Zurich University
of Applied Sciences

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School of Engineering

InIT Institute of Applied
Information Technology

Are Your Applications Cloud-Native?

Cloud-Native Applications is one of the research initiatives in the Service Prototyping Lab. CNA supports software developers to migrate their legacy applications into the cloud and to create new applications designed for the cloud. Several open source prototypes and successful transfers to Swiss companies could already be achieved.

Objectives of the Initiative
- architectures, patterns and design guidelines for CNA
- recommendations for operation of CNA (self-management, continuous delivery)
- economic guidelines and best practices for microservice compositions
- support of SMEs to build their own cloud-native solutions or re-engineer and migrate existing applications to the cloud
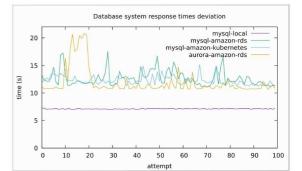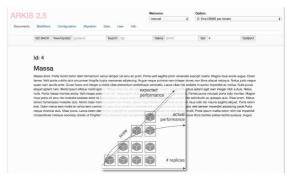

Recent Results
- quantitative assessment of elastic scaling characteristics
- comparison of cloud-native database services and self-hosted databases
- comparison of multi-tenancy models for stateful microservices
- API integration for cloud services

Showcase: Document Management in the Cloud
- containerised business application
- allows for rolling updates, resilience and scalability
- deployment via Docker-Compose or Kubernetes cluster
- predictable horizontal scaling of microservices .

Our Offer

Microservices, APIs, containers, lambda functions, metrics and things: Application developers are increasingly embracing cloud technologies.

Before betting everything on unsuitable stacks, software development companies can now innovate with SPLab to prototype their cloud applications and see how they would work.

Our research staff has the experience, the tools and the testbeds to quickly reach a prototypical solution for any hard problem.

Our Expertise

Experimental comparison of stacks and frameworks. Provocation and emulation of live conditions, e.g. popularity spikes, failures and malicious interruptions. Decomposition of existing applications. Cloud-aware designs for new applications. Connectivity between services and devices. Multi-cloud applications. Continuous development and deployment of bundled microservices.

The Service Prototyping Lab (SPLab) at Zurich University of Applied Sciences shares its website with the Cloud Computing Lab (ICCLab) at
`http://blog.zhaw.ch/icclab`
Contact us for project proposals at
`josef.spillner@zhaw.ch`

CLOUD applications are supposedly distributed, service-oriented, resilient, scalable and micro-billable for multiple tenants. In practice, many applications are just moved to the cloud without considering these expectations. Subsequently, they do not gain momentum, popularity and eventually revenue.

AT Zurich University of Applied Sciences, the Service Prototyping Lab was founded in 2015 to advance the state of cloud applications and services. The lab's three research initiatives combine investigation of software and systems, service engineering and cloud computing knowledge to yield better software applications and service ecosystems.

- ❏ Service Tooling
- ❏ Cloud-Native Applications
- ❏ Cloud Accounting and Billing
- ❏ in conjunction with the ICCLab: Cloud Application Management, Cloud Infrastructure and Cloud Robotics

WITH an applied sciences focus, SPLab transfers knowledge, open source tools, testbeds and cloudification methodologies into Swiss companies. Innovate with us and benefit from federal funds which we bring into projects in addition to our well-qualified research staff.

FOR the next wave of cloud applications and services, SPLab is offering to conduct joint research, innovation and development with SMEs from all over Switzerland and beyond. Benefit from our internal cloud infrastructure and our tools to connect to public cloud providers. Do not hesitate to contact us for a discussion of your cloud ambitions.

Contact for the
Cloud Native Applications
research initiative:

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