# Autodesk Backburner 2013 Setup

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## What is Backburner?

Backburner  is a free software that comes with 3ds Max that allows you to render either animations or single renderings across a network.  It allows you to take advantage of the CPU power of many PC's on your network to accomplish the task of rendering a single image or many images.  A user can render an image by automatically breaking it up into smaller parts and divvying up the work to many PC's to work on instead of just one.

## Why do I need this?

A small animation at HD quality can take a very long time to render.  A typical HD rendered frame may be 1280x720 resolution, an may take from a few minutes to several hours to render but since every second of animation requires 30 frames (ie. 30 fps) you can see that when you multiply the rendered frame time by 30 for each second of animation the time it takes to render the complete animation increases very fast.  Just as a single high resolution still image may require 5000x4000 pixels and take a single PC 8 hours or more to render.  By dividing up the image or animation you can considerably cut down the overall time it takes to render.  You can also load up the render queue with alternate views, materials, or multiple render passes.  You can also render to this using other Autodesk products like Maya, and composite, etc.  Presently Autodesk Cloud has restricted 3ds Max users from rendering directly to the Autodesk cloud for free, although there are several other Cloud rendering services available just not for free.

## Overview of how it works:

Backburner consists of the Backburner Manager, Backburner Monitor, and Backburner Servers (or render nodes).

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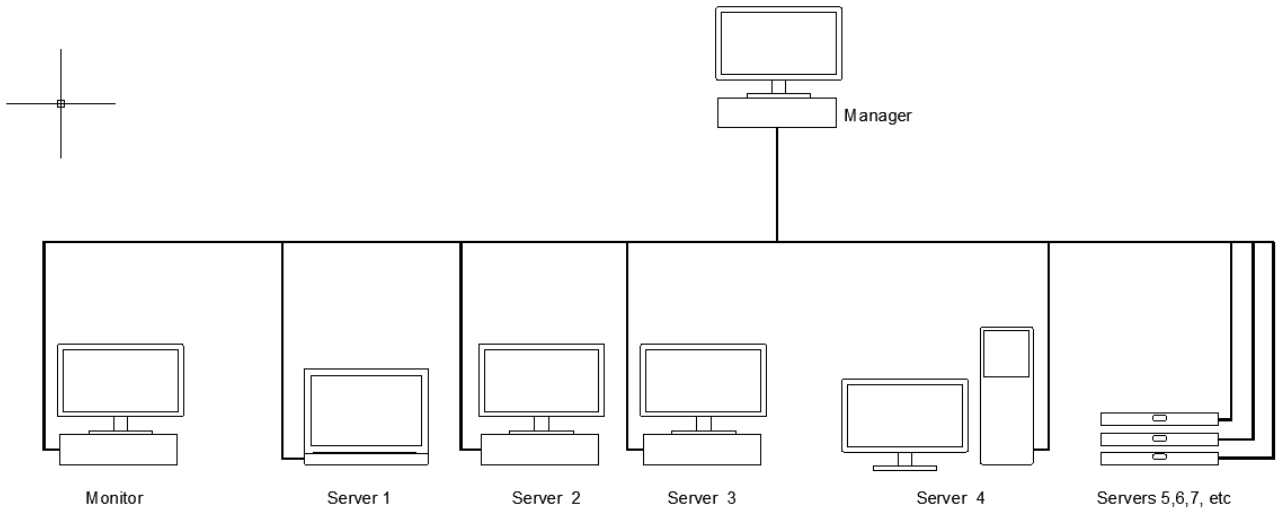


## Backburner Manager:

A small executable program that runs on a PC on the network, it can be run on any PC on the network including a render node, although it's not advised. This software receives render jobs from the client, which it then distributes to the render nodes on the network. The Backburner Manager maintains status information about its network of Backburner servers. It also maintains a database of submitted, active, and completed jobs. If a render node (server) fails it also will redirect the failed servers' job to another available server.

## Backburner Monitor:

A small program that can be run on any PC on the network to see and control the Queue of jobs in the manager. this can be run on any PC on the network and there is also a web based version available.

## Render Nodes:

A Render node is a PC that runs (Backburner server) a network version of 3ds Max, and actually renders a job. Only CPU and RAM are used from this PC, a high-end graphics card is not needed nor is a monitor even needed.

