

Network Rendering in AccuRender 4

AccuRender can render single frames in a distributed way over the network. This means you can use many computers that have a copy of AutoCAD and AccuRender 4 installed to contribute to rendering an image.

The Farm is essentially a render job queue. It stores all of the information required to process a rendering in a folder on its hard drive. Finished renderings are output to another folder. When the rendering is complete, the many slices of the rendering are processed into one image file. If enabled, the final rendered image is automatically sent to an email address when the rendering is complete.

1. Plan the Master and the Slaves

The first step to network rendering is to plan which machine will be used and what purpose they will serve. The network rendering system consists of three major components:

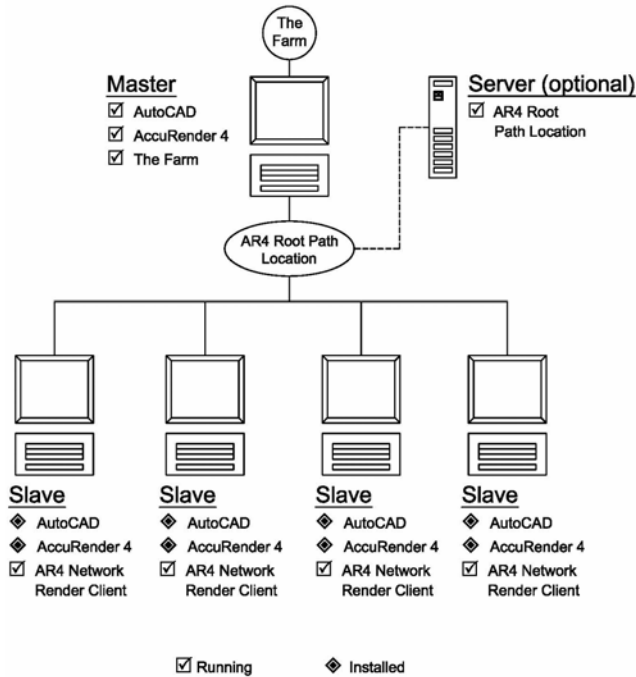
- Network Render Server – Master**
 The Master is the machine that runs The Farm application. The Farm runs on *only* one machine on your network. The Farm manages the rendering. The machine running the Farm is responsible for starting the network rendering from inside AutoCAD with a pick on the AccuRender menu. It submits the job it to the Farm application.

- Network Render Clients - Slaves**
 A Slave runs on every machine that will be used to do the rendering. The Farm and Slave components can both be installed on a single machine if required.

- The Root Path**
 Folders used by the Farm are all placed under a root folder, which is requested when you first run the Farm. This folder must be visible to all computers on the network using the same UNC path, so it should be shared, preferably on the same computer that the Farm is running.

Currently, the UNC should not have spaces in the share name. All computers participating in the rendering must have read/write access to the root folder and its sub-folders.

Network Rendering Model for AccuRender 4



Note: If you are unsure how to set this up, consult with your system administrator

2. Install AccuRender on All Machines.

During the AccuRender installation, you will be prompted to "enable network rendering." Check this box on **all** the machines, Master and Slaves.

The network render client is a small program that runs on all computers. Each computer that participates in a network rendering job must have the client installed and running along with AutoCAD and AccuRender 4. The Slave is installed from the main AccuRender 4 installer and can be enabled and disabled from the Windows menu: **Start > AccuRender 4.0 > AccuRender Slave**.

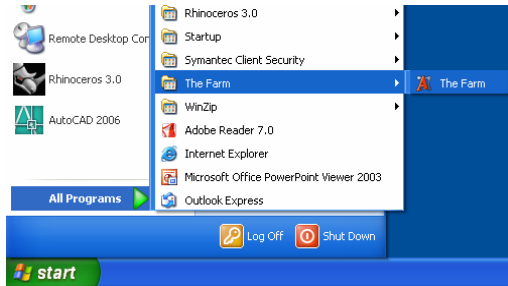
3. Install The Farm

The Farm is a small program that is installed on **one** computer on your network. Usually this will be the server or computer that files are shared from. Its job is to collect jobs submitted by workstations on the network and distribute the rendering jobs to the Slaves running on the network.

- To install the Farm, on the Master computer only, from the AccuRender 4 Product CD Installation menu, select **Install the Farm**.

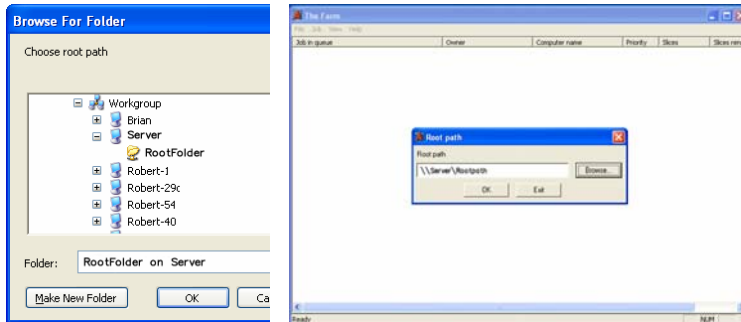
The Farm is installed in addition to and separately from the AccuRender install.

