SECURE DEVOPS IN THE CLOUD AND BEYOND

it-sa 2017

Ivan Mioc, Nürnberg 12.10..2017

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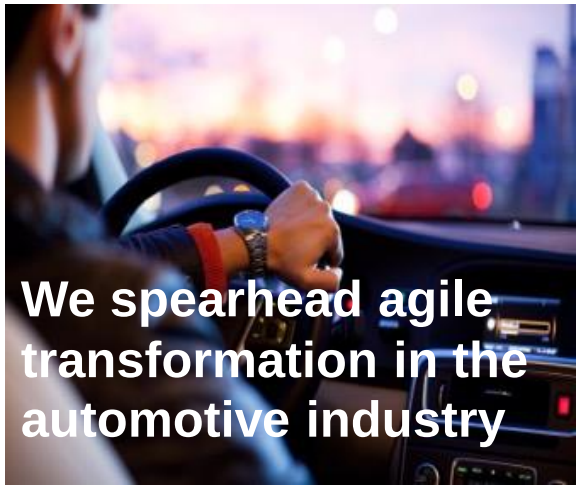
CTO

Our vision & values: Clients First – Foresight – Teamwork



Cloud Services – Services & Offerings

Cloud Implementation

- PaaS Implementation based on Altemista, openShift or Kubernetes
- IaaS Integration with NTT Com, AWS und Azure
- Software and Architecture Redesign
- Cloud Native Applications
- Agile IT & DevOps Implementation

Cloud Advisory

- Cloud Strategy, Roadmap and Program Management
- Cloud, Agile IT and DevOps Readiness Assessment
- Application and Workload Migration to Cloud

Cloud Operations

- NTT DATA Altemista Cloud - The Agile IT Platform
- openShift Platform
- Kubernetes Platform
- Continuous Integration / Continuous Delivery Pipelines and Assembly Lines
- DevOps & cloud-based Application Management

Cloud Management

- Private / Enterprise Cloud Hosting and Co-location
- Cloud Managed Security
- X-Cloud Brokerage

Altemista Cloud
A **global fullstack offering**
based on open standards and flexible infrastructure

