

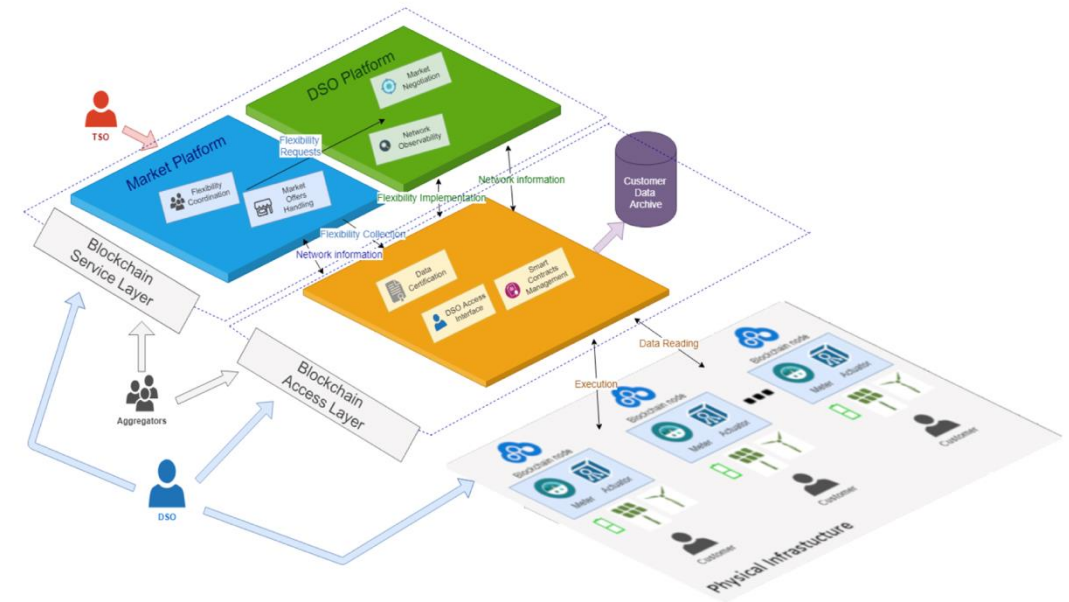
The PlatOne platform and data sharing

PLATFORM FOR OPERATION OF DISTRIBUTION NETWORKS — PLATONE



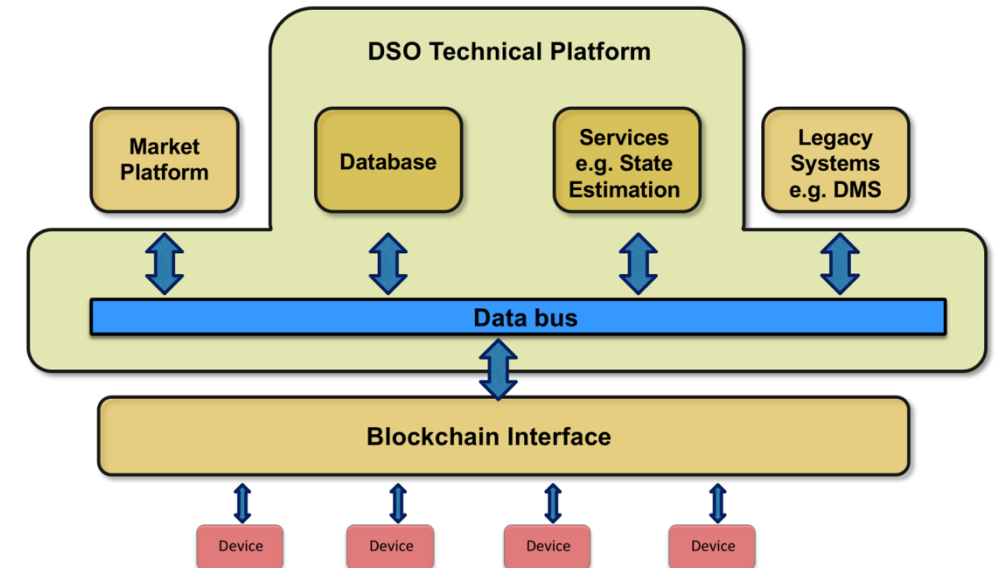
Open Source and dual use of data as key ingredient of an open platform

