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DevOps and Software Driven Cloud
and how we implemented them

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A forerunner of renewal

THE TELEPHONE
BECOMES
PART OF DAILY LIFE



FROM BEING
LOCAL TO BEING
NATIONAL



EXPERIENCES AND
PRODUCTIVITY
THROUGH NEW SERVICES



1882

Daniel Wadén
brings the telephone
to Finland

Helsinki telephone
network automation

GSM calls

Mobile
signature

Public
WLAN
calls

3G network

4G network

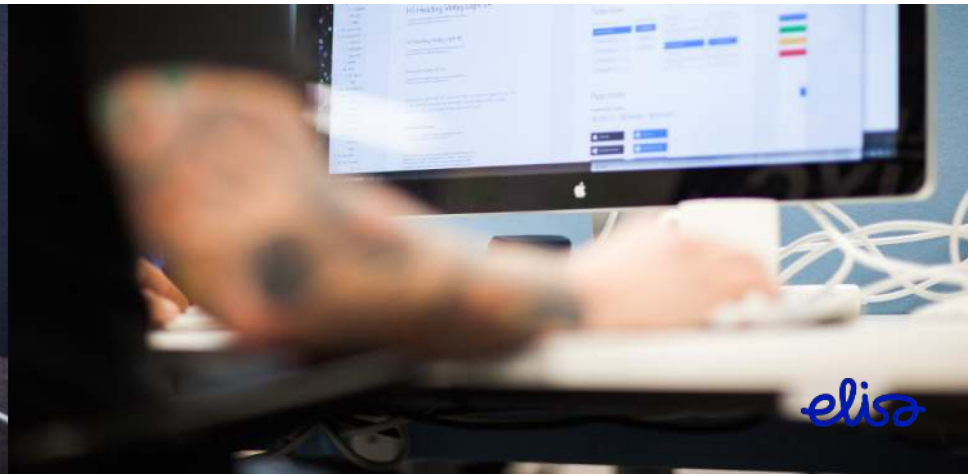
- Videoconferencing
- Cloud services
- Elisa IPTV, Elisa eBook, Epic TV
- Cyber Security Services

S O F T W A R E
S E R V I C E S

elisa



Developers, Designers, Architects, DevOps



DevOps

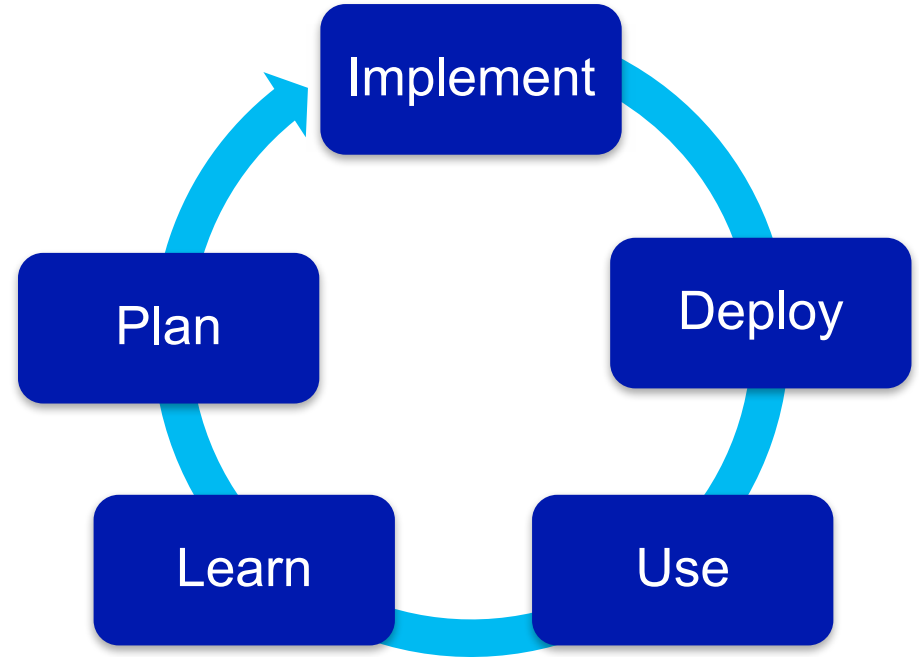
Collaboration
and open
culture

Automation to
accelerate
delivery and
increase quality

Software
driven
platform

Culture is Agile

- Agile development needs continuous improvement in it's process.
- Two bigger evolutions. 2010 and 2016.
 - Business Product Owner.
 - Conventional Scrum/Kanban models.
 - Common KPI's.
- Empower the teams!

