



奥运会全球指定云服务商

数据智能驱动治理能力现代化

Data Intelligent Drives the Modernization of Governance

阿里巴巴 刘松
Song Liu Alibaba

大科学，大技术，大产业，大社会进入大交叉时代

The Big Cross-connection Era between Science, Technology, Industry and Society



产业升级“三叠浪”

The Triple Tides of Industry Upgrade

信息时代 Information Age

世界500强
大企业
Fortune 500



ERP
数据库
操作系统
Database
Operating System

消费互联网 Internet Consumption

技术极客
创业公司
Tech Geek
Start-ups



“App Store”
大数据
云计算
Big Data
Cloud Computing

产业智能化 Industrial Intelligence

产业极客
社会协同网
Industrial Geek
Social Collaboration
Network



AIoT
区块链
芯片
Blockchain
Chip

小前端大平台富生态-----阿里巴巴生态体系

Alibaba Ecosystem: Small Front-end, Large Platform, Rich Ecology

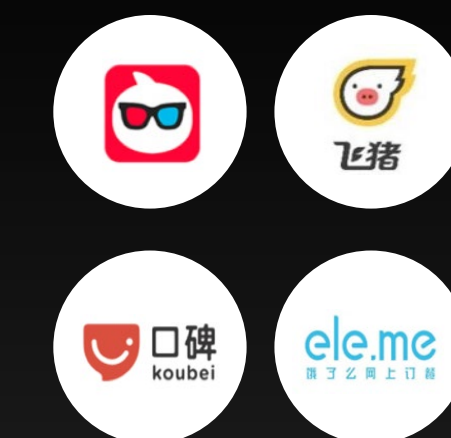
电子商务 E-commerce



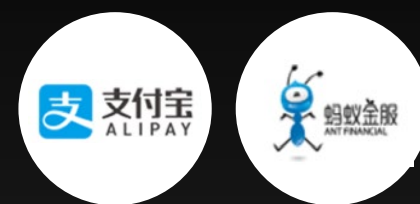
数字娱乐 Digital Entertainment



本地生活 Local Life



支付与金融服务 Payment and Financial Service



智慧物流 Smart Logistics



全域营销 Uni-Marketing



云计算 Cloud Computing



网络协同和数据智能是数字经济发展双螺旋

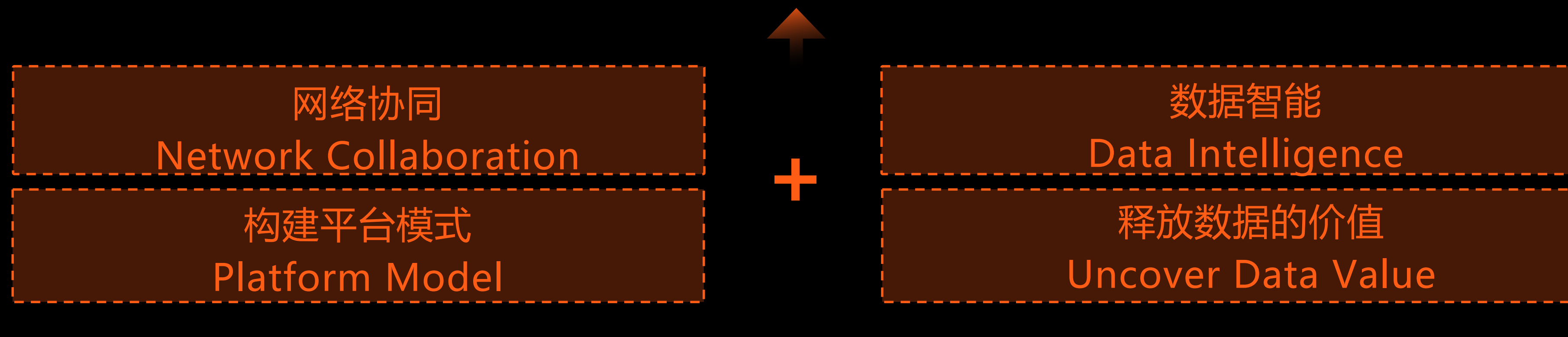
Network Collaboration and Data Intelligence
are the Double Spiral of Digital Economy Development

数字化通常带来同业态四倍速的替代能力
Digitalization = 4 x Replacement Capability

数字经济新增量
Digital Economy
New Growth



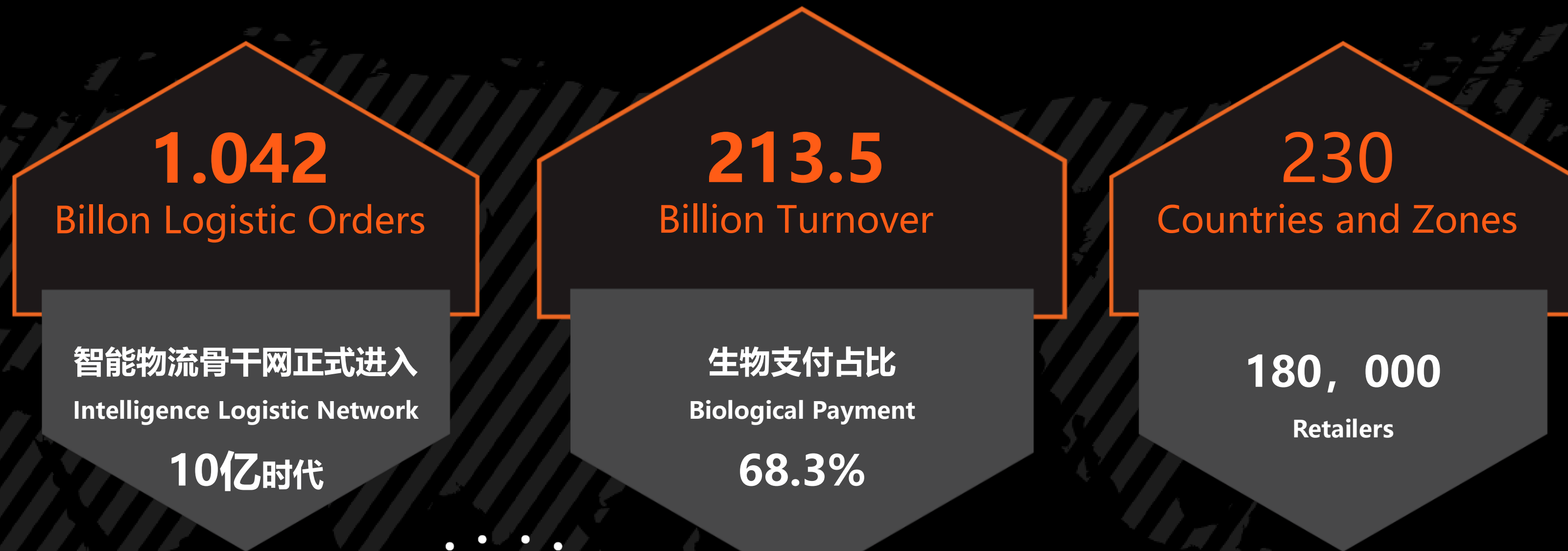
驱动数字经济发展的双螺旋
Double Spiral
of Digital
Economy
Development



云计算
Cloud Computing
数字经济的基础设施
Digital Economy Infrastructure

网络协同 —— “双十一” 诠释的社会化协同

Network Collaboration at 11.11



智能物流骨干网正式进入
Intelligence Logistic Network
10亿时代

生物支付占比
Biological Payment
68.3%

180,000
Retailers



生态力量全面集结 Rich Ecosystem

本地生活服务

Local Life Service

饿了么和口碑联动100万本地商家24小时外卖不打烍
1 Million Local Retailers Working for 24hr with Eleme Koubei

