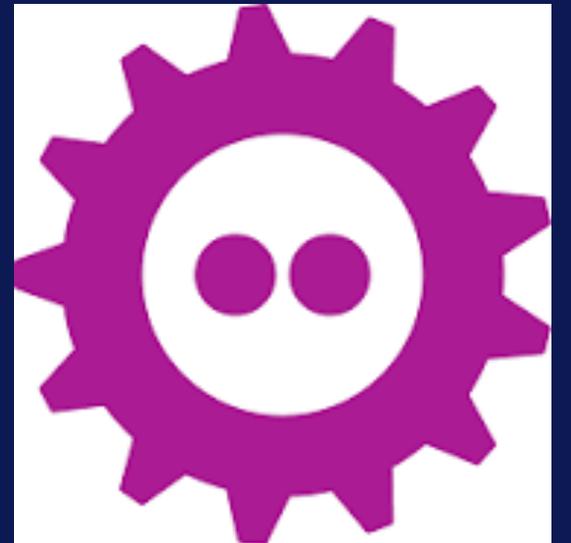


PERCONA

Is Open Source Coming back to your Cloud ?

Peter Zaitsev, Founder at Percona
4 Feb 2023



My Prospective

- **Involved in Open Source since late 1990s**
- **Early Staff member of MySQL AB**
- **Founder, until recently CEO at Percona**
- **Investor, Advisor, Mentor in Open Source Businesses**
- **Open Source Advocate**

Better

Everything being Equal Open
Source is a better choice

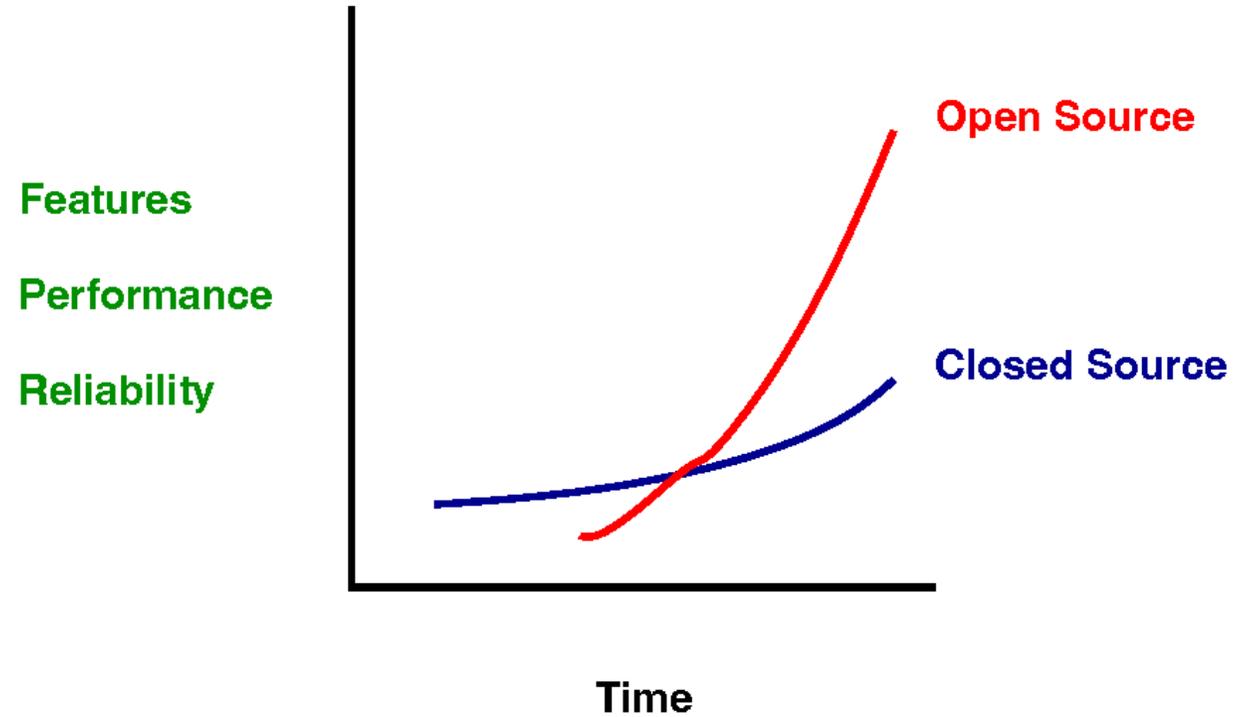


Investment

It is smarter to invest in your resources in making Open Source better rather than paying for Proprietary Software

Open Source and Proprietary

Rise of Open Source



12/51

<https://momjian.us/main/writings/pgsql/forever.pdf>

Operating Systems



Have We
Been Here
Before?