- When installed, starts the Farm application by picking The Farm from the Windows start menu: **Start > The Farm > The Farm**.



4. Set the Root Path

When you first run The Farm, you will be prompted for the Root Path.



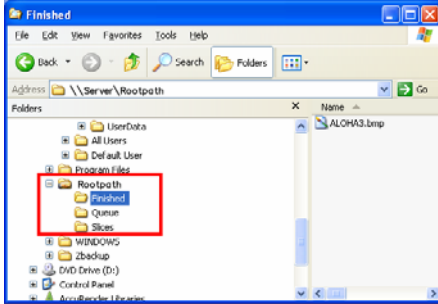
This folder is used by the system to organize render jobs and **should be fully accessible to all Slave machines on the network**. Specify a UNC path to this folder in this format:

\\server\Rootpath

The Farm will create three folders under the Root Path:

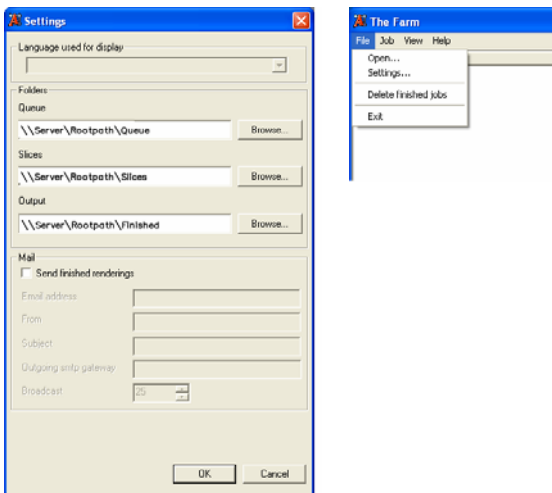
- Queue
- Finished
- Slices.

Warning: These are used internally and should not be removed or renamed.



To change root path:

The root path can be changed later in The Farm application with Settings option on the File menu.



For additional information on The Farm options, see Appendix at the end of this document.

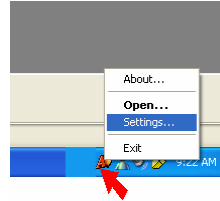
5. Operating The Farm

When the Farm is running, it needs no further configuration. It should be minimized to the system tray and left running. Current jobs are displayed in the Manager window along with their progress.

6. Activating the Network Render Client – The Slave

The network render client or Slave is a small program that runs on workstation computers. When a render job is submitted to the Farm, all active Slaves on the network will begin rendering the job. This happens in the background, but naturally can take up a large amount of resources. The process is fully automatic

The Farm is displayed as an icon in the system tray next to the clock.

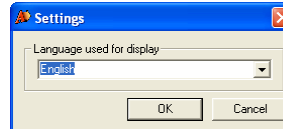


To change settings for the Slave, right-click the AccuRender icon in the system tray and click Settings.

Slave Settings

To open the Slave, right-click the AccuRender icon in the system tray and click Setting

The Language dialog appears. Choose the language in which you want the Slave to be displayed.

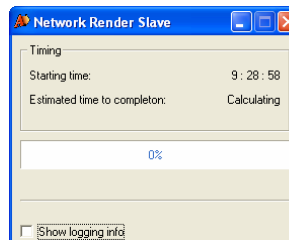


Slave Progress

To open the Slave application to check on rendering progress, right-click the AccuRender icon in the system tray and click Open.

- **Show Logging Information**

When checked, this shows information about which slice of the rendering is being processed on the Slave.



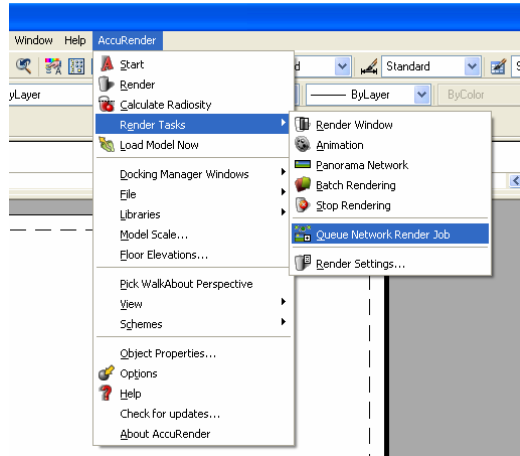
Slave with no rendering started

7. Queue the Network Render Jobs

With the Slaves ready and the Master configured, the rendering can begin. Go to the Master computer.

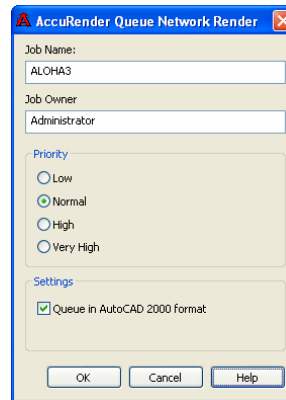
To start a network render job:

1. On the Master, start AutoCAD and open the model.
2. Load AccuRender 4.
3. Configure the model for rendering. It is recommended to render in **Quick Render** mode before starting the network job.
4. When the model is loaded into AutoCAD, from the AccuRender 4.0 menu, click **Render Tasks**, and then click **Queue Network Render Job**.



