Flying in the High-End Global Market

— An interview with Lin Cheng, Vice President of ZTE’s Marketing Division IV and President of ZTE Western Europe

How to Get Success in IPTV

For fixed line and wireless telcos that have already been into video business, IPTV has become a potential revenue stream for them.
Want to win the IPTV competition?

Choose a partner who knows the game.

With ZTE as your partner for IPTV deployment, you get premium Quality of Experience (QoE), abundant applications, and superior customer service—from network planning, implementation, to ongoing support and marketing.

We offer an IPTV solution that combines cutting-edge TV, Internet, and communications services to give users a unique interactive TV experience, and present you new opportunities for revenue.

Our industry-leading IPTV solution has been successfully deployed in 20 carrier networks worldwide, and now we want to help you win the IPTV game.

ZTE is a leading global provider of telecommunications equipment and network solutions.

We deliver innovative, custom-made products and services to customers in more than 140 countries, helping them achieve continued revenue growth, while shaping the future of the world’s communications.

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As IPTV deployments grow in number and maturity, assuring Quality of Experience (QoE) is rapidly becoming a top priority for telecom operators
Third Eye

ZTE Leads the IPTV Vendor Market in Asia, Wins the Best Practice Award

According to Frost & Sullivan, ZTE accounted for 42.0% of the Asian IPTV middleware market in Q1 2009, showing its dominance in the region.

Global IPTV Equipment Market and Provider Competition Analysis

Microsoft, Thomson, ZTE, Alcatel-Lucent, and UTstarcom are the Top 5 providers, and their market share totaled near 50%.

BBWF: ZTE Touts 10G EPON Trials

As the race to commercialize next-generation fixed broadband technologies speeds up, ZTE’s 10G EPON technology has been involved in two carrier field trials in China.

Research Note

Get Ready for LTE

What will the steady CDMA carriers do to seize the market opportunity of the expanding broadband data subscribers and get ready for LTE.

Solution

New Era of Mobile Advertising

According to the predictions from various research agencies, the mobile advertising market is rapidly materializing into over $10B opportunity globally.
CSL Limited (CSL), Hong Kong’s leading mobile operator, and ZTE revealed details of their plans to expand CSL’s Next G network capabilities with the roll-out of UMTS in the 900MHz band and the building of a 4G or LTE network in Hong Kong.

At a jointly-held event, themed “Long Term Evolution—Imagine Life Now”, the companies presented the latest milestone in the Hong Kong telecommunications industry with a live demonstration of new LTE technology in action. LTE or 4G is the next evolution on from 3G. In a successful live demonstration of this technology, ZTE and CSL demonstrated the fastest mobile speeds in Hong Kong with peak download speeds in excess of 100Mbps. This successful trial of LTE technology confirms CSL and ZTE’s position at the forefront of the global mobile communications industry.

CSL used the event to not only showcase the new technology but also announce that along with its network partner ZTE, it has agreed to build an LTE commercial trial network in Hong Kong as well as the deployment of UMTS 900 which is the first instance of spectrum re-farming seen in Hong Kong. “Deployment of mobile services using UMTS in the 900 spectrum range is designed to increase outdoor coverage and in-building penetration rates; something that is vitally important in Hong Kong with its high density urban environment,” said CSL’s CTO Christian Daigneault.

“CSL’s unique network advantage with its Award-Winning Next G network in Hong Kong is unmatched. We have devoted major investment to build one of the world’s most advanced networks in Next G with more than 2200 sites throughout Hong Kong all operating with HSPA+ which provides a peak throughput of 21Mbps. We are now expanding our coverage even further with UMTS 900, and we will continue to invest in 4G LTE through our strategic partnership with ZTE. We believe that these initiatives play a crucial role in consolidating our network leadership and enabling new wireless uses for consumers and enterprises alike,” said CSL’s CEO Tarek Robbiati.

ZTE’s Chairman Hou Weigui said, “We are very proud to work closely with CSL again in the development of LTE technology in Hong Kong. With its unique geography, Hong Kong is one of the most challenging environments on earth to deploy a network, but this drives us to be as innovative and imaginative as possible. With our professional team of engineers and technical experts, we have made major strides forward in developing LTE infrastructure, which is bringing us closer to our goal of creating an optimum-performance network.”

(ZTE Corporation)
ZTE Wins InfoVision Award at Broadband World Forum Europe 2009

ZTE has won two prestigious awards at the annual telecoms industry InfoVision Awards held in conjunction with Broadband World Forum Europe 2009 in Paris.

