

June 7th, 2018

Global Managed Services

itelligence AG


SAP Hybris Commerce

Leveraging the Public Cloud

Information type: Public
Company name: itelligence AG
Information owner: GMS Product Management


itelligence – Global SAP Competency

Founded



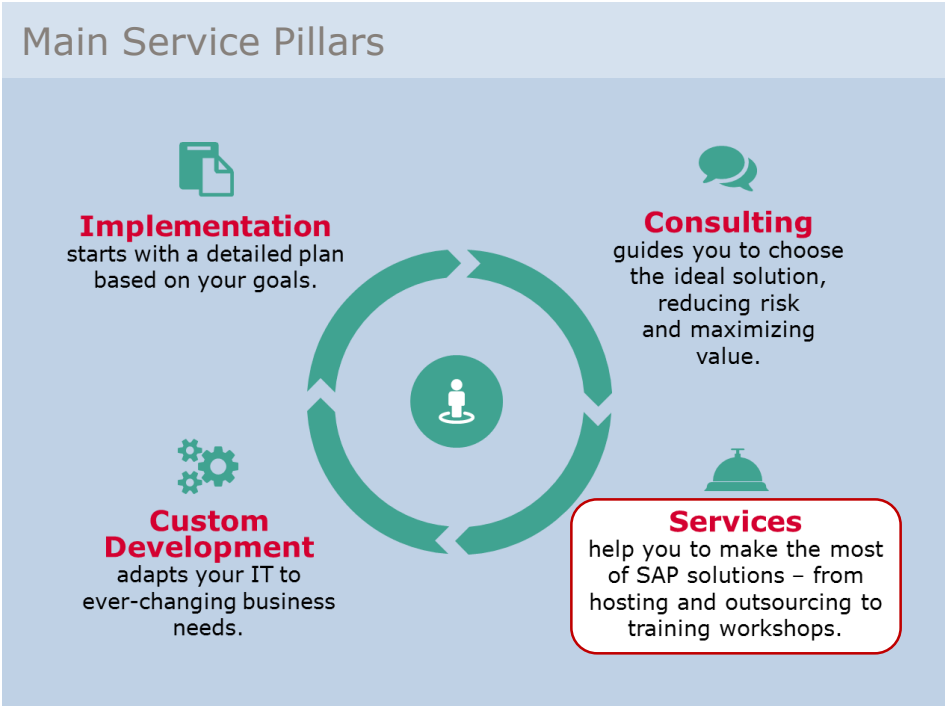
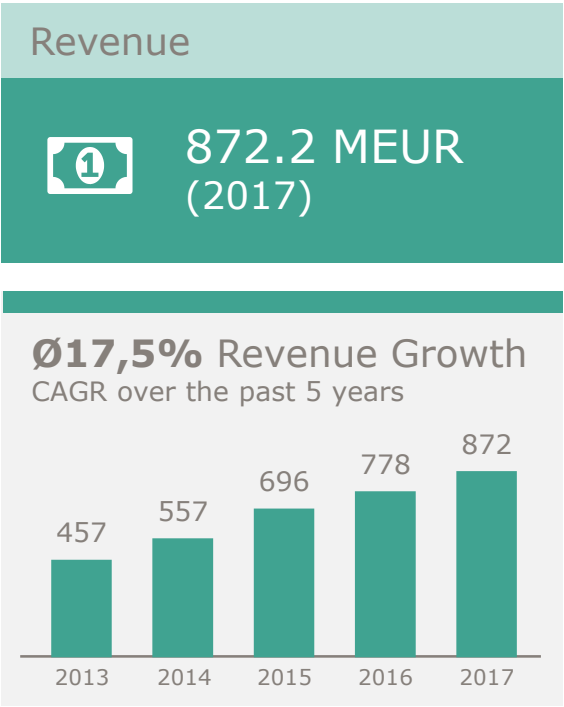
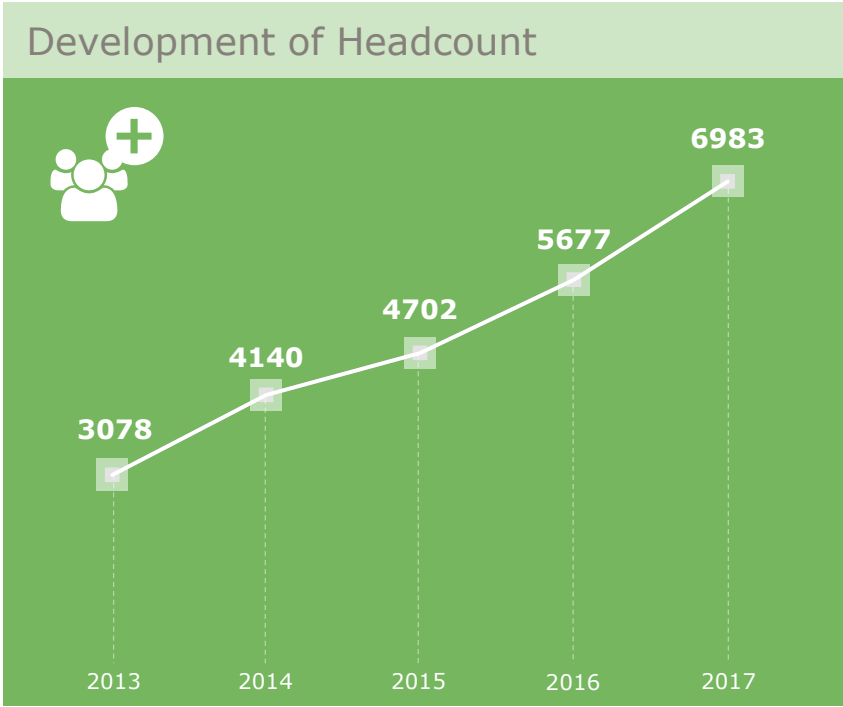
1989

