

Category	Sub-Category	Project Description	Notes
Application: Access Provisioning		Build an application to program users and strong passwords who can use the network - ex. Hotel guests who are provided access for the duration of the stay	
Application: Device healthcheck		Build a program to provide a BYOD device a temp IP address, run diags and virus scanner checks and on success based on login, send him to employee or guest network. Otherwise send it to quarantine network	
Application: Dynamic Access Provisioning		Build an application to allow access to users based upon time of day (use case - Schools where access & access rights might vary based upon how a room or area of the School is intended to be used); Parental Control	
Application: Dynamic Firewall		Build a dynamic firewall application that takes feeds from opensource ones Spamhouse and Phishtank; Must contain whitelist and blacklist domains; Use case: school deployment, a firewall for network that gets lots of BYOD devices	
Application: Faucet	Feature Update	Add header to mirrored packets giving original mirrored port (Eg when packet is mirrored, push additional VLAN tag N where N was the port it was mirrored from)	
Application: Faucet	Feature Update	Add support for BroNetcontrol framework	https://github.com/bro/bro-netcontrol
Application: Flow Manager		A UI program to get real-time info on flows installed on the switches managed by a controller - interrogate controller database	
Application: Hadoop Yarn2		Integration with Yarn2 for programming network nodes for Hadoop traffic	
Application: Tapestry		Tapestry application	https://github.com/FlowForwarding/loom/tree/master/tapestry/docs
Application: Usage Billing		Build an application to get usage data per port with start and end times - used in Hotel Internet service billing	
Core Infrastructure	Feature Update	Secure OF control connection (ie. certificates on switch and on controller)	
Core Infrastructure	Feature Update	Ryu faucet + pyodbc integration for historical logging of flows (supports other applications like billing)	
Core Infrastructure	Feature Update	Upgrade to python3	
Core Infrastructure	Feature Update	Separate IPv4 and IPv6 FIB entries to dedicated FIB tables (better scaling)	
Core Infrastructure	Feature Update	Reduce pylint errors to 0	
Deployment: Hadoop Network		Use of Faucet on a Hadoop network	https://github.com/FlowForwarding/incubation/blob/master/papers_presos/HadoopOF_NDM.pdf & https://github.com/FlowForwarding/incubation/blob/master/papers_presos/Infoblox_Hadoop_OF_NDM_1106.pdf
Documentation		Blog/howto deployment using a real hardware switch	
Research		Research note on - what does it mean to program a PoE device and how would one behave on a SDN network	
Research		Use of Circuit Switching based Openflow network for Video delivery	
Testing		Try to break FAUCET with Delta (pen test framework)	http://opensourcesdn.org/projects/project-delta-sdn-security-evaluation-framework/
Core Infrastructure	Feature Update	simplest possible STP (spanning tree)/loop detection	

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Core Infrastructure	Feature Update	broadcast helper (allow Ethernet broadcasts to be redirected to a configured port rather than broadcasted)	
Core Infrastructure	Feature Update	BGP (integrate ryu's BGP support with FAUCET's static routing)	
		NFV containerization of DNS and DHCP (standard containers to offload DNS and DHCP from FAUCET to containers)	
Core Infrastructure	Feature Update	Add meters to OF channel channel (cap maximum packet in rate using OF meters)	
Core Infrastructure	Feature Update	Add support for multiple datapaths with one instance of Faucet.	At the moment we only support configuring multiple datapath elements via running separate instances of Faucet with different configuration files (on separate ports). This makes it annoying to manage multiple OpenFlow-enabled switches since we need to assign separate TCP ports for each to connect back to our multiple Faucet instances. In original Valve we had the ability to list multiple DPIDs in the configuration file that would be configured (with different numbers of ports and different vlan assignments). Multiple datapaths can be read as multiple documents within the single file (IE separate them with a "---" line). It will require changing how the configs are read though, the files are currently being read by the DP object, which doesnt make sense if it is reading in multiple DP objects from a single file..