盒马鲜生 Hema

订单增长325%
全国门店总数近百家
Order Increased by 325% with nearly hundreds of domestic stores

居然之家 EasyHome

仅13小时全国266家门店销售额突破100亿元
266 Stores 10 Billion Turnover for 13 hours

线上线下联动

Online-offline

全国100个天猫新零售商圈迎接数轮“红包雨”
亿万人边逛边“摇”给优惠
“Red Envelope Activity” for 100 Tmall Business Group Billions of people shake phones for discount benefit

数据智能 —— 在阿里，算法成为数亿用户的“能力代理人”

Data Intelligent: Algorithm Becomes Customers' Super-Agent

用户兴趣洞察 Customer Interest Insight

基于新闻内容、用户属性、用户行为三类数据，进行特征提取，输出用户兴趣画像、品类画像、新闻画像
Input: news content + user attributes + customer behavior
Output: User Interest, Object and News Profiles



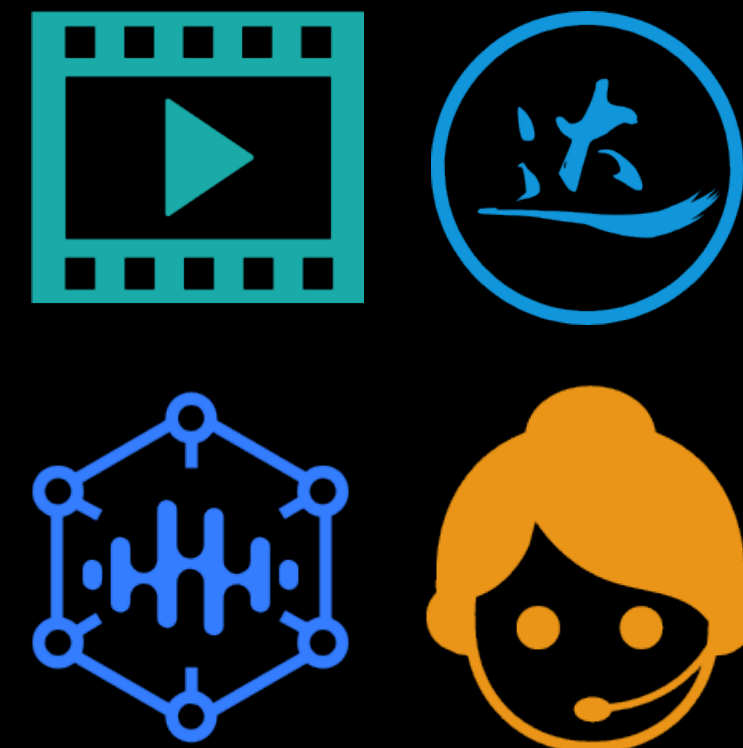
千人千面推荐 Personalized Recommendation

通过阿里云提供的海量用户人群特征提供最精准的推荐服务
Through Alibaba cloud, User feature data used for extract the precise info for the recommendation service



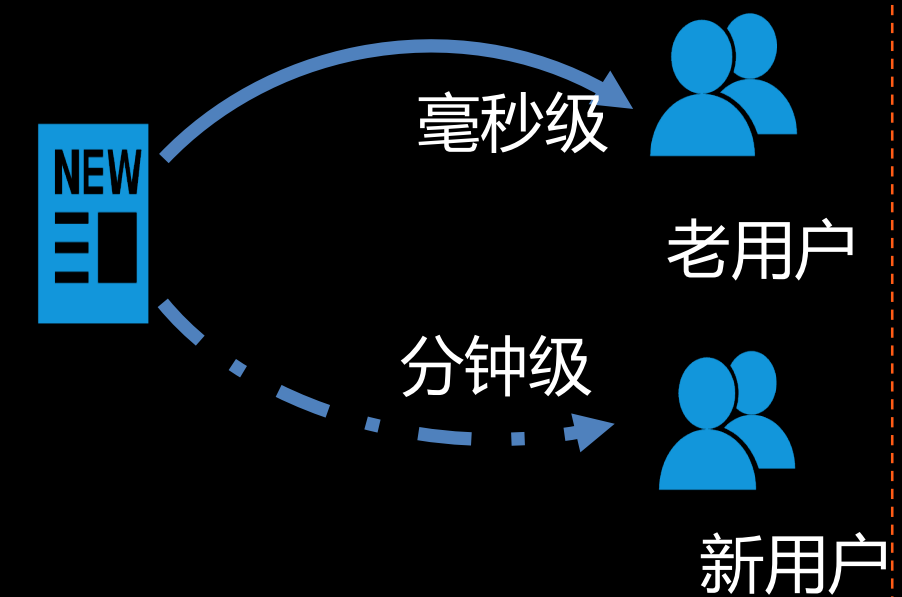
智能客户服务 Intelligent Customer Service

通过自然语言处理 (NLP)、深度学习实现7*24小时的客户服务体验
Deep learning and NLP aid the Performance of Customer Service for 7*24



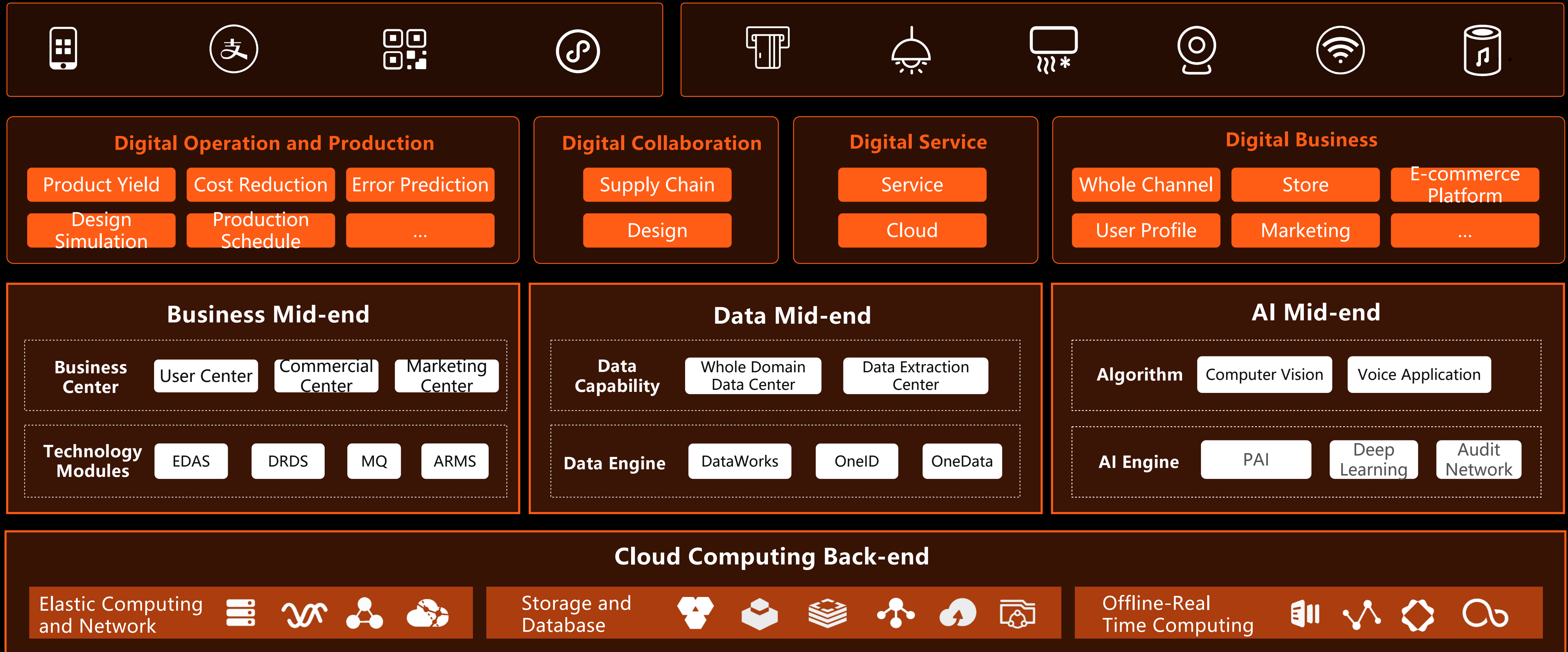
新闻实时推荐 Real-time News Recommendation

新闻毫秒级推荐
老用户毫秒级推荐
新用户2~3分钟推荐
News in ms
Existing Members in ms
New Member in 2-3 min



