

Distributed Renders with mental ray or V-Ray

How to use the mental ray Distributed Bucket Render (DBR) or V-Ray Distributed Render (DR) feature with Qube!

Please read this file carefully, if you would like to take advantage of mental ray DBR and V-Ray DR with Qube!

[Prerequisites]

- All worker machines need to have the following installed and working properly:
 - Qube core 5.1 or above
 - Qube Worker 5.1 or above
 - Qube 3dsmax Jobtype 5.2 or above
 - 3dsmax 8.0 or above
- First and foremost, mental ray DBR or V-Ray DR for 3dsmax must be setup, and tested to be working properly, outside of Qube! Please consult your 3dsmax documentation for details on setting it up.
- Because of the way mental ray DBR is implemented on 3dsmax, the jobtype needs to be able to write to the "max.rayhosts" file found in the "mentalray" subfolder, in the system's 3dsmax installation folder (by default, "C:/Program Files/Autodesk/3ds max 9/mentalray"). Accordingly, you'll need to make sure that all execution users on all workers have write-access to the file and containing folder.
- Similarly for V-Ray DR, the jobtype needs to be able to write to the "vray_dr.cfg" file found in the system's 3dsmax installation "plugcfg" folder, which is something like:
"C:\Users\USERNAME\AppData\Local\Autodesk\3dsMax\2011 - 64bin\enu\plugcfg"
Accordingly, you'll need to make sure that all execution users on all workers have write-access to the file and containing folder.

[Usage]

- Open or create a scene.
- Make sure your scene is properly set up to use mental ray or V-Ray as the renderer.

"Rendering" menu -> "Render" -> "Common" tab -> "Assign Renderer" rollout

- Make sure to turn on "Use Placeholder Objects" in the "Translator Options" rollout of the "Processing" tab.
- Make sure to leave "Bucket Order" set to "Hilbert" in the "Options" section of the "Sampling Quality" rollout of the "Renderer" tab.
- The following caveats inherent to DBRs also apply to DBR on Qube!



Contour shading does not work with distributed bucket rendering.



You cannot use distributed bucket rendering when you render to texture.

Also consult the 3dsmax reference's, "Distributed Bucket Rendering Rollout (mental ray Renderer)" section for details.

- Save the scene if changes were made.
- Open the Qube! Submission dialog: "Qube!" Menu -> "Submit Render..."
- In the "Parameters" section, select "mentalray" or "vray" in the "Enable DBR" pull-down.
- In the "Qube Job Basics" section, specify the desired number of Subjob Processes.
- Set up other parameters as necessary.
- Submit the render, by clicking the "Submit" button.

[Side-Effects]

The jobtype will re-write the [max.rayhosts] file in the following location on the master node (i.e., where subjob 0 runs):

Windows:
\$3DSMAX_INSTALLDIR/mentalray/

where \$3DSMAX_INSTALLDIR is typically "C:/Program Files/Autodesk/3ds max 9"

The jobtype will try to back up the original rayhosts file, if it exists, before the execution of the job, and then restore it afterwards, but if the job dies in the middle, the restore may not work properly.

[Known Issues and Limitations]

- Workers will wait idle until the specified number of CPUs are collected for the job. For example, if a job specified 8 CPUs, the job will not start processing until all 8 CPUs are available-- sometimes the first 7 CPUs can wait for a long time before the 8th one becomes available.
- If renderers other than mental ray or V-Ray are designated, the job will render the only using the master node-- other reserved nodes will sit idle until the job is finished or killed.
- Due to the inherent dependency on "max.rayhosts" file of mental ray satellite renders, attempts to run more than one satellite job concurrently on the same machine as a master node may cause serious instability in the system, and thus is unsupported.
- All limitations of the 3dsmax jobtype apply to satellite rendering on Qube. For example, the scenefile must be located on a shared file-server path where all workers may uniformly access.
- All limitations of mental ray and mental ray DBR for 3dsmax, V-Ray and V-Ray DR for 3dsmax, inherently apply. For example, if a slave node becomes inaccessible during a render, the entire job may crash, due to the nature of the rendering software.