Open Source and Cloud Computing Business Models

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The presentation discusses cloud computing business models, using open source business models as a point of comparison. Both cloud computing and open source are viewed as disruptive innovations that create new and enable old business models. I speculate about the future of cloud computing business models by looking at the history of open source business models.

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Open Source and Cloud Computing Definition

Open Source [1]

- Legal definition
  - Available in source code form
  - Rights to use, modify, distribute
  - Realized by various licenses
- Process definition
  - Peer production
  - Transparent process
  - Hinders vendor lock-in

Cloud Computing [2]

- A model for enabling
  - ubiquitous,
  - convenient,
  - on-demand
- network access to
  - a shared pool of
  - configurable computing resources
- that can be
  - rapidly provisioned and released
  - with minimal management effort
  - or service provider interaction.

[1] Open Source Initiative. See http://www.opensource.org.
[2] NIST. Special Publication 800-145 (Draft). Self-published, 2011.

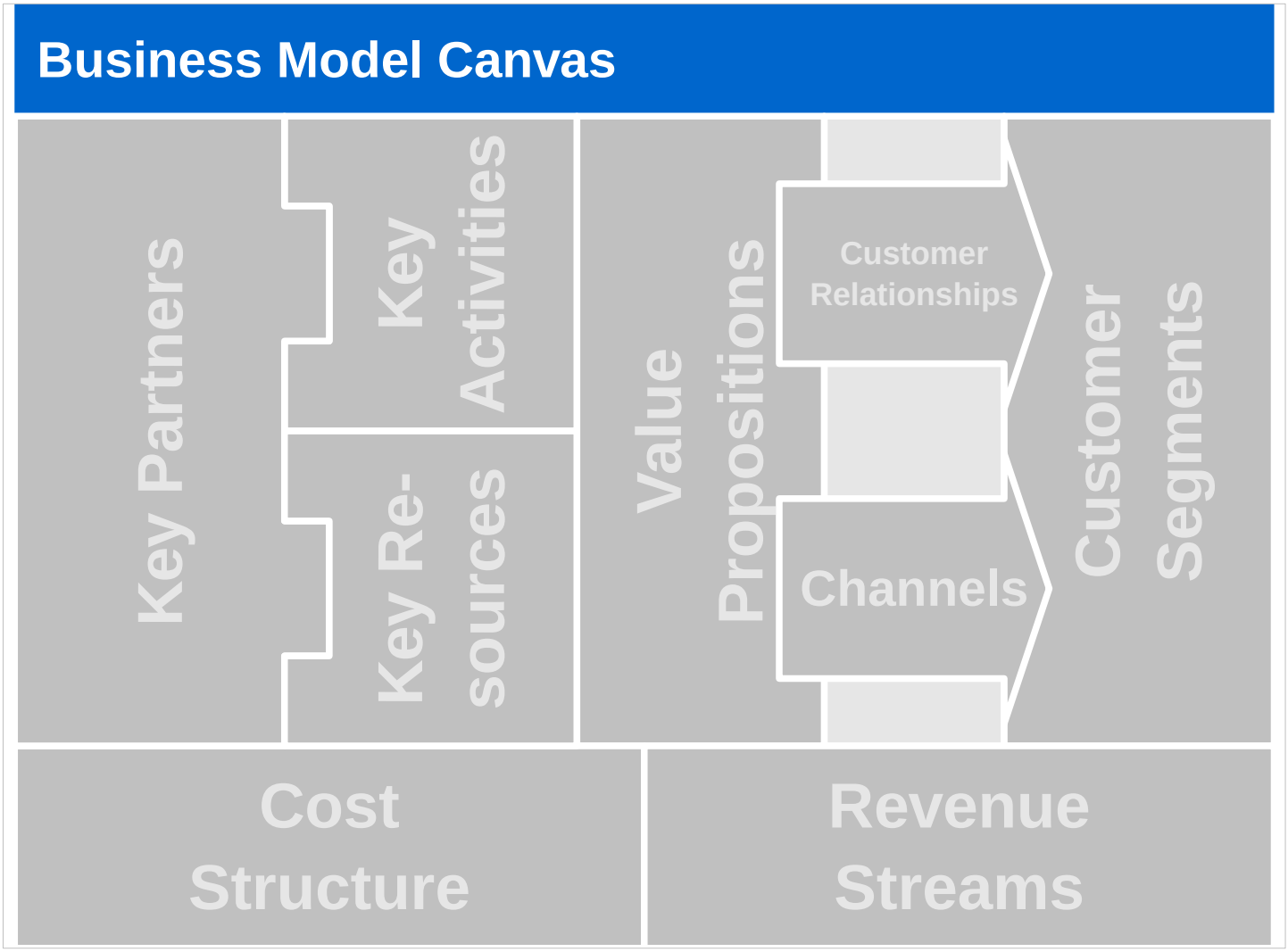
While open source is well understood, cloud computing is not. Open source has a legal and pragmatic (process) definition, see left side of slide, as defined by the Open Source Initiative.