## Network Folders:

You need to setup a common area so all Backburner servers can load the map textures from. You also need a common area that Backburner can write out files to. Setup a Shared network folder to work from on a network drive. There will be 2 main folders the first will be named **Textures**, this will have many sub-directories containing the maps and material libraries. The second folder will be named **Renderoutput, this will be where all network rendered files are written to.** Assign these drive letters **T:** (Textures) and **R:** (Renderoutput), this makes it easier on a network that may be 10 directories deep to not have to use the entire name in each file mapping. Each PC that is running Backburner Server must have Read-Write access to these folders!

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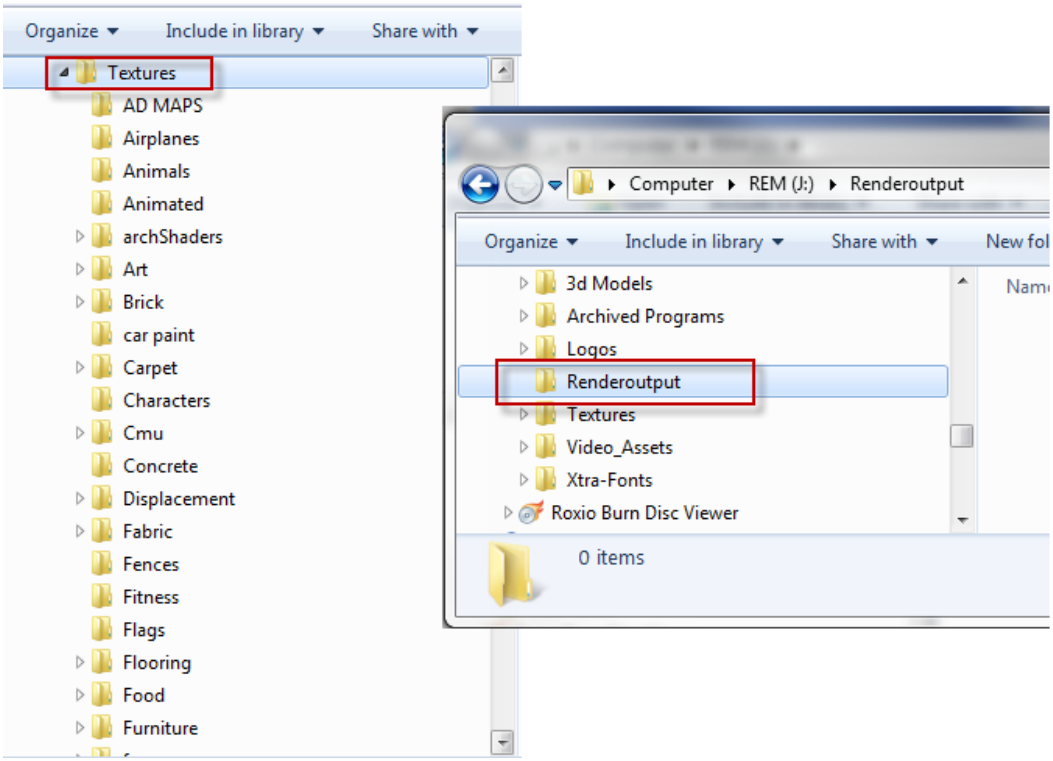
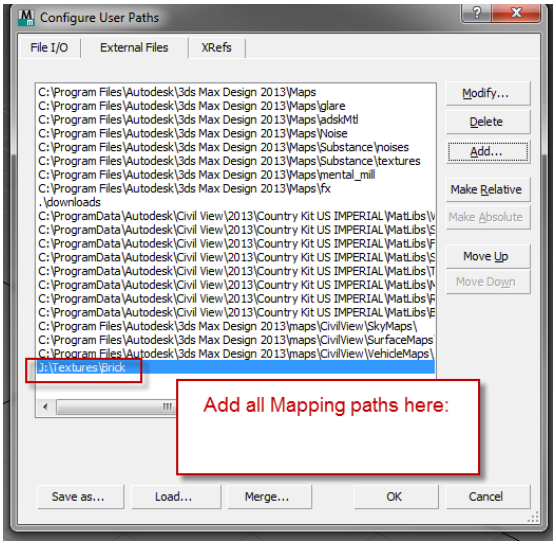



## 3ds MAX Mappings:

In the Materials editor make sure that all materials that are being used are in the shared directories otherwise renderings will fail because they won't be able to find the correct maps. Open up the **Configure User paths** under **Customize** menu and add the paths to the network texture maps so that the map files can be found automatically. A faster way to do this if you have a lot of directories that need to be added to the list is directly type in paths in the 3dsmax.ini file.



