



User Guide for Quarterly Reporting

Quarterly Report [July 1- October 1, 2008]

<i>Project Name</i>	PlanetLab NZ
<i>Project Leader</i>	Prof. K. Pawlikowski
<i>Last Milestone Achieved</i>	Working toward milestone 2 of 3
<i>Project On Track?</i>	Yes

The goals of the Capability Build Fund are to raise awareness and enable effective use of KAREN. REANNZ wants to promote the enabling potential of KAREN and its use through creating a community ethos of sharing knowledge.

Current Status

As it has been already reported, the first milestone of this project was reached on July 26, 2008, when two new PlanetLab nodes were installed at the University of Canterbury. Each node consists of PE860 server (DELL PowerEdge 860 server, featuring the Quad-Core Intel® Xeon® 3200 Series processors). We are now preparing ourselves for installation of two similar nodes of PlanetLab NZ at the University of Otago in Dunedin. The date and logistics of this operation is currently being discussed with Dr ZhiYi Huang and his research group from the Department of Computer Science there. Most likely, this operation will be conducted at the end of October or the beginning of November. The necessary equipment, identical to the equipment installed at the University of Canterbury, has been already purchased.

Our PlanetLab NZ research group meets fortnightly, to discuss our current activities related with advancing PlanetLab NZ project, as well as with issues related with maintenance of PlanetLab nodes. Consecutive steps of our activities in this project will be reported on a PlanetLab NZ website. Its first version can be found at <www.planetlabnz.canterbury.ac.nz>.

Our other activities involve research projects in which PlanetLab, via KAREN, can be used as a tool for studying new networking technologies. We have one student from the Department of Computer Science and Software Engineering who is investigating various options for using PlanetLab in his Masters research project on P2P systems (the research work has begun since June 2008). Since September, our team has been also joined by Ms Frazana Yasmeen, a PhD student from the Department of Informatics, the Graduate University for Advanced Studies in Tokyo, Japan, see <www.nii.ac.jp/education/graduate.shtml>. Farzana is working on the next generation DTNs (Delay Tolerant Networks) and will stay with us for three months. She is looking at using PlanetLab, via KAREN, as a computing and communication platform for Akaora2, our controller for distributed quantitative stochastic simulation; see <www.akaroa2.canterbury.ac.nz>.

Successes

The technical expertise gained while working on reaching Milestone 1 (installation of PlanetLab nodes at the University of Canterbury) will be very useful when working on the installation of computer servers at the University of Otago (Milestone 2) and the University of Auckland (a part of Milestone 3).

KAREN is offered now, both nationally and internationally, as the communication platform for PlanetLab, for conducting research on new telecommunication technologies in which PlanetLab is being used as a global testbed.

Communications

We have produced a poster about our PlanetLab NZ project. The poster (of size A1) was shown for the first time during APAN 2008 (Asia-Pacific Advanced Network Conference) in Queenstown, August 4-8, 2008. A larger number of its smaller, A4 copies were also distributed. Copies of the poster in both sizes (A1 and A4) have been also delivered to our collaborators from the University of Otago and the University of Auckland, for popularizing this KAREN-based research project at their universities. They are also on display at the University of Canterbury: in the Department of Computer Science & Software Engineering, Department of Electrical & Computer Engineering, and Department of Management.

Information about this project appeared in July, in "Research & Consultancy News", published by the Research Office of the University of Canterbury, and in "College Connect" of the College of Engineering at University of Canterbury, in its August issue, under the title "UC group to set up PlanetLab in NZ". It is also available on-line; see <www.engf.canterbury.ac.nz/news>. An article under the same title appeared also in the University of Canterbury's "Chronicle" (volume 43, no 12, August 2008), which is published monthly and is addressed to a broader audience.

Top Issues

In the nearest future we will investigate a possibility of installing PlanetLab nodes on Dell m1000 multiprocessor server. It would mean further increase of computing power of our PlanetLab nodes at the University of Canterbury. This multiprocessor has been donated for research purposes by Dell.

We also plan to investigate a possibility of using PlanetLab NZ for accessing experimental wireless networks.

Top Risks

Comment on any known or anticipated risks to project: none

What's Coming Up

At the University of Canterbury, we are intensifying research programs which will use PlanetLab, via KAREN, to study new methodology of quantitative distributed simulation, evaluation of search algorithms in structured and unstructured P2P networks, and network resilience techniques for future Next Generation Networks.

We are also preparing ourselves for installation of two nodes of PlanetLab NZ at the University of Otago in Dunedin. They will operate on PE860 servers (DELL PowerEdge 860 server, featuring the Quad-Core Intel® Xeon® 3200 Series processors). The date and logistics of this operation is currently discussed with Dr ZhiYi Huang and his research group from the Department of Computer Science there. The most likely, this operation will be conducted at the end of October or the beginning of November. The necessary equipment, identical to the equipment installed at the University of Canterbury, has been already purchased.

In mid October, Prof. K. Pawlikowski will attend the 3rd International Conference on Access Networks (AccessNets'08) in Las Vegas, Nevada, USA, as well as will visit and give an invited talk in the Department of Computer Science at the University of Nevada in Las Vegas. Both these events are excellent opportunities for discussing issues related with applications of global telecommunication testbeds, such as PlanetLab, in research projects aimed at new networking technologies. Then, in mid November, Prof. K. Pawlikowski will travel to

Europe, as a member of 6 person delegation of MoRST, to Germany, Poland and France. The main purpose of this delegation is to inform European scientists about New Zealand research initiatives and activities in the area of ICT, and to seek new links of international cooperation. The presentation prepared by Prof. Pawlikowski will give an overview of our PlanetLab NZ project. A number of key European scientists, involved in various EU consortia of the FP7 framework, all related with global and European experimental telecommunication testbeds, will be met, and possibilities for international cooperation in this area will be investigated.

In December, Prof. Harsha Sirisena will participate in ATNAC'08 (Australasian Telecommunications Networking and Application Conference, in Adelaide, Australia, 7-10 December 2008), where he will present the initial results of our research project on network resilience techniques and their applications future Next Generation Networks. It will be also a good opportunity for meeting Australian and international scientists who also use such global telecommunication testbeds as PlanetLab in their research projects.

Currently, we are involved in organizing an international workshop on PlanetLab NZ. Originally it was scheduled at the end of June 2009. However, it appeared to be impractical to have it then, because of various other international research activities already scheduled for the middle of 2009. Consequently, we have decided to organized it in December 2008, during the 9th International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT'08, Dunedin, 1–4 of December, 2008). This workshop has been scheduled as a panel discussion on "NGN/NGI Research and Experimentation". Its confirmed panellists are: Prof. Adnan Al-Anbuky (AUT, Auckland), Dr Brian Carpenter (University of Auckland), Prof. Krys Pawlikowski and Prof. Harsha Sirisena (University of Canterbury), Dr Max Ott (Australia's Information and Communications Technology Centre of Excellence, NICTA, Sydney), and Dr Thomas Zinner (University of Wuerzburg, Germany). It is expected that they will be joined by panellists representing the University of Otago, University of Waikato, Massey University and University of Victoria. The organizers of PDCAT'08 have agreed that students will be able to participate in this workshop free of charge. All student members of our research group from University of Canterbury are expected to be there. The PlanetLab workshop will be preceded by an invited talk on "Global experimental testbeds for studying future Internet technologies", given by Dr Ott is from NICTA (Sydney), who has accepted our invitation for contributing in our workshop. We still plan to organize another PlanetLab workshop at the end of June/beginning of July 2009, at the conclusion of our PlanetLab NZ project, but probably with a more national focus.