Cloud computing typically means a delivery model of software or hardware ("as a service") that is fine-grain, i.e. can happen in small increments and that is priced accordingly in small increments ("pay-as-you-go"). All of this when compared to the prior state of the art which was not as fine-grain.

Definition of Business Model

A **business model** describes the rationale of how an organization creates, delivers, and captures value.[1]

[1] A. Osterwalder et al. Business Model Generation. Wiley, 2010.



The business model canvas is a tool for analyzing business models. One strength is the visual depiction and handiness.

Types of Business Models in this Context

1. **Innovation**
2. **Enablement**

} open source and cloud computing business models

3. **Support**

Difference between innovation and enablement: In the first case, you need to educate your customers that they need your product

In both open source and cloud computing we can distinguish two types of business models: Native open source and cloud computing business models and those in support of it, but that are not open source or cloud computing business models in themselves. Within the native business models we can distinguish, pragmatically, those that are new and those that have been revamped from prior existing models.

Pragmatic (Not Fundamental) Difference

Innovation

- Sales and marketing
  - Growing the actual market
  - Customer land grab
- Prod. mgmt. and engineering
  - Unclear requirements
  - Experimentation, pivoting

Enablement

- Sales and marketing
  - Growth in existing market
  - Customer acquisition harder
- Prod. mgmt. and engineering
  - Understood requirements
  - Execution

The distinction between innovation and enablement is pragmatic and derived from the market companies in the respective space are facing:

Newly invented business models face a market where the companies pursuing the model still have to educate their customers as to their needs (for this product or service). It is a land growth and grab situation.

Enabled business models face a market where customers already understand the value proposition, however, because of existing rivals, you may have “to pry your customers from your competitor's cramped hands”.

Example Businesses (and Models)

Open Source

- Innovation examples
  - Distributor models: **Red Hat**, SUSE, **Eucalyptus**
- Enablement examples
  - Open core: **SugarCRM**, Alfresco
  - Pure service models
- Support examples
  - Black Duck, Palamida

Cloud Computing

- Innovation examples
  - SaaS: iCloud, Dropbox, Pandora
  - PaaS: App Engine, Force.com
  - IaaS: Amazon EC2
- Enablement examples
  - SaaS: **SugarCRM**, Salesforce
- Support examples
  - **Eucalyptus**, **Red Hat**, VMware
  - Hardware: IBM, Dell

In open source, distributor business models are novel. Open core business models compete more directly with established firms and have been derived from traditional closed source models.

Support business models aren't open source or cloud computing business models themselves but support those.

Open Source is not a Business Model [1] [2]

Open source is not a business model.

Open source is a distribution and development methodology.

[1] Matt Aslett. "Open Source is not a Business Model." The 451 Group, 2008.
[2] Marten Mickos. "Open for Business." PARC Forum Talk, 2010.

By now it is well established that open source is not a business model but rather a distribution (read: sales and marketing) and a development (read: product management and engineering) strategy.

Open Source: Distribution and Development

Sales and marketing

Open source is not a business model.

Open source is a distribution and development methodology.