Employees



7,100+

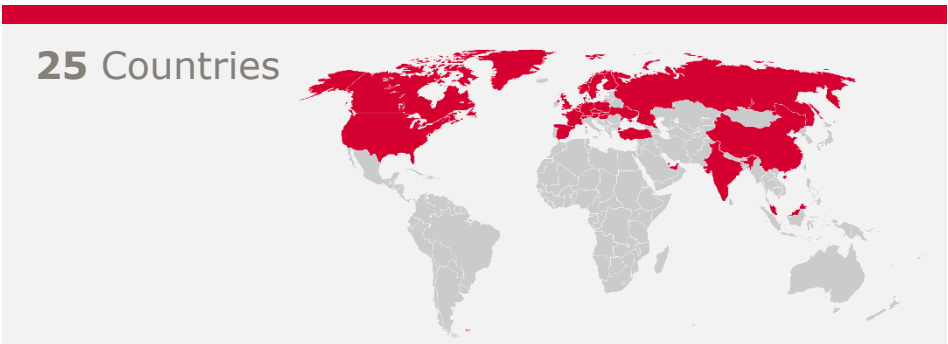
(as of March 2018)



Customers



6,000+



SAP Hybris Commerce Suite

SAP Hybris Commerce Cloud

SAP Hybris
places you right
where your
customers are.
On every
channel, and in
any market.



B2C Commerce

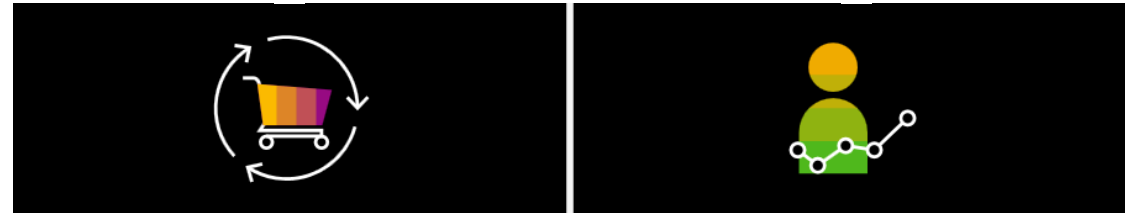
Strengthen customer loyalty and increase sales with consistent, personal experiences for your customers. SAP Hybris Commerce Cloud for B2C gives your customers what they want, when they want it, every time they interact with your business – online or in the real world. With every interaction you can gain further customer insights, so when they come back you're ready to deliver another great experience.

B2B Commerce

Create an omni-channel B2B experience to rival the best consumer sites. The flexibility and functionality of SAP Hybris Commerce Cloud for B2B can give your customers the freedom to save repeat purchases and buy in bulk while providing self-service and account management for buyers.

Product Content and Catalog Management

Consolidate product content and control information about your products with a built-in, easy-to-use system that works across all channels. Wherever they are in their journey, give your customers rich, engaging content including video, images and editorial content that really show off your products – including those syndicated from multiple suppliers.



