AppAgile from Deutsche Telekom

Managed Cloud Services on Openshift

T-Systems

http://AppAgile.io
@appagile
Deutsche Telekom

- German Telco – >90 bn$ Rev 2017, 217K employees across globe
- T-Systems – IT Service Provider of Deutsche Telekom
- Peer of T-Mobile US
- The MAGENTA Company
APPAGILE MANAGED CLOUD IN A NUTSHELL

MANAGED CLOUD SERVICES
SECURITY APPROVED OPERATION
OPENSHIFT FOR ENTERPRISES
Microservices for Automotive

Time-2-Market for Smart car Services

Global Platform to develop new services/applikations - Managed by AppAgile

Flexibility for approx. 2,000 developers – globally distributed
Microservices for Logistics

Efficient And Flexibel
Optimize daily business

Massive daily Volatility

Development of mobile App to track delivery
That’s us:

▪ That’s me
▪ The German Guy
▪ I know how it works in Europe

Stefan
Head of Global Sales & Marketing

▪ That’s Jeremiah
▪ The US Guy
▪ He knows how it works in Amerika

Jeremiah
Director of Sales Americas

T - Systems
# What’s the difference?

<table>
<thead>
<tr>
<th>PaaS</th>
<th>Managed Service</th>
<th>Managed PaaS</th>
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<tbody>
<tr>
<td>24 x 7 attended operations – End2End</td>
<td>Pre-Build and battletested</td>
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<tr>
<td>Managed Services – FULL Stack</td>
<td>Ready to start</td>
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<tr>
<td>Security certifications (like GDPR)</td>
<td>Multi-Cloud (Privat+Public, onPremise)</td>
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<tr>
<td>DevOps / ITIL Based Ops</td>
<td>Enterprise-Grade processes</td>
<td></td>
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<tr>
<td>Binding SLA’s</td>
<td>Monitoring, Backup, etc. – All In!</td>
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<tr>
<td>Long term lifecycle</td>
<td>LOB User Experience</td>
<td></td>
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<tr>
<td>SDN, CNS, SDS, RBAC</td>
<td>Registry</td>
<td></td>
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<tr>
<td>Persistent Storaga</td>
<td>Auto-Deployments</td>
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<tr>
<td>Monitoring, Telemetry</td>
<td>CI/CD Toolchain</td>
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<tr>
<td>Capacity Management</td>
<td>AB Testing</td>
<td></td>
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<tr>
<td>Router</td>
<td>Stateful Sets</td>
<td></td>
</tr>
<tr>
<td>Multi-Tenancy</td>
<td>Dev User Experience</td>
<td></td>
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<tr>
<td>Container scheduling</td>
<td>Service Discovery</td>
<td></td>
</tr>
<tr>
<td>Self healing</td>
<td>Rolling Deployments</td>
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<tr>
<td>Scaling</td>
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<tr>
<td>Capacity across the globe</td>
<td>Partner Ecosystem</td>
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<tr>
<td>Plenty functions</td>
<td>IaaS</td>
<td></td>
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<tr>
<td>Best price</td>
<td>VM’s and Containers</td>
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</table>
Typical Challenges

My Corporate IT process is too slow

Need to go live in 2 month

Damn – I forgot security-approval

How can I actually scale this....

Dont have expertise in platform

Installing OCP is easy, but ...

My staff is not working 24x7
UpgradE cycles

3 Month

Kubernetes 1.4 → Kubernetes 1.5 → Kubernetes 1.6 → Kubernetes 1.7

OCP 3.4 → OCP 3.5 → OCP 3.6 → OCP 3.7

Managed PaaS 3.4 → Managed PaaS 3.5 → Managed PaaS 3.6 → Managed PaaS 3.7

New Project → MVP → GoLIVE

- Project cat easily cross several versions
- Each version needs security approval
- Each version adds services/processes
- Each version needs developer/engineer attention – taken away from project

- That's hard to deal with for Enterprises
DevOps vs. ITIL – Squaring THE CIRCLE

Actually THE CUSTOMER WANTS Both – Must He MAKE A DECISION?
The Enterprise DevOps Journey

- Agile Project
- Scrum
- DevOps
- MVP
The Enterprise DevOps Journey

Starting PROD

- Int vs. external
- Fast
- Efficient
- Cheap
- DEV makes Ops
The Enterprise DevOps Journey – Classic