Product management and engineering

Cloud Computing is not a Business Model

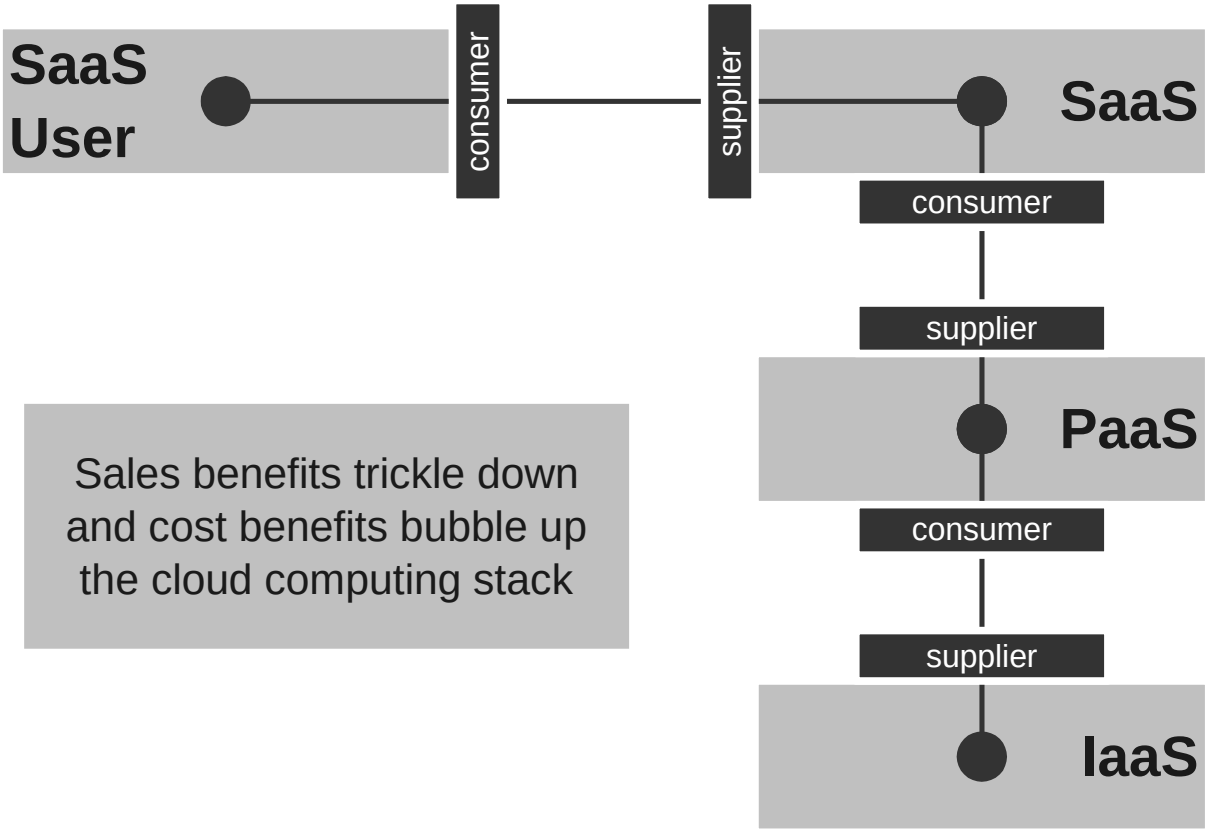
Working assumption:

Cloud computing is not a business model.

Cloud computing is (mostly) a distribution methodology.

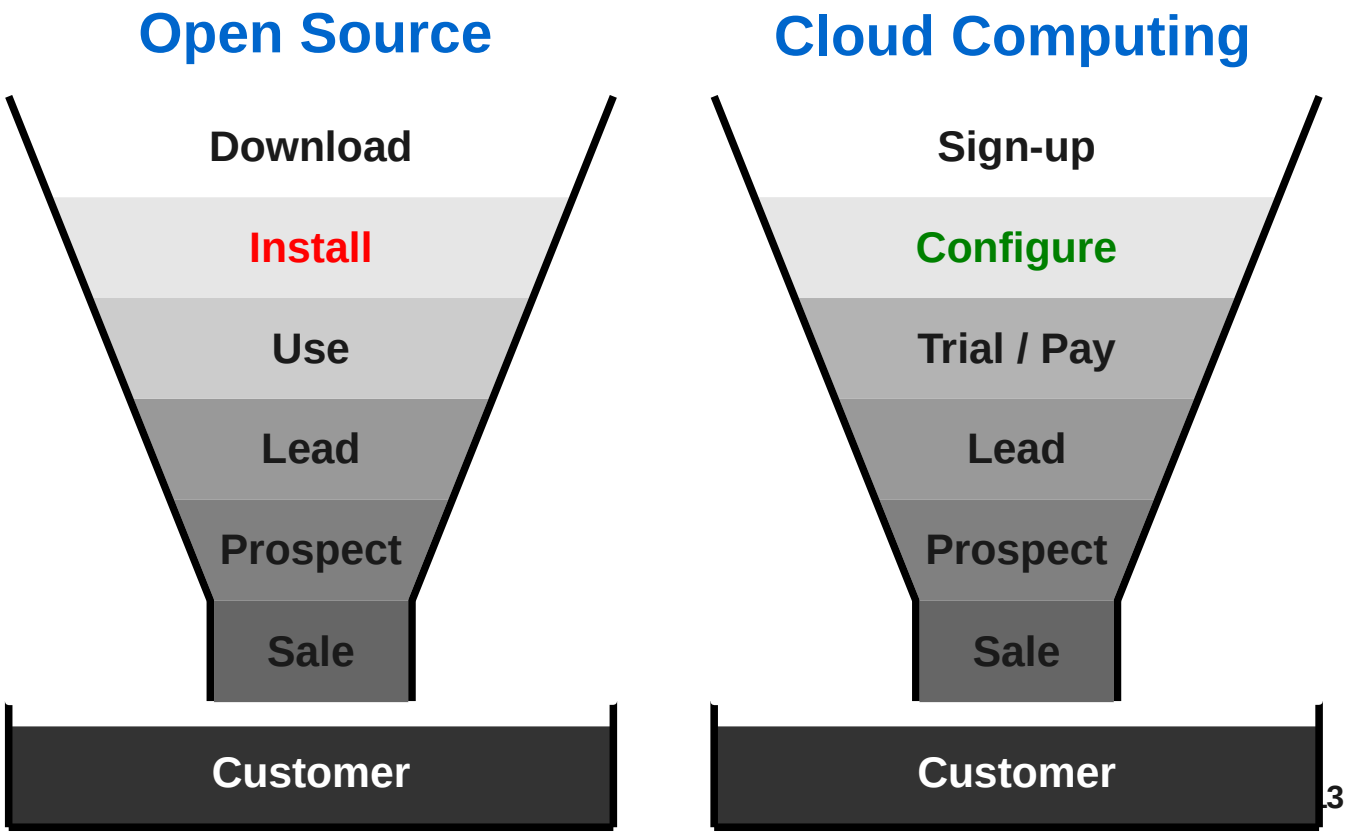
I'm assuming then that cloud computing is not a business model itself but rather an enabler of existing and new business models. This enablement is mostly a sales and marketing strategy, and somewhat less important, an engineering (cost reduction) strategy. Cost reduction only kicks in if a cloud provider bases its offering on some other xaaS.