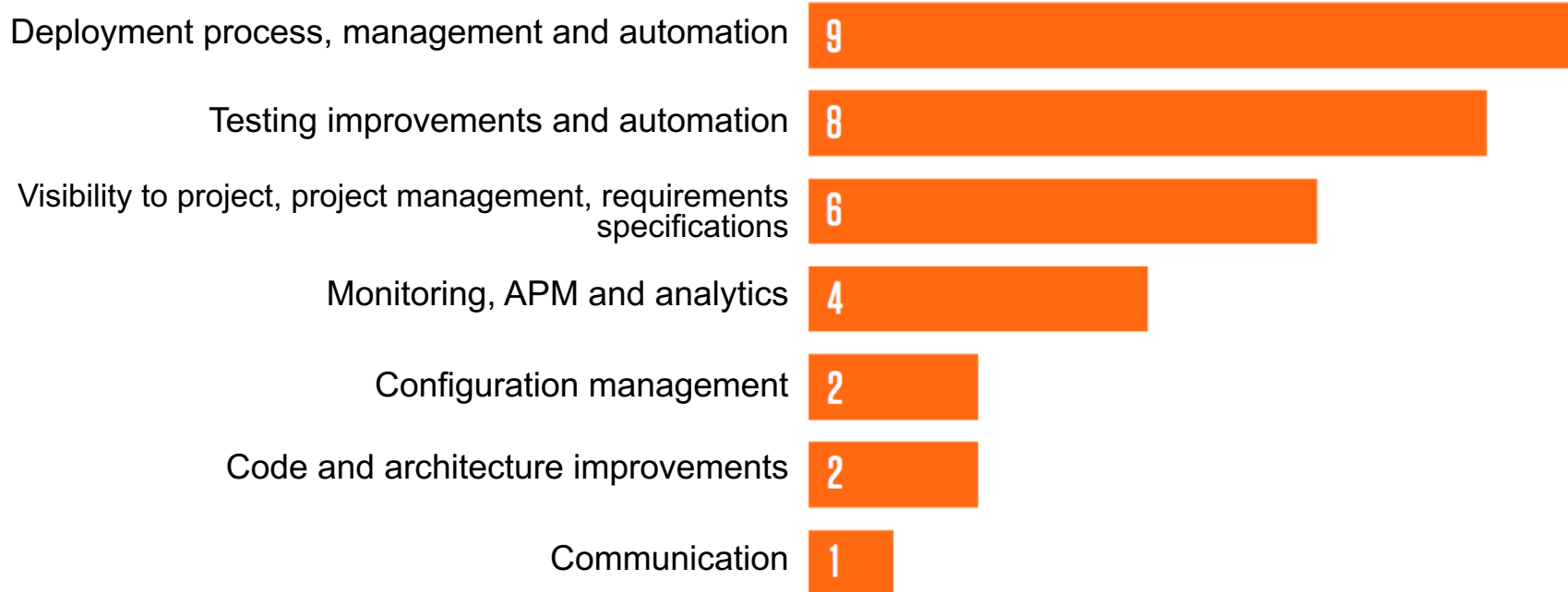


Automate Everything

- Everything that we do manually we can automate.
- But we need to start somewhere...

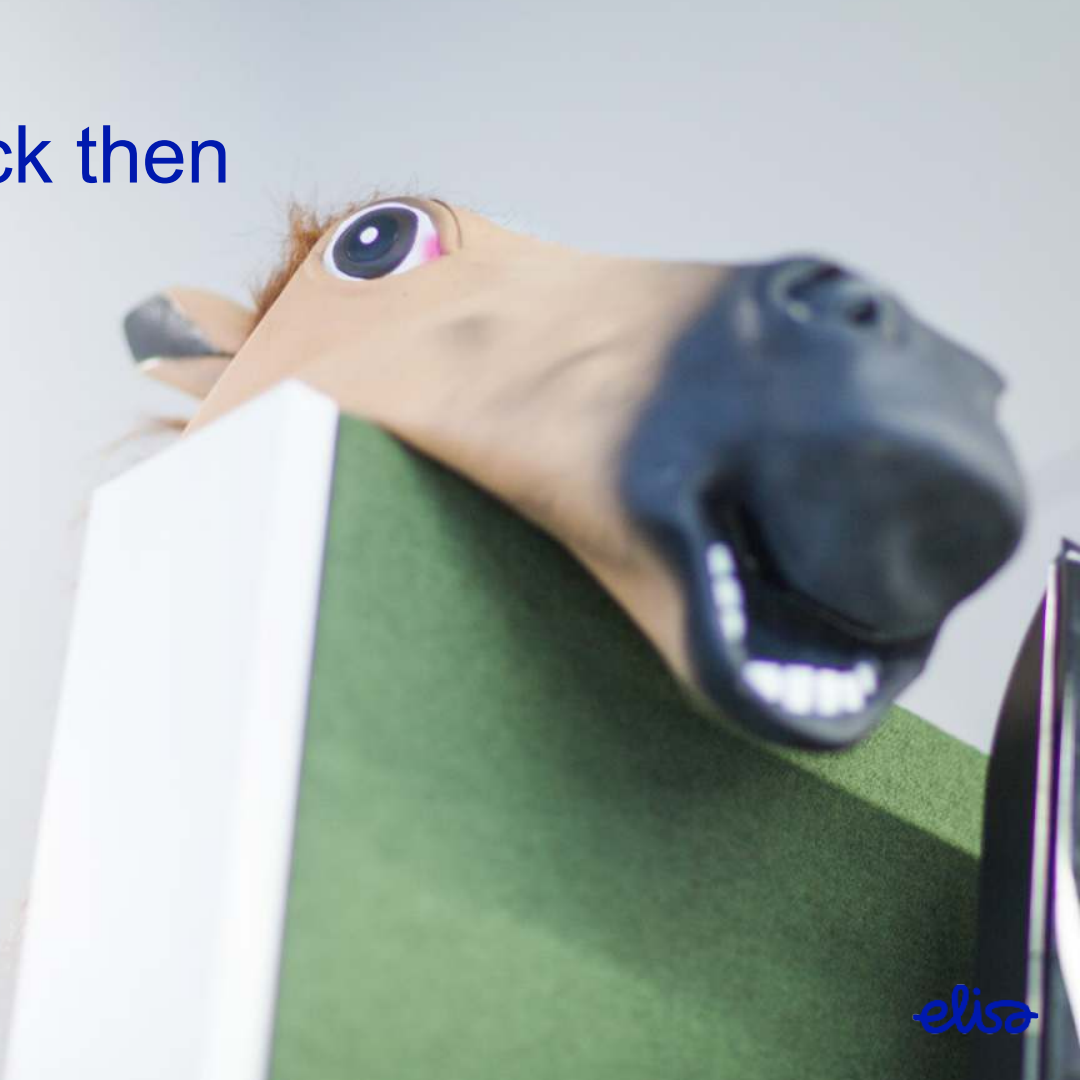
Brief automation history at Software Services

We asked from our teams what they would improve



Automation levels back then

- There was not much software delivery automation
 - Every team had manual / home-cooked deployment process & scripts of software to production
- Infrastructure was pretty static
 - Ticketing systems widely used to obtain new servers, firewall openings, lb's etc.



Ansible

- Decided together with team of architects.
- Utilize existing infrastructure.
- Deployment and configuration management.
- Coach half of the teams on implementation.



Infrastructure is the next thing

- Move from legacy way to order infrastructure via tickets after each step was done.
- To way where infrastructure is in configuration which lives in version control and can be deployed any time.

Building Private Cloud (Software Driven Cloud)

- Choice was OpenStack because of Telco Cloud.
- First done with open source version. Wanted to see if our teams really want to use this or not.
- They did and then we selected Red Hat OpenStack.



Developers wanted Containers

- Transportability and freedom to scale our services.
- Develop the service and it works just the same like in that prototype in developers laptop to production environment.

Containing the Containers

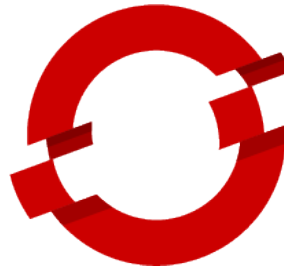


Kubernetes as Container Orchestrator

- Largest open source container orchestrator project.
- Great integration possibility with OpenStack. Can utilize OpenStack storage and load balancers.

Moving to OpenShift

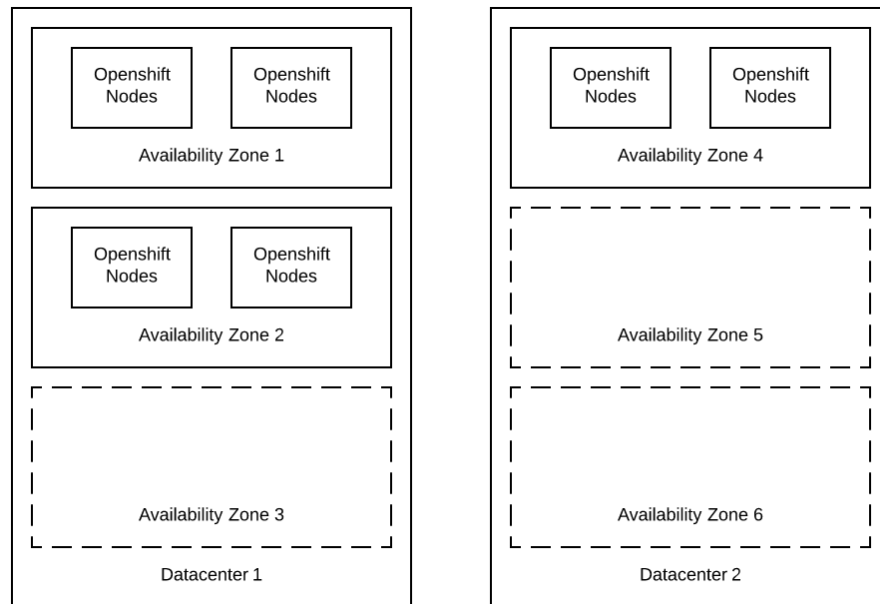
- Maintaining integration between Kubernetes and OpenStack proved to quite an effort. Pushed many upstream commits to get it work.
- Teams wanted automated application builds. OpenShift provides that as well.
- Running production load and having single vendor has value.



RED HAT[®]
OPENSIFT

Current SDC Setup

- Own datacenters and core network.
- Each Availability Zone has eight Nova nodes, two Neutron nodes, two Storage Nodes.



History recap

Ansible to automate deployment on static infrastructure

OpenStack for software driven infrastructure.

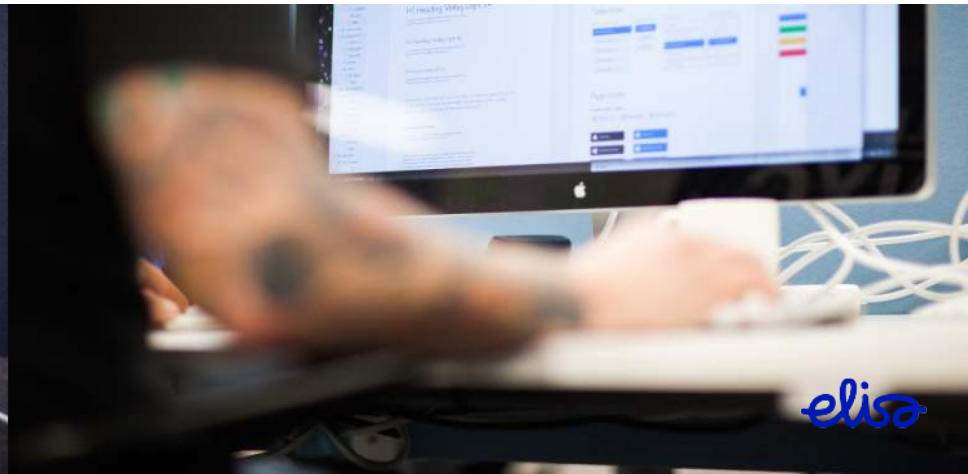
Dockers to get transportability and ease of scale.

Kubernetes to automate and scale dockers outside of single server.

OpenShift to build automation and platform integration.



It is all about focus



Outside of own development

- We offer DevOps solutions also for corporate customers.
- Talk to our Elisa IT Business Unit representatives
- Come to our breakout session to hear more!



Thank you!

PS. We are hiring, checkout elisa.fi/rekry