

Using OpenGL to Display Jumpshot Visualizations on the PowerWall

This project explores the advantages of, and the options for, displaying performance data using ORNL's EVEREST visualization cluster and PowerWall. The visualization cluster offers enhanced visualization capabilities, which are not available on conventional monitors such as a large screen and the ability to display high resolution images. Also, the cluster allows multiple sources to be displayed on the wall without any images being distorted. This is done by placing the images seamlessly to a large number of screens, known as tiles, which are driven by advanced graphics cards. Software such as OpenGL and Chromium are used in order to display an image on the PowerWall. OpenGL, an industry standard API (Application Programming Interface), can be used to develop portable, interactive 2D and 3D graphic applications, while Chromium is used to present OpenGL applications on tiled displays. To investigate the behavior of large-scale scientific applications of interest to ORNL, a graphical tool called Jumpshot will be modified to use OpenGL to display performance data on the PowerWall.

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