Creating Products through DevOps

The Story of VSHN

Adrian Kosmaczewski, Developer Relations, VSHN

Speaker notes

Thank you so much for this opportunity to talk about VSHN and APPUiO Cloud in the Conf42 DevOps 2023 event. Through this talk we would like to give you an idea of how we built this new product using DevOps as a guiding philosophy.

Agenda

1. About VSHN’s Culture
2. What is APPUiO Cloud?
3. A DevOps Way of Working
4. Some crunchy details

Speaker notes

Today I’m going to talk about how we built APPUiO Cloud at VSHN. For that I will first start by explaining a bit our culture, what is APPUiO Cloud, and then how we used DevOps to create it. I’ll give you some practical details about how we made it, too.

- Pronounced 'vɪʒn – like "vision"
- *The DevOps Company*
- Founded 2014, 50 VSHNeers located in Zürich, Switzerland
- Switzerland’s leading DevOps, Docker & Kubernetes partner
- ISO 27001 certified & ISAE 3402 Report Type 1 verified
- First Swiss Kubernetes Certified Service Provider

Speaker notes

Before we start, I’d like to introduce VSHN to those who have never heard of it before.

That’s how you pronounce the name, and we’re a company of 50 people based in Zürich, founded in 2014 with the objective of providing companies with DevOps services. The slogan of VSHN is, actually, "The DevOps Company." We embrace the DevOps philosophy completely, and as you’ll see today, we use its principles and ideas in everything we do.

What does VSHN do? We provide various services and products:

- We offer "DevOps as a Service" (or DaaS), with a full team of Kubernetes and OpenShift experts ready to monitor your applications 24/7 on any cloud.
- We help companies become self-sufficient and cloud-enabled; we help software engineers to "build bridges" between Dev and Ops, building CI/CD pipelines in various platforms such as GitLab, OpenShift, or Argo CD.
- We are Kubernetes & OpenShift specialists, to the point that our strategy is 100% oriented towards Kubernetes; everything we do runs on Kubernetes.

Our Culture

- *The DevOps Company*
- Self-funded, organic growth
- Sociocracy
- Handbook: handbook.vshn.ch

Speaker notes

Aside from our technological choices, the important thing to know about VSHN is that we have chosen to drive the growth of our company in various ways that are completely nonstandard:

- We are "The DevOps Company", and as such, we embraced the DevOps mantra completely. Everything we do is as automated as possible, freeing our brains to think.
- We have decided as a company not to grow through venture capital, instead relying in the good old method of organic growth. We have been self-funded since day one (2014), and we have been consistently profitable and growing since 2017.
- We use Sociocracy as a management and growth framework. This means that all decisions, and I mean all of them, happen through consensus among all VSHNeers (that’s how we call ourselves, by the way.)
- We have created a Handbook, freely available online, which in printed form takes 573 pages, explaining everything we are and do at VSHN with quite an incredible level of detail. I invite you to check it out at handbook.vshn.ch and you will learn everything there’s to learn about us.

vshn.ch/en/blog/how-vshns-organization-evolves-using-sociocracy-3-0

Speaker notes

Sociocracy is our evolution framework, and we have a small team of people at VSHN whose only job is to help us evolve into this framework continuously. In particular, any VSHNeer is able to raise issues, problems, and to ask for help to change procedures or situations that are hurting their happiness at VSHN.

VSHNeers are able to create "VSHN Improvement Proposals" or VIPs as we call them; they are simply tickets in our Jira that explain a current situation or decision, the drawbacks and negative impact, and propose a solution to be discussed by everyone involved and/or interested in the issue.

This simple mechanism has completely transformed the way we work in the past 3 years, and as a result we all feel part of the structure we built, and we all feel responsible for it at all times.

Hiring

Speaker notes

All of these choices have shaped our culture in ways that are really not common at all, and have interesting consequences in our day-to-day operations. For example, our hiring policies are different to those of most IT companies; not only we do pay attention to the IT skills of those who want to join our team, but place a very high degree of attention to the human factor. We want people to feel great at VSHN, and one of the primary factors we evaluate during our hiring process is the "likeness" of the person, that is, how much would we like to work with them every day?

As Steve Jobs once said, "we don’t hire smart people to tell them what to do. We hire smart people so that they tell us what to do."

Remote & Async

Speaker notes

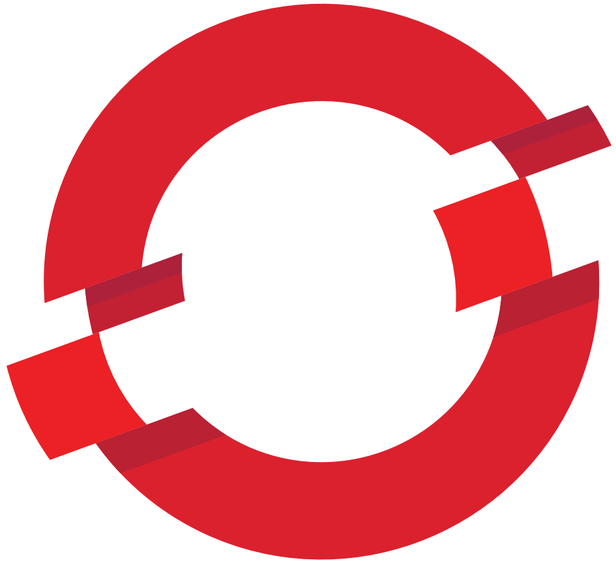
Another interesting consequence of how VSHN works is that we had embraced remote and asynchronous working well before the pandemic; when the Bundesrat mandated everyone to work from home in March 2020, we simply stayed home and continued working as if nothing had happened. The important bit of information here is the asynchronous word; not so much that we work remote, but that we work in a non synchronous way. This particular mindset has shaped our company greatly.

Speaker notes

But let’s get back in time a little bit, and see how APPUiO Cloud came to be.

In 2016 VSHN and Puzzle ITC (a well known Swiss IT and software consulting) launched a joint venture called APPUiO. This is a word in Esperanto, meaning "Support".

APPUiO consists of a series of products built around Red Hat OpenShift.



OPENSHIFT

Speaker notes

For those who haven’t heard of it yet, OpenShift is the most widely used Kubernetes-based platform in the enterprise world. It is quite popular with big companies, and it incorporates a hardened and highly available Kubernetes cluster surrounded by lots of relevant software: a container repository, a management console, CI/CD pipelines, with a very nice and professional GUI on top.

We decided we wanted to be a part of the OpenShift market, but we also realized that installing and operating OpenShift is a huge endeavour, and many companies could not use OpenShift because of the lack of staff or budget. So we decided to join forces with Puzzle ITC.

