PDL ISG - PoC Proposal Template

1 PoC Project Details

1.1 PoC Project

PoC 3

PoC Project Name: (TiME Project) Timeless in Metaverse Environment based on Edge networks.

PoC Project Host: KUNFUD

Short Description

The Smart Contract system based on the Hybrid Peer to Peer network is for the Metaverse Traveller (MT) who want to have the content and request the Real world Traveller (RT) to create/transfer the content on demand basis.

Although the whole project is presented at IPCEI-CIS to build the Hybrid Peer to Peer Computing infrastructure system in Edge Networks. By Valladolid Data Centre enabling the Peer nodes to compute directly with servers and/or other Peers in the different and/or same Edge Network (this is referred to as "KRON Computing") in order to provide stable and high-performance computing power and big data transmission network. This PoC will assess and test one use case for contract management.

1.2 PoC Team Members

Table A.1

	Organization name	ISG PDL participant (yes/no)	Contact (Email)	PoC Point of Contact (see note 1)	Role (see note 2)	PoC Components
1	KUNFUD (ALASTRIA)	yes	kunfud@gmail.com	X	INFRASTRUCTURE PROVIDER	OPEN SOURCE DEVELOPMENT
2	OWAKE Co Ltd.	No	info@owakeme.com		APPLICATION PROVIDER	OPEN SOURCE DEVELOPMENT
3	DATA ECONOMY ASSOCIATION	No	presidente@dataeconomy.org		NETWORK OPERATOR PROVIDER	DATA ANALYTICS
4	TELEFONICA	yes	diego.r.lopez@telefonica.com		OPERATOR SERVICE PROVIDER	RECRUITMENT ANALYSIS AND VALIDATION
5	TECHNOLOGICAL PARK OF UNIVERSITY OF VALLADOLID	No	jcuena@parquecientifico.uva.es		NETWORK OPERATOR PROVIDER	OPEN SOURCE DEPLOYMENT

NOTE 1: Identify the PoC Point of Contact with an X.
NOTE 2: The Role will be network operator/service provider, infrastructure provider, application provider or other as given in the Definitions of ETSI Classes of membership.

All the PoC Team members listed above declare that the information in this proposal is conformant to their plans at this date and commit to inform ETSI timely in case of changes in the PoC Team, scope or timeline.

1.3 PoC Project Scope

Contract Management: Smart Contracts	Media and Social Media: Intellectual Properties management, e-Sport, Culture, Art, Advertisement

1.3.1 PoC Goals

EXAMPLE: The PoC will demonstrate at least one use case of […] and report on the suitability of the PDL Refence Architecture ETSI GS PDL 005 as described in clause 4.x.x bullet x.

The Goal of this PoC project is to help the people to see the live video or content taken from the place exactly where they want to take in place. In particularly in this PoC how PDLs can be synchronized in a hybrid peer to peer framework for the management of Smart Contracts.

1.3.2 PoC Topics

PoC Topics identified in this clause need to be taken for the PoC Topic List identified by ISG PDL and publicly available, i.e. the three topics identified in clause 4.5 of the PDL PoC Framework. PoC Teams addressing these topics commit to submit the expected contributions in a timely manner.

Table A.2

PoC Topic Description	Related WI	Expected Contribution	Target Date
Instalment and deployment	PDL 3	Proof of deployment	2021-11
Identify the standards	PDL (ALL)	Checking list	2022-2
Assess the patents	PDL 5	Identify the potential SEPs and FRAND status report.	2022-4
Enhance the robustness	PDL2, PDL 3, PDL 4, PDL 6, PDL 11, PDL 12, PDL 13	Specification report	2022-5
Self-sustainability criteria	PDL 2, PDL 3, PDL 4, PDL 5, PDL 6, PDL 11, PDL 12, PDL 13	Principles and fundamentals research	2022-5

1.3.3 Other topics in scope

List here any additional topic for which the PoC plans to provide input/feedback to the ISG PDL.

