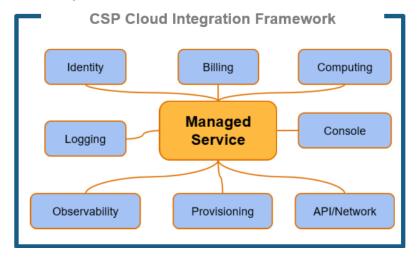# Open Services Cloud - Use cloud provider's core APIs to handle the lock-out problem.

Problem Statement

The current cloud services ecosystem has two major problems – the lock-out and the lock-in.

The lock-out is a problem that impacts all service vendors and indirectly also the end users. In the current status of the ecosystem, it is only possible for the cloud providers itself to offer native managed services on their own cloud. These are the services which we see by default when we login into the console of any cloud providers. These services have better integration to their management and infrastructure layer/APIs (see integrations in the below diagram) and thereby making the service more efficient and less expensive.

Whereas, any other 3rd party software vendor who wants to offer his services, cannot offer native managed services as there is no access to any of the interfaces that are required to offer a managed service and can only sell via market place or as SaaS products in their own websites. This results in end users often simply using the software services that are offered from the cloud provider itself. This causes the software vendor to be "locked-out" of the services eco-system and at the same time also reduces the options for end users.

The lock-in is a problem that impacts the end users. The services and the underlying data are not really portable and this causes the users to be locked-in to the same cloud provider since porting services and data out of a cloud provider is not easy.

OSC proposes the following approach to the above discussed problems:

1. Cloud providers must allow all software vendors also to offer native managed services on their cloud infrastructure by opening-up their internal/private APIs.
2. Service provider should be allowed to add services to the managed services catalog of the cloud provider.
3. At the same time, we must standardize this process of offering managed services across all cloud providers.
4. Thereby, also solve the lock-in problem by allowing users to choose providers and services of their choice.

Research Proposal

1. Analyze which cloud provider's management and infrastructure APIs are required for offering a fully native-managed services.
2. Analyze which information is required from service providers to offer a fully native-managed service.

3. Analyze what core APIs of a cloud provider needs to be used while offering a service and what needs to be used while deploying the service.
4. Analyze how the existing service catalogs from cloud service providers can be extended with services from 3rd party service providers.

References

1. https://events.eclipse.org/2023/unlockthecloud/documents/unlock-the-cloud-interoperability-to-foster-the-eu-digital-market-report.pdf
2. https://eclipse.dev/xpanse/