ABSTRACT

Computational process that can be done by computer has grown by leaps and bounds. At first the process of computation can only be performed in a sequential manner. A processor can only perform a process only and the others had to wait for the next to be executed by the processor. It certainly took a long time for the processor to execute a process or perform the computation. However, as the development of microprocessor technology, the computing process can now be done in parallel using multiple processors to perform a computational process. Application of parallel computing in this Final used for cracking passwords to determine the reliability of a password.

HPC Cluster technology is the solution to address the high price of supercomputers. Using HPC Cluster technology we will make some computer work together in carrying out or completing instruction. The author uses MPICH2 as parallel computing framework to make that would make some cracking computer passwords can complete instructions. And using John the Ripper for cracking passwords. The authors used five scenarios for functional testing of the system, the decryption password numbers, letters, combinations of letters and numbers, as well as cracking user web.

From the results of the tests performed, the results obtained for the functional testing of the system work as expected. Testing cracking MD5 passwords figure 0.1 minute test results obtained by decryption using one computer. Testing cracking MD5 passwords letter obtained results are tested with 74.54 minutes decrypted using a single computer. Testing cracking password a combination of letters and numbers didapatkanhasil 86.99 minutes was tested by using a decryption komputer.Sedangkan to cracking web user, obtained the user's password is sent to the server with MD5.

Keyword   : HPC Cluster, MPICH2, Ubuntu 12.04, Cracking password