Table A.3

PoC Topic Description	Related WI	Expected Contribution	Target Date
Open specific group for IPCEI-CIS for PDLs.	ISG PDL	Activate a global group for the IPCEI-CIS in ISG PDL	2021-11
Analyse the FRAND possibilities	PDL 2, PDL 3, PDL 4, PDL 6, PDL 8, PDL 11, PDL 12, PDL 13	Sedes materiae report.	2022-4

1.4 PoC Project Stages/Milestones

Table A.4

PoC Milestone	Stages/Milestone description	Target Date	Additional Info
P.S	PoC Project Start	2021-11	
P.D1	PoC Demo 1	2021-12	Venue, F2F/Webinar
P.D1	PoC Demo 1	2022-1	Venue, F2F/Webinar
…	…		
P.C1	PoC Expected Contribution 1	2022-1	
P.C2	PoC Expected Contribution 2	2022-3	
…	…		
P.R	PoC Report	2022-4	
P.E	PoC Project End	2022-5	

NOTE: Milestones need to be entered in chronological order.

1.5 Additional Details

For example, URL, planned publications, conferences, etc.

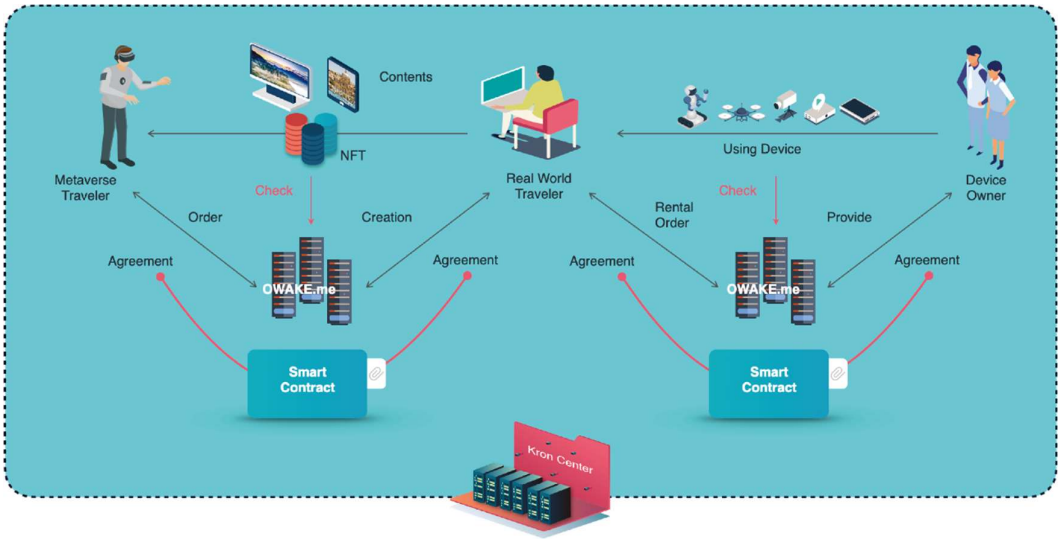
Owakeme.com

2 PoC Technical Details

2.1 PoC Overview

Describe the PoC here.

The PoC demonstrates the individual people can request the content to other individual people and they can sign the smart contract and create the NFT content and transfer it on the Hybrid P2P Network environment. Edge to Edge communication and hybrid p2p system are called to as Kron Computing and Kron computing can provides the data economy is possible on the edge nodes.



This PoC is to prove the On Demand Content creation in Timeless in Metaverse environment, and demonstrates

1. ***The Metaverse Traveller(MT), who want to have/watch the content/live video in the specific geological location, and the Real world Traveller(RT), who want to create/transfer the content as MT requested,***

meet on the hybrid peer to peer network and signs the smart contract on the hybrid peer to peer network. (On demand basis Content creation)

2. ***The RT creates the content to fulfil the requirement of the content buyer on the hybrid peer to peer network (Content Creation under the smart contract policy)***

3. ***The created content is being tokenized (Non-Fungible Token creation)***

4. ***The content is delivered autonomously to the MT with optimized Content delivery methodology through;***

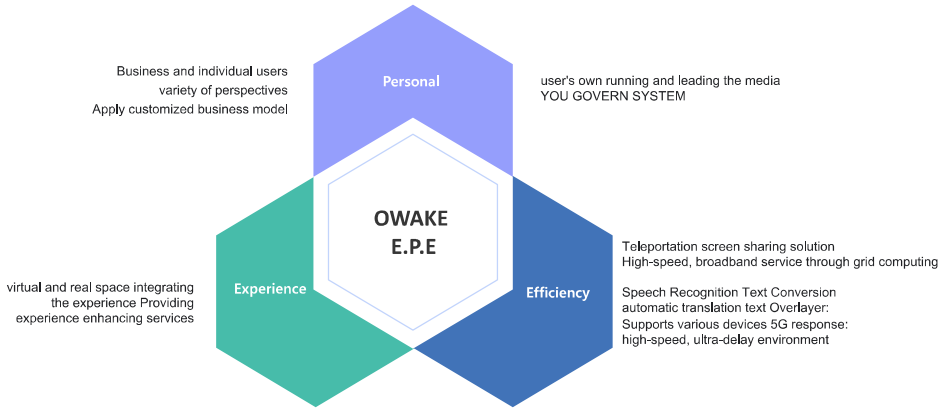
    i. Cloud Server system (Classic Content delivery system)

    ii. Hybrid Peer to Peer system (Server + Peer network)

    iii. Edge network (direct to direct between peer)