阿里巴巴的数字化转型总体方案：中台成为“创新容器与能力广场”

Mid-end Becomes the Incubator of Innovation and the Time-square of Capability



更高效的网络协同 更精准的数据智能

Network Collaboration More Effective

Data Intelligence More Accurate

阿里巴巴的大数据体系

Alibaba Big Data System

用 Use

通 Integrate

存 Store

生态
Ecosystem

阿里大数据管理体系职责：规划、管理、服务

Alibaba Big Data Management System Responsibilities: Planning, Management, Service

为数据管理的长期建设过程，指定建设方向和原则和建设策略；
Specify the direction, Principles and Strategies for the Long-term Construction Process of Data Management

数据战略 Data Strategy

保障数据管理机制高效运转所提供的面向所有用户（管理人员、开发人员、业务人员等）的运营和服务功能。

Ensure the operation efficiency of the data management mechanism, which provides operation and service functions for all users (managers, developers, business personnel, etc)

保障数据管理机制常态化运转所需的制度、组织、流程和工具，是基础手段。

The system, organization, process and tools needed to ensure the normal operation of the data management mechanism are the basic approaches

数据治理
Data Management

三大关键管理内容

3 Key Management Content

数据成本
Data Cost

数据质量
Data Quality

数据安全
Data Security

运营和服务
Operation And Service

One data

元数据 Meta Data

数据管理的基础，是对企业数据资产的描述。并且通过对基础元数据的丰富（数据分级分类），实现对管理体系的全面支持。

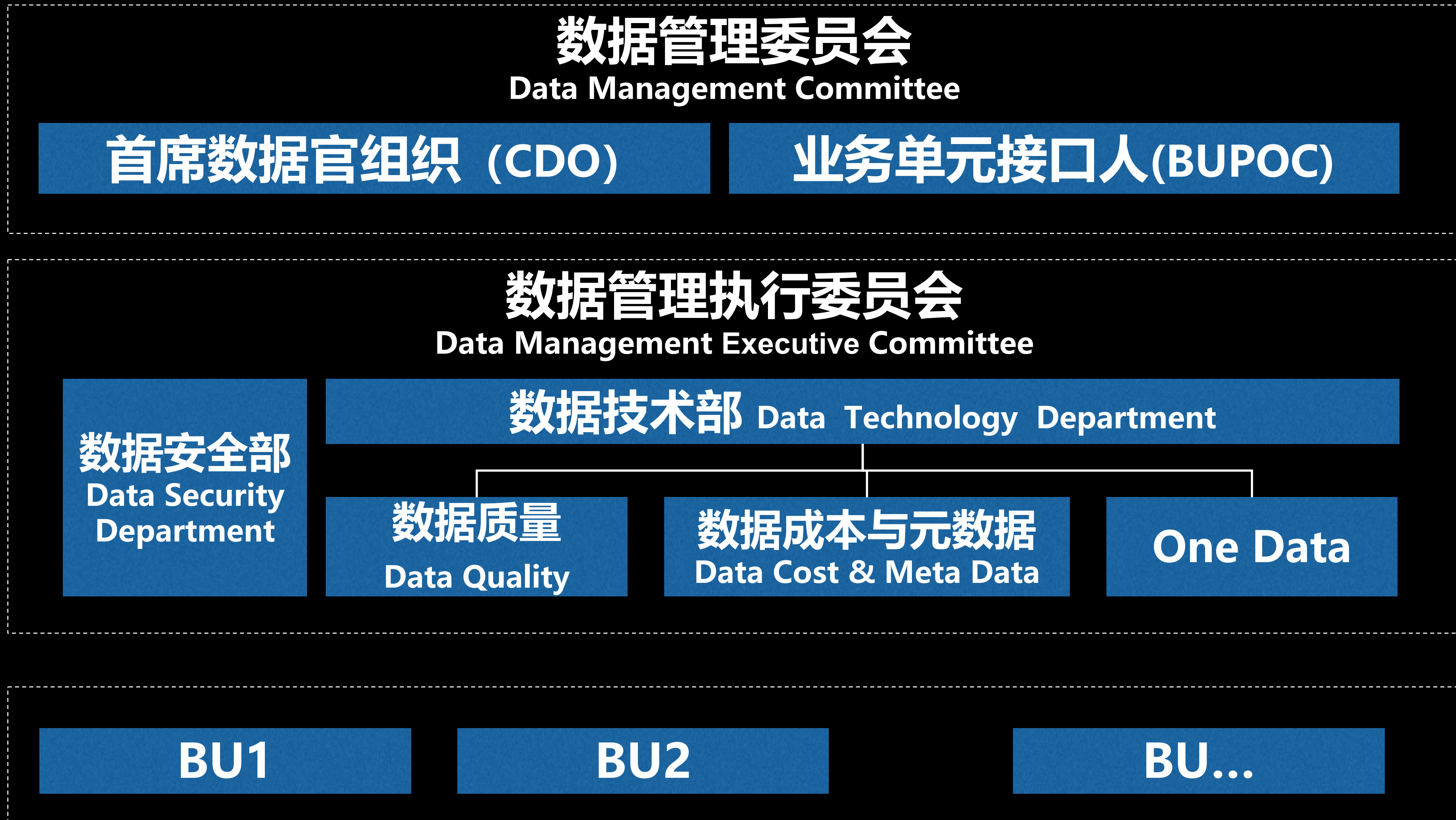
The basis of data management is the demonstration of enterprise data assets. Through the enrichment of basic metadata (data classification/categorization), it can fully support the management system