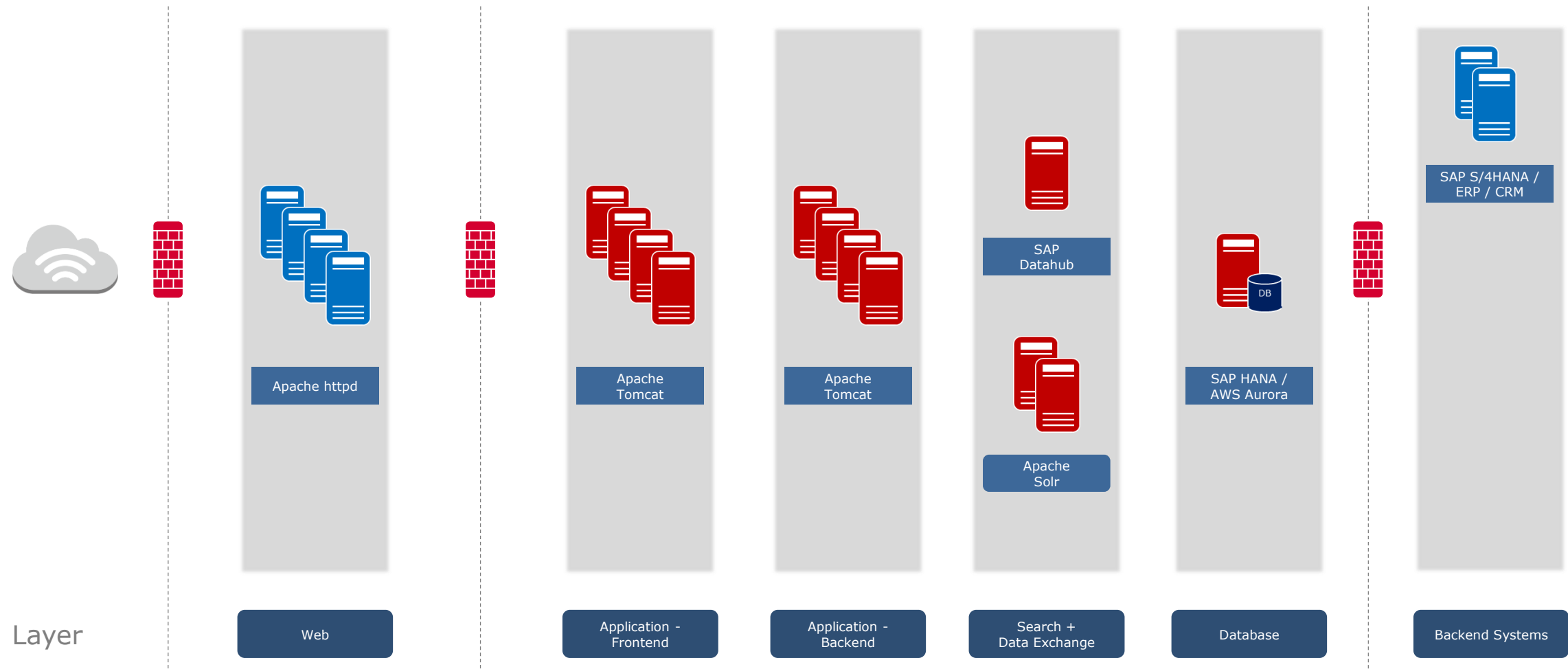
Omni-Channel Fulfillment

One system takes care of your customers' orders across all channels. They get a fast, secure experience that allows them to choose between collection or delivery and benefit from fuss-free returns. You get to see all the order information in one place and have precise visibility of your stock.

Creating Contextual Experiences

Get customers engaged with your products by creating a one-to-one experience that's relevant every time. With SAP Hybris Customer Experience, you can manage site layout and content across all channels and create highly personalized experiences for your customers. Use our modern merchandising tool as well as historical data and current behaviors to deliver the personal storefront that drives engagement and transactions.

