

OVS-DPDK Unicycle Blueprint Project

Project Technical Lead: [Jeff Collins, Ericsson, Elected 10/16/19](#)

Project Technical Lead: Rakesh Bohra. Elected 1/17/19. Stepped Down 10/14/19

Project Committers detail:

Initial Committers for a project will be specified at project creation. Committers have the right to commit code to the source code management system for that project.

A Contributor may be promoted to a Committer by the project's Committers after demonstrating a history of contributions to that project.

Candidates for the project's Project Technical Leader will be derived from the Committers of the Project. Candidates must self nominate by marking "Y" in the Self Nominate column below by Jan. 16th. Voting will take place January 17th.

Only Committers for a project are eligible to vote for a project's Project Technical Lead.

Please see [Akraio Technical Community Document](#) section 3.1.3 for more detailed information.

Committer	Committer Company	Committer Contact Info	Committer Bio	Committer Picture	Self Nominate for PTL (Y/N)
David Plunkett	AT&T	david.plunkett@att.com			N
Andrew Wilkinson	Ericsson	andrew.wilkinson@ericsson.com			N
Jeff Collins	Ericsson	jeff.collins@ericsson.com	Jeff is driving NFV, Cloud, SDN, & IP strategy for Ericsson within North America. He is an active member within several communities. Jeff is an experienced technical and business leader with a proven record of accomplishments in the IP /Telecom industry. He holds a Master of Software Engineer and is currently pursuing a Ph.D. at Southern Methodist University.		Y
Rakesh Bohra	Ericsson	rakesh.bohra@ericsson.com	Rakesh Bohra is associated with Ericsson since 2008 and has diverse hands-on working experience with various telco infrastructure products and solutions. Rakesh has been involved in solution design and deployment of Ericsson NFV Cloud infrastructure Solution since 2014 with specialization in OpenStack and most recently he has been working with Akraio Network Cloud blueprint shaping solution for Edge Cloud.		N
Georg Kunz	Ericsson	georg.kunz@ericsson.com			N
Jan-Erik Mångs	Ericsson	jan-erik.mangs@ericsson.com			N
Rodric Boswell	Ericsson	roddric.boswell@ericsson.com			N
Indumathi Buddi	Ericsson (Contract Resource)	indumathi.buddi@ericsson.com			N
Rihab Banday	Ericsson	rihab.banday@ericsson.com			N

Marinko Caturic	Ericsson	marinko.caturic@ericsson.com			N
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Use Case Details:

Ericsson is proposing this new SPECIES for the existing Network Cloud Blueprint Family for a Unicycle POD based on Dell R740 HW.

Attributes	Description	Informational
Type	New blueprint submission	
Blueprint Family - Proposed Name	Network Cloud Family	
Use Case	Network Cloud – carrier edge use case	
Blueprint proposed Name	Unicycle - OVS-DPDK	
Initial POD Cost (capex)	Unicycle - OVS-DPDK less than \$150k	
Scale & Type	Up to 7 servers (3 control plus 1 to 4 workers) x86 Dell R740 servers	
Applications	5G Core or vRAN	
Power Restrictions	Example Only: • Less than 10Kw	
Infrastructure orchestration	OpenStack Pike or above - VM orchestration Docker 1.13.1 or above / K8 1.10.2 or above- Container Orchestration OS - Ubuntu 16.x VNF Orchestration - ONAP Beijing Under Cloud Orchestration - Airship v1.0	
SDN	OVS-DPDK	
Workload Type	VMs	
Additional Details	A new Feature Project shall be started to contribute the necessary upstream functionality to Airship	

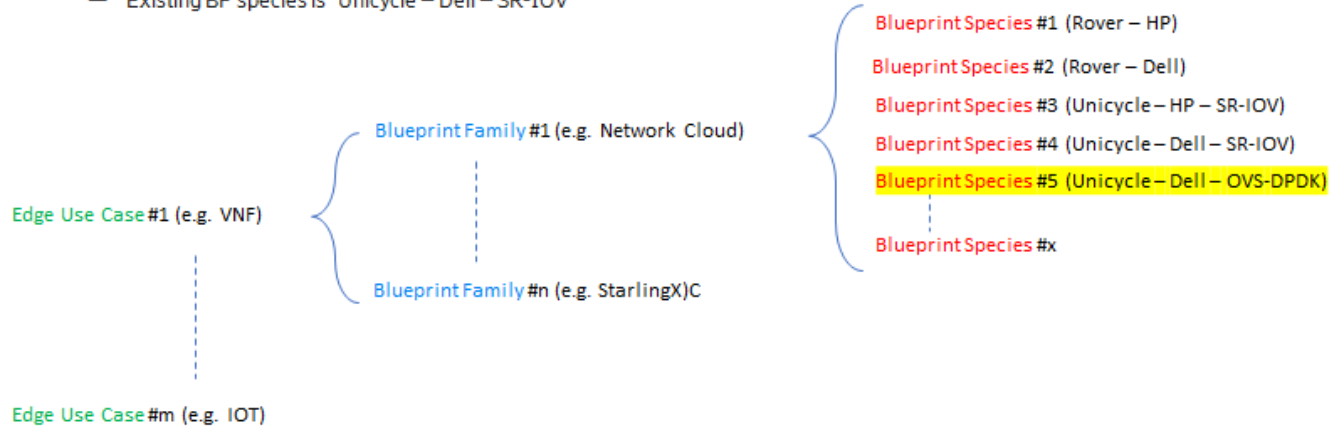
All other details are as per the existing Unicycle - Dell - SR-IOV BP species.

Presentation:

Unicycle OVS-DPDK support in Akraino R1



- This proposal is to add a new Species to the EXISTING Network Cloud Family to Akraino R1 release (April thru Sept 2019)
 - Called “Unicycle - Dell - OVS-DPDK”
- Specifically the new Species is a DELTA to an existing NC BP Species
 - Existing BP species is “Unicycle – Dell – SR-IOV”



BP Proposal Cost



- The proposal requires:
 1. Upstream contributions to Airship (to support OVS-DPDK)
 2. Upstream contributions to k8s dependencies (none currently identified)
 3. Upstream contributions to OpenStack dependencies (none currently identified)
 4. Contributions to Akraino Unicycle BP
 - Requires update to Akraino NC
 - Initial BM provisioning
 - currently NC Unicycle deploys SR-IOV pods
 - NC portal
 - Any other impacted parts of the NC Unicycle CI/CD processes
 5. Setup and running of an Akraino Verification lab
 - Verify the new BP Species
 - In Ericsson premises
 - Verification lab will (must) push result logs from the BP CI/CD process back to LF Akraino master CI/CD Jenkins server
- Application verification shall be with a high throughput based VNF

BP Proposal Cost Breakdown



Project	What	Resource	Who	Cost	Notes
Airship	Feature development	HR	Ericsson + Akraino community	2 heads for 6 months each	
K8s	None foreseen				
OpenStack	None foreseen				
Akraino	Feature development	HR	Ericsson + Akraino community	1/2 head for 6 months	
	Blueprint verification	HR	Ericsson + Akraino community	1/2 head for 6 months	
		Lab HW & hosting	Ericsson labs Location TBD		3 x Dell R740 (Unicycle Edge POD control servers) 2 x Dell R740 (for VNFs) 1 Dell R740 (Regional Controller) 1 server/VM (Jenkins peer/build server) Extreme (or other) switch Will push CI/CD and VNF logs to LF CI servers

Below is the Network Cloud Family architecture. The objects marked yellow represents the impacted projects for OVS-DPDK Unicycle Blueprint

