What is DOME

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Introduction

A service that runs on the cloud that implements the core functionality, but it comprises devices that need to be deployed for a particular customer and a software that need to be deployed and run in gateways. At the edge. That SW requires to get the data from the devices process and perhaps locally at the gateway and send data to the cloud. This are the kind of use cases we may consider. And that product, which is air quality monitoring app. That is a product that overall has a price, terms and conditions. When a customer procures, there will be a procurement process that may not be fully automated so that the deployment can be done instantaneously. It may require that for instance the devices are deployed by the customer and once those devices are activated, the corresponding software properly deployed in the gateway and establishes the connection with the backend, is when the whole application can start working for a given customer. So, overall a product may have a price that is activated provisioning activation procedure that may take days. In that sense the product is a combination of services that run in the cloud, elementary software that need to be deployed at edge devices or gateways based on recipes that are part of product description and using the guidelines or the work of integrators for that purpose. DOME sells products through dome, they may be different things, Some are a combination, or pure cloud services almost instantaneously provisioned, because it's only need activation at cloud backend. Or product only software to be deployed at edge. There's a variety of scenarios. DOME should not be responsible of managing provisioning and activating product. DOME will be signaling the provider of a product that the product has been procured.

DOME is not involved in the provisioning; we are just addressing the purchase process. We need to get a signal when provision and activation has finished. It's part of the transaction. All is done, start the billing and economical transaction between the parts. DOME is an economical provider, not a tech platform, DOME is not responsible of the services between the provider and the buyer.

It can be the business of other marketplace to take responsibilities in this sense. The complexity means that we need to have enough flexibility in the description of the product and its options. To be able to define the contractual picture. I want the baseline package with all the options, all these resources, etc. Buyer to select all the options needed to perform the transaction. It does not matter what the technical complexity is behind, we are just looking at the economical transaction. The kind of service that is behind the product description is not so meaningful. We need to keep in mind what kind of options, flexibility, autonomy for the product description.

DOME is a marketplace that deals at the economic level. We are only an economic operator, we don't care when the billing takes place, DOME should not be involved, it's between the buyer and seller? Yes and no. The EC wants DOME to be able to bill if the provider desires and the buyer desires. We facilitate the invoicing, or are we invoicing, the buyer pays us then we become a re-seller, it makes a massive difference! Also from tax point of view. Are we legally a party in the transaction?

The EC wishes where both customer and providers don't want to use any federated marketplace. DOME need to provide the ability for the provider to rely, allow to connnect and use the services of the main gateway. We are not the one that bill and pay, but allow the providers to rely on something different than the federated marketplace. We build only an invoicing and payment mechanisms that 2 parties can use to have the transaction among themselves.

- DOME is selling PRODUCTS where products is a combination of services + resources (potentially without restriction). But it's better to focus priority on some specific to avoid waste effort and reach some quick result
- DOME is a transactional broker not involved in any way in provisioning or operating the sold product
- DOME will facilitate the transaction but wil NOT act as a reseller. The contractual agreement is between Buyer and Seller
- DOME should provide enough flexibility in the product description to enable the selling of the different PRODUCT typology

- DOME will enable the buyer to filter providers and products based on characteristic but will never suggest the right product for the buyer
- DOME will keep visibility of the transaction to support reporting

DOME ADDED VALUES (for sellers):

- Enter a list of certified providers/products (ensuring EU rules compliance)
- Increase visibility of your offering outside the country boundaries
- Have a marketplace (for who has not) to sell the products on line

DOME ADDED VALUES (for buyers):

- Access a list of pre-certified products/providers
- Have a "state of the art" marketplace facilitating the transaction and providing a set of reporting tools enabling expense control
- Service that is running on the Cloud, comprise devices that need to be deployed for a specific customer in gateways

Presentation of DOME to the cloud alliance

ENG has its own marketplace and has experience and knows the complexity.

The big challenge is to create the marketplace for an ecosystem of marketplaces across Europe. A marketplace that enables CSPs to present their services and collect and show to a larger audience services from other marketplaces. Objectives, is to consolidate view of offering in single place. Single point for accessing a large number of services. It means that services providers publish services on DOME and other marketplaces can create their own offering by aggregating services from other providers. We would like to improve the vendor selection process, which is complex and time consuming from the point of view of the end-user and provide pre-verified services. We will onboard service providers and services that have been certified.

We want to reduce the effort for searching new product and services, for procurers, to reduce the time for creating and managing RFQ and RFPs and also accelerate the negotiation for new product deployments. We are working on the templates to accelerate the process.

We will offer the possibility to check consumption and control costs with a single view on the bill daily updated (real-time) it would save a lot of money for the customers.

Federation is a foundational concept of DOME, it is based on a federation of marketplaces. We can receive from other marketplaces offers from services coming from the rest of Europe.

Service providers that would be provisioned on DOME could be adopted and aggregated to other services from other marketplaces and when a satellite marketplace publishes a service, and decides to share the new service on DOME we will automatically verify credentials and certifications and publish on the central marketplace. The DOME infrastructure will ensure transactions visibility and transparency so whatever happens on the satellites marketplaces will be automatically communicated to DOME, so the customers can have the possibility whether receive the bill from DOME or to skip the relationship with the services provider selected during the purchasing process. DOME marketplaces can decide what are the services they want to publish on DOME and they can keep some others for them, just publish a selection of services.

