Routing Leads to A Better Connected World
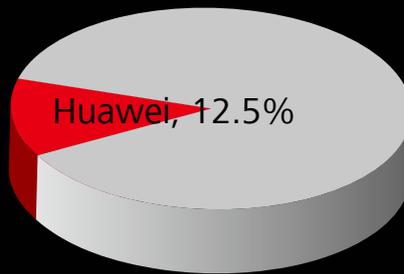
Huawei AR Series Routers Success Stories

HUAWEI

Enterprise Router Market

2013 Enterprise Router

No.2

Huawei, 12.5%

Year-on-year growth of

35.3%

Source: Gartner 2014Q1

	Vendor Revenue, 2013 ($M)	Vendor Revenue, 2012 ($M)	Revenue Share, 2013	Revenue Share, 2012	Revenue Change, 2012-2013
Cisco	2,007.7	1,951.1	66.6%	70.1%	2.9%
Huawei	378.2	279.6	12.5%	10.0%	35.3%
Juniper Networks	204.0	150.7	6.8%	5.4%	35.3%
HP	196.1	190.1	6.5%	6.8%	3.1%
Brocade	87.2	81.0	2.9%	2.9%	7.7%
Others	143.2	129.7	4.7%	4.7%	10.4%
Total	3,016.4	2,782.2	100.0%	100.0%	8.4%

Source: Gartner (March 2014)

International Certification of AR Series

Miercom and Tolly are leading global third-party validation providers, which provide independent test of IT products.
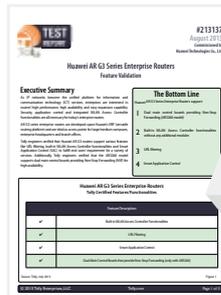
2011 Best Enterprise Router in China

Huawei AR G3 - 2011 Best Enterprise Router in China

http://tech.ccidnet.com/zt/huawei2011/

AR Series Routers

Access and Interconnection

AR Series Routers

Performance and Reliability

Huawei AR G3 - 2012 Best Access Router in China

http://www.zdnet.com.cn/zdnet/2012/1228/2138239.shtml

AR Series Routers

Voice Features and Performance

Huawei AR G3 Series Enterprise Routers

Feature Validation

AR1220-S 2013 Best SMB Trust IT Product in China

http://www.cbismb.com/net/news/2014-01-14/20206429.html
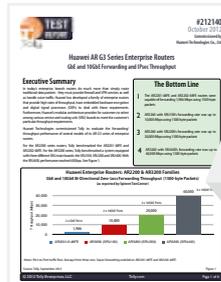
Huawei AR G3 Series Enterprise Routers

GbE and 10GbE Forwarding and IPsec Throughput

Huawei AR511 Meets New Requirements and Accelerates Enterprise Mobile Interconnection Layout

Foreword: Once upon a time, we began to talk advantages and disadvantages of an APP at the dinner table and upload food, travel, and other daily records into moments. In companies, PCs and mobile phones can transmit documents to each other and upload them to the cloud. In shopping malls and pedestrian streets, position-based locating service or map helps us find delicious food, discounts, and group-buying movie tickets. During shopping, we scan 2-dimensional bar codes to compare prices and obtain discounts.

The start of the 4G era and continuous increase of mobile terminals bring unprecedented opportunities for mobile Internet development. In the incoming future, there are great changes in service contents and applications over the mobile Internet. Social mobile, mobile e-reading, mobile positioning service, mobile payment, and mobile e-commerce become important channels for obtaining information, entertainments, and purchasing. Currently, there are 0.5 billion China Mobile Internet users. In 2014, there will be over 0.8 billion China Mobile Internet users. In January 2014, APP access exceeds PC access in America for the first time.

Blooming development of mobile Internet promotes fast increase of mobile applications. Limited by different sizes of mobile terminal screens and processing capabilities, users are sensitive to the service experience and quality. Mobile Internet still faces many challenges. For example, the mobile stability is low, the delay is long, it is difficult to monitor the mobile network quality, APP operation is affected, and traffic charges are high. Enterprise users want to improve user experience and satisfaction but are lack of network construction and O&M capabilities. They have to accept leased services at high costs and tolerate limited network bandwidth and low experience.

Overcoming challenges faced by enterprise users will further improve enterprise service application delivery. For enterprises that want to rapidly connect to the mobile Internet, improve mobile service capabilities, and obtain more service opportunities, services need to be moved from the cloud to local devices to save much bandwidth and improve user experience, simplify O&M caused by complex IT facilities, and solve the problem of high costs.

To focus on enterprise and user requirements, Huawei launches the first ICT integrated gateway, AR511, helping enterprise users to build operatable networks, implement precision marketing, and mine market opportunities. The AR511 uses

the industrial design and integrates LTE, media playing, Wi-Fi, storage, and security functions. It is the All-In-One product on the mobile Internet. The AR511 has the following advantages:

1. Strong wireless capability：

    - Integrates LTE, GPS, and Wi-Fi functions.
    - Provides the LTE rate of up to 100 Mbit/s, is compatible to the 3G network, improving Wi-Fi experience.
    - Provides geographical locations of users in real time through GPS so that operators can perform precision and differentiated marketing based on the geographical locations to gain more profits.
    - Supports 2.4 GHz and 5 GHz access and doubles user access.