Repeated Consumer / Supplier Relationship



Cloud computing providers rely on other cloud computing providers, e.g. SaaS relies on PaaS relies on IaaS so we can see a consumer/supplier relationship repeating through the technology stack.

Sales and Marketing 1/2: The Sales Funnel

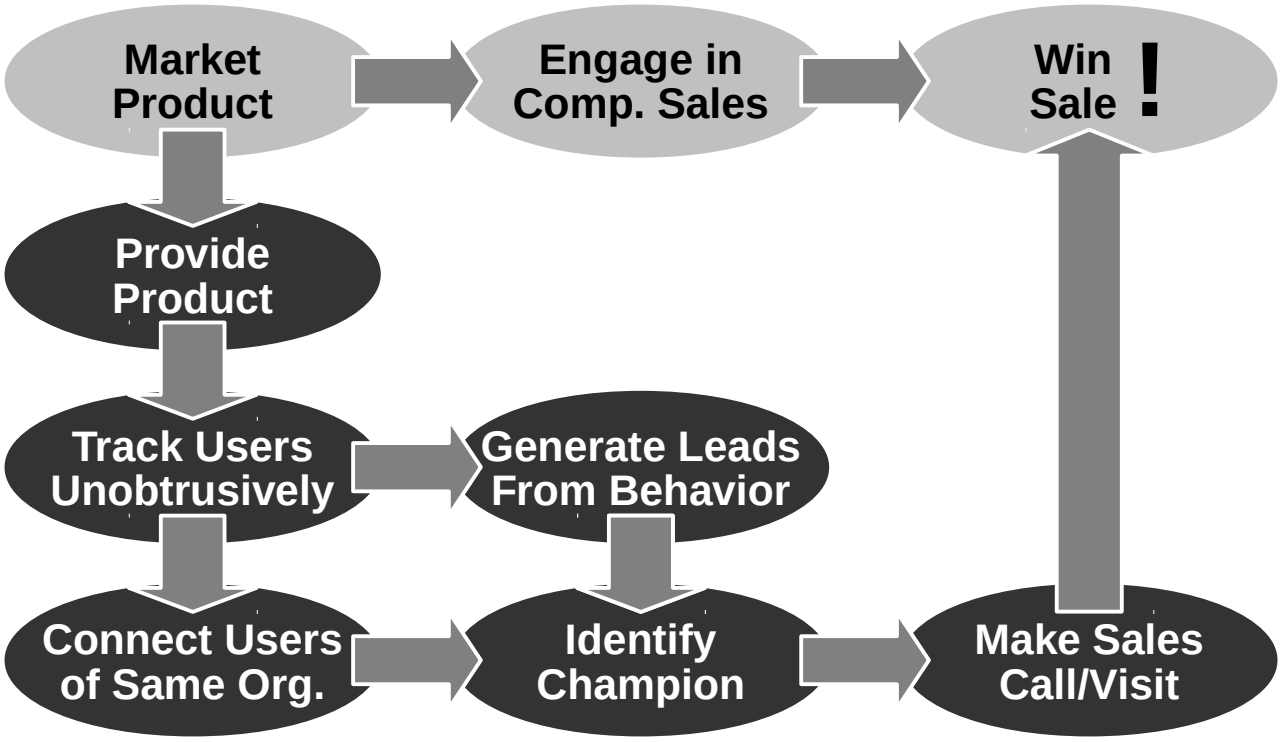


Open Source and Cloud Computing

So... sales and marketing. Open source created a new and novel sales funnel. The biggest hurdle that remains is that someone inside a (potential customer) company still had to install the software, i.e. technical expertise was required, even if the software was just running on a desktop machine somewhere in some business unit.