ZTE won the Metro Network Technologies and Services award for its IxWDM New Generation Bearer Network WDM Solution which integrates WSON, PXC, L2 switching and OTN technologies. It has intelligent control plane, large capacity optical/electrical-layer service dispatching, reliable carrier-class protection and other functions to meet the present and future network transport demands from the carriers.

The Core Network Innovation and Advances category was awarded to ZTE for its ZXUN xGW Extendable Gateway. This converged gateway can carry high volumes of multimedia traffic for EV-DO, HSPA+, WiMAX and LTE and delivers seamless service continuity with handover optimisation within the system and capacity sharing between different access networks. The ZXUN xGW delivers low cost, high quality networking with simple expansion and migration for all types of operators.


ZTE was the only company to be shortlisted for awards in the Core Network, Access Network and Metro Network categories in this year’s awards.

(ZTE Corporation)

ZTE to Help Leading Finnish Operator Elisa to Deploy 100Mbps Broadband on Copper Wire

ZTE has signed a contract with Finnish telecoms operator Elisa to establish a new ultra high bandwidth data communications network using existing copper telephone cables to deliver the next generation of online services such as IPTV.

The network will provide data bandwidth of up to 100Mbps using the newest VDSL2 30a technology to selected locations in Finland.

Elisa is the largest 3G mobile telecoms operator in Finland and a major mobile and fixed line operator in the Nordic market. A key target for the company is to deliver new broadband services to customers of both fixed and mobile networks. Integrated IPTV is seen as one of the most important and potentially profitable services of the future. The new VDSL2 30a network will provide up to 100Mbps for both downstream and upstream data traffic, more than enough capacity for IPTV and other future services.

ZTE began working with Elisa engineers in the second half of 2007. The VDSL2 solution was extensively tested to prove that it could reliably provide subscribers with a very high speed of connection. Elisa’s local requirements were then presented to the ZTE broadband R&D team, and these were developed and delivered within the required timeframe and closely matched Elisa’s management practices. The final solution was thus a customized product developed specifically for Elisa.

(ZTE Corporation)
ZTE announced it has been ranked as the global leading FTTx vendor by IDATE, a renowned consulting and research firm in Europe. The top six global FTTx vendors are all Asian equipment firms, with ZTE being the industry leader with 19% of accumulated global shipments in the first half of 2009, according to the latest IDATE report “World FTTx Market.”

IDATE analysis included global FTTx deployments, FTTx technology options and FTTx equipment vendors’ business development. FTTx includes FTTH, FTTA, FTTN+VDSL and FTTx+LAN, of which FTTH and FTTB have become the most important application models. Attributed to the ongoing “Optical in and Copper out” market approach and comprehensive telecom service in China, the Asia/Pacific region is the biggest FTTx market in the world, followed by North America and Europe. In China, the FTTx+LAN is widely adopted, while in Europe and North America, FTTN+VDSL is more frequently used.

In terms of options for different FTTx technologies, EPON accounts for 60% of the global market for its technologically advanced, low cost advantages, as well as its clear and specific technology evolution roadmap. The report pointed out that the world’s top six FTTx equipment vendors all came from Asia, largely due to the fact that the world’s largest FTTx constructions are on China, including China Unicom’s 11 million EPON lines tender. In China, FTTx vendors see the tremendous business opportunities, and ZTE takes a far lead over its competitors with 45% of market share, further helping to strengthen its leading role in the domestic market.

The IDATE research report reviewed a wide range of leading FTTx providers including ZTE and Huawei. ZTE is concurrently focused on R&D of both xPON and NG-PON technologies. The company has also taken a lead position in research on 10G EPON, a next-generation PON standard. The research forecasts that the FTTx industry will continue strong growth over the next few years. By 2014, there will be 140 million FTTx users globally, while the Asia/Pacific region will remain the largest FTTx market.

(ZTE Corporation)

ZTE Inks Contract with Vinaphone to Build UMTS Networks in Vietnam

ZTE recently announced that it has partnered with Vinaphone, the subsidiary of Vietnam’s largest operator VNPT Group, to build all of Vinaphone’s UMTS networks in the central provinces of Vietnam. This marks another key breakthrough for ZTE in the Vietnamese market following its UMTS contract win from another Vietnam’s operator, Viettel, in May 2009.

Under the terms of the contract, ZTE will provide Vinaphone with its advanced SDR base stations to support the UMTS network. ZTE’s base station solutions will maximize Vinaphone’s ROI and bring unparalleled subscriber experience and access with UMTS high-speed data services. ZTE has won recognition from Vinaphone for its outstanding SDR solutions, and powerful HSPA+ and LTE capabilities. For its solid technology strength, sound logistics, timely delivery and excellent after-sales support, ZTE has become the first in Vietnam to deliver, install and adjust a trial UMTS network in Vietnam. In addition, ZTE is the first equipment provider in Vietnam to deliver networks that enable 3G calls and 3G core services.

(ZTE Corporation)
ZTE Launches Super-Capacity Cluster Router with Self-Developed Chips

ZTE announced on September 10, 2009 the launch of its ZXR10 T8000 Cluster Core Router, with the largest switching capacity in the world, targeting the high-end router market. ZTE aims to achieve over US$10 billion revenue from the high-end router market over the next three years.

Currently, the ZXR10 T8000 maximally provides 2048 40G interfaces, 1024 100G interfaces, and of up to 200Tbps switching capacity, which means each ZXR10 T8000 can support over one million users simultaneously with high-speed network access. The semiconductor chips at the heart of the ZTR10 T8000 were developed independently by ZTE and include three critical breakthroughs in core chip technology: advanced high-speed routing forwarding technology, large-capacity packet switching technology, and complex traffic management technology. The ZXR10 T8000 is the first high-end router in China to use proprietary chip technology.

“ZTE’s ZXR10 T8000 was developed to be the premier cluster router system with world-leading capacity to meet the ever-changing industry needs,” said Mr. Fan Xiaobing, General Manager of Bearer Network Product Line, ZTE Corporation. “Our proprietary core chips offer reliable services and excellent performance to help our worldwide customers build large-capacity, high-performance and upgradable green bearer networks.”

The ZXR10 T8000 places ZTE as a lead router vendor, with its groundbreaking innovation and ability to enable service providers to build flatter and higher scale IP bearer networks. The market impact of the T8000’s new router infrastructure should be significant and place ZTE amongst the major market players, according to Current Analysis.

According to the latest market analysis report (1Q09) of OVUM, the world-famous industry research firm, ZTE has become the global mainstream bearer network solutions provider. The company’s Bearer Network Group has attained the fastest growing rate among global market players.

(ZTE Corporation)

ZTE Exclusively Built the First 800G National Backbone WDM Network for Romtelecom

ZTE has completed construction of Romania’s first 800G national backbone WDM network for Romtelecom, the country’s largest fixed-line carrier. The network has over 2000km of fiber and covers half of the country including Bucharest and 21 other large and medium-sized cities. After completion, the network passed testing and will soon start commercial use for carrying major telecoms services.

Romtelecom manages around three million fixed-lines. The operator has faced fierce competition in the past years and set up a new strategy in 2007, Customer first, which already produced results in terms of customer satisfaction improvement. The operator also focused on the new emerging market segments, such as digital TV, broadband and data. Significant investments were made for upgrading and developing the broadband network infrastructure.

Romtelecom is establishing a new high-reliability, large-capacity long haul transmission broadband network to improve its service bearing capability for advanced services such as digital television and video on demand, so as to increase its range of services and its income. The 800G national backbone WDM network employs ZTE’s Unitrans ZXMP M800 WDM equipment which enables superior network design and has excellent 1+1 path protection and advanced NMS to provide high-reliability and large-capacity service transmission for users, and helps carriers to quickly deploy new data services.

(ZTE Corporation)
Flying in the High-End Global Market

—An interview with Lin Cheng, Vice President of ZTE’s Marketing Division IV and President of ZTE Western Europe

Zhao Lili

Geographically, Western Europe is stretched from Atlantic ocean reaching as far as nearby islands covering a massive 5,000,000 square kilometers, nearly one half of overall Europe. ZTE considers Western Europe as a High-End and important market for its business due to its strong economic position.

Recently, the reporter of ZTE TECHNOLOGIES had a telephonic interview with Lin Cheng, Vice President of ZTE’s Marketing Division IV and President of ZTE Western Europe.

Exploring New Markets

Lin Cheng is among the first batch of state-financed students studying abroad since China’s opening to the outside world in 1980s. After completing his studies, Lin lived and worked in Paris. With the rapid development in the telecom industry, Lin started to set foot in the telecom field. With years of experience in the telecom sector, he has an in-depth understanding of Europe and France’s telecom market.

