



Cloud Native and Transformation





Objectives

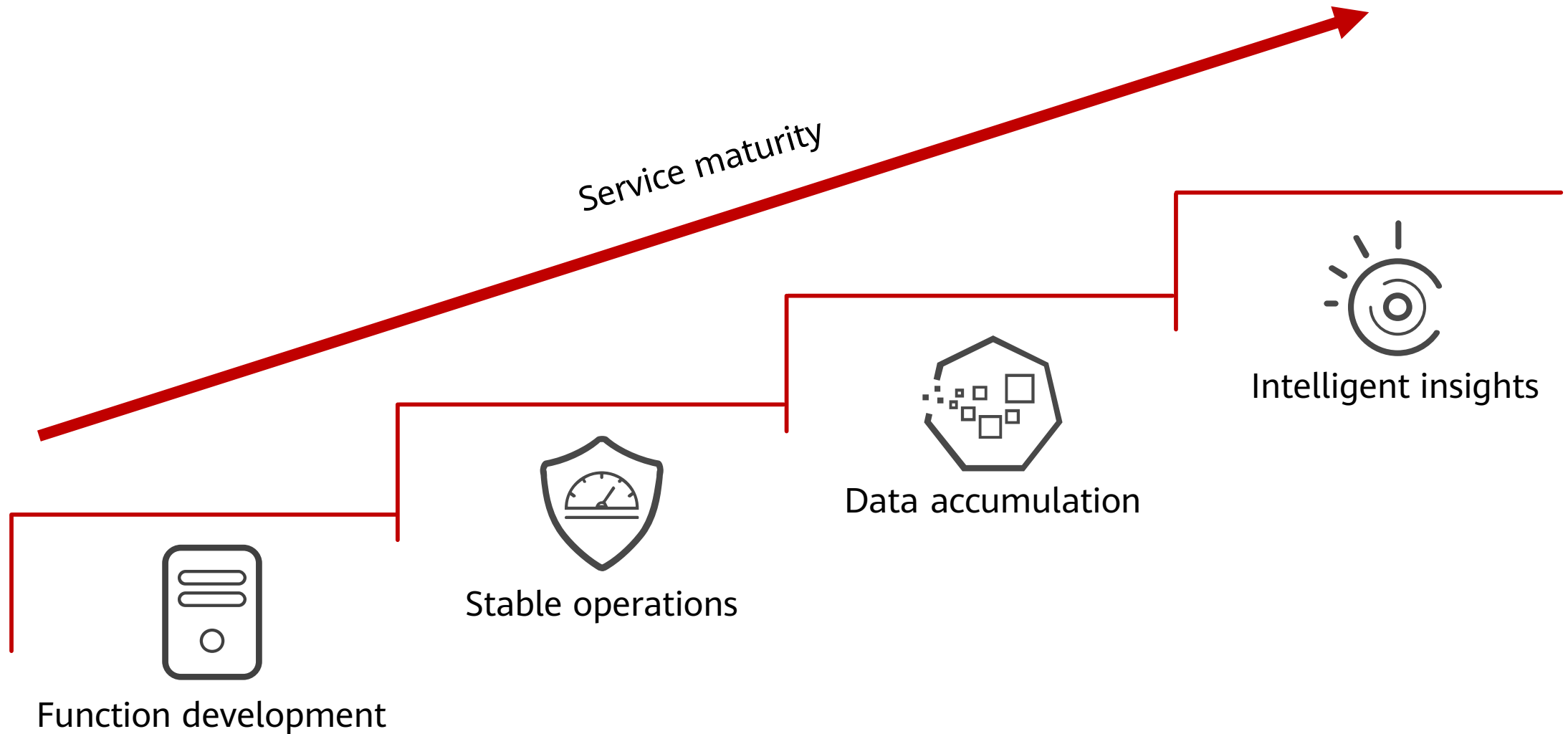
- Upon completion of this lesson, you will:
 - Understand the benefits of cloud native.
 - Understand the key technologies for cloud native transformation.



