A QuickStart Guide to printing a 3D model starting from a block of bytes

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This is currently a three step process. (1) Use Analyze to read in your volume, create a surface map and write it back out as a dxf file. (2) Use Interchange to convert the dxf file into an stl file. (3) Use Autogen to read the stl file and send it to the printer.

1. Analyze

In this step you will read your data using the package Analyze, create a surface map, and write it back out as a dxf file.

Analyze can be run from several of the PC's or from zeus. If you are running Analyze from a PC it should be in the Quickfind menu.
If you are trying to run Analyze from zeus but using a PC for the remote display, you will need to:

(i) Start Exceed on the PC to allow a remote xdisplay. Exceed should be in the Quickfind menu.
(ii) Login into zeus using crt (or some equivalent terminal emulator) and then setenv DISPLAY pcname:0.0 to point zeus to this display. Then start Analyze by typing Analyze at the prompt.

Once you have started Analyze, use the Import data function to get your data loaded. You might want to scale it up if the data set is small. A block of bytes of around 300x300x300 seems to be a reasonable size to work with. If you have rescaled it you might like to save it back out as a native Analyze file to save having to use the import function and rescale again if you crash out of the program for some reason.

Once your data is loaded into Analyze, make sure it is selected (outlined by a red box) and then choose Process:Modeling:Tiler from the Analyze menu.

Inside the Tiler window choose Model Parameters. Select a threshold that looks like it makes sense and then choose Build. You will have to wait for a bit after this while it does the build. Eventually it will come back and you will be back in the Tiler window. You ought to be able to see your surface image in this window at this stage but in my experience it does not show up. Ignore this fact and choose Save Surface in the Tiler window menu. Save the file in dxf format (AutoCAD) out to disk somewhere where you will be able to find it again.

2. Interchange

Interchange should be in the Quickfind menu on the PC's (for example on Pollock). Start it up and use Import to read in your dxf file. Then use Export to write this out in stl format (i.e. Stereolithography (binary)).

3. Autogen

AutoGenV3.1 should be available under the Programs or the Quickfind menu on the PC's. Start it up and read in your data set in stl format. A reasonable part size to begin with might be approximately 3 inches on a side. If Autogen is reporting a much larger (or smaller) part size than this for your dataset you can change this using the selection box labeled Fit and selecting a new size (of 3 inches for example). Once you have done this, choose Print from the File menu and then confirm that you want to do the Preprocessing step by selecting the OK button. At the end of the preprocessing step the job will be submitted to the printer queue.

In order for your job to print you will need to:

(i) Make sure the printer is on-line. This is a selection on the menu panel on the printer.

(ii) Make sure that any previous jobs have been removed from the printer.

When you job has finished printing you may open the door of the printer and remove it by using the egg lifter device to gently dislodge it from the surface.