从企业全局统一规划的角度，对大数据平台内数据模型、数据对象的规范以及数据加工开发规范的定义。

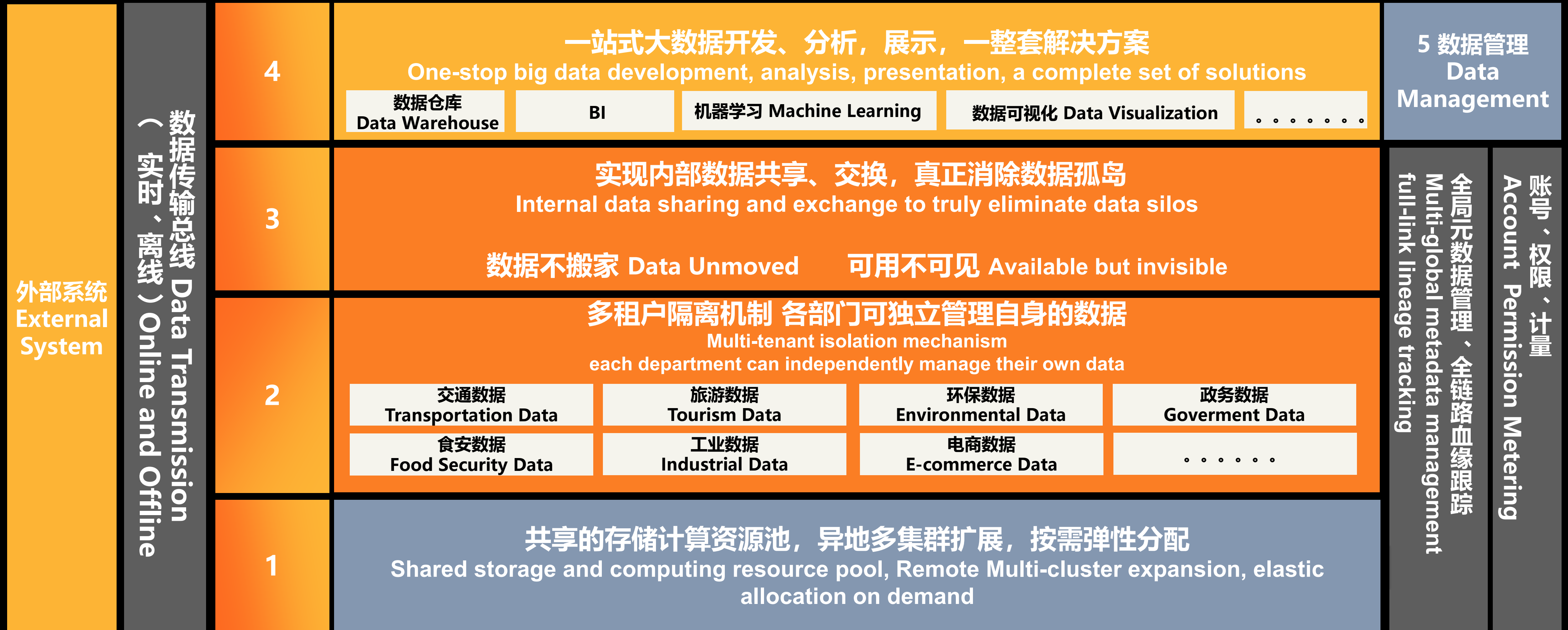
From enterprise data unified planning perspective, define data models, data object specifications, and data processing and development specifications in big data platforms

组织：强有力的领导支持和业务部门的参与

Organization: Strong Support and Participation from Senior leaders and Business Departments



大数据的操作系统 Big Data Operating System



统一平台的关键要素

The Key Elements of a Unified Platform

1

统一平台，数据大集中

Unified platform and centralized data

统一的存储，统一的计算引擎，统一的数据开发平台

Unified Storage, computing engine, data development platform

2

资源共享，弹性分配

Shared resource, elastic allocation

基于ODPS多集群技术，由数以万计的服务器提供超级计算能力，按需弹性分配给各数据开发团队

Based on ODPS multi-cluster technology, tens of thousands of servers provide supercomputing capabilities, distributed flexibly to Data Development teams on demand.

3

数据隔离，分权管理

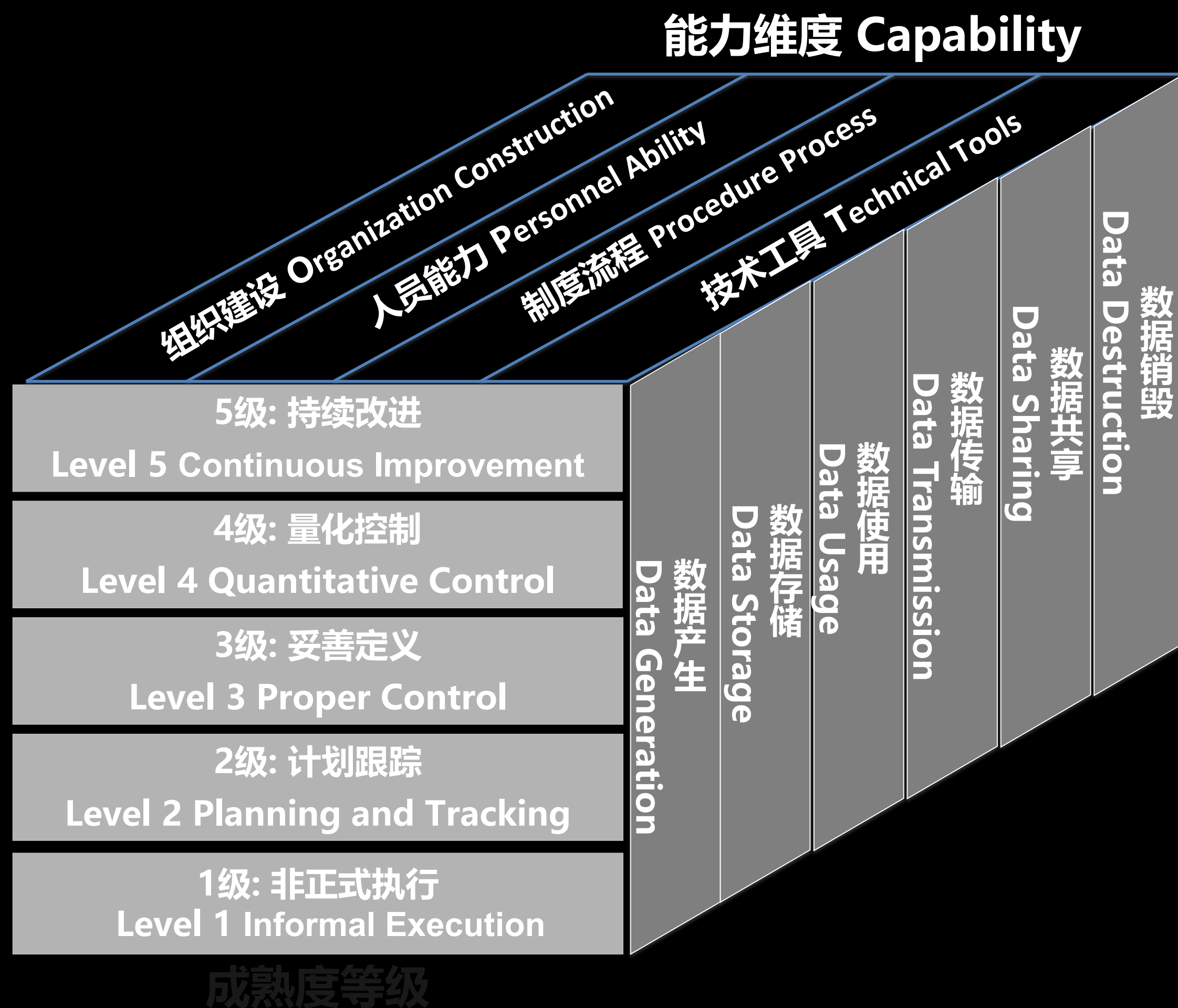
Data isolation and decentralized management

基于ODPS多租户机制，各部门可独立管理自身的数据，独立做数据授权

Based on the ODPS multi-tenant mechanism, each department can independently manage its own data and perform data authorization independently

