## SAS PC Connect through a Tunnel Connection

Problem: When SAS PC Connect jobs are executed within the University, the University's firewall disconnects the WRDS connection after about 2 hours because the connection is assumed to be "idle". If you have a job that takes more than 2 hours to run, follow the below steps.

- 1) Open SSH Secure Shell. SSH is installed in every computer within Fisher. If you don't have it, download it from <u>http://osusls.osu.edu/upgrades/stg2wnx.html</u>
- 2) Add a new profile (name it "wrds tunnel").
- 3) Edit the wrds tunnel profile.



4) Click on the "connection" tab and enter the host name as wrds.wharton.upenn.edu. And enter your wrds username in the User Name box.

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Profiles	
Duck Connect Profiles Friber Bither Divide tunnel	Colors       Turneling       File Transfer       Pavorte Folders       C         Connection       Opher List       Authentication       Keyboard         Configure protocol settings for the connection. New settings will take effect       Specify "as the host name or the user name to be prompted for the reformation when the profile is chosen for connecting.         Host name:       Image: Wrds.whaton.upenn.edu       User name:         Port number:       22         Encryption algorithm:       Opfeuit>       T28         MAC algorithm:       Opfeuit>       Image: Imag
	OK Cancel

5) Click next on the "tunneling" tab



- 6) Then fill in the following:
  - a. Display name = sas
  - b. Listen Port = 4016
  - c. Destination host = wrds.wharton.upenn.edu
  - d. Destination Port =4016

- 🛃 Quick Connect - 🦲 Profiles	Connection Cipher List Colors Tunneling	Authentication	Keyboard
defaultstp     d	Configure secure outgoing tunnels to the server. Communication will b and the server, but insecure beyon The settings will take effect upon n	e secured between the id the server.	ie local compute local computer
Edit Ou	Itgoing Tunnel	×	
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Type:	TCP		
Listen Port	4016	ОК	
	Allow Local Connections Only	Cancel	
Destination	Host: wrds.wharton.upenn.edu		>
Destination	Port: 4016	Help	Remove
	X11 tunneling		
	Enable secure tunneling for X11 has to be also running in passive		
	Tunnel X11 connections		

7) Connect to Wrds using this new "wrds tunnel" profile. Then run your job on SAS using this code:

```
%let wrds = localhost 4016;
options comamid=TCP remote=WRDS;
signon username=_prompt_;
rsubmit;
/*JOB CODE HERE*/
endrsubmit;
```

The only difference from the PC Connect code is that wrds.wharton.upenn.edu is replaced with localhost. This causes SAS to search the PC for open connections, and since there is already one open connection to WRDS through the SSH tunnel, the job is sent through that tunnel. This tunnel will be kept open as long as the SSH window is kept open—it doesn't matter if the auto-logout message appears at the SSH prompt.

The added benefit from using a tunnel connection rather than the usual "wrds.wharton.." connection is that the tunnel connection is encrypted.