2. Multimedia service innovation: Traditional Wi-Fi and routers cannot connect to multimedia video terminals. Huawei AR511 supports audio and video interfaces and can connect to audio and video devices such as the video player, voice box, and station reporter. Huawei AR511 integrates various types of application software and high-density storage medium. It can pre-store hot videos, games, and advertisements. Through Huawei AR511, operators can improve the profitability and users can enjoy rich services in the mobile Internet era. Originally, users who connect to the Internet through 3G do not often download videos and games.

3. Security guarantee: Malicious users often attack Wi-Fi networks and use Trojan horses to obtain user bank accounts. Huawei AR511 integrates the firewall function to defend against network attacks and improve Internet access security.

4. Open service platform: Traditional Wi-Fi and routers are close and cannot achieve secondary development, which bothers public Wi-Fi operators. Huawei AR511 integrates the open Android platform that allows operators to integrate many APPs according to service development and provide competitive services.

5. Industrial design: In the mobile Internet era, devices are often placed in buses, subways, and outdoor scenarios and can be easily damaged. Huawei AR511 uses the anti-seismic design in compliance with IP54. It is waterproof, dustproof, and resistant to high/low temperature, and can work in harsh environments.

Conclusion

With implementation of broadband China strategy and explosive development of mobile Internet, traditional enterprises accelerates mobile interconnection layout. Huawei immediately learns about enterprise requirements and challenges. With the vision of Wireless Connect Anywhere, Huawei helps enterprise users to build secure, open, and operatable networks. Huawei AR511 helps enterprises step into the mobile Internet. With the preceding advantages, Huawei AR511 is widely deployed in buses, traveling vehicles, subways, restaurants, hotels, and outdoor advertisement scenarios. Huawei AR511 helps industries such as virtual carriers, media advertisement companies, chain restaurants, chain supermarkets, cinemas, and chain hotels to explore markets and improve user experience. It also helps enterprises and carriers to implement differentiated marketing, gain more profits, and change the operation mode.

IoT Era Is Coming

Vision: Internet Era, Enriching People's Dreams of Communication

Nowadays, a growing number of urban residents are suffering a lot from work and life pressure. We can often see the following scenes in real life. As urban populations increase and economic growth continues, more vehicles will be seen on the road. During morning rush hours, if a traffic jam occurs, commuters on the way to work have no other choice but to sit and wait in their vehicles. As a result, they often arrive late for work. Some residents are much worried about their parents' health during work hours. To make matters worse, some residents who suffer from obsessive-compulsive disorder (OCD) second-guess themselves and believe they forgot to turn off the gas or close their house windows and doors. All the problems revealed in these everyday scenarios are rather troublesome for these people to handle. If all the objects involved in these scenes could be associated to implement real-time information

exchange, delivery, and sharing, work and life of these people would be much easier and more enjoyable.

The Internet of Things (IoT) stands at this time as the most effective approach towards addressing these problems and further alleviating employees' pressure.

IoT is also known as a sensor network, meaning that the Internet can connect a wide variety of things together. The world's first IT pilot program was code named as "hello world", which revealed today's time in which people are more eager to communicate with things in the world. Today, we can say "Hello" to almost anybody in the world. Unfortunately, people are no longer satisfied with just communication between human beings. They are hungry for faster, interactive, and engaging interconnection between objects.

In the IoT era, advanced technology embedded in vehicle-mounted devices will remind drivers to drive slowly to minimize accidents or change lanes right before a traffic jam

is about to occur. If a senior citizen accidentally falls down or suddenly becomes ill, emergency responders can use a citywide intelligent emergency information system to quickly notify his or her children as well as local residential community administrators. When sensors installed in an intelligent residential building have detected that a resident has left his or her house, the sensors notify controllers to automatically turn off electric, water, and gas apparatuses, detects if doors and windows have been properly shut, surveil the house, and sends instant emergency notification messages directly to the resident's mobile phone. Such scenes are often seen in sci-fi movies. Nowadays, these are gradually becoming a reality.

In the near future, practically everything in the world, including watches, keys, automobiles, and buildings, will be able to literally "talk" so long as a mini sensing chip is embedded in them. Through advanced wireless network technologies, human beings can now hold real "conversations" with objects, and these objects can "communicate" with one another. This is our overall grand vision for IoT.

Challenge: "Cyber Friends", Having Difficulty with Communication Due to "Cultural Differences"

When it comes to IoT, people immediately think of prevailing IoT technologies such as radio frequency identification (RFID), Near Field Communication (NFC), and ZigBee. The IoT consists of a sensing layer, a transmission layer, and an application layer. The industry, for quite a long time, has highlighted on the importance of the sensing layer, which has been paid more attention to by focusing on the development and advancement of sensing layer technologies. For this reason the IoT is also known as a machine-to-machine (M2M) network. The purpose

of developing sensing technologies is to design and implement quick object sensing and network access. However, the sensing layer technologies cannot be deployed on a large-scale network because an M2M network is merely a local area network (LAN).