Contents

- 1. Overview of Cloud Native Transformation**
2. Key Technologies for Cloud Native Transformation

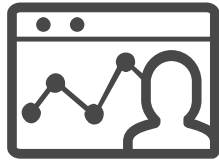
Digital Transformation Promotes Service Maturity



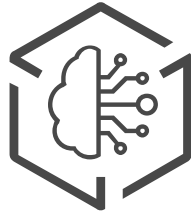
Going Digital with Huawei Cloud



Customer
experience



Intelligent
operations



Strategic
decision making



Technological
innovation



Differentiated
competitiveness

Digital transformation goals



Follow trial-
and-error



Focus on the core
services



Implement
capabilities



Replicate success

How Huawei Cloud helps enterprises transform



Contents

1. Overview of Cloud Native Transformation

2. Key Technologies for Cloud Native Transformation

Cloud Native 2.0 for Better Growth of Enterprises

Efficient resource use

- Higher performance
- Smarter collaboration
- Better lifecycle management

Agile applications

- Secure, trustworthy, efficient, intelligent development
- Flexible governance of dual-stack microservices
- Co-existence of existing and new applications for efficient application integration

Service intelligence

- Intelligent management, more efficient O&M
- Storage-compute decoupling for lower TCO
- One-stop AI platform for inclusive AI

Security & trustworthiness

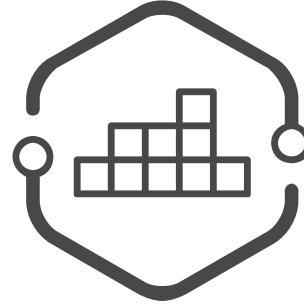
- Consistent security standards for the platform and tenants
- Consistent security standards for 200+ cloud services
- Global compliance