According to Lin, Western Europe is a High-End telecom market in the world, where telecom operators and equipment vendors are densely distributed. The Information and Communications Technology (ICT) service in Western Europe covers 25% of global market. Western Europe plays a significant role in world’s telecom market. Due to its developed economy, the telecom penetration rate in Western Europe is very high. The mobile penetration
rate is above 100%, comprising 140% in Italy and 95% in France; the broadband penetration rate exceeds 40%. Among world’s Top 10 Tier-1 telecom operators, six are distributed throughout Europe including Vodafone, Telefonica, Deutsche Telekom, Orange, British Telecom, and Telecom Italia. The world’s Top 3 telecom and network equipment providers are based in Europe including Ericsson, NSN, and Alcatel-Lucent, bringing the fierce competition for the telecom market in this region.

When asked about the performance of ZTE in such a region where top telecom operators are densely distributed and the market competition is quite fierce, Lin told us that ZTE started the exploration in the Western European market from scratch and now its business here has taken shape.

Since ZTE Western Europe setup in 2005, we have established business relations with almost all telecom operators in Western Europe in terms of both infrastructure and terminal devices. Earlier in 2009, we signed a UMTS network expansion contract with OMT, a French telecom operator. This contract win marked our further cooperation with OMT following the formal UMTS contract signed by the two companies in the beginning of 2008. According to the contract, we will supply 2G and 3G infrastructure equipment to OMT’s networks in Caribbean region and Indian Ocean region. ZTE has earned praises from customers for its all-IP based dual-mode WCDMA/HSPA base stations that can be smoothly upgraded to HSPA+. Besides, ZTE has constructed a nationwide wireless network for Norway and made considerable breakthroughs with operators in Portugal, Spain, Italy, and Germany in the infrastructure segment. Meanwhile, ZTE’s terminal products are being appreciated and found good business in the Western European market and accepted by all Multi-national Telecom Operators (MTOs) in this region.

**Win-Win Strategy**

In addition to overwhelming breakthroughs in the infrastructure segment, ZTE’s terminal products also demonstrate strong competitive edge in the Western European region. In product development, sales and marketing, ZTE has established business alliance with industrial leaders. Speaking here, Lin then told us ZTE’s cooperation with 3 Italia and Portugal TMN.

In July this year, ZTE, 3 Italia and MOMO Design jointly launched 3G mobile phone MD301. Due to its fashionable profile and abundant functions, MD301 sold very well in Italy, with its sales volume ranking first in the market. This excellent performance is achieved through the joint efforts of ZTE, 3 Italia, and MOMO Design.

As one of the four major telecom operators in Italy, 3 Italia is a 3G operator, a subsidiary of Hutchison. Inheriting the style of Italy as the capital of fashion design and blend of modern art, 3 Italia pursues fashionable terminal designs. MOMO Design is a design partner of Hutchison Italy and is also a brand name promoted by Hutchison Italy. The fashionable products designed by MOMO Design cover many fields such as watches and helmets. MOMO Design has designed vehicles for exhibition in Geneva, and has cooperated with Motorola to launch bluetooth-activated helmets that are very popular among the motorcyclists.

ZTE started its cooperation with MOMO Design in 2007 and rolled out a new series of mobile phones MD2, MD3, and MD900 designed by MOMO Design. The MD301, a new bar-type handset was a joint project between MOMO Design and ZTE. It was ZTE’s first single-chip 3G handset ever launched in Italian market. The MD301 is available in three types of color combination: white black, yellow
black, and purple black. Inheriting the traditional sliver black color of MOMO Design and introducing multiple colors, the MD301 has won favor from younger generation for its bright colors yet simple style. And most especially, the MD301 represents strategic significance between ZTE and Hutchison Italy in developing the bar-type handsets as their first cooperation deal.

Currently, smartphones are very prosperous in the mobile phone industry. Lin told us that several years ago ZTE was engaged in developing low-end or medium-end mobile phones, but the cooperation with Portugal TMN to launch the Bluebelt smartphone represented ZTE’s first step towards high-end mobile phones. As a matter of fact, this step is very successful. The TMN’s Bluebelt has become the best selling smartphone by TMN in the first month after its launch. This achievement is due to three factors: effective brand promotion, product design and development completed ahead of schedule, and unique functions to satisfy users’ requirements. For example, TMN demanded a smartphone which can provide mobile office under the Windows Mobile operating system. As we know that the Bluebelt smartphone not only offers mobile office function but also integrates voice, entertainment, and Internet functions, which can greatly satisfy the requirements of ordinary consumers and businessmen.

French Open event
France Telecom, after purchasing brand name for French tennis championship, entrusted ZTE to design a special handset model for French Open, indicating France Telecom’s recognition of ZTE’s handset.