The IoT, in its real sense, is not entirely confined to an M2M network connecting things. What people really desire is a long-distance, cross-regional IoT, for example, an IoT network connecting an object located in Beijing and to another object in Shenzhen, and even an object in China and another in the US. To reach this goal, objects must be connected to a wide area network (WAN). The IoT is also not limited to just M2M but serves as a WAN interconnection Matrix, that is to say, an M2M to Matrix (M3 for short).

In this M3 era, transmission layer network pipes will play a pivotal role in advancing the IoT network. Via the IoT, your motor vehicle and mine are "cyber friends". Your household appliances (for example, refrigerators, TVs, and air conditioners) as well as mine will become "cyber friends".

The IoT is gaining widespread acceptance across a broad range of industries, as each industry poses different requirements from their target customers. In addition, there are lots of industry standards behind IoT sensor networks including short-distance wireless networks, such as ZigBee, Bluetooth, Wi-Fi, and wireless Highway Addressable Remote Transducer Protocol (HART) networks, and wired bus networks. As for wired bus networks, they encompass more than ten types, such as Modbus, Foundation Fieldbus, control area network (CAN), and ProfiNet. Compared with these complex networks, the Internet, particularly the traditional TCP/IP network, is rather simple. How to implement effective communication between a sensor network supporting terminals that are multi-standard compliant and traditional TCP/IP and mobile communications networks is the first question that must be solved to facilitate the Internet development during the M3 era.
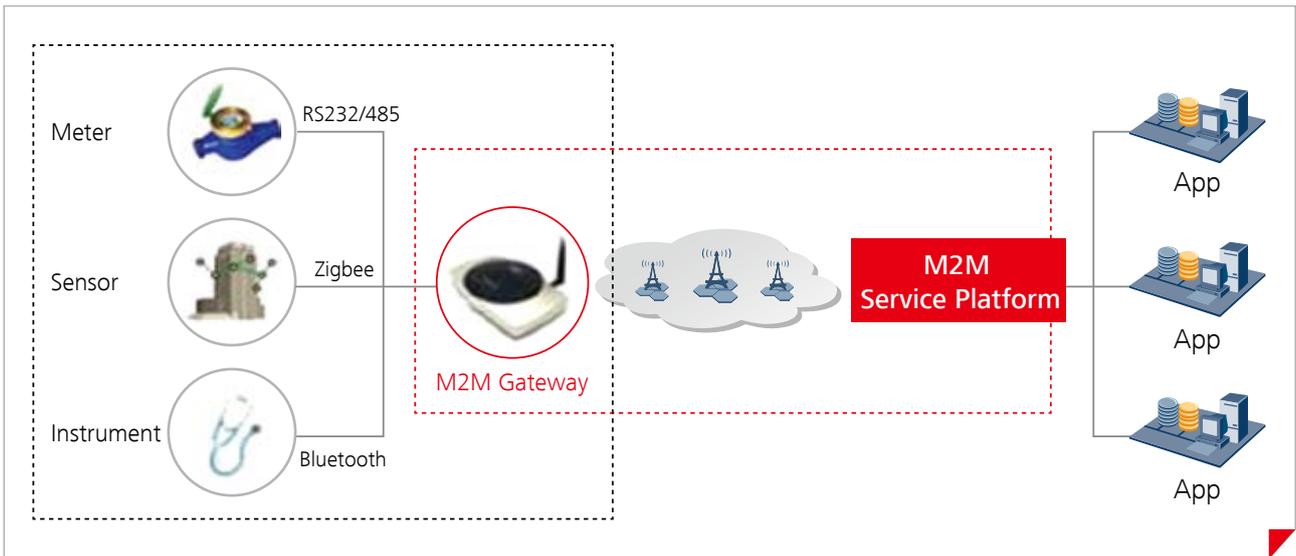
Figure 1 Internet-based communication network

To implement the IoT, the first thing is to seamlessly integrate a sensor network into the Internet. Furthermore, an intricate combination of meters, sensors, and controllers must be connected to the mobile network and the Internet. A fully converged IoT gateway can satisfy these requirements, by adopting the following feature-rich functionalities:

1. Supports multiple network standards and various industrial interfaces such as RS485, Programmable Logic Controller (PLC), and ZigBee interfaces.

2. Communicates directly with terminals on the sensor network, converges heterogeneous sensor networks that leverage different technologies, and transmits the sensor network data through the communication network.

3. Offers basic functions of common Internet-based routers when deployed at the upstream communication layer and connects to 3G mobile networks in various wired/wireless modes to flexibly adapt to the Internet.

4. Connects to a remote operations platform and provides manageable and guaranteed services for users to simplify management of production and lives.
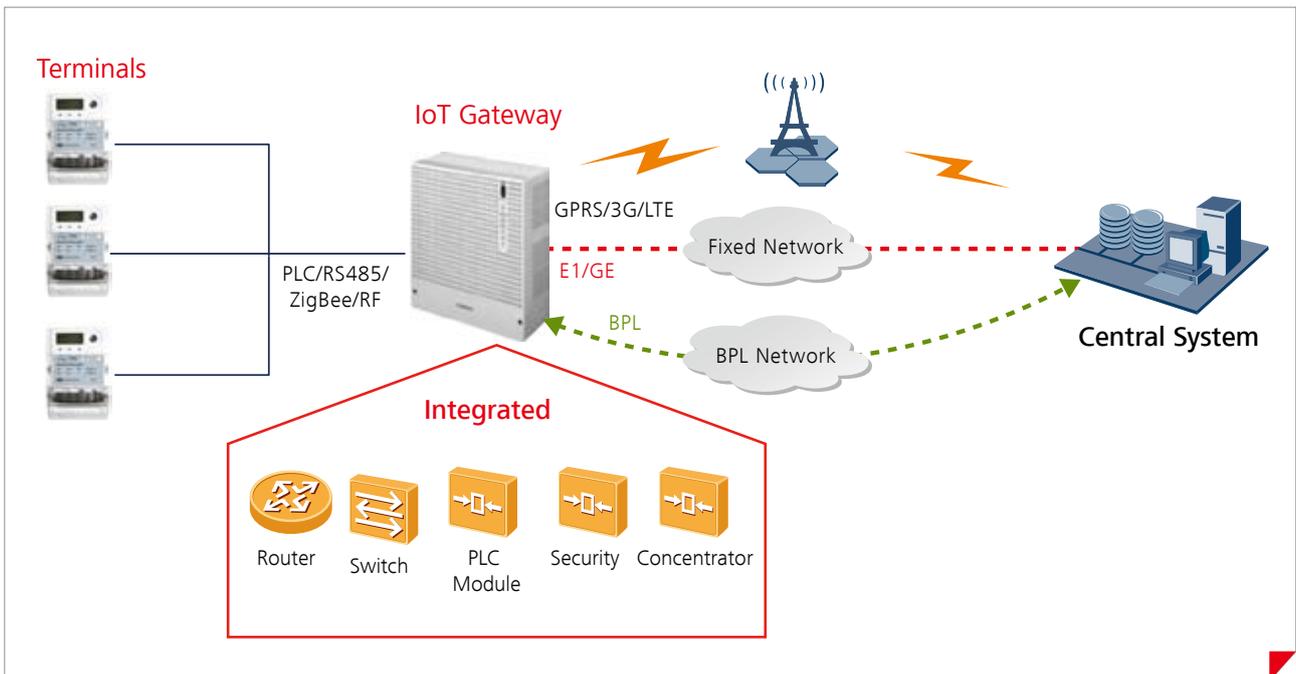

Figure 2 Converged communication gateway

There are many types of data packets on the IoT, including control packets that are highly sensitive to delay, collected information report packets, and large amounts of surveillance video data packets that have low requirement on real time forwarding. Different types of packets have different requirements on real-time and priority forwarding. If the packets are not differentiated, network bandwidth is more than likely to be consumed by much larger amounts of bandwidth-hungry surveillance video data packets. Therefore, the Internet communication gateway should have rich quality of service (QoS) functions that enable each area or each application to correspond to a separate queue to ensure real-time application scheduling. QoS provides protective measures such as dedicated bandwidth and preferential forwarding of high-priority services to ensure high-quality control services.
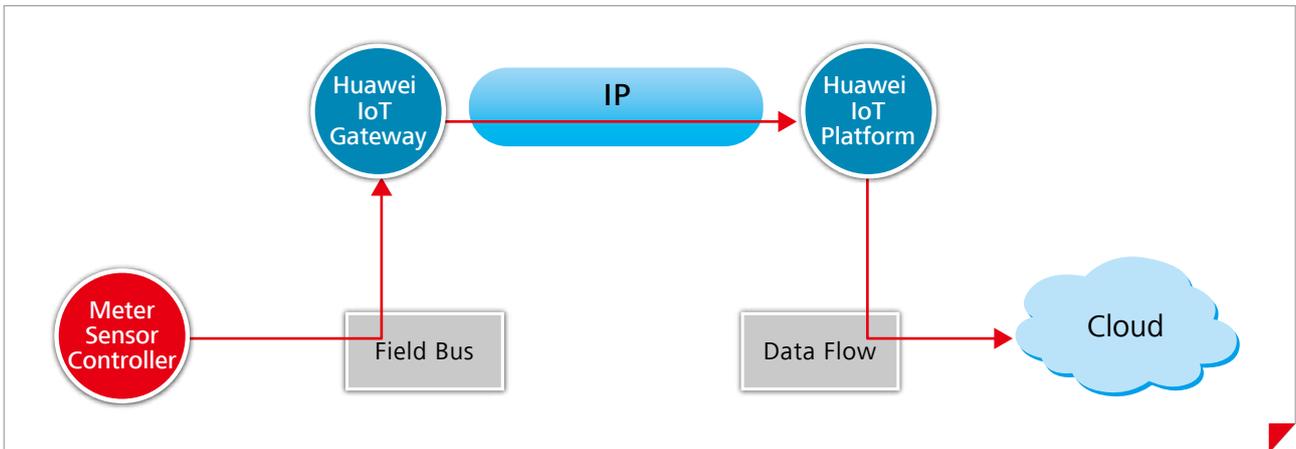

