

# ZTE TECHNOLOGIES

Vol. 12 No. 7

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## Fast and High-Quality Project Delivery in Today's **"Pressure-Cooker"** Markets



### Climbing Up to the South End of the World

An Interview with Zhou Hongfeng, President of ZTE South America

# ZTE Unveils Its FTTx Business Model for Asia-Pacific

Ranked second in worldwide broadband revenues by Ovum, ZTE Looks to expand into Asia with new broadband acceleration solution



From left to right: Cui Yi, President of ZTE Asia Pacific, Chen Jie, Senior Vice President of ZTE Corporation, and Zhu Ying, Vice President of ZTE's Fixed Line Network Products

16 June 2010, Singapore — ZTE unveiled at CommunicAsia2010 today its “Asia-Pacific FTTx Business Model,” developed specifically to accelerate broadband deployment in Asia Pacific.

According to a recent Point Topic report, countries in Asia-Pacific are seeing the fastest broadband growth, including China, Indonesia, Philippines, Vietnam and Pakistan. In addition, most countries in the region, including Indonesia, Philippines, Vietnam and Thailand, have a broadband penetration of less than 10%. A 2009 Ovum report presented a huge need for broadband infrastructure development in these countries.

ZTE's Asia-Pacific FTTx Business Mode leverages the company's extensive knowledge and experience in constructing and deploying broadband

networks, both in Asia and worldwide. The plan, aimed at driving Asian-Pacific broadband development and deployment into an “accelerated fast lane,” focuses on three aspects: planning, operation, and environmental protection:

- **Planning:** The model strengthens the terminal-pipe-cloud network architecture, promotes the coordinated development of fixed-line broadband and 3G networks, and extends the value of a broadband network to the two sides of service clouds and intelligent home networks.
- **Operation:** The primary operation model involves service cloud and management mechanisms; methods of terminating and marketing home network services; high-bandwidth, fast, flexible end-to-end

configuration, offline diagnostics, end-to-end management, fast fault location, a three-dimensional terminal network, and many more.

- **Green networks:** The new model accommodates IPv6 evolution, next-generation PON, energy saving measures and emissions reduction.

ZTE developed its Asia-Pacific broadband acceleration plan based in part on its work with Telecom Malaysia and China Telecom and other operators in the region. Top-of-mind concerns for all operators are the development and deployment of efficient and cost-effective networks that are designed with upgradeable paths.

“An efficient broadband infrastructure is critical for any country that wants to effectively compete in today's global economy,” said Mr. Xu Ming, ZTE Vice President. “We have been working diligently to devise a broadband deployment model that will help Asia countries to rapidly develop and deploy state-of-the-art broadband networks, and look forward to helping more operators move with their expansion plans.”

According to Ovum's latest research, ZTE ranked second in the world in terms of market access with a 16.5% share in global revenues of 2009. The research agency also placed ZTE second for overall sales of broadband access (DSL, MSAN in the broadband part, FTTx, as well as CMTS) in 2009.



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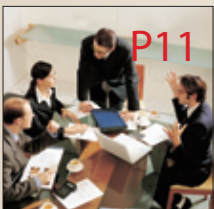
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### ZTE Profile

ZTE is a leading global provider of telecommunications equipment and network solutions. It has the widest and most complete product range in the world—covering virtually every sector of the wireline, wireless, service and terminals markets. The company delivers innovative, custom-made products and services to over 500 operators in more than 140 countries, helping them achieve continued revenue growth and shape the future of the world's communications.

**ZTE中兴** ZTE CORPORATION

# Climbing Up to the South End of the World

An Interview with Zhou Hongfeng, President of ZTE South America

By Zhao Lili



Zhou Hongfeng is the Vice President of ZTE's Sales Division V and President of ZTE South America. Since joining ZTE in 2000, he has worked in the Nanjing R&D Institute, in the Technical Dept. of Sales Divisions I and IV, in ZTE North Africa, and in the PMO of Sales Division V. He has gained a wealth of experience in product R&D, pre-sales technical support, project management, and overseas marketing. He has held positions including Head of Strategic Planning and Managing Director of Commercial & Technical Affairs (ZTE North Africa), Assistant President and PMO Director of ZTE's Sales Division V, and President of ZTE South America.

The Amazon River is the pride of Latin America and of the world. It winds through Peru, Brazil, Bolivia, Ecuador, Columbia, and Venezuela, nourishing a vast land of 8 million square kilometers. The river also supports the largest tropical rainforest on Earth; the Amazon Basin is a mysterious and world-renowned “kingdom of life”, home to millions of species of plants and animals. In this land rich with diversity of life, ZTE—China’s leading telecom equipment supplier—has had a presence for almost 9 years. To understand the development of ZTE in South America, reporter Zhao Lili recently interviewed Zhou Hongfeng, President of ZTE South America.

## A Market of Distinctive Features

Zhou Hongfeng had just arrived at his office in Peru when our reporter met him. After a six hour flight from Brazil, he showed no signs of tiredness. His eyes were deep and clear, and he was enthusiastic to take questions. When asked to introduce the South American telecom market, Zhou described it as a market with distinctive features.

What makes the South American telecom market so distinctive can be considered from two perspectives. First, in terms of operator presence,



The maturing telecom market in South America—including operator demands for terminal products and large-scale investments in fixed and mobile broadband deployment—provides good opportunities for ZTE. ”

there are two major players in the market: Telefonica (a Spanish telecom company), and America Movil (AM). Both companies are listed as a world's Top 10 telecom operator, and both have an extensive presence in almost every South American country. Ranked fifth among the world's Top 10 operators, Telefonica holds a 50% share of Brazil's largest mobile company, Vivo, and accounts for 28% of the market share in Brazil. In Peru, Telefonica is the largest operator in terms of fixed-line and mobile operations. AM's mobile business under the Claro brand has a 26% market share in Brazil—the second largest in the country. The South American market is basically a duopoly between these two Multinational Telecom Operators (MTOs). Their combined market share totals around 60% to 70%. In this sense, South America is a tightly dominated market.

Now, however, a new trend is appearing. A number of local operators have emerged in South American countries where the economy is relatively developed. These local operators are demonstrating robust market growth. Brazil's Oi, for example, purchased Brazil Telecom to become the largest fixed-line and fourth largest mobile operator in the country. With the help of local financial groups and government, Telecom Argentina and Entel Chile have grown into strong operators that can compete with the foreign MTOs. In Bolivia and Ecuador, government support has also assisted state-owned local operators to become more competitive. Local giants are therefore flourishing in South America, although the telecom market is still primarily controlled by MTOs.

Second, from the perspective of technical development, all South American countries have released 3G

licenses. 2008 and 2009 witnessed significant 3G technical upgrades in the region, and as a result, Chile, Brazil, and Argentina have experienced rapid 3G business growth. In Peru and Columbia, data services are growing relatively slowly, but this also provides good opportunities. Over the past two years, all operators have focused on deploying broadband networks. Fixed-line operators have begun introducing new techniques such as VDSL and GPON into the conventional ADSL-dominated broadband networks. Mobile operators have constantly improved their network speeds by upgrading networks from GSM to EDGE, HSDPA, and HSPA+.

2009 was a year of serious broadband deployment in South America. Zhou recalls that before 2009, broadband penetration in the entire South American region was less than 10%. Many countries are presently engaged in building their broadband networks. Countries such as Brazil and Chile, have devised national broadband plans as a stimulus for their economies. Media reports suggest that Brazil will launch its national broadband plan soon with an aim towards doubling its broadband user base within five years. Its citizens will be able to enjoy improvements in life and work brought about by information technologies.

### Well-Planned Market Exploitation

The maturing telecom market in South America—including operator demands for terminal products and large-scale investments in fixed and mobile broadband deployment—provides good opportunities for ZTE. Drawing on years of business development experience in South America and substantial enhancement of its overall strength, ZTE is well





positioned to capitalize on future opportunities in the region.

When asked about the achievements of ZTE in South America, Zhou started with the introduction of his team: “70-80% of our sales team in South America were born after 1980. They are young, bright, energetic and ready to meet all challenges head on. Leveraging the company’s advantages in technology, customization, and capital, they actively communicate with operators to develop cooperative projects. To date, ZTE has built long-term strategic ties with almost all operators in South America, including the MTOs Telefonica and AM; Telecom Italy Mobile (which is influential in the Americas); and competitive local operators such as Brazil’s Oi.”

ZTE has successfully penetrated the South American market with

its terminal products, service and transport products, fixed broadband, and wireless products. In the terminal sector, ZTE sells its mobile phones and data cards to all operators in South America and has achieved a stable rate of growth. It has also established a mature communication and operation mechanism with operators. ZTE’s data card business accounts for more than 60% of the market share in South America (nearly 70% in Brazil). Its Digital TV handsets are selling well to Vivo, Claro, and TIM.

Take Vivo for example. Vivo is the largest mobile operator in Brazil with 50% of its shares being held by Telefonica. Its annual revenue in Brazil alone exceeds 10 billion U.S. dollars, far more than that of other Telefonica subsidiaries in Latin America. Vivo operates GSM, UMTS, and fixed-line

networks across Brazil, with nearly 53 million mobile subscribers. In 2008, the company was granted a 3G license (UMTS 2100M) and began its 3G network deployment. Now, Vivo’s 3G network is the largest and the fastest growing in South America. ZTE began cooperating with Vivo in 2004, and is now its largest 3G data card supplier, accounting for more than 70% of the market share. This April, to enable Brazilian subscribers to enjoy the World Cup anywhere and at any time, ZTE and Vivo jointly launched the latest Digital TV handset—the ZTE N290. This handset is currently being sold in large cities including Rio de Janeiro and St. Paul. According to Vivo’s Executive Vice President of Marketing and Innovation, Hugo Janeba, the launch is timed to give people a new way of supporting their team in the

2010 World Cup. Janeba explains: “We want Brazilians to fully experience the World Cup and to be able to watch the games anywhere and at anytime. When soccer fans have their own pocket TV, the experience certainly becomes much more complete.”

