Appendix C: Networking your Computers

The ideal setup when running your meet is to have three computers networked together: the capture computer, the playback computer and the scoring computer. The operator of each computer is responsible for the following tasks:

- Capture Computer – Reads list of scheduled events from the scoring computer. Captures video of the finish line for the events and saves the video files on the capture's computer hard drive.

- Playback Computer –Retrieves video from the capture computer and a list of race participants from the scoring computer, reviews the video, determines the athlete's times and saves the results on the scoring computer.

- Scoring Computer – Saves the list of events and heat sheets from your meet management software, retrieves the time results and scores the event.

The computers must be networked together and folders must be set for sharing to enable the above tasks.

Follow these steps to network your computers and share files.
1. Set the IP addresses.
2. Assign computers to the same workgroup.
3. Plug the computers into the network switch or router.
4. Reboot the computers.
5. Turn off firewalls.
6. Set folders for sharing.

Set the Computers' IP Addresses

The computers IP Addresses must be set appropriately if they are to recognize each other on the network. You can use either a network router or a simple switch when networking your computers. The advantage of a router is that it automatically assigns the IP address for you. You have to manually set the IP address of each computer when using a switch.

Follow these steps to set the IP address, regardless if you are using a router or a switch. If you are using a crossover cable to connect two computers, follow the instructions for a network switch.

XP Home, XP Professional, Vista
1. Click on the Windows **Start** menu.
2. Click on **Control Panel.** This displays the Control Panel window.
   XP Home Users: If the Control Panel Windows has the title "Select a category", click on **Switch to Classic View** in the left panel.

3. *XP Home and XP Professional Users*: Click on **Network Connection**. This brings up the Network Connection Window.

Vista Users: Click on **Network and Sharing Center**. This brings up the Network and Sharing Window. Then click on **Manage Network Connection** in the left panel.

4. **Right click** on **Local Area Connection** and then **Properties**.
5. In the General Tab, click the box labeled **File and Printer Sharing for Microsoft Networks** if it is not checked. This enables you to share files on the network.
6. *XP Users*: Select **Internet Protocol (TCP/IP)** in the scrollable list.
   Vista Users: Select **Internet Protocol Version 4 (TCP/IPv4)** in the scrollable list.

7. Click on the **Properties** button.
8. If you are using a router, click on **Obtain an IP address automatically**, and then **OK**. If you are using a switch:
   a. Click on **Use the following IP address**.
   b. Enter **192.168.0.1** for the **IP Address** on first computer.
   c. Enter and **255.255.255.0** for the **Subnet mask**.
   d. You can ignore the other fields. Click Okay.
   e. Repeat these steps on each computer, incrementing the IP address. Assign the second computer an IP address of 192.168.0.2. If you are using a third computer, set the IP address to be 192.168.0.3.

Win7 Users:

1. Click **Start Button** go to **Control Panel.**
2. Click on **Network and Sharing Center .**
3. Click on **Change Adapter Settings** on left side then Rt Click **Local Area Connection** then click **Properties**.
4. Select **Internet Protocol Version 4 (TCP/IPv4)** in the scrollable list.
5. Click on the **Properties** button.
6. If you are using a router, click on **Obtain an IP address automatically**, and then **OK**. If you are using a switch:
   a. Click on **Use the following IP address**.
   b. Enter **192.168.0.1** for the **IP Address** on first computer.
   c. Enter and **255.255.255.0** for the **Subnet mask**.
   d. You can ignore the other fields. Click Okay.
   e. Repeat these steps on each computer, incrementing the IP address. Assign the second computer an IP address of 192.168.0.2. If you are using a third computer, set the IP address to be 192.168.0.3.

There is a red X next to Local Area Connection in the Network Connection Window if you are not connected to the network router or switch. This disappears once you connect to the switch or router. A yellow exclamation mark indicates that the IP address is incorrect. Both these symbols disappear once all of your computer IP addresses have been set and you restarted the computer. We suggest that you reboot after you assign all computers to the same workgroup (steps are below).

7.16 Assign all Computers to the same Workgroup or Homegroup (Win 7)

Assigning computers to the same workgroup makes it easier to share and locate folders on a network. First, decide on a workgroup name for your network, then for each computer on the network:

XP Users

1. Right click on **My Computer**. **My Computer** can be found in the Windows start menu and sometimes on the desktop.
2. Click **Properties**.
3. Click on the **Computer Name** tab in the System Properties dialog –
4. Note the full computer name. You need to identify the computer by this name.
5. If the Workgroup Names of your computers are different, click on **Change...** and make the Workgroup Name the same on all computers. You can also change the computer name. Click OK.