SAP Hybris Architecture



Selection of software components; more software options available

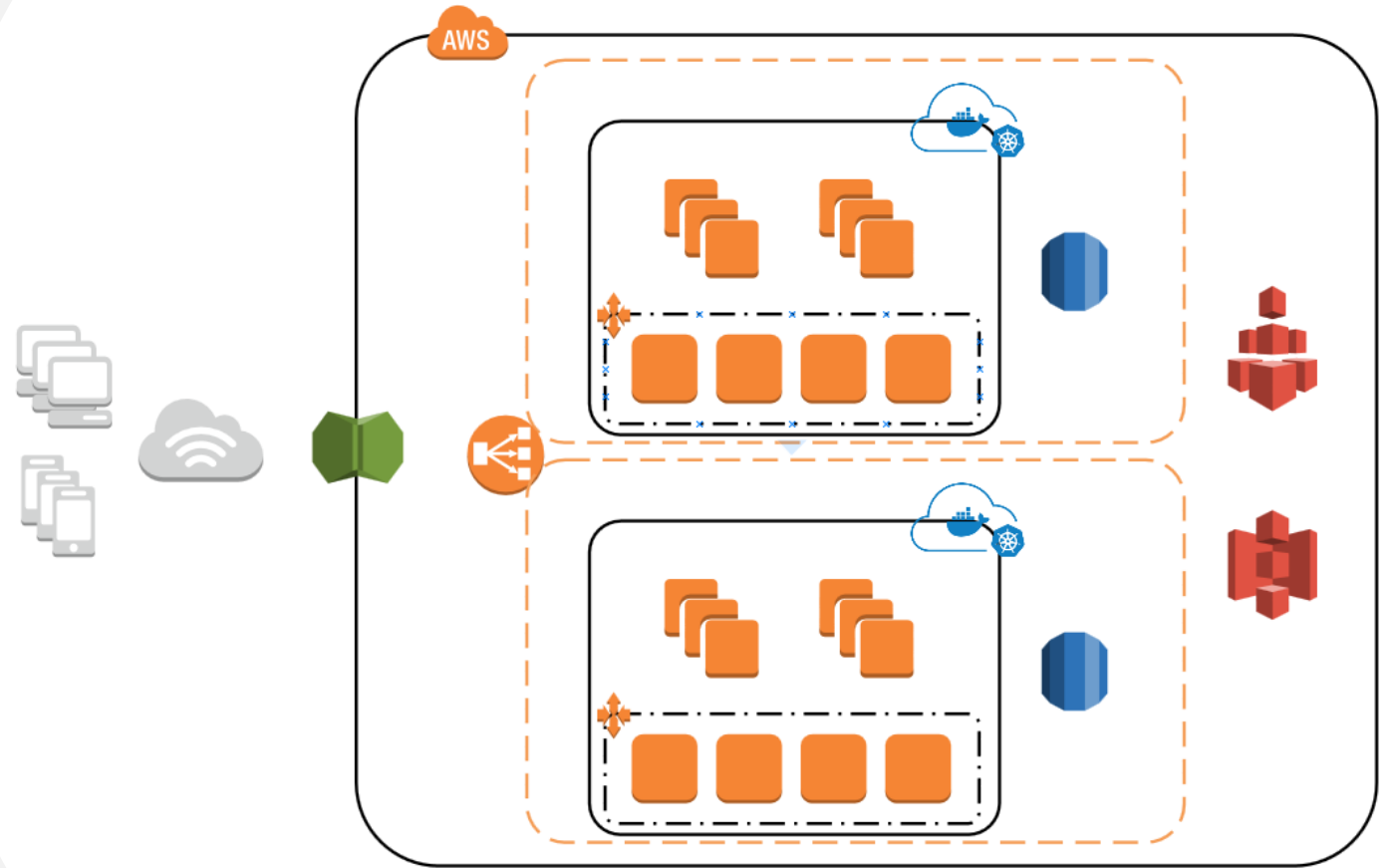


SAP Hybris on AWS

SAP Hybris Commerce AWS



- SAP Hybris deployment with container technology
 - Docker container technology
 - Kubernetes orchestration and control layer
- Scalability of resources
- Smart utilization of cloud resources
 - Reserved EC2 instances for basic load
 - On-demand EC2 instances for temporary peaks
- High availability integrated in concept of distribution of resources
 - Multiple AZs
 - Database service includes HA
 - Data exchange between nodes with EFS
- AWS services for better efficiency
 - AWS Aurora RDS Service for Hybris database - no license costs
 - AWS Auto Scaling for resource adjustment
 - AWS Elastic Load Balancer for network balancing
 - AWS Shield for Web protection



