



# Scaling Cooby Cloud

A highly scalable cooperative and community driven  
cloud service platform  
(DRAFT)

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# 1 In a nutshell

Cloud services companies are taking over the world. Apart from the three giants Amazon, Microsoft and Google we see a rising of acquisition and mergers among medium sized cloud related IT companies. The trend goes also quite strong in direction of Opens-Source software for cloud services.

“Open source has been the biggest theme in technology this year. Prior to IBM’s purchase of Red Hat, two of the biggest tech deals of the year were [Microsoft’s](#) \$7.5 billion purchase of [GitHub](#), a code-sharing service, and [Salesforce’s](#) \$6.5 billion acquisition of [MuleSoft](#), whose technology stitches together disparate software applications, data and devices. Earlier this month, big-data rivals [Cloudera](#) and Hortonworks agreed to merge in a [\\$5.2 billion deal](#). Both Rometty and Whitehurst, in comments to CNBC, agreed that Microsoft’s purchase of GitHub was “irrelevant” to IBM and Red Hat’s decision to enter into a deal.

While Red Hat has talked for years about potentially selling itself to other companies, including Google, never has anything gotten nearly as serious as the negotiations with IBM, according to people familiar with the matter” (Source CNBC)<sup>1</sup>.

## 1.1 Fear of the cloud

But many customers do not want to get all applications from the data cloud. Some software programs companies want to keep in their own data centers. In technical jargon is called the mix of cloud services and the use of own data center Hybrid Cloud. Corporate customers also want to avoid being dependent on a provider, regardless of whether it’s called Microsoft, Amazon or Google.

Cloud computing, eg the outsourcing of data, but also entire programs and computing tasks in data centers, has performed a steady grow and is now multi billion dollar market. To date, however, many companies have not dared to take that step yet or have relocated just a few tasks to the cloud. In addition to the costs of a change, they also worry about data sovereignty.

The success of Red Hat, says Jim Whitehurst, founds that open source programs have not mimicked proprietary software but are driving innovation in many areas. The driving force is therefore no longer the software manufacturers, but the users who look for software that best meets their needs. “Almost all the innovations in analysing large amounts of data came from open source software.” says Whitehurst.

The Cooby Cloud aims to bring a cooperative alternative for non profit organisations and SME’s to get a Cloud Services from a provider which does runs on a more distributed business model and is not driven by the need to increase the shareholder value. To achieve this Cooby will form a Platform Cooperative, where stakeholders, network agents or even end customer can apply for a membership of the cooperative to participate and benefit of the grow of the platform.

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<sup>1</sup> Source: <https://www.cnbc.com/2018/10/28/ibm-to-acquire-red-hat-in-deal-valued-at-34-billion.html>

## 2 Cloud Services as Platform Cooperative?

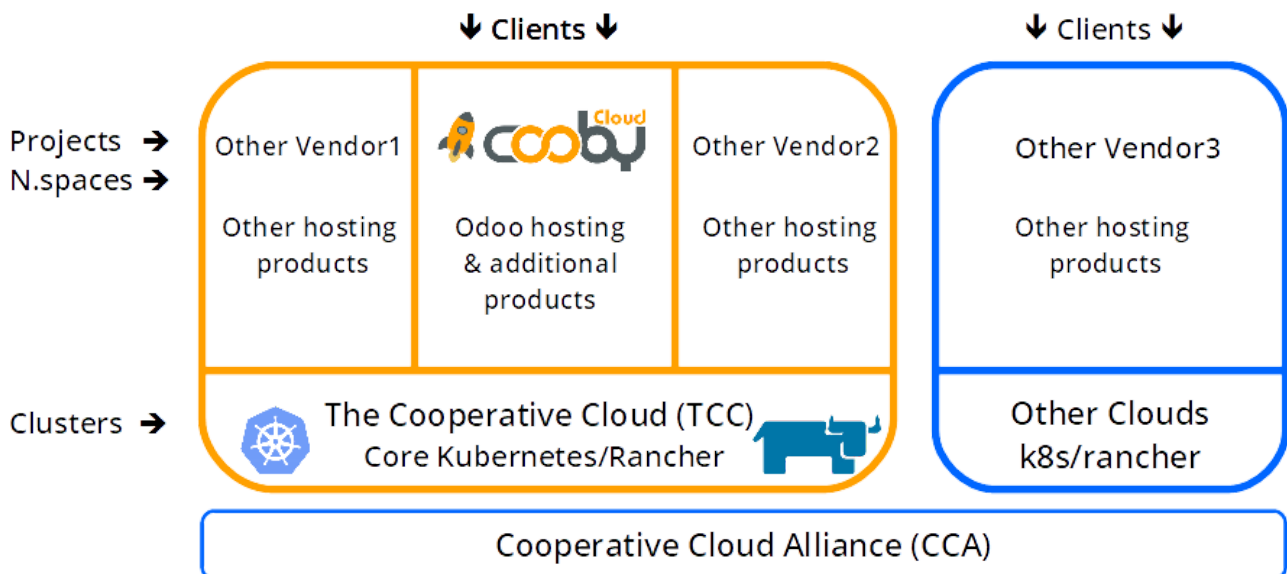
We intend to run the Cooby Cloud as a Platform Cooperative, to allow workers, clients and other stakeholders to become members of the cooperative and can influence the further developments and can get a share in the revenues.

