Leading New ICT, Powering Industry Digital Transformation

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Digital Transformation Is Accelerating

- Smart City
- Bank 3.0
- Smart Transportation
- Smart Grid
- Smart Manufacturing
- Smart Education
- New ISP
Higher Value ICT: From Support to Operations to Decision-Making
The ICT World Is Being Reshaped

The old layout is falling apart

Low growth in traditional ICT investment

+ 23% IP traffic  
+ 22% Enterprise connectivity  
+ 25% Enterprise storage  

ICT investment

VS + 3.7%

Source: Gartner

A new one is taking shape

New ICT brings new opportunities

Cloud computing  
Big Data  
IoT  
AI  
...

Proportion of investment in third-party platforms (2015–2020)

49%  
71%

Source: IDC

IP traffic + 23%  
Enterprise connectivity + 22%  
Enterprise storage + 25%  
ICT investment + 3.7%
Industries in the Midst of Digital Transformation

**Cloud 1.0**
- Internet companies led the first iteration
- Cloud-native, agile, innovative, experience-driven

**Cloud 2.0**
- Accelerated digital transformation
- Higher efficiency, excellent experience, new business/operational models driven by IoT, cloud, big data
DHL: IoT Enabling Smart Logistics
GE: Inventor and Practitioner of Industrial Internet, Connecting Machines with Intelligent Analytics
With continuous innovation, Huawei:

- Provides **innovative**, **differentiated**, leading ICT **hardware and software**.
- Builds an **open**, **elastic**, **flexible**, and **secure** platform.
- Works with **our partners** to address digital transformation challenges.
- Helps **customers** achieve business success.
ICT Platform Featuring Cloud-Pipe-Device Collaboration: A Foundation for Digital Transformation of Industries

Data are penetrating all services in digital enterprises

Digital transformation starts from "Device". Do not focus only on "Cloud".
**Enterprise IT: Elastic Hybrid Cloud Platform, On-demand Services**

<table>
<thead>
<tr>
<th>Private Cloud Service</th>
<th>Hybrid Cloud Service</th>
<th>Public Cloud Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compute/ Storage / Data Analysis / Video / Workspace / Web &amp; Mobile / SAP / HPC ...</td>
<td>FusionCloud</td>
<td>Compute/ Storage / Data Analysis / Video / Workspace / Web &amp; Mobile / SAP / HPC ...</td>
</tr>
<tr>
<td>Unified Resource</td>
<td>Compute</td>
<td>Storage</td>
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</tbody>
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**One cloud, Unified Operation & Management**
- Unified API
- Unified Architecture
- Unified Service

**Continuous innovation makes computing simple**
- High-Density Server
  - FusionServer X6000 (Q1)
- STaaS enables on-demand data services
  - OceanStor Dorado V3 (Q2)

- Industry first to support full NVMe SSD (2U4), 10 times IOPS vs SATA SSD
- 50% less space vs 1U server @1M rack
- Active-Active disk array GW free, 99.9999% availability
- 1ms latency @Active-Active mode, no service-waiting for critical services
Cloud Enterprise Communications: Converged, Cloud-Based, Industry-Specific, Efficient

Enterprise Communications Cloud Platform (EC6.0)

- VC/IPT/CC/Web conference Convergence
- Public cloud service
- Scenario-based SDK/API

Service Enablement Interface API, SDK

Cloud PBX  Cloud VC  Cloud ICP  Unified O&M  Cloud USM

- IPT
- VC
- IM/Presence
- Contact center

Industry’s first "6-in-1" Huddle-Room Cloud Video Endpoint TE10

- 1 Minute Deployment
- 20% packet loss tolerance
- 50% Bandwidth saving
- Lync/Skype Interconnection

- FHD camera
- Codec
- Microphone
- Speaker
- Bluetooth & Wi-Fi
- Bracket
Enterprise Wireless: Extend to Unlicensed LTE, Differentiated Industry Solution

- **eLTE-U**
  - Unlicensed LTE
  - Air-Node 3810A
  - Module eM680-950
  - CPE eA680-950

- **eLTE-IoT**
  - Unlicensed IoT
  - Air-Node 3710A
  - IoT Module eM300
  - CPE eA300

- **3GPP Trunking**
  - Mission Critical PTT
  - First MCPTT E2E Solution
    - 6 Year+ experience in Broadband Trunking
    - Reliable Connection
      - Anti-interference
    - Mobility
      - Maximum Speed: 160km/h
    - Coverage
      - 1Km@Mobile, 3Km@FIXed

- **Video Accessory**
  - EP631S
  - EV751

- **eFEC**
  - Emergency Communication Vehicle
  - 3GPP Trunking
  - Serialization terminal
    - 5 professional terminals
  - Low Power Consumption
    - Up to 10 Years
  - Improved Coverage
    - Up to 10 km
  - Mass Connections
    - Up to 10K electricity meter Per cell

- **Emergency Communication Vehicle**
  - (vehicle-mounted, body-worn, UAV)
Network Energy: One-stop Small Data Center Solution, ICT Best Partner