Cloud Native 2.0 Key Technologies



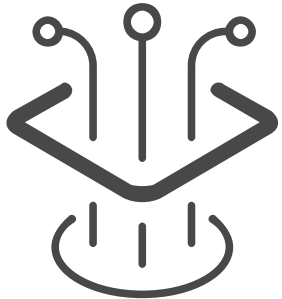
Agile

DevOps



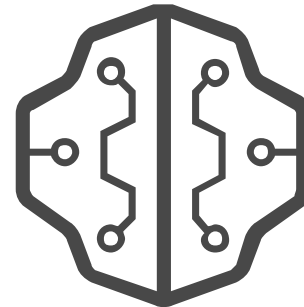
Compute

Containers, functions, and serverless architecture



Data governance

Data lake and big data



AI

Platforms, components, and open capabilities

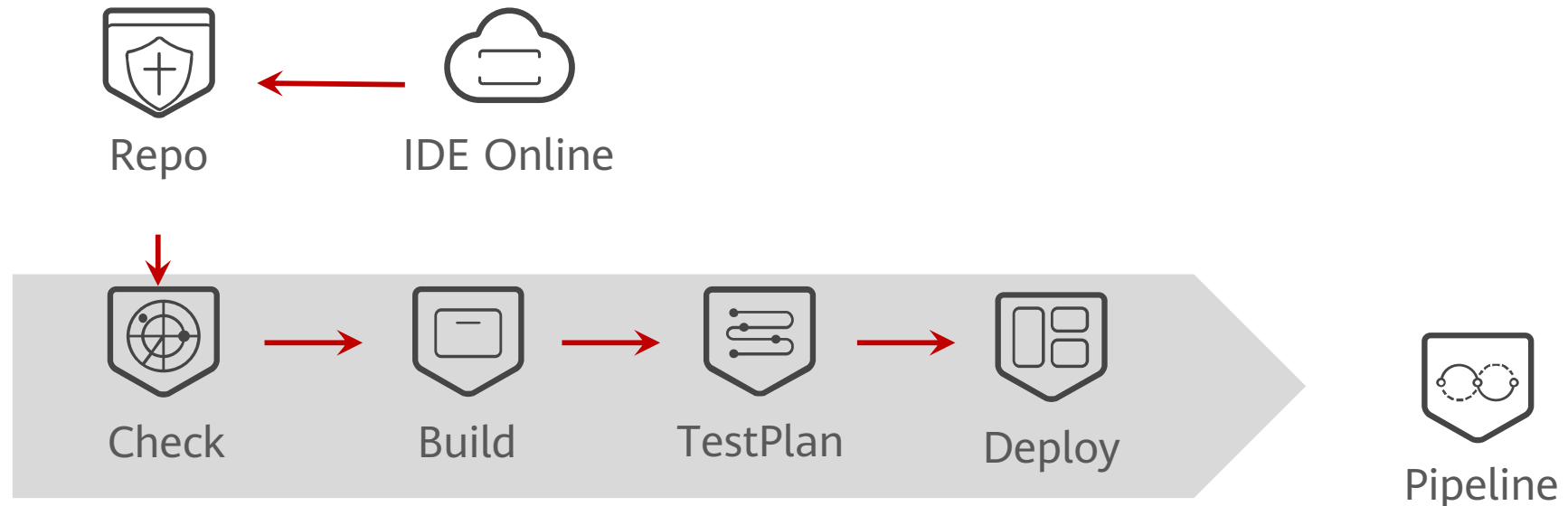


Agile

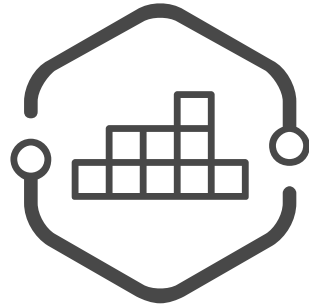
DevOps

Agile Development Keeps Enterprises Innovating and Leading Digitalization

- Huawei Cloud provides a **complete agile development system** with all required components. Its integrated development environment is easy to use.
- An agile development process means **quick go-to-market process** and quick response to customer needs.
- Innovation needs the cloud. Agility is the catalyst for innovation.



CodeArts



Compute

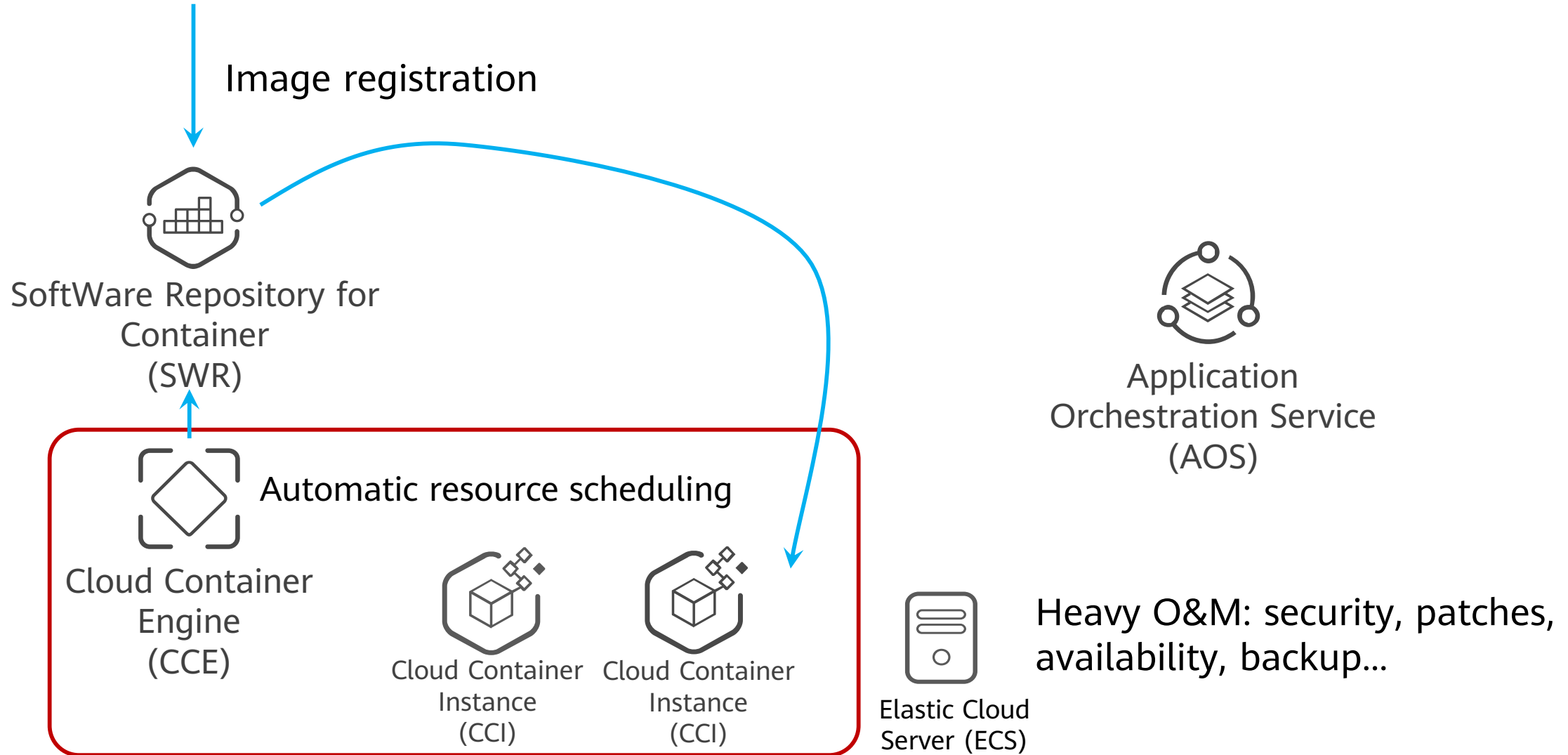
Containers, functions, and
serverless architecture

How Are Servers Related to Customers' Services?