*"Platform cooperativism is a growing international movement that builds a fairer future of work. It's about social justice and the bottom line. Rooted in democratic ownership, co-op members, technologists, unionists, and freelancers create a concrete near-future alternative to the dominant sharing economy. Making good on the early promise of the Web to decentralize the power of apps, protocols, and websites, platform co-ops allow households with low and volatile income to benefit from the shift of labour markets to the Internet.*

*The model certainly does not solve all social problems and inequality, with a few clicks, but is a very important contribution to invigorating people-centered innovation, in combining the rich heritage and values of cooperatives with new Internet technologies."*<sup>2</sup>

## 3 High level platform organisation

The Cooby Cloud is based on Kubernetes and Rancher<sup>3</sup>, which are actually the most prominent open-source products in container driven data platforms.



Based on this stack Cooby builds a versatile cloud system with various access points for stakeholders, as other vendors and clients. The advanced tenant capabilities of Rancher allows to build fine grained access control for different user types in bundling different namespaces into Rancher projects<sup>4</sup>

There are different level of how stakeholders can participate in the Cooby Cloud ecosystem. The lowest level is the Cooperative Cloud Alliance, which is a loose alliance of partners who are interested in running their own Cloud

<sup>2</sup> Source (edited) <https://platform.coop/about>

<sup>3</sup> Link to Rancher labs: <https://rancher.com>

<sup>4</sup> Link to Rancher docs: <https://rancher.com/docs/rancher/v2.x/en/k8s-in-rancher/projects-and-namespaces/>

infrastructure with a Cooby like stack. A knowledge sharing and forum like platform helps to organize this community.

The next levels are then members of “The Cooperative Cloud” (TCC) itself, which have to be member of the Cooby cooperative too. TCC members have a comparable status as a reseller of a hosting platform, but have a voice in the further development of the platform and can participate in the profits.

TCC / Cooby members are able to use the Cooby cloud as vendors of their own product by applying for a Cooby Cloud Project space. For this they have to pay a monthly subscription fee, which is based upon their volume of using the Cloud resources. Vendors have to sell these resources under their own brand and domain name. They are fully responsible for their own products that they sell, but in line of the terms and conditions of using the Cooby Cloud as a vendor or reseller, Cooby is liable to provide the cloud resources as determined in the contractual agreement.

### 3.1 Cooby Cloud Odoo hosting

Especially startups, NGOs but also SMEs often use a variety of different software products. SaaS platforms, such as wordpress.com, mailchimp, salesforce and many other SaaS vendors, among which some must be paid on a monthly basis for providing their services. With the Cooby Odoo cloud we are offering all these services as an all in one solution for a competitive price. It will be among the tasks of the agents to convince customers from the advantages of using Odoo and putting Odoo into comparison with more popular and widely used brands. Cooby cloud offers the same services as an all-in-one solution for a fraction of the overall costs and without the vendor lock, which many comes with a lot of other SaaS products.

As mentioned before, Cooby Tec/Odoo agents playing an important role in promoting our services and supporting the user base. In order to be able to maintain a good quality for our service, we define certain standards regarding the extent and the quality of the service in a binding agreement with the agents. The relationship between Cooby Tec and the agents will be comparable to the Odoo SA partner network<sup>5</sup>. But up to a certain level Cooby agents don't have to pay a fee to act as a Cooby agent and they will get commissions when they sell hosting products to their clients.

In a first stage the Cooby Odoo Cloud will run in one single kubernetes container and will be managed by the Odoo SaaS tools<sup>6</sup>.

### 3.2 Cooby Identity Services (CIS)

An additional service which will be more and more needed is the Cooby Identity provider (IDP) service. The managed Cooby Identity Server platform allows our customers to login into all their sites with the same credentials (Single Sign On) and enables the use of secured login with two factor authentication (2FA).

But the Identity Services can also ordered as a stand alone product - not together with Cooby Cloud - to use it for your own self hosted applications.

Some more informations are to be found on our homepage<sup>7</sup>.

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<sup>5</sup> Link to Odoo partner network: <https://www.odoo.com/partners>

<sup>6</sup> Link to IT Partner SaaS Tools: <https://github.com/it-projects-llc/odoo-saas-tools>

<sup>7</sup> Link to Coby website: [https://cooby.cloud/de\\_DE/cooby-identity-service](https://cooby.cloud/de_DE/cooby-identity-service)

### 3.3 Cooby Rancher platform

The Rancher container management platform allows to manage kubernetes clusters and the easy installing of different software packages from templates<sup>8</sup> found on the Cooby Cloud, but it is not yet possible to manage the containers from Odoo and embed it into the business workflow. So in the first stage the container management has to be done manually via the Rancher user interface.

