

FASCINATING NEXT GENERATION CONTAINER PLATFORM

DAVID BRUPBACHER
HEAD OF IT GLOBAL OPERATIONS

HAKA



SIX

A close-up photograph of a human eye. The iris is light blue and contains a reflection of a trading chart with yellow and blue lines. The eye is looking slightly to the left. The background is blurred, showing skin and hair.

TRADING

2000

TIMES FASTER THAN THE BLINK OF AN EYE



POST TRADING

THE STRONGHOLD FOR SECURITIES

FINANCIAL INFORMATION

7'000'000'000

PRICE UPDATES PER DAY

A nighttime photograph of a city skyline, likely New York City, with numerous skyscrapers illuminated against a dark sky. The lights from the buildings create a bokeh effect in the foreground.

PAYMENT PROCESSING

99.998%

APPLICATION UP-TIME

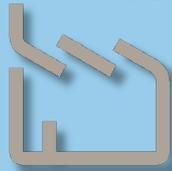
THE IT THAT NEVER SLEEPS



32

ongoing DGI projects during 2016 with strong focus on IT infrastructure.

We operate worldwide



24

data center



5232

electronic workplace clients (desktop/laptop) are managed for the whole SIX worldwide

550

changes per month are tracked, scheduled, monitored and executed



total of

5'800

inquiries to global service desk per month

Global IT employs more than **950** experts in **6** different countries

only **44%**

of total 2'700 server in the global zone are virtualized

2'700 TB storage capacity

and **6'600 TB** backup capacity



448 employees in **6**



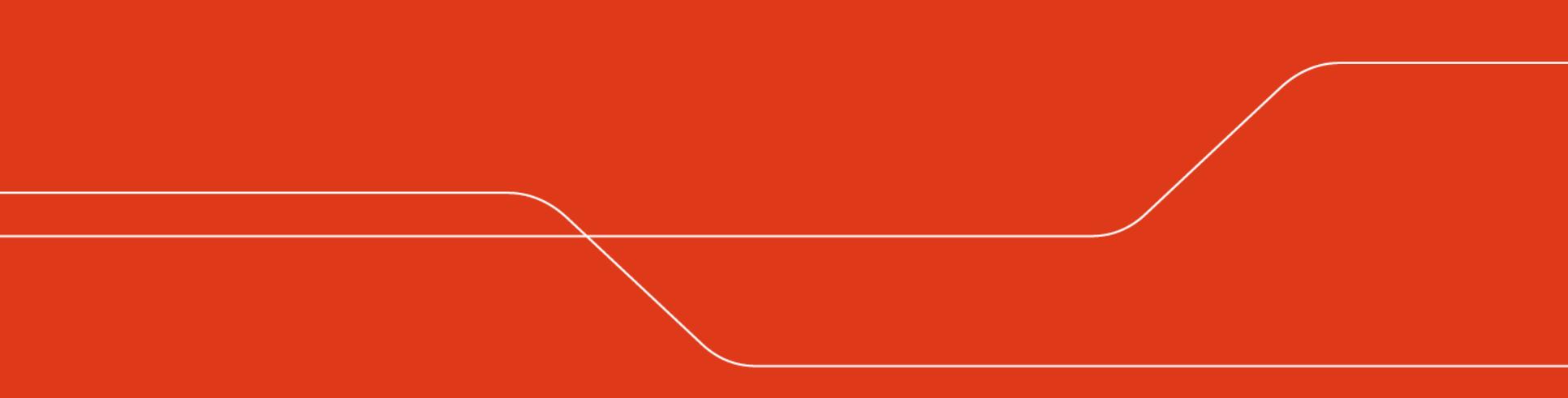
different countries

7

business continuity tests are executed per year with our major business units and applications



FASCINATING NEXT GENERATION CONTAINER PLATFORM

The background is a solid orange color. Two white lines are drawn across the top half of the image. The upper line starts on the left, goes horizontally, then curves down and right, then horizontally, then curves up and right, and finally horizontally to the right edge. The lower line is a straight horizontal line that runs parallel to the upper line.

HOW IT STARTED

INCREASE EFFICIENCY

TIME TO MARKET

**NUMBER
OF ENVIRONMENTS**

**NUMBER
OF DEPLOYMENTS**

DIGITALIZATION LESS OVERHEAD

**MORE CONSOLIDATION
MORE AGILITY**

2015

WE STARTED A DEVOPS MOVEMENT

WE STARTED A MOVEMENT TO CONVERT ALL 700 ENGINEERS AND OPERATORS INTO A DEVOPS ORGANIZATION.

WE CREATED A VISION

**WE LOVE TO DELIVER
YESTERDAY WHAT IMPRESSES
OUR CUSTOMERS TOMORROW.**

WE WEAR OUR SHIRTS



IT'S ALL ABOUT MINDSET AND ATTITUDE!

WE DEFINED OUR PRINCIPLES

We collaborate in cross functional teams and help each other to improve

Teams take ownership for their products over the whole lifecycle

We automate repetitive tasks wherever possible

We have working software on every stage any time, incl. monitoring

We do software-architecture

We use one repository

We won't stop until we don't do anything anymore that we don't have to

We inspire and motivate our colleagues

We employ scalable infrastructure

THE 5+1 DIMENSIONS OF DEVOPS AT SIX

SKILLS

SPECIALIST



SPECIALISED GENERALIST



ORGANIZATION

FUNCTIONAL TEAMS



X-FUNCTIONAL TEAMS



ARCHITECTURE

MONOLITHIC/PACKAGED



SERVICES/API'S



MINDSET & ATTITUDE

INFRASTRUCTURE

MANUAL PROVISIONING



AUTOMATED PROVISIONING



PROCESS

MANUAL HAND-OFFS



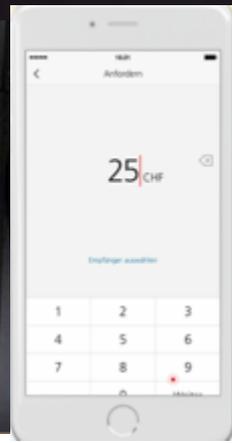
CONTINUOUS DELIVERY



THE FUN
PART



TODAY



Evolution

(nur Tonspur)

1980s -

Powered by
**HP NonStop
platform**



2014 - 2017



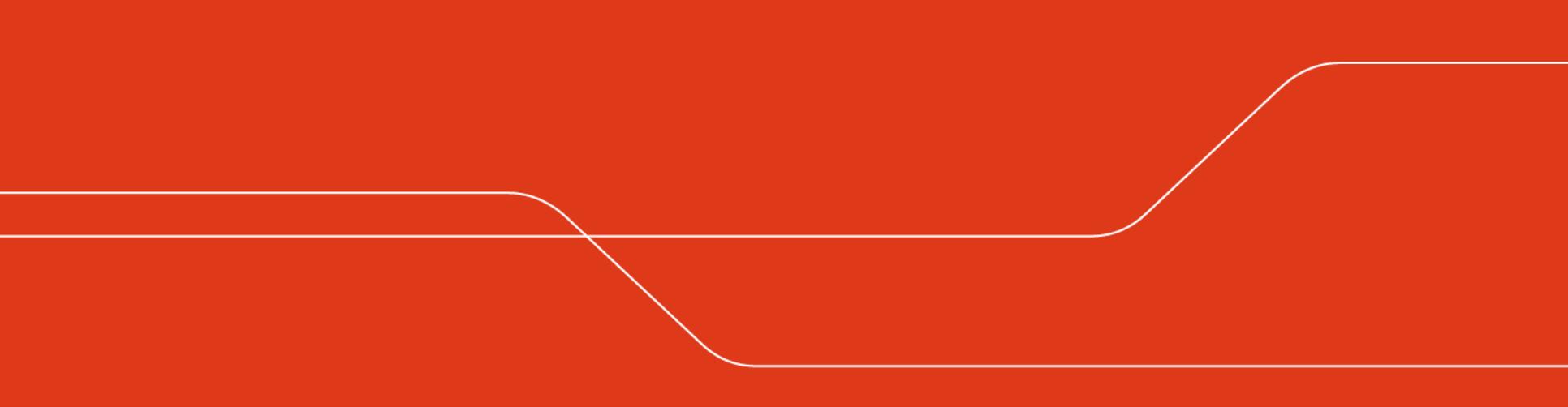
2016 -



docker

TODAY



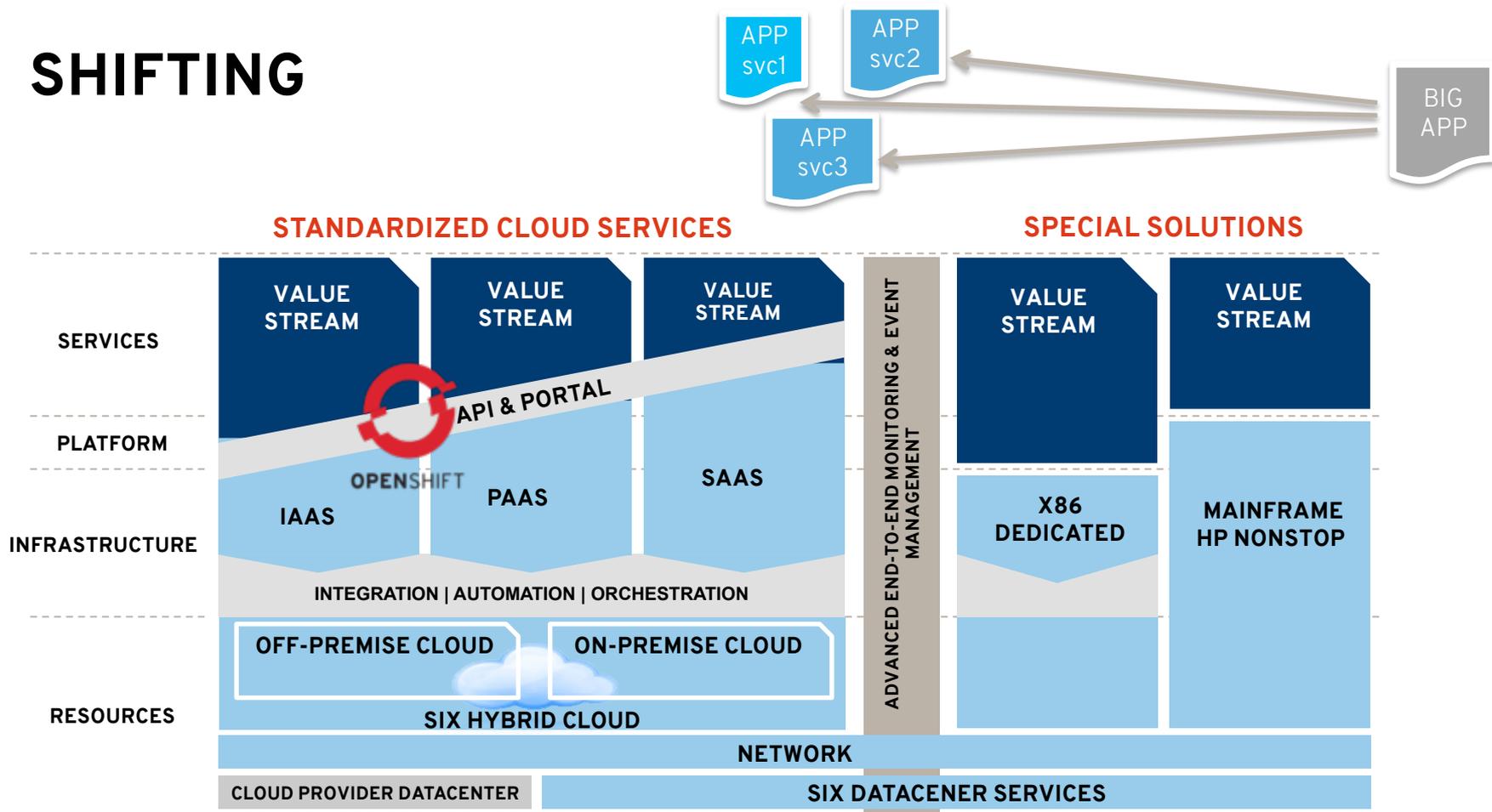
The background is a solid red color. Two white lines are drawn across the top half of the image. The upper line starts on the left, goes right, then curves down and right, then curves up and right, ending on the right edge. The lower line starts on the left, goes right, then curves down and right, then curves up and right, ending on the right edge. The two lines are roughly parallel and create a sense of depth and movement.

TOMORROW

“SHIFT HAPPENS”

SIX

SHIFTING





**HIGH
AVAILABILITY**

HYBRID

HARDENING

**SDN Zone
SEGREGATION**

**PCI
APPLICATIONS**

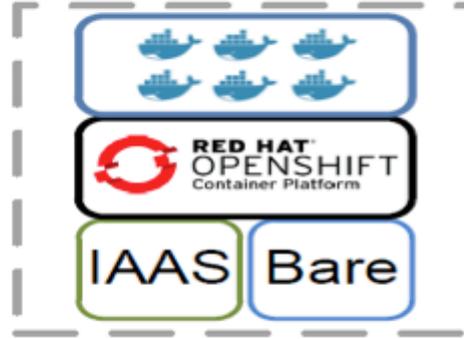
**ONE
CLUSTER**

**INTEGRATED
CI/CD
PIPELINE**

SCALABLE

ON-PREMISE SOLUTION

DataCenter #1



DataCenter #2



CLOUD

CLOUD

THE 5+1 DIMENSIONS OF DEVS AT SIX

ENGOPS

MINDSET IS CRUCIAL

SKILLS

SPECIALIST
↓
SPECIALISED GENERALIST



ORGANIZATION

FUNCTIONAL TEAMS
↓
X-FUNCTIONAL TEAMS



STAY OUT OF THE WAY

ARCHITECTURE

MONOLITHIC/PACKAGED
↓
SERVICES / API'S



MINDSET & ATTITUDE

INFRASTRUCTURE

MANUAL PROVISIONING
↓
AUTOMATED PROVISIONING



PROCESS

MANUAL HAND-OFFS
↓
CONTINUOUS DELIVERY



THE FUN PART

ENGOPS APPROACH

WE ADOPT THE DEVOPS APPROACH IN THE IT INFRASTRUCTURE LAYER



- **EngOps approach combines engineering (Eng) and operations (Ops)** within the same Competence Center
- **Agile principles and methods** (→ Self-organization, Kanban, Standups,...)
- **End-to-end responsibilities**
- **Foster automation** to reduce the manual OPS tasks