In the sales of service and transport products, ZTE has also achieved breakthroughs with Telefonica South America as well as Vivo, TIM, and Oi. In 2007, ZTE signed a deal to supply Vivo with its Voice Mailbox System (VMS) service product. As a result, ZTE has now become Vivo’s major supplier of service products. ZTE has been highly recognized by Vivo for product quality, engineering implementation, and after-sales service. In 2009, ZTE helped Vivo build a backbone transport network.

TIM is a wholly owned subsidiary of Telecom Italy. With over 42 million GSM subscribers, TIM has become the third largest mobile operator in Brazil behind Vivo and Claro. The company owns GSM, UTM, and fixed-line network licenses, and its networks are spread across the entire country. The number of TIM mobile subscribers has been increasing by more than 15% annually, and TIM’s total revenue in 2009 amounted to 10 billion U.S. dollars. Since 2007, ZTE has become TIM’s major supplier of 3G handsets and data cards. In 2009, ZTE achieved a breakthrough with TIM in the VMS project. The project is being implemented smoothly, and TIM holds ZTE’s product and engineering quality in high regard. At the beginning of 2010, ZTE won another contract to build a nationwide backbone and MAN transport network for TIM. Winning that contract cemented ZTE’s position as the primary supplier to TIM. ZTE is also a major supplier of transport

equipment to Brazil’s local operator Oi.

With regards to fixed-line products, ZTE has achieved successes with Brazil’s Oi, Telecom Argentina, and Entel Chile. As the largest local operator and largest fixed-line operator in Brazil, Oi’s revenue in 2009 reached 25.5 billion U.S. dollars. ZTE began cooperation with Oi in a DSLAM broadband project in 2005, and has now become its major supplier of fixed-line broadband. In 2010, the company plans to further expand its fixed-line broadband business into other areas of South America.

In the wireless sector, ZTE has widely deployed GSM/UMTS products for Oi, built commercial GSM networks in Columbia and Chile, and supplied CDMA products to Brazil’s largest enterprise network service supplier, Embratel. ZTE has now become Embratel’s main mobile network supplier.

“In general, our terminal, service and transport, fixed broadband, and wireless products are well planned and deployed in the whole of South America,” Zhou firmly concluded. “In the next one to two years, we will certainly become a mainstream supplier of both fixed-line and wireless equipment in this region.”

### **Social Responsibility for Stable Long-Term Development**

ZTE announced in April 2010 that it had set up two telecommunications training centers at INATEL, Brazil’s famous National Telecommunications Institute. The two centers, located on INATEL’s Santa Rita campus, Minas Gerais, are oriented towards training corporate staff, college students, and customers. Equipped with modern facilities, they provide professional training and consultation services in areas such as software and hardware

development, testing, and standard customization. They are dedicated to becoming technology improvement and innovation centers for Brazil’s domestic and international enterprises.

In addition to the training centers, ZTE has also set up its after-sales service center and mobile call center in South America. When asked about the reasons for these investments, Zhou replied: “As the main body in an economic system, enterprise is playing an increasingly important role in wider society. The development of an enterprise is only lasting and stable when it is associated with social development. This is a reflection of a company’s Corporate Social Responsibility (CSR). Today, the whole world is paying attention to low-carbon technologies. This creates an opening for enterprise to grow along with society through more reasonable technologies. With the expansion of our business in South America, we hope to become integrated into its societies and to facilitate long-term development.”

“Brazil, for example, is a country of great potential. It has a population of just under 200 million, and its GDP is 1.68 trillion U.S. dollars (close to that of Russia and far exceeding that of India). Brazil is rich in natural resources and has the seventh largest petroleum reserves in the world. The 2014 FIFA World Cup and 2016 Olympic Games are also promising for Brazil’s economic development. Across the entire nation, development is stable, and its telecom investment accounts for over 50% of the total telecom investment in Latin America. The overall conditions in Brazil are favorable, and we need to continue to expand our business there. Our turnover in 2009 increased 70% from the previous year, and will increase



more than 100% this year. With the expansion of our business, widespread deployment of our products, and increase in our customer numbers, there will be an increased need for training. In response, we have set up training centers as this is important for our customer service. Opening a joint facility in conjunction with the best university or best-fit college major in the local area is an effective way of providing training. The centers will train not only our staff and customers, but also local telecommunications professionals in Brazil. We have established another joint training center with the best privately-owned university in Columbia. This also serves as our pre-sales and after-sales technical support center in Latin America. The construction of these facilities satisfies our development requirements, demonstrates our social responsibility, and improves our brand reputation.”

### Being an Enterprise Remembered by History

Finally, when asked about ZTE’s three-year plan in South America, Zhou calmly spoke of a grand goal: “First, in the coming three years, we will manage to be among the Top 3 market shareholders in South America. This is our main target. We will expand our market continuously to make a substantial contribution to the company’s strategic 2015 goal. Second, we will foster a group of telecom professionals in the South American region, and build a mature business operation mechanism to improve management. We will do this with the view of turning South America into a solid base for our sustainable development. Third, we will increase our brand recognition in South America through innovative business operations. By making a true contribution to the telecom industry in this region, we will make ZTE an enterprise to be remembered in South American history.”

## Reporter’s Note

# Opportunities Arise From a Solid Foundation

“Opportunities arise from a solid foundation,” Zhou repeated throughout the interview. These are simple words that have inspired Zhou with passion and enthusiasm and to think on the run in South America.

The reporter learned that Zhou rarely has a regular office in South America. He flies from country to country on business, visiting local staff and customers, and staying only one or two weeks before moving on to another country. Because many South American countries are located on high plateaus, the frequent travelling between plateau and plain areas is a great challenge. Zhou said that he had completely acclimatized to the plateau environment. When he arrives in such an environment, he has no altitude sickness and can start work immediately. This is the result of his frequent travelling to plateau countries. But what surprised the reporter more is that Zhou doesn’t suffer from jet lag after flights from China to South America or from South America to China. When asked about the secret to his vitality he smiled, “I go to sleep when boarding a plane, wake up when a food trolley passes by, and work when getting off the plane. I’m trained to be like this.” Such a purposeful routine gives Zhou more time and energy to think and work.

Zhou is a born optimist. He believes in the old saying “Nothing is impossible to a willing mind”. Zhou often talks and exchanges ideas with his staff. He said, “Despite fierce competition in the South American market, we must keep moving ahead with a firm faith and an optimistic mind. When building a solid foundation, we are sure to have opportunities. Opportunities arise from a solid foundation.” These simple words are the basis of Zhou’s colorful vision, which he retains in plain sight.



ZTE TECHNOLOGIES



# Fast and High-Quality Project Delivery in Today's "Pressure-Cooker"

By Wang Shuaiwei

With the rapid development of wireless technologies, competition within the communications industry has focused on stability and quality of network services as well as shortening the time to market. Operators need to quickly seize upon market opportunities and also fully control and allocate resources. However, by assigning heavy tasks under tight deadlines, pressures of the highly-competitive marketplace are being transferred to operators' partners. Quick delivery of quality networks can pose a

serious challenge to equipment suppliers.

On the premise of guaranteeing network quality, a new round of competition has begun, involving three key links: efficient logistics, customized delivery, and quick response. ZTE's professional services and close cooperation with leading global operators has helped it overcome barriers within these three links in order to achieve prompt and reliable delivery.

## Efficient Logistics Services

ZTE has developed a clear vision

of its logistics strategy. It seeks to build an agile, streamlined, and large-scale logistics model to meet personalized customer demands, and to do this with less cost, improved quality, and quicker response. ZTE has formed a global professional logistics system comprising 107 branches and 42 service centers, which serves more than 500 operators in 140 regions worldwide. Currently, ZTE has over 14,000 employees working in logistics services.

Within ZTE's logistics system there are 9 business areas including finished products delivery, supply plan, materials, production, quality, and procurement.





“ ZTE has developed a clear vision of its logistics strategy. It seeks to build an agile, streamlined, and large-scale logistics model to meet personalized customer demands, and to do this with less cost, improved quality, and quicker response. ”

information with the project team before making the delivery, optimizing the delivery procedures and articles to better manage subcontractors, and releasing daily follow-up reports.

In China, ZTE has established its own logistics model—a logistics base plus dispatching center with a storage area of more than 100,000 square meters. A localized and professional logistics system is necessary for smooth cooperation with Chinese operators. China Telecom, for example, came under intense pressure to progress with its project after taking over the CDMA network. ZTE was the fastest among all suppliers to complete the delivery. According to the demands of the project schedule, ZTE developed a reasonable delivery plan which included batch delivery, priority delivery of BSC equipment, and priority delivery to remote provinces. It also prepared adequate equipment and materials, opened logistics channels, and developed unique security policies based on standard logistics procedures (e.g. each makeup delivery had to be completed within 24 hours). By doing this, ZTE covered the project schedule from all

angles. ZTE also values sharing a large amount of information with suppliers about the reserve market, and helps them remain stocked up.

#### **Smooth Network Swap and Cutover**

Network swap and cutover is one of the difficult issues in network construction. It may involve many adjustments to the existing network or lead to a hard handoff between different manufacturers. Therefore, the speed and smoothness of the swap and cutover process directly affects user experience and can even influence an operator's brand image.

ZTE has always shared the concerns and needs of operators, and is capable of providing fast, high-quality network swap solutions. These solutions integrate up-to-date high-performance SDR base stations that can be applied in a variety of scenarios, and provide customized services for operators in four layers: network, area, cluster, and site. Solutions are customized according to different networks, and for each solution, ZTE ensures high-quality KPIs as well as fast, stable, and low-cost network swap. In this way, new, high-quality networks

The company's platform departments support the logistics system in terms of strategic planning of the supply chain, project management, and IT tools. With a powerful and finely tuned logistics system, ZTE has demonstrated its ability in efficient and accurate logistics delivery.

The Aircel project in India serves as an example. ZTE completed the commercialization of 800 base stations in only two months. The extraordinary speed of delivery can be attributed to the smooth coordination of its domestic and foreign logistics. This involved investigating domestic production lines to ensure completion of the delivery, communicating accurate delivery





capable of smooth evolution and rapid upgrade can be built.