Cloud computing removes that problem by making it easy to consume a service over the network. No need to install software (though you still have to configure it). This does away with a major consumption problem. The possibly required price for a single user is typically neglectable. The result is a much smoother user-driven adoption of a product. IT and purchasing is ignored, at least initially.

Sales and Marketing 2/2: Making the Sale



With a foot in the door, like in open source, cloud computing providers can organize their free or minimally-paying users to achieve a real enterprise sale.

Other Business Functions in Comparison [1]

Open Source

- Business development
  - Better business development through community input
- Product management
  - Better product through increased user innovation
- Engineering
  - Faster-better-cheaper engineering through engaged community
- Operations
  - N/A

Cloud Computing

- Business development
  - (Better through easier and increased consumption?)
- Product management
  - (Better through easier and increased consumption?)
- Engineering
  - (Better through easier and increased consumption?)
- Operations
  - Cheaper through cost savings through the whole stack

[1] Point of reference are traditional closed source on-premises software products.

Open source provides various benefits for business development, product management, and engineering. These are reasonably well understood.

One might expect some of these for cloud computing as well, because of the simplified consumption of products and services, but the jury is still out on this. The only obvious benefit is lower costs if a cloud computing provider can itself rely on lower-layer cloud computing providers.

Open Cloud Principles [1] and Challenges [2]

Official Definition

- Open formats and interfaces
  - Make all data available
  - Must follow open standard
- Open standards
  - IP exclusion rights excluded
  - Open source implementation

What's Missing

- Needs open process
  - Leads to agreed-upon standards
  - Mentioned, but not required
- Learning from the ASF
  - Multiple independent participants
  - Competing projects

"Every real-world specification is an underspecification."

[1] Open Cloud Initiative. "Open Cloud Principles." Self-published, 2011.
[2] D. Riehle "On the Open Cloud Principles." Self-published, 2011.

The recent definition of open cloud principles suffers from not requiring a consensus process for the definition of open standards. Here, open source foundations like the Apache Software Foundation can lead the way. For example, open standards should only be considered as such if there are at least three independent parties involved in their standardization and have been at it for a sustained period of time. Otherwise, the standard should not leave the incubating stage.