Figure 3 Huawei MSCoIP IoT channel

At present, many scientific research institutions and device vendors have carried out R&D projects on IoT gateways. For instance, Cisco has partnered with NXP, a leading semiconductor company founded by Philips more than 50 years ago, in putting a strategic investment in Cohda Wireless, an automobile wireless communications device vendor. The jointly developed a hardware device that allows a wireless communications system to be set up between vehicles as well as between vehicles and facilities including traffic lights. This provides motorists with a safer driving environment and a vehicle that is smarter and more connected.

Huawei, a leading global information and communications technology (ICT) solutions provider, is now launching a suite of Advanced Metering Infrastructure (AMI) products and solutions thanks to its advanced network and terminal technologies. Huawei AMI solutions leverage modern control, communication, computer network, and software development technologies to provide a high-speed, reliable, secure, and intelligent management system for residential communities, office buildings, and electrical substations. To enrich people's lives through communication, Huawei has deployed IoT devices on objects that are essential for people's daily life, including meters, sensors, and controllers (MSCs). Huawei IoT solution is a plug-and-play solution that provides an IP pipe to simplify IoT WAN interconnection, improve interconnection reliability, and lower interconnection costs. Huawei's full-series products meet the demands of enterprises for building an M3 network.

Outlook: IoT Era, Time to Make Your Dreams Come True

In Wuhan, Hubei Province, Central China, a local supermarket has begun processing food selection services via the IoT. Customers can select food online, an order is placed online, and then the selected food is distributed over the IoT. In this manner, customers and objects are associated through the network.

In 2012, the Ministry of Industry and Information Technology (MIIT) of China earmarked a special fund worth CNY350 million for the construction of a nationwide IoT project. In 2013, MIIT is expected to inject additional funding into the IoT construction project across the country.

Moving forward, the IoT can be put into wide use though IPv6 technology. IPv6 technology is already globally recognized as the best alternative in solving the problem of IP address exhaustion. As a popular saying goes, "IPv6 can assign an IP address to each grain of sand in the earth." IPv6 technology solves the basic problem of addressing, that is, identity authentication, during the IoT industry development.

According to a report by Accenture, one of the world's largest consulting firms, the IoT will usher in a high-speed development phase based on continuous growth in market demands. As a brand new technical field, the IoT is set again to revolutionize the IT industry similar to the way the computer, the Internet, and mobile communications network eras once did, bringing in with it a huge, promising market for ICT products and solutions providers.

All the above facts and analytics indicate that, thanks to major technical contributions and significant technological advancements made in the past few years, the IoT will enter a high-speed development phase and make your dreams of better communication come true.

High-Speed Access High-Efficiency Operation

Huawei Helps ZON Optimus Deploy LTE Service

Customer Background

ZON Optimus, the second Telecom operator in Portugal, has cooperated with Huawei since 2012 to construct a large-scale LTE network, providing high-quality wireless broadband service around the country. LTE is a significant strategy of ZON Optimus, and will carry all the important services of ZON Optimus in future.

Customer Challenges

For the enterprise business department of ZON Optimus, how to form differentiated competitiveness by taking advantage of the LTE network and increase revenues is the focus of service development.

After a deep investigation on market and services, ZON Optimus discovered that the enterprise LTE access service has great challenges:

1. In addition to allowing LTE high-speed access, the network must be compatible with the 3G and 2G networks, ensuring that enterprise users access the network anytime and anywhere.

2. The network must be seamlessly connected to the LTE network, without the need of modifying network-side configurations.

3. The network must guarantee QoS and ensure the quality of high-priority services such as voice service.

Traditional datacommunication vendors are newcomers of the LTE field and cannot meet the preceding requirements. The products of some vendors can only be used as home gateways. They cannot meet the strict requirements of enterprise market in terms of network compatibility and QoS. Therefore, ZON Optimus sought for a multinational large-sized vendor that has accumulative experience in wireless, IP, and access fields because only such a vendor can provide the solution meeting enterprise requirements.

Huawei Solutions

Huawei's next-generation router AR G3 can meet the requirements of ZON Optimus. AR G3 is the next-generation enterprise-class router based on the Huawei proprietary Versatile Routing Platform (VRP). Huawei developed AR G3 with the technologies accumulated in the Datacommunication, wireless, access network, and core network fields. AR G3 integrates routing, switching, WLAN, LTE/3G, voice, and security functions. It uses the multi-core CPU and non-blocking switching structure and provides industry-leading system performance and extensibility, meeting service development requirements of enterprises in future.

After communicating with Huawei, ZON Optimus quickly started the admission process of AR G3 LTE routers. After passing a series of tests on performance and function, delivery capability, and service support capability, AR G3 entered the CPE list of ZON Optimus. Then ZON Optimus quickly provisioned the LTE access service tailored for enterprise market, seizing the golden opportunity in enterprise market. Mr. Henrique Barros Silva, the director of ZON Optimus solution department spoke highly of AR G3 LTE routers. He said that Huawei has been the most important partner of ZON Optimus, and Huawei would definitely support the success of ZON Optimus due to the multi-purpose network development and exclusive advantages of ZON Optimus.

ZON Optimus was attracted by AR G3 due to the following three points:

1. Huawei has accumulated technologies in wireless field. AR G3 supports the flexible switching between LTE, 3G, and 2G networks.

2. Based on deep understanding on customer requirements in enterprise market, Huawei innovatively added the multi-point activation feature to AR G3. Different access points can transmit different services so that service channels are separated from each other, ensuring high service quality.

3. The quality of high-priority services is ensured by using the measures such as pre-allocation of LTE resources, service mappings, real-time bandwidth detection, and traffic shaping.

Enterprise LTE in Customer's Eyes

According to ZON Optimus, LTE is a combination of wireless and broadband, and is applicable to the following scenarios:

1. Access of remote small- and middle-sized enterprises and branches: Wired network cannot cover the remote areas or it is expensive to cover these areas. The remote small- and middle-sized enterprises and branches can access the network at a high speed through LTE. AR G3 has plenty of VPN features, which are suitable for virtual dedicated networks. When the enterprises access the network at a high speed, information security is ensured.

2. Workplaces where wired networks are difficult to deploy, such as ATM machine of bank and exhibition: In these places, services can be transmitted through LTE, lowering maintenance workload.

3. Mobile vehicles, such as ambulance, bus, and metro train: On buses or metro trains, passengers access network through LTE and Wi-Fi. In addition, AR G3 has a built-in open service platform through which the ad and ecommerce services can be provided to make profits.

4. Wireless video surveillance, such as patrol wagon surveillance and surveillance on highway, petroleum pipelines, and oil wells: AR G3 exclusively provides the multi-APN and LTE E2E QoS features to provide end-to-end quality guarantee for video services.

5. Enterprises and branches that require highly reliable network connections: If the network connections for these enterprises are interrupted, the business of the enterprises cannot run. For these enterprises, the LTE links can be deployed as backup links

to provide reliable network connections. In addition, AR G3 provides the unprecedented intelligent routing technology, which switches service transmission links according to link quality. This feature significantly improves service experience.

ZON Optimus expressed its opinion that operators can resell enterprise routers in the preceding scenarios based on the operator's own LTE networks, and enter the enterprise router resell market by using the wired network-class bandwidth and service quality of LTE.

Voice of Customer

With the large-scale deployment of AR G3 LTE routers by ZON Optimus, Huawei and ZON Optimus started formal cooperation in enterprise LTE access solution. ZON Optimus expected further cooperation with Huawei. ZON Optimus expressed its opinion that Huawei has helped ZON Optimus redefine the new operator role in enterprise market, and Huawei AR G3 LTE access solution can help enterprises construct ubiquitous access networks, ensuring high-quality access anytime and anywhere.

Huawei Converged ICT Enterprise Gateway Helps Jiangsu Mobile in Service Innovation

Customer Background

Jiangsu Mobile is a large branch of China Mobile. With "Mobile Changes Life" as the strategic vision and innovative enterprise construction as the main line, Jiangsu Mobile closely grasps customer requirements and changes the development mechanism to improve customer benefits, serve national economy and information society, and promote sustainable development.

Customer Challenges

To better help large-, medium-, and small-scale enterprises improve production efficiency based on information technologies, Jiangsu Mobile provides various group services, such as mobile OA and mobile switchboard.

When expanding group services, Jiangsu Mobile finds that multiple services need to be independently deployed, which require separate service access entries.

1. Multiple service access entries

    When an enterprise has voice, SMS, MMS, and data requirements, access devices including the PBX, mobile agent server (MAS), and router must be deployed, forming multiple service access entries and increasing service deployment costs.

2. Difficult service deployment

    Existing service access entries are closely related to corresponding services and can be hardly multiplexed for deploying new services. New service deployment requires

the site survey and cable layout, which is time-consuming and expensive.

3. Big service challenge

    Multiple service access entries are used and maintained at the enterprise side. Upon service faults, the fault location and rectification are difficult.

Huawei Solutions

As a leading global ICT solutions provider, Huawei closely cooperates with Jiangsu Mobile in service innovation, allowing Jiangsu Mobile to provide better and easier-to-deploy services for enterprises.

One-stop Deployment Facilitates Service Deployment

The AR G3 provides strong multi-service capabilities and integrates routing, switching, and security function and provides various service interfaces, which meet group service access requirements of enterprises through one access cable and one access device.

Device Convergence

| Switch | Router and Firewall |
| Access | Voice and Data | ICT Application |

Convergence

Integrated Carrier-level Device
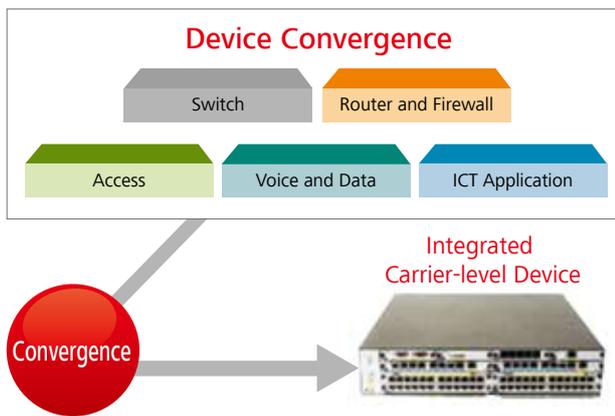
Based on the AR G3 one-stop deployment solution, Jiangsu Mobile solves the problem caused by multiple service access entries and reduces the costs in access through multiple uplinks and deploying multiple devices simultaneously. After service cards are extended and application software is installed on the AR G3, enterprises can rapidly deploy new services, reducing service deployment costs and time. To simplify device maintenance, Jiangsu Mobile leverages the powerful network management capability of the AR G3 to cooperate with the carrier-level network management platform to locate service faults rapidly.

Open Platform Is Beneficial to Service Innovation

The AR G3 supports the open service platform providing secondary development interfaces. Customers can install the Windows, VMware, and Linux operating systems on the AR G3 that integrates high-performance processors and provides large-capacity storage. The customers can install various enterprise e-office applications on the open service platform, such as the corporate directory, recording play, on-hook SMS, click to dial (CTD), intelligent meter reading (IMR), and Mini Call Center. Jiangsu Mobile provides customized software, which improves competitiveness of the group service and helps customers improve office efficiency.

Voice of Customer

According to the director of the Data Department in Jiangsu Mobile, Huawei converged ICT gateway AR G3 helps Jiangsu Mobile conduct service innovation, greatly reduce construction costs, and improve competitiveness of the group service. More importantly, the AR G3 improves office efficiency and creates values for enterprise customers.

Huawei Financial Outlet Solution Helps China Construction Bank Achieve High Security

Customer Background

As the largest provincial branch of China Construction Bank (CCB), Guangdong Branch has been dedicated to economic development in Guangdong province and keeps expanding with reformation and innovation. CCB Guangdong Branch has 1072 outlets around the province and multiple unattended outlets such as ATMs and self-service banking. As network technologies develop rapidly, CCB is improving its network system.

Customer Challenges

CCB provides all-round financial services for customers including credit capital loan, exchange business, and personal housing mortgage loan. Due to service importance, CCB has strict and rigid requirements for security and reliability of the service system network.

As financial services are rapidly expanding, network performance on traditional branch outlets cannot meet service requirements and devices cannot provide sufficient throughput of bank services, becoming a system bottleneck. Value-added services are becoming more and more diversified. CCB and its outlets demand a high-performance, high-reliability, and office integration network solution. CCB requires that the solution should support fast service deployment and expansion, ensure network reachability of multiple dispersed outlets, and lower O&M costs. The network solution must meet the following requirements:

1. High performance: The solution must meet increasing service development requirements and network devices must be able to ensure sustainable service development in the coming three to five years.

2. High reliability: Branch outlets originally use leased lines at a high cost. Branch outlets require a cost-effective network backup solution.

3. Integration: A lot of office and production devices are deployed on outlets, for example, office PCs, ATMs, and monitoring cameras. These services require unified access and management to reduce network failure points and save device investment.

Huawei Solutions

Multi-service Bearer Solution, Saving Customer's Money and Freeing the Customer from Worry

Huawei Multi-service Bearer Solution uses the AR2202-48FE routers for unified access, which simplifies networking and greatly saves costs in purchasing and maintaining devices. The AR adopts multi-core CPUs and independent distributed switching architecture. Each AR provides 48 fixed Ethernet interfaces, meeting access requirements of office and production devices on outlets. Fixed SA interfaces and Ethernet upstream devices on the AR are compatible with low-speed leased lines and multi-service transmission platform (MSTP) lines, making the access mode flexible. Meanwhile, the AR provides professional QoS scheduling policies that ensure preferential processing for key services. Huawei Multi-service Bearer Solution promotes IT construction of the bank network.

Wireless VPDN Solution, Leaving Outlets No Risks

Huawei Wireless VPDN Solution uses AR1200 series routers to provide a reliable wireless backup solution for outlets. Based on existing lease lines of outlets, Huawei Wireless VPDN Solution adds a 3G link to ensure that the line is available permanently. The wireless link is used upon an emergency, just like the airbag in a car. With 4G technology maturity, Huawei devices support smooth transition from the 3G network to the 4G network. Customers need to only insert a 4G subcard, without the need to replace the device, maximizing customer's return on investment.