Speaker notes

APPUiO is our response to the complexity of Red Hat OpenShift. With APPUiO, customers can get a ready-to-use cluster, together with the know-how of VSHN and Puzzle ITC. We at VSHN we specialize in the setup and maintenance of OpenShift clusters; we have been operating OpenShift clusters since version 3. Puzzle ITC are specialists in the creation of software solutions for OpenShift, which is something we don’t do. Together, the APPUiO team can help companies make the most out of their OpenShift investment.

Flavors

- ~~APPUiO Public~~ → APPUiO Cloud
- APPUiO Managed
- APPUiO Self-Managed

Speaker notes

APPUiO has been historically available in various forms:

- APPUiO Public, based on OpenShift 3, was the first Swiss-based shared OpenShift cluster available to customers. It was a shared platform, where customers can run their projects without having to care about management or anything else. There were APPUiO Public clusters running in various cloud providers, such as Cloudscale in Switzerland and AWS in Germany.
- APPUiO Managed is the next step. With APPUiO Managed, organizations get their own OpenShift cluster, for their exclusive use, and Puzzle ITC and VSHN take care of the operations of the cluster transparently for their users.
- APPUiO Self-Managed is the final step in the evolution of organizations: with it, organizations not only get an OpenShift cluster "keys in hand" and ready to run, but we teach their IT teams how to manage and maintain the cluster by themselves. We gradually "fade in the background" and provide help, until at some point they become completely independent.
- APPUiO Cloud is the latest offering in the APPUiO family, officially launched in September 2021.

Speaker notes

What is APPUiO Cloud? Simply put, APPUiO Cloud is to OpenShift 4 what APPUiO Public was to OpenShift 3.

But given the major architectural changes between OpenShift 3 and 4, instead of migrating our APPUiO Public infrastructure to OpenShift 4 we decided to create a new project from scratch, and we gave it a different name and even a different visual identity.

We notified our APPUiO Public customers of the upcoming phasing out of the service, with an offer to help them migrate their payloads to APPUiO Cloud.

APPUiO Public was fully decommissioned in September 2022, merely one year after APPUiO Cloud started operations.

Regions

- `cloudscale-lpg-2` → Lupfig (AG)
- `exoscale-ch-gva-2-0` → Genève (GE)

Speaker notes

As said previously, APPUiO Cloud is based exclusively on OpenShift 4. At the moment we have two APPUiO Cloud zones available to our customers:

- cloudscale.ch in Kanton Aargau
- Exoscale au Canton de Genève

We plan to open more regions in the future, as required and following the demand from our customers.

Speaker notes

We started working on APPUiO Cloud in Spring 2021, and we released to the public in Autumn that year. We reused lots of code and infrastructure we had created for our work previously:

- K8up, a Kubernetes backup operator that has been picked up by the Cloud Native Computing Foundation as a sandbox project: k8up.io
- Project Syn, a suite of tools that allow for the remote management of Kubernetes clusters of any kind, from a central location using a GitOps philosophy and workflow: syn.tools

Target Audience

- Startups
- DevOps & CI/CD Pipelines
- Mobile app backends
- Education
- Technology trial
- Resellers

Speaker notes

APPUiO Cloud, just like its predecessor APPUiO Public, is meant to be an "entry level" product, catering at the "long tail" of OpenShift customers, who might be interested in getting access to a working OpenShift cluster without the hassle of installing and operating it.

As such, we identified a few target groups:

- Startups: Spin a new OpenShift namespace on APPUiO Cloud, deploy your MVP, and go back to raising more venture capital.
- DevOps & CI/CD Pipelines: Run your CI/CD pipelines, deploy, and preview your application on a running OpenShift cluster right now before going live.
- Mobile App Backends: For iOS or Android developers needing to deploy back-ends on a scalable, trusted environment.
- Education: Let students experience the full power of a real OpenShift cluster with their own individual namespace.
- Technology Trial: For users interested in APPUiO Managed cluster, but needing to hedge the risks of trying out new technology.
- Resellers: Resell APPUiO Cloud and let us manage the cluster for you.

Features

- Instant On
- Pay-per-use
- User management
- Integrated backups
- Pre-installed operators
- Community support

Speaker notes

What is included in APPUiO Cloud?

- Instant On: Get your own OpenShift namespace in minutes, ready to use.
- Pay-per-use: Only pay for the resources you actually use.
- User Management: Organize your namespaces in teams and organizations, and assign users to those teams; control who can access which namespaces at a glance.
- Backup: Backup all your work with the pre-installed K8up operator.
- Pre-Installed and Configured Operators: APPUiO Cloud provides the following OpenShift operators pre-installed and pre-configured, ready to be used:
  - K8up: Kubernetes Backup Operator.
  - Cert Manager: X.509 certificate management for Kubernetes.
- Community Support: Need help? Check out our APPUiO Cloud forums and community chat. For those needing more help, there are support packages available at extra cost.

Restrictions

- Strict maintenance policies
- Status information: status.appuio.cloud
- Resource availability: no guarantees
- SLA: Best-effort
- Fair-use policy
- No privileged containers
- Log retention: 72 hours
- No other operators (yet)