Types of marketplaces considered: 1) pure marketplaces, managing on our data center or DAWEX, emphasize that we can also have a data marketplace so we can show data on DOME and another type associated with infrastructure providers, such as IONOS, ENG and ORANGE, creating an API linked? Federated marketplace.

Important to underline that most partners are members of the FF, create ecosystems of providers that are building components that once aggregated providing services for the final audience. ENG creating its own city platform, and one opportunity is to sell components integrating FIWARE based solutions. Others are doing the

same, like agriculus for farming or ED I4.0. others will join.

Catalogue composition, standardized product descriptions, not only services, but products, a composition of services resources and connected services, a bundle of resources, this is one of the key characteristics of DOME; the capability to flexibility design those bundle of services, and different types of payment models adapted to the needs of customers. APIs, integration strategy based on the TME forum standard APIs so all marketplaces need to speak a subset of TM forum APIs, we hope to deliver something for managing Saas, Paas and data offering.

Tech details, building the platform marketplace on open source, some of our partners are going to use the SW for creating their own marketplaces automatically federated with DOME; if public admin and small municipalities, to sell data, they can create their own marketplace or experiences they want to resell, especially for SMEs this is value added they can explore better the investment in SW and engineering services, it could be a differentiator. It is based on open standards, most partners are partners of GAIA x. the API for integrating the marketplaces are based on TM Forum standard which are also at very root of the DSBA convergence model, so we hope these convergences will push in and DOME will be automatically aligned with DSBA.

Crucial access management, verify services based on credentials that are going to be compliant with the XXX architecture and the GAIA x trust services, we will trust certification authorities spread over the continent and the onboarding mechanism would leverage on investments already done for participation in marketplaces. The infrastructure is based on other EU infra MC, what happen to a services provisioning DOME from a satellite marketplace will be automatically transferred to DOME, choice where to allocate the subscriptions, and the same standard approach used for data services.

The ambition is to create, put DOME at the center as an enabler for creating ecosystems of infrastructure providing sw vendor services and platform providers, and system integrators and certification agencies, leverage on certif agency, it plays an important role, list cerif agency for those who want to pass certification process. The benefits possibility to create a bundle of services in the continuum edge cloud and across Europe.

Policy context: supporting cloud-to-edge infrastructure and services in Europe

Cloud computing is identified as a central piece of Europe's digital future, providing European businesses and public organisations the data processing capability required to support their digital transformation.

Delivering on the objectives of its digital strategy, through the EU programmes such as the Digital Europe Programme and the Connecting Europe Facility, the European Commission is proposing actions for building essential capacities that will be achieved by co-investing with Member States in new high-end digital infrastructures and services, and by upgrading and consolidating available capacities at the EU and national level.

In this context, the European Commission has stepped up its effort **supporting the deployment of the cloud-to-edge infrastructure and services** to:

- Improve the **availability of highly trustworthy, curated cloud and edge services** that serve the interests of crucial sectors dealing with sensitive data, such as the public sector.
- Increase the **uptake cloud-to-edge services among public and private entities alike** and in vertical sectors that lag in cloud adoption, such as the European health sector.
- Reinforce the **EU's open strategic autonomy**, ensuring that the digital transformation of the economy is undertaken based on secure, fair, inclusive, and resource-efficient infrastructures and services.

DOME - Distributed Open Marketplace for Cloud and Edge Services in Europe

With this aim, the first call of the Digital Europe Programme (DIGITAL-2021-CLOUD-AI-01) pressed for actions to deploy and operate a Marketplace for federated cloud-to-edge based services. The project DOME consortium of 39 members coming from 14 EU Member States, including 11 large enterprises, 24 SMEs, 2 research institutions, 6 non-profit organisations and 2 public bodies was selected and over the course of 36 months starting on 1 January 2023 will:

- Deploy the **technical infrastructure of the marketplace platform**, with strong customer focus, user-friendliness, and inclusion and equality principles;
- **Operate the platform** according to security, energy and resource efficiency, data protection, ethical standards and portability requirements;
- Ensure the **integration of state-of-the-art identity and access management services** on the marketplace platform to support its operation;
- Design a **curation/vetting process for services offered on the marketplace**, notably for sector-specific services in regulated sectors (e.g. health, energy, finance);
- Implement **interconnections with similar marketplaces and service catalogues** that already exist in some Member States;
- Enable access, through a single EU portal, to an **online catalogue of existing cloud-to-edge based service offerings** that are **compliant with a pre-defined set of EU rules and requirements** available in the forthcoming **EU Cloud Rulebook**;
- Implement a **service brokerage functionality** to enable transactions between providers and users to take place on the Marketplace; and
- Ensure a **vendor-neutral technical architecture** and reference framework.

Key assets: Sovereignty, trust and reputation

Satisfying the EU market requirements, the DOME service catalogue quality will ensure its reputation towards building a brand for trusted information, through governance mechanisms and trust-enhanced transactions, aligned with Gaia-X specifications.

DOME ensures unbiased competition and strict vendor neutrality in the positioning of services on the marketplace, offering same business opportunities to all players in a win-win model, being fair and open to all who comply with the rules and requirements in place.

This will empower European technology suppliers to develop new digital services and provide state of the art AI enhanced solutions to increase and optimise the productivity of public and private sectors.

Keywords

- Digital Services and Platforms
- Cloud computing
- Cloud Services
- EU Cloud Marketplace
- Cloud federation