More Typing of Business Models

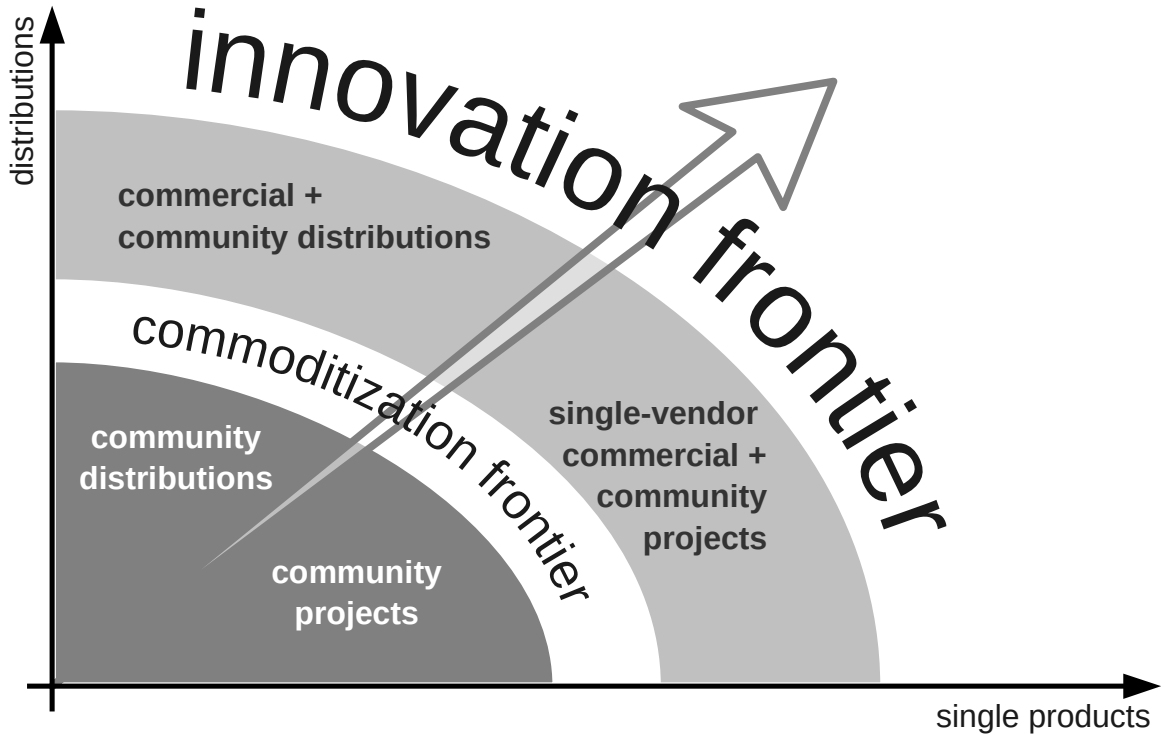
Open Source

- Open source distributor
  - Does not own source code
  - Provides commoditized software
  - Differentiated by service quality
- Single-vendor open source firm
  - A.k.a. “open core”, “dual licensing”
  - Owns and maintains source code
  - Differentiated by software

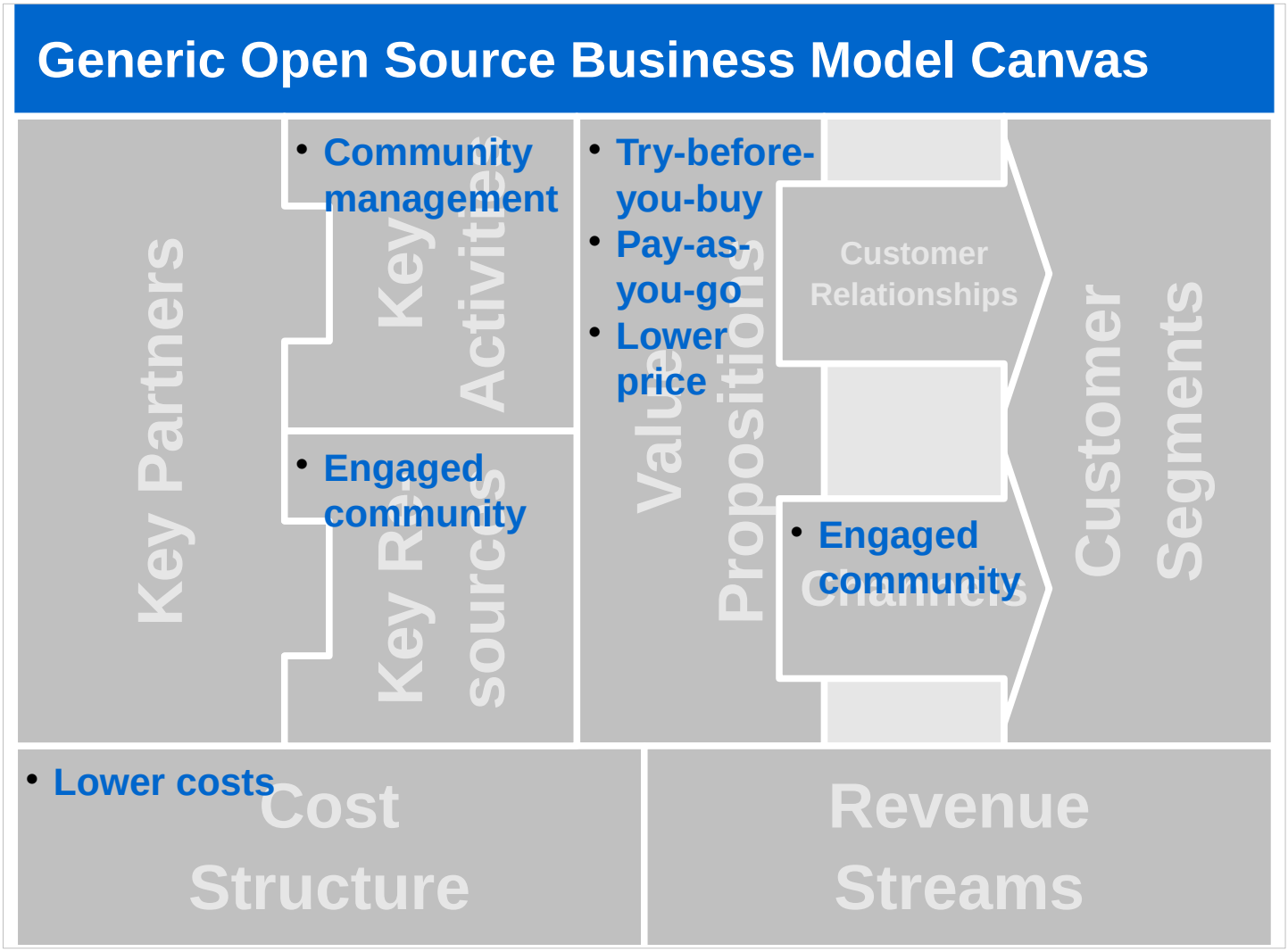
Cloud Computing

- Utility computing
  - Standardized software stack
  - Differentiated by service quality
  - Adheres to Open Cloud Principles
- Single-source cloud computing
  - Uses proprietary software to differentiate offering + service
  - Adheres to Open Cloud Principles only in name; locks in