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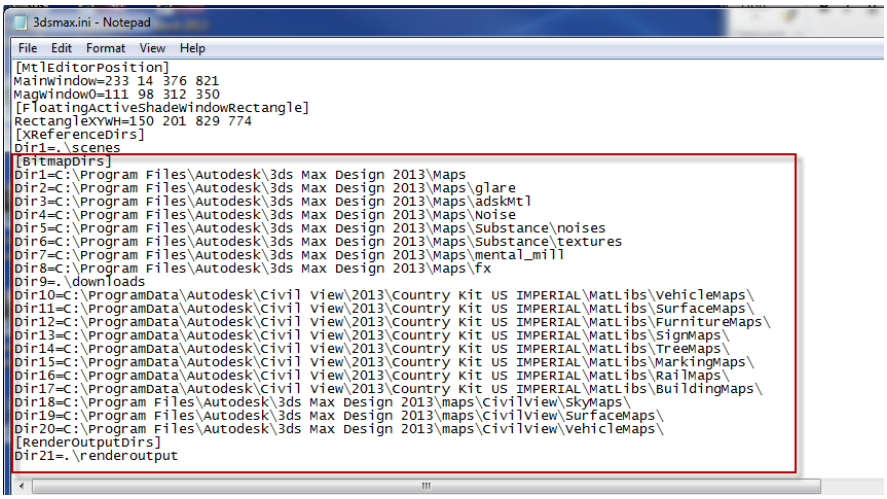
## Configure user paths… menu

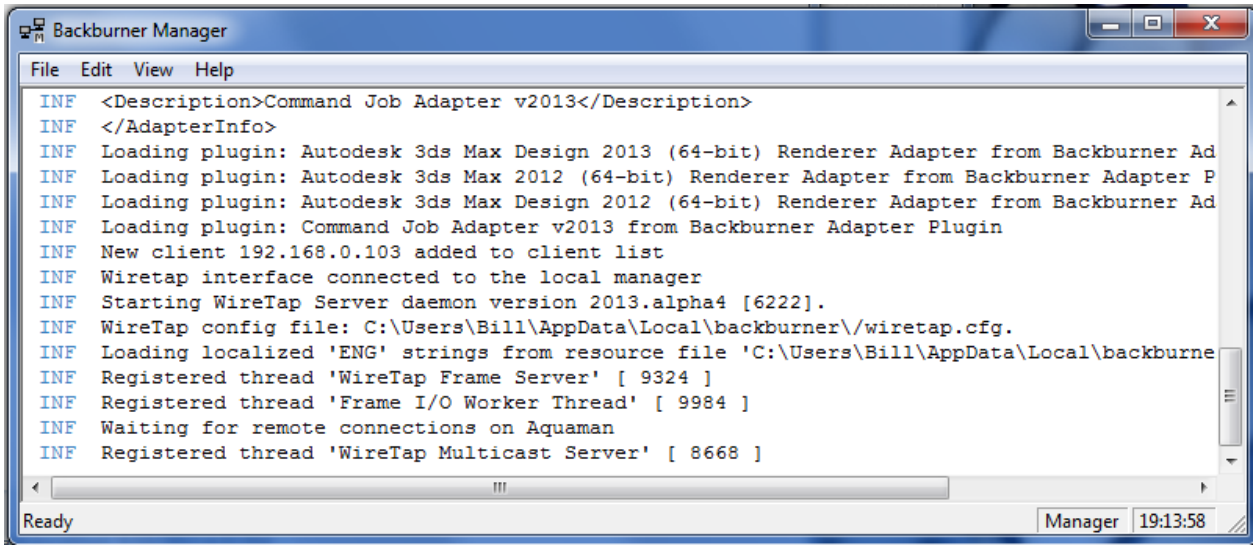



Edit **3dsmax.ini**

## Deployment method:

Standalone or Render Farm. A standalone version can be run in the background while a user can still work in on other programs. However, most renderings use 100% of all the CPU cores (yes, multi-core multi-threaded cores can be utilized).

**Step 1:** On one of the PC's on the network render farm execute the Backburner manager. (Shown Below)




This starts up "Wiretap" in either 32 or 64 bit mode. I recommend using the 64 bit version so you can address more ram at render time. You may run either 32 or 64 bit PC's, but all render nodes must be 64 to be seen by a 64 bit Manager. So all 32 or all 64 PC's (can't mix them), and this of course is dependent on your operating system on each PC.