A L T
E M I
S T A

Cloud DevOps Platform for Continuous Productivity

NTT DATA Approach

Applications & Projects

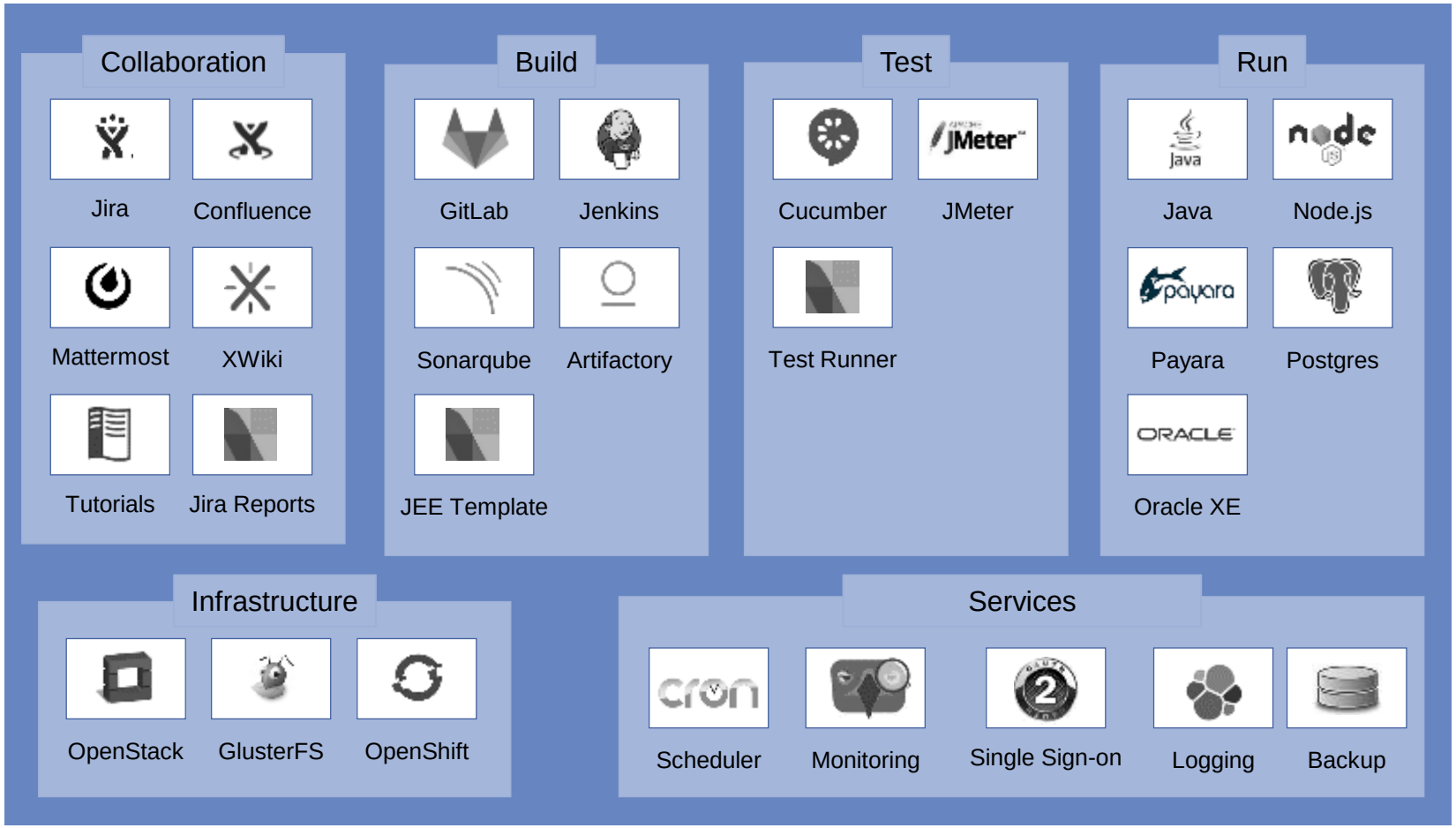
Platform
Design-time Environment
(Assembly Lines)

Platform
Run-time Environment
(Container Orchestration)

AWS
EC2

NTTC
ECL2

Platform Design-time Environment



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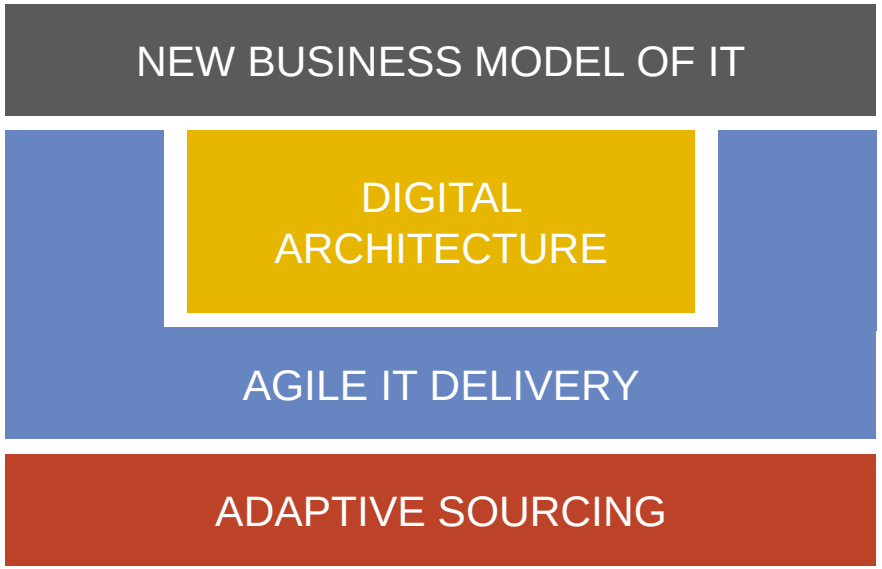
Our building blocks for an Agile IT delivery model:

