## **ITU FG DLT Meeting Memorandum of Information**

Multiledgers August 2019





### **Section 1 Summary**

#### **Platform summary**



### Easy deploy and manage networks in multicloud environment

- Infrastructure as a service (IaaS) (Ali Cloud, AWS, Microsoft Azure, IBM Cloud, Google Cloud, Oracle Cloud, and more to come)
- Blockchain as a Service (BaaS) (Corda, Hyperledger, Quorum and more to come)
- Platform as a Service (PaaS) (Deploy and manager networks, audit smart contracts, deploy and manage smart contracts, join Network Process, and more to came)
- Governance as a Service (HSM, KYC, Users Private Networks, Networks Operated By Multiledgers and more to come)







### **Section 2 Governance**

#### **Platform governance**

Multiledgers Network
Networks created and operated by Multiledges
etworks created and operated by users using the Multiledgers platform

Different types of integrated blockchain technology enabling many governance architectures



Models established according to the use of the network

Private blockchain network operated by Multiledgers with

possible deploy of nodes by users

### **Section 3 Trust Endorsement Policy**

**Platform trust Endorsement Policy** 



c∙rda

👬 Quorum

Different types of integrated blockchain technology enabling many types of endorsement policys

Agreement

Tokenomics



#### **Section 4 Network Hypothesis**

#### **Platform Network Hypothesis**



Nodes distributed in different public clouds using Byzantine fault tolerance

Distributed architecture with no point of failure

Each user has a separate Fabric architecture channel that enables scalability on demand



#### **Section 5 Consensus Mechanism**

#### **Platform consensus mechanism**



c∙rda

👬 Quorum

Different types of integrated blockchain technology enabling many types of consensus that in some cases can be plug and play

The networks created by Multiledgers generally do not use PoW but with the ability to connect to public blockchain networks the platform also uses this type of consensus

**BFT Smart** 

PoET

Sumeragi

Kafka



### **Section 6 Ledger**

#### **Platform Ledger**



👬 Quorum



Different types of integrated blockchain technology enabling many types ledger structures

Merkle-Patricia tree (MPT)

Unspent Transaction Output (UTXO)

Account / Balance



### **Section 7 Smart Contract Mechanism**

**Platform smart contract mechanism** 



c∙rda

👬 Quorum

Different types of integrated blockchain technology enabling many types of smart contracts Fabric Chaincode Corda CorDapp Ethereum Smart Contract



#### **Section 8 Data Protection - Core**

**Platform data protection - core** 



All requests made by the platform are operated by smart contract and stored in the ledger
Complete knowledge of the activities of the platform on-chain
Segregated channel of information by user
Possibility of node deploy by the user to guarantee data quality
Zero proof knowledge data storage
Encrypted ledger content
Key information encrypted on smart contract



### **Section 9 Data Protection - Application Service**

Platform data protection - application service

c∙rda

👬 Quorum



Different types of integrated blockchain technology enabling the use of leading edge technologies for data privacy solutions

Zero knowledge proof

Multi-party computing



#### **Section 10 Account Management - Core**

**Platform account management - core** 



Information packages (name, address, identity) for different platform access levels

Know your customer and employees enriched by big data with proven query by ledger

Sharing of information in necessary processes authorized by the user



### **Section 11 Account Management - Application Servive**

Platform account management - application servive



Individual digital certificates per user for a non-disputed environment

Access control for the platform

Access control for different platform levels

Accounting of all requests made on the platform in ledger



#### Section 12 System Management - Node

Platform system management - node



Any node can be used to manage the system Distributed architecture with no point of failure Graphical tool for monitoring and logging stored on ledger



### **Section 13 System Management - Chain Network**

#### **Platform system management – chain network**



#### **Section 14 External Data Exchange - Core**

Platform external data exchange - Core



Highly secure and easy to use desktop and servers base application (C#)

First Multicloud Blockchain as a Service (BaaS) Platform managed by smart contract



### **Section 15 External Data Exchange - Application Sevice**

#### Platform external data exchange - application sevice





#### **Section 16 Extensions - Core**

**Platform extensions - core** 



Fabric Chaincode

Cross chain support among all types of blockchain operated by Multiledgers

Send commands between different networks to control your topology and your operational settings



### **Section 17 Extensions - Aplications Services**

**Platform extensions – aplication service** 

#### Smart Contract Dev Support

Smart contracts templates store Smart contracts code editor Smat contracts deploy utility Smat contracts audit tool utility

#### **Extra Tools**

Block Explorer and Data Viewer

Governance for on boarding of new organizations in a network

Financial management of public clouds

Encrypted messages for communication between users

Autonomous configuration actions

Services available through the network distributed in different public clouds without a single point of failure



#### **Section 18 Interoperability**

**Platform extensions - core** 

"Ability of a system to work with or use the parts or equipment of another system" Merriam Webster

#### Interoperability between cloud infrastructures

Integration with multiple cloud providers provides easier infrastructure portability by avoiding vendor lock-in and providing operational or financial optimizations

#### Interoperability of management between frameworks

Using the Hyperledger Fabric framework to control different frameworks provides a favorable governance environment and robustness across multiple infrastructures

# Interoperability of assets between frameworks

Multiledger's utility token for contracting cloud services from multiple cloud providers can also be used as a form of payment for services within different networks managed by Multiledgers using different blockchain frameworks



#### **Appendices**

#### **Important Informations**

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