2000s



2020s



Open Source in the Cloud

**But do not Cloud Vendors
just make Open Source
Easier ?**



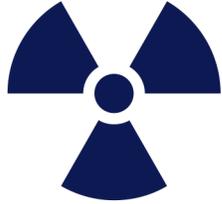
Old Strategy

“Embrace, extend, and
extinguish”

Usability and Ease of use

New Frontier for the competition





Software Explosion



Data Explosion



**Do More with Less
(skills)**

Reasons

Cloud only Skills

Increasingly “Open Source
Experts” have only Managed
Cloud Solutions Skills



Cloud Vendor Push

1

**Using their
Proprietary or
Managed solutions
as Best Practice**

2

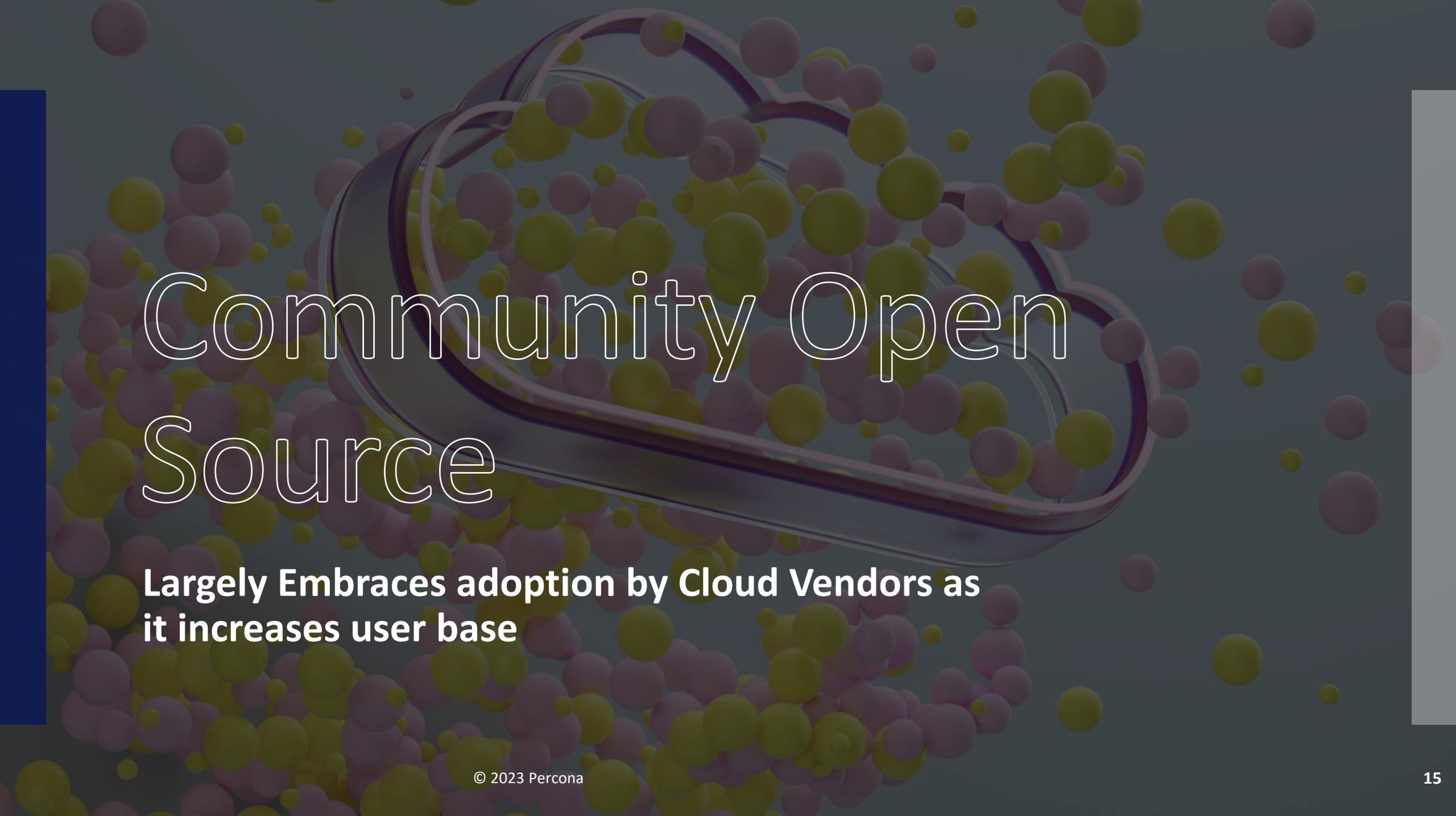
**Increasing Price
Difference for such
Managed Solutions**

