e-Government Network Platform Solution
Sales Guide

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Department: Government & Public Sector Solution Sales Dept
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Governments

Note: Customers in the transportation field belong to the transportation industry and are not listed here.
Government responsibilities

**Public service**
- Citizen services: labor employment, social security, marriage and birth, education and growth, traffic, culture, tour, land, real estate, property, and consumer rights and protections
- Enterprise services: industry standards and registration compliance, annual examinations and inspections, certificates, intelligent property protection, human resource distribution, and management for financial activities and tax affairs

**Social management**
- Records, legal procedures, and services
- Licenses, certifications, franchise, and social welfare activities
- Management for enterprises, public institutions, and citizens' social responsibilities and rights
- Emergency response

**Market supervision**
- Management of taxation, import and export activities, resources, and social security
- Supervision for financial activities, food and drug security, loans and credit, environment protection, public security, and judicial fairness

**Economic regulation**
- Employment structure, price supervision and adjustment, national planning, industry regulation, government investment, financial policies, currency policies, legislation, and more
Government ICT development

Phase 1: Access and interconnection
- ICT infrastructure development
- New government applications
- Online services

Phase 2: Online services
- Automatic internal workflow and ICT-based service flow transformation
- Automated systems
- Service process optimization and reconstruction

Phase 3: Process transformation
- Government cloud that changes on demand
- Government-as-a-Platform: open and sharing
- Large-scale collaboration and citizen participation
- So-lo-mo:
  - Social media network
  - Local (positioning) services
  - Mobile government

Phase 4: Next-generation government
- Cloud computing: the driving force
- Interconnected
- Online
- Integrated
- Cloud-based
e-Government architecture

- Data center: cloud-based, modular, integrated, and other types of data centers
- Collaboration platform: UC, VC, OA, email, and more
- Vertical management and services
  - Social services
  - Social security
  - Healthcare
  - Administrative services
  - Comprehensive management and services
  - Horizontal collaboration

- Digital customs
- Digital election
- Digital tax
- Digital agriculture
- Digital environment protection
- Digital judiciary
- Digital social security

Digital agriculture
Digital environment protection
Digital judiciary
Digital social security

Administrative services
Comprehensive management and services
Horizontal collaboration
Social services
Social security
Healthcare

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Opportunity: connection between services and ICT

Objectives:
- Improving people’s livelihood
- Maintaining economic and social stability
- Enhancing government administration capabilities

Management and service capability

Data and information flow applications

Comprehensive ICT solution

Support

Achieve

Geography
- Multi-level
- Multi-point
- Dispersive
- Overlapping

Transmission and network (wired and wireless)

Information
- Multi-point information collection
- Comprehensive processing
- Multiple applications
- Security access and applications

Multiple types of data centers
- Server, storage, security, and VDI
- Video surveillance
- Third-party products and solutions

Services
- Collaboration, consultation, and decision making
- Civil affairs
- Service processing

Unified communications and video conference
- Terminals
- Third-party products and solutions

VDI: Virtual Desktop Infrastructure
Position: Huawei in the industry

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<th>Position: Huawei in the industry</th>
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<td><strong>Service providers</strong></td>
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<td><strong>System integrators</strong></td>
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<td><strong>Application providers</strong></td>
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<td><strong>Middleware providers</strong></td>
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<td><strong>IT device providers</strong></td>
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<td><strong>CT device providers</strong></td>
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<td><strong>Planning and consultation</strong></td>
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<td><strong>Integration and management</strong></td>
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<td><strong>System integration</strong></td>
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<td><strong>Industry application</strong></td>
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<td><strong>Database, middleware, and BI platform</strong></td>
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<td><strong>Server, storage, and security</strong></td>
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<td><strong>Network and security</strong></td>
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</tbody>
</table>