**Step 2:** On each Render Node you must have the Backburner Server executed. So assuming you have all Windows 7 (64 bit) PC's, execute Backburner server 2013 on each PC. Go to the windows **Start** menu, **All Programs**, **Autodesk, Backburner, Server** (Shown below). Do this for all render nodes.

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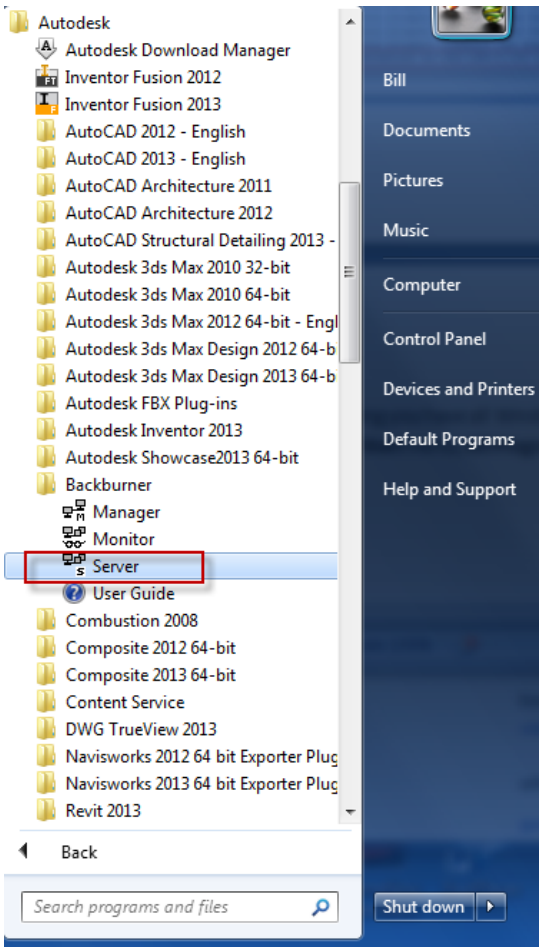
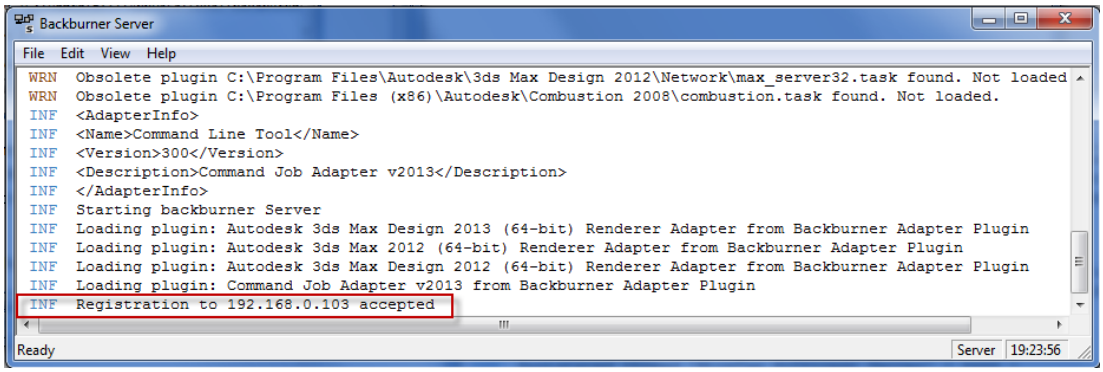



**Note:** All PC's should have the same version of Backburner running on them (in this case 2013). This will bring up the following dialog box. (Shown below). It should say "Registration to ***IP Address*** of the PC running Manager, in this case 192.168.0.103 accepted". This means it found the manager on the network and is ready to receive a render job.



