

# The Synchronization Algorithm for Constructing CAVE System on the PC Cluster

This paper presents a synchronization algorithm that enables a CAVE system to be easily constructed in a PC-cluster environment. The CAVE system is a surrounding display virtual reality system that can provide high resolution of image for a group of users.

Traditionally, the CAVE system uses high performance multi-channel rendering engines to generate the images of the display wall. This paper presents a different approach to design the CAVE system. This paper first fully studies the principle of distribute tasks of a simulation loop among a cluster of PCs. The synchronization mechanism to coordinate the display image on different PCs is then presented. Finally, the infrastructure to construct such a CAVE system is discussed at the end.