**Major players**

- IBM
- Capgemini
- accenture
- CISCO
- HP
- Ericsson
- Digital China
- ARUP
- AtoS
- IBM
- HP
- SIEMENS
- Neosoft
- Ericsson
- Oracle
- IBM
- Microsoft
- VMware
- Oracle
- CITRIX
- HP
- IBM
- EMC
- Oracle
- ZTE
- Alcatel-Lucent
- Huawei
- CISCO
- HP
- Ericsson
- ZTE
- Juniper
- Alcatel-Lucent
- Huawei
Trend: innovative applications help government ICT development

Service challenges

- Difficult cross-department service collaboration
- Difficult data sharing
- Low information usage
- Inefficient public services and low public satisfaction
- Duplicate construction and high operation and maintenance costs

Architecture challenges

- Information silos and difficult collaboration
- Decentralized data storage
- Lack of data mining capabilities
- Low office mobility
- Inefficient maintenance for devices that are deployed in a dispersed manner
- Inefficient collection for comprehensive real-time information
## Needs: government requirements for e-Government platforms

### Unified e-Government

- **No blind zones for administration**
  - **Multi-level network infrastructure**: aligns with government structures, allows cross-level and cross-department access anytime, anywhere and offers better public services.
  - **Unified network management system**: for easy operation.

### Comprehensive security protection

- **Enhanced security for e-Government**
  - **Unified security design**: provides comprehensive security protection in addition to protections for known and unknown security risks.
  - **Network-wide security status analysis**: allows security information collection using multiple monitoring technologies and cross-level linkages.

### Convergent cloud system

- **More efficient data sharing and decision making**
  - **Efficient and reliable cloud data center**: dynamically distributes computing, storage, and network resources based on service requirements.
  - **Cloud data-center management platform**: features high security and easy operation, reduces maintenance costs, and improves system O&M efficiency.

### Collaborative office platform

- **More effective office collaboration**
  - **Secure and flexible desktop solution**: meets governments' high requirements for terminal security controls.
  - **Optimized remote conferencing services**: significantly improves government office efficiency and lowers travel costs.
Government cloud data center

- **Pain point:**
  Low service quality, decentralized resource distribution, inefficient resource sharing, outdated technologies, and high security risks
- **Solution:**
  Major solution: cloud platform + diverse data centers (security, storage, and server) + desktop cloud
  Supplement solution: network + office collaboration

Government network

- **Pain point:**
  Low network coverage and inefficient security protection, failing to meet service requirements
- **Solution:**
  Major solution: network + security
  Supplement solution: office collaboration, video conferencing, and data center

Office collaboration

- **Pain point:**
  Costly and inefficient meetings, poor experience with Standard Definition (SD) conferencing systems. Ineffective cross-department collaboration, and low mobility
- **Solution:**
  Major solution: HD telepresence
  Supplement solution: office collaboration + network reform, mobile office (bringing opportunities of wired and wireless network development and expansion), and BYOD + security

Intelligent campus

- **Pain point:**
  Campuses (managed and supported by the government) need intelligent, green, efficient, secure, and easy-to-maintain ICT systems.
- **Solution:**
  Major solution: network + security + data center + office collaboration + video surveillance (infrastructure ICT support)

Core service application

- **Pain point:**
  Low service quality and transparency, unfavorable customer satisfaction, inefficient service management, and limited information support for decision making
- **Solution:**
  Major solution: network + security + data center + office collaboration (infrastructure ICT support)

Opportunity: project classification and requirement-oriented development
E-Government solution overview

Huawei ICT infrastructure, reliable support for e-Government projects

Services for: government service agencies, enterprises, public organizations, and system operation and maintenance personnel

Collaborative government office platform
- Government UC
- Video conferencing
- Secure desktop cloud
- Government OA
- Government hotline
- Government portal
- Government applications

Security audit and authentication
- Network certificate and security
- Data security
- Information security

Government cloud data platform
- Cloud resource control
- Cloud security
- Application migration and integration
- Cloud infrastructure
- Cloud OS
- Cloud interface
- Platform software
- Data switching platform
- OS
- Database system
- BI platform