3

**Embracing Scaling
by Credit Card**

Venture Funded Open Source

Often Abandon Open Source Licenses to Create Monopoly—Protect themselves from Unfair Competition from the Cloud.



Community Open Source

**Largely Embraces adoption by Cloud Vendors as
it increases user base**



**Focus on last decade was
growth at any cost**



**Pushing as much on third
parties (Cloud Vendors) makes
sense**



**No resource to put on Open
Source requiring “elbow
grease”**

Growth at any Cost

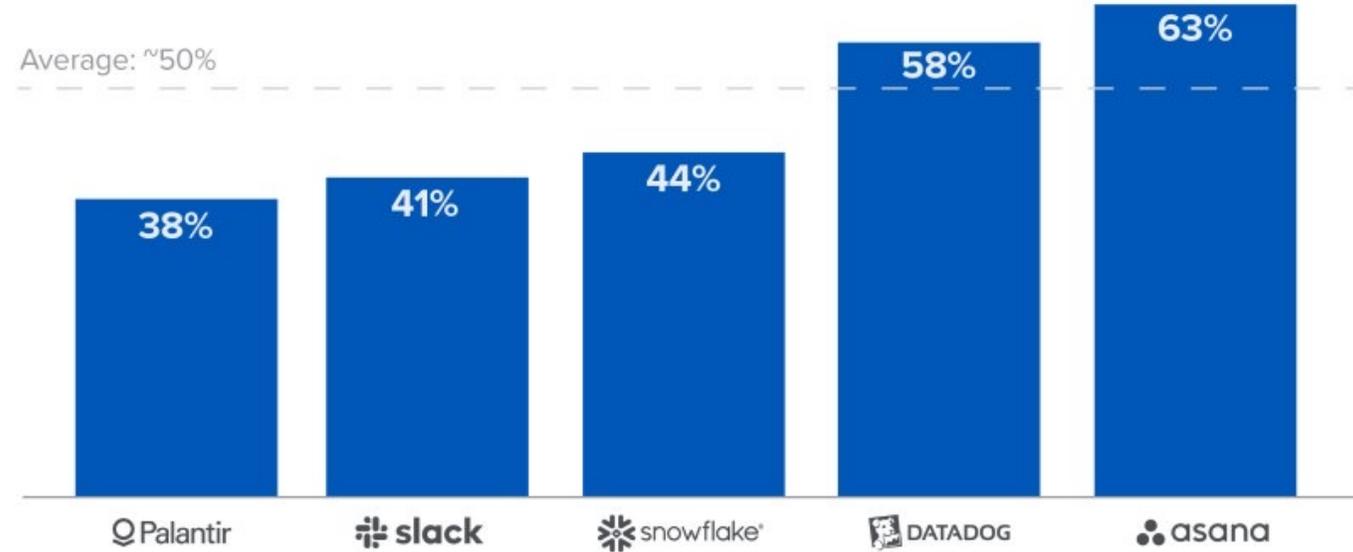
Subsidized Cloud

First does of Heroin is Free



Things are Changing

Estimated Annualized Committed Cloud Spend as % of Cost of Revenue



Source: Company S-1 and 10K filings

<https://a16z.com/2021/05/27/cost-of-cloud-paradox-market-cap-cloud-lifecycle-scale-growth-repatriation-optimization/>