In 2009, ZTE assisted China Telecom in Chengdu to successfully upgrade its CDMA network. This was a pilot project for a rapid network swap. Because the CDMA network in Chengdu had complex equipment and a large subscriber base, adopting a hard network handoff plan would have affected network performance. ZTE therefore customized a “soft handoff” mode for Chengdu Telecom, which made the complex network swap smooth, fast, safe, and reliable. The swap was carried out for a whole service area one at a time by adjusting part of the wireless parameters, and the cutover site could fall back smoothly. A large engineering team was not needed. The “soft handoff” plan, combined with the intelligent “ODD” system configuration tool, enabled stable and fast network swap and cutover. ZTE has conducted 178 network swap-outs around China without fault. It has also succeeded in

simultaneous swap operations in 17 service areas in 7 provinces of China, including Yunnan, Guizhou, Sichuan, Anhui, Hubei, Shanxi, and Fujian. ZTE created a record of swapping over 2,600 base stations in one night.

### Rapid Response

A quality and rapid response service mechanism is a key concern for operators when choosing a cooperative partner. To help operators create better value, ZTE’s Global Customer Support Center has established a complete mechanism for rapidly responding to customer needs. Services, personnel agencies, and regions are grouped together into project management processes for the purpose of greater optimization. Through project-based operation, and supported by business operation and IT platforms, ZTE has constantly improved the mechanism to guarantee efficient and high-quality customer services.

ZTE’s Global Customer Support Center is based in Shenzhen, China

and extends to France, India, Russia, Pakistan and other regions. Its overseas customer service teams are primarily staffed with local foreign employees. These professional teams have perfected international customer support procedures such as rapid response to customer demands, 24/7 around-the-clock service hotline, Internet customer support center, and technical support network. Since implementing its rapid response service mechanism, ZTE has raised the rate of permanent problem resolution to over 97.72%; timely resolution of VIP customer problems has risen to over 97.37%, and customer satisfaction has reached nearly 99%.

Efficient global logistics services, customized innovative solutions, and customer-oriented professional service systems have created the ZTE brand of fast and high-quality delivery. ZTE’s project delivery teams are widely recognized by operators all over the world.

**ZTE TECHNOLOGIES**



# The Secrets to Delivering Quality Networks

By Jiang Minggang

While the 3G era has given operators the opportunity to launch new services, build new brand images, and gain new market share, it has also posed challenges in terms of service, speed, and smooth migration from 2G to 3G. To excel in a climate of fierce competition, operators must ensure their network quality—fundamental for market competitiveness—is of the highest order. In addition, they must offer attractive services, tariffs, and terminals. ZTE's diverse, professional,

custom-made network planning and optimization services aim to help operators build cutting-edge 3G networks.

## Diverse Network Optimization Services

ZTE provides operators with a whole array of engineering services ranging from network planning and optimization to capacity expansion, network swap, and maintenance optimization. Its diverse network optimization services include routine network optimization,

dedicated network optimization, and in-depth network optimization. The four basic network planning services are requirement analysis, site survey, propagation model test and calibration, and network performance simulation. Through professional communication with customers, optimal configuration of propagation models, and effective control of project implementation, ZTE is able to meet network coverage, capacity, and performance requirements while offering a competitive Total Cost of Ownership (TCO).

#### ■ Routine network optimization

ZTE's routine engineering optimization services involve single site verification, Drive Test (DT), Call Quality Test (CQT), user complaint handling, network optimization analysis, and optimization plan implementation. Each of these services is offered to fulfil customers' specific requirements. ZTE provides a turnkey engineering optimization solution that contains the abovementioned services. Its routine maintenance optimization services include network performance monitoring and analysis, user complaint handling, guaranteed telecom services for VIP areas, holidays and important events, and network growth management. For prompt response to any performance fault, and to better meet customer requirements, ZTE's engineers can work on site to provide all these routine maintenance services.

To ensure smooth data and service migration during network swap, ZTE also provides network evaluation, service guarantee, and optimization services related to capacity expansion.

#### ■ Dedicated network optimization

Network optimization may

be undertaken in specific areas. Typically, areas of concern to operators are comparison testing and evaluation of multiple networks, call drop optimization, data services optimization, indoor/outdoor synergy, 2G/3G network synergy, resource utilization, and interference location. To meet operators' specific requirements, ZTE also provides access optimization, time-delay optimization, handoff optimization, and neighbor cells optimization. Compared with routine network optimization, dedicated network optimization draws on a greater number of human and material resources, assembled more rapidly for intensive resolution of network problems. This enhances network stability, improves network quality, and thus increases user satisfaction.

#### ■ In-depth network optimization

The in-depth network optimization provided by ZTE includes user-aware network optimization, and end-to-end performance evaluation and optimization. User-aware network optimization adopts sophisticated network test instruments to evaluate and optimize network quality from the perspective of user experience. User satisfaction can be improved by detecting minor problems in network operation, by making an in-depth analysis of root cause, and by improving performance indicators (such as data throughput and time delay) that greatly impact user awareness. End-to-end performance evaluation and optimization is intended to optimize performance of various application services, outline directions for improvement, and improve sub-network performance and end-user awareness.

### ZXPOS: A Quick Way to Boost Network Performance

ZTE's network planning and optimization team has provided services for 120 operators in nearly 70 countries worldwide. With advanced ideas, rich experience, and professional services, the team can quickly build high-quality networks for operators, and provide reliable, all-round technical support for follow-up network operation and maintenance.

ZXPOS—a cutting-edge software tool suite—has been self-developed by ZTE to meet various requirements for network planning and optimization. It comprises efficient and practical tools such as a network pre-planning tool, network planning and simulation software, an expert analysis platform, wireless network test software and apparatus, and wireless network data analysis software. These tools support the whole process—from network planning, deployment, and verification to network operation, maintenance, and optimization. ZXPOS is used to improve project efficiency and network quality, and helps operators enhance their overall competitiveness while saving costs in network construction and maintenance.

As a collaborative software system with great flexibility, ZXPOS has an open architecture to support multi-technology networks and multi-vendor equipment. It provides different versions of software for products running on different networks and applied in different scenarios. These software tools can be used independently, collaboratively, or combined with other tools to provide maximum protection to operators' investments. Moreover, due to the open and unified architecture, all software tools have similar operating



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features with a consistent user interface style, which makes it easy for users to operate.

### Application Cases

ZTE succeeded in delivering high-quality 3G networks to China Unicom in 2009. It deployed 26,000 WCDMA base stations with over 70,000 carrier-sectors within eight months. According to a third-party evaluation, ZTE ranked first among all equipment suppliers in terms of network KPI. It also outperformed other suppliers in key indicators such as call drop rate, coverage, HSPA data throughput, and handoff success rate. ZTE set a record of zero dropped calls in a 1,200km test conducted in Shenzhen (where it had deployed over 2,000 base stations). The test results showed that all networks built by ZTE were completely suitable for commercial use, and all KPIs were met.

CSL, the largest mobile operator in Hong Kong, put higher requirements on its network swap project. Its original network architecture was complicated, operating on GSM 900MHz/1800MHz and WCDMA 2100MHz bands. The WCDMA network had over 2,000 base stations and 2.5 million subscribers. CSL’s existing networks were failing

to address new service demands. Moreover, Hong Kong is famous for its forest of skyscrapers and numerous downtown areas. The environment for wireless networks there is extremely complicated, bringing about great challenges in ensuring network KPI. ZTE adopted an overlay soft swap strategy for accurate and reliable service and data swap. By virtue of its advanced technologies, well-defined project management and powerful supporting tools, ZTE succeeded in swapping over the original networks for a single 2G/3G converged network within a 12 month period. The new SDR-based network has been highly recognized by CSL for its superior coverage and enhanced performance supporting a variety of 3G services.



Figure 1. Network Technology Innovation Award.

ZTE has insisted on technological innovation. In its cooperation with Aircell, America’s leading provider of airborne communication services, ZTE developed a unique Air-to-Ground (ATG) EV-DO network that opened a new era for Aircell to offer in-flight Internet service across America. The network adopted innovative, industry-leading techniques to solve many challenging engineering problems. Antenna downtilt angle needed to be set according to the earth’s radius and troposphere effect, lower-layer protocols needed to be updated to remove the impact of Doppler shift, and dedicated PN planning and neighbor cell optimization needed to be implemented for airborne networks. All these helped Aircell realize extensive area and high-speed mobility coverage with low costs. In November 2008, the ATG EV-DO network won praise with the CDMA Development Group’s Network Technology Innovation Award (see figure 1). This honor was awarded for the seamless collaboration between ZTE and Aircell on the ATG EV-DO network, and the great contribution made to the development of wireless technologies.

# Service Beyond Expectations

## ZTE's End-to-End Project Delivery Solutions

By Chen Jing

With increasing competition in the telecommunication industry, operators are facing challenges such as ensuring network quality, reducing operating costs, and improving customer service. These all lead to higher requirements on equipment vendors. As well as manufacturing cost-effective equipment, vendors need to demonstrate strong project delivery and engineering service capabilities in order to win valuable contracts. As China's leading telecom equipment vendor, ZTE has established close cooperation with local partners and global operators, providing end-to-end delivery solutions for turnkey projects worldwide. The breadth of ZTE's expertise ranges from planning and design, logistics, site survey, installation, and commissioning, to optimization and maintenance.

### Project-Oriented Network Planning and Design

The first step of any rollout, network planning is a decisive factor in controlling overall operating costs. ZTE provides first-class project-oriented network planning and design

for operators. In a project completed for the Ethiopian Telecommunication Corporation (ETC), ZTE adhered to the principle of completing a detailed plan first, then implementing it in stages. ZTE provided both guidance and database support for follow-up on the network rollout. By using a variety of cutting-edge telecommunication technologies, the far-seeing network plan now allows for smooth upgrade and evolution of the network. Figures published by ETC showed that the number of mobile phone subscribers in Ethiopia rose from around 1.2 million in September 2007 to 4.3 million in September 2009, and the penetration rate of mobile subscribers increased from 1.6% in September 2007 to the current figure of 5.1%. In March 2010, after completion of the GSM Phase III project, ETC's mobile network capacity reached 18 million lines, and its signal coverage reached 64% of the total land area. Ethiopia instantly became one of the most developed African countries in terms of telecommunications.