阿里大数据安全实践：数据安全能力成熟度

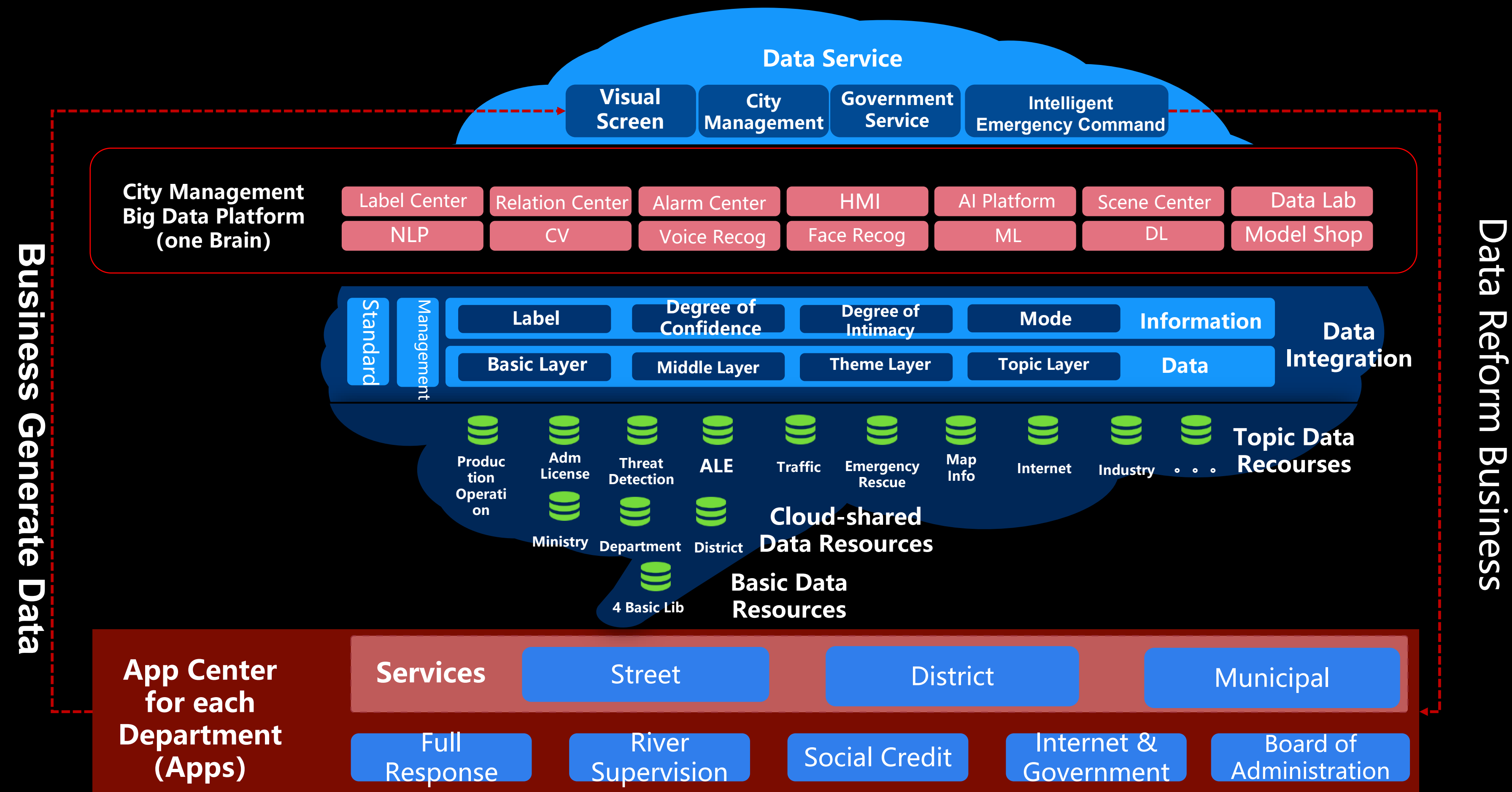
Alibaba Big Data Security Practices: The Maturity Data Security Capability



- 借鉴 DMM思想, 通过成熟度等级对组织在数据管理上的能力进行标准化的定义和区分。阿里借鉴DMM开发了数据安全能力成熟模型, 以帮助自身及合作伙伴组织评估和实施数据安全实践, 并作为数据共享的风险评判依据之一。Based on DMM's idea, the organization's ability in data management is defined and distinguished by maturity level. Alibaba has developed a mature model of data security capabilities to help itself and its partners organize the assessment and implementation of data security management practices, the model as one of the risk assessment indicators for data sharing
- 针对 阿里数据生态圈下的相关方 For relevant parties in the Alibaba data ecosystem
- 围绕 数据生命周期 For the data lifecycle
- 覆盖 组织建设、人员能力、制度流程、技术工具四个能力维度 Cover four capacity dimensions: organization construction, personnel ability, institutional process and technical tools
- 聚焦 组织在数据上的安全管理能力 Focus on the organization's data security management capabilities

参考架构：“1+N”城市治理服务模式

Referenced Architecture: "1 + N" City Management Service Model



“1”即“一个数据大脑”，城市治理数据大脑基础设施，基于数据实现**动态感知、数据融通、全域智能、全局指挥、高效协同**，提供统一汇聚、存储和计算、融通、数据服务；

‘One’ being a data brain, which is the infrastructure of city management, based on the data to achieve dynamic perception, data integration, whole session intelligence, global command, efficient collaboration, provides unified data service such as data aggregation, storage, computing and integration.

“N”即N个城市治理专班成员单位的大数据应用，重点以**街巷长、河长制、全响应、街道**等开展规划，建设城市（社会）精细化治理智能服务、面向全市（区）各级领导构建可视化终端服务

“N” refers to the big data application of the member units of the special group of city management, which focuses on the street and river supervision, full response and so on, the aim is to build the city (society) delicacy intelligence management services and build visualization services for leaders at all levels of the city (district) management teams.

一切业务数据化：未来所有的数据都要落在大数据平台上

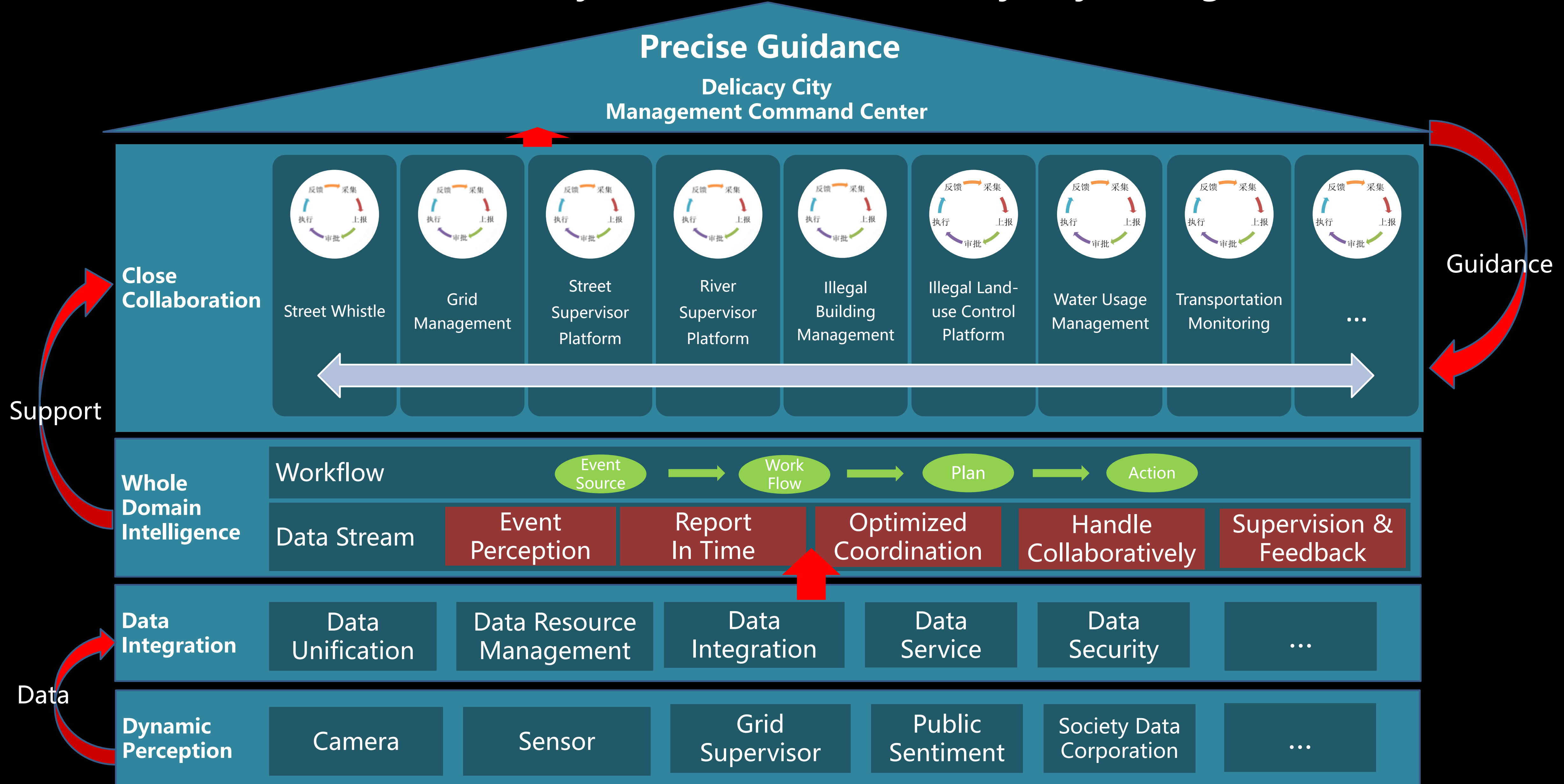
All business produce data: all data stored in the big data platform in the future