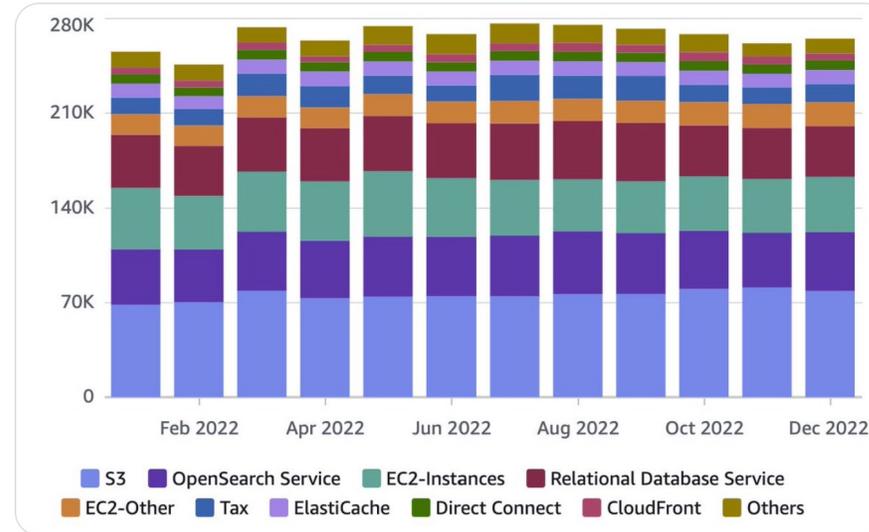
37Signals leaving the cloud



DHH ✓
@dhh



We spent \$3,201,564.24 on cloud in 2022 at @37signals, mostly AWS. \$907,837.83 on S3. \$473,196.30 on RDS. \$519,959.60 on OpenSearch. \$123,852.30 on ElastiCache. This is with long commits (S3 for 4 years!!), reserved instances, etc. Just obscene. Will publish full accounting soon.