Speaker notes

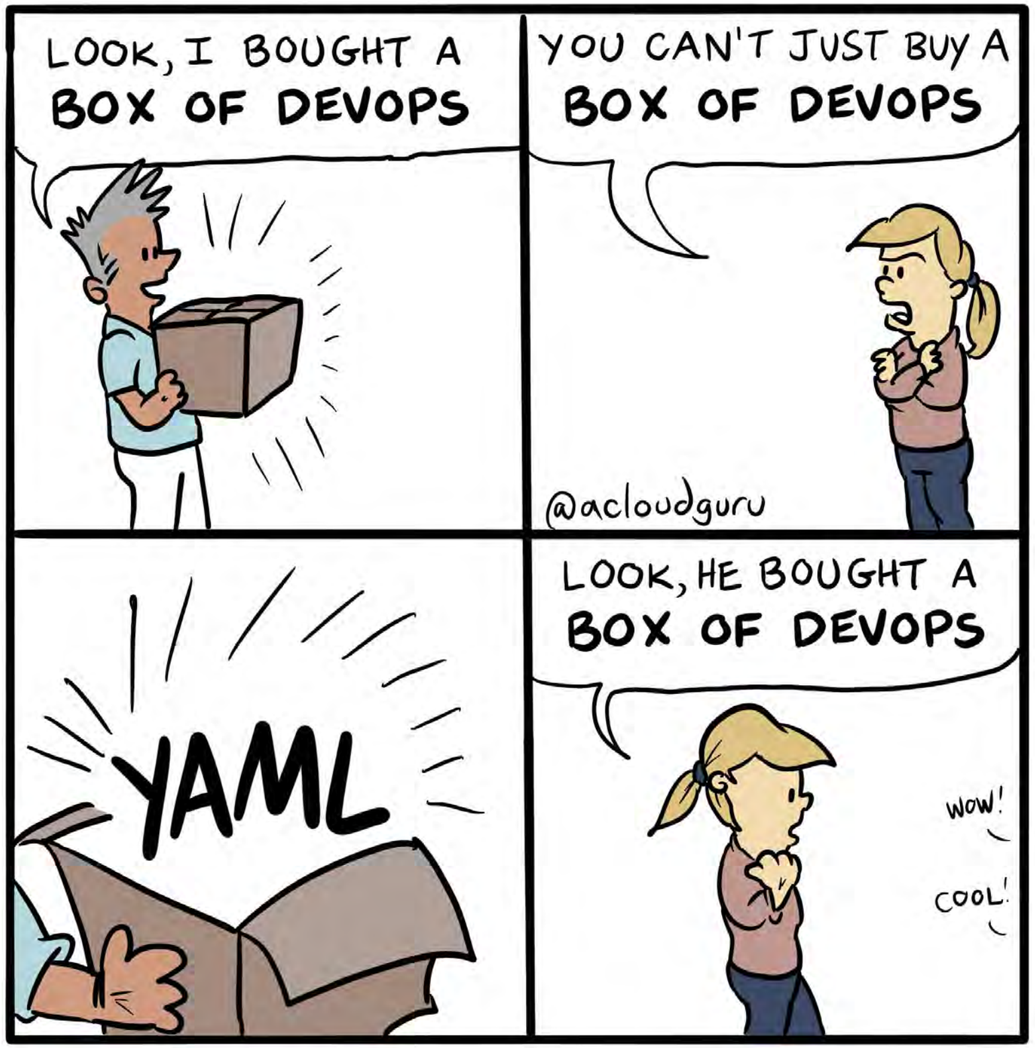
Because it’s a public platform, APPUiO Cloud comes with some gotchas:

- Maintenance Policies: There are two types of maintenance: APPUiO Cloud Zones receive automatic revision updates (for example, from 4.7.1 to 4.7.2). This includes OpenShift and worker nodes updates. These updates can happen at any time without prior announcement. Upgrades of minor (for example from 4.7 to 4.8) and major (4 to 5) OpenShift versions are announced in advance, with a description of all possible breaking changes. On request, we can provide you with access to an already upgraded APPUiO Cloud Zone, for you to test your deployment if needed.
- Status Information: We communicate the status of the platform on status.appuio.cloud.
- Resource Availability: APPUiO Cloud is provided without any guarantees of resource availability.
- SLA: Best-effort.
- Fair-Use Policy: APPUiO Cloud is a shared platform. Unless otherwise stated, this fair-use principle applies to the use of our services. APPUiO Cloud users must use their resources moderately, so as not to degrade the service level available to other users.
- Privileged Containers: Privileged containers can’t run on APPUiO Cloud.
- Log retention: The OpenShift integrated logging (Elasticsearch / Kibana) retains collected logs for 72h (3 days), after that time-period logs are permanently deleted.
- Other Operators: It is not possible (at the moment) to run other OpenShift operators than the ones we are offering. We evaluate them on a case-by-case basis, following the requests from our customers.

A DevOps Way of Working

Speaker notes

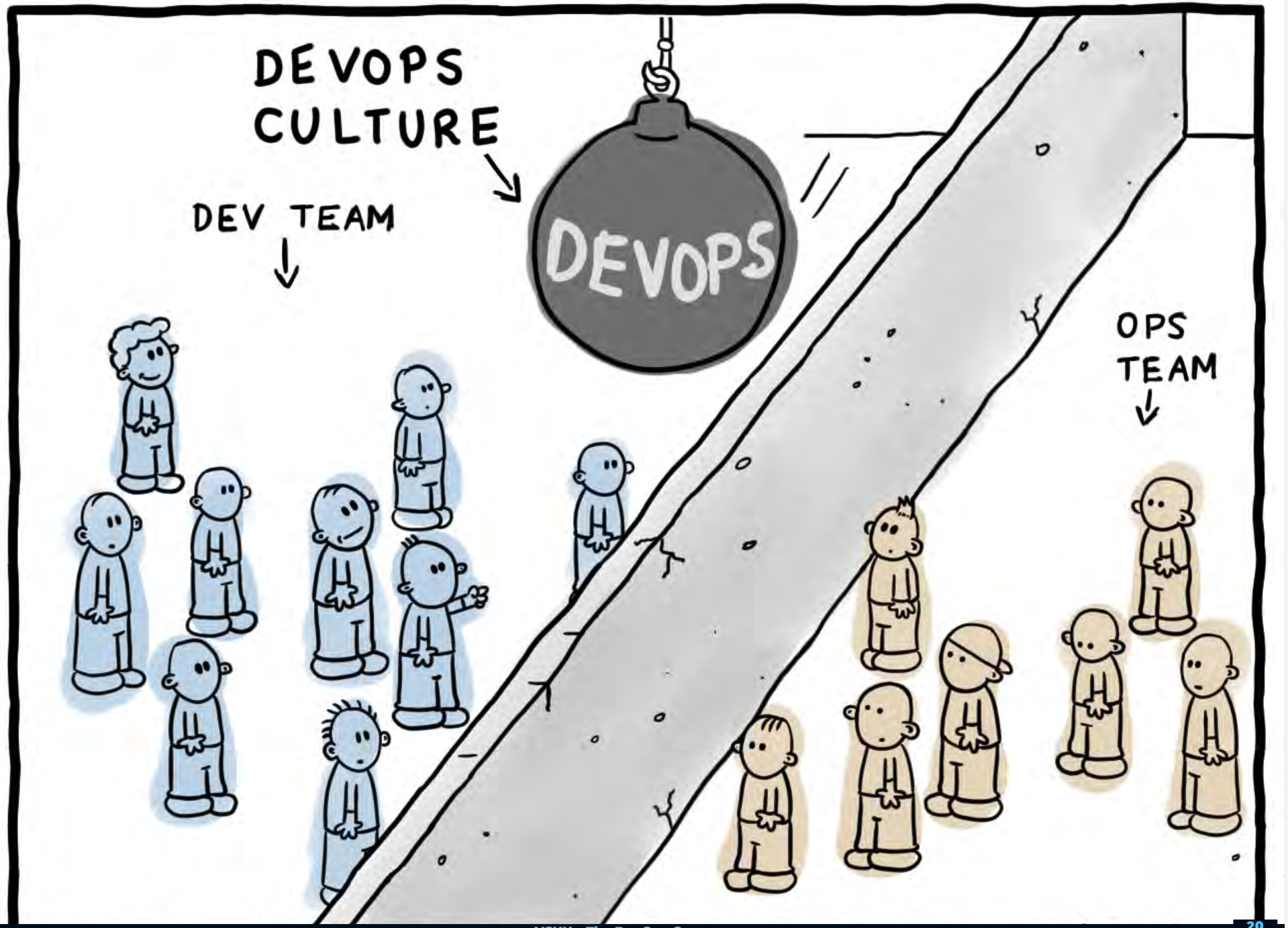
What do we mean by "a DevOps way of working"? Let's see first what we mean by DevOps, one of those words that can mean anything and everything dependending on who you ask.