Vista Users ands Window7 when connecting with non Window7 computers

1. Right click on **Computer**. **Computer** can be found in the Windows start menu and sometimes on the desktop.
2. Click **Properties**.
3. Note the full computer name for both the Capture and Playback Computer.
4. If the Workgroup Names of your computers are different, click on **Change...** and make the Workgroup Name the same on both computers. You can also change the computer name. Click OK.

Windows 7 – Create a Homegroup if all computers are Windows 7

1. Click **Start Button** then select **Control Panel** and in the Control Panel select **Network and Sharing Center**
2. **Choose Homegroup sharing options** then **Create a homegroup.** Check share **Documents** box**.** You will receive a password that you use to connect all of the computers using this Homegroup.
3. Go to the other machines repeat the process and use the Homegroup password.

All Users

You need to reboot the computer for the name change to take effect. Before you reboot, connect the computer to the network switch or router with an Ethernet cable. After you reboot, turn off your firewall and set the captured videos and the meet management data folders for sharing.

7.17 Turn off all firewalls and virus checkers.

Firewalls and virus checkers may interfere with a networked computers ability to access shared folders. XP users should turn off the firewall, or set them in such a way that allows

the networked computers to access the shared folders. Vista and Windows 7 users should set their network location type to private (Instructions are listed under the section, "Set Folders for Sharing"). To turn off the Windows Firewall:

1. Click on the Windows **Start** menu.
2. Click on **Control Panel.** This displays the Control Panel window.
3. If the Control Panel Windows has the title "Select a category", click on **Switch to Classic View** in the left panel.
4. Click on **Windows Firewall**.
5. Click on **Off** and then **OK**.

Your anti-virus software, such as Norton or McAfee, may have a separate firewall. Be sure that any firewall and virus checking is turned off.

You should restore your firewalls and anti-virus settings after the meet.

Setting Computers for Sharing

XP Professional Users

Enable Simple File Sharing. This facilitates setting up folder shares on computers running XP Professional. Simple File Sharing (SFS) is always enabled and cannot be disabled in Windows XP Home Edition. The following set of steps can be skipped by XP Home Users.

1. Open **My Computer** from the Start Menu or Windows XP Desktop. A new My Computer window appears.
2. Open the **Tools** menu and choose the **"Folder Options..."** option from this menu. A new Folder Options window appears.
3. Click on the **View** tab and locate the **"Use Simple File Sharing** (Recommended)" checkbox in the list of Advanced Settings. It should be located near or at the bottom of the list.
4. To enable **Simple File Sharing**, ensure this checkbox is checked.
5. Click **OK** to close the Folder Options window. The settings for Simple File Sharing are now updated; no computer reboot is required.

Tips:

1. Enabling Simple File Sharing prevents the ability to assign user-level passwords to shares. When Simple File Sharing is enabled on a computer, remote users are not prompted for a password when accessing that computer's shares.
2. If the Windows XP Professional computer is part of a Windows domain rather than a Windows workgroup, this process for enabling or disabling Simple File Sharing has no effect. Simple File Sharing always remains disabled for computers joined to domains.

Vista Users

To enable file sharing, do the following:

1. In the **Sharing and Discovery** section of the **Network and Sharing Center** window, click the down arrow next to **File sharing**.

2. Within the **File sharing** settings, click **Turn on file sharing**, and then click **Apply**.

To disable password protected sharing, do the following:

1. In the **Sharing and Discovery** section of the **Network and Sharing Center** window, click the down arrow next to **Password protected sharing**.
2. Within the **Password protected sharing** settings, click **Turn off password protected sharing**, and then click **Apply**.

When you disable password protected sharing, the computer sharing the folder does not require a user account or password. Anyone on your network can access the shared folders of the computer (provided the folder was shared for the Guest or Everyone account). This behavior is equivalent to simple file sharing in Windows XP.

Next, set both the captured video folder on the capture computer and the meet management data folder to sharing. To set a folder for sharing:

1. Open **Computer** and navigate to the folder to be shared.
2. Right click on the folder.
3. Select **Share** from the drop down menu. The File Sharing Window is displayed.
4. Click the arrow in the drop down menu and select **Everyone.**
5. Click Add and Everyone is added to the list of users.
6. To allow other users to change files or folders or create new files or folders, select **Co- owner** as the permission level. You'll need to do this for the meet management data folder.
7. Click **Share**. The folder icon should now display the share symbol (two people on top of the folder icon.