Starting PROD

Demand:
- 24x7?
- Illness / Holiday
- Outage
- Scaling
- Security

Result:
- Processes kill speed
- Frustrated developers
- Innovative capacity gets lost
The Enterprise DevOps Journey – Project Mode

Starting PROD AA

- Project mode OPS
- Processes intermitted – No more SLA!
- Friction losses when resetting the processes
The Enterprise DevOps Journey – TODAY

DevOps Engineers

- Mutual „Warm-up“ necessary
- Innovative capacity preserved
- AA DevOps Engineering Part of customer development / sprints
- Regular Releases and ITIL / SLA quality

Time

Success / effectiveness

OPS classic

OPS Project Mode

T - Systems
The sOLUTION: Enterprise DevOps

- Agile
- Service Oriented

DevOps BackEnd
QA Gateway INT ➔ PROD

ITIL v3
Process / SLA Oriented
GDPR – Holy Shit – What does it mean to my Service?

▪ EU General Data Protection Regulation
▪ Nobody likes it – but everybody needs to take care of it

▪ It will be active from 25th May 2018

▪ "personal data is any information relating to an individual, whether it relates to his or her private, professional or public life. It can be anything from a name, a home address, a photo, an email address, bank details, posts on social networking websites, medical information, or a computer’s IP address."

▪ Username and Password already fits to that definition!
▪ How to work with/see customer data, notification, sub-contractors, deletion
▪ Right to forget

▪ We take care!
Managed Services WrappaPER

Standard Building Blocks

- 24x7 Operating – E2E managed
- Reporting/Billing
- Security (Esaris, GDPR, ISO, …)
- ITIL/SLA
- DevOps

Technical demand
Software + IaaS

Managed Function’s

- Web Service
- Voice Service
- NoSQL Service
- IAM Service
- SQL Service
- API Service
- Message Service
- Any other Service

User Experience vs. Functions and Versions
Example: Sea Hero Quest

Customer Need:
“We need an autoscaling environment, docker based, like Amazon with the offer for managed services.”

My Answer:
“That`s what I have!”

- Performance tests within live environment
- Continuous, agile development with 3rd-party developers
- Capacity / budget planning: ca. 50.000 User at Release
  → BestCase 500 K User EOY
- Provisioning of Environment
- Move into production
- Sea Hero Release 1 day before „Fathers`s Day“

- AppAgile development environment
- 3rd-party-developer in UK, New Zealand and AppAgile-experts

- 1 Million User within 2 WEEKS!
- AppAgile scales automatic

Release September 2016: 4 Mio. Users!
What's more in it?

Data Science Workstation

AI, ML, GPU, Blockchain, Voice and other Functions as a Service

BIG Data Analytics as a Service

DevOps Engineer

AppAgile managed PaaS

AppAgile PaaS & Big Data Platform
THANKS!

WHAT WOULD YOU LIKE IN YOUR BAG?
MAKE YOUR CHOICE.
REALIZE BUSINESS INNOVATIONS.
NOW!
Backup
AppAgile Managed Services
T-Systems takes Care OF:

one-time on boarding services...

Examples:
• On boarding / Migration based on customer solutions
• Shipping-Service (transfer high data load to Data Centre TSI)
• Support customer in testing of data import/migration
• Potential Configuration of Data sources within vCloud, OTC or Microsoft Azure

... recurring managed services (12x5 or 24x7 Attended Operation Time)

<table>
<thead>
<tr>
<th>Managed Azure Services (AO)</th>
<th>Provided by AppAgile Enterprise DevOps (DevOps Engineering) or Application Operation</th>
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<tbody>
<tr>
<td>Application Lifecycle Management</td>
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<tr>
<td>Application Scaling and Integration</td>
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<td>Application Disaster Recovery</td>
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<td>Application High Availability</td>
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<td>Application Backup &amp; Monitoring</td>
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<td>Application Configuration</td>
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<td>Application Installation</td>
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<tr>
<td>Middleware High Availability</td>
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<td>Middleware Configuration</td>
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<td>Middleware Installation</td>
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<td>Administration of DB/MW-Services</td>
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<td>Patches of DB/MW Services</td>
<td>Provided by Managed Services</td>
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<td>Backup &amp; Monitoring of DB/MW-Services</td>
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<tr>
<td>Installation of DB/MW-Services</td>
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<td>OS Patches</td>
<td>Provided by Microsoft. Data trustee by T-Systems</td>
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<td>OS Operation</td>
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<td>OS Installation</td>
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<tr>
<td>Server Maintenance</td>
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<tr>
<td>Rack &amp; Stack</td>
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<tr>
<td>Power, HVAC, Network</td>
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AppAgile PaaS & Big Data Platform