NEW BUSINESS MODEL OF IT 1

ADAPTIVE SOURCING 2



3 **DIGITAL ARCHITECTURE**

4 **AGILE IT DELIVERY**

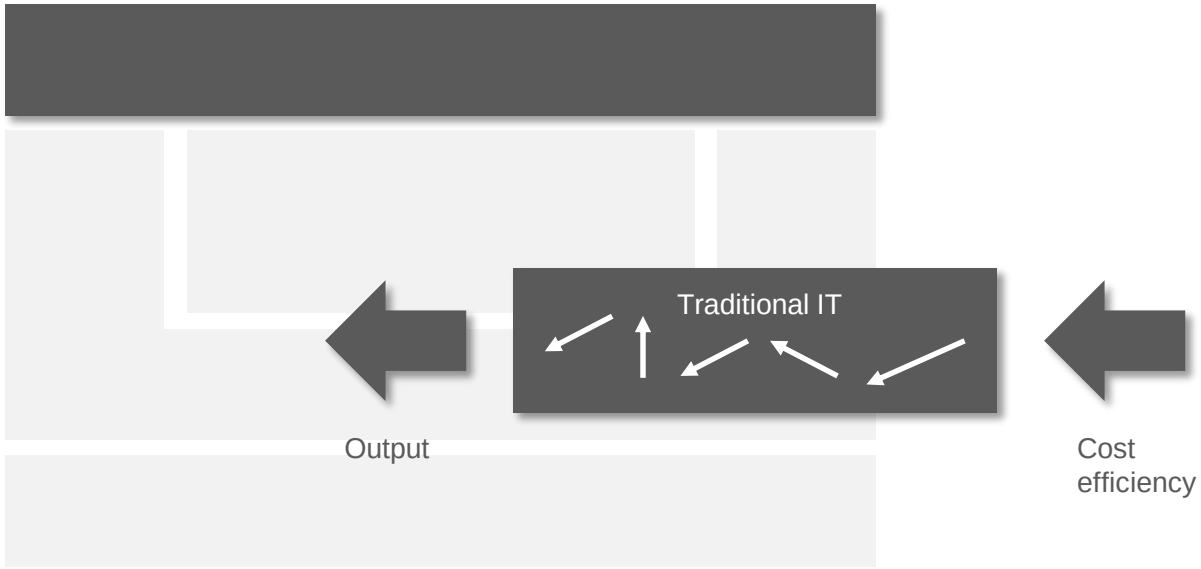
NTT DATA **is the right partner** to jointly develop an **Agile IT Delivery Model.**

The new business model is **aligned with business value** & organized in horizontal streams.

1

NEW BUSINESS MODEL OF IT

- Optimization beyond efficiency
- From cost center to business enabler
- Consideration of business value
- Towards horizontal IT with end-to-end responsibility



The **responsibility split** in traditional IT leads to significant **productivity losses**.

The new business model is **aligned with business value** & organized in horizontal streams.