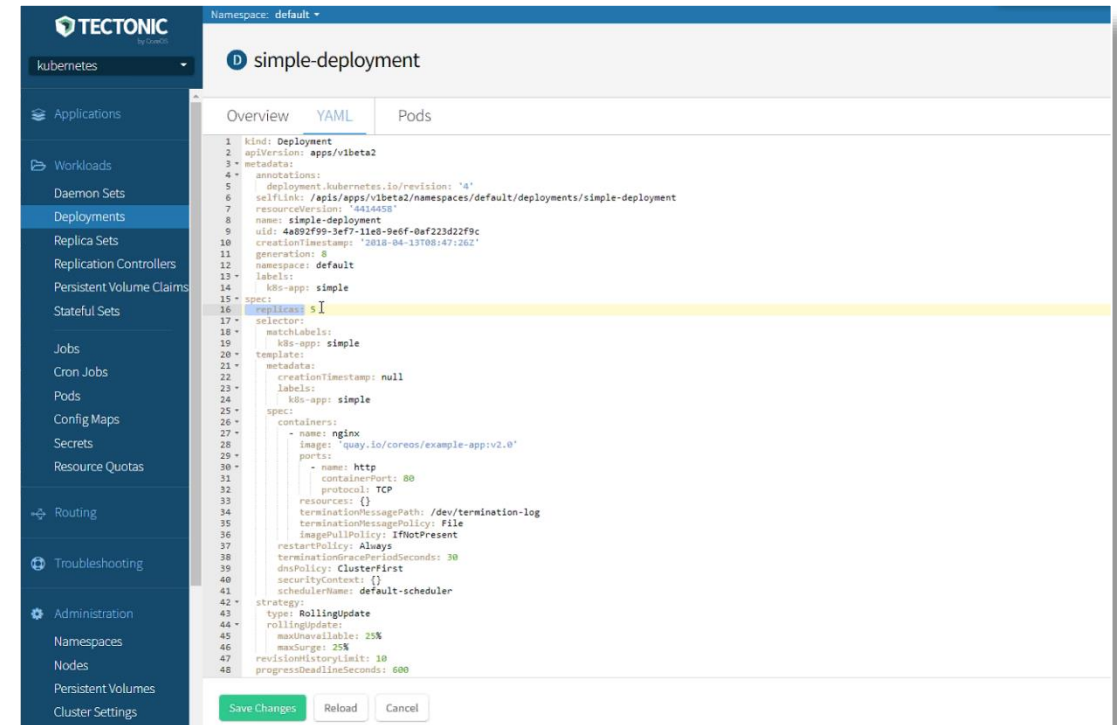
Cluster Management with CoreOS Tectonic

■ Cluster management with Tectonic

- Deployment
- Management
- (Automation)
- To be replaced by Redhat Openshift probably

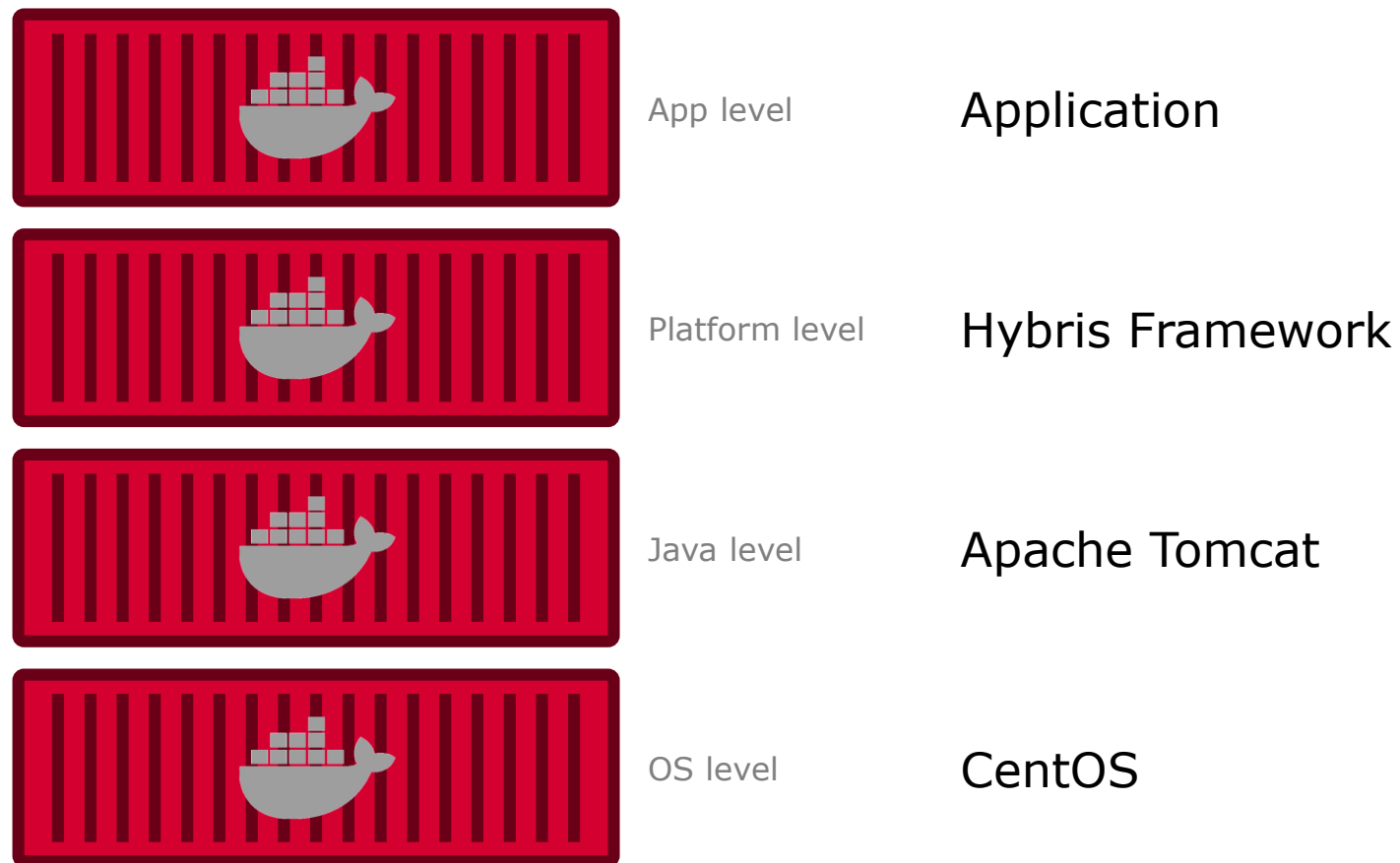
■ Provisioning Tool Terraform

- „Infrastructure-as-Code“
- Could also be **AWS CloudFormation**
- Specification of all AWS resources
 - Network, compute, storage
 - Auto Scaling groups
 - Load Balancing



Container Images

Container images
are assembled
on top of each
other

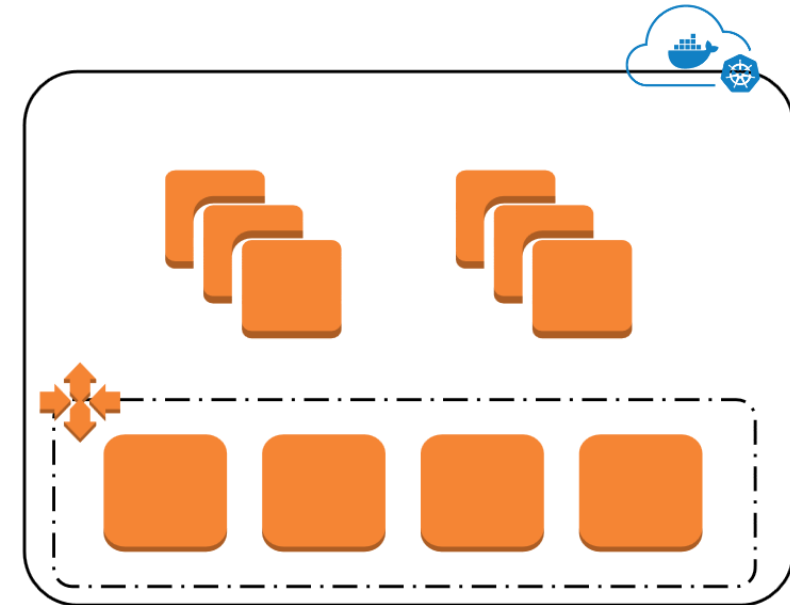


Scaling The Platform

Scaling

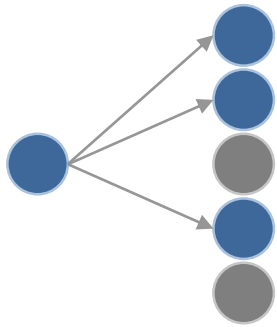
Containerization brings more complexity with two levels of scaling

- EC2 instance level
- Docker container level
- Different approaches
 - a. EC2 Auto Scaling retrieves container resources information
 - b. Cluster scheduler controls EC2 ASGs
- No performance scaling for Amazon Aurora
 - Not critical for typical Hybris loads



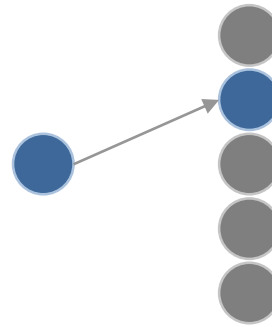
Options for Communications and Scaling Control on SAP Hybris

Multicast



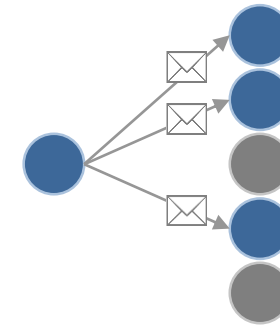
- Easiest way for SAP Hybris
- No standard support by AWS
- Requires overlay network

