

CFN (Computing Force Network) Ubiquitous Computing Force Scheduling

BP State: Incubation BP. It has already been approved and voted by Akraino TSC Incubation Review at [TSC 2022-06-28 \(Tuesday\) 7:00 am Pacific - Akraino - Akraino Confluence](#) .

Use case

Attributes	Description	Informational
Type	New	
Industry Sector	V2Xartificial Intelligence appenterprise OA	
Business driver	<p>Real World needs:</p> <ul style="list-style-type: none"> -92 percent of respondents reported having a multi-cloud strategy* and has multi cloud vendors. -Hybrid cloud management including public cloud, on premise and edge cloud. -Multi-cluster deployment strategy to achieve high availability. -Disaster recovery scenario. The application system is usually deployed in the geo-redundant mode. -... 	
Business use cases	<p>According to the CFN Ubiquitous Computing Force Scheduling, the computing force of public cloud, edge cloud and external third parties is managed to achieve consistent cluster, policy, configuration and traffic management, and to achieve resource-level and task-level scheduling.</p> <p>* Ubiquitous Computing Force conceptLogically, the computing force is more three-dimensional, including three levels: center, edge and terminal. Physically, resources span data centers in different regions. The kernel is heterogeneous, including general computing force (x86/ARM) and special computing force (GPU/DPU...).</p>	
Business Cost - Initial Build Cost Target Objective	Set up the infrastructure environment preparation to achieve multiple clusters management. Multi Cloud environment should be deployed in more than 3 servers in a single rack at a low cost.	
Business Cost – Target Operational Objective	<p>Build the Ubiquitous Computing Force Scheduling BP which includes:</p> <ul style="list-style-type: none"> -Set up the infrastructure environment to achieve multiple clusters management, and expand cluster from central cloud to edge cloud; -Scheduling mechanism based on cloud-edge collaboration, such as traffic governance and scheduling across nodes; -The management and monitoring of cloud and edge clusters; -Enrich scheduling strategy;such as latency, task type, etc. 	
Security need	N/A	
Regulations	N/A	
Other restrictions	N/A	
Additional details	N/A	more details see the attachment please

Blueprint Species:

Case Attributes	Description	Informational
Type	New	
Blueprint Family - Proposed Name	CFN (Computing Force Network) family	
Use Case	XR, Video Streaming, V2XUbiquitous Computing Force Scheduling	

Blueprint proposed Name	CFN (Computing Force Network) Ubiquitous Computing Force Scheduling	
Initial POD Cost (capex)	At least 10 virtual machines, depends on deployment scale	
Scale & Type	For large deployments, this could span to large number of virtual machines.	
Applications	XR, Video Streaming, V2X to be discussed	
Power Restrictions	N/A	
Infrastructure orchestration	Upstream: Docker/K8s - Container Orchestration Upstream Project -Karmada: https://github.com/karmada-io/karmada -Kurator: https://github.com/kurator-dev/kurator OS - Linux, such as Ubuntu	
SDN	N/A	
Workload Type	container	
Additional Details	N/A	



Committer	Committer Company	Committer Contact Info	Committer Bio	Committer Picture	PTL
Hanyu Ding	China Mobile	dinghanyu0502@hotmail.com			04 Aug 2022 to 04 Aug 2023 Approved at TSC 2022-08-04 (Thursday) 7:00 am Pacific - Akraino - Akraino Confluence
Kevin Wang	Huawei	wangzefeng@huawei.com			
Yanjun Chen	China Mobile	chenyanjunyj@chinamobile.com			
Lei Shi	China Mobile	shileiyj@chinamobile.com			
Pengxiang Chen	China Mobile	chenpengxiang@chinamobile.com			
Fanqin Zhou	BUPT	fqzhou2012@bupt.edu.cn			
Baohong Ma	MIGU	mabaohong@migu.cn			

Guangming Wang	MIGU	wangguangming@migu.cn			
Zhonghu Xu	Huawei	xuzhonghu@huawei.com			
Jianpeng He		hejianpeng2@huawei.com			
Mengxuan Li	4Paradigm	limengxuan@4paradigm.com 391013634@qq.com			

Contributor	Contributor Company	Contributor Contact Info	Contributor Bio	Contributor Picture