Bouygues France
The second case is ZTE’s cooperation with Bouygues, another mainstream telecom operator in France. ZTE and Bouygues jointly launched the X760 with ZTE’s own brand name in France. “It is the first time the ZTE brand appears in France. Such an achievement can boost our brand image and encourage
Self-Improvement Through Local Immersion

In December 2005, Chinese Premier Wen Jianbao paid an official visit to France. During his visit, Premier Wen witnessed the opening ceremony of ZTE’s European Skill Center in Poitiers, France, and ZTE’s CEO Yin Yiming signed the event. ZTE has set up many similar skill centers or training centers around the world. These centers are used to train local telecom engineers for ZTE; and help ZTE serve the local customers more effectively. Lin said that ZTE Poitier’s Skill Center was intended to provide skill trainings for its local cooperative partners. In this center, we have set up a complete environment for service demo, similar to a live network that allows visitors to experience end-to-end service passing through the mobile phone, base station, core network, and service platform. Currently, the center has received a large number of visitors. In addition to service demo, the center also shoulders the responsibility of after-sales support, for example, it can simulate the problems encountered by users so that engineers can offer better after-sales services. On all accounts, the center plays a key role in training technicians, demonstrating ZTE’s products and capabilities, and assuring the customers’ satisfaction.

ZTE set up its R&D center in Stockholm Sweden as early as 2004, specializing in the research of leading edge technologies in the wireless access area. At present, the R&D center has expanded to a team involving dozens of telecom experts. Thanks to the unremitting efforts ZTE made in many aspects, its achievements in Europe have improved gradually and its influence has also increased steadily.

Cross-Culture Management

Since studying in France in 1979, Lin Cheng has stayed in France for 30 years. With 30 years of studying, working, and living experience in France, he has cultivated his unique perspective and understanding of the differences between Chinese and western culture as well as Chinese and western team management. Lin said, after graduating, he had been working in different French companies before joining ZTE in 2004. ZTE gave him a different feeling. As a state-financed student studying abroad, he feels proud for working in the enterprise from homeland. Different from other multinational companies where he had worked, ZTE is a newly-emerging telecom vendor full of energy, ambitions and challenges.

In respect of cross-culture management, Lin said the local employees of ZTE Western Europe cover nearly 60% of the total and many important management positions are held by local residents. In the management layer of ZTE Western Europe, 2 positions in layer 3, 4 in layer 4, and 40% of positions in layer 5 are held by local employees. Cross-culture management is a topic of great significance. In order to guarantee smooth business operation across the world, each multinational company should have a better solution for cross-culture management. Many well-known multinational companies, such as IBM, Microsoft, Cisco, Alcatel-Lucent, and Ericsson, are very successful in cross-culture management. Their business turnover at home is very low, and their business growth chiefly relies on the global revenue. For example, the revenue that Ericsson obtained in Sweden is trivial in comparison with its total global revenue, and most of its employees are from countries other than Sweden. As a matter of fact, cross-culture is not very difficult because everyone is actively pursuing the common goal of driving the growth of enterprise, more specifically, increasing sales volume and gaining reasonable profits. The difference arising from employees of different nationalities lie in how to achieve the goal. This may lead to misunderstanding among employees of different cultural backgrounds. The managers of all layers should learn to gain cross-culture management experience from daily work and improve their management level.

A Real Dream

As usual, in the end of interview, the reporter asked about the prospect of ZTE Western Europe over the coming two to three years. Lin sincerely told us that he personally hoped that ZTE’s revenue from the Western European market should cover a certain proportion of its total global revenue, somewhat like 25% business share occupied by Western Europe in the global market, in other words, the Western Europe region can contribute more to ZTE’s growth in terms of revenue too. From Mr. Lin’s words, the reporter could feel his sincerity, confidence, and ambition.
How to Get Success in IPTV

Ahtasham Rabbani

The highly predictable IPTV technology has become a certainty. Huge commercial deployments of IPTV services by operators around the world continue to increase.

IPTV become a proven technology that allows operators to deploy advanced services such as high quality multicast IPTV channels, IP based HDTV, and multimedia networking services; it also provides new revenue streams with minimal investment. Other reward of growing IPTV services includes personalization, plethora of interactive services and quick access to a wide variety of on-demand digital content.

IPTV Feel-Good Scenario

For fixed line and wireless telcos that have already been into video business, IPTV has become a potential revenue stream for them. A statistical report from Frost & Sullivan consisting of 1800 analyst, consultants and visionaries shows a successful IPTV penetration rate among the people in the past years.

