



[Figure 39-6](#) View-Aligned Slicing with Two Sampling Planes

There are several ways to generate texture coordinates for the polygon vertices. For example, texture coordinates can be computed on the CPU in step 3(c) of Algorithm 39-2 from the computed vertex positions and the volume bounding box. In this case the coordinates are sent down to GPU memory in a separate vertex array or interleaved with the vertex data. There are different methods for computing the texture coordinates on the GPU, including automatic texture coordinate generation, the texture matrix, or with a vertex program.

Advanced algorithms, such as the one described in Section 39.5, may use a different slicing axis than the viewing direction. In this case, the algorithm works the same way, but the modelview matrix needs to be modified accordingly.

Example 39-2. View-Aligned Slicing for Volume Rendering

1. Transform the volume bounding box vertices into view coordinates using the modelview matrix.
2. Find the minimum and maximum z coordinates of the transformed vertices. Compute the number of sampling planes used between these two values using equidistant spacing from the view origin. The sampling distance is computed from the voxel size and current sampling rate.
3. For each plane in front-to-back or back-to-front order: