

Integrated Cloud Native NFV/App stack family (Short term: ICN)

- [Blueprint: Multi-Server Integrated Cloud native NFV/App stack \(Short term: MICN\)](#)
 - [Project Technical Lead: Kuralamdhan Ramakrishnan, Elected 6/24/2019](#)
 - [Attributes info](#)
 - [System level architect/lead: Srinivasa Addepalli](#)
 - [Contributors:](#)
 - [Files](#)

Blueprint: Multi-Server Integrated Cloud native NFV/App stack (Short term: MICN)

Project Technical Lead: Kuralamdhan Ramakrishnan, Elected 6/24/2019

Link to process-SC review record [Graduation reviews](#)

Attributes info

Case Attributes	Description	Informational
Type	Blueprint	
Blueprint Family - Proposed Name	Integrated Cloud Native NFV stack	
Use Case	SDWAN, Customer Edge, Edge Clouds – deploy VNFs/CNFs and applications as micro-services	
Blueprint proposed Name	Multi-server Cloud Native stack	
Initial POD Cost (capex)	50K minimum	
Scale & Type	Minimum of 4 Xeon Servers + 1 Xeon server as genesis	
Applications	SDWAN, ML/DL Analytics, EdgeXFoundry and 360 degree Video streaming	
Power Restrictions		
Orchestration	Infrastructure Orchestration Bare Metal Provisioning : ironic with Metal3 controlled by Cluster API Kubernetes provisioning : KuD. Centralized controller: With Cluster-API Docker for containers and Virtlet for VMs Service Orchestration : ONAP (Only the components that require VNF/CNF workload deployments via K8S) MEC framework: OpenNESS Site orchestrator : Kubernetes upstream Traffic Orchestration within a cluster: ISTIO Traffic orchestration with external entities : ISTIO-ingress and ISTIO-egress with MCDeployment Knative for function orchestration	Expose HW accelerators Storage Orchestration: Ceph with Rook Futtrue: AF-XDP for packet processing based containers, OpenShift for site orchestrator, Kubevirt for VMs.
SDN	OVN, SRIOV, Flannel	

Workload Type	Containers, VMs and functions	
Additional Details	Future: eBPF based CNI (such as PolyCube)	

System level architect/lead: [Srinivasa Addepalli](#)

Contributors:

Committer	Committer Company	Committer Contact Info	Committer Bio	Committer Picture	Self Nominate for PTL (Y/N)
Kuralamadhan Ramakrishnan	Intel	kuralamadhan.ramakrishnan@intel.com	• Kuralamadhan Ramakrishnan is working as a Senior Software Engineer in Intel, Oregon has specialized in the field of Networking, storage and data management and worked in Telco industries. • He created various open source projects such as Multi Network plugin in CNI called "Multus" CNI to support Multi-Homed pod in Kubernetes and "SRIOV-DPDK CNI" and "Userspace CNI" working in Kubernetes Networking in Intel, worked on Kubernetes compute on power management and worked in Kubernetes network SIG for Network Plumbing Working Group to advocate for Telco, comms use case in K8s and formation of Multi-network de-facto standard spec in K8s. • Kural's LinkedIn - link		Yes
Ochulor, Enyinna	Intel	enyinna.ochulor@intel.com	Enyinna Ochulor is a Cloud Software Engineer at Intel. Since joining Intel, Enyinna has contributed to the OpenStack Neutron (DVR), and ONAP vCPE projects. LinkedIn		
Ukponmwan, Itohan	Intel	itohan.ukponmwan@intel.com	Itohan Ukponmwan is a Cloud Software Engineer at Intel. She has contributed to various projects in ONAP. She worked on the vCPE project in ONAP amsterdam release and contributed to making it possible to Deploy Intel's FlexRAN VNF with ONAP. She has also done a lot of work in enabling HPA features in ONAP for which Intel is a major contributor. Itohan has also contributed and worked on fixing bugs in the Opendaylight controller project. LinkedIn		
Le, Huifeng	Intel	huifeng.le@intel.com	Huifeng Le is a Cloud Software Engineer at Intel. He has contributed to cloud/network related open source projects such as Openstack Neutron, StarlingX, OpenNESS etc. and openstack service containerization.		
Li, Cheng	Intel	cheng1.li@intel.com	Cheng Li is a Cloud Software Engineer at Intel, has 3 years experiences on OpenStack, focus on neutron/cinder project. Also work on openstack automation deployment, i.e. ansible, docker /kubernetes, openstack-helm, Airship.		
Yao, Le	Intel	le.yao@intel.com	Le Yao is a Cloud Software Engineer at Intel. Focus on neutron and kubernetes, virtlet and kubevirt.		
Ramki Krishnan	VMware	ramkik@vmware.com			
Constantine Polychronopoulos	VMware	cpolychronop@vmware.com			
Amar Kapadia	Aarna Networks	akapadia@aarannetworks.com	LinkedIn		

Sriram Rupanagunta	Aarna Networks	srupanagunta@aarannetworks.com	LinkedIn		
Prem Sankar G	Lumina Networks	premsankar@gmail.com	LinkedIn		
Ravi Chunduru	Verizon	ravi.chunduru@verizon.com	https://www.linkedin.com/in/ravivsn/		
Chen, Tingjie	Intel	tingjie.chen@intel.com	Tingjie Chen is a Cloud Software Engineer at Intel, he has contributed to edge and storage related open source project such as Kubernetes RSD CSI, StarlingX etc, and also working on Ceph containerization in StarlingX.		
Ramamani Yeleswarapu	Intel	ramamani.yeleswarapu@intel.com			
Haibin Huang	Intel	haibin.huang@intel.com	Haibin is Cloud Software Engineer working out of Intel ShangHai. He has contributed to ONAP projects.		
Rajamohan Raj	Intel	rajamohan.raj@intel.com	Raj is a Cloud Software Engineer at intel. He is currently working on the Distributed Analytics as a Service project.		
Igor Duarte Cardoso	Intel	igor.duarte.cardoso@intel.com	Cloud, networks, telecommunications. OpenStack, OSM, Kubernetes, Akraino.		
Larry Sachs	Intel	larry.j.sachs@intel.com	Cloud Software Engineer at Intel		
Todd Malsbary	Intel	todd.malsbary@intel.com	Cloud Software Engineer at Intel		
Mark Scott	LF Mentorship program - Mentee	mcatscott6@gmail.com	LinkedIn		
Palaniappan Ramanathan	Intel	palaniappan.ramanathan@intel.com	Cloud Software Architect at Intel		

Files

File	Modified
Microsoft Powerpoint Presentation Akraino-Cloud-Native-Edge-Stack-external-v2.pptx	Jul 25, 2019 by Srinivasa Addepalli
Microsoft Powerpoint Presentation Akraino-Cloud-Native-Edge-Stack-external-v3.pptx	Aug 19, 2019 by Srinivasa Addepalli
Microsoft Powerpoint Presentation Akraino-Intergrated-Cloud-Native-meetup-external-v4.pptx	Dec 03, 2019 by Kuralamudhan Ramakrishnan
Microsoft Powerpoint Presentation Akraino-Edge-Service-matching.pptx	Apr 21, 2020 by Srinivasa Addepalli
Microsoft Powerpoint Presentation Intel-Edge-Opensouce-portfolio-and-integration-v8_-08242020.pptx	Sep 24, 2021 by Kuralamudhan Ramakrishnan

[Download All](#)