Global IPTV subscriber base has been growing rapidly since 2005, at an average annual growth rate of 78%. Even during the global economic
slowdown in 2008, IPTV’s subscriber base recorded a large increase. Global IPTV subscriber base reached 21.84 million by the end of 2008, and the year-on-year growth rate was 63.7% (see Figure 1).

Future Prediction
The rollout of an IPTV platform is projected to speed up over the next decade. Frost & Sullivan forecasts that the global IPTV market is expected to maintain high growth rate for the upcoming three years. The number of global IPTV subscribers is expected to reach almost 140 million by the end of 2012, at a Compound Annual Growth Rate (CAGR) of 45% from 2008 to 2012 (see Figure 2).

IPTV Success Stories
France
France has been one of the dominant forces in the global IPTV market. According to the French telecoms regulator, ARCEP, 37% of xDSL subscribers were able to access IPTV at the end of 2008, either through subscriptions or via the triple-play bundles that are a feature of the French broadband market. The audience measurement company Mediametrie claimed that IPTV overtook cable TV in terms of subscribers in mid-2008.

All three main IPTV players in France—Iliad, France Telecom and Neuf Cegetel—offer bundled telephony, Internet via ADSL and TV, for less than EUR30 (around NZD51, at purchasing power parity rates) per month.

China
There are about 2.2 million IPTV users in China till 2008, and further growth is expected with an addition of 2 to 2.5 million more users in 2009.

Shanghai, China’s economy, technology and communication center is now playing a more important role in leading China through Shanghai Telecom, a subsidiary of China telecom, by becoming a modern integrated information services city. Shanghai Telecom has listed IPTV as one of the core services for its strategic transformation and network convergence. Shanghai’s IPTV industry under the brand name of BesTV showed a great success in Chinese IPTV market, which is the world’s largest H.264 based IPTV application.

Key Successful Points
Based on ZTE’s extensive experience in multimedia field with statistics of 2 million commercial IPTV users and more than 20 application cases, here are some critical IPTV factors to be targeted during a rollout of an IPTV service.

Content is ruling IPTV
Video content, in particular premium content, to deliver over the IPTV...
platform has been said to be the most important element in an IPTV solution. Content holds great importance even when there was no IPTV.

Content will definitely help the telecom operators hurl the TV service to the end consumer. Content can be easily advertised to the consumer as one of the payback of subscribing to pay TV over the telephone line.

The programming content itself plays a primary role according to the IPTV deployment experiences of different service providers in Europe, United States and China, as the content is fully acquired, designed and provided by the operators rather than telecom vendors.

**Know your business model**

Operator has to look for a successful business model. The business model for IPTV adoption is sturdy, though more demanding for some of the IPTV players. Because content providers have the ultimate position in the IPTV ecosystem, profit margins may come out gloomy. Providers must cautiously build the content cost into their IPTV business model.

Some major business case analysis indicates that acquiring content will become the most important component in the cost/revenue model for IPTV, accounting for more than 40% of costs by the fifth year of operation.

IPTV could be a most complex service providers can offer and also the one with the lowest gross margins, but if they know their business case, they can gain higher margins. Therefore, IPTV providers must grasp their cost as much as possible from the elements of the platform, including home-networking, hardware, software and middleware.

**Higher Quality of Experience (QoE)**

As content is ruling IPTV, the quality of IPTV experience must be as good as or better than conventional television services. Monitoring and measuring regarding the IPTV quality can be a challenge, however. Operators can look for the people who can measure the network quality, but they may not specify what program a customer is viewing.

Operator must set up a system to check the quality and a better viewing experience. High Definition (HD) channels can play a vital role for higher profit margins.

**Efficient customer service**

Operators must follow bundled solutions today to attain higher revenue. A customer who is using multiple services from a single service provider becomes much more well-established and is less likely to shake, if the value and quality of the entire bundle remains high. Based on the extensive experiences of operators in Europe, China, and America that have employed a bundle or solution-selling strategy, bundling can be a double-edged sword.

Researchers have shown that operators have problem with the value of one of the services in the bundle and find that their customers are actually as much as 60% more likely to shake than a customer of a single service.

So service providers that assertively launch a medium—video service bundled with voice and data can not only lose that customer as a video consumer, but also as a consumer for voice and data services as well. And that can be a very high blow to the customer base.

Bearing these things in mind, operators must check and scrupulously measure both customer satisfaction and the stability of services being offered. This may require ensuring that CRM capabilities are fully included throughout the entire solution.