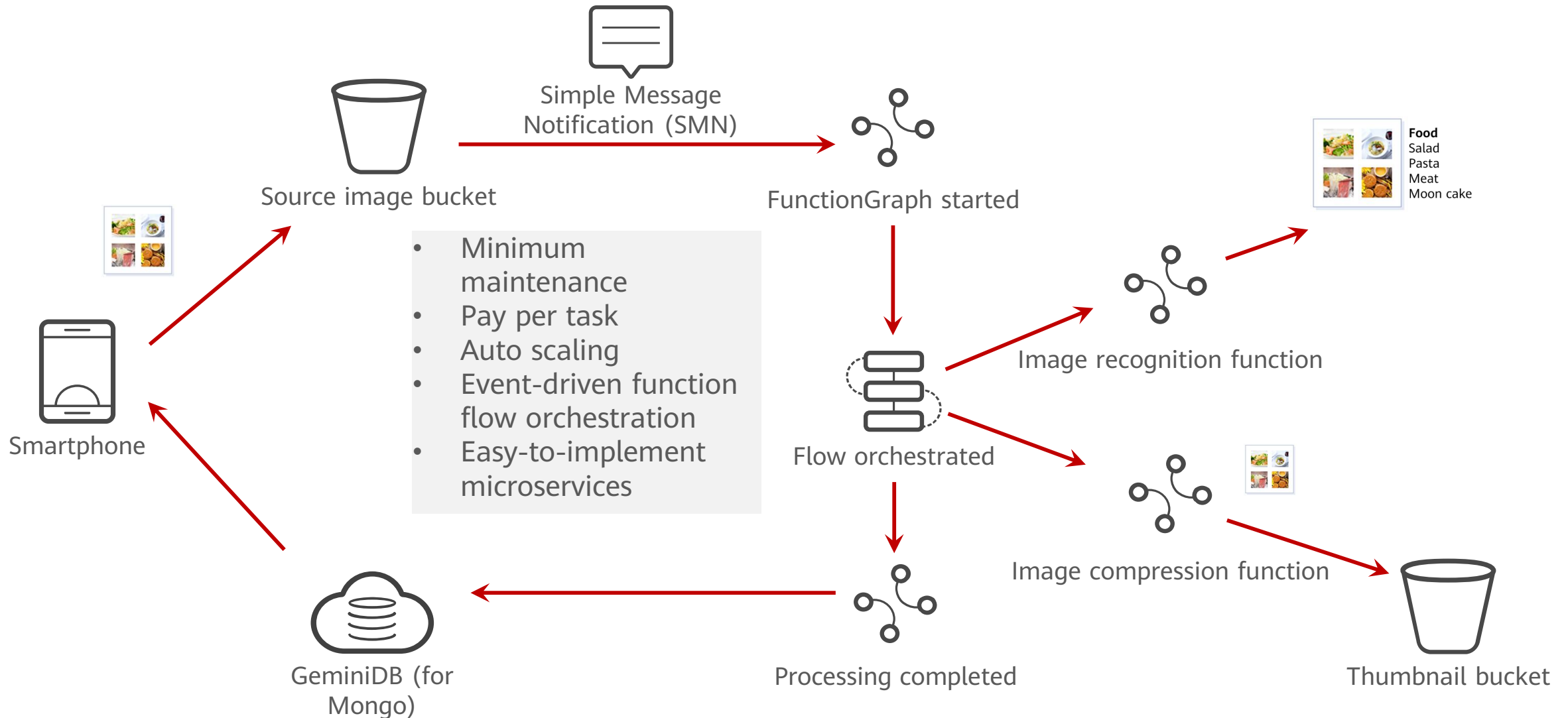
Services are used to run customers' service logic.