twitter.com/acloudguru/status/1318624283200020487

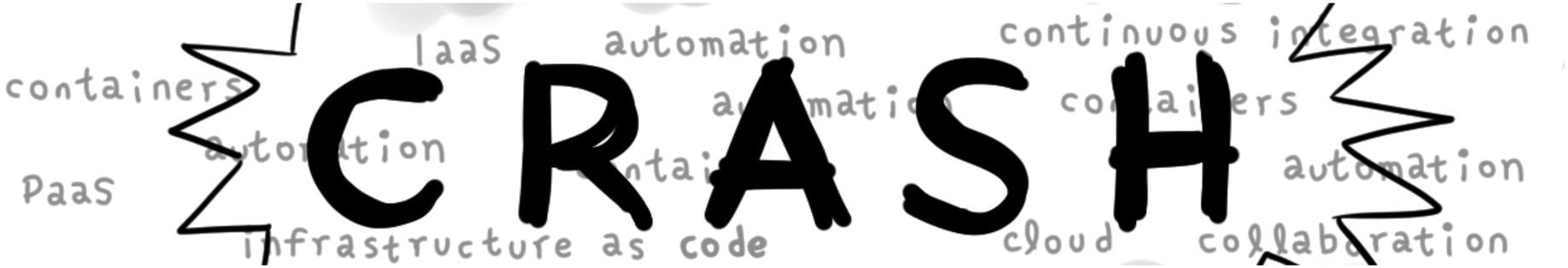
Speaker notes

This is clearly not what we mean by DevOps. Although to be honest, there's a lot of YAML involved in what we do.



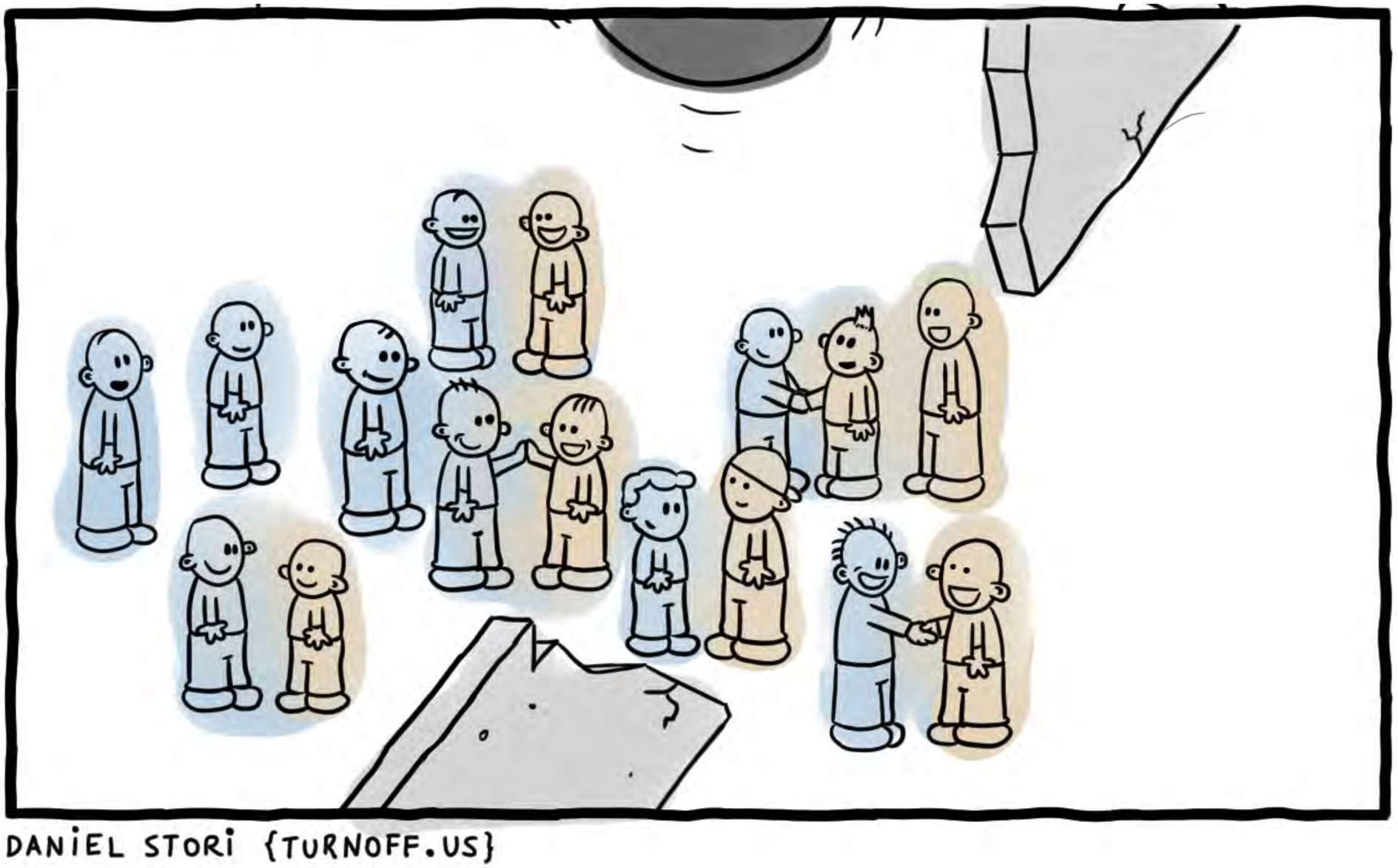
Speaker notes

Usually when people talk about DevOps they think about this physical division between developers and operation teams, and how they don't communicate anymore, and how much better it would be if they did.