Unified government network
- Government campus network
- Access from remote sites
- Access from rural areas
- Internet egress
- Mobile office access
- Cloud data center network

Access terminal
- Intranet office terminal
- Mobile office terminal
- UC terminal
- Cloud desktop
- Tablet
- Laptop
- Mobile phone
- IP phone
- Multimedia terminal

Unified O&M
- Government OAM
- Government network OAM
- Cloud service OAM
- OAM support

Note: Desktops, laptops, platform software, and government applications are provided by business partners or procured from third-party vendors.
One-stop government network solution
Multipoint access scenarios and comprehensive, high-quality network devices

1. Secure and reliable access
   - AR G3
   - 3G/LTE access
   - Private line access
   - Backup link

2. Cross-level service collaboration and cross-department data sharing
   - Internet access
   - Internet egress

3. Unified government network management platform
   - MAN
   - WAN

Customer benefits
- **Comprehensive coverage**: complete network coverage with reduced investment costs
- **Cross-level collaboration**: Smooth file transfer
- **Secure data sharing**: secure and reliable access, information collaboration, and no data silos
- **High reliability**: 200-ms fault recovery and zero service interruption
- **Unified management**: unified management for IT and CT devices
- **Easy maintenance**: visual, batch, and one-click management, significantly improving system maintenance efficiency
Cloud-Pipeline-Device comprehensive security protection

Information security — key requirement for government

Customer benefits

- **Cloud security**: lowers information leakage incidents by 80%
- **Internet egress**: reduces cyber attack incidents by 70%
- **Remote access**: encryption using cryptographic algorithms
- **Terminal security**: improves management efficiency by 60%
- **Network linkage**: eliminates zero-day attacks

Cloud data-center security

2. Egress security protection

3. Remote access certificate

3G/LTE Private line for rural areas

Regional MAN

MAN for rural areas

Internet

Regional MAN

Municipal MAN

3. Remote access certificate

Municipal department

3G/LTE

Management center

Cloud data-center security

Wired + wireless

Network

Service application

Data center

Data center

Data center

Cloud

Mobile terminal

Fixed-line terminal

Terminals in municipal organizations

Terminals in lower-level organizations

Mobile office terminals

Terminals in lower-level organizations

Terminals in municipal organizations

Terminals in lower-level organizations

Terminals in municipal organizations

Terminals in lower-level organizations

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Cloud data-center solution
Integrated design, high efficiency, and information sharing

Infrastructure

1. Multi-scenario, modular equipment room cluster

2. Open cloud government platform, allowing quick service delivery

Platform

3. Government cloud management platform, allowing self-service and self-management

4. Virtual security solution, offering diversified security services

Application

Customer benefits

- Staged development and requirements-based system expansion, reducing initial investment
- Optimized deployment mode, improving deployment efficiency by 50%
- Eco-friendly design, lowering PUE to less than 1.3 and protecting environments
- Improved system maintenance efficiency (over 10 times higher than traditional data centers)
- CPU usage > 70%
- Quick service deployment

PUE: power usage effectiveness
Cloud secure desktop solution for e-Government:
Easy operation, convenient maintenance, eco-friendly, and highly secure

1. Enables unified management for government desktops.
   - Branch organization
   - Desktop cloud data center
   - Terminal log report
   - Security policy distribution

2. Ensures regulation compliance and prevents information leakages.
   - Internet
   - Public service
   - Government/Private desktop

3. Allows flexible desktop switchover, meeting office requirements for multiple security domains.
   - DCN
   - ICA over SSL

Customer benefits

- Lowers property investment costs by 40% and reduces power consumption by 70%
- Unified OAM allows one technician to maintain 2,000 Virtual Machines (VMs), lowers maintenance costs by 80%
- Centralized data storage
- Unified terminal security management
- Unified deployment and quick delivery of application programs and service systems
- Physical network-device isolation, ensuring absolute security for government intranets

ICA: Independent Computing Architecture (an IO presentation protocol governing formatting between clients)
Government office collaboration solution
Scenario-based solutions focusing on work efficiency and user experience

1. Unified communications
   - Authenticated signaling media streams, ensuring information security
   - Dual-center backup, allowing five-nines (99.999%) reliability
   - Compliance with existing TDM devices, supporting smooth evolution and maximizing return on customer investments
   - Convergence of desktop, mobile, and telepresence conferences, offering a consistent user experience
   - 1080p @ 50/60 fps telepresence conferencing, enabling life-size face-to-face communications
   - Multi-level cascading, enhancing networking capabilities and adapting to the multi-level network architecture of government
   - Network video optimization technologies
   - Secure and reliable mobile office solution, offering a consistent service experience

2. Convergent conferencing

3. Mobile office
   - 3G/LTE
   - Internet/3G

Customer benefits

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Huawei government solution products: our "power" products

Office collaboration
- eSpace Mobile
- eSpace Desktop
- eSpace Web
- eSpace IP phone
- eSpace conference terminal
- eSpace thin client
- Video surveillance camera
- Telepresence
- Video conferencing terminal

Government cloud
- High-density server
- Blade server
- Cloud storage system
- Cloud storage service engineer
- Cloud OS (Galaxy)
- Cloud service suite
- Virtual infrastructure
- Dispatch cloud
- Office cloud

Security
- Data center firewall
- Intelligent gateway
- SSL virtual private network
- IDS/IPS
- Terminal security
- Security management services

Network
- Optical network and wireless
- AC6605
- AC card in S9300
- OSN 8800
- RTN980
- S9300/S9700
- NE20E and NE40E-X1/X3/X8/X16
- Eudemon 8000E
- Cloud Dispatch cloud
- Office cloud

Success cases and scale #1

URL library #1

Performance #1

Energy-saving design #1

Compliance #1

Sales #1

Competitive

High-end router #2

Energy-saving design #1

Performance #1

High-end router #2

World's first panoramic telepresence

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General strategies for government solutions

Emerging economy

• Focus on named accounts.
• Use flexible strategies.

Developed countries

All-in-One products integration strategies
Step-by-step marketing campaign

• Focus on civil affairs and government services.
• Use the local partner + high-touch strategy.
• Gain presence in projects using modules.

Developing and undeveloped countries

Top-level design
Large-granularity operations

• Participate in top-level design, such as the design for national ICT systems, national broadband projects, national data centers, national e-Government projects, and vertical department service systems.
• Integrate comprehensive products and cooperate with global SIs.
• Pay attention to the cost-effectiveness of project design.

Vertical departments
Regional governments

• Pay attention to service-system upgrade requirements
• Focus on smart government projects (such as Smart City and Smart Region) and gain presence in these projects using modules.
• Obtain information about government design.
• Use the high-touch + local partner strategy.
Success case #1: ZUS National Network (1)

Background & Key Challenges

ZUS has set up a social insurance system to service 24 million Polish citizens, which is a good example for e-Government system development. To providing multi-media services, the original network faced the following challenges:

- The original network suffered low performance from legacy WAN routers and LAN switches. The network had no enough bandwidth to develop a video conferencing system, multi-media application platform, or intranet learning platform.
- The original network couldn’t carry voice services, since the legacy equipment can not support Power over Ethernet (PoE) and Voice over IP (VoIP) features.
- The original network did not support WAN data encryption.
- Traditional 10G bit/s multi-mode optical modules had only short transmission distance support. To meet ZUS new transmission distance requirement, OM3 optical modules must be introduced which results in high investment.
Solution

- Develops customized feature LRM based on S series switches, enabling the original OM1 multi-mode optical cables to transmit 10 G data for more than 220 meters.
- Deploys the S series LAN switches in aggregation and core layers. Each LAN switch supports 480*10 G interfaces for end-to-end, high-bandwidth, congestion-free Ethernet transmission.
- Deploys AR series access routers in branches to significantly improve network access ability, and uses BGP/MPLS VPN technology to enhance security.