Window 7 Users

1. Click **Start Button** then select **Control Panel** and in the Control Panel select **Network and Sharing Center.**
2. Under: **View your active networks**: You will see **Home,Work**, or **Public network** in blue print, click the word and you will have 3 choices, choose **Home network** then Check Documents then **Next**. This will also create a Homegroup.
3. **Change advanced sharing settings**: (Left Side panel)
4. **Home or Work (current profile) turn on**
    a. **Turn on network discovery**
    b. **Turn on file and print sharing**
    c. **Turn on Public sharing folder**
    d. **Media Streaming-Leave alone**
    e. **File sharing connections-Use 128 bit encryption**
    f. **Password protected sharing-Turn off**   If you turn this on you will have to enter the User (formatted as: *Computer Name\User*) and the password when you map to the folder or try to access it.
    g. If the computers have different operating systems you can use the same setting or **Use user accounts and passwords to connect to other computers.** If you use this setting you will have to enter the User (*ComputerName\User*) and the password when you access

folders and shared drives.

    h. Click **Save Changes**

7.18 Set Folders/Files for Sharing

You must set your video capture folder for sharing if you are reviewing videos on a separate computer than that on which you are capturing videos. If you are scoring on a separate computer, then your meet management folder must also be set for sharing. You must also enable others to write to the folder if you are reviewing videos on one computer and scoring on another.

XP Home and Professional Users

Set both the captured video folder on the capture computer and the meet management data folder to sharing. To set a folder for sharing:

1. Open **My Computer** and navigate to the folder to be shared.
2. Right click on the folder.
3. Select **Sharing and Security** from the drop down menu.
4. Check the box marked **Share this folder on the network**. If this box is not available, it's an indication that you are not on a network.
5. If you are sharing the meet management data folder, click on the box labeled **Allow network users to change my files.**
6. Click **OK**.

The folder icon should include the share symbol (a hand under the folder.)

Vista Users

Vista users need to set the network location type and enable file sharing. The network location type in Windows Vista is a setting that allows Windows Vista to automatically configure security and other settings based on the type of network to which the computer is connected. You want to set the type to Private. This is for computers connected to a network that has some level of protection from the Internet and contains known or trusted computers.

To view the current network location type, do the following,

1. Click the Windows **Start Button.**
2. Right-click **Network**.
3. Click **Properties**. This displays the **Network and Sharing Center** window. The Network Location Type is displayed in parentheses after the network name. If your network type not set to Private, do the following:
   1. Click **Customize** to the right of the network name and location type.
   2. In the **Set Network Location** dialog box, click **Private**, and then click **Next**.
   3. In the **Successfully set network settings** dialog box, click **Close**.

By changing your network location type to private, network discovery is automatically enabled in the **Sharing and Discovery** section of the **Network and Sharing Center** window. The following additional file and printer sharing options must be manually set: *Enable File Sharing* and *Disable Password protected sharing*

Windows 7 Users: Sharing Folders/Files

1. Right Click **Start Button.**
2. Choose **Open Windows Explorer.**
3. Click on the **C: Drive.**
4. Right Click the **Folder/File** you wish to share or create a new folder.
5. **Share With** choose **Specific People.**
6. Click on the pull down arrow and elect **Add Everyone** then click **Add.**
7.   **Everyone** will appear in the bottom window click on the Read arrow and change to **Read/Write.**
8. Click **Share** then **Done.**

7.19 Map the Shared Folder to a Drive

This step makes it easy to find the capture and meet management folders on another computer, especially with XP. On the capture computer, map a drive to the meet management folder on the scoring computer. On the playback computer, map a drive to the both the meet management folder on the scoring computer and the captured videos folder on the capture computer.

To map a drive:

1. Click on the Window Start menu and then right click **(My) Computer**.
2. Select **Map Network Drive...** in the drop down menu. This opens the Map Network Drive window.
3. Select a drive letter, or note the letter selected.
4. Browse to the computer containing the folder.
a. *On XP*, you can find the computer under "My Network Places\Entire Network\Microsoft Windows Network\<Workgroup Name>".

b. *On Vista/Win7* you can find the computer name under "Network".

5. Locate the folder and select **OK**.
6. Click **Finish** in the Map Network Drive Window.

You can now find the folder listed as drive letter under **My Computer** (**Computer** for VISTA/Win 7). Open **My Computer** (**Computer**) to verify.

You should disconnect the drive when the meet is finished. Open **My Computer** (**Computer**) and right click on the drive/shared folder. Click **Disconnect**.