As the backup service bearer link, the 3G link must have high security. Huawei provides L2TP over IPSec technology for branch outlets. Layer 2 Tunneling Protocol (L2TP) technology allows

devices on outlets to communicate with the L2TP network server (LNS) in the branch headquarters, implementing secure access authentication. High-performance Internet Protocol Security (IPSec) technology provides a secure and reliable tunnel for encrypting all authentication data, protecting confidentiality of financial data.

To further improve link reliability, Huawei Wireless VPDN Solution configures the link backup function for wired and wireless links and fast link switchover technology so that the two links support the switchover within milliseconds. Users are unaware of link faults, and transactions are not affected, leaving the bank service system no risks.

Voice of Customer

According to the project owner from CCB Guangdong Branch, Huawei Financial Outlet Solution achieves high performance and security for CCB, lowers costs in purchasing and maintaining

devices on outlets, and frees bank staff to focus on service innovation and development. In technologies, Huawei devices are competitive with international vendors.

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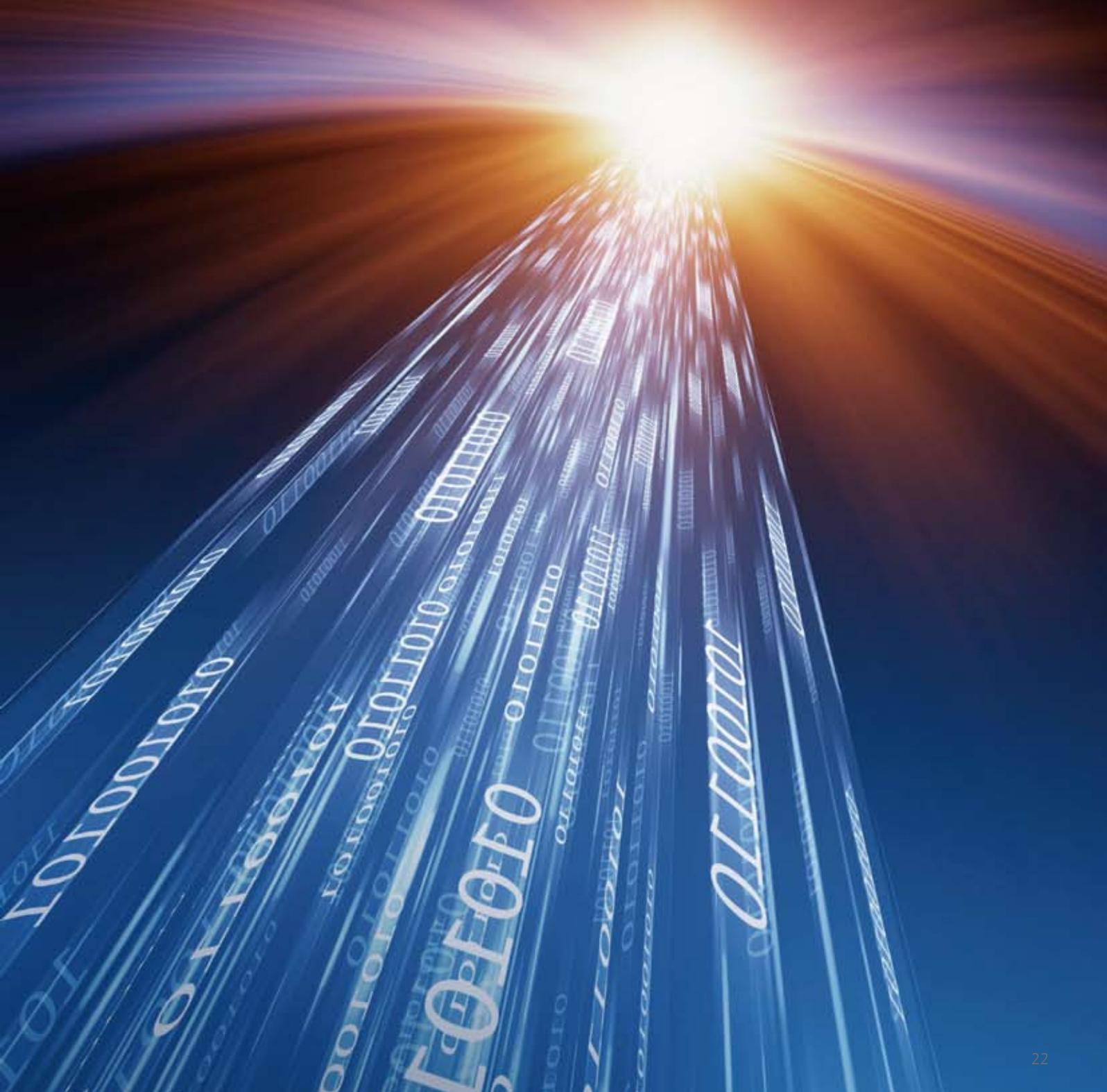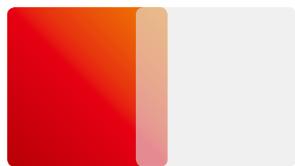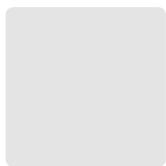
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