5. ***These demonstrated scope of the smart contract contains Online, Offline, and On-Offline based contract, and standardized and interoperable data collaborative infrastructure which create the digital single market with decentralized autonomous participants on the edge network.***

OWAKE BM's three major identities: OWAKE E.P.E

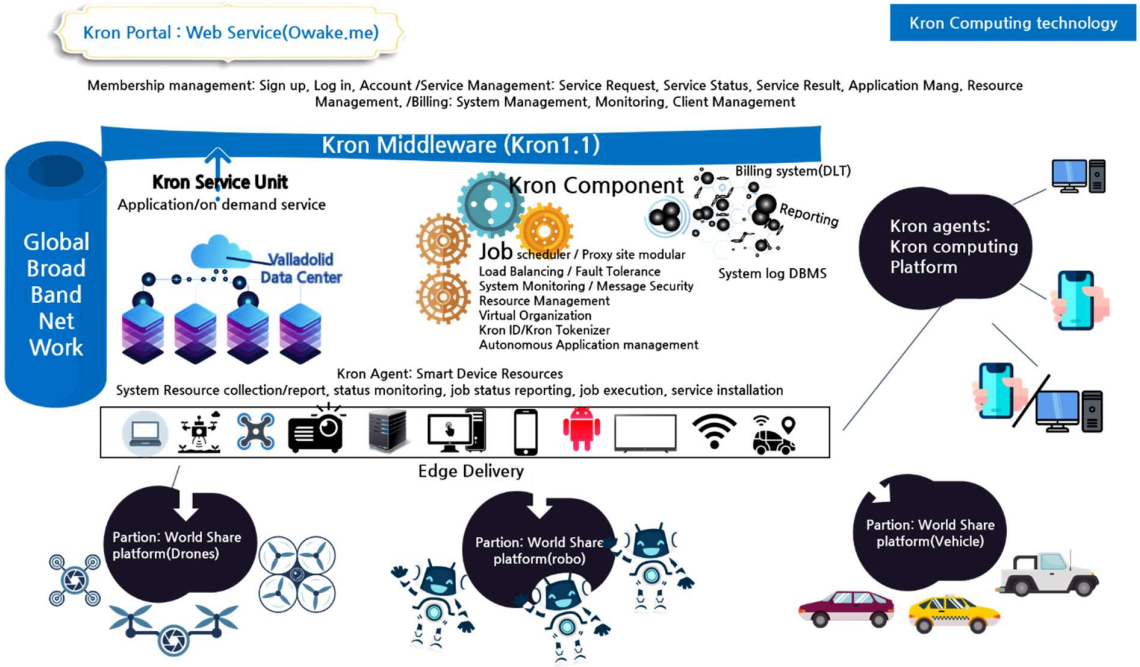


open business identity that supports user-driven communication

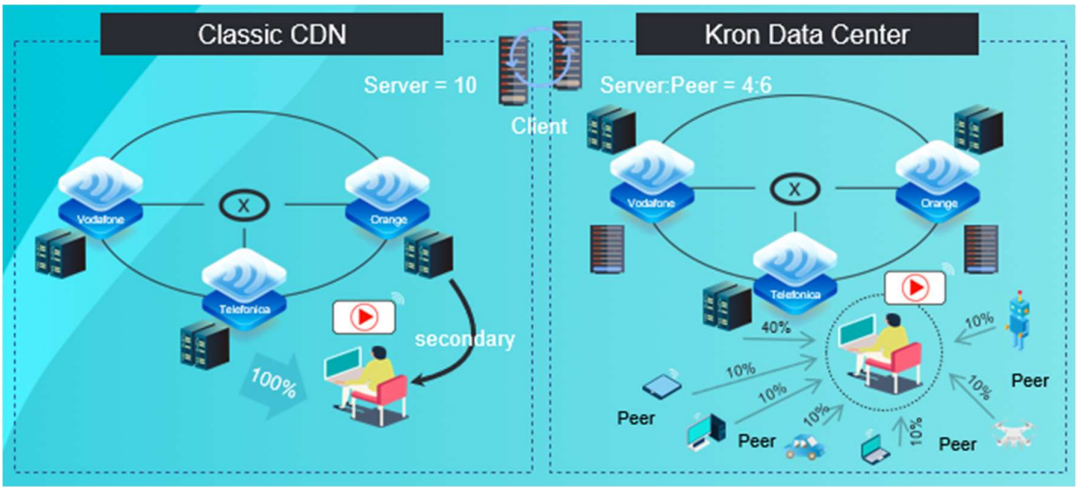
2.2 PoC Architecture

Include a schema outlining how the different PoC components fit in the PoC architecture.

To provide an efficient and effective edge computing service, KRON Computing is applied with KRON Middleware technology; which provides a highly intelligent load balancer and HA configuration for distributed parallel processing and fast, stable job processing in an environment that requires high-performance computing power and big data transmission through optimized job scheduling and resource

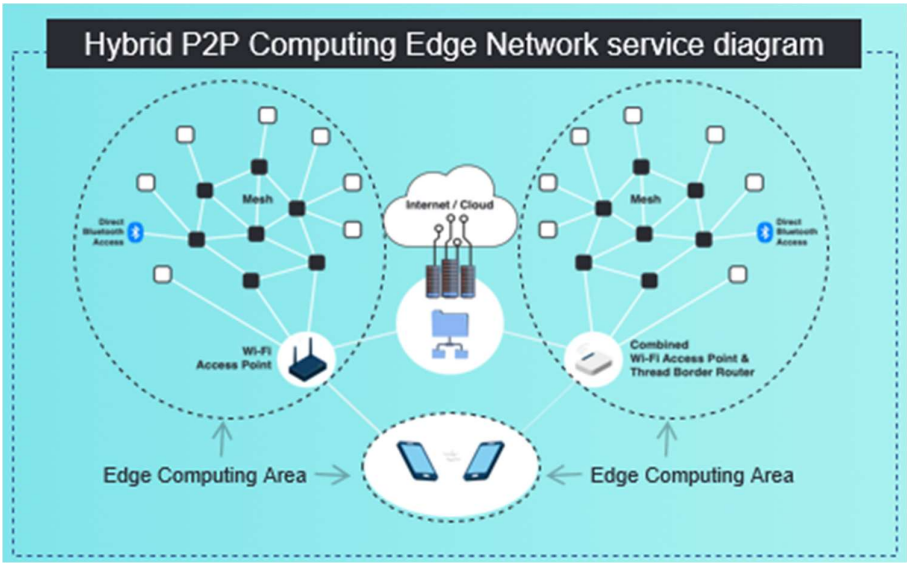


matching.



This system needs to provide customers with service continuity through system stability and scalability in a dynamic service environment by strengthening the application of resource management, task matching algorithm, verified security algorithm and redundancy functions. **It will use optimal node computing to improve response time, save network bandwidth and communicate by configuring a separate mesh network with IOT devices that cannot access the Internet environment.**

Hybrid P2P Computing in Edge Network service diagram



