MicroMEC

Project Technical Lead: Ferenc Szekely .Elected 10/12/20.

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 Akraino Technical Community Document section 3.1.3 for more detailed information.

Participants updated 13 Oct, 2020!

Committer	Committer Company	Committer Contact Info	Committer Bio	Committer Picture	Self Nominate for PTL (Y/N)
Tapio Tallgren	Nokia	tapio.tallgren@nokia.com			N
Bob Monkman	Ind.	bob.monkman@gmail.com			N
Ferenc Székely	Ind.	ferenc.szekely@gmail.com			Y

Presentation:

µMEC blueprint

Use Case:

Use Case Attributes	Description	Informational
Type	New	
Industry Sector	Telco networks, especially network edge (Ultra Far)	
Business driver	The uMEC will enable new functionalities and business models on the network edge. The benefits of running applications on the network edge are • Better latencies for end users • Less load on network since more data can be processed locally • Better security and privacy since sensitive data need not be transferred to a centralized location All these new services support the business case for building new high-speed networks which in turn enable new things.	
Business use cases	The uMEC has several deployment models that each support different business cases: 1. Fixed installation as part of 5G NR base stations enables new services that leverage especially low latency, such as AR/VR 2. As an extension of the previous, the “Smart City” deployments have additional functions such as weather stations, cameras, displays, or drone charging stations. The control software for these functions would run on the uMEC 3. In an Industry 4.0 use case set, the uMEC is deployed as part of a 5G network and would provide a platform for running services for the factory floor 4. In a train, the uMEC could collect and store surveillance camera data for later uploading	
Business Cost - Initial Build	The cost of the uMEC hardware and software should be tens of dollars. This does not include power supplies, casing, modems, and other external components. Installation and cabling will be the highest cost item.	
Business Cost - Operational	The uMEC device software should be fully manageable remotely with automation. The power consumption for uMEC without peripherals supports Power over Ethernet types 1, 2 and 3 which are covered as different PODs	
Operational need	The uMEC must be fully operable remotely with automation. It should be able to recover from network failures by reverting to a known good network configuration.	
Security need	The uMEC device will be used outdoors in untrusted environments and it handles potentially privacy-sensitive data such as live video. Therefore, the device needs to support trusted boot, trusted key storage, and encrypted communication. The device will also have application from different parties and must provide isolation between them. The Linux application security, either SELinux or AppArmor, must be used.	
Regulations	The uMEC should meet all the industry regulations of data privacy, security, and environmental conditions.	
Other restrictions	Depending on the uMEC deployment scenarios, there can be other requirements.	
Additional details	There are three blueprint species related to this blueprint which correspond to the different power classes of the uMEC.	

Blueprint species:

Use Case Attributes	Description	Informational
Type	New	
Blueprint Family - Proposed Name	uMEC	
Use Case	Small deployment of uMEC	
Blueprint proposed Name	uMEC Type 1	
Initial POD Cost (capex)	• The defining factor is power consumption < 15 W • The cost of the POD will depend on peripherals and case	

Scale & Type	• A single-board computer that meets the power limit	
Applications	uMEC applications	
Power and memory restrictions	• Less than 7 W for the SoC • Less than 512MB of memory	
Infrastructure orchestration	ONAP Edge Cloud orchestration	
SDN	SR-IOV & OVS-DPDK or VPP-DPDK	
Workload Type	• Containers • MEC compatible	
Additional Details	Submitter to provide additional use case details	

Blueprint species:

Use Case Attributes	Description	Informational
Type	New	
Blueprint Family - Proposed Name	uMEC	
Use Case	Medium deployment of uMEC	
Blueprint proposed Name	uMEC Type 2	
Initial POD Cost (capex)	• The defining factor is power consumption < 30 W • The cost of the POD will depend on peripherals and case	
Scale & Type	• A single-board computer that meets the power limit	
Applications	uMEC applicatios	
Power and memory restrictions	• Less than 15 W for the SoC • Less than 4GB of memory	
Infrastructure orchestration	ONAP Edge Cloud orchestration	
SDN	SR-IOV & OVS-DPDK or VPP-DPDK	
Workload Type	• Containers • MEC compatible	
Additional Details	Submitter to provide additional use case details	

Blueprint species:

Use Case Attributes	Description	Informational
Type	New	
Blueprint Family - Proposed Name	uMEC	
Use Case	Large deployment of uMEC	
Blueprint proposed Name	uMEC Type 3	

Initial POD Cost (capex)	• The defining factor is power consumption < 60 W • The cost of the POD will depend on peripherals and case	
Scale & Type	• A single-board computer that meets the power limit	
Applications	uMEC applications	
Power and memory restrictions	• Less than 30 W for the SoC • Over 4GB of memory	
Infrastructure orchestration	ONAP Edge Cloud orchestration	
SDN	SR-IOV & OVS-DPDK or VPP-DPDK	
Workload Type	• Containers • MEC compatible	
Additional Details	Submitter to provide additional use case details	