1

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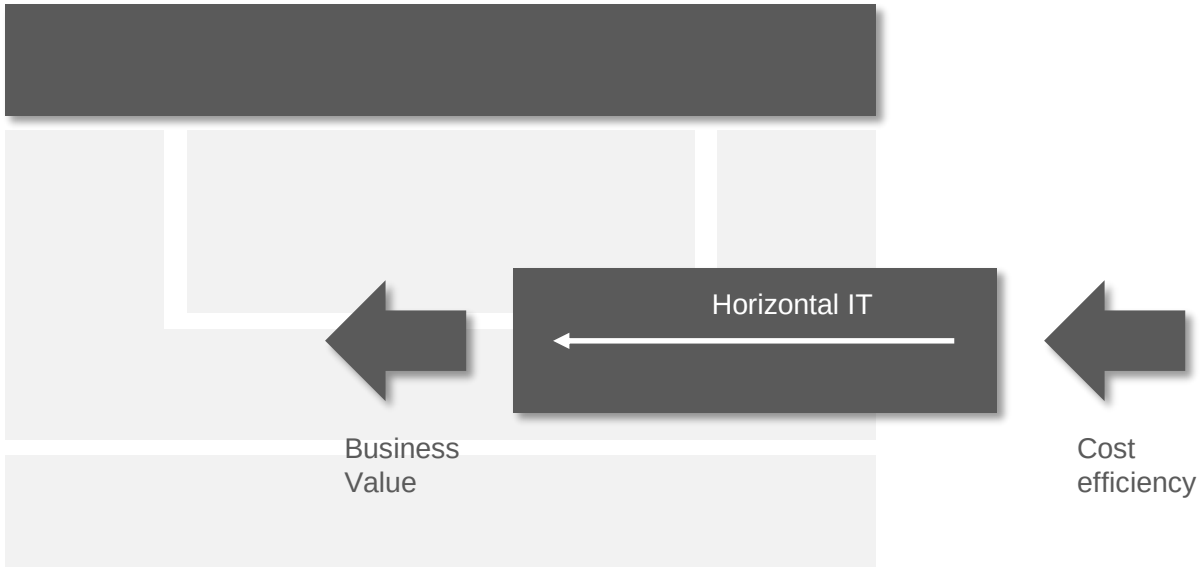
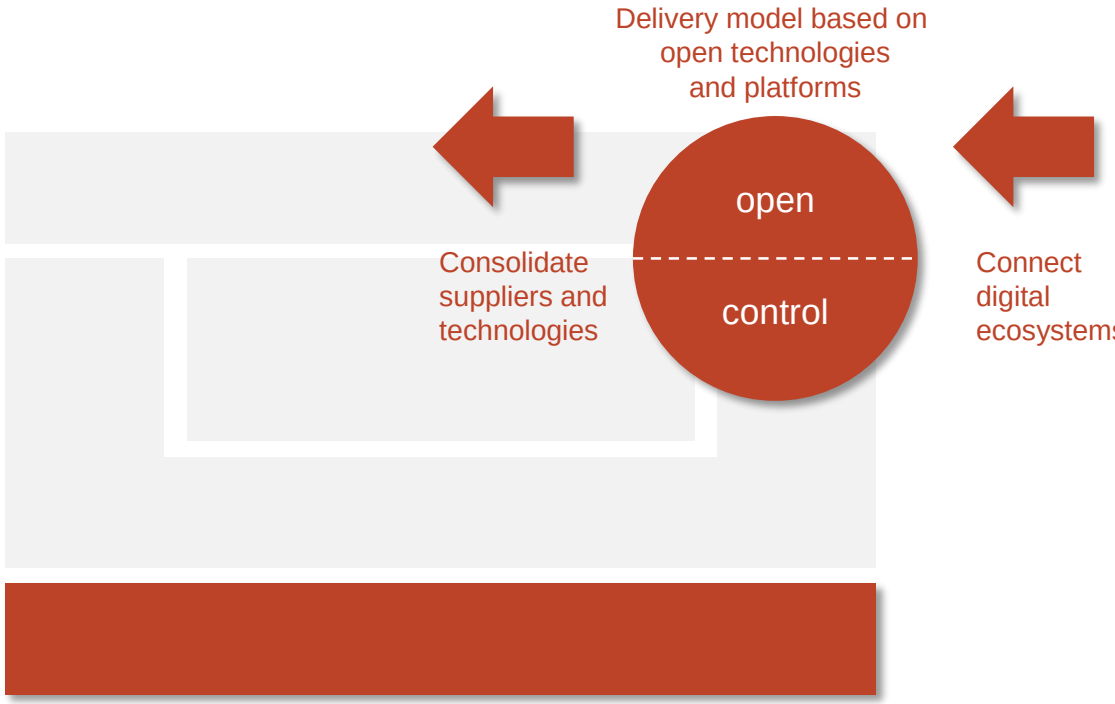


Horizontal IT enables **end-to-end responsibility** for specific functional domains.