Unicast



- Requires some additional scripting on AWS

JGroups



- Java library for one-to-one or one-to-many communication
- Requires adjustments on application level

Node Sizes

EC2 Instances



Target

- 8 cores, 32 GB RAM

Container Units



Target

- 2 cores, 4 GB RAM
- 4 cores, 16 GB RAM

Database



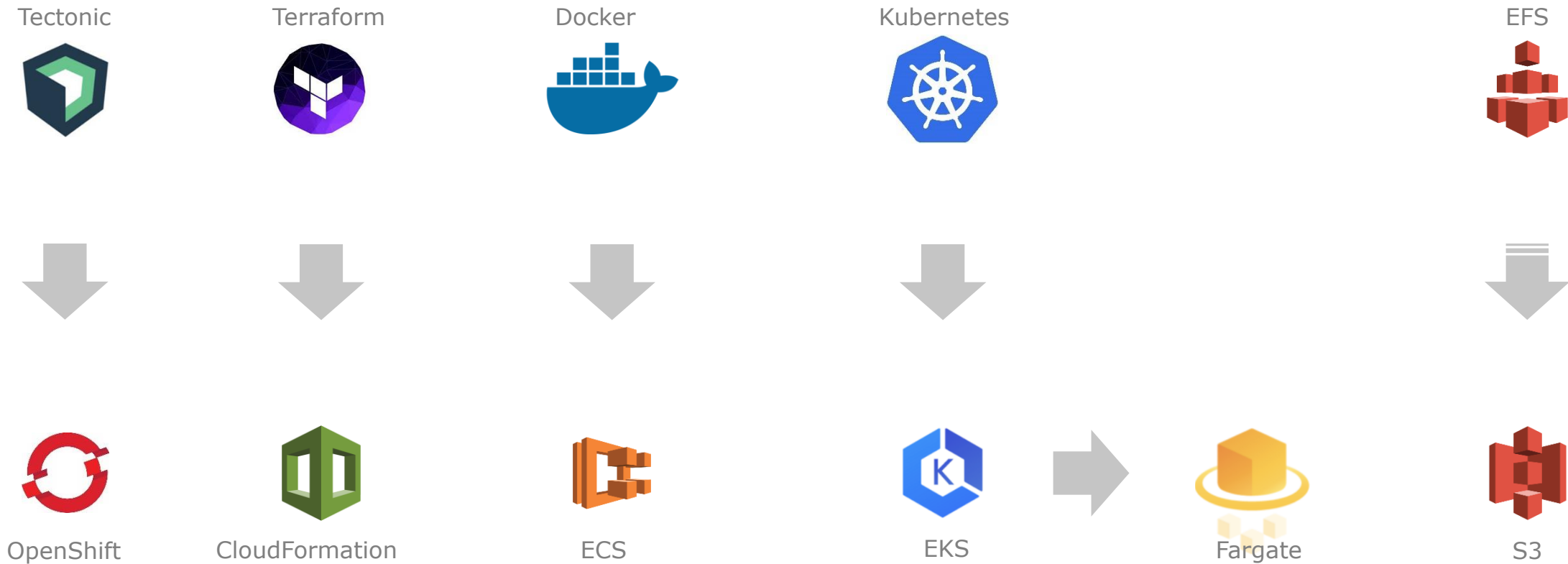
Range from

- 8 cores, 8 GB RAM
- 64 cores, 488 GB RAM

- Rough estimate for larger scaling approach
- Sizes for Java application servers; web servers may be sized smaller
- Small environments will need smaller sizes on all layers

