Vizard
3ds MAX Workflow

Topics covered:

• Render to texture
• Complete maps
• Light maps
• Export settings
• Vizard Inspector
Set viewport render properties

Recent versions of max have added in a hardware renderer which gives you a realistic preview of the lighting in your scene.

The additional realism does come at the cost of performance, so for complex scenes, you’ll need to back off these settings.

The hardware renderer is further improved in Max 2012.

Right-click for options
Add an Ambient Light

Without ambient light, it is difficult to see detail in shadowed areas. In the real world, direct light bounces off the environment, brightening up darker areas with indirect light (global illumination). Calculating this accurately requires a lot of time and processing power.

If you are baking a scene and care more about quick turnaround than photorealism, consider using a flat ambient light instead of physically accurate global illumination.

MAX’s “Environment ... Global Lighting” ambient light does not export in Vizard IVE format. Instead, add an omni light in ambient mode, as in the graphic to the right and this will serve to bump up the lighting levels created by your other lights.

Note: You must have other non-ambient light(s) in the scene. If there is only ambient light you will not see any shadows cast.
Render to Texture (step 1)

From the viewport, select all objects you want to bake. These objects will show up in Render to Texture under “Objects to Bake”.

For consistency, bake Lightmaps andCompletemaps to Mapping Coordinate channel # 3. (UVW Channel 3)

Pick the location where the baked images will be stored.

Selecting objects in viewport puts them in the “to bake” list.

“8” or more pixels recommended.

Channel “3” recommended.
Render to Texture (step 2) CompleteMap method

Completemaps are a record of brightness and color stored inside an image file. Completemaps are the most effective means of capturing lighting and materials into a static texture.

The main limitation is a lack of realtime reflection, though this can be achieved through other methods where necessary. Static textures cannot directly produce view dependent effects.

The resolution of close-up detail of your real-time scene will entirely depend on the size you choose for the rendered textures.
Lightmaps are a record of luminance values stored inside an image file.

Compared to Completetexmaps, lightmaps provide:

1. Versatility. Lightmaps keep lighting separate from surface color, allowing you to change diffuse maps without needing to rebake the scene.
2. Optimization. Map size only affects the quality of the shadows and light effects. Lighting is mostly composed of smooth gradients, so it does not need as much close-up detail as a diffuse texture.

When creating a lightmap, the source model should contain all Standard materials. These will be duplicated to the baked model. In the case of a complete map this is not necessary because the bake will create a new Standard material shell from the source materials and lighting information.
Render to Texture (step 3)
Baked Material Settings

When “baking” your rendered scene into textures, instruct MAX to save the result in a new shell material. When you export your scene to Vizard, the exporter will choose any baked shell materials over your original materials when available.

Reducing the Spacing value in the Automatic Mapping rollout can help increase the resolution of the baked scene. Although the map resolution is specified above, the map will contain unused space. By reducing this value, spacing is more efficient and more detail is fit in. A possible downside is that mip-mapping (performed automatically in Vizard) will bring in unwanted colors on seams.

- **Preserve your original maps by creating a new shell material.**
- **Reduce this value to get more efficient spacing and higher resolution textures.**
- **Click “Render” to begin final process.**
Export to Vizard

Depending on the extension used a binary or text version of your file will be saved. The binary has the advantage of embedded compressed textures and faster load times.

**Vizard 3 and earlier,**
and **Architecture Interactive:**
Binary Format: .IVE
Plain Text Format: .OSG

**Vizard 4.0+**
Binary Format: OSGb or .IVE
Plain Text Format: OSGt or .OSG

.IVE and .OSG are being phased out.
Exporter Settings

Shown here are the typical settings recommended for baked environments.

Most of the settings should be fairly self-explanatory to an experienced 3d artist.

Read through them and note what options are available.

- **Always Include these maps**
  - Diffuse
  - Self-Illumination
  - Reflection

- **For baked scenes, Check to disable real-time lighting effects**

- **For resource intensive scenes, use DXT compression**
  - Material State
    - **Texture compression**: S3TC_DXT1_COMPRESSION
Use Vizard Inspector to examine your bake

After exporting your baked scene, open your IVE or OSG file into Inspector. You will be able to see your scene as it will appear in Vizard.

- Baked maps at chosen resolution
- Original resolution diffuse maps