### Smart and Lean Logistics

Fast network delivery cannot be achieved without a smart, lean, large-

scale, and customized logistics model. Logistics of equipment providers should aim towards lowest cost, highest quality, and fastest response, and accurate planning is fundamental for meeting these criteria. ZTE plans production according to the customer's requirements and remains flexible for making necessary adjustments. This ensures equipment is delivered on time using the most effective means of transportation. In addition, ZTE deals with any material shortage or quality abnormalities in a timely way by issuing project processing reports and holding regular problem-solving meetings. To manage unexpected events in international cargo handling, ZTE also coordinates with smart and lean logistics teams to reduce the duration of cargo transport.

So far, five logistics centers have been built to service countries in Africa, Europe, America, and South Asia. They are located in Dubai, Amsterdam, Miami, Panama, and Bangkok. In 2010, ZTE established regional logistics centers in India, South Africa, Turkey, Western Europe and Brazil, and developed 62 multi-model transport



routes, comprising 36 sea-air routes in Africa and South America, 8 land routes in Southeast Asia, and 18 other rail-bus and rail-air routes.

### High Quality Network Construction

By establishing a Regional Site Model Database and issuing regular updates on the demands coming from different operators and areas, managing a large number of sites has become easier. Site models make planning, purchasing, and civil engineering work predictable and greatly reduce construction costs. Such models are commonly applied in geographically complicated or densely populated regions, which saves the operator a great amount of money when compared with alternatives.

During network construction, quality assurance is often an operator's biggest concern. ZTE has an assurance system for design, civil engineering work, and installation and commissioning. Since most of the civil engineering work is accomplished as a joint effort between ZTE and a local partner, ZTE has a strict management system for subcontractors. Regular training, certification, and

routine inspections are organized to enhance the technical skills of subcontractors and to ensure that ZTE's technical standards and engineering regulations are met. So far, ZTE has established partnerships with more than 1,700 local subcontractors worldwide. By leading these local subcontractors, ZTE is capable of deploying a network in any corner of the globe. Moreover, with ZTE's three-tier quality control system, strict quality checks are required from each project's quality manager.

### Professional and Effective Network Optimization

Optimization is also key to network construction and development. After a network rollout, optimization is needed to enhance the network's performance and allow for future maintenance and expansion.

ZTE is able to provide professional 3-dimensional network coverage solutions. Advanced, highly-efficient network optimization tools make data collection and analysis automatic and intelligent, allowing solutions to be automatically generated and doubling optimization efficiency. The Call Detail

Trace (CDT) network optimization platform builds a dedicated network, provides reliable telecommunication service to each customer, enhances the subscriber experience, and allows more users to enjoy the service of modern technology.

To allow prompt contact with and response to our many customers, ZTE has 2,000 installation and commissioning engineers, 2,000 maintenance engineers, and 1,000 engineering experts working in 107 representative offices worldwide. To date, 42 Local Customer Support Centers, 7 Regional Customer Support Centers, 9 Regional Distribution Centers, 6 Return and Repair Centers, and 69 Spare Parts Warehouses have been established to serve 500 operators in 140 countries.

With many years of network construction experience, ZTE provides high quality end-to-end all-service solutions, and has successfully delivered and signed off on projects in record time. ZTE is now recognized by a growing number of operators as being committed to offering the best service in the industry.

**ZTE TECHNOLOGIES**





# Competitive Advantage Powered by Managed Services

By Yang Zhaojiang

**T**he 2010 World Cup will be held in 9 cities across South Africa from 11 June to 11 July. During this period, hundreds of thousands of soccer fans will flock to the country, which will put enormous extra pressure on the telecommunications network. To deliver high quality mobile services, Cell C, the country's most

dynamic mobile operator, chose ZTE as their Managed Services partner. By leaving their day-to-day operations to ZTE, Cell C can focus more on their customer needs and new product launch. ZTE's Managed Services team employs outstanding operational procedures to achieve the winning goal.

In recent years, intense competition

and growing challenges in the telecommunication market have compelled operators to look for new ways of doing business. An outsourcing model allows them to share the burden of network management with a Managed Services Vendor (MSV) and focus more on long-term strategic initiatives that will enhance the value provided to customers.

ZTE believes Managed Services enable outsourcing to be effectively used by operators in their customer relationships, brand management, and in offering innovative solutions. This helps operators gain a competitive advantage in an increasingly challenging marketplace.

In the past few years, ZTE has won more than 50 Managed Services contracts for round-the-clock operation of worldwide telecom network infrastructure. It has established 13 Regional Centers, 12 Training Centers, 9 Regional Distribution Centers, 7 Regional Customer Support Centers, and 42 Local Customer Support Centers to deliver outstanding services

## Growing Challenges

### Increase ARPU

- Expand service portfolios
- Increase bundle penetration
- Add new "sticky" services
- Protect existing revenue base
- Pricing actions
- Increase MOUs
- Time to market/capability ramp up

### Decrease Costs

- Decrease operational costs
- Reduce customer churn rate
- Increased flexibility and focus on core competencies
- Predictability of cost and risk management
- Increase customer service capabilities
- Diversify the cost base and gain flexibility

to customers across the globe. ZTE has become a leading provider of mutually profitable Managed Services solutions.

Nowadays, operators are facing tough challenges such as the 2G-3G-LTE evolution, heavy debt loads, slow penetration growth, and declining APRU. To release operators from complicated network operation and management, ZTE has launched professional and cost-effective Managed Services solutions that address stringent operational requirements. As a long-term partner of operators, ZTE always sticks to the following essentials to increase profit and efficiency.

#### ■ Reducing OPEX

OPEX occupies a greater portion of operators' TCO. It is 3 to 5 times the CAPEX. To reduce OPEX, operators place greater requirements on their service providers. ZTE's Managed Services solutions help operators improve their profitability by reducing operating expenses. Analysis from ZTE's past experience indicates that a well thought-out and well-run outsourcing contract can reduce operational expenses by 15% to 20%.

#### ■ Optimizing CAPEX

To keep a competitive edge, operators need to optimize their investment to significantly reduce CAPEX. There are many synergies between ZTE's universal system platform and Managed Services portfolio. These synergies provides optimization including convergent services (voice and data convergence, 2G-3G-LTE evolution), leveraging DSL benefits to improve cost structure, and increasing the addressable market by developing the small and medium enterprise markets.

#### ■ Improving efficiency and performance

Operators expect a solution to bring better performance and lower cost. Outsourcing network operations, billing, or contact center operations leads to quicker customer responsiveness, better network availability, and lower churn rate. The implementation quality of the outsourcing contract is measured by the agreed Service Level Agreements and Key Performance Indicators. In this way, operators can outsource their network operations to a vendor without sacrificing control of the entire network.

#### ■ Integrating complexity

As many operators do not consider field operation and maintenance a core competency area, they prefer to outsource the maintenance of their towers and base stations. Outsourcing to an MSV can integrate multiple business systems, capacity management systems, and call center systems onto a more consolidated platform. ZTE has set up a centralized National Network Operation Center to take care several operators' networks in India.

#### ■ Managing risk

Outsourcing to ZTE is a way for operators to manage multiple risks including workforce management, investments in unproven markets or technologies, and simply upgrading internal systems. Outsourcing these tasks offers a way of hedging against the risks. First, it is easier to decommission a team from ZTE than an entire internal team; this provides more flexibility if an investment proves to be unwise. Second, a tailored solution to meet rapidly increasing market demand is more easily accomplished by an outside group with a dedicated professional team.

Third, operators do not need to invest in training and education for their own workforce on new technologies, platforms, or processes, and are free to focus on their core businesses.

#### ■ Migrating infrastructure

Technology transition to 3G or 4G networks enables operators to outsource their networks to a third party. ZTE's Managed Services solution can hedge the risk of failure when a new network is commissioned, and ensures the transfer of knowledge to the operator's organization.

As an important and fast-developing component of ZTE professional services, ZTE's Managed Services portfolio covers network planning, operation and maintenance, optimization, program management, expertise support, and other fit-for-need services. The portfolio is designed to satisfy the all-round service needs of operators and provide a high level of flexibility in the network operation field.

With more than 10,000 employees engaged in professional engineering services around the world, ZTE has become a unique provider able to deliver a wide range of convergent offerings, addressing different market segments with a clear and outstanding value proposition in the Managed Services market.

Fast market growth requires operators to seek infrastructure investments and network upgrades with the lowest possible TCO. With ZTE's Managed Services solution, operators will be much better equipped to meet the challenges from the market with an innovative portfolio supporting aggressive pricing and much better customer value.

# M2M Trend: Vertical Extension and Horizontal Convergence

By Li Qiuqing

## Opportunities and Challenges of M2M

After decades of fast-paced development, telecom networks worldwide now basically satisfy the need for man-to-man communication anywhere and at any time. However, new demand has arisen for machine-to-machine and machine-to-man communications. The development of these M2M technologies has attracted greater attention in recent times in light of the “Smart Earth” and “Sensing China” concepts proposed by the American and Chinese governments following the global financial crisis. According to Forrester Research, by 2020 machine-to-machine data exchange will be 30 times greater than the number of exchanges between people. M2M is therefore considered the next trillion dollar segment of the international telecom market. Large scale M2M development, however, is not without its difficulties. Growth in different industries is unbalanced, different industries have specific demands, different protocols and standards are being used, terminal costs are high, and system development and maintenance costs are also high.

## M2M Development in the Vertical Market

There are promising prospects in some key vertical enterprises for large-scale development of the M2M

industry, and this needs to be boosted by government or relevant industries. Sensing technologies can be used in traditional enterprises to build information networks, speed up the upgrade process, and enhance efficiency. A smart electric meter reading system, for example, enables remote real-time measuring of power consumption. This saves manpower and helps improve operational efficiency in the power grid.