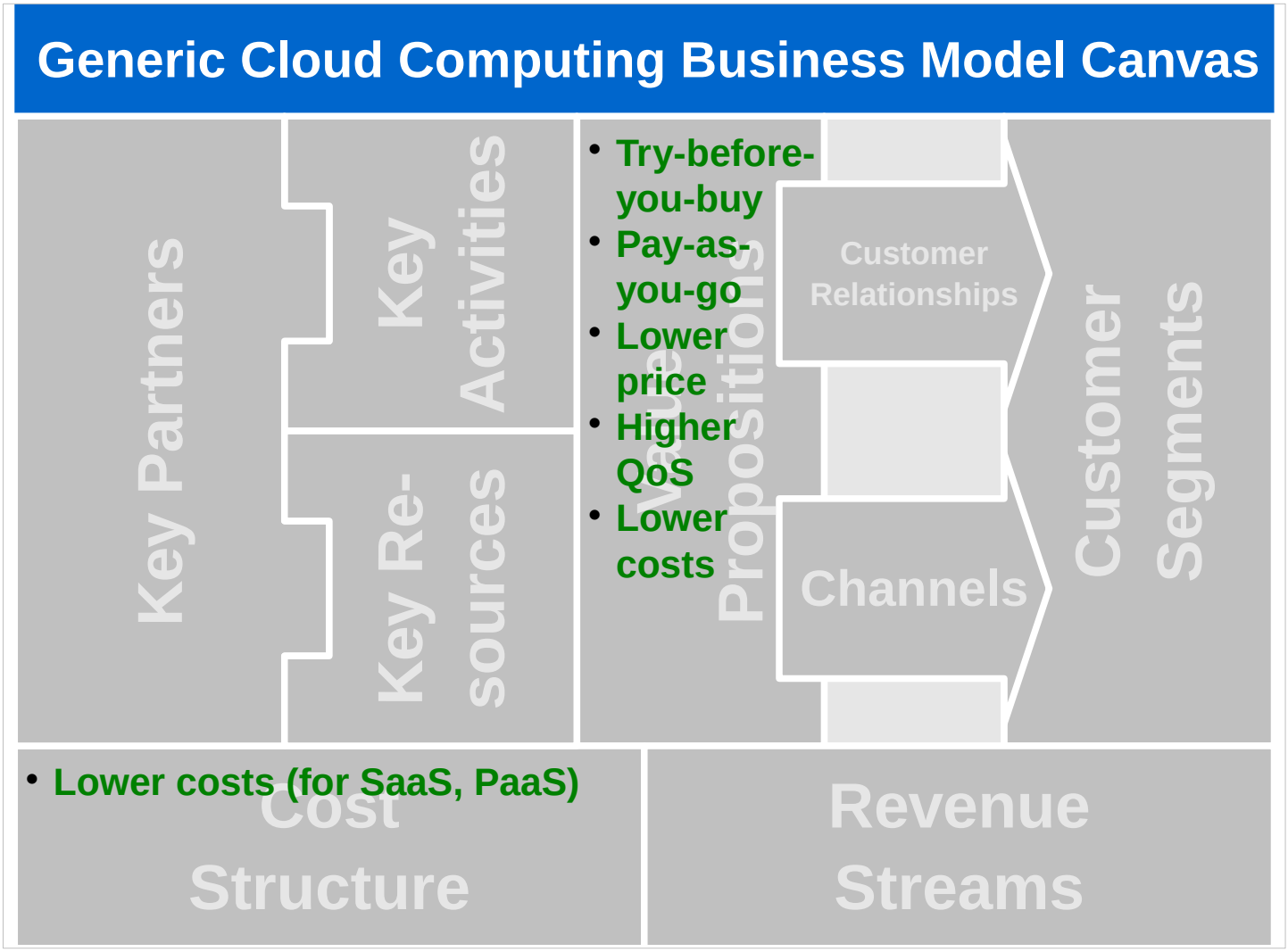
The Innovation Frontier



Like in open source, I expect cloud computing to have an innovation frontier, continuously being pushed outward by a trailing commoditization frontier.