2.3 PoC Success Criteria

- Explain how the proposal intends to verify that the goals are presented in clause A.1.2 have been met.

EXAMPLE: Functional (it worked, it did not work), Performance (transactions per second, throughput, processing per second, packet per second, etc.), Scalability, Availability, Service Quality.

The Metaverse Traveller (MT) requests the content creator, Real world Traveller (RT), to create the content based on the smart contact policy by posting the buy request on the omni communication channel Website, Owake.Me.

① The MT can specify the content requirement related to, include but not limited to, Location, Time, Content creating device (iPhone, Samsung phone or digital Camera or sensors or other type of device), Creator, Storage, Delivery, Token, Payment, Data, encryption, Buyer, Address, RWA, Warrant, Representation, Promise, Content, Amount, Signature, Transfer Device, and Network. (Terms and conditions)
② e.g.: The MT wishes to see the ally of the Leon, Spain right now.
③ Thus, the MT requested the creator whoever lives in Leon Area to take the live video in real time and sell to the buyer the live video with 100Euro in Owake.Me website.
④ The RT who saw this request in Owake.Me wants to go into the contract and provide the live video service
⑤ The MT and the RT sign the smart contract with certain condition and terms.
⑥ The RT broadcasts or transfers the Non-Fungible Tokenized live video content as contracted with MT.
⑦ The content is transmitted fully and the entitlement transferred from the RT to the MT as contracted.