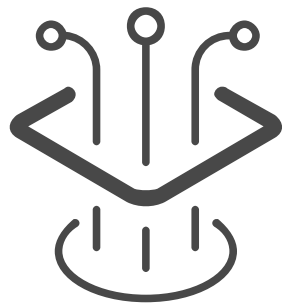
**To adapt to changing customer demands, we design services,
not servers.**

Containers Have Lower Resource Management Overhead



Serverless Architecture: Only Code Logic Needed

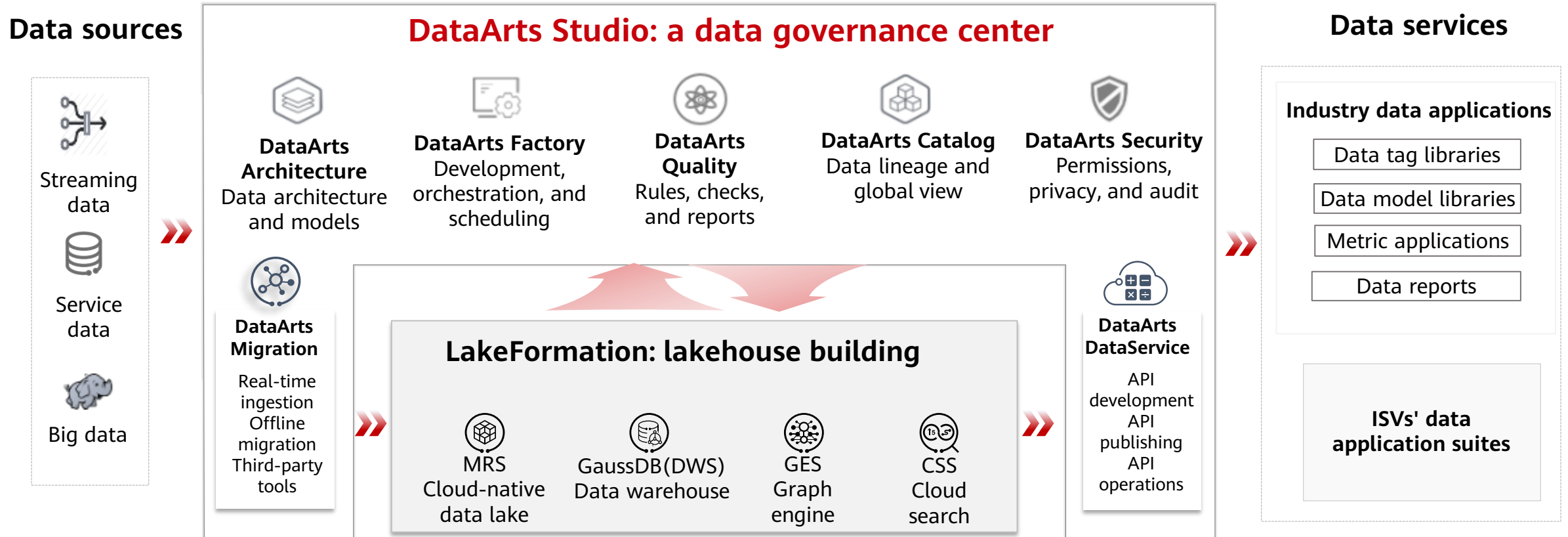




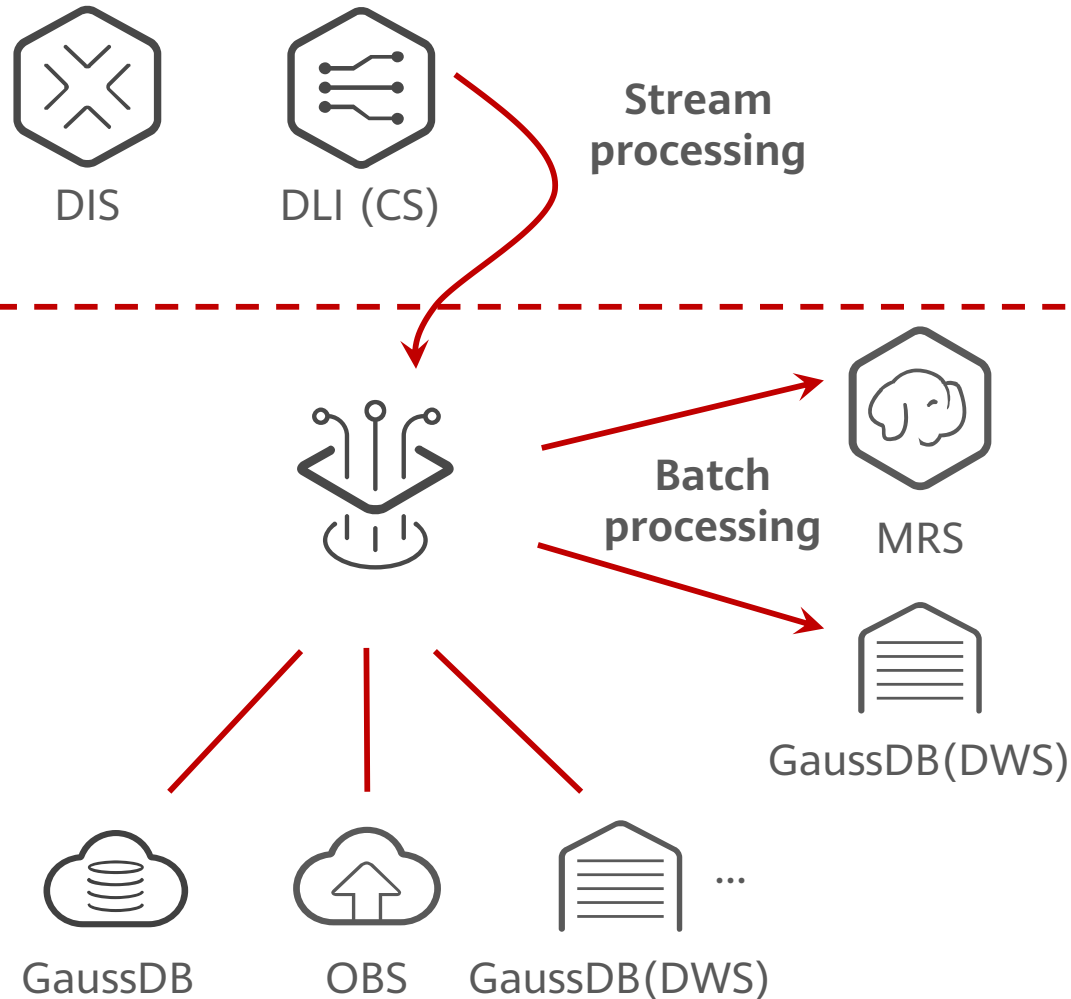
Data governance

Data lakes and big data

Data Governance Empowers Enterprises to Extract More Value from Data Assets

