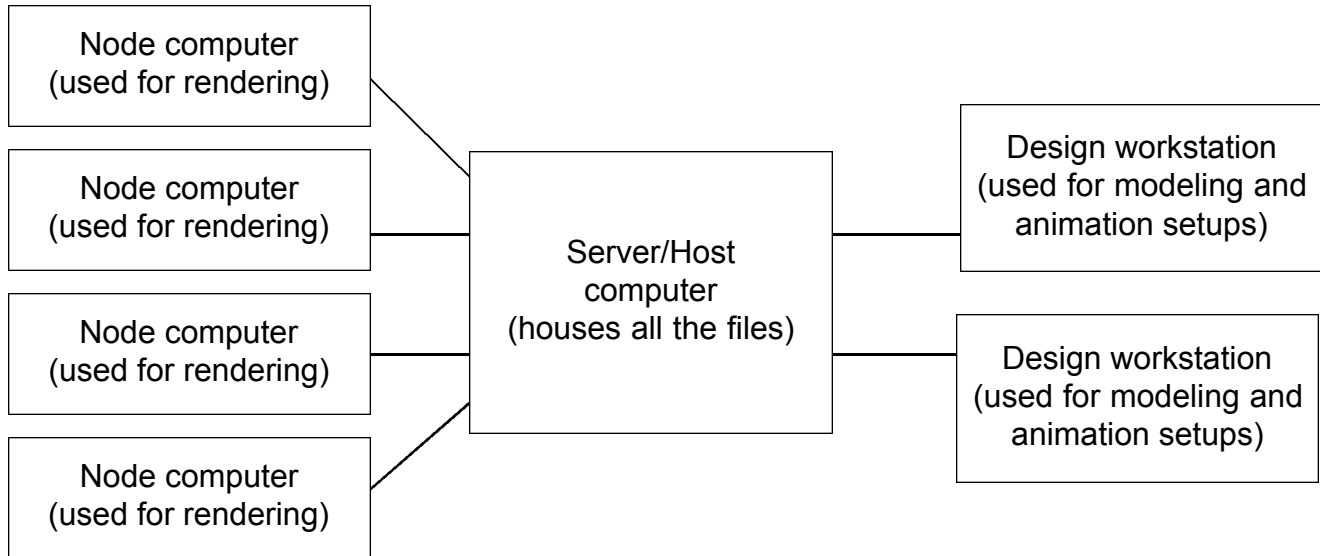


Network Rendering on Macintosh with ScreamerNet Mode 3

The Farm

Before we go delving into the wonderful world of network rendering, let's talk about how the network actually works. First and foremost, you have a server which hosts not only the rendering, but for convenience purposes, the source files. Network usage is all about linked files, and consequently all about the paths that attach those files. Below is a diagram of a typical Network render environment:



The server holds all the files to which the modelers, riggers and animators use to create models and scenes, and since the node computers are also pulling data to render frames, organization of the files is key. This document will take you through the process of getting organized, setting up your LightWave scenes to render on a network using ScreamerNet 2, and finally rendering the frames on the node computers.

A lot of thought was given to try to make this process as painless as possible because network rendering can become confusing at times. The biggest thing to remember is to stay organized and check your paths.

Getting Organized

If you've ever accidentally written over a file you know how important this aspect is.

Following these instructions will help you benefit from your network:

ON YOUR SERVER (if you don't have a server it's ok, you can use your workstation as the host)-

1. **Make sure you have a copy of LightWave 6.5 on your server.** You will not need to use the program, but the paths to the plug ins and the preferences that LightWave uses are critical to proper rendering on the server. I suggest a full install. Launch the layout program, and load all the plug-ins. Then quit out of it and give the dongle back to your CG designer before things get ugly.
2. **Procure a copy of LWSN controller.** It's free on the net. Make sure you get the English version.
3. **Create a project folder** named with the name of your project, and include subfolders. Don't use spaces as much as possible. follow this example:

LordofRingsPT1	Name the project folder (without spaces).
frames	The frames folder will be used to hold your rendered frames.
images	The images folder is where all your textures go.
nodes	The nodes folder holds information that gets used by the node computers.
objects	The objects folder holds your project models.
scenes	The scenes folder holds the the project's scenes.
worker	The worker folder holds all your test files, texture and object builds, audio clips, etc. Its basically the folder for all your work up stuff.