7:08 AM · Jan 12, 2023 · 717K Views

341 Retweets 119 Quote Tweets 2,488 Likes

<https://twitter.com/dhh/status/1613508201953038337>

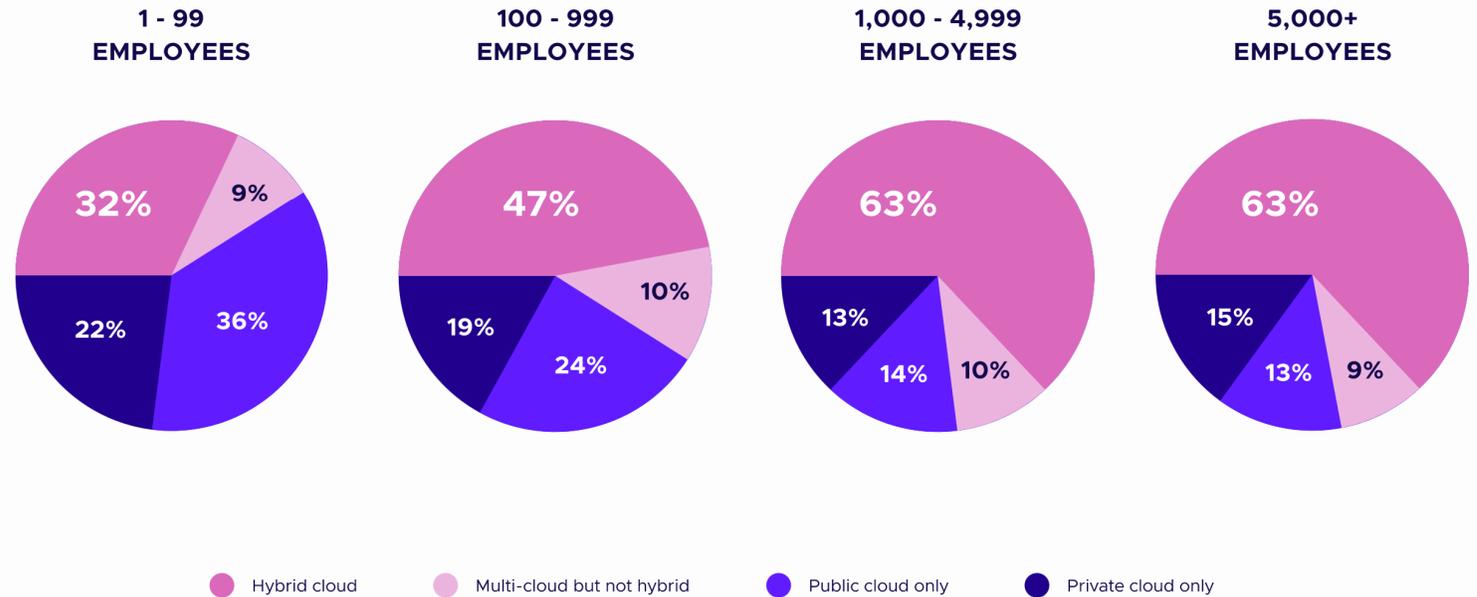
GitOps

Declarative Versioned
Infraestructura as a Code

```
81 return array(  
82     'code' => $captcha_config['code'],  
83     'image_src' => $image_src  
84 );  
85 }  
86  
87  
88 if( !function_exists('hex2rgb') ) {  
89     function hex2rgb($hex_str, $return_string = false, $separator = ',') {  
90         $hex_str = preg_replace("/^[^0-9A-Fa-f]/", '', $hex_str); // Gets a proper hex string  
91         $rgb_array = array();  
92         if( strlen($hex_str) == 6 ) {  
93             $color_val = hexdec($hex_str);  
94             $rgb_array['r'] = 0xFF & ($color_val >> 0x10);  
95             $rgb_array['g'] = 0xFF & ($color_val >> 0x8);  
96             $rgb_array['b'] = 0xFF & $color_val;  
97         } elseif( strlen($hex_str) == 3 ) {  
98             $rgb_array['r'] = hexdec(str_repeat(substr($hex_str, 0, 1), 2));  
99             $rgb_array['g'] = hexdec(str_repeat(substr($hex_str, 1, 1), 2));  
100            $rgb_array['b'] = hexdec(str_repeat(substr($hex_str, 2, 1), 2));  
101        } else {  
102            return false;  
103        }  
104        return $return_string ? implode($separator, $rgb  
105    }  
106 }  
107  
108 // Draw the image  
109 if( isset($_GET['CAPTCHA']) ) {  
110     $code = $_GET['CAPTCHA'];  
111     $image_src = $captcha_config['image_src'];  
112     $img = imagecreate($width, $height);  
113     $color = imagecolorallocate($img, $rgb_array['r'], $rgb_array['g'], $rgb_array['b']);  
114     imagefilledrectangle($img, 0, 0, $width, $height, $color);  
115     imagestring($img, $font, $font_size, $font_size, $code);  
116     $image_src = $image_src . $code . $image_src;  
117     $img = imagejpeg($img, $image_src, $quality);  
118     return $img;  
119 }
```

Hybrid Cloud

Which of the following combinations of data center and cloud architectures does your organization use?
(By organization size)



<https://www.cncf.io/reports/cncf-annual-survey-2022/>

Cloud Native is Going Strong

The image displays a large grid of logos for various cloud native technologies, organized into three main sections: App Definition and Development, Orchestration & Management, and Runtime. Each section is further divided into specific categories:

- App Definition and Development:** Database, Streaming & Messaging, Application Definition & Image Build, Continuous Integration & Delivery.
- Orchestration & Management:** Scheduling & Orchestration, Coordination & Service Discovery, Remote Procedure Call, Service Proxy, API Gateway, Service Mesh.
- Runtime:** Cloud Native Storage, Container Runtime, Cloud Native Network.

Each logo is accompanied by its name and a status indicator (e.g., CNCF Graduated, CNCF Incubating). The grid is densely packed with logos, representing a wide range of open-source projects in the cloud native ecosystem.

<https://landscape.cncf.io/>

Giving Cloud Its Originally Intended Role of Commodity Infrastructure

What is Cloud Computing?

An analogy: think of electricity services...

You simply plug into a vast electrical grid managed by experts to get a low cost, reliable power supply – available to you with much greater efficiency than you could generate on your own.



Power is a utility service - available to you on-demand and you pay only for what you use.