Customer Benefits

- Provides a customized and open LRM solution to enable smooth upgrade from a 1 G network to 10 G.
- Integrates the new network with the legacy network and enables easy network expansion, maximizing ZUS's ROI.
- Simplifies network management and reduces O&M workload.

Success case #1: ZUS National Network (2)
Success case #2: Fujian Haixi government cloud project (background)

1. Customer challenges
The "Digital Fujian" strategy aims to develop a unified e-Government framework to provide efficient, comprehensive, and convenient information services in an effort to enable ICT-based social and economic development.

<table>
<thead>
<tr>
<th>Silo development</th>
<th>Difficult management</th>
<th>Security risks</th>
<th>Resource waste</th>
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</thead>
<tbody>
<tr>
<td>Since the beginning of 2001, the provincial government of Fujian has developed more than 180 independent application systems.</td>
<td>The e-Government management system involves 10+ types of servers, three types of virtual platforms, three types of large-sized database management systems, and six types of cloud-computing platforms.</td>
<td>Provincial data centers are developed independently, bringing considerable security risks. The e-Government extranet has 80 provincial-level and municipal-level access points and 1,137 town-level access points. Security vulnerabilities exist at all these access points.</td>
<td>The provincial government has more than 400 servers. The CPU and memory usage stays below 20%. The provincial departments have more than 10 data centers, occupying a total of 1,500 square meters.</td>
</tr>
</tbody>
</table>

2. Project requirements and scope
Deliverables: equipment room facilities, e-Government extranet cloud platform, service migration and integration services, and e-Government system
Deployment scale and design: 50 departments that are under the direction administration of provincial departments, 7,321 service events, 1,804 services, 616 applications, 1,217 databases, and about 2,000 servers

3. Competition and cooperation analysis
China Mobile, Fujian branch (general contractor), Funo (development), and Huawei (ICT devices)
Major competitors: IBM (server), HDS (storage), SOUL (VTL), Ruijie (network), and other vendors

4. Project result
In December 2011, the project was put into operation on a trial basis.

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Success case #2: Fujian Haixi government project (Huawei solution)

Project scale and scope

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<th>Application</th>
<th>Component</th>
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<td>Infrastructure</td>
<td>Power supply and cooling</td>
<td>UPS and air conditioner</td>
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<td>Cloud management</td>
<td>Heterogeneous cloud platform management</td>
<td>Galax and Raritan KVM</td>
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<tr>
<td>Virtual platform</td>
<td>Heterogeneous virtual components</td>
<td>Vmware, UVP, and BC-EC</td>
</tr>
<tr>
<td>Computing platform</td>
<td>4-channel high-performance servers and blade servers</td>
<td>X3850x5 and E6K</td>
</tr>
<tr>
<td>Storage platform</td>
<td>SAN, NAS, and VTL</td>
<td>HDS VSP, N8300, SureSave VTL5100, Brocade 5300, and VIS6300</td>
</tr>
<tr>
<td>Network platform</td>
<td>MPLS VPN</td>
<td>S9300, S5300, E1000, and more</td>
</tr>
<tr>
<td>Security platform</td>
<td>Security access, audit, authentication, network isolation, and anti-virus</td>
<td>SVN, PKI, O&amp;M audit system, network gate, database audit, IPS web firewall, and SOC</td>
</tr>
<tr>
<td>High-availability</td>
<td>Clustering and load balancing</td>
<td>F5 LTM, LC, VCS, MSCS, RHCS, and RAC</td>
</tr>
<tr>
<td>Service platform</td>
<td>Database and middleware</td>
<td>Oracle, SQL, MySQL, Tomcat, Jboss, and Weblogic</td>
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<tr>
<td>Disaster recovery platform</td>
<td>Service-based backup</td>
<td>NBU</td>
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Devices in phase-1 of the project (provided by Huawei)

Server: X3850 X5 (34 sets), E6K (4 frames and 32 blades), and RH2285 (7 sets)

VTL: 1 set, dual control, 56 TB
NAS: 1 set (N8300), dual control, 20 TB