Q:How do I render a Wireframe in XSI?

A: Simply use a toon shader, and this is how you can achieve this:

To do this exercise you will need 2 shaders node one will be the *Toon_Ink_Lens Shader* (for the camera), and the other one will be the Toon Material shader (a.k.a. *Toon_Paint_and_Host*)

From a *NewScene, Get>Primitive>Sphere*. Open the Explorer (*hotkey 8*) expand the Camera_Root node and select the Camera then open the Render Tree (*hotkey 7*) select update this will refresh the *Render Tree* there will be a camera node. Next step will be to get the Toon_Ink_Lens Shader from the top menu of the Render Tree: *Nodes>Toon>Toon_Ink_Lens*, this will bring a new node into the Render Tree, simply take the red dot from the *Toon_Ink_Lens* and connect it to the Camera node.

What the Toon_Ink_Lens Shader does is primary creates a black contour line around the surface of the object. Since the width (spread) of the line is only at 2 by default you can barely see it, here are 2 illustrations, the one of the left is the default value (2) and the one on the right has a value of 10. (I will explain how to increase the line width later in the tutorial)
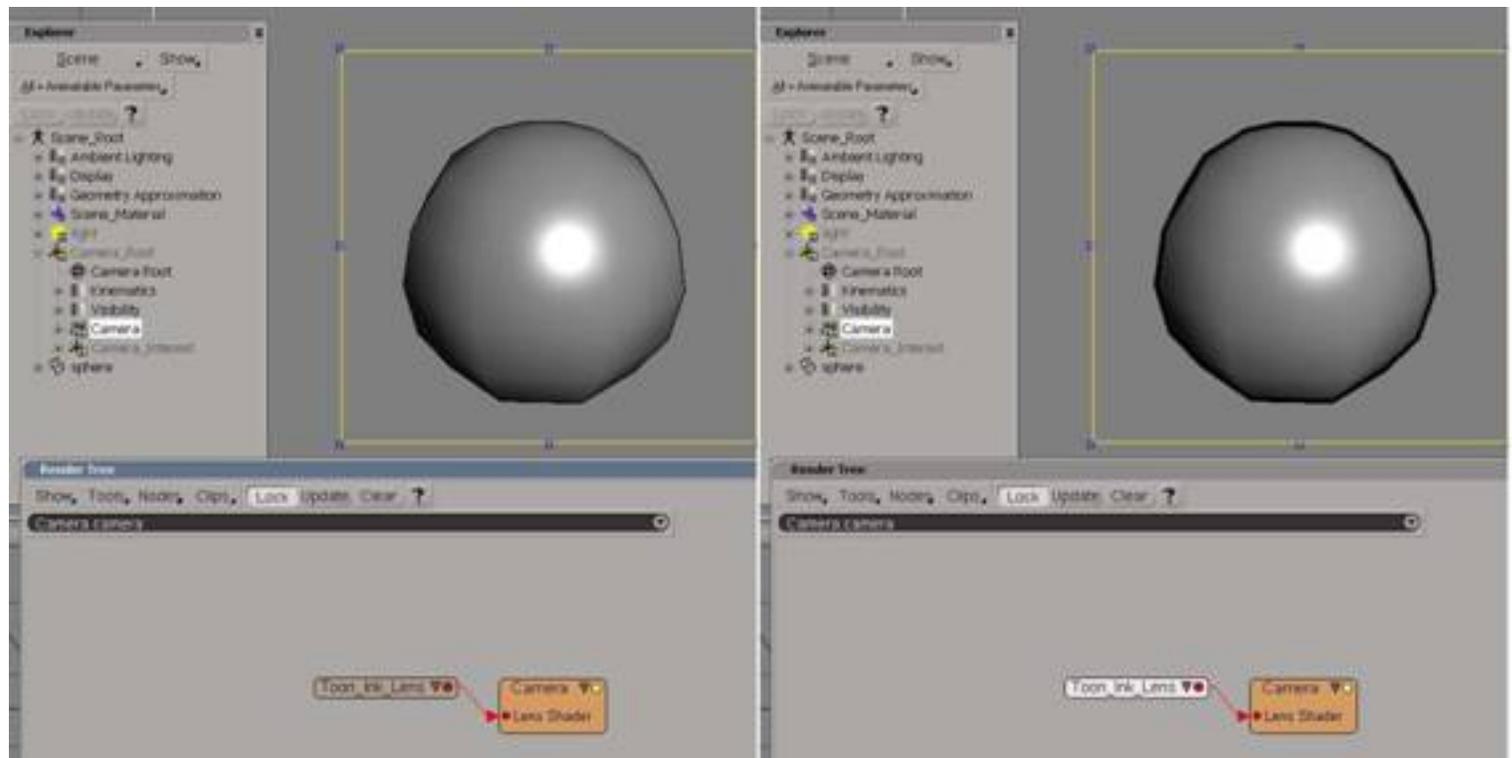
Next step is to put a *toon shader* onto the surface of the object. Simply go to *Render>Get>Material>Toon*, this will transform your sphere to a toon like sphere. Now, to have the wireframe effect. Open your Render Tree once again, (*hotkey 7*) and open up your Explorer (*hotkey 8*) and once again select the Camera, then go back into the Render Tree and press *Update*, your Render Tree will bring up the Toon_Ink_Shader and the Camera node. Double click on the Toon_Ink_Shader this will open up a property page with different parameters of the Toon_Ink_Shader.

Quick note, you can also have access to the shader if you select the Camera then in the Render>Modify>Shader this will bring up the Shader property page of the camera, in the Lens Shader Tab you should have the Toon_Ink_Lens select it (highlited blue) then press Inspect, this will open up the property page of the shader.