Speaker notes

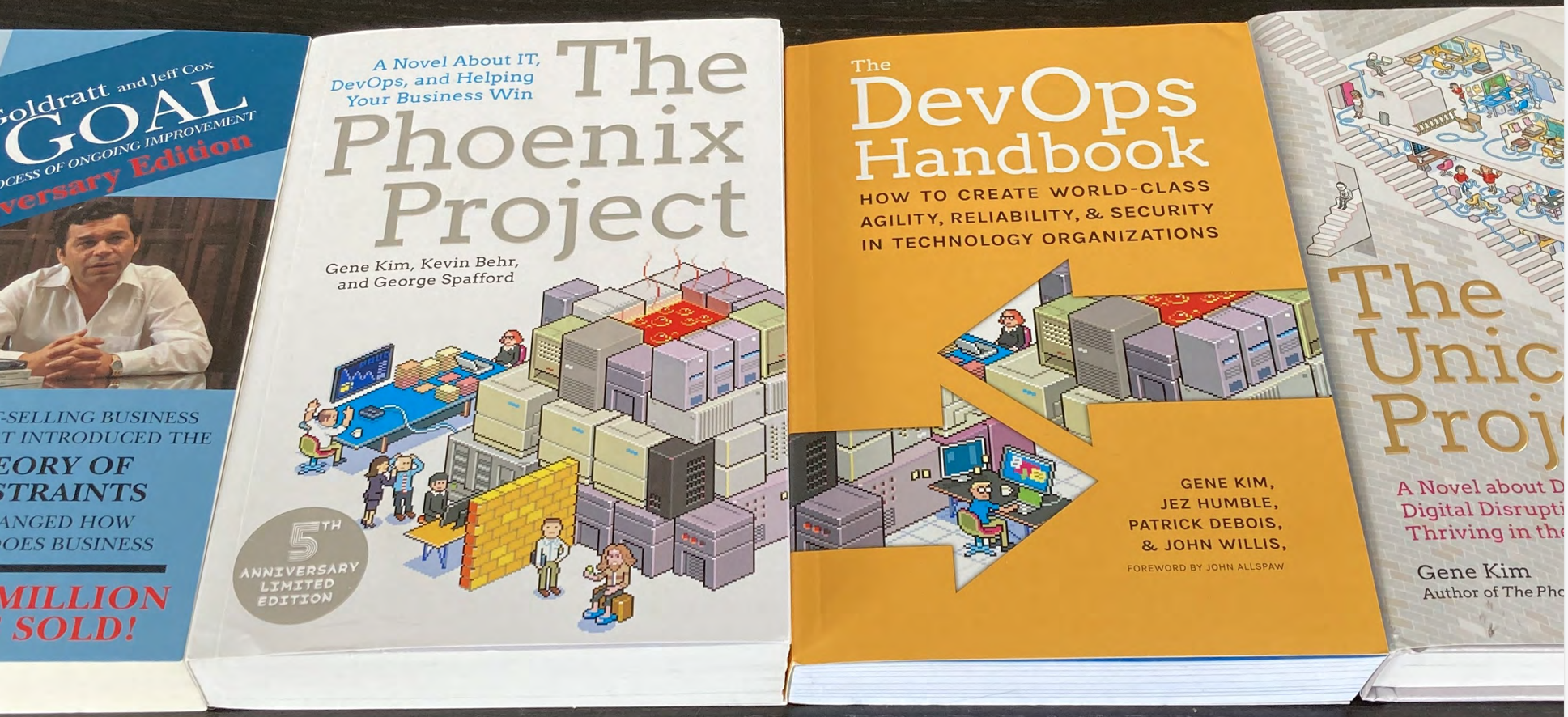
Then DevOps comes along, with its long list of technologies and buzzwords…



Speaker notes

… and somehow all barriers are destroyed, and we can once again collaborate and work better together.

For us at VSHN, this is a limited view of what DevOps is and can bring; it is an important part, but not all. Instead, we prefer to think about DevOps as a set of three principles, following what some authors have written about it.



Speaker notes

In particular, we think the best people to talk about DevOps is the author of "The DevOps Handbook" and "The Phoenix Project": Gene Kim. The latter book is actually a modern rewriting and reinterpretation of a classic management book from the 1980s called "The Goal" by Eliyahu Goldratt, but quite faithful in spirit.

1. The Principles of Flow
2. The Principles of Feedback
3. The Principles of Continual Learning and Experimentation

Speaker notes

In those books, DevOps is usually defined by the "three ways":

1. The Principles of Flow
2. The Principles of Feedback
3. The Principles of Continual Learning and Experimentation

Let’s see how these three principles helped us build a new product.

1. The Principles of Flow

Speaker notes

Let’s start with the principles of flow and see what it means for product development.

Value Stream

Speaker notes

The first thing was to decide where to start, that is, what was the value stream we wanted to provide first. We wanted to have actual results as early as possible, because seeing things happen and appearing is one of the best ways to keep a team in activity, motivated, and delivering.