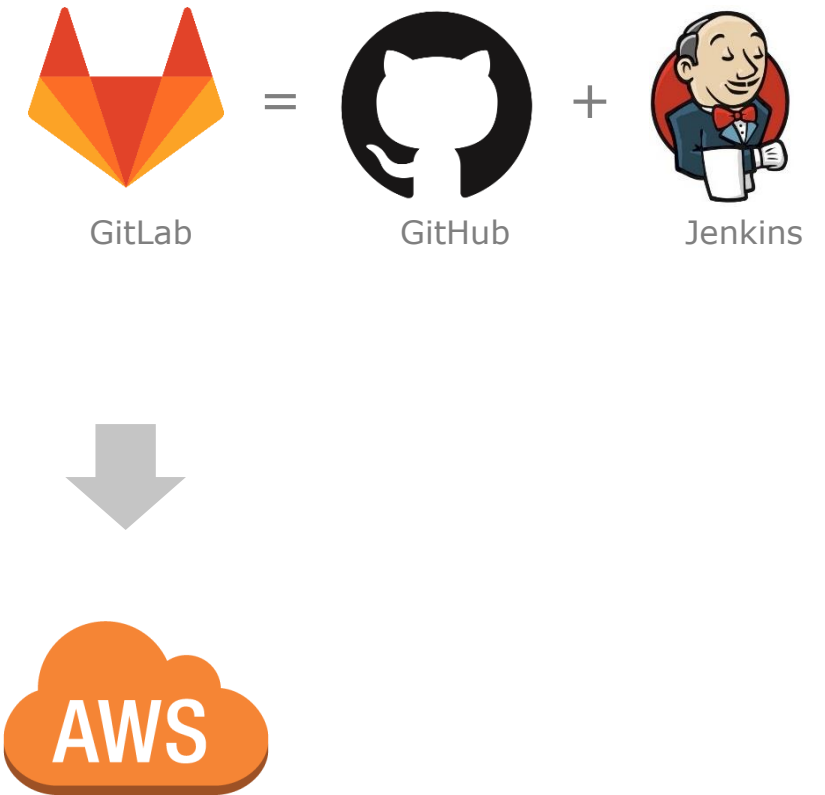
It Could All Be Different

Many of the technologies used could be replaced by alternatives



DevOps

- Application development and deployment with GitLab CI Continuous Integration
 - Hybris Installer Recipe used for container creation
 - Container will be created automatically
- GitLab local implementation
 - Make use of integrated container registry



12

Indicator 1



More info ➤

5

Indicator 2



More info ➤

90%

Indicator 3



More info ➤



A

92%

B

70%

C

59%

Platform Management



Element 1



Element 2




Element 3

3 Levels of Monitoring

Level
3

In-depth monitoring for load analysis



Level
2

Automatic Kubernetes resource control



Level
1

Standard monitoring and alerting of datacenter
incl. CloudWatch



AWS – The itelligence Virtual Data Center



- itelligence designed AWS infrastructure according to own process standards
- AWS infrastructure components are fully integrated into itelligence DC management
 - Monitoring
 - Alerting
 - System management
 - Backup management
 - Capacity management
 - Reporting
 - Data exchange
- Stand alone or integrated – AWS resources can be used either way

SAP Hybris Commerce Suite on AWS



Flexible - Dynamic scalability and automatic adjustment of resources

- Easy and fast adjustment to changing performance demands
- Scale capacity on-demand



Fast - Fast provisioning and implementation on AWS platform



Cost optimized - AWS Aurora database with no license costs



Reliable - Design includes major availability precautions on AWS



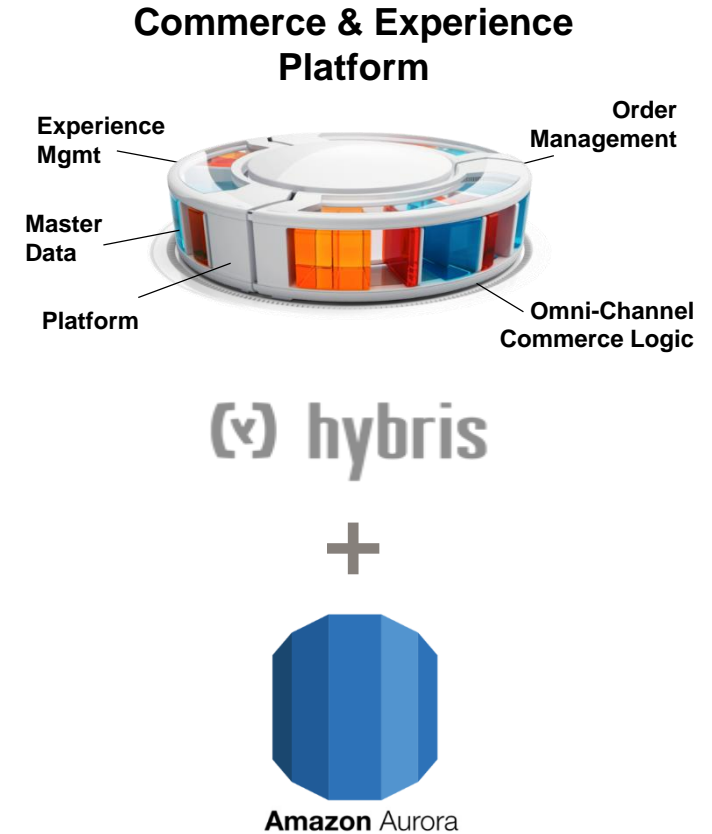
Secure - AWS security and high bandwidth internet access for security and best performance



Holistic - Integration of SAP Hybris and SAP backend systems



Service - End2End AWS management by itelligence



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