10 May 2018
What does Enterprise DevOps mean?

- DevOps Agile
- Change Request
- Agile
- Process / SLA Oriented
- ITIL v3
- DevOps BackEnd
- QA Gateway INT -> PROD

AA DevOps Engineering
- Agile
- Service Oriented

AA Operation
AppAgile PaaS
At a Glance

Key facts

Professional Service management through T-Systems (Service Orchestration)

Delivered from Germany

AppAgile Value Add at Azure

✓ 24x7 Attended Operations
✓ Service Desk
✓ ITILv3 Processes for Operations
  ✓ High Availability, Backup, Disaster Recovery
  ✓ Net-, and Infrastructure management
  ✓ User management
  ✓ Identity Management
  ✓ SLA
✓ Hybrid Workloads – for Development and Production
  ✓ Combine AppAgile Stacks with private and public cloud capabilities
✓ Pre-defined Use-Cases
✓ Best of Private + Public Workloads
  ✓ One technology – one portal – various platforms!
✓ T-Systems as Prime for all Cloud Workloads
  ✓ Single contract, single bill
  ✓ E2E managed Service
✓ Highest Data Security through data trustee by T-Systems
✓ Enterprise DevOps
APPAGILE PaaS & BIG DATA
PARTNER ECOSYSTEM

Integration

Project

Product

ULTRA TENDENCY
SEVEN PRINCIPLES
Enabling Your Digital Business
codecentric
Hortonworks
Tableau
Datameer
MapR
Cloudera
redhat
Dell
Microsoft
SAS
talend

T - Systems
### APPAGILE EXPANSION STAGES

**GROWING CHOICE OF MIDDLEWARE**

<table>
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<tr>
<th>Available</th>
<th>On Roadmap</th>
<th>On Radar</th>
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<tbody>
<tr>
<td>PostgreSQL, MySQL, Solr, hadoop, cassandra, NGINX, redis, RabbitMQ, Nagios, OpenDK, Secure Email Gateway, Kong, php, POSTMAN, Grafana, Boss, kibana, python, elastic search, WildFly, node, fluentd, ZIPKIN, ActiveMQ, Jenkins, Maven</td>
<td>DB2, Aerospike, SugarCRM, MongoDB, Drupal, Kafka, Rasa, Karaf, git, WEB2 Application Server, Business Process Server, Data Services Server</td>
<td>TERRACOTTA, LIFERAY, APAMA, CouchDB, OpenLDAP, InfluxDB, MariaDB, WebSphere, Spotfire, webMethods, BizTalk Server, Spring Boot</td>
</tr>
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</table>
Hybrid Services – Best of Breed
Native Services - Azure Ecosystem

Platform Services

Security & management
- Cloud Services
- Service Fabric
- Batch
- Remote App
- Storage Queues
- Biztalk Services
- Hybrid connections
- Service Bus
- Media Services
- Content Delivery Network (CDN)

Compute Services
- Compute Services
- Service Fabric
- Batch
- Remote App

Web and mobile
- Web Apps
- API Apps
- API Management
- Mobile Apps
- Logic Apps
- Notification Hubs
- HDInsight
- Machine Learning
- IoT Hub
- Data Factory
- Event Hubs
- Data Lake
- Stream Analytics
- Mobile Engagement
- Data Catalog

Integration
- Storage Queues
- Biztalk Services
- Hybrid connections
- Service Bus

Analytics & IoT
- HDInsight
- Machine Learning
- IoT Hub
- Data Factory
- Event Hubs
- Data Lake
- Stream Analytics
- Mobile Engagement
- Data Catalog

Media & CDN
- Media Services
- Content Delivery Network (CDN)

Developer services
- Visual Studio
- Azure SDK
- Team Project
- Application Insights

Hybrid operations
- Azure AD
- Health Monitoring
- AD Privileged Identity Management
- Domain Services
- Backup
- Operational insights
- Import/export
- Azure Site Recovery
- StorSimple

Infrastructure Services

Compute
- Virtual Machines
- Containers

Storage
- BLOB Storage
- Azure Files
- Premium Storage

Networking
- Virtual Network
- Load Balancer
- DNS
- Express Route
- Traffic Manager
- VPN Gateway
- Application Gateway

Datacenter Infrastructure (40 Regions) + Microsoft Cloud Germany

T-Systems