Go to the *Basic Appearance* Tab and checkmark the *Ink Only* option, this will render only the black outline (I refer it the black outline however you can change it to any color; the black is the default color) Next step, open the *Sampling* tab, in the *Facet* checkmark the *Enable* options, what this does is it will create an outline to every tessellated face, however since we don't want the tessellated render simply checkmark the *Merge Coplanar*, this will prevent the Ink_Lens_Shader to draw lines to every tessellation point.

If you would like to have a *Hidden Line Removal* effect simply select the object then *Render>Modify>Shader* select the *Ink Tab* and checkmark the *Back Cull* this will only render the front from the Camera geometry (a la Hidden Line)

To see all of the wireframe you will need to put the a value of 1.0 in the *Transparency/Reflection* Tab for each value (RGB) this will make the object see-thru.

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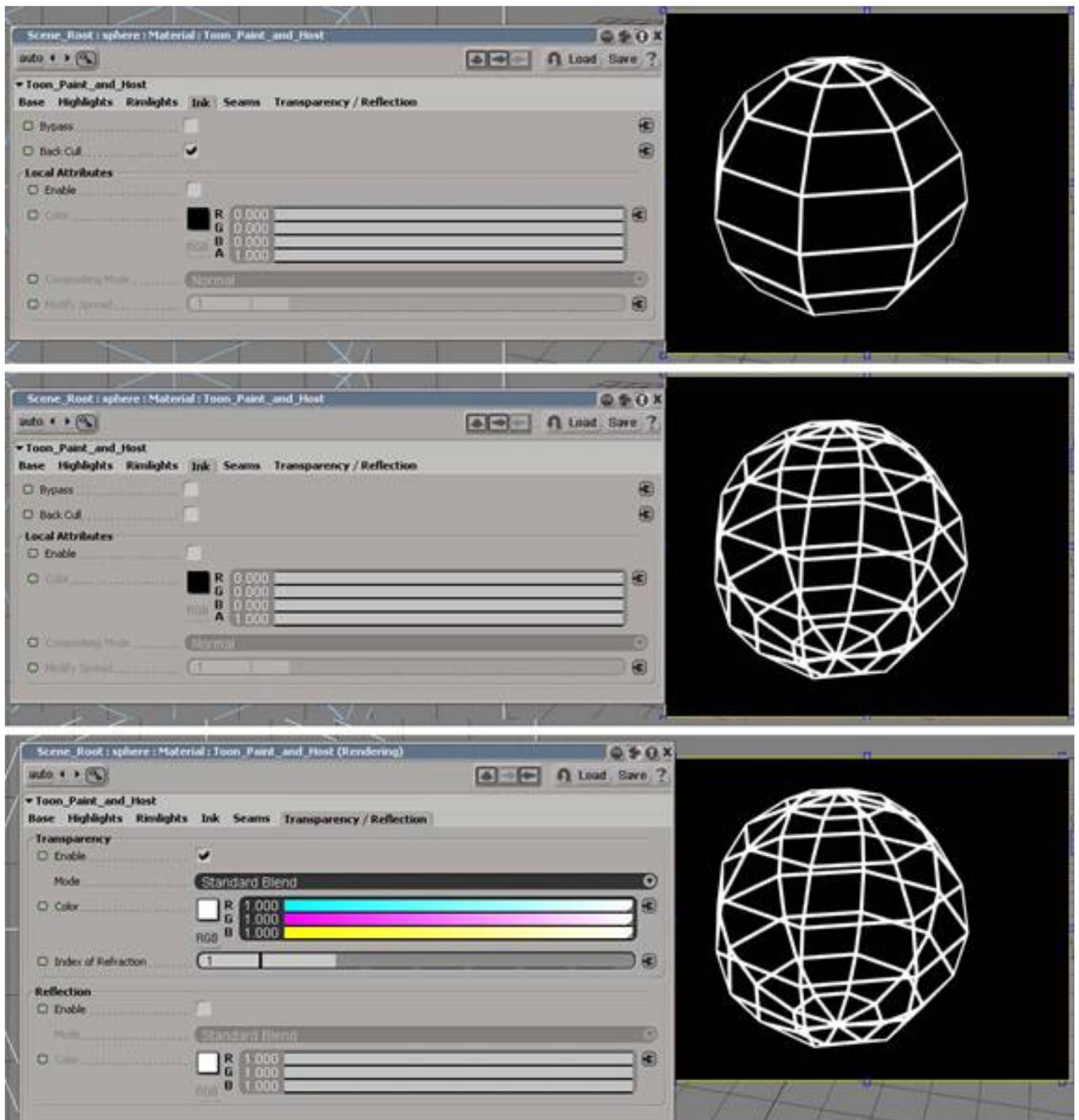
Note you can scroll simultaneously the RGB values by holding down the CTRL key and sliding one of the values.

If you would like to change the color of the wireframe simply select the Camera and *Render>Modify>Shader* and in the *Basic Appearance* Tab; you can change the color of the wireframe using the sliders, also you can increase or decrease the Spread (the line thickness) in the Spread Value.

Cons: The wireframe in Softimage|3D is very fast to render in XSI; since we are using shaders to "fake" the wireframe effect it's very render/time consuming. However you have the option to use the Start Capture (with Anti Aliasing for smoother lines) which is very fast.

Pros: A lot of control such as Anti-Aliasing, color, the width
Most parameters are animatable,
It also render out the subdivision (Geo-Approximation)
Hidden Line Removal Effect

If you have any questions or comments please do not hesitate to email me at:
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Cheers
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