



Enhancing the High Availability for Linux Server Cluster

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This poster describes the enhancement in the existing Linux Cluster for high availability of Database support for the Servers. As reported in Benner and Khokra (2004), this Project was started initially to test the feasibility of creating a Linux based Cluster, using the discarded computer equipment that was readily available to our staff after a three yearly upgrade of computer system at Waiariki. Another aim of the project was to develop expertise in implementation of highly available server configuration.

In the first phase of this project, a Linux based cluster was created of eight redundant Pentium II 350Mhz Computer systems using Red Hat Linux and other Open Source Software like IPVS Linux Virtual Server, Apache & Moodle. The system design of the first stage includes three levels; load balancing at level one, Web Servers at level 2 and Database and File Servers at Level 3. It also includes a Supervisor Level. The Cluster System was tested for high availability, reliability and performance. The work was presented at the NACCQ conference in Christchurch in July 2004 and in BACIT journal vol 2, issue 3, in November 2004.

The second phase of the project has focused on database backend support for our Servers with load balancing and redundancy using the MySQL Cluster Manager. As a practical example, the Open Source LMS "Moodle" was chosen as an example application that can benefit from this project. The other Open Source Software used includes Xen Virtual Machine Monitor, CentOS Community ENTERprise Operating System and MYSQL Open Source Database.

In the next phase of the project, we will be implementing highly available authentication using Open LDAP.

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