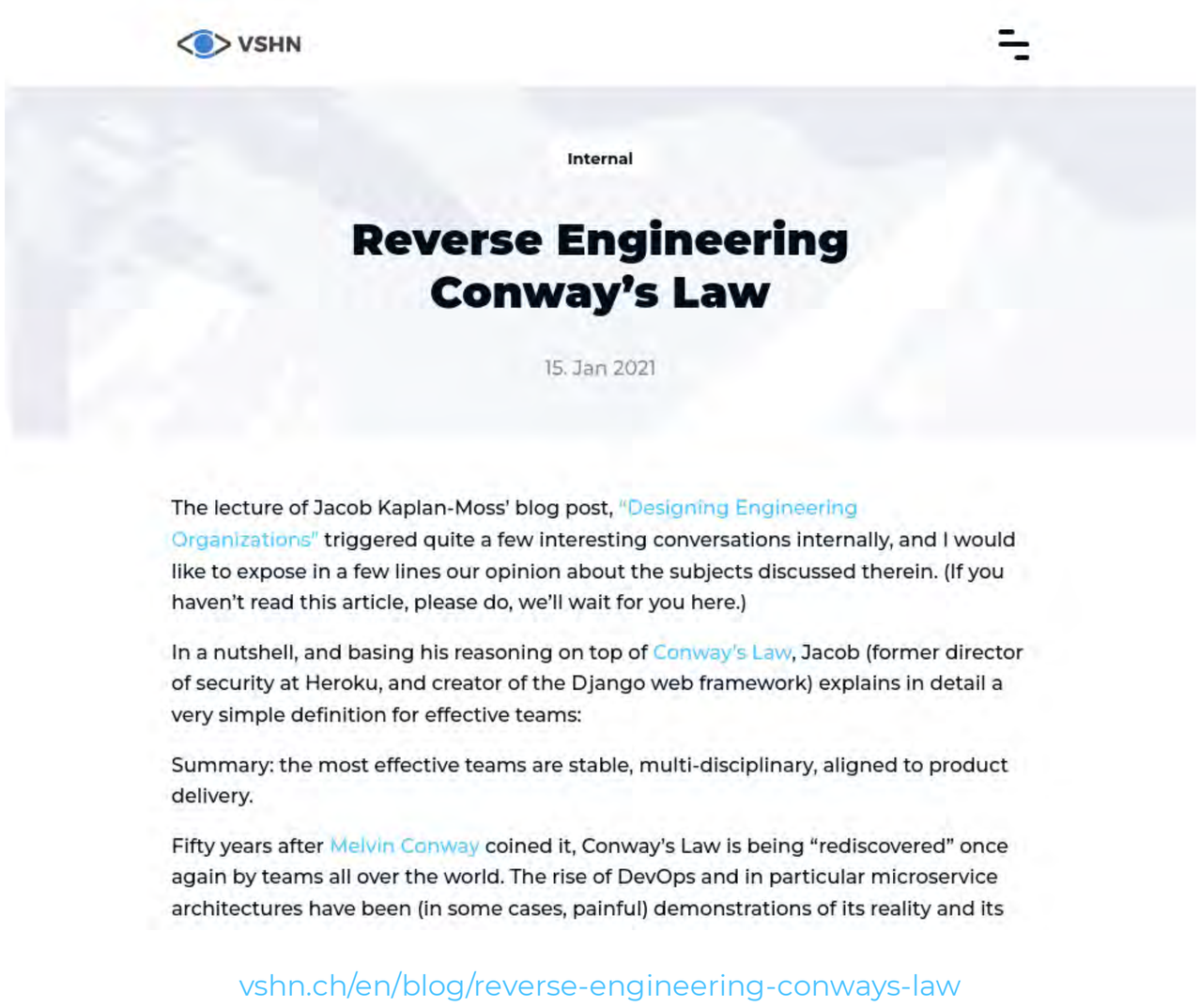
First: Product Documentation

Speaker notes

That work brought together the Product Documentation. That's right, the first thing we created through discussion was a written documentation of what we wanted to offer.

Why written? Because we work asynchronously. That means that some of us work better at night, while some work better in the morning; having everything written down helped everyone, commenting down drafts of the documents until there was agreement. Agreement from whom? From the Product Owners to the DevOps engineers who would have to maintain the solution at the end.

This way, the operations team knows exactly what is it that's going to happen. There are no surprises down the hall, and they feel empowered and listened to. All the features of APPUiO Cloud are, simply put, possible to release; either now or later, but they are possible.



Speaker notes

The important thing here is that we started by applying Conway's Law. That is, we first structured the team that would work on APPUiO Cloud, and then we got to create the system. The end result of this process is that the architecture of APPUiO Cloud, following Conway's Law, strictly mirrors the structure of our team. We do not fight against Conway's Law; we embrace it.

Documentation

For Product Owners

products.docs.vshn.ch/products/appuio/cloud/

For System Engineers

kb.vshn.ch/appuio-cloud/

For Users

docs.appuio.cloud/

Speaker notes

The result of this work of architecture can be summarized in three different documentation websites for APPUiO Cloud; you've heard right, we have created three different sets of documentation, and we keep them updated every day:

- Product owner documentation at products.docs.vshn.ch/products/appuio/cloud/
- System engineer documentation at kb.vshn.ch/appuio-cloud/
- End user documentation at docs.appuio.cloud/user/

We have made all of the documentation publicly available and viewable, even editable, because transparency is one of our values at VSHN. We want all of our customers to know exactly we're doing things the way we do; this, in turn, generates trust in our existing customers, and shows our know-how to prospective customers. These three documentation sites are, simply put, great marketing tools!

Flow

1. Reduce batch sizes
2. Reduce work intervals
3. Build quality in

Speaker notes

The principle of Flow requires teams to make work visible, recuding batch sizes and intervals of work, and to build quality in. We limited work in progress to the strict minimum, and we automated as much as possible of the process.

Automation

Speaker notes

This automation involves removing the human factor from the maintenance of those clusters as much as possible. One of the key factors for doing this was Project Syn, a suite of tools we started building in 2019 that allows our small team to manage hundreds of clusters from a central location. We created Project Syn as a way to be able to operate our customers' assets with a reduced human footprint, but it turned out to be a great way to handle our own work on APPUiO Cloud, too.

Project Syn

Speaker notes

Thanks to Project Syn, DevOps engineers can specify and deploy changes to lots of Kubernetes clusters from a central location, using a GitOps strategy; just commit your changes as "infrastructure as code" to a Git repository, and wait a few seconds until all clusters apply those changes.

We use Project Syn to deploy Kyverno security policies to our APPUiO Cloud clusters, so that all regions conform to the same rulebook.

We also configured each of the APPUiO Cloud zones with the mandatory differences between the cloud providers we use; Exoscale and cloudscale.ch do not offer exactly the same features, and being able to see those differences in written form allows us to manage those systems, to take decisions for the future, and to inform our customers of any possible tradeoff.

2. The Principles of Feedback

Speaker notes

We know that APPUiO Cloud is a complex system, built out of complex systems, that are prone to failure at any given time. It is not a matter of "if", but rather a matter of "when."

Observability

Speaker notes

We have built observability and management tools immediately from the start in our work of APPUiO Cloud. We have reused the management infrastructure provided by OpenShift, the same one we were using for our private customers, and we have built APPUiO Cloud to be observable at all times.

"Everything as Code"

- Policies
- Builds
- Configuration
- Infrastructure
- Documentation

Speaker notes

Using "everything as code" as a basis for our work means that every time we fix an issue on the platform, we have to change a configuration file somewhere. This information is later stored in the Git repo, as part of the project history; not only that, but we also update the required documentation files, both internal and external, so that everyone knows (asynchronously and at their own rhythm) what happened, when, where, and most importantly, why.

And when we say "everything as code", we mean it:

- Policies
- Builds
- Configuration
- Infrastructure
- Documentation

All of this is described in their corresponding files, and versioned in Git repos. We use GitLab, and its integrated CI/CD pipelines are configured to automatically build, test, and eventually deploy changes as required. Thanks to Project Syn, all of the feedback the bring back to the system is automatically deployed whenever possible, reducing the amount of human brain work required to keep things running.