- Architectural proposal of H2020 PlatOne:
 - Multi-layered hybrid IoT/off chain vs DLT/Blockchain/Smart Contract to enable:
 - Consumer access layer
 - Optimal coordination and operation of fair and transparent multi-stakeholder marketplaces
 - Dual Use of data for market and technical services
 - Integration of legacy solutions



Putting all together to overcome limits of legacy solutions

- Combining the solutions envisioned in the previous architecture, here we have:
 - Secure data link thanks to blockchain
 - Integration of legacy DMS
 - Link to market for dual use of data
 - Integrated data bus for flexible integration of new services



Data interaction with grid operator

- The PlatOne platform will be actually hosted by the Grid Operators
- Goal is to use the platform as data middleware with the DSO at the center of the data traffic, so playing an unbiased role between service providers, operator, consumers and the market
- In this respect data from the grid operator are by definition available within the system with two options:
 - The DSO has an advanced DMS and data can be accessed with the DMS API
 - The DSO does not have an advanced DMS so that services such as State Estimation can run directly on the PlatOne data bus

PlatOne data sharing

- PlatOne principles is to create an easy mechanisms of data sharing involving customers
- The two-layer architecture supports dual use of data provision: market and operation
- The platform offers a variety of mechanisms for data sharing and at least two different implementation solutions can be envisioned:
 - 1) the users are connected to a blockchain infrastructure. Data shared through this system are published to another market system (including TSO market)
 - 2) the users are connected to a blockchain infrastructure and the same infrastructure provides peer 2 peer market functionalities

PlatOne open source and open API

- The full platform is developed as an open source solution
- All the interfaces to the data bus will be released as open specification and a reference implementation will be provided
- A first set of interfaces and services as open source solutions are already available as result of the on-going H2020 SOGNO, from which PlatOne inherits the internal data bus architecture
- Cooperation with H2020 CoordiNet will support the possibility of immediate compatibility also at TSO level

PlatOne: *Cutting Barriers, Unlocking Flexibility*

- PlatOne provides a cost-effective, seamless and secure power supply for customers that become *active players* while supporting DSOs and TSOs in their system responsibilities
- The solution breaks down the barriers in the flexibility market and allows the massive participation also of residential customers connected to the Low Voltage grid
- This approach enables the active participation of PROSUMERS connected to the distribution network to the optimized management of the grid

Session 3: What's the data interface to be harmonised?

1) What additional data do you need from whom and in what time frame for your project/platform (e.g. real time topology data from network operator)? *Data from consumers?*

- Customer unique identification (Point of Delivery) in order to address correctly the flexibility action per customer
- Real time (up to 4 seconds) measurements both from smart meter and from grid nodes and from interested MV – LV lines
- Bid location from aggregator

How do you bring it all together?

- Via open interfaces among IECx network and market standards and integration via FIWARE context broker “homogenization layer”)

2) What data sharing arrangements do you have or need to conclude with whom? For what type of data?

- *Arrangements with consumers and with aggregators*

What does that require from the market participants in terms of IT infrastructure?

- Massive data collection-> extensive data gathering and storage need, and/or edge/cloud infrastructure (es SOGNO),
- PlatOne client to be integrated with legacy and operational systems

Session 3: What's the data interface to be harmonised?

- 3) How do you ensure/facilitate easy access to proprietary data you need for your project (e.g. do you get data from consumer assets directly or indirectly, for instance through a platform?)?
- Leveraging on privacy/sovereignty preserving model (via Data Access Control for respecting privacy and regulatory constraints), with a view to keep data closer to generation points and via data hubs
 - Via PlatONE Open Source Platform
- 4) Do you use open APIs in your project? If so, for what interfaces?
- Yes Open APIs planned for unlocking end-to-end solutions, hence among legacy DMS, consumer data, aggregator interfaces, and market interfaces



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