page. Please remember to send an email to sFTP@QARC.org announcing your upload when your transfer is complete.