Your Choice of Cloud

Cloud of Serfdom

Use a lot of Proprietary
Features of your cloud
vendor

Cloud of Freedom

Use Cloud Vendor as
Commodity, Use Open
Source

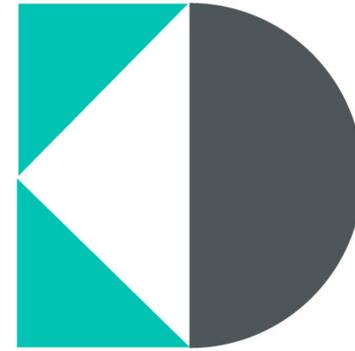
Smart API – Kubernetes



Getting
Better



DOK Community



Dok
Community

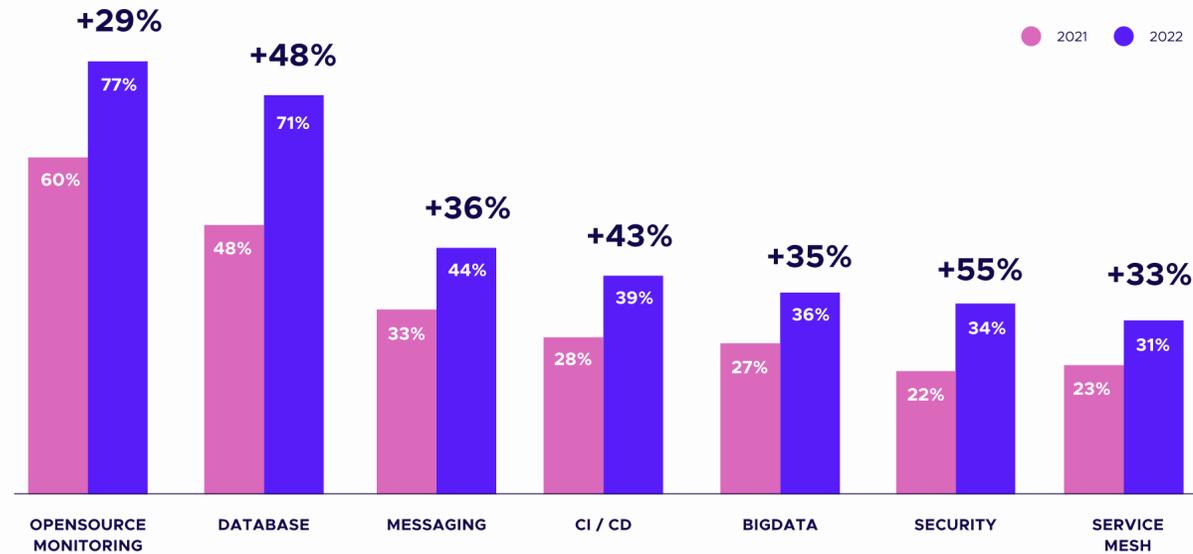
<https://dok.community/>

Adoption Areas

KUBERNETES GROWTH AREAS

Focusing on non-application workloads, enterprises used an increasing variety of technologies. This reflects the need to enhance Kubernetes with better observability, security, and service-to-service communications. Other technologies enable specific use cases like CI/CD tools or databases.

Across all categories, **open source projects rank among the most frequently used solutions.**



