IEC Type 4: AR/VR oriented Edge Stack for Integrated Edge Cloud (IEC) Blueprint Family

Project Technical Lead: Bart Dong . Elected and Approved 30 Apr 2020

Wenping Ying. Elected 5/7/2019. Stepped Down 11 Dec 2019

Project Manager: Wenhui Zhang

Link to process-SC review record Graduation reviews

Blueprint species:

Use Case Attributes	Description	Informational
Type	New Blueprint for VR/AR on the Network Edge	
Blueprint Family	Integrated Edge Cloud (IEC)	
Use Case	Deployment of generic edge end and cloud environment for VR/AR cloud streaming	
Blueprint proposed Name	IEC Type 4: AR/VR oriented Internet Edge Stack for Integrated Edge Cloud (IEC) Blueprint Family	
Initial POD Cost (capex)	NVIDIA RTX GPUs, Chelsio T580-CR NICs, AMD Radeon. less than $120k (3 nodes)	
Scale & Type	Generic blueprint PoC: • One master node and up to 5 worker nodes with mixed Linux and optional Windows OS • Each worker node is x86/ARM server with nVidia RTX GPUs (Titan or GeForce TBD), AMD Radeon. Large scale deployment: • Number of worker node servers, x86/ARM server or deep edge class, is site dependent (footprint) • vGPU and federation supported class, e.g. NVIDIA Tesla K80, AMD Radeon GPUs. • Chelsio T580-CR NIC	
Applications	Generic blueprint POD: Small scale cloud AR/VR rendering farm with generic SO. Production/commercial service: 1. Consumer applications: High performance premium gaming, 3D/Light-field video for movies, live concerts, events, LBE, etc. 2. Enterprise applications: training/education, product design collaboration, manufacturing, maintenance, data analytical etc,	
Power and memory restrictions	N/A	

Infrastructure orchestration	Docker 18.09.4 or above (19.03 may be needed to run optional windows container with nVidia or AMD GPU support) and K8s 1.14.1 or above- Container Orchestration, VMWare or Openstack VM OS - Ubuntu 18.04.2, windows server 2019 Under Cloud Orchestration - Airship v1.0 (TBD)	
SDN	Calico and K8s, or or SR-IOV, OVS-DPDK	
Workload Type	VR and AR applications with split rendering runtime running inside Containers or VM	
Additional Details	The test configuration consists of 3 machines connected using Ethernet switch: a master and 2 worker nodes, each with TBD processor clocked at TBD GHz, with TBD GB of RAM and Ubuntu operating system for master, windows server 2019 or later for worker. MTU of 1450B is configured (to compensate for GTP tunnel header and to avoid fragmentation). Each windows server preconfigures with 2-3 VMs with fixed GPU allocation per VM.	

Attachments:







As per the Akraino Community process and directed by TSC, a blueprint which has only one nominee for Project Technical Lead (PTL) will be the elected lead once at least one committer seconds the nomination after the close of nominations. If there are two or more, an election will take place.

Self Nominations start 23 April and go through 29 April

Committer	Committer Company	Committer Contact Info	Committer Bio	Committer Picture	Self Nominate for PTL (Y/N)
Tina Tsou	Arm				
Wenhui Zhang	PSU				N
Wenping Ying	HTC	wenping_ying@htc.com			
Ryan Anderson	IBM	rranders@us.ibm.com			
Vikram Siwach	MobiledgeX	vikram.siwach@mobiledgex.com			
Kris Chaisanguanthum	Visby	chaisang@visby.io			
Guoxi Wang	UC Irvine	guoxiw1@uci.edu			
Trevor Tao	Arm	trevor.tao@arm.com			
Jingzhao Ni	Arm	jingzhao.ni@arm.com			
Jianlin Lv	Arm	jianlin.lv@arm.com			
xin qiu	Tencent	robertqiu@tencent.com			Stepped down
Sukhdev Kapur	Juniper	sukhdev@juniper.net			
Margarida Correia	Juniper	mcorreia@juniper.net			
Bart Dong	Tencent	bartdong@tencent.com			Y
Christos Kolias	Orange	christos.kolias@orange.com			
Thor Chin	inwinSTACK	thor.c@inwinstack.com			
Tide Wang	Phytium	wanghailong@phytium.com.cn			
Yanning Wang	Phytium	wangyanning@phytium.com.cn			

Contributor	Contributor Company	Contributor Contact Info	Contributor Bio	Contributor Picture
Jianqiang Li	GDCNI	lijq@gdcni.cn		

Meeting Minutes:

June 6th: June6th

June 20th: June20th