RFID technologies can be used for smart transportation. A vehicle with an RFID tag (also called an e-license plate) can be identified automatically. With the help of ZTE, all of Chongqing’s one million motor vehicles are equipped with Ultra High Frequency (UHF) RFID tags (See Figure 1 and Figure 2). There are 300 RFID readers on Chongqing’s roadsides that can detect high-speed moving vehicles from a distance of 15 meters. A vehicle with an RFID tag is uniquely identified in the vehicle information system and its physical location can be monitored in real time. With the advantage of dynamic and automatic identification, RFID enables accurate traffic monitoring and management, and helps improve road conditions and transport efficiency.

## M2M Development in the Horizontal Market

Providing universal services or enabling information sharing and



Figure 1. A vehicle with ceramic RFID tag.



Figure 2. A vehicle with RFID reader and antenna.

convergence for enterprises are effective measures for reducing costs and improving efficiency. These can drive the development of the M2M industry, and they also present an important opportunity for telecom operators to become involved in M2M services. The video monitoring system launched by China Telecom has become a highly successful M2M application, which brought in nearly RMB 2 billion in revenue for the operator in 2009. Audio



and video information collected via the video monitoring system is, in fact, a kind of information sensed in the front end. The video monitoring operation platform built by China Telecom is leased out to enterprises to help them reduce service operation and maintenance costs. This represents a typical M2M business model.

It is important that telecom operators build a M2M service support platform that helps enterprise more easily manage a large number of wireless terminals. Key functions of the support platform include authorization control, parameter configuration, fault management, and firmware upgrade. The platform conveniently allows upper layer applications to access networks, and to provide interfaces for calling in universal capabilities (including communication and industry capabilities) to develop upper layer applications.

ZTE supplied China Telecom with a vehicle management system to support the 2010 Shanghai World Expo. A VIP vehicle used in the Expo was installed with cameras, a track recorder, a front-end data collector, and a variety of sensors including tri-axis acceleration sensor, alcohol sensor, smog sensor, shock sensor, and collision sensor. Collected location information, as well as video and sensor data can be uploaded in real time to a background system via a 3G network. The vehicle management system adopts a two-layer architecture consisting of an M2M service support platform and an “EyeWill” video monitoring platform, as shown in Figure 3. In only one month, the vehicle management application was integrated into the system and was put into operation. This application will be widely extended to the public transportation sector in Shanghai.

Telecom operators have found

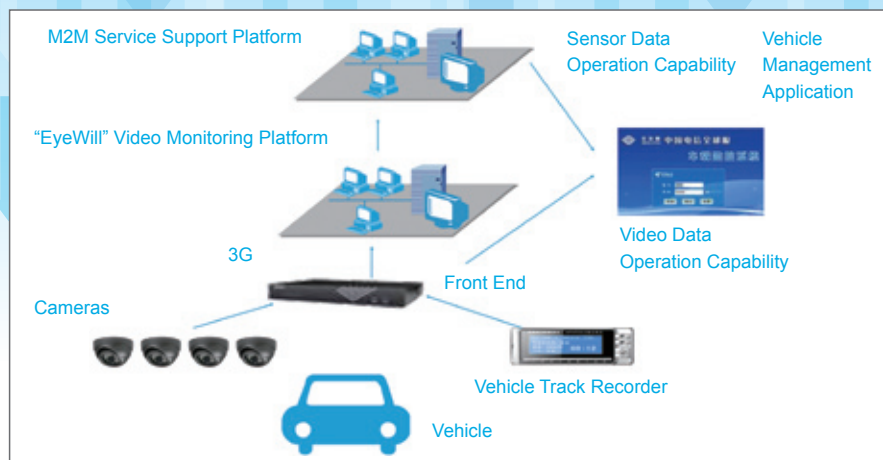


Figure 3. M2M vehicle monitoring system for the 2010 Shanghai World Expo.

that enterprise applications tend to be highly professional, versatile, and highly customized. This leads to a long period of application development as well as high development and maintenance costs. The Application Open Environment (AOE) of the M2M service support platform can solve these problems. Based on the Marshup concept and Service Oriented Architecture (SOA), AOE integrates heterogeneous application systems to enable capability convergence, and provides functional components and unified interfaces for data sharing and convergence among upper-layer applications. AOE also provides a visual development environment so that developers can focus on service requirements.

Another key factor for large-scale development of the M2M industry is deployment of wireless modules at low cost. Operators need to lay down relevant standards and specifications, and equipment vendors need to provide reliable, energy efficient wireless modules that can meet industry requirements and allow for automatic upgrade for easy secondary development. Modules used in industrial control need to be shock-proof, dust-proof, and moisture-proof. They also

have high requirements in terms of RF sensitivity and system reliability, and need to be protected against harsh environments. In addition to data transfer paths such as SPI, UART and USB, these modules also have I2C and GPIO interfaces for connecting with other control signals.

## Conclusion

Convergence of the horizontal market—represented by telecom operators—supports and complements the extension of M2M technologies into the vertical market. For example, installation of e-license plates in Chongqing provides a sound technical basis for the management and administration of traffic. Telecom operators help the traffic administration agency deliver information services related to taxis, parking lots, and other forms of public transport to individuals and enterprises. There is a tendency for M2M technologies to extend into the vertical market and to converge the horizontal market. Strategic cooperation between telecom operators and equipment vendors is the best way to drive the large scale development of the M2M industry.

# Triple Screen IPTV On the Way

By Liu Feng

## The Coming of Cloud Computing

The development of multimedia and telecom technologies has surrounded consumers with a vast array of services and smart terminals. A set-top box, for example, is necessary for accessing IPTV services, PCs or laptops enable access to the Internet, and for video conferencing, video phones or VCS terminals are mandatory equipment. The potential downside to such diversity is that consumers may tire of terminals with specialized hardware or software functionalities when considering whether they will subscribe for new services.

The concept of Cloud Computing has been introduced to solve this problem. It represents a technological revolution that seeks to change the way IT resources are utilized (see Figure 1). A unique network platform using cloud computing and distributed network structure can perform all computing, processing, and adapting tasks, and eliminate the need for terminals to support complex hardware or software functionality. In this way, consumers can use any terminal to access any service provided the terminal is connected to the universal network platform. The platform has open interfaces for delivery of various content and services.

## EyeWill Allows Access to Anything, Anywhere and in Any Way

As a leading supplier of integrated telecom products and solutions, ZTE is committed to technological advancement and innovation. The company has launched an “EyeWill” solution to preempt the service and network trends brought about by cloud computing. It is not only a solution but also a platform that can be the carrier’s multimedia operation center for accessing any device at any time.

In addition to IPTV services, ZTE’s EyeWill platform delivers a variety of

multimedia services including video surveillance, video conferencing and communication, gaming, voting, gambling, shopping, and web-based services. When on the EyeWill platform, users can access these services using their terminal of choice (e.g. PC, set-top box, PDA, mobile phone, or video phone).

Moreover, the platform allows multimedia content to be shared between different user terminals. It supports emerging new “Triple Screen” services.



Figure 1. Cloud computing times.

## Forthcoming Triple Screen

ZTE's Triple Screen concept is based on a universal network platform that converges IPTV, Internet IV, and Mobile TV in order to generate revenue for operators.

Triple Screen delivers innovative services through various terminals. Based on the EyeWill platform, it allows users to view broadcast TV or VOD at home using a set-top box, in an outdoor environment using a mobile handset, or in office using a PC or Laptop (see Figure 2). Moreover, users can quit a VOD program on one screen (e.g. the TV screen), and continue to watch the program on other screens (e.g. the mobile phone or PC screen). They can also book and share content, follow links, get favorites, set parental controls, and query bills freely on three screens. Converged services over a universal EyeWill platform aim to improve user loyalty and cut down the churn rate. Once users become accustomed to convenient services, they will not find reason to change to others.

Convergence creates lower TCO. Operators need not overinvest in building independent networks and establishing different operation teams for each service. A universal platform lowers CAPEX, and a single team per platform lowers OPEX. With ZTE's Triple Screen,  $1+1+1>3$  for operators.

## Why Choose ZTE?

Professionalism, experience, and reliability are key attributes that operators look for when choosing a supplier to help them develop a convergent multimedia platform in the cloud computing era. Because the convergent triple screen platform is built upon a large-scale integrated solution involving multimedia, mobile, and Internet services, a provider with



Figure 2. Triple Screen services.

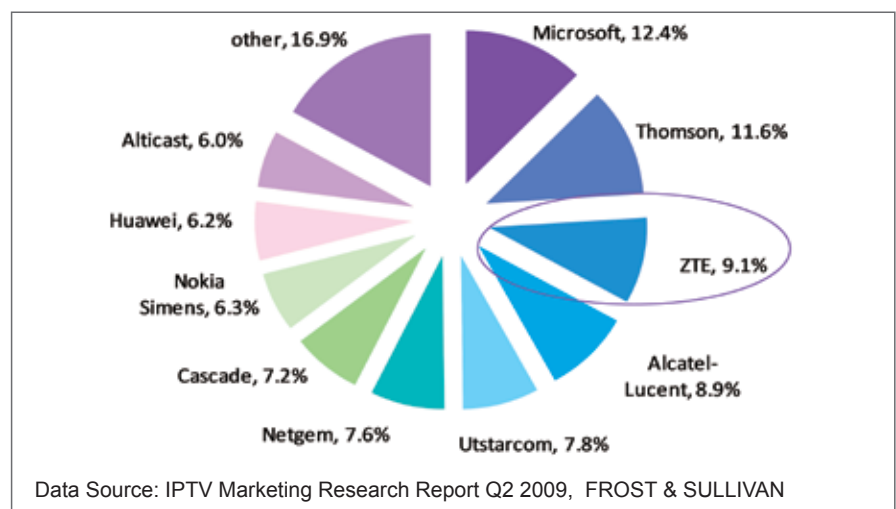


Figure 3. Market share of top 10 global IPTV middleware manufacturers: Q2 2009.

extensive experience in the three fields is the best choice. Current Triple Screen services are mostly implemented with IT-based equipment. However, guaranteeing the stability and QoS of such equipment is not easy. Adopting a carrier-class equipment solution ensures reliable commercialization of a large-scale multimedia network (such as IPTV) with a subscriber base exceeding 100,000.