**Steady platform for higher customer base**

Permanence of the service is the most important factor in IPTV success; and that means stable platform and architecture itself. If the IPTV service is not trust worthy, high customer roil will result, and operators may end up with the lower customer base.

A truly broad IPTV solution includes the systems, video infrastructure and network elements required for an end-to-end solution. The most important success factor, in ZTE—Shanghai Telecom IPTV experience, is creating a stable and scalable IPTV service over a broadband multi-service platform.

This has proved these challenges can happen to almost every operator. All the network and service control issues required for QoS and bandwidth control between the different services over the same broadband access requires target expertise and understanding of multiple broadband services and their characteristics.

The structural design that permits the video service over IP must be stable over the access network and home gateway using IP. This is not something operator can ignore; to build up such a design requires unique understanding of video as well as broadband.

Finally, to deliver end-to-end IPTV solution is not only in the industrial challenges in combining all the video network components and systems involved, but also in the integration with OSS/BSS platforms to be able to offer video services in tune with the operator’s customer experience goals.
PTV is growing and advancing worldwide, with both opportunities and challenges lying ahead. The IPTV network construction has to encompass a range of dimensions such as the robustness, security, reliability, scalability, and high Quality of Service (QoS) for carrier-class telecom networks; the emphasis of media services on Quality of Experience (QoE); and the superior service expandability, open interfaces, and flexible business modes of the Internet.

ZTE, as the leading IPTV solution provider, has gained rich experience in IPTV network construction and service development by being actively involved in IPTV projects for China Telecom, China Unicom and operators in Belarus, Venezuela and Vietnam.

Following are some thoughts on a very large-scale IPTV network construction with a view to enhancing the quality and development of IPTV, reducing operators’ Total Cost of Ownership (TCO), and boosting their Average Revenue Per User (ARPU) and Return On Investment (ROI).

**Enhancing QoE**

**Friendly man-machine interface**

The man-machine interface is the “portal” for improving IPTV user experience, bringing ease of use and operational flexibility which has to be enhanced constantly.

**Raising video service quality**

Raising video service quality is the “key” for improving IPTV user experience. For any user, in a very large-scale IPTV network, built on the complex Metropolitan Area Networks (MANs) and access networks any time and anywhere, program accessibility with quality playable media should be guaranteed in the whole process in a way that maximally cuts operators’ cost. This has been the focus of IPTV developers’ efforts throughout the years. Specifically, the IPTV developers have been trying to improve IPTV’s adaptation to MAN environments, its seamless support for dual-stack protocols across a multi-plane network, the optimization of streaming protocol flows, the jitter processing in case of network failure, and the encoding/decoding efficiency for high definition IPTV.

In addition, the accurate analysis of video service quality provides operators with better support for improving QoS and QoE as well as offers a solid basis for network optimization.

**Efficient customer support services and easy O&M capability**

Customer support services and easy Operation and Maintenance (O&M) capability is a potent guarantee for improving IPTV user experience. The IPTV Network Management System (NMS) allows fast service provisioning, zero configuration at customer premises, accurate fault diagnosis and processing, easy routine maintenance, and scientific measurement and planning.

By fully interworking with the operator’s IT support system, the IPTV system allows a number of options to become service handling portals, including business halls, hotline, networks and self-care on IPTV screens. This not only increases customer satisfaction with service handling but also facilitates future Value Added Service (VAS) segmentation and flexible service operation.

**Building a digital home network**

IPTV services offer an opportunity to build a digital home network and further enhance user experience. As a result
The operability and manageability of services also need to be enhanced.

IPTV-based enterprise user solutions

IPTV targets not only home users but also enterprise users. When IPTV features such as global broadband networks, big-screen TV display, simple operations, interactive participation, colorful multimedia services, and remote service delivery and deployment, are combined with the IT data of enterprise users, the potential of the IPTV system is drastically boosted, allowing it to be widely used in sectors such as hotels, education, advertising, shops and lottery. Furthermore, the convergence of video surveillance, videoconferencing and mobile streaming expands the application scope of IPTV.

Building Multimedia Platform for Full-Service Operation

As compared to all multimedia services, IPTV has the largest-scale service capability platform. On a scale of hundreds of, thousands of or even millions of users, the IPTV platform can be integrated with other traditional platforms involving video surveillance, videoconferencing, visual communications, broadband video, message communications, instant messaging, and mobile streaming, to form a unified, convergent multimedia service capability system. Covering both fixed-line and mobile networks, the system allows access to a variety of terminals, including TVs, PCs, mobile phones, and visual multimedia devices, and enables seamless handover among any terminals, any locations, any time points, and any services, thus providing individual, home, government and enterpriser users with integrated multimedia solutions for full-service operation.
Belarus (Belorussia, Byelorussia) is a landlocked country in Eastern Europe. 40% of the country is forested, and its strongest economic sectors are agriculture and manufacturing. Beltelecom is the national telecoms operator owned by the Belarusian government. It was founded on 3 July 1995 and launched its data communications network in 1996. Beltelecom is also the primary Internet service provider in Belarus.