In a later stage Cooby will build and upgrade the existing Rancher Odoo connector framework<sup>9</sup> and integrate the basic functions into the business workflow. The goal is to have a list of deployable helm or Rancher templates mirrored into the Odoo webstore, so that end users can easily pick a software image from the store and let it automatically install. Of course the billing process will then be automated too, including stopping of containers in the case of outstanding payments.

### 3.4 Odoo kubernetes dev pipeline

Another more sophisticated way to deploy Odoo is together with a dev pipeline and integrated continuous integration (CI) . XOE Labs is leading the process to build such as stack which allows to manage kubernetes based Odoo instances in a similar way as Odoo.sh does<sup>10</sup>.

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<sup>8</sup> Link to k8s Helm Charts: <https://hub.kubeapps.com/charts/>

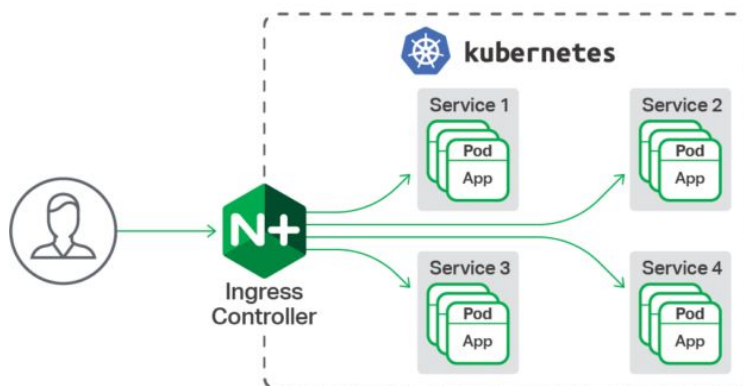
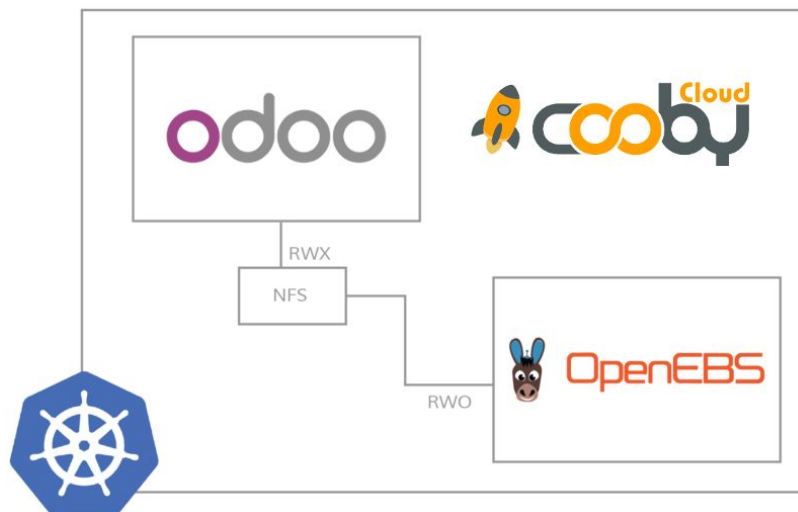
<sup>9</sup> Link to Github Odoo connector: <https://github.com/laslabs/odoo-connector-rancher/>

<sup>10</sup> Link to Github Odoo operator: <https://github.com/xoe-labs/odoo-operator>, <https://xoe-labs.github.io/odoo-operator>

## 4 Technical implementation

The Cooby Cloud is built upon the following products:

Product	Purpose	Link
<b>Kubernetes</b>	Production-Grade Container Orchestration	
<b>OpenEBS</b>	Containerized Storage for Containers	<a href="https://openebs.io">https://openebs.io</a>
<b>kubeadm</b>	Kubernetes toolbox	<a href="https://kubernetes.io/docs/setup/independent/install-kubeadm/">https://kubernetes.io/docs/setup/independent/install-kubeadm/</a>
<b>Rancher</b>	Multi-Cluster Kubernetes Management	
<b>Nginx/Ingress</b>	Web server, Ingress Controller for Kubernetes	<a href="https://www.nginx.com/products/nginx/kubernetes-ingress-controller/">https://www.nginx.com/products/nginx/kubernetes-ingress-controller/</a>
<b>MayaOnline</b>	Self-management of storage for DevOps, with the help of software.	<a href="https://mayaonline.io">https://mayaonline.io</a>
<b>MetallB</b>	Load-balancer implementation for bare metal Kubernetes clusters	<a href="https://metallb.universe.tf">https://metallb.universe.tf</a>



A full manual how to manage a Cooby Cloud like software stack can be found here: <https://github.com/gridworkz/kubernetes/wiki> or <https://coobycloud.blogspot.com>