Documentation as Code

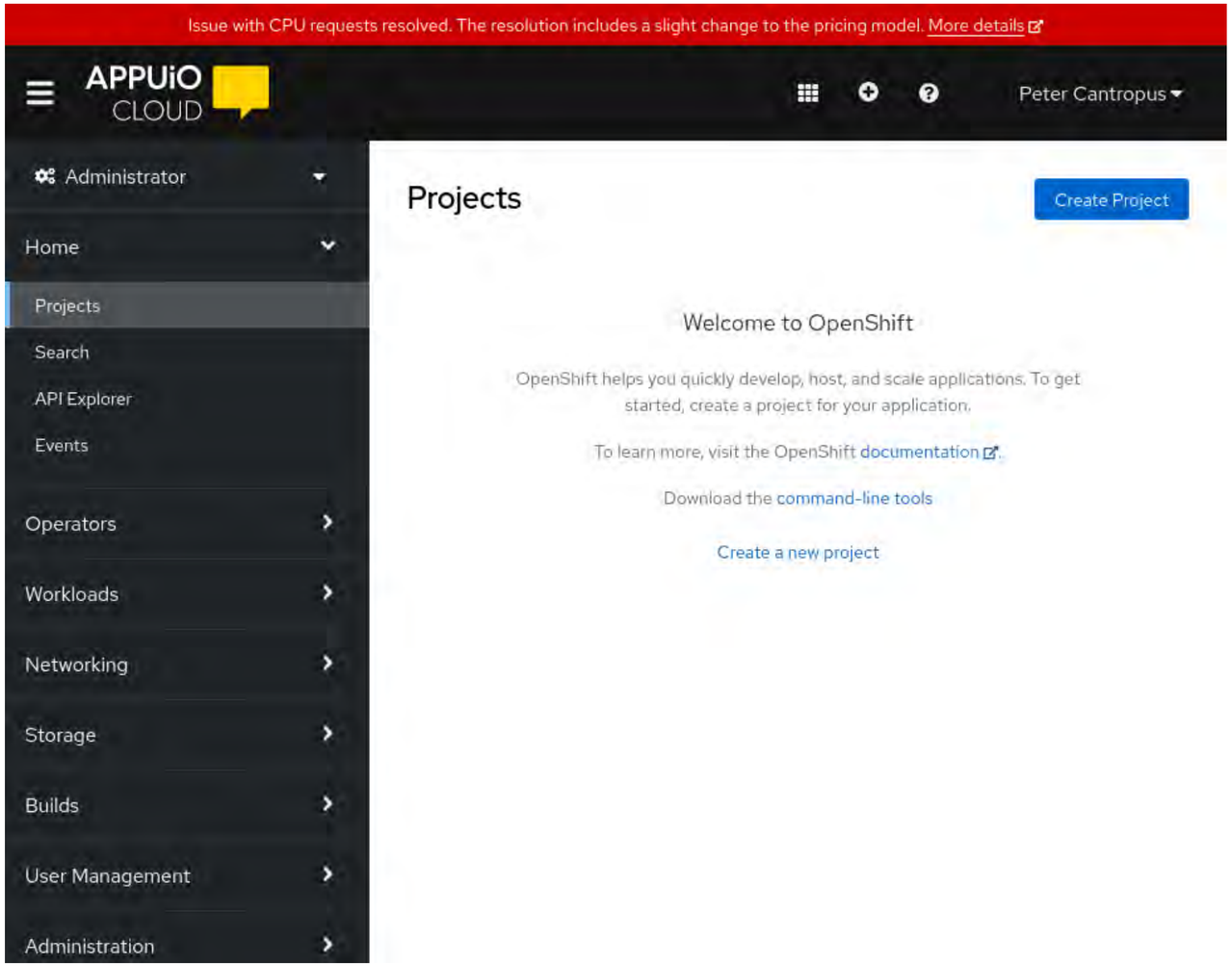
Speaker notes

Even our documentation is automated: we use the Antora documentation generator tool, which can automatically extract and integrate documentation from various sources into a single website, and we use GitLab pipelines for that as well. With this process, engineers only have to update the documentation sources (using the Asciidoc format, very similar to Markdown) and git push their changes. They are immediately picked up, built, verified (we have automatic styling and syntax checks built-in in our pipelines) and deployed.

3. The Principles of Continual Learning and Experimentation

Speaker notes

APPUiO Cloud is not, and will never be, finished. It is a product that changes continuously, sometimes in small ways, and sometimes in bigger ones.



console.cloudscale-lpg-2.appuio.cloud

Speaker notes

This is a screenshot of the APPUiO Cloud console in the cloudscale.ch region around May last year.

Can you see the red banner on top? This is the result of us learning something interesting.

CPU Requests & Quotas

Issue with CPU requests resolved. The resolution includes a slight change to the pricing model.

Speaker notes

Here is the text of the red banner in the previous screenshot.

This, as you can imagine, is the result of a learning process. We realized that, in our preparation, we had not designed our CPU request pricing properly. As a result, as soon as the first users started using the platform this year, we realized that some of them were consuming disproportionate amounts of CPU; this was a huge problem, since they were not aware of that, and we would have to cover for those extra costs at first.

Solution

As of 2022-05-01: The underlying infrastructure has a fixed ratio between memory and CPU resources. CPU requests exceeding that ratio will be counted as well. The requested CPU cores will be multiplied with the platforms' ratio. This yields an equivalent in MiB. The memory to CPU ratio can be different per zone. See zone listing for the exact values.

products.docs.vshn.ch/products/appuio/cloud/pricing.html#_compute

Speaker notes

We modified the policies in the clusters, made a communication to all of our customers, and updated our documentation as shown on the slide.

This was an unexpected and unplanned learning; a local discovery that brought a global improvement in APPUiO Cloud for all users. We did cover some of the costs, but we rectified our policies openly, and communicated clearly with our customers. The result? Not only all of them acknowledged and understood the changes, but we didn’t lose a single customer because of this change. This level of cooperation with our customers is one of the things we’re most proud of.

Crunchy Details

Speaker notes

Let me give you now some details about the work we did, including team sizes, tech stack used, and many other details. Transparency is one of our values, so we're very happy to tell you everything about it.

The Team: Aldebaran [1]

- 1 Project manager / Product manager
- 1 Product owner
- 3 DevOps engineers core team (6 nowadays)
- 1 System architect

+ 3~5 engineers from other teams

+ Marketing & sales team members

1. handbook.vshn.ch/vshn_teams.html

Speaker notes

The team called "Aldebaran" in VSHN was mostly in charge of the design, deployment and operation of APPUiO Cloud. They have also received help from other teams, in particular those with experience in the deployment and operation of OpenShift clusters, and of course from Marketing and Sales, to coordinate communication and marketing campaigns to get new users onto the platform.

The Project Manager and main Product Manager of APPUiO Cloud is Tobias Brunner, one of the founders of VSHN and its current CTO, who provided a very strong vision (no pun intended) about how APPUiO Cloud should behave and look like.