BRINGING ENG AND OPS TOGETHER IS ABOUT MINDSET

the engineer

and

the operator

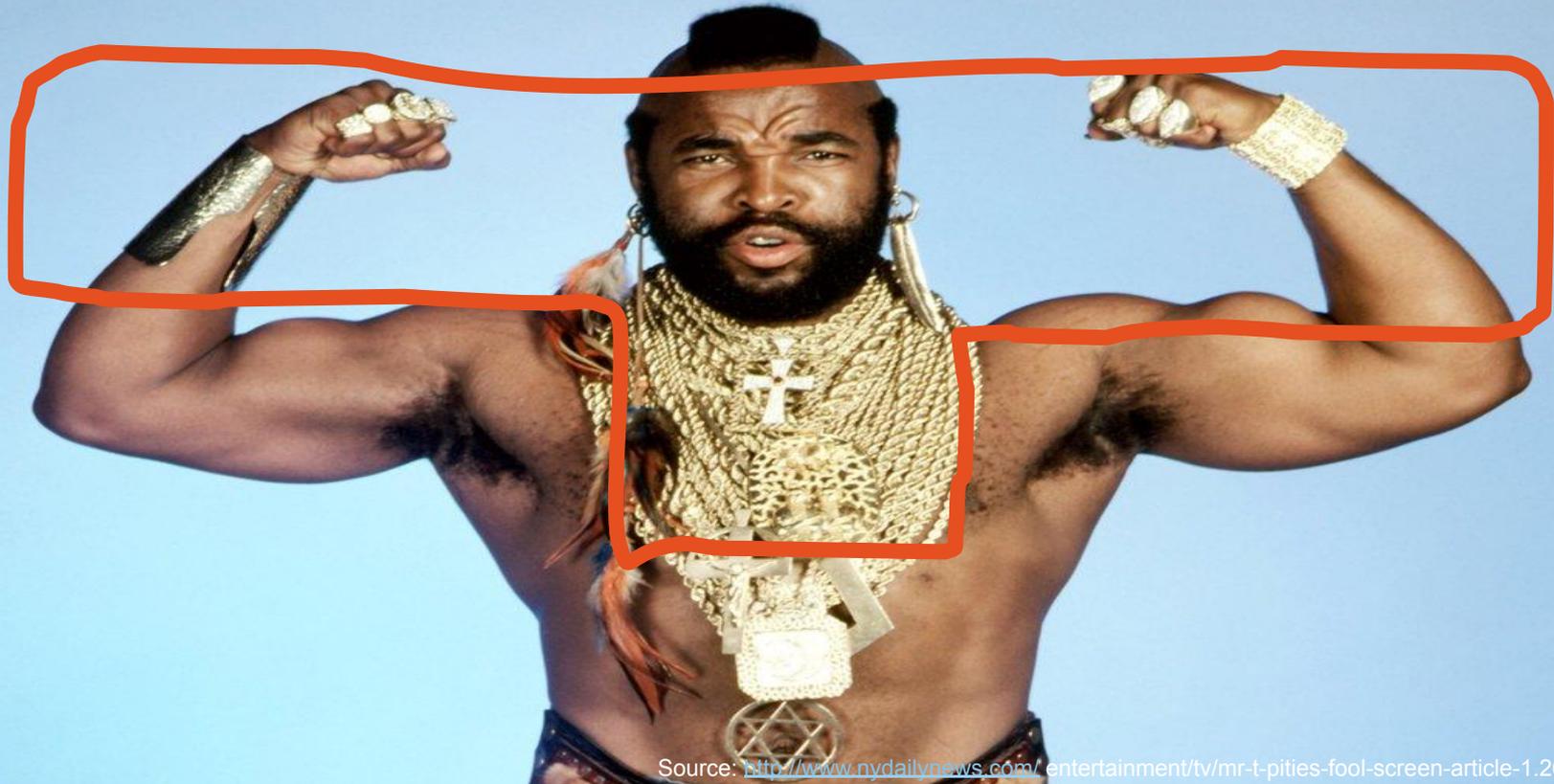


FASCINATING!