We on-board and control delivery resources in a **common and open delivery model**

2 ADAPTIVE SOURCING

- Support for new business model
- Open but controlled platform
- Vendor and technology consolidation
- Integration with digital eco systems like start-ups and crowd sourcing
- Results-oriented remuneration



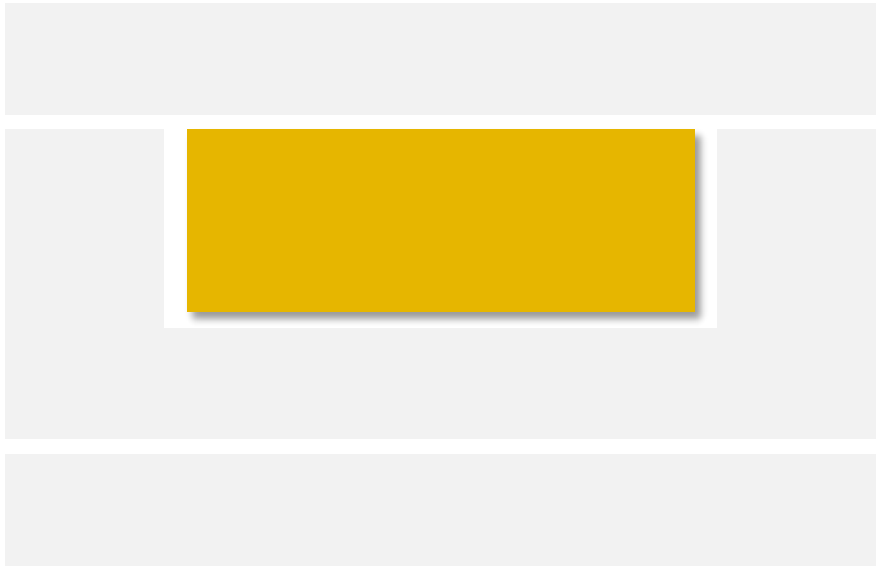
Supporting a **supply chain for all levels of providers** – like prime contractor, software vendors, niche players, or start-ups and crowd-sourced experts.

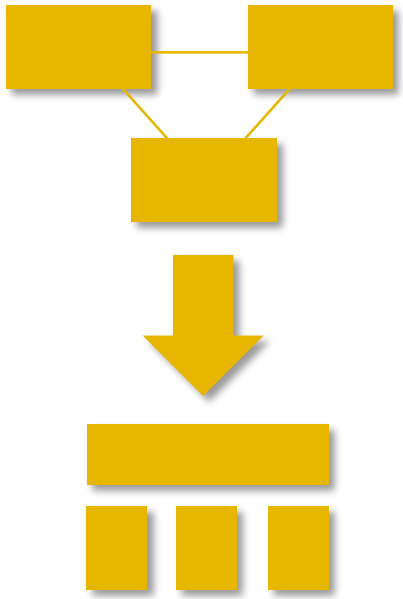
A shift **from application-centric to API-centric** architecture enables our agile delivery model.

3

Digital Architecture

- Re-alignment for digitalization
- See transformation case study for details
- Shift from application-centric to API-centric
- Reduce legacy applications to core
- Provide key functions as services