As a leading telecom equipment vendor with R&D strengths in a wide range of products, ZTE is capable of delivering large-scale integrated multimedia solutions. The company has accumulated a wealth of experience in deploying

large-scale commercial multimedia services. Its EyeWill solution has been successfully implemented for more than 20 operators worldwide, and now reaches out to more than 2 million activated users. According to the research agency Frost & Sullivan, ZTE ranks among the top 5 global IPTV middleware manufacturers; it is 1st in the Asian market and 3rd in the global market with a 9.1% share (see Figure 3). ZTE's reputation as a leader in the IPTV industry has also been widely recognized by authoritative organizations such as UBS, IDC, and OVUM. ZTE is the best partner for building convergent multimedia platforms in the future. **ZTE TECHNOLOGIES**



# ZTE: Deal Maker

June 10, 2010 Source: Voice&Data, India's leading telecom magazine

**Z**TE is one of the few telecom equipment vendors that came out untouched following the special surveillance on the import of select networking equipments. ZTE reported 50% growth in revenue during the last financial year. Revenue increased to Rs 7,200 crore from Rs 4,800 crore. Wireless, wireline and terminal business contributed to the 50% growth.

In the Managed Services space, ZTE received orders from Tata Teleservices, Aircel, Sistema Shyam and STel in 2009. ZTE currently enjoys over 75% market share for NGN products and is also the market leader in the CDMA category. ZTE experienced large scale growth in the GSM space in India.

The company reported a considerable increase in the recruitments in India. Figures suggest that out of the total recruitments by ZTE in 2009, 50% hiring was done in India. India also accounted for one-tenth of ZTE's VAS revenues in 2009. Following 3G, ZTE sees a huge potential for VAS in India and will continue to invest here.

To meet the evolving requirements of the industry, ZTE plans to make targeted investments in 2G, 3G, bearer network and fixed line broadband in the Indian market. 3G may boost its business in India. With 3G coming, the existing 2G backhaul-especially for transmission-will not be able to meet the large scale data transmission. This presents an opportunity for ZTE to help operators expand their backhaul systems.

Green brought some good business to ZTE India. ZTE has been adopting green and cost saving technology strategies to help protect the Earth and the investments of operators. ZTE's green 3G base station site relies on wind and solar energy for operation. Compared with similar base stations, this green solution reaches 100% energy saving capabilities. It has also made inroads into the WiMAX market. But, security issues hampered revenues from WiMAX. In the WiMAX arena, ZTE has emerged as a strong contender after making successful inroads into the Indian broadband market with its

BSNL WiMAX win in 2009.

Underlining its commitment to the Indian market, the main areas of focus for ZTE in the coming years would be a diverse product strategy powered by innovative technology, workforce development and extended presence in the country through new touch points. ZTE aims to keep the staff training rate over 80%. Additionally, in the first half of 2010, the company plans to train 314 product experts in the 2G and 3G domain for its India Engineering Center.

The company also unveiled its plans to set up its local laboratory in India along with local after-sales staff to effectively manage projects. Efforts are also on to build the Network Operation Center (NOC) line of business to provide Managed Services, operation and maintenance for projects. To support this initiative, ZTE plans to additionally hire around 800 employees as technical staff in India in the current year.

The following is an interview with DK Ghosh, Chairman and Managing Director of ZTE India.



DK Ghosh, Chairman and Managing Director of ZTE India

**Voice&Data:** We will use Chinese experience for 3G rollouts in India. Security concerns might be a dampener. So how do you plan to tread in the Indian market?

**Ghosh:** We intend to work closely with the government in the Indian business environment and will continue to cherish the relationships that we have built with customers and partners here. We will also continue to further establish our commitment to India as a strategic market by focusing on increasing the employment base in India

### Highlights

- 50% growth in Indian sales
- One tenth of its VAS revenue came from India
- Received Managed Services orders from TATA, Aircel, MTS & STel
- Enjoys more than 70% market share for NGN products
- Plans to hire additional 800 technical staff

using local manpower, mentoring more Indians into senior management and strategic roles within the company, and by manufacturing more goods for the Indian market. We will ensure complete compliance with all laws of the land, and invite relevant authorities to put in place all the required check-points to ascertain and confirm that our products comply with the national security guidelines. It has been our endeavour to work with the Indian government and we will continue to provide all the necessary support towards achieving this objective.

**Voice&Data:** The Chinese vendors in India, including you, have been betting big with low pricing; but profit margins have thinned down drastically. How has it impacted your business?

**Ghosh:** ZTE India has contributed 9% of the sales revenue of ZTE Corporation in the year 2009, as per the financial report of ZTE Corporation. While ZTE India's gross profit will not be higher than the average profit of Asia (in 2009 the Asia region's average profits, exclusive of China, was 22.32%), India is the largest market outside China for ZTE. India is too large to be ignored by any telecom company, including operators and equipment providers. It is a strategic market for ZTE and we have invested a lot in India. 3G will bring about a revolution for the Indian telecom industry and ZTE is looking at becoming an important player in this segment.

**Voice&Data:** What makes ZTE invest heavily in VAS?

**Ghosh:** India accounted for one-tenth of ZTE's VAS revenues in 2009. We see a huge potential for VAS in India and will continue to invest here. Today, it has become essential for operators to focus on VAS to generate revenues. With the upcoming 3G launch, operators will be more keen on VAS because subscribers will want to use the 3G technology to enjoy more VAS services like Internet games, etc. This offers a good potential for ZTE to develop VAS, hence, the focus on VAS. We plan to invest Rs 88 crore in India for VAS.

**Voice&Data:** What are the new opportunities that you see for the company in the market?

**Ghosh:** 3G offers the biggest opportunity for both UMTS and WiMAX. With the 3G bidding over, operators who have won 3G spectrum will try and establish their network as soon as possible, resulting in a fierce competition. We won the top slot in China's 3G tender in 2008, and hope to use the experience in China for the benefit of the Indian market. Also with 3G coming, the existing 2G backhaul—especially for transmission—will not be able to meet the large scale data transmission. This presents an opportunity for ZTE to help operators expand their backhaul systems. Lastly, Managed Services is an area that is likely to see huge investments from the Indian operators.

**ZTE TECHNOLOGIES**

# VoIP Minutes 2009

May 2010, by Jahangir Raina, from market research firm iLocus

Estimated 2,660 billion minutes of VoIP traffic was carried by service providers worldwide during the year 2009. Of these minutes, 842 billion was local call volume, 1,727 billion was National Long Distance (NLD) call volume, and 90.7 billion was the International Long Distance (ILD) call volume (see Figure 1).

platform. In case of Cisco we believe that such a scenario results in a higher-than-actual market share of minutes.

If we allow for the double counted traffic, the VoIP ILD volume in 2009 was about 113.4 billion minutes worldwide, and VoIP NLD was 1,914 billion minutes. In the ILD category, Cisco leads the vendor market, with its

the lead with the same market share if we count minutes by the use of call agents in NLD.

In 2009, service providers handled a total of about 842 billion local VoIP minutes worldwide through their call agent platforms. By virtue of a large Voice-over-Broadband (VoBB) gateway footprint, Cisco leads the category of

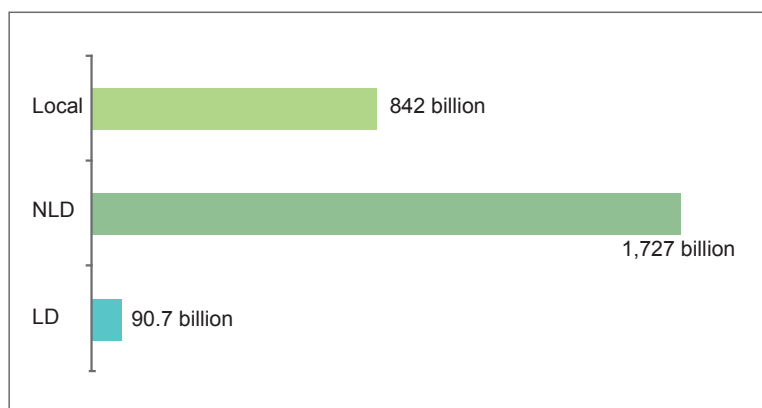


Figure 1. Comparison of VoIP minutes in 2009: Local, NLD, ILD.

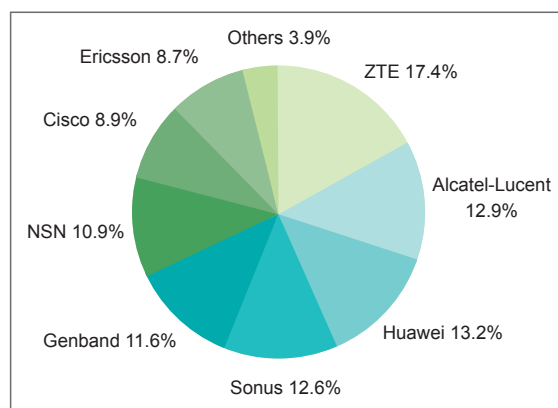


Figure 2. Market share of 2009 VoIP minutes (by vendor platforms).

For the purposes of attributing the traffic share to vendors we have considered the adjustments for double-counting. This is because, for instance, if a Cisco user (Carrier A) originates an international minute, and using TDM or IP format hands it off to UTStarcom user (Carrier B), while the minute should not be double counted for the purposes of estimating overall international VoIP traffic, both vendors should be credited with this voice minute. A scenario where this logic may not work is where the exchanging carriers are using the same vendor

platform having shipped an estimated 27.6 billion VoIP ILD minutes in 2009, which translates into 24.3% market share. As per usage of call agents, Genband leads in the ILD category with 14.5% market share.