Little bit weird
Sits closer to the boss
Thinks too hard

Pulls levers & turns knobs
Easily excited
Yells a lot in emergencies

Source: John Allspaw and Paul Hammond



Source: <http://www.nydailynews.com/entertainment/tv/mr-t-pities-fool-screen-article-1.2642825>

SITE RELIABILITY ENGINEER

APPLICATION DEVELOPER	PLATFORM OPERATOR	PLATFORM DEVELOPER	TEST ENGINEER	APPLICATION OPERATOR
SOFTWARE DEVELOPMENT LIFECYCLE	MANAGE IAAS AND PAAS INFRASTRUCTURE	DESIGN IAAS AND PAAS INFRASTRUCTURE	TEST IMAGES AND INFRASTRUCTURES	MAINTAIN CI/CD PIPELINES
DEFINE APPLICATION REQUIREMENTS	SYSTEM AND NETWORK OPTIMIZATION	DEVELOP IMAGES (OS, DOCKER...)	RELIABILITY TESTING	CONFIGURATION AND CHANGE MANAGEMENT
DEVELOP PIPELINE AS CODE	PLATFORM MONITORING AND SUPPORT	INFRASTRUCTURE SCRIPTING AND AUTOMATION	AUTOMATE TESTS	CAPACITY PLANNING AND MONITORING

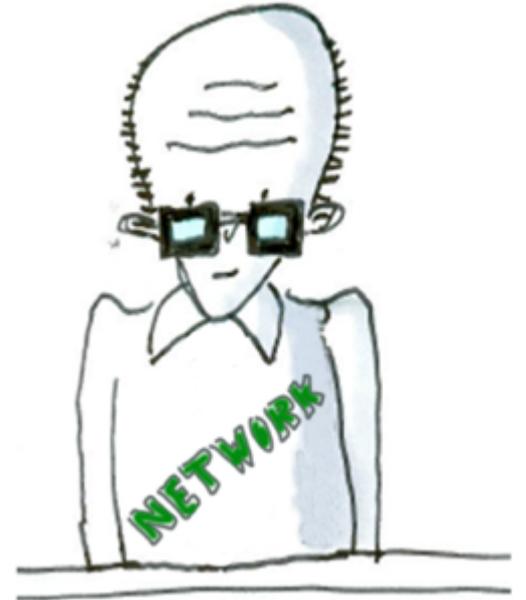
BROAD (diagonal label on the left side of the first row)

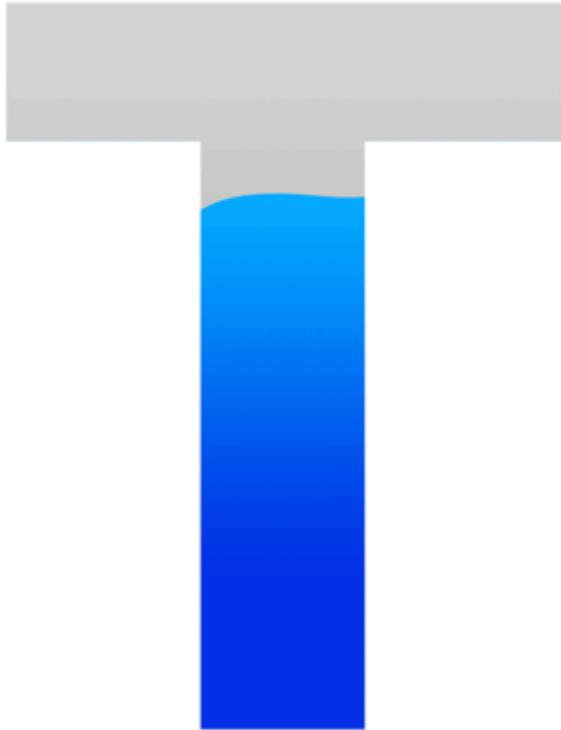
DEEP (diagonal label on the right side of the third row)



**I'M A SYSTEM ENGINEER WHO CAN CODE!
GIVE DEV THE FREEDOM OF CHOICE BUT
LIMIT IT!**

**HOW I HANDLE PROBLEMS:
I SOLVE THEM, AUTOMATE THEM AND
SHARE THEM!**







THE PLAN
OFI Assets
Eh...
K0



HAKA

we build it
we run it
we love it



THE JOURNEY HAS JUST STARTED



redhat.®