Initiating an organization practice, even in the middle of a project, can help keep things as streamlined as possible.

4. Create a folder in the Nodes folder called Node1, and copy the following contents into it :

LWSN application (located in the Newtek:Programs folder)

LWSN Controller application

All the library extensions located in the NewTek:Programs folder

lw_err.enu file (located in the Newtek:Programs folder)

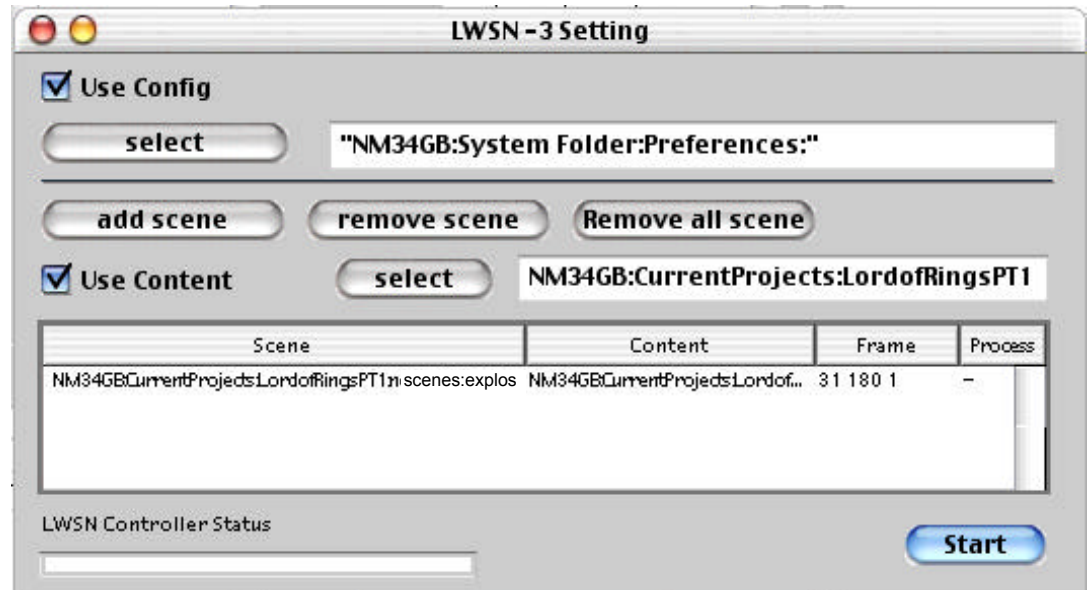
It should look like this:



Get info (command-i) on the LWSN application and set it 's memory to at least 64MB. Set the LWSN Controller's memory usage to about 4MB

5. Launch the LWSN Controller and follow the example below, substituting your server drive and project folder names. MAKE SURE TO USE QUOTES IN THE CONFIG PATH. LWSN doesn't understand spaces unless you quote the path.

Select 'Add Scene' to add your scene file to the bottom box..



6. Quit the LWSN Controller to save the preferences. Copy the file called LWSN Controller Prefs from the server's System Folder:Preferences folder into the Node1 folder. Doing this will help direct your node computers to the right prefs file.

7. Duplicate the Node1 folder for as many node computers that you plan to run on, renaming them Node2, Node3, etc..

8. Share the server/host drive. Assuming that you are not using AppleShare/IP, go to the Apple Menu:Control Panels:File Sharing and enable file sharing. This control panel has areas where you can enable drive read/write privileges and add users. Make sure you set the privileges to the drive so that the nodes can see and use the host. I suggest creating a user called LWSN with blank password access. This makes it easy to get to the server when you connect the nodes.

YOUR WORKSTATIONS AND NODES CAN NOW SEE AND USE THE SERVER/HOST.

On a workstation or node computer, go to Apple Menu:Chooser and click on the AppleShare icon in the left box, then select the server in the right box (assuming you only have one zone). Type your user name (LWSN,etc) at the dialog box and mount the drive to your desktop.

Setting up Scene files for Rendering

Lets face it, LightWave is an expensive program. So why would someone use it just to administer rendering? There is a better way and its called mode 3. Mode 3 rendering allows the use of the LWSN application (included in the LightWave package) to handle the rendering work. No Layout app or dongle is needed. The trade off if that this is not true distributed rendering. In other words, you can't fire up a scene to render on 10 computers, having them all share the frame load. You have to break the scene up into segments, then let each computer handle them individually. This might seem like a lot more setup (and it kind of is), but the advantage of efficient network traffic and the free use of LightWave more than makes up for the inconvenience.