The actual NLD VoIP traffic in 2009 was 1,727 billion minutes. However, allowing for double count, in 2009, service providers handled a total of about 1,914 billion NLD VoIP minutes worldwide. Having carried around 387.5 billion minutes, ZTE platform has a market share of 20.2% in NLD VoIP minutes for 2009. The vendor maintains

VoIP local minutes by media gateway with a 15.8% market share. If we consider non-softswitch local VoIP traffic (i.e. VoBB local traffic), we are looking at an estimated 272 billion minutes with Alcatel-Lucent leading the vendors having carried an estimated 19.9% of the local VoBB traffic during 2009.

ZTE leads in the overall VoIP minutes in 2009 with a market share of 17.4% worldwide across both wireline and wireless networks (see Figure 2). ZTE leads because the company has the largest VoIP equipment footprint in high population countries China and India.



# ZTE'S SDR ELEMENT MANAGEMENT SYSTEM

By Xu Houqiang



**L**ong Term Evolution (LTE) has gained widespread acceptance from mobile operators worldwide as the technology of choice for their future networks. Evolution from HSPA to HSPA+ and then to LTE has become a unique evolution path for wireless networks. This path, however, gives rise to certain challenges for mobile operators. When upgrading existing networks, compliance with future standards must be taken into account. And in the evolution to LTE, some network devices may also need to be replaced.

In order to meet critical market requirements, ZTE has developed a Software Defined Radio (SDR) base station platform—a uniform hardware platform on which a single SDR base station can support multiple wireless standards with minimal software upgrade. The platform helps operators significantly reduce their Total Cost of Ownership (TCO). However, its flexibility and multi-standard support feature, increase complexity and difficulty in wireless network management and maintenance. Operator requirements for simple management and low maintenance costs drive the development of flexible, integrated wireless network management systems.

As next generation networks are IP-based, telecommunications and IP networks will evolve towards full convergence. Wireless network management must consequently integrate a variety of new technologies to ensure network management is integrated, intelligent, and standardized. Today, wireless network management seeks to adopt standard interfaces, flat structure, distributed networking, and user-friendly operation.

ZTE has launched a unique SDR Element Management System—based on its Unified Element Management System (UEMS) platform—which is in keeping with

the evolutionary trends of wireless network management. Accumulative management of SDR base stations is performed jointly by both UEMS and the SDR Element Management System (see Figure 1). Because UEMS implements the Element Management Layer (EML) and some Network Management Layer (NML) functionalities, it is beneficial with respect to:

- Flexible networking scheme
- Unified equipment deployment
- Centralized equipment management
- Lower TCO

The SDR Element Management System differs from traditional wireless EMSs in the following ways:

**Standard interfaces:** Information sharing and interoperability are fundamental for connectivity between network management systems. Standardized and uniform interfaces are prerequisite for such interoperability. The SDR Element Management System manages Network Elements (NEs) through uniform, standardized

interfaces such as SNMP and MML.

**Flat structure:** As operators aim to lower maintenance costs and improve network efficiency, it is critical to optimize the network management hierarchy using state-of-the-art network management technologies. The SDR Element Management System provides local maintenance functions as a supplement to UEMS. These functions include batch activation of SDR base stations, alarm query, network diagnosis, and emergency maintenance.

**Distributed deployment:** Distributed management is the most feasible option for wireless networks and services typically found in a distributed environment. The SDR Element Management System is flexible and capable of distributed and hierarchical networking. The management modules can be flexibly added or removed from the SDR Element Management System, depending on the underlying network products to be managed.

**Smooth evolution:** The SDR Element Management System is also capable of managing SDR base stations that support multi-technology systems. Operators can expand their existing networks or build an entirely new network as required. Moreover, the SDR Element Management System can be integrated with traditional wireless EMSs deployed for different wireless systems to achieve uniform OSS/BSS management.

**User friendly operation:** The SDR Element Management System provides unified, user-friendly GUIs for convenience in performing day to day operations. It can be flexibly deployed as a stand alone system at the NE side to enhance UEMS's capability in managing large scale wireless networks and to allow staff to perform local maintenance operations. It can also be integrated into UEMS to help manage small-scale wireless networks. Furthermore, it can be transplanted to other network management products or other wireless NEs to boost product competitiveness.

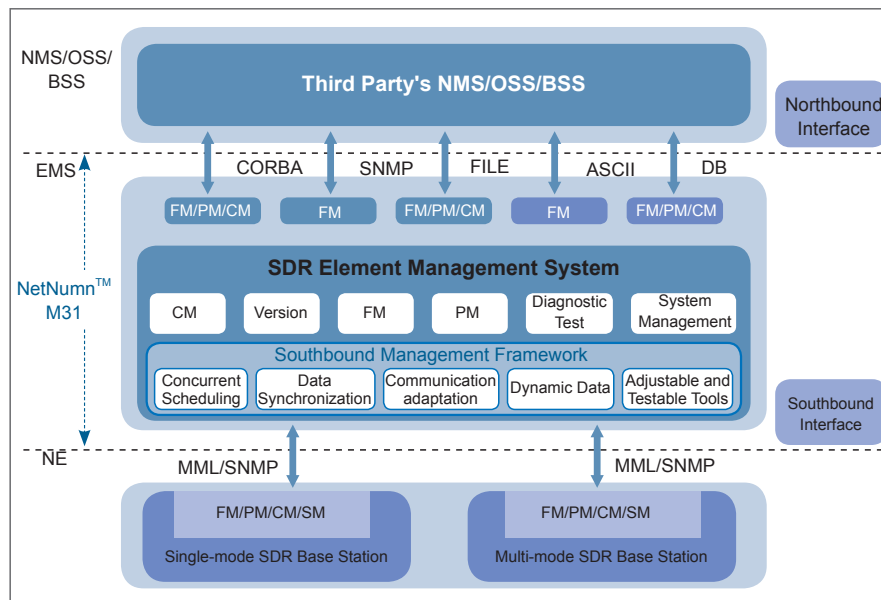


Figure 1. Architecture of ZTE's SDR Element Management System.

## ZTE Launched an All-Round Security Solution to 2010 FIFA World Cup South Africa

22 June 2010, Shenzhen, China — ZTE has convened the “World Cup Communication Security Meeting” with Cell C, the mobile operator in South Africa, to ensure the stability and security of communications during the 2010 FIFA World Cup South Africa.

The meeting addresses the real-time



challenges of maintaining the extensive and complicated communications network for the global sporting event, including wireless voice services, data services, transmission and other communications and security services which are provided by ZTE. For 28 of the most important matches, ZTE also deployed its leading SDR solutions to provide services and coverage to the four major cities in South Africa where the World Cup matches are being hosted, namely Cape Town, Durban, Bloemfontein and Elizabeth.

The SDR solution ensures the communications stability and security of the World Cup stadium, fans parks, airport, major hotels and other major entertainment areas. In addition, ZTE holds the exclusive right to deploy the national mobile bearer network of Cell C to offer the World Cup committees, players, staff and fans a mobile network with high-bandwidth and stability.

## ZTE and CSL Win Global Telecoms Business LTE Infrastructure Innovation Award

Award recognizes ZTE's cutting-edge LTE commercial trial with Telstra Hong Kong subsidiary CSL

8 June 2010, Shenzhen, China — ZTE and CSL, a Telstra subsidiary and Hong Kong's leading mobile network operator, have been awarded the LTE Infrastructure Innovation award as part of the Global Telecoms Business Innovation Awards 2010. The awards are selected and awarded by Global Telecoms Business magazine and recognize the major corporations and

innovations that have helped shape the telecoms industry over the last 12 months.

CSL's Next G network, built by ZTE, was the world's first HSPA+ network based on Software Defined Radio (SDR) technology. The carrier launched a commercial trial of LTE in November 2009, and already has 40 cell sites where LTE is operational.

## ZTE and Vodafone Win Global Telecom Business Pay as You Go Innovation Award

World's first “Balance Indicator” feature proves a winner among Vodafone customers in Germany

8 June 2010, Shenzhen, China — ZTE and Vodafone have won the Pay as you Go Innovation Award at the 2010 Global Telecoms Business Awards for the Balance Indicator function in the VDF236 handset, a unique feature that was designed and customized for Vodafone Germany. The Balance Indicator (BI) is an intelligent feature that displays real-time balance information of the user's minutes/services after every top-up, and after each call or SMS.

ZTE is the first handset manufacturer in the world to offer the BI function, and it has proved to be a popular and highly-rated feature with Vodafone Germany customers. It enables the display of remaining balances in red, yellow and green, and is a much more useful way of keeping users in touch with their balances than SMS alerts. When Vodafone users run low on minutes, they are guided through the recharging and payment process via their mobile screens.



## ZTE Partners with Public Mobile to Build CDMA Network in Canada

ZTE to build and operate end-to-end network solution

2 June 2010, Shenzhen, China — ZTE and Canadian operator Public Mobile today announced their collaboration to build a commercial CDMA network in Canada. The network is designed to provide mobile service to 19 million potential customers across the Canadian provinces of Ontario and Quebec.

ZTE has partnered with Public Mobile to design, build and operate the end-to-end CDMA network including wireless, core network, service platforms and IP architecture. ZTE is also supplying Public Mobile with handsets.

As part of the agreement, ZTE is deploying over 1,000 base stations for the network, as well as the industry's first 5+5MHz-based customized solution for Personalized Communications Systems (PCS) to provide extended G block frequency band on CDMA system equipment and terminals.

## ZTE Launches the World's First Integrated High Definition Videoconferencing Terminal

9 June 2010, Las Vegas, NV — ZTE announced today at InfoComm International its first integrated HD videoconferencing terminal, the ZXV10 T700. To meet the growing demand in audio visual communications technology, ZTE's T700 solution makes HD video conferencing more accessible to businesses as it reduces the deployment cost of operators and agents. With minimum requirements including network, power and HDMI cables, the T700 is an easy installation solution that allows users to set up a professional videoconference for small to medium sized meetings through a simple IP process.

The integrated HD videoconferencing terminal design is embedded with a 10×zoom HD camera NVS-V90 that removes wiring complexity, supports IPv4 and IPv6, multiple 3G wireless access options, dual HD 720p active video for enhanced video communication, and 720p video and broadband audio delivering excellent video and audio quality.