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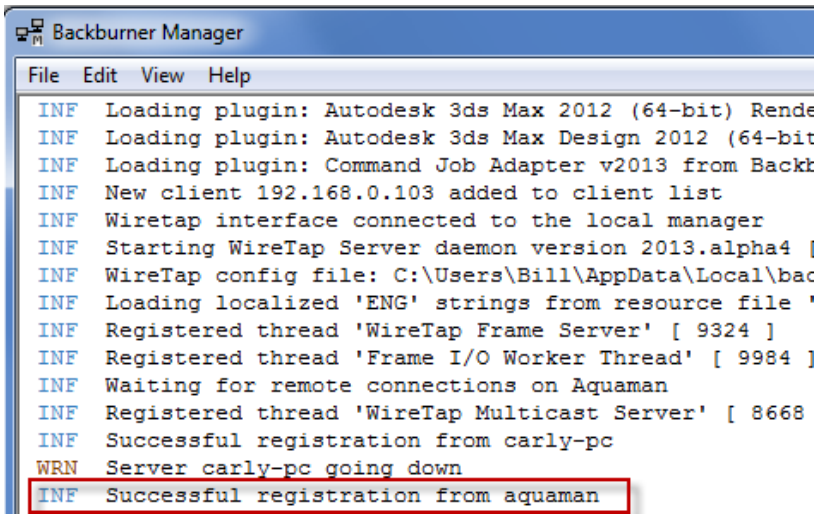
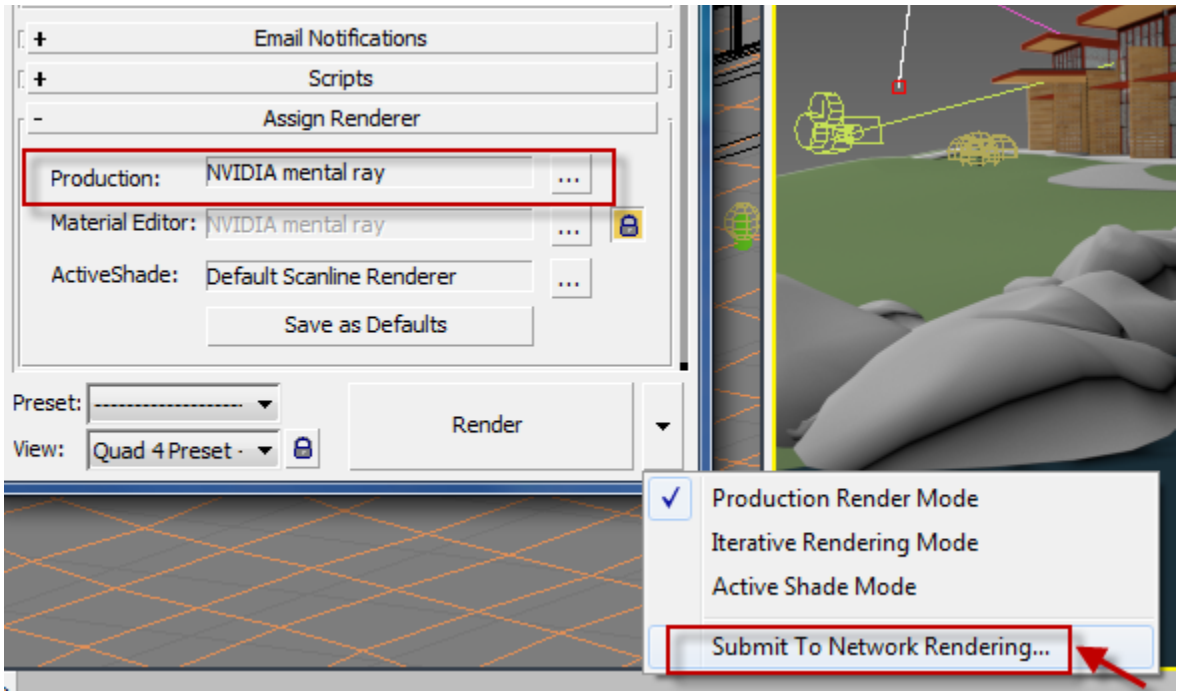
Back on the Manager PC, you should see a message "Successful registration from ***PC name"***, in this case Aquaman. (shown below)




**Step 3:** Call up 3ds Max from one of the PC's and click the **Render** setup button (hotkey = **F10**). (shown below)




Select the Renderer you want to use, in this case "**NVIDIA mental ray**", also click on the arrow button to the Right of the Render button. Select "**Submit to Network Rendering...**".