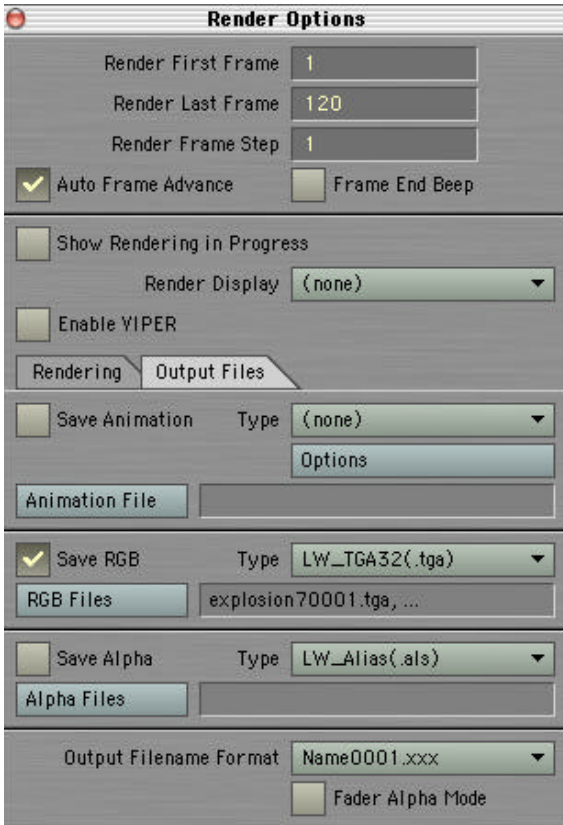
ON YOUR DESIGN WORKSTATION (IN LIGHTWAVE LAYOUT)

This configuration assumes that your designers are using the above specified project folders on the server.

THIS IS IMPORTANT. You are setting paths for your projects as you work on them. These are the same paths that the nodes will use to render the scenes. **USE ONLY FILES LOCATED ON THE SERVER.**

1. When you've got your scene where you want it, save it in your scenes folder on the server. Make sure that your Content Directory (Display>General Options) is set to your project folder (i.e.:LordofRingsPT1).

2. Go to Rendering>Render Options and set the output files (i.e.: targa) to be saved in the project's frames folder on the server. See the example below:



This is an example of the first sequence segment. The node will render targas of frames 1-120, and save them to the project's frames folder. All the nodes will save the files there. This frameset, titled explosion7, gets named the same for every node. LightWave adds the frame number to the end of the rendered frame so you never have to worry about overwriting a frame from another node.

Now lets start rendering frames!

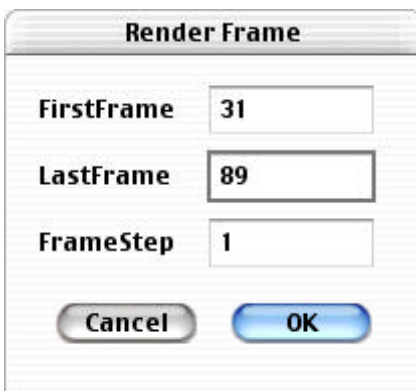
Setting up the Node Computers

Most of the work has already been done. Follow these simple steps: **ON EACH NODE COMPUTER**

Assuming the the server is mounted on the node computer's desktop (see page2),

- 1. Open the folder for the designated node.** If you are calling the first computer Node1, open the Node1 folder from inside your project's Nodes folder.
- 2. Drag the LWSN Controler Pref to the node's System Folder:Preferences folder.**
- 3. Launch LWSN Controller from the Node folder you just opened.**
- 4. Double click on the scene listed in the bottom window and enter the frame segment that you want to render.** Each node computer should render a different segment of the scene (i.e: node01 renders frames 1-30, node02 renders frames 31-90, node03 renders frames 91-120, etc.). See the the example below.

5. Repeat steps 1-4 for each node on your network.



The process of using a Mac network effectively and efficiently for rendering LightWave scene files has but a few options. This config has proven effective for my project applications. I hope it works well for you, too.

Until Mac StealthNet, this seems to do just fine.

Special thanks to Julian Johnson and to D-Storm (the creators of LWSN Controller) for making this process work well.