一切数据业务化：未来所有大数据应用都要通过平台来提供服务

All data used in business: all big data application provides services through platform in the future

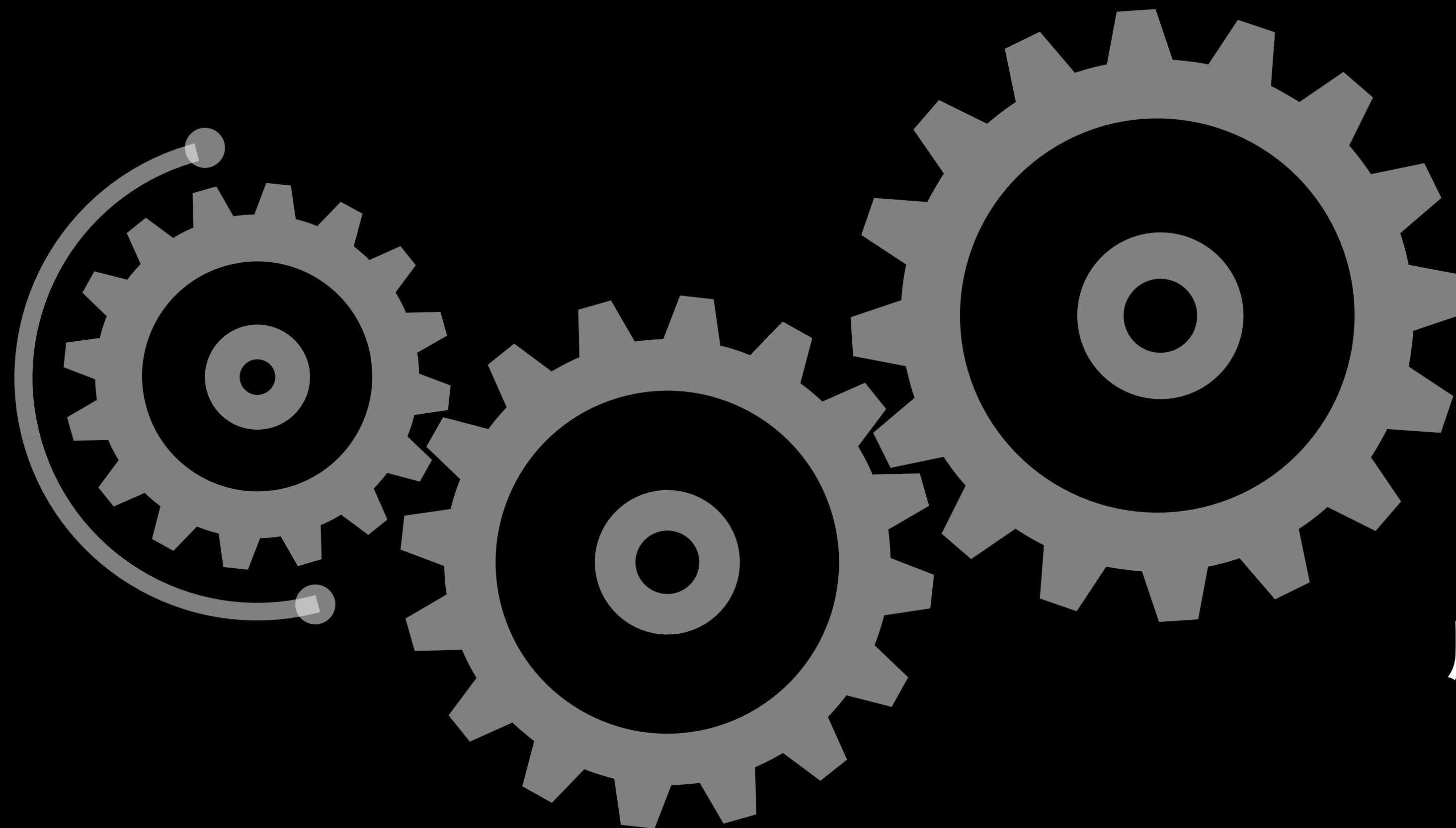
总体思路：以数据为核心，构建城市精细化治理“大闭环”

