Mid-year report template for Community Projects and Internet Research - to be sent to gertrud@internetnz.net.nz on the date specified in your contract	
Grant reference number:	#CP170046
Name of recipient and contact details	Richard Nelson richardn@waikato.ac.nz
Name of organisation *(if applicable)*	Faucet Foundation
Title of project/research	Faucet Foundation Incorporated
Amount of funding received	*$12000*
Budget details	Grant expenditure Achieved so far: Legal advice: obtained for free Administration spending – Domains $68.89, stamp $57.44, registration$102.22, bank tokens(not yet invoiced). Branding and packaging of Faucet $4000. Underspend on Legal advice – obtained from Vic Uni for free. Less advice has been required than expected. Administration slightly less than expected so far. Overspend on branding and packaging of Faucet due to adding packaging to the project. There is still more work that may be done in this area. Have not yet spent any money on web development – next project. Project Expenditure (Co-funding) Co-funding takes the form of development time contributed to Faucet. We have one full time and two part time developers as well as contributions from a range of other volunteers. It is clear that the $100k estimated in the grant application is significantly lower than the actual development value received. We estimate that current development value exceeds $200k p.a.
Timeline update	The Faucet Foundation is expected to be a continuing project. The Foundation is Incorporated and the Board is meeting regularly. We have established membership procedures and are signing new members and charging corporate members fees to establish ongoing funding for the Foundation. Faucet development is continuing, slightly faster than expected.
Achievements to date	There have been significant improvements in the Faucet code. We have a switch stacking, LACP, redundant controllers, a new BGP stack and are currently adding authentication.

	Cisco have been added to the list of vendors supporting Faucet, Arista have made an initial approach. Talks have been given at OVSCon, NZNOG and TNC, a talk has been accepted at AusNOG. We have been accepted to run a plugfest and demo network at SC'18 (SuperCompute) in Dallas, Texas in November. Network security projects using Faucet are underway by VUW, UNSW, Google and CyberReboot.
Difficulties to date	Mostly progress has been smooth. The board are busy, high profile people and sometimes can be slow to respond. The executive (Chair/secretary/treasurer) have started having fortnightly meetings to make progress so the rest of the board only need to be involved for approval and discussion at scheduled meetings.
Findings/learnings to date	Faucet has two clear advantages. It allows true multivendor networking. If a switch passes the Faucet test suite then in can be used in a network the same as any other switch from another vendor that also passes the test suite. Faucet can be used to improve network security: • Being separated from the switch it is easy to update so security and other bug fixes can be made quickly • The Openflow specification is ideal for providing fine grained policy and access control of networks • As an open controller it is easy to interface to. Security applications can understand what the controller is learning and can apply controls and sample network traffic easily.
Do you anticipate their being anything media-worthy in your project/research*	We expect that the involvement in SC18 will be especially noteworthy. We are preparing a network to run a significant portion of the demonstration booths at the world's largest supercomputer conference. Multiple vendors are supplying newly released 100G capable switches for this. The details are not yet finalised and may change due to the nature of conference planning so it will be best to wait for the event itself before releasing details to the media.