Zürcher Hochschule
für Angewandte Wissenschaften

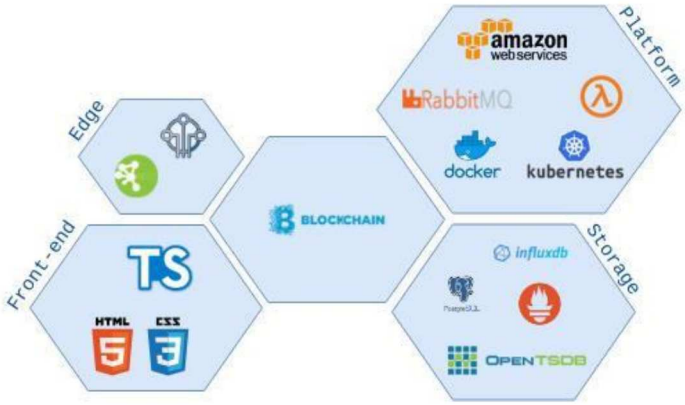
School of
Engineering

InIT Institut für angewandte
Informationstechnologie

Cloud Accounting & Billing (CAB)

Enabling sustainable cloud services

Key aspects



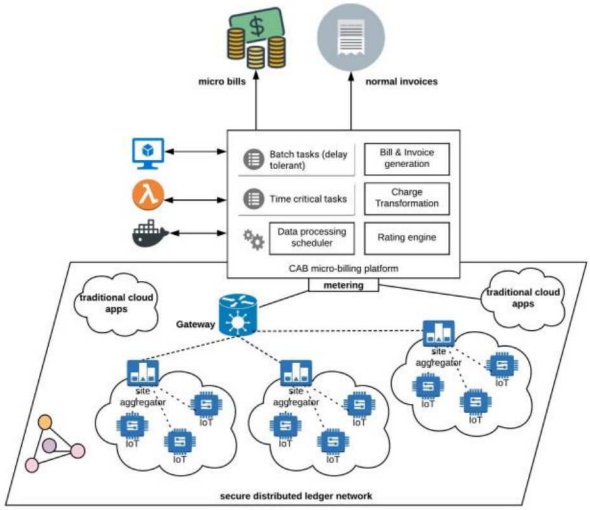
- CNA compliant design
- Architected for thorough audits
- Ready for up and coming deployment models
- Flexible model-based operations
- Support for subscription, PAYG modes
- Minimal self-operating cost footprint
  - Ideal for micro billing requirements
  - Suitable for Edge/Fog + IoT use cases
  - Distributed data management layer

Questions to be answered

- What are the relevant billable metrics for an IoT application with Edge/Fog deployment model?
- How can emerging paradigms such as FaaS be used to minimize self cost?
- how does one balance the competing requirements of multi-step aggregation heavy data transmission strategy with fine-grained audit-ability requirements of invoice/bill data from the regulators / users ?
- Will secure ledgers become a key enabler technology for our auditability problem?

Reference Architecture: Salient Features

- Designed for large scale deployments yet suitable for simple cloud applications too
- Immediate / Batch mode processing capability enabling variety of use-cases
- Aggregation close to data source minimizes data volume in-flight
- Append only blocks for tracking every data transformation securely



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SPLAB

Scientific research and development for better cloud applications

Presenting the Service Prototyping Lab and its research initiatives

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.

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