FusionModule500
Load ≤ 3 kW
1-2 IT Cabinets
All-in-one: power supply & distribution, monitoring, and cooling etc

FusionModule800
Load ≤ 15 kW
2-8 IT Cabinets

3 Steps (Huawei)
Solution Finalization

30 Steps (Traditional)

2 Days
Simple Delivery

10 Days
Delivery

Centralized Monitoring
Simple Management
Manual Inspection

Network Energy: One-stop Small Data Center Solution, ICT Best Partner

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Simple Sales

Simple Delivery
Business-Driven Joint Innovation: Building Leading, Differentiated Solutions

Industry Customer
- Kenya Safe City
- China Construction Bank
- Deutsche Bahn
- China - Kazakhstan Natural Gas Pipeline
- Schindler Group

Partner
- Integration & Operation
- Application Architecture
- Design & Implementation
- SCADA
- Preventive Maintenance

ICT Infrastructure Adaptation
- Cloud Computing
- Big Data
- Mobility
- IoT
Powering Digital Transformation For Different Industry
Public Safety: Building Industry PaaS to Gain a Continuous Edge in Solutions

**Huawei**: Improve solution competitiveness, build open industry platform based on ICT

**Partner**: Supply industry application, business algorithm, etc.

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**Ecosystem Enablement**: Service Capability

**ICT Convergence Capability**: IaaS

**Industry PaaS**: Enable Converge

**Platform Enablement Service Capability**: SaaS

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**Integrated Communication Platform**

**IoT Security Platform**

**Video Management Platform**

**Intelligent Video Analysis Platform**

**Policing Big Data Platform**

**Unified Security Management Platform**

**Unified Operation Platform**

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**Command Center**

**Image Investigation**

**Big Intelligence**

**Intelligent Transportation**

**Crisis and Disaster Management**

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**Distributed Cloud Platform** (FusionStage / FusionSphere)

**Agile Network**

**Data Exchange and Sharing**

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**PU** (Camera/Trunking Terminal/Sensor/Access Control)

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**Basic DB**

- Fugitive DB
- Population DB
- Key Dept DB
- Robbed Vehicle DB
- Entry & Exit Personnel DB
- Police Officer DB

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Finance: Focus on three key scenarios - Financial cloud, Financial Big Data, Omni-Channel in banking digital transformation

**Financial Cloud**
- Core Banking base on Kunlun Server
- Mobile Banking base on PaaS

**Financial Big Data**
- Real-time anti-fraud
- Data warehouse
- Anti-money laundering

**Omni-Channel Banking**
- Multi-terminals with consistent audio and video experience: VTM, mobile phones, PAD
- Face recognition, mobile counter, multi-screen recording
Transportation: IoT and Cloud Digitally Transform Transportation

The Second Trackside Wireless Network
- High-speed Train to Ground broadband communication: 100 Mbit/s @ 350 km/h
- Trackside IoT: 10 km coverage, 10 years battery life
- Voice trunking: 3GPP, emergency call, local-site trunking

Digital Train
- Multi-link convergence, intelligent path selection
- Onboard local server capability, open architecture

Converged Railway Cloud Platform
- Shared ICT improves resource usage
- Integrated IoT and Big Data platform
- Gradually enables cloud-based railway businesses
Smart Grid: ICT Featuring Device, Pipe, and Cloud Collaboration Redefines Better Connected Smart Grid

- Power Cloud
  - The IoT platform featuring device, pipe, and cloud collaboration aggregates partners’ applications
  - Electric Big Data

- Power Communication Network
  - MSTP network based on soft and hard pipes
  - Reliable, simplified IP network

- Power IoT
  - Edge computing
  - Ubiquitous access communication and modules aggregate partners’ terminals

- MSTP/IP
- Edge Computing
- PLC-IoT/eLTE-IoT Chipset
- Online Monitoring Sensor
- Power Distribution Terminal
- Smart Metering Terminal
- IoT Platform
- Smart Power Consumption
- Automated Power Distribution
- Smart Home
- Smart Streetlight
Automotive Manufacturing: From Design and R&D to Car IT

In the future, new R&D employees will automatically obtain resources by choosing software and templates rather than from IT systems. Openness and Unified ICT infrastructure help Automotive transform to mobility service operator.

Creating products and services (vehicles and mobility)

In the future, new R&D employees will automatically obtain resources by choosing software and templates rather than from IT systems. Openness and Unified ICT infrastructure help Automotive transform to mobility service operator.

Service operations

Connectivity

Service Delivery Platform (Cloud)

IoT Platform

NB-IoT/5G/LTE-V

AR Gateway

Sensor

ECU

IHU

Camera
Huawei Solutions: Winning Extensive Customer Recognition

- 140+ governments and public agencies
- 300+ financial services institutions
- 170+ power companies
- 220,000+ km railways & highways
- 38,000+ km oil & gas pipelines
- 3/Top10 automotive enterprises