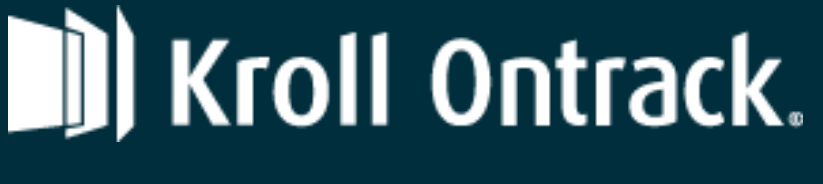

Kroll Ontrack


hybris software
An SAP Company


ATMAN
PrivateCloud


CLOUDERSI


MIRANTIS
Pure Play OpenStack


AKADEMIA WIRTUALIZACJI

Future Processing

k+ karieraplus.pl

4programmers.net

polish Jug

IT professional

Governica.com

WEBMASTAH

HACKERSPACE SILESIA

Organizational Announcement

Our plans for upcoming spring 2015'...

Thunderstorm

the biggest Cloud Workshops in Poland

The only place, where the Clouds fight and compete in one spot and at one time.

You have no other choice, you must be there.

A Short Story About Change In Thinking

Adam Smolnik

Revolution or Evolution?

The Open Group's notes on Cloud Computing:

- Cloud Computing is an Internet phenomenon, the latest major evolution in computing
- The great milestone following the emergence of the mainframe, the minicomputer, the microprocessor, the PC, the Internet, and the World-Wide Web

Pre-Cloud Mindset – in general

- Hype & marketing buzzword – a new marketing trick
- The idea without a clear and unambiguous definition
- At best a more sophisticated approach to hosting of applications

Pre-Cloud Mindset - IT Infrastructure

- IT architecture given up front – apps should be tuned to own IT infrastructure
- Long procurement process to get approvals and purchase new servers (CAPEX)
- Relatively stable deployment environment

Pre-Cloud Mindset – IT roles

Typical, mostly rigid separation of technical Roles within the Enterprise:

- Architects in many flavors – to calculate, predict workload and potential changes, plan IT infrastructure and all that
- IT Administrators – masters of infrastructure, OSs, setups, patches and upgrades
- Software craftsmen – Developers & Testers

Pre-Cloud Mindset – Design & Impl.

- Prevailing A**C**onsistencyID paradigm
- Strong reliance on local and distributed transactions
- No issue with abrupt restart or crash of the machine
- Developer's focus to squeeze performance out of code at the cost of increased complexity
- Concerns like auto-scaling, load balancing outside Developer's interest scope
- Established and stiff tests environments

Why Cloud?

Time for change in thinking

Even just for a few reasons – a breakthrough in the mindset:

- Computing as a utility like water, gas and electricity
- Access and usage as simple as turning on water in the bathroom (almost☺)
- "A Sense of Infinity" – you access infinite compute resources

Definition of Cloud Computing

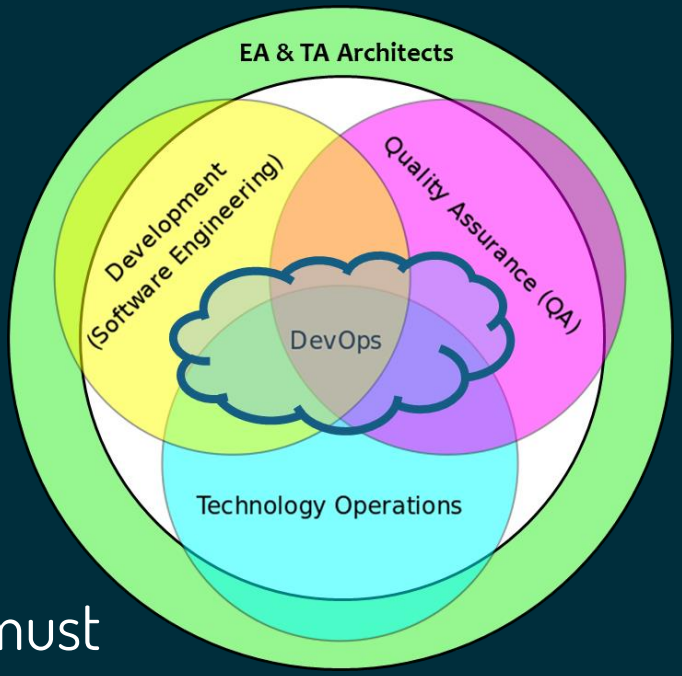
by National Institute of Standards and Technology (NIST)

- *"Cloud Computing is 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*
- *This Cloud model is composed of five essential characteristics, three service models, and four deployment models*
- *..."*

Cloud Mindset – IT Infrastructure

- IT infrastructure becomes a virtual resource
- Enormous field for experiments to determine best environment for your application
- OPEX - moving into pay-as-you-go model
- Notion of “machine” is redefined – as of now a volatile resource by default

Cloud Mindset – IT roles



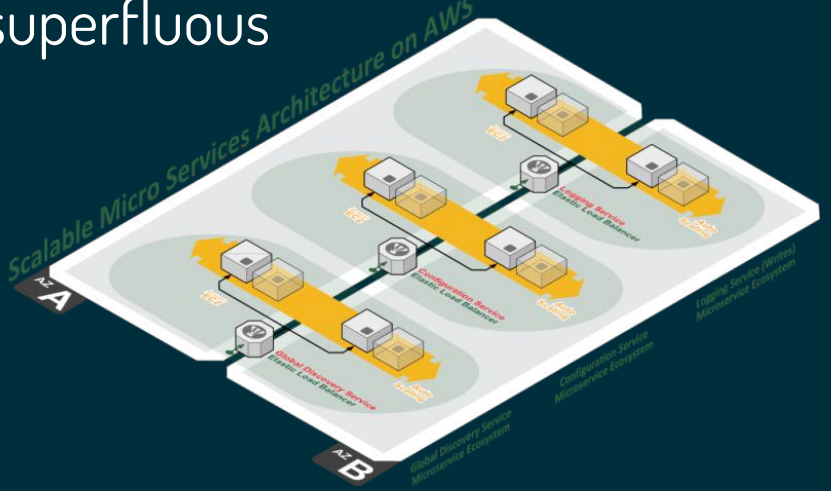
- Extremely enhanced role of the DevOps
- Strong contribution and cooperation is a must
- Fits in the SCRUM philosophy
- No longer Architects are forced to accurately predict future workload or plan IT infrastructure

Cloud Mindset – Design & Impl.

- More power put in Developer's hands: Thread**Process****Machine**
- From ACID towards BASE
- BASE = Basically Available, Soft State, Eventually Consistent
- "Myth: Eric Brewer on Why Banks are BASE Not ACID - Availability Is Revenue"
- New design patterns to learn e.g. Command Query Responsibility Segregation (CQRS)

Cloud Mindset – Impl. & Tests

- Now, auto-scaling and load balancing matters are of interest to Programmers
- A deployment process, OS & app servers setup become “programmable” entities and can be included as part of the application flow
- CI and tests environments can be provisioned on demand and decommissioned immediately once superfluous



New challenges on the horizon

"Everything fails, all the time"

Werner Vogel CTO at Amazon.com

- DFF (Design For Failure) – as of the early design stage
- DFE (Design For Elasticity) – statelessness comes in play
- DFA (... For Availability) – avoid single point of failure
- Set free power of Asynch. – loose-coupling matters
- Rethink towards Parallelism – at every tier
- **Optimize resource usage – turn off "the light" while not in use**

So, we are just here to talk about the Cloud!

Welcome at Cloudyna!