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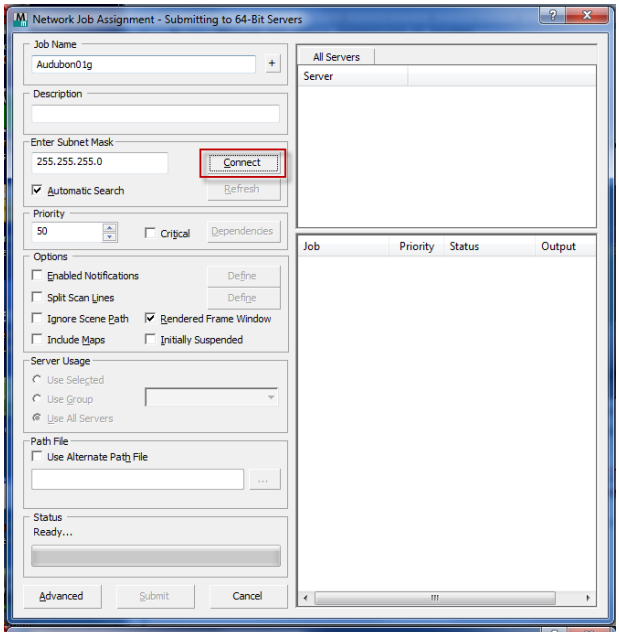
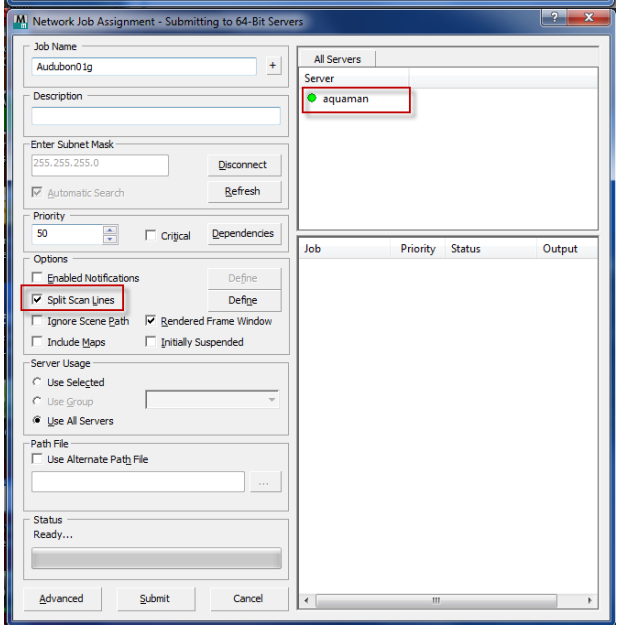
You will then see the following dialog box.  Hit the Connect button, and a list of Servers will pop up. In this case Aquaman is the only server.  If you want to divide up a single frame and send to your render nodes you'll need to select "Split scan lines" option, and define an overlap (shown below: Strips setup)




Click on the **Advanced** button.  There are sever options to set up here but most important is the Submit Job as 64 bit. You can also set the amount of time you are willing to wait for the job to load and render.

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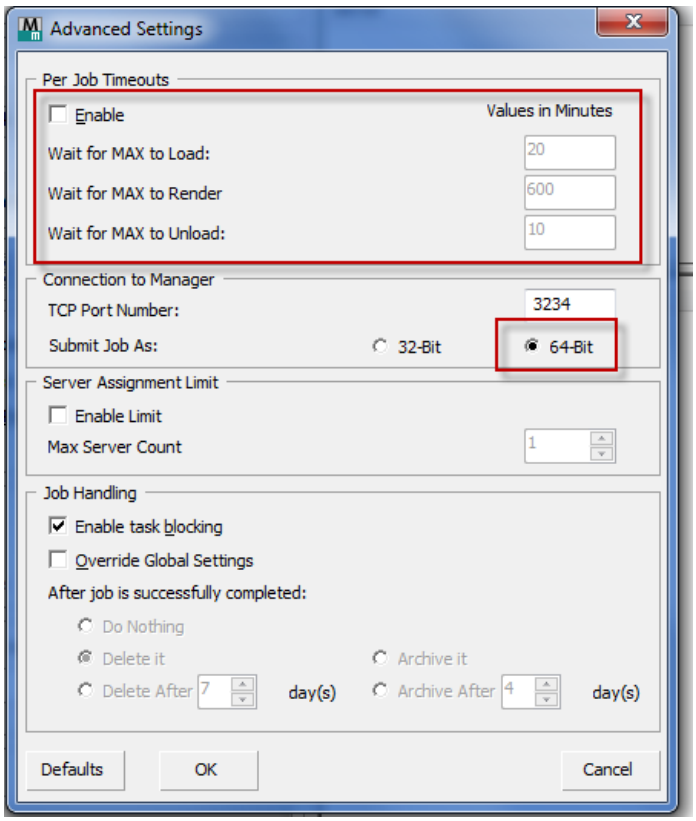