General Idea: Data as the Key Driven Force of Delicacy City Management



数据智能技术如何驱动政府数字化转型？

Data Intelligence Technology Drives Government's Digital Transformation



1: 在线

Online

可随时被
使用

Can be Used
Anytime

3: 闭环

Closed

Loops

用数据直接做
业务决策

Data Supports
Business Decision

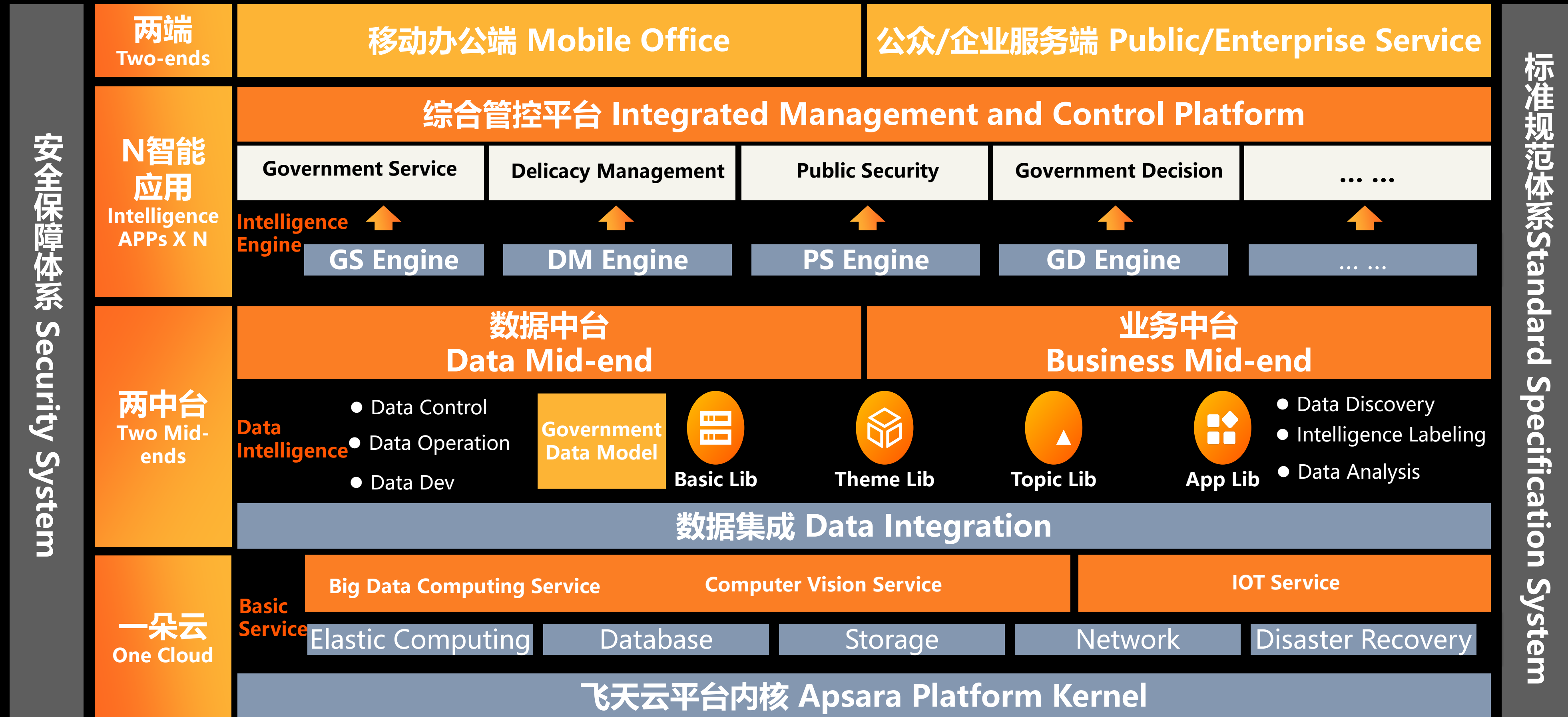
2: 活用 Flexible

需要被消化、处理、增值

Content Digested, Info
Processed Value Uncovered

阿里数字政府解决方案架构

Alibaba Digital Government Solution Architecture



统计行业数字化转型展望

The Prospects of the Digital Transformation of Statistical Industry

今天
Now

中国统计的四大工程
The Four Major Programs

- 基本单位名录库
Business Register
- 企业一套表制度
Integrated Questionnaire for Enterprises
- 数据采集处理软件系统
Data Collection and Processing Software
- 联网直报系统
Online Reporting System

- **事后统计**
Post-event Statistics
- **部分抽样**
Partial Sampling

“精准化，在线化”升维
Precision, Online and Dimension Upgrade

明天
Future

- **事中监控**
In-process Monitoring
- **全量数据**
Full-volume Data
- **在线预警**
Online Alert

数据智能将带来统计工作，统计资料，统计科学的变革

Data Intelligence will Reshape Everything Related to Statistics.

统计挑战的多边形：工作量，时效性，产出比，更精准

Multi-challenges of Statistical Work: Workload, Effectiveness, Efficiency and Accuracy

Challenges

- 信息系统需具备横向扩展能力
Information System needs to have scaled-out capabilities
- 各个业务IT系统数据不通
Data of each BU IT System are not well connected
- 对象的经营活动频繁、线上线下，IT系统复杂化
Frequent Operational Activity, On/Off-line, Complexed IT system
- 非结构化数据急剧增多
Unstructured Data Increased Tremendously
- 数据证据社会化多渠道来源
Multi-source Data Collection

数据智能
Data Intelligence

Solutions

- 云计算平台提供计算、存储、网络的便利扩展
Cloud Computing Platform provides computing, storage and network service
- 构建数据中台：一个统计大数据中心
Build Data Mid-end, Which is a Statistics Big Data Center
- 基于统一数据中台和业务中台，各业务部门、合作伙伴开发特色应用
Based on unified Data and Business Mid-end, each BU and partner develop their own specialized application
- 机器产生的数据要靠机器来读：大数据算法
Big Data Algorithms: Machine-generated Data Machine to Read
- 重复、固定规则的工作交给机器
Machine Handles Repetitive and Rule-based Work

提高效率，时效更强，更加精准
Improve Efficiency, Effectiveness and Accuracy

数据智能打造智慧统计解决方案

Data Intelligence Drives the Success of Smart Statistics Solution



采集

Collection



融合

Integration



分析

Analysis



预测

Prediction



预警

Pre-alarmed



服务

Service

1、数据化——“一张表” 全局实时数据管理，实现数据融合；

Data

One Table

Global Real Time Data Management, Data Integration Implementation

2、在线化——“一张网” 国家、省市县、企业多端联通，数据在线化；

Online

One Network

Nation, City, County and Enterprise Multi-connections, Enables Data Online and Live

3、智能化——“一盘棋” 经济普查数据智能分析、多样化的经济统计指标；

Intelligence

One Chess Game

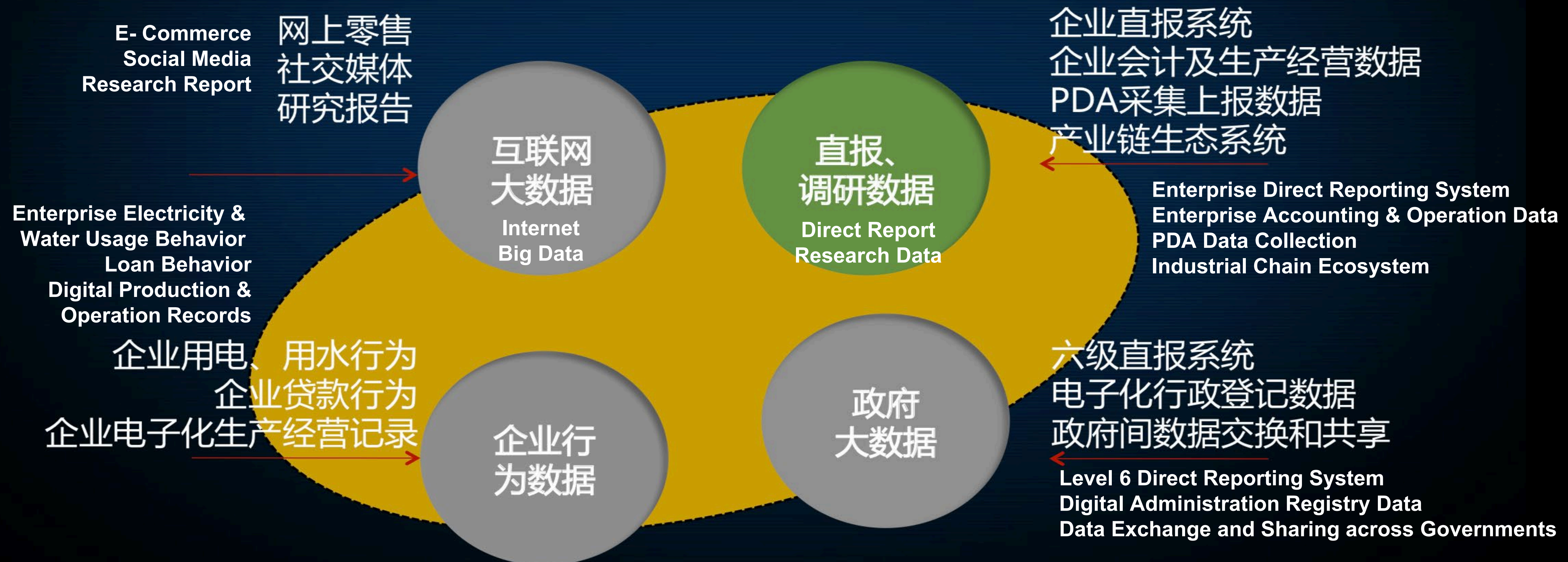
Intelligent Analysis of Economic Census Data, Diversified Economical Statistical Indications

统计大数据平台：构建多源数据获取能力

Statistics Big Data Platform: Multi-source Data Acquisition Capability

实现统计设计、任务布置到数据采集、处理、分析的全流程现代化

The Automation and Modernization of the Whole Process
from Statistical Design, Task Deployment to Data Collection, Processing and Analysis