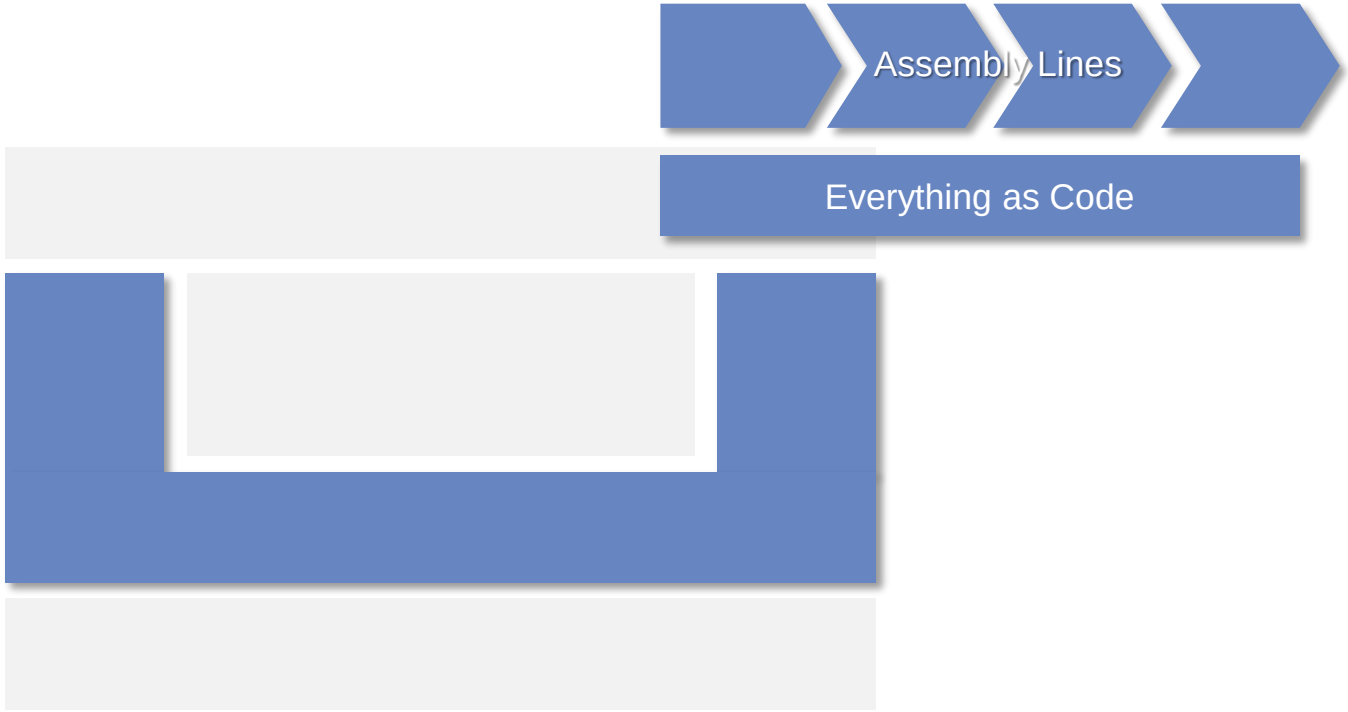
API-centric architectures provide a **proven approach** for reducing dependencies and complexity.

Assembly lines and **“Everything as Code”** unlock unprecedented levels of productivity.

4

AGILE IT DELIVERY

- Leading cloud technologies and DevOps toolkits
- High degree of automation by CI / CD / CT
- Assembly lines enable scaled agile delivery across individual teams
- New productivity levels with “Everything as Code”



In a world where **“every company is a software company”**, assembly lines as such constitute a disruptive force.

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DevOps Challenge Part 1

Developers
(as seen by developers)

DevOps Challenge Part 2

Operations
(as seen by developers)

DevOps Challenge Part 3

Developers
(as seen by operations)

DevOps Challenge Part 4

DevOps is difficult, but it’s not enough…
What other Dimensions can work together to have more productivity

BizTest

TestSec

BizTestSec

DevSecOps

BizDevTestSecOps

The Lost Dimension: DevOps for Security

From “patching” to “serial security”

Build sth and then patch

Build sth that is secure

Security concerns everyone in the horizontal IT‘s value chain

Biz	Dev	Test	Sec	Ops
User stories for security Executable specifications	Trusted libraries with automated verification Trusted images with automated verification	Full automation of tests Extended tests for resilience	From policy documentation to policy automation	From handbooks to „everything as code“ From patching to re-creating

Penetration Tests of the Cloud Platform: *Attacks from external and internal networks, Hardening guidelines*

DevOps Approach: *Code Scanner, Library Scanner, Container Scanner, Credential Manager*

Security Approach: *RASP. IAS, SCA, SAST, DAST*

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A shift away from cloud to edge

Our goal:

Security in an agile connected world

NTT DATA

Global IT Innovator