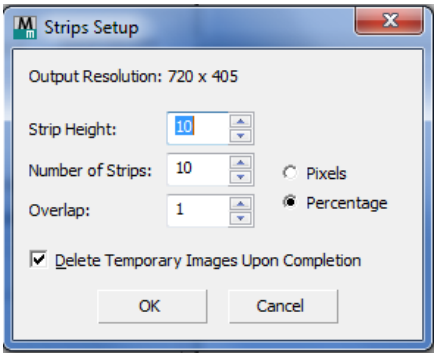


* Make sure that the Scene is saved to a shared network folder (all render nodes must have read-write access to this!) Also make sure that all texture maps, IES lighting files, XREF's, proxy files, and plugins are available on a shared network drive. It's a good idea to 1st test a rendering locally an make sure that it renders fine before submitting it to the network. Click on submit, this will load the scene into the Back burner manager.

## Backburner Monitor:

Start Backburner Monitor if you'd like to check the status of the job queue. Click the windows **Start** menu, **All Programs**, **Autodesk, Backburner, Monitor** (Shown below). Click on the **Connect** Button on the top menu. this lists the status of the jobs, each Server and any errors. you can also delete jobs, rush jobs, change priority of jobs, etc.

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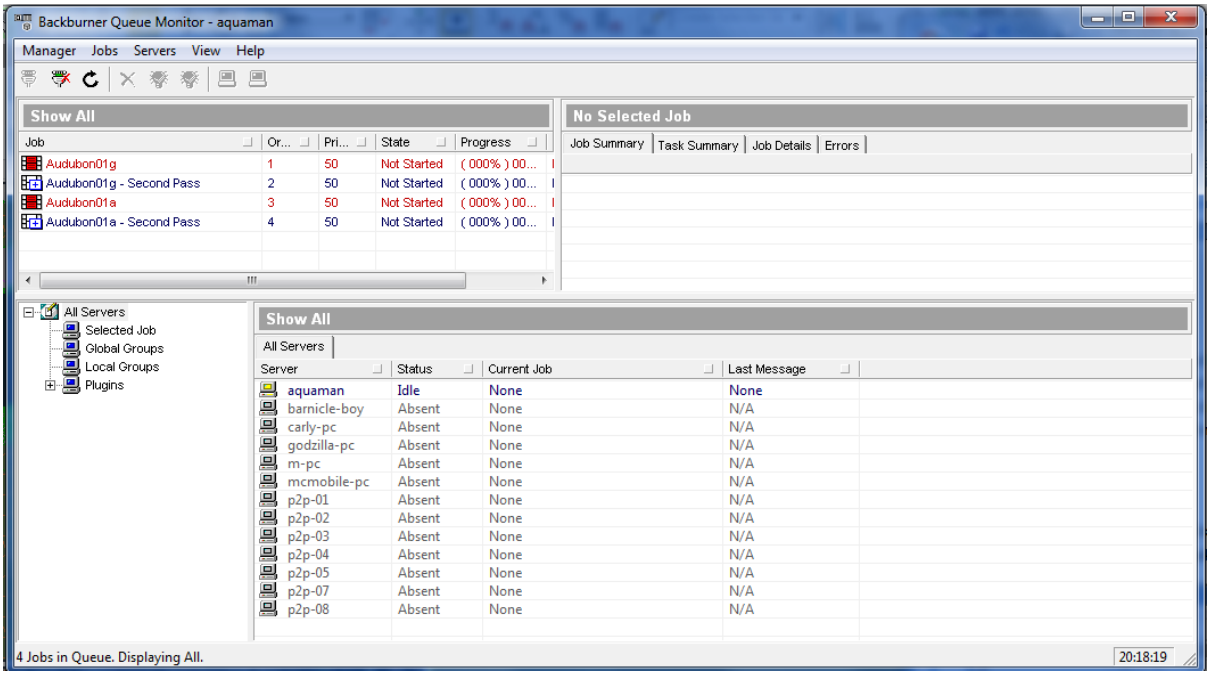


## Final Notes:

Setup problem usually are a result of inadequate network rights or anti-virus software blocking a port. If you experience setup problems I suggest set admin rights for the user and disable any anti-virus software. Once the render farm is running turn these things back on one at a time.