<https://www.cncf.io/reports/cncf-annual-survey-2022/>

Kubernetes
Powers many
DBaaS

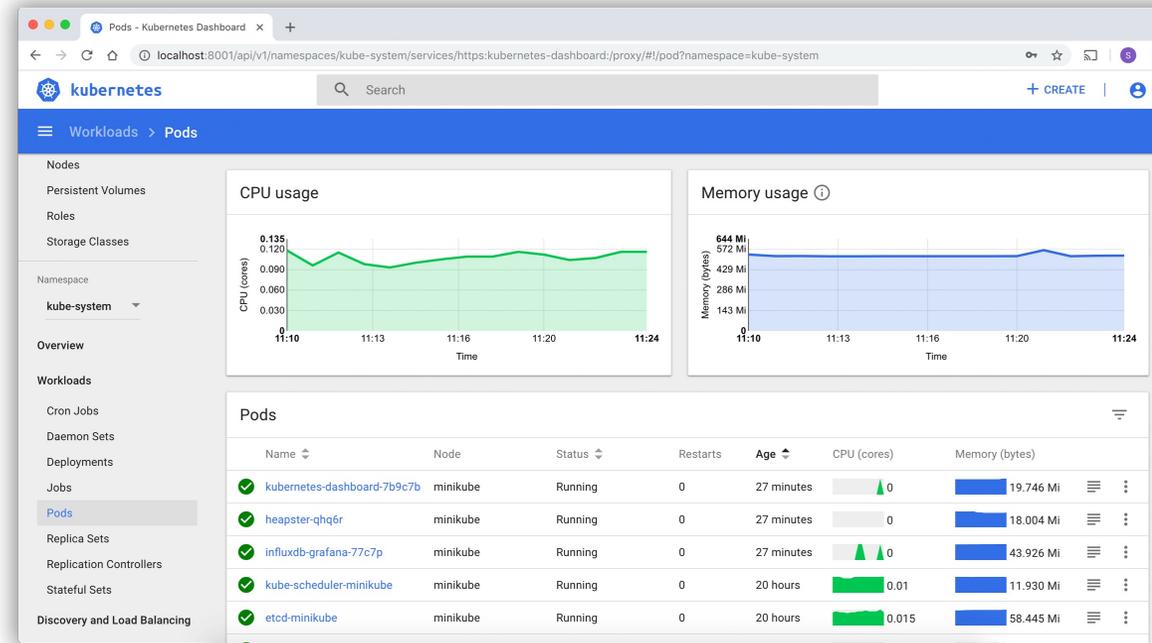


Anywhere



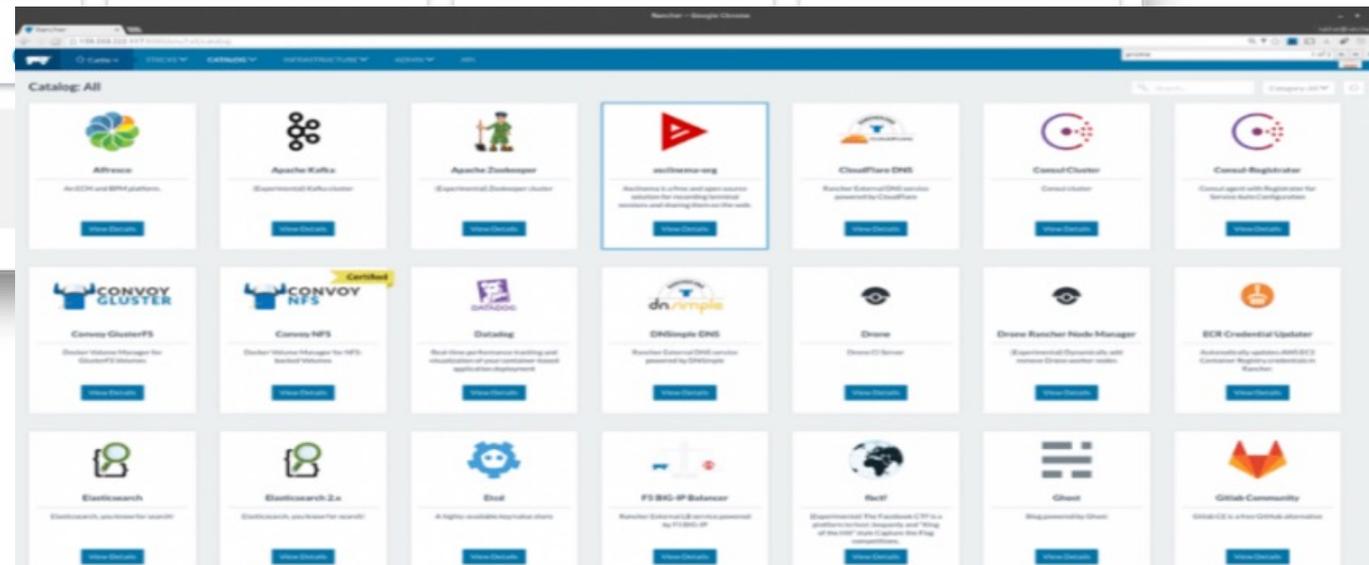
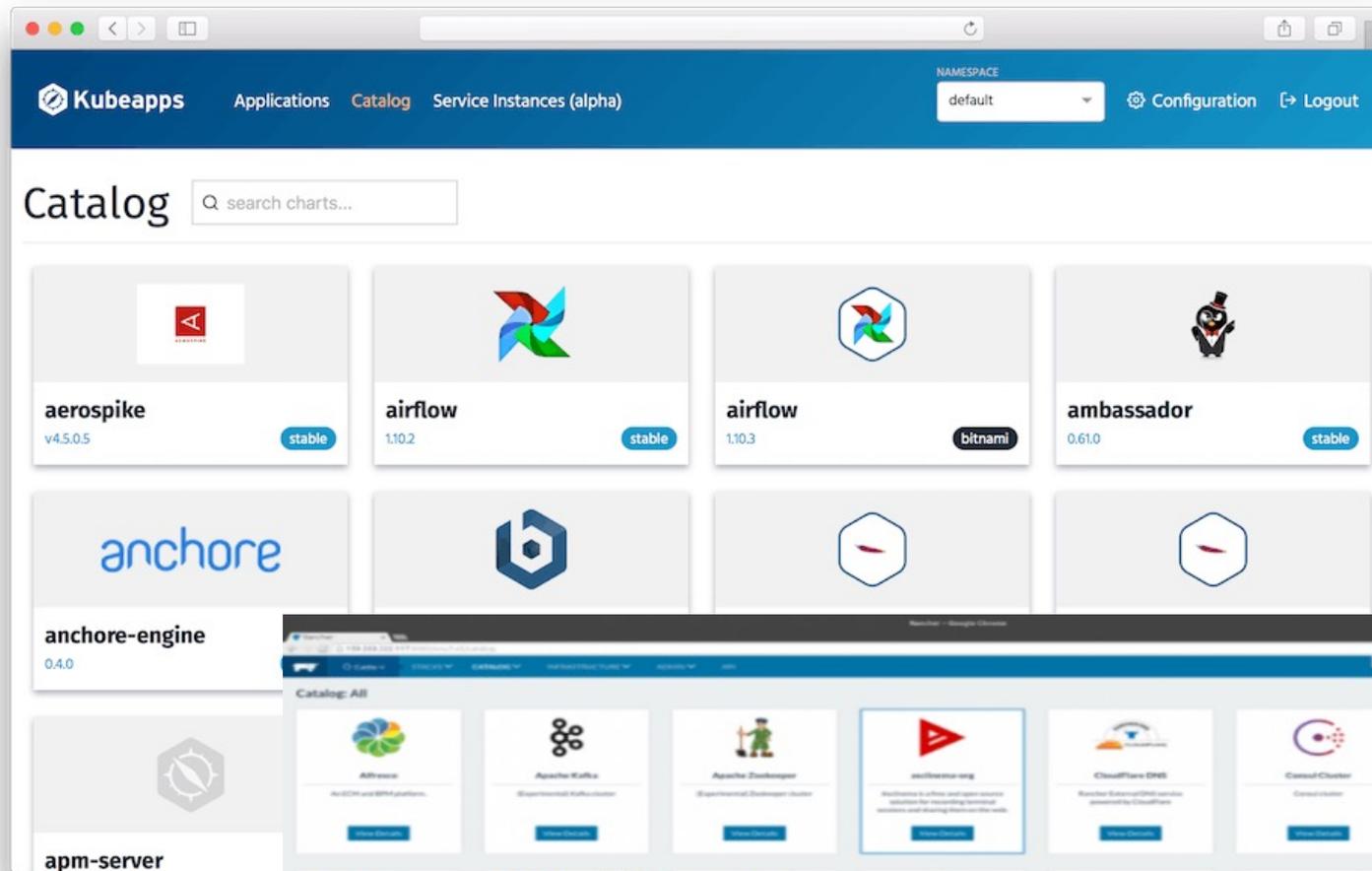
Lightweight Kubernetes

The certified Kubernetes distribution built for IoT & Edge computing



Dashboard

Applications





BETTER INTEGRATIONS



BETTER USABILITY



DAY 2 OPERATIONS

Next

1

**Embrace Open
Source in the Cloud**

2

**Invest in Making it
Better**

3

Spread the Word

Call for Action

Thank you, Let's Connect!

<https://www.linkedin.com/in/peterzaitsev/>

<https://twitter.com/PeterZaitsev>

<http://www.peterzaitsev.com>