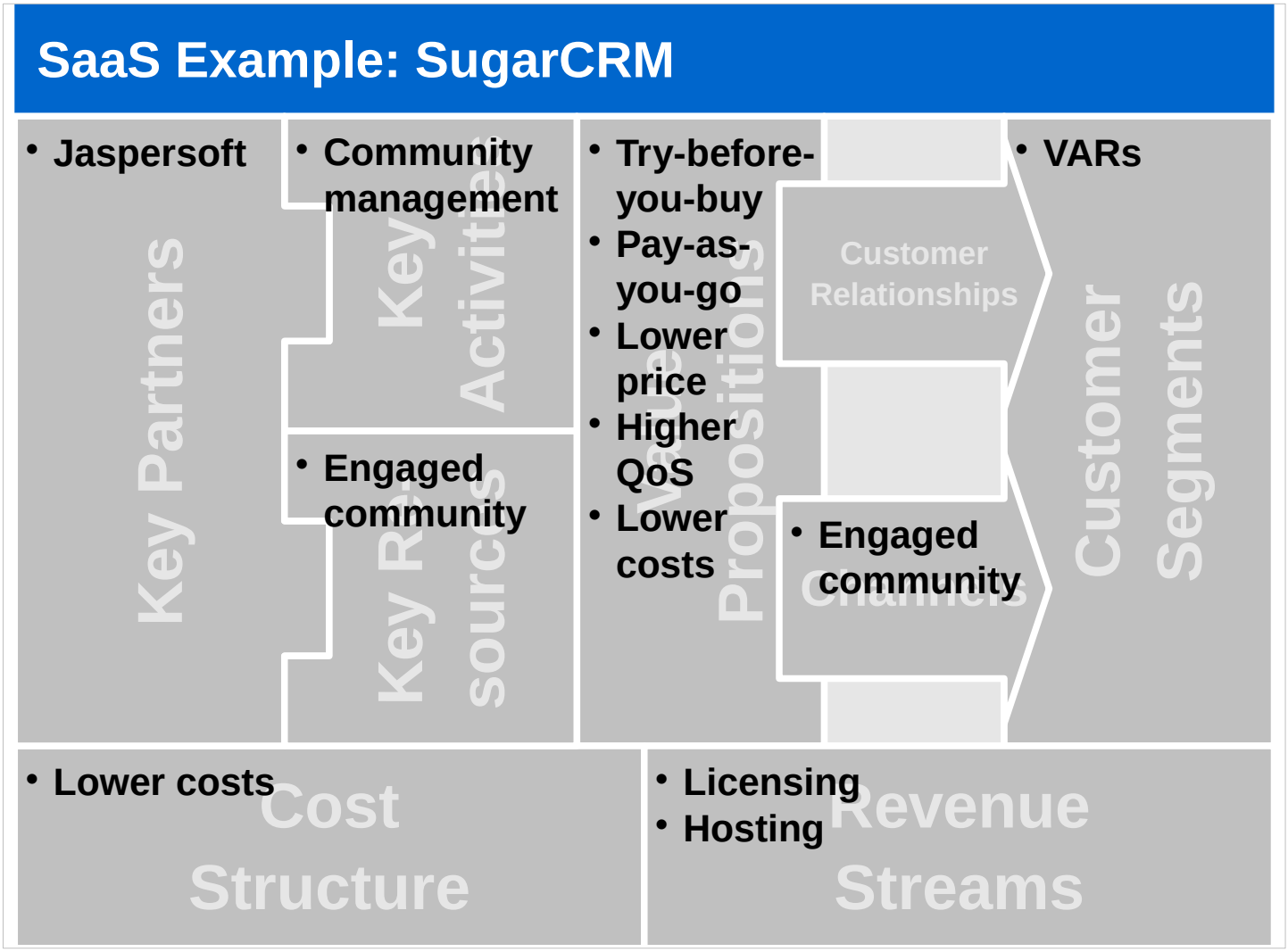


This canvas shows the business model benefits for a generic open source software product firm.



This canvas shows the benefits of cloud computing for a generic xaaS provider.

Please note the absence of “community”, a key enabling factor for open source business models. It remains to be seen, as noted earlier, whether through the simplified consumption provided by cloud computing providers equivalent effects can be created.



SugarCRM provides CRM software. It has both an open source and cloud computing strategy. Only half as old as Salesforce, it has grown significantly because of this strategy. In particular open source helped finding resellers in non-US jurisdictions that are hosting SugarCRM where Salesforce had to build up their own local subsidiary. (Many countries and customers won't allow critical data to leave country boundaries.)

Conclusions

Cloud computing...

- is not a business model
- but an enabler of new models
- with open source synergies

Thank you! Questions?

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