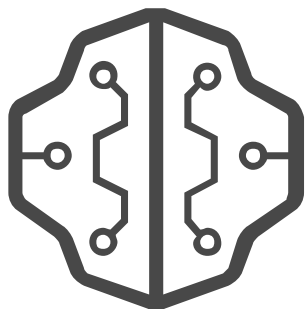


Big Data: Data Insights Help Unlock Business Potential



- Actions that require real-time responses
- Dynamic processing

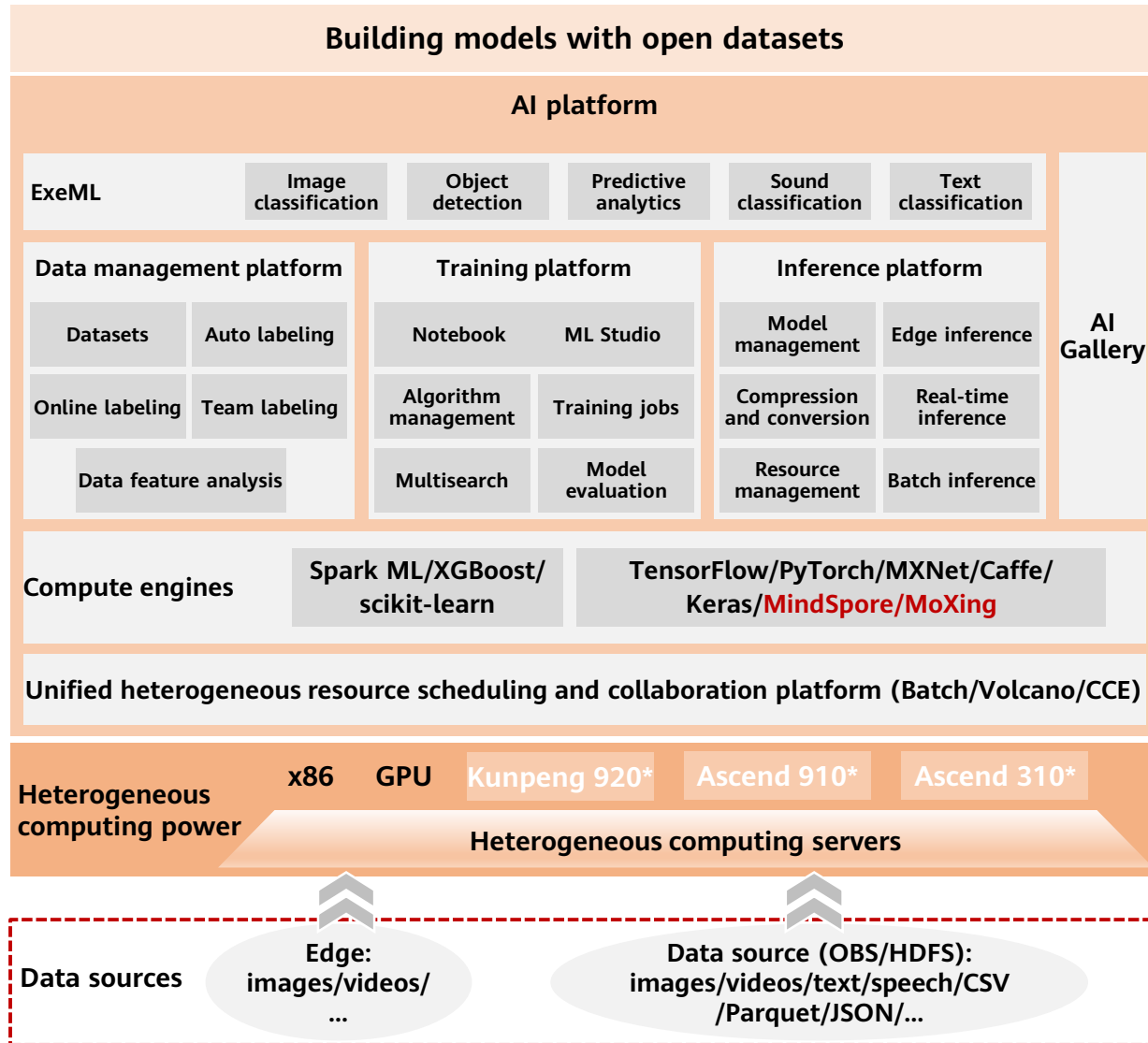
- Delayed responses acceptable
- Overall view of data
- Static reports
- Business insights
- Business intelligence shown in an intuitive way



