ABSTRACT

The request about the system that have HPC (High Performance Computing) is consequence from the growth of computer technology. By support of hardware and software technology, kinds of application can be developed. HPC is needed to support applications especially application which need computing process quickly. By this HPC, computing process can be accelerated so that the task can be finished quickly.

Clustering technology offer to create a system that have HPC. Besides the technology solution, clustering is the economic solution too because need cheap cost than must buy a mainframe. Clustering is a combination of nodes that used to finish the task. That some nodes can be some PCs but also can be a computer with hundreds or thousands of processors that form a cluster.

By the implementation of clustering technology base on SSI into some PCs in this thesis, will be got a union some nodes or PCs become one unity that is resource unity to do computing process to the task.

The result of this implementation will be resulted a cluster system that heve ability to finish computing process with load balancing and the unity of management system so that resources of all nodes can be organized to get computing ability with high performance.