Tech Stack

- Red Hat OpenShift 4.11
- Policies: Kyverno kyverno.io
- IdP: Keycloak keycloak.org
- Secrets: Vault vaultproject.io
- Storage: Rook rook.io
- CNI: Isovalent Cilium Enterprise isovalent.com/product
- Backup: K8up k8up.io
- GitOps: Project Syn syn.tools
- Documentation: Antora antora.org

Speaker notes

Let’s go into some details about how APPUiO Cloud is built. This slide contains the list of major components we’ve chosen for it.

Collaboration Tools

- Zoom
- Discourse discourse.org
- RocketChat rocket.chat
- Jira & Confluence
- Visual Studio Code Live Share

Speaker notes

During our day to day asynchronous communication and collaboration we used various tools. Here's a small sample of them.

Timeline (1/5)

- 2021-02-19: First discussions about "APPUiO Public 2.0"
- Spring/Summer 2021: Design & development
- 2021-06: Benchmarking storage options
  - Rook, Ceph, or Longhorn? [1]
- 2021-07-29: "APPUiO Cloud" name chosen
  - "appuio.cloud" domain registered

1. Spoiler: Rook won! vshn.ch/en/blog/benchmarking-kubernetes-storage-solutions

Speaker notes

Here's a short timeline of events leading to the release of APPUiO Cloud.

We started talking about "APPUiO Public 2.0" around 2 years ago. In July we had chosen the product name and we had registered the domain name.

Timeline (2/5)

- 2021-08: Project Syn components for APPUiO Cloud
- 2021-08: cloudscale.ch cluster ready for testing
- 2021-09-17: docs.appuio.cloud published
- 2021-09-20: Public announcement [1]

1. vshn.ch/en/blog/announcing-appuio-cloud

Speaker notes

Things accelerated during the Summer of 2021. We made the public announcement in September…

Timeline (3/5)

- 2021-10-28: Users start migrating apps out of APPUiO Public
- 2021-12-01: Testing phase ended
- 2021-12-07: Pricing calculator released
- 2021-12-16: New logo
- 2021-12-21: Partnership with Isovalent [1]

1. vshn.ch/en/blog/partnership-vshn-isovalent

Speaker notes

… and our users started migrating their apps in October already. By December we announced a partnership with Isovalent, to use their CNI plugin on APPUiO Cloud.

Timeline (4/5)

- 2022-02-02: Exoscale Geneva region available [1]
- 2022-02-07: portal.appuio.cloud released
- 2022-02-09: Getting started guide published
- 2022-09-01: APPUiO Public fully decommissioned

1. vshn.ch/en/blog/bonjour-geneve-je-mappelle-appuio-cloud

Speaker notes

Last year we opened a new region in Geneva, and released the APPUiO Cloud Portal so that our users can manage their projects, users, and groups autonomously.

Timeline (5/5)

- 2022-09-14: AppCat announced, supporting S3 buckets [1]
- 2022-10-27: Vertical Pod Autoscaler available [2]
- 2022-12-20: Workload monitoring available for users [3]
- 2023-01-17: New AppCat feature: DBaaS by Exoscale [4]

1. vshn.ch/en/blog/announcing-appcat-on-appuio-cloud
2. vshn.ch/en/blog/vertical-pod-autoscaler-on-appuio-cloud
3. vshn.ch/en/blog/openshift-4-11-and-user-workload-monitoring
4. vshn.ch/en/blog/announcing-dbaas-by-exoscale-on-appcat

Speaker notes

Finally, we released our new product AppCat, which allows APPUiO Cloud users to specify dependencies such as S3 buckets, databases, message queues, and other systems directly in YAML from their OpenShift projects. We also enabled vertical pod autoscaling and workload monitoring for our users.

Conclusion

Speaker notes

Can other organizations use a similar process to create a product? We believe that yes, it is possible. However, there are a few caveats, that we know some companies should have to work on those items first, in order to have a successful DevOps journey.

1. Writing skills

2. Cloud-Native technology

3. Trust

Speaker notes

First of all, writing skills are fundamental. We need DevOps engineers to be writers, and to put everything down. Not only as "everything as code" (security, infrastructure, business rules, etc) but also as documentation writers, making sure that both engineers and users are able to refer to a written document that explains the reasons why things happen. Yes, keeping that written documentation is part of the work; it is not a chore, it is not a bonus; it is part of the deliverables, and it must be updated, reviewed, and proofread.

Second of all, Cloud Native technologies have been designed to work faster than ever. Containers, Kubernetes, CI/CD pipelines, Open Source, and all of the ecosystem of Cloud Native technology is the greatest enabler of our world. The technological context constitutes a fantastic "giant's shoulder" where we can stand on, and go faster and better. We definitely could have never done this work without the ecosystem of Open Source Cloud Native technologies available today.

But third of all, trust is paramount. You have to have trust in your teams. We actually think that trust is more important than flat hierarchies; even though these have helped us, without trust there's no way we could have created APPUiO Cloud in such a short amount of time. Trust allows teams to work independently, moving fast, and without the inherent fear typical of a "blame culture". And trust is the key ingredient for an asynchronous work culture. You cannot really go full async if you do not trust your teams. We stress this point, because this factor is the deal breaker for many teams in this country.

These are, we think, the three most important pillars of our DevOps culture: writing, technology, and trust. Those who have helped us shape APPUiO Cloud into a

Easy?

No.

Speaker notes

Is it easy to work like this in DevOps mode? Of course not, there are lots of things that can go wrong.

Worth it?

Yes!

Speaker notes

Is it worth it? Let’s put it this way: after all this time, we have internalized this way of working so much, that we couldn’t do things any other way. We think it is totally worth it, and as a result, we just do things like this.

With APPUiO Cloud, VSHN has demonstrated that we can deliver world-class products in a short amount of time, with a small team of experts, and with fast cycles of feedback and experimentation baked in the process.

Behind the scenes

vshn.ch/en/blog/behind-the-scenes-at-appuio-cloud

About the APPUiO Cloud API

vshn.ch/en/blog/about-the-appuio-cloud-api

How billing works

vshn.ch/en/blog/appuio-cloud-billing

All APPUiO Cloud posts

vshn.ch/en/blog/appuio-cloud

Speaker notes

We regularly publish blog posts telling the story of our product, and sharing news about future features or developments. Check it out at vshn.ch/en/blog/appuio-cloud

Try APPUiO Cloud for 30 days!

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Speaker notes

Try APPUiO Cloud by yourself!

Thanks! Questions?

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Speaker notes

Thank you so much for your attention!