AI

Platforms, components,
and open capabilities

ModelArts: One-Stop AI Development Platform



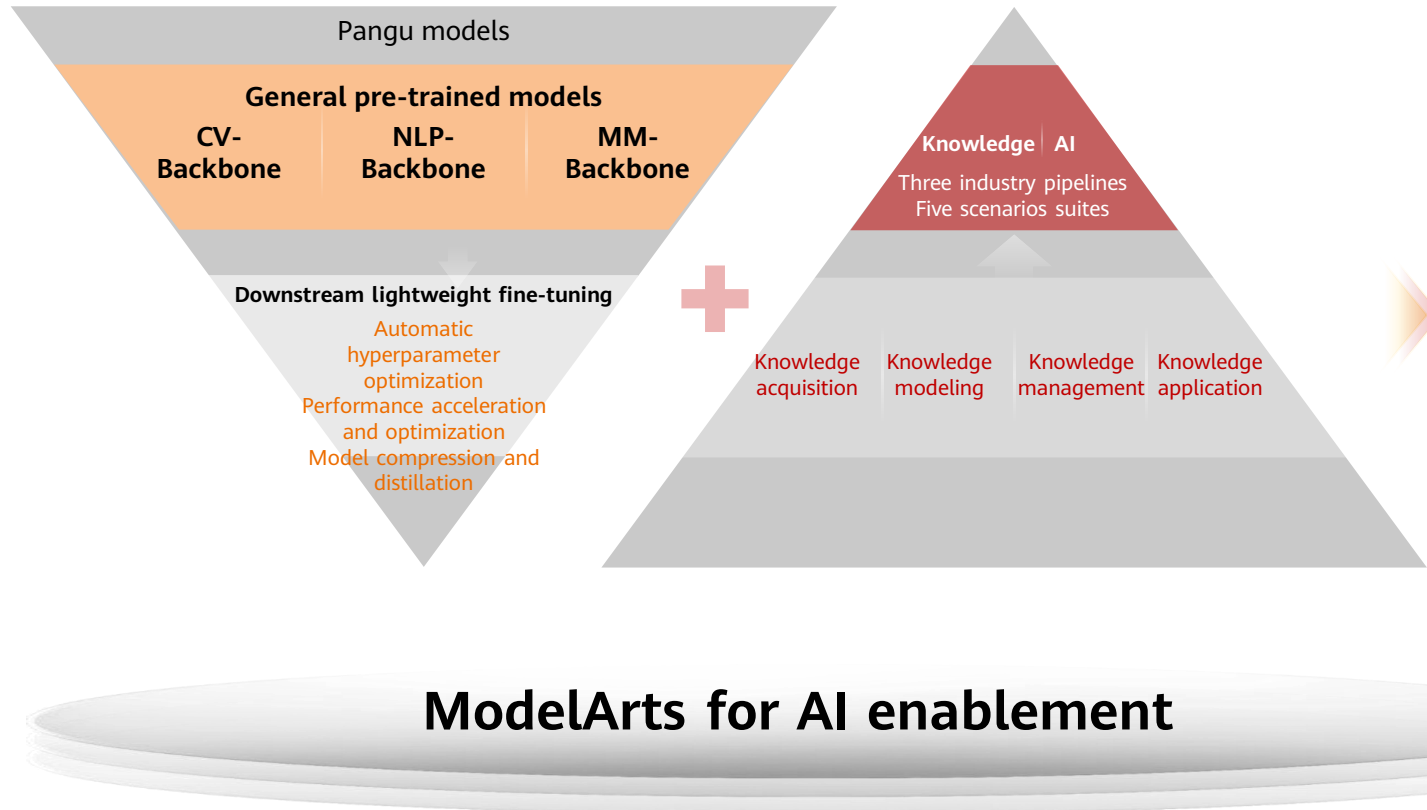
- **Full-stack, full-process, and full-scenario**
 - Software-hardware synergy
 - E2E AI development experience
 - Device-edge-cloud joint development and deployment
- **Unified management and scheduling**
 - Both major (x86 and GPU) and Huawei-developed (Kunpeng and Ascend) chips
 - 10,000-node compute clusters
 - Resource scheduling within seconds and on-demand use
 - 30% higher performance for training jobs
- **Zero-cost migration with the support of major engines**
 - Major engines: TensorFlow, PyTorch, MXNet, and Caffe
 - Huawei-developed engines: MindSpore and MoXing
 - Custom images
- **Multi-dimensional features for customer needs**
 - Beginners: ExeML, pre-trained algorithms, and engineering templates for simplified development
 - Experts: Data augmentation, model diagnosis, and federated learning for more efficient AI development
 - Algorithm developers: In-cloud Notebook and on-premises PyCharm Toolkit