ZXV10 T700

## ZTE Partners with Telekom Malaysia to Roll Out High Speed Broadband Network

New infrastructure will broadly increase Malaysia's broadband penetration rate

16 June 2010, Singapore — ZTE today announced at CommunicAsia in Singapore that it has got great progress in collaborating with Telekom Malaysia to participate as one of the major suppliers to construct a national High Speed Broadband (HSBB) network in Malaysia. The HSBB network has been planned to provide nationwide high-speed broadband access to offer unparalleled broadband user experience across various areas in Malaysia.

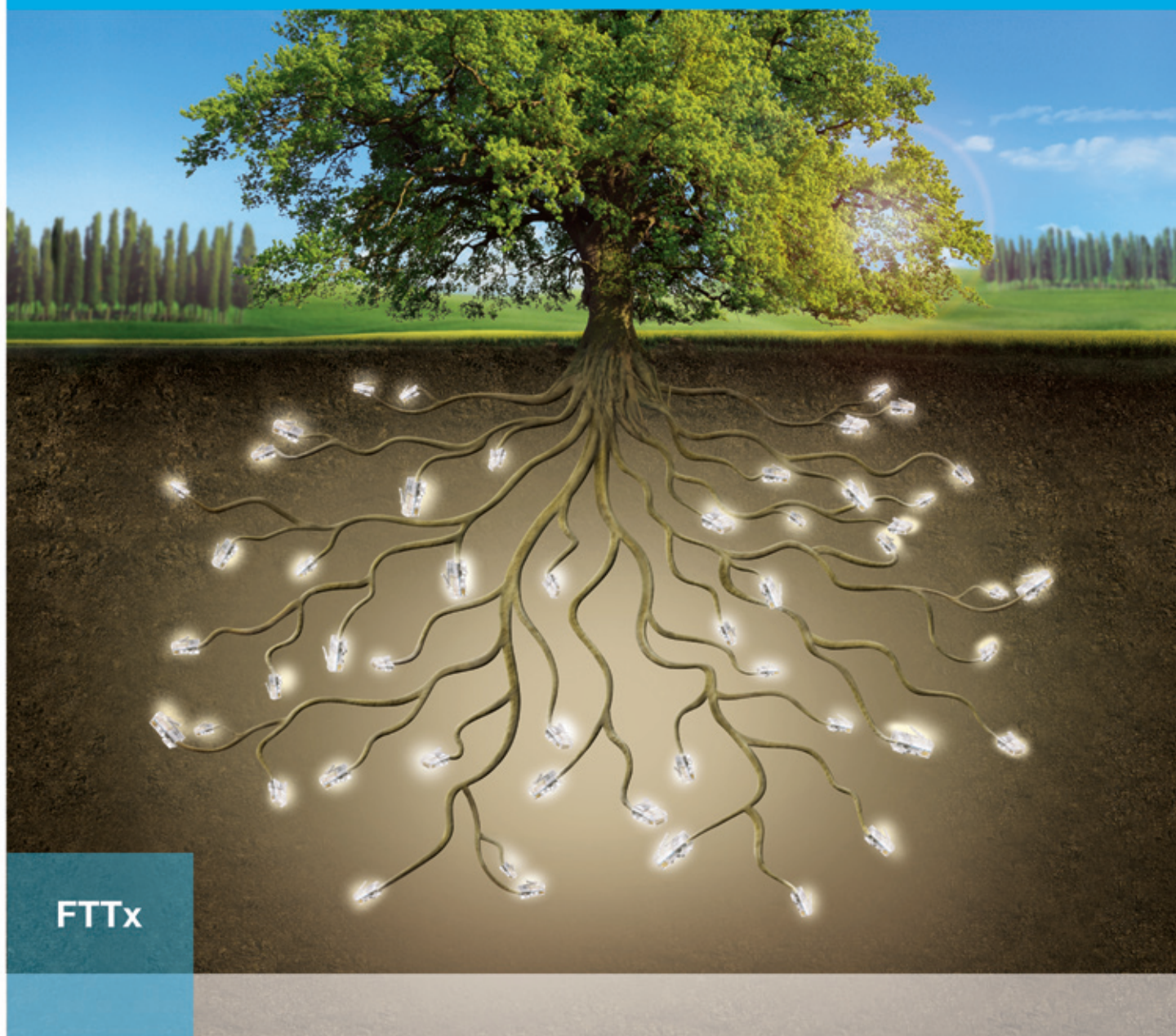
The HSBB network is a nationwide communications initiative spearheaded by the Malaysian government with the aim of turning Malaysia into a broadband rich nation. The objective is to increase broadband home penetration rate to 50% from the current 35% by the end of 2010. Under the contract, ZTE will provide Telekom Malaysia with Multi-Service Access Nodes (MSAN) as part of Phase One of the HSBB network development.

## ZTE Clinches Exclusive CDMA Supply Contract with Indonesia's Smart Telecom

Network infrastructure project to cover the whole of Indonesia with over 25 million lines

28 June 2010, Shenzhen, China — ZTE today announced that it has signed an exclusive contract with Smart Telecom, one of Indonesia's largest CDMA operators, to supply key network infrastructure equipment for the operator to deploy a country-wide network framework. This marks a deepening of the relationship between both companies following their strategic collaboration to build the world's first commercial EV-DO Rev.B network in Bali on January 10, 2010.

Under the agreement, ZTE will deliver approximately 6,000 base stations to Smart Telecom to cover the whole of Indonesia, with a total system capacity of over 25 million lines. The infrastructure project includes the deployment of ZTE's wireless solutions, transmission and core network products, business platform systems, power supplies and other equipment.



FTTx

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a green bandwidth  
boost.**

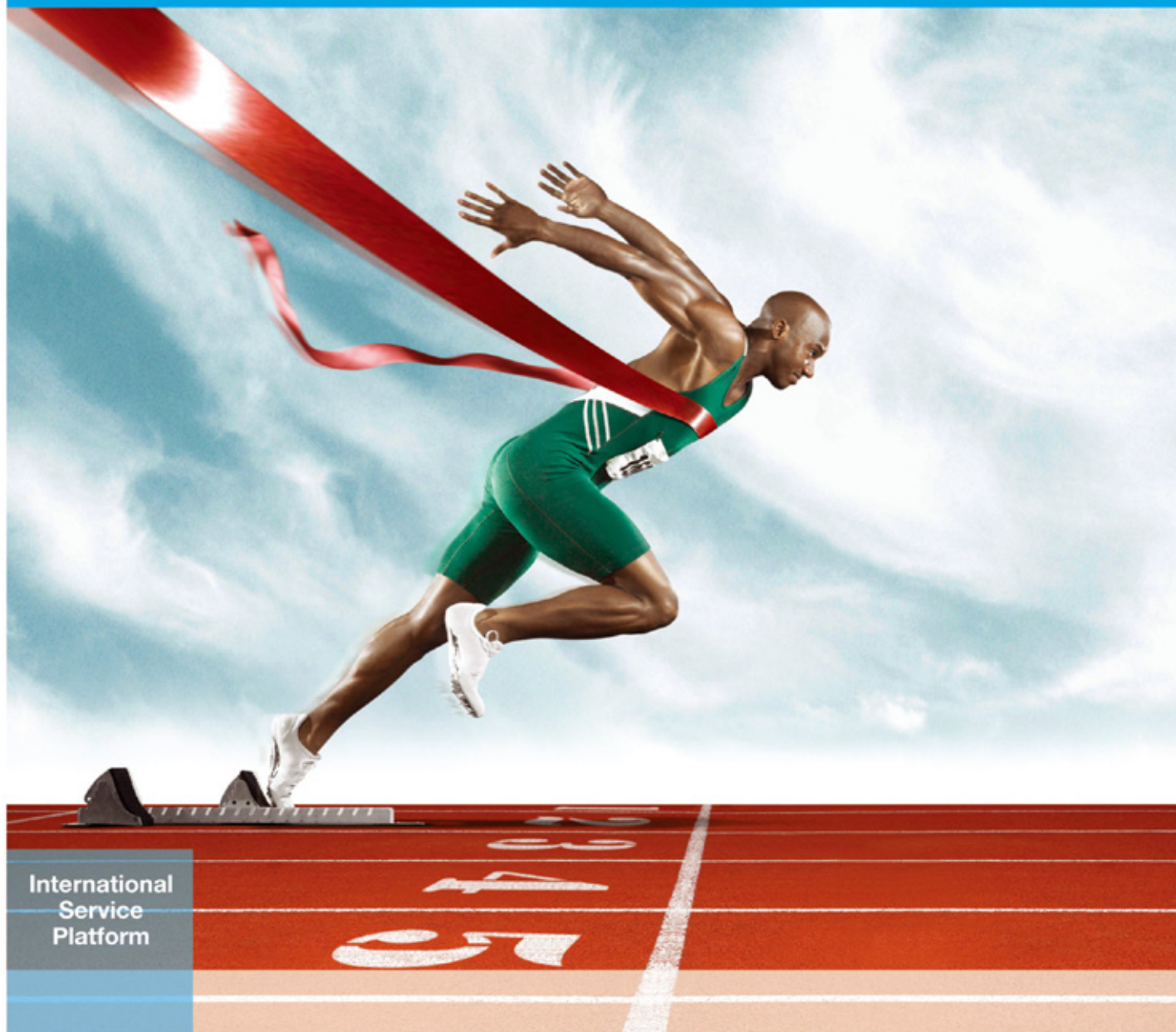
Nobody understands FTTx PON technology like we do. As a global leader in FTTx, our solutions offer advanced yet energy saving performance, easy installation and comprehensive functionality to meet the requirements of any market and any wireline network.

With ZTE FTTx PON technology, you can smoothly migrate your existing install base to a future-proof, bandwidth boosting

solution without wasting your existing infrastructure. So if you're after a green way to give your wireline network the extra bandwidth it needs to grow, we can help you.

Find out more at [www.zte.com.cn](http://www.zte.com.cn).





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