2. The Real world Traveller(RT) accepts/negotiate the terms and conditions of the Request from the MT and provide the content creation on the omni communication channel website Owake.Me.

3. The RT delivers the content with NFT to the MT.

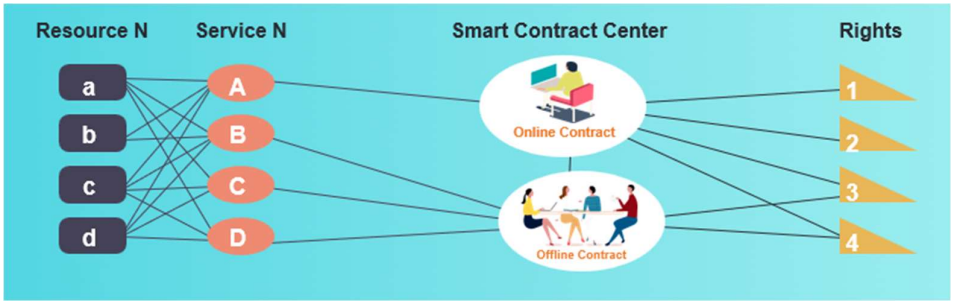
4. The MT's currency token releases to RT with RT's transfer completion and RT receives the currency Token and the smart contract is fully completed successfully.

In case of the failure of the content creation, content delivery, payment or any technical failure the contract is breached and payment or file delivery will not performed.

2.4 Additional information

Include additional information as useful.

(Security System Governance and Resource & Contents Security)



Kron (Hybrid P2P) system Defines the resource and create user group by its scope of rights

Limit rights for data and resources by each group

Set up access process by combining controlling function for user management & engine level security and user Identification.

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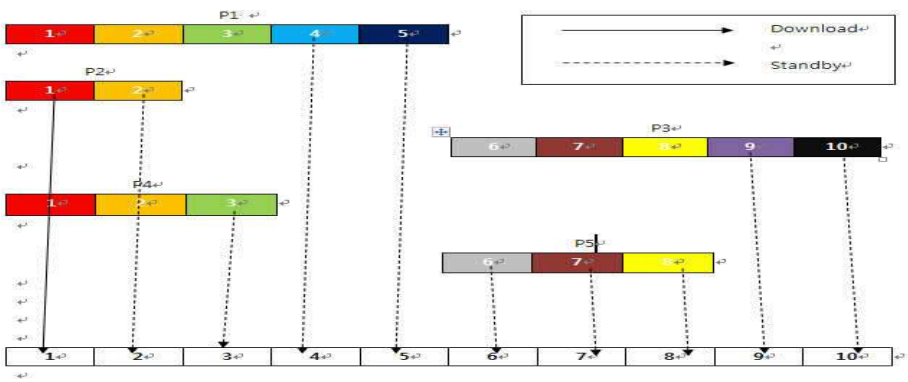
Administration Right Management is the most important component in the total security system. Security policy for user right restriction and illegal access prohibition is as follows

- Edge node can download and upload the file to deliver it to another node by using the edge network.
- The Network Control System consists of Kron Center, Super Peer, and Peers(nodes).
- The main part of the PoC of the Smart contract in the Kron (Hybrid Peer to Peer network) system environment is each edge node(peer) in Android, iOS, and Windows which provides the basic configuration environment of the smart contract.
- Which will show that the edge node can be used as the important resource to serve the mission critical job to deliver the content among nodes.

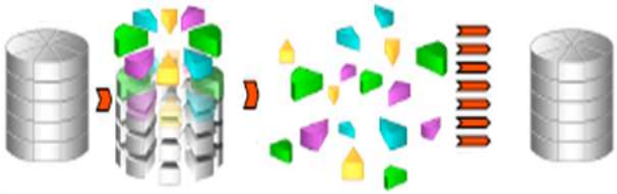
(File sharing on edge network)



• The nearest segment of Green Peer instead of main server is delivered to customer when customer requests

• Make higher the transmission performance and reduce the load of server and network through using the resource of Green Peer instead of main server

(How to deliver the file on edge network)



- Kron delivery system uses Green delivery transfers the files after logically divides the file in small parts.

- Therefore, the small parts of files can go through fast in traffic network.