Inclusive AI: Taking Industry AI to New Heights

New paradigm of AI development

New knowledge computing solution

New industry productivity



Efficient knowledge building

Knowledge graphs constructed
within seconds

Adequate model training

100+ highly-accurate, pre-trained algorithms in **9 categories**

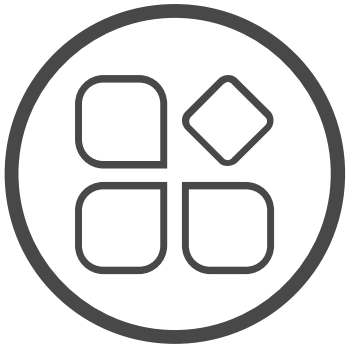
Efficient computing

Training speed now **10 times faster**

Efficient data processing

Recognition rate of invalid images **> 80%**
Data labeling now **5 times more efficient**

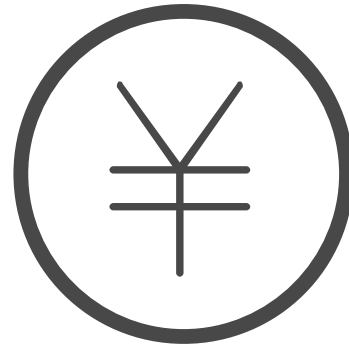
Huawei Cloud Assists in Business Transformation



Comprehensive



Secure & trustworthy



Cost-effective



Easy-to-use



Section Summary

- You have learned about the benefits of cloud native transformation, as well as four key technologies: agile, compute, data governance, and AI.

Quiz

(T/F) In a serverless architecture, developers do not need to configure or manage servers while developing applications. This means that there are no physical or virtual servers in the serverless environment.



Recommendations

- Huawei Cloud websites
 - Huawei Cloud: <https://www.huaweicloud.com/intl/en-us/>
 - Huawei Cloud Developer Institute: <https://edu.huaweicloud.com/intl/en-us/>



Huawei Cloud
Developer Institute

Thank You.

Copyright © 2024 Huawei Technologies Co., Ltd. All Rights Reserved.

The information in this document may contain predictive statements including, without limitation, statements regarding the future financial and operating results, future product portfolio, new technology, etc. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in the predictive statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer nor an acceptance. Huawei may change the information at any time without notice.



www.huaweicloud.com