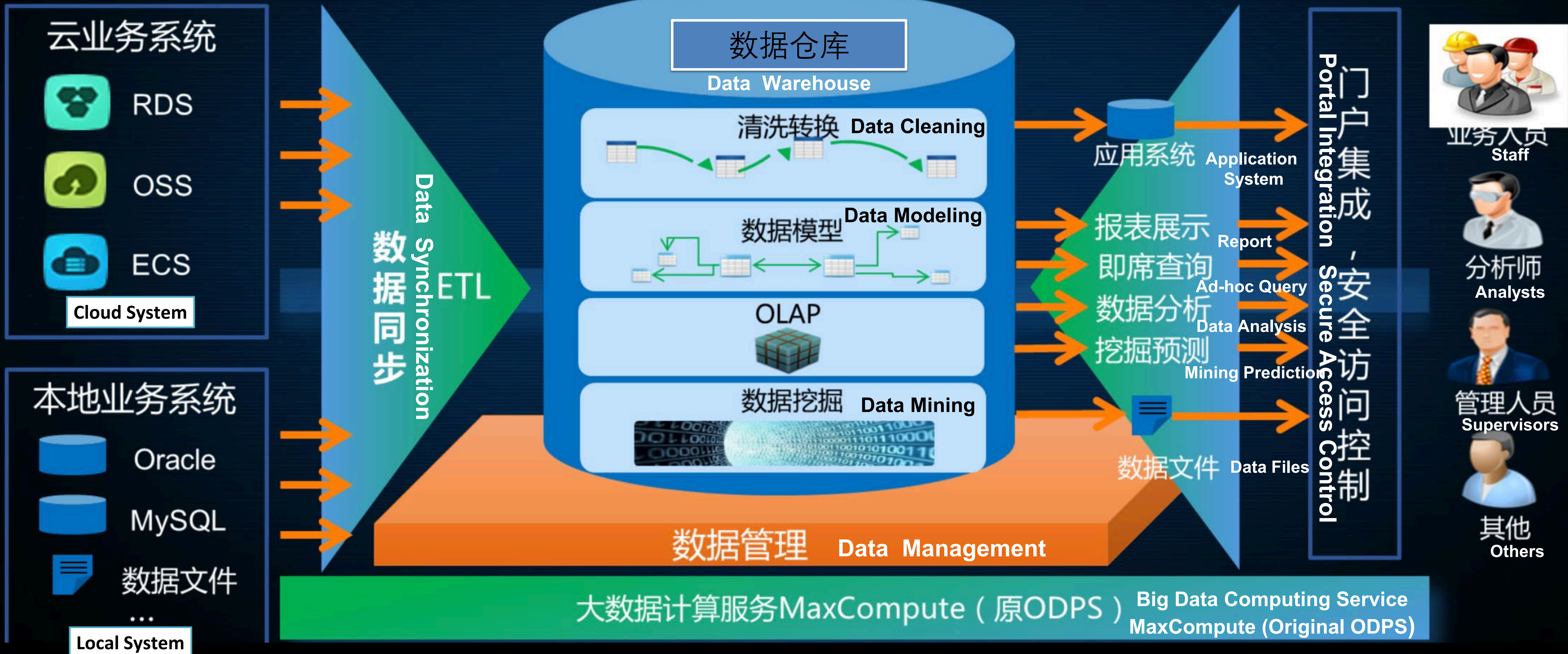
统计大数据平台 (融合+分析) : 数据中台

Data Mid-end: Statistics Big Data Platform (Integration & Analysis)

数据集成整合 Data Integration

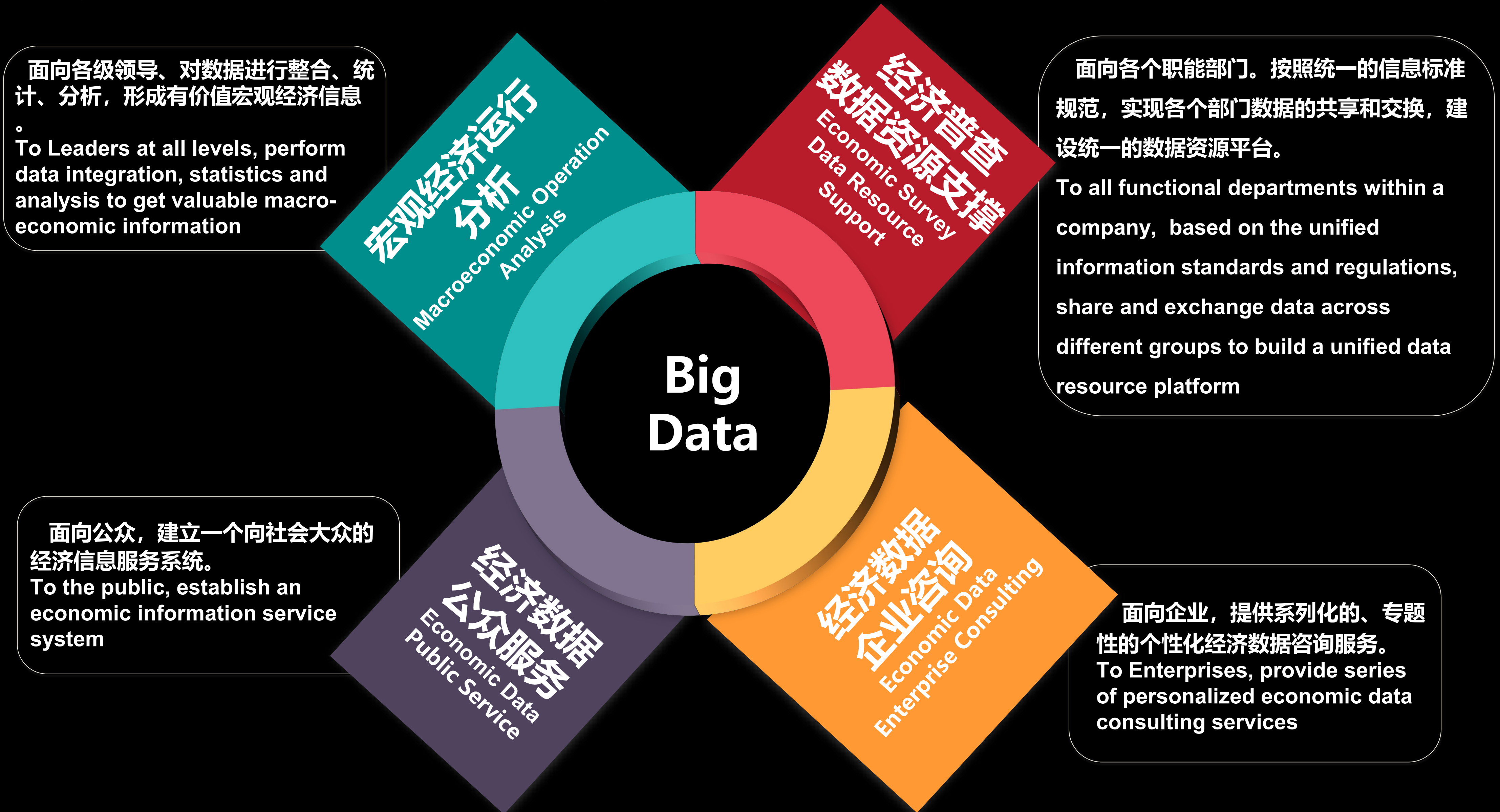
数据加工、分析与管理 Data Processing & Analysis & Management

数据应用与消费 Data Usage & Application



构建大数据实时经济运行监测、服务体系

Big data Real-time Monitoring and Service System for Economic Condition



统计行业数字化转型路径

The Path of Digital Transformation for Statistical Industry



阿里云全面支撑政府部委数字化转型

Alibaba Cloud Fully Supports the Digital Transformation of Government Ministries





奥运会全球指定云服务商