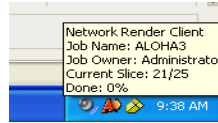
Options dialog opens:

- Job Name
 - Job Owner
 - Priority
 - Settings
 - Queue in AutoCAD 2000 format
- Click **OK** to start the rendering.



8. Checking the Slave Machines

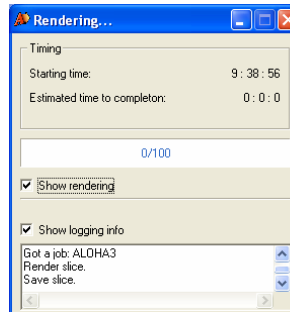
On the Slave machines, you can view the rendering status by placing the cursor over the AccuRender icon in the system tray. It will tell you the rendering "slice" that it has been assigned and give a progress reading.



You have the option of seeing the Slaves render in the AutoCAD application window or have it to work in the background.

To open the Slave, right-click the AccuRender icon in the system tray and click Open.

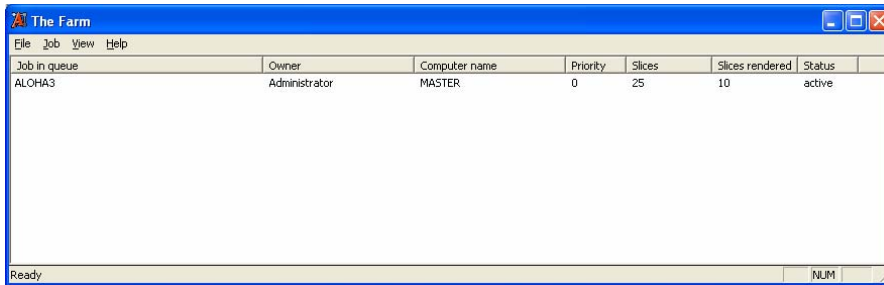
Check **Show Rendering**.



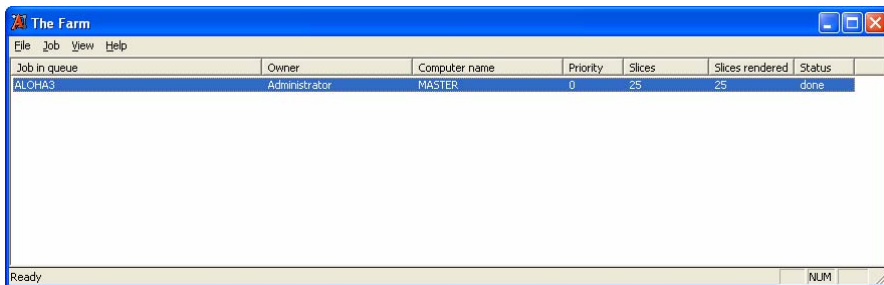
Note: This option is only available when the network rendering has been started on the Master.

9. Back on the Farm

When the network rendering has started, The Farm will list the jobs and their status. After the rendering is complete it will take generally a few minutes to associate the rendering slices into one image file. The final image file is placed in the Finish folder.



Farm Rendering Started



Farm Rendering Complete

Finished rendering



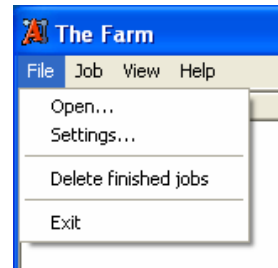
ALOHA3.bmp rendering in the finished folder.

Comment: I would leave this out. It doesn't really add anything to the information and it takes up space.

The Farm Appendix

File Menu

Open	Opens the Finished folder in Windows Explorer where all completed renderings are stored
Settings	Opens the Settings dialog box. See Network Render Manager Settings
Delete Finished Jobs	Removes all finished renderings remain in the finished folder, but all associated files are deleted.
Exit	Closes the Farm



Job Menu

Open	Opens the finished rendering for the selected job
Properties	Displays properties for the selected job
Restart	Restarts a job previously paused
Pause	Closes the Farm
Stop	Pauses the selected job The server will begin the next job if there is one
Send rendering by email	Sends the finished rendering for the selected job

Network Render Manager Settings Dialog

Broadcast port number	Determines the TCP/IP port used for network messaging. The default is 24575
Folders	Paths to the standard internal folders. You can edit your initial selection here
Mail	Send finished renderings. Determines whether finished renderings are sent to the email recipient specified
Email address	Email address of the recipient
From	An email address which the email address will come from
Subject	A subject for the email
Outgoing SMTP gateway	Your ISP's SMTP address for outgoing mail For example, smtp.mydomain.com. Contact your network administrator for more information.
Port number	SMTP port number of your ISP This is usually 25