

# The Principles of an Open Cloud

OSBF's "Open Cloud Business Initiative"

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## Summary

The Open Source Business Foundation eV (OSBF) lays out the following six principles under their "Open Cloud Business Initiative":

- *All user and meta data of a service are presented in an open standard format.*
- *The functionality of a service is made available via open standard interfaces.*
- *Any service consumer<sup>1</sup> can use the service without discrimination.*
- *Ownership and access rights can be determined by the user for all data they process.*
- *The service provider respects data<sup>2</sup> rights as granted by the user / service consumer.*
- *Open Cloud Services developers collectively decide upon the appropriate processes / infrastructure for all changes / extensions of the service as a community.*

## 1. Introduction

The cloud market<sup>3</sup> is an independent software market which today, stands at the beginning of its life cycle. Like any technology-driven market, the cloud market will move through a life cycle characterized by innovation, maturity and finally, commoditization phases. Throughout these, market structures and business models unique to each phase will crystallize. In the innovation phase, standards are typically lacking, and the high development costs of proprietary technologies need to be recovered. Therefore in this first phase, business models which lock in customers to proprietary technologies tend to prevail. Later, when open standards have emerged in the commoditization phase, other business models form, which instead focus on high market penetration through openness. As such, in its first few decades a licensing model flourished in the traditional software market, while open source software has fundamentally shifted the market in the last decade. The same is to be expected in the cloud market. For example, Amazon offers a proprietary messaging service, Amazon SQS which is not supported by other public cloud providers such as Microsoft, Google and VMware. Each provider is attempting to lock in customers to recover the costs of their innovation. In this way, openness – or an open cloud- cannot be expected in the cloud market today. The open cloud presents a future market opportunity, which may be some years on the horizon.

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<sup>1</sup> A service consumer can be either a user or another cloud service

<sup>2</sup> The product of data processed by a user is not the object of consideration in this version of the document

<sup>3</sup> Refers to the 'cloud' per the definition and taxonomy of [http://opencloudmanifesto.org/Cloud\\_Computing\\_Use\\_Cases\\_Whitepaper-4\\_0.pdf](http://opencloudmanifesto.org/Cloud_Computing_Use_Cases_Whitepaper-4_0.pdf)

## 2. Technical Principles

Nonetheless, there are a few pioneers – mostly from the open source scene- who are already giving thought to the open cloud. Most notable are the Open Cloud Manifesto<sup>4</sup> and the newly established Open Cloud Initiative<sup>5</sup>. At their core, both seek to define principles for the open cloud. While the Open Cloud Manifesto sets out business requirements to the providers, the Open Cloud Initiative offers concrete, technical specifications for the open cloud. According to the latter, open cloud services must:

- *present all user and meta data in a open standard format,*
- *make functions available via open standard interfaces, and*
- *ensure intellectual property and access rights of user-processed data can be defined*

The OSBF's "Open Cloud Business Initiative" differs to the Open Cloud Initiative in that, the OSBF calls for:

- Ownership and access rights for all processed data can always be defined by the user
- Terms and conditions are openly available for each user, at any time, without discrimination

The requirements of the recently founded, technically oriented Open Cloud Initiative are correct and necessary. However, the OSBF views them to be insufficient, as they neglect legal and social considerations. In contrast, "Open Cloud Business Initiative" seeks to balance technical, legal and social perspectives. The open source movement founded itself primarily on a completely new type of software license (the legal perspective) and on a new kind of software development, in an open community (the social perspective). The same should also be expected in the open cloud, if the cloud market should be commoditized in the future.

## 3. Legal Principles

A clear delineation between ownership and exploitation rights with regard to business data, is lacking in many of today's dominant cloud services. This is illustrated in the following examples:

- Google Terms (<http://www.google.com/accounts/TOS>), Section 8.3.: "Google reserves the right (but shall have no obligation) to pre-screen, review, flag, filter, modify, refuse or remove any or all Content from any Service."
- Amazon Terms (<http://aws.amazon.com/terms/>), Section "Your Account": "... AWS reserves the right to refuse service, terminate accounts, remove or edit content in its sole discretion. ..."
- Facebook Terms (<https://www.facebook.com/terms.php>), Section 2, "... you grant us a non-exclusive, transferable, sub-licensable, royalty-free, worldwide license to use any IP content that you post on or in connection with Facebook (IP License). ..."

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<sup>4</sup> <http://www.opencloudmanifesto.org/>

<sup>5</sup> <http://www.opencloudinitiative.org>

In an open cloud, where a user can migrate their business data from one provider to another, the ownership and exploitation rights to the business data must be clearly defined. Accordingly, the owner of the data must also be clearly defined. This owner alone, would determine the exploitation rights of his data to third parties. Other market participants, in particular ISPs / cloud providers, would only have rights to the data of their users, to which the users / owners have personally granted them.

#### *An Open Cloud Service*

- *Allows any consumer (defined as a user or another service) to use the service without discrimination*
- *Does not claim any rights to the data of its consumer, where conflicting user / owner rights exist. For example - unless otherwise agreed - the user can retract rights to his data which he has granted to the service provider before he closes an account. The service provider would thereby be obligated to delete all data belonging to the user.*

Open cloud licenses similar to OSI's open source licenses, which allow the use of open cloud services could be anticipated.

## **4. Social Principles**

Third parties can both consume or aggregate cloud services into higher value cloud services, such as mash-ups on the SaaS layer. Through this aggregation and consumption, future cloud stacks will be formed. In the traditional software market, software stacks were compiled by individual providers (e.g. IBM, Oracle, Microsoft) and in open source projects and consortiums (e.g. Apache, Eclipse). A similar development can be expected of the cloud market. Providers such as Salesforce, Amazon and Google will capitalize on their market dominance till the maturity phase, to create their own stacks and consortium standards for interoperability. In the later commoditization phase, the open cloud community will bring about their own cloud stacks, taking them to the public sphere. Their structural advantages will then compel proprietary providers to consolidate. In addition, governance processes and suitable infrastructure similar to those in the open source consortium will need to ensure that various cloud services and releases of different developers work well together and broaden their functional scope to meet user needs.

*Open Cloud Services developers will collectively decide on appropriate processes / infrastructure for all changes / extensions to the service, as a community. In this way, their open cloud service can be consumed by third party cloud services.*

## **5. Role of the OSBF "Open Cloud Business Initiative" in the Open Cloud**

The OSBF sees itself as a user advocate, and will assume a leadership role in the European open cloud movement. As far as possible, the OSBF "Open Cloud Business Initiative" hopes to contribute to and accelerate market adoption of the open cloud. Even though the open cloud may take a few years to gain market relevance, the first signs of its development can be seen

today. The goal of the OSBF and the “Open Cloud Business Initiative” is to discuss concrete open cloud frameworks and encourage example implementations for all three cloud layers – SaaS, IaaS and PaaS. Discussions on an open SaaS framework are already underway. For open IaaS and open PaaS, the “Open Cloud Business Initiative” is seeking OSBF members who are interested in collaborating on their respective framework design.