In addition to the control of international channels as a primary provider, Beltelecom plays a significant role in the Internet services market. By the end of 2008, it controlled 78% of the national ADSL market and 44% in Minsk, the capital of Belarus.

Beltelecom has been awarded certificates of compliance with the requirements of ISO 9001-2001 under the national certification system of the Republic of Belarus and German Association for Accreditation (TGA) for its quality management system for provisioning of telecom services.

Technology Revolutions

Over the last decade, the growth of satellite service, the rise of digital cable, and the birth of HDTV have all left their mark on the television landscape. Now, a new delivery method threatens to shake things up even more powerfully. Internet Protocol Television (IPTV) has arrived, and backed by the deep pockets of the telecommunications industry, it is poised to offer more interactivity and bring a hefty dose of competition to the business of selling TV.

If you are integrating voice, video and data and hoping to win customers on the allure of Value-Added Services (VASs), the service application can only be IPTV, because this is a rapidly maturing technology for the delivery of broadcast TV and other media-rich services over a secure, end-to-end operator managed IP data network. By using an IP network, a variety of VASs can be transmitted over a single pipe from the service provider to the consumer.

Being a consumer oriented operator, Beltelecom knows that its consumers want some new technology innovations in its network. What can it be? Of course, video. Therefore, Beltelecom goes for an IPTV service and for this solution it looks for a strategic partner.

Beltelecom also knows that not only has IPTV become a proven technology that allows telecom companies to deploy advanced services such as high quality multicast IPTV channels, IP
Based on IPTV, Whole Home Media Networking (WHMN) services, but it also provides providers with new streams of revenue. Other advantages of evolving IPTV services include personalization and immediate access to a wide variety of on-demand digital content.

**Minsk IPTV**
Since May 2006, Beltelecom has conducted IPTV trial tests with leading providers in the industry like ZTE, NSN, Huawei, and Isktel. ZTE actively responded to Beltelecom’s demand. Its “EyeWill” powerful service generator helps Beltelecom deploy ample services like basic TV, personal TV and VASs, so Beltelecom can easily expand their business scope; its “EyeWill” solution possesses advanced unified communication function and facility of information browsing because of its friendly operation and information, so users can easily navigate what they want.

With its carrier-class structure, next generation oriented, ample services, flexible structure and advanced network management capability, ZTE’s “EyeWill” solution won the first place both in technical and commercial phases of the project. Finally ZTE stood out of all the candidates and exclusively won this project. Beltelecom launched its IPTV service named Minsk IPTV.

**Minsk IPTV Methodology**
As the first phase of the project, basic TV services offered to subscribers consist of Live TV, VoD, nVOD, TVOD, TSTV, nPVR and Music on Demand. With these TV services, the subscribers can freely schedule their time to enjoy various TV programs in their own way.

At the second phase, the IPTV bearer network will be enhanced to provide HDTV services, perfecting quality of TV services, and ZTE’s EPG tools will help BelTelecom easily customize the EPG templates. Besides, the VAS platform will be ready for serving colorful VASs, such as gaming, unified communication and so on. This platform is a powerful VAS generation engine that allows Beltelecom to develop and manage profitable VASs.

The first phase of the project has been completed and operational, and the second phase of programming is on the right track. In two or three years, the IPTV services will be spread out through all the broadband users of Belarus. The IPTV project is one of the most crucial strategies of BelTelecom.

**Minsk IPTV Highlights**

**Satisfying the Belarus future development**
The future developing plan of BelTelecom is to diversify the range of telecom services and to provide information for the citizen’s lives. The current status of BelTelecom is that they are providing only basic fixed services which limit their ARPU to a low level, while IPTV is the right weapon to transform their business mode—it offers a platform enabling Beltelecom to release ample services to all families. It exactly expands BelTelecom services provisioning and source of revenue. Moreover, IPTV services will enrich people’s lives, helping them have more interaction and entertainment.

The IPTV services delivered include 50 Standard-Definition (SD) channels with 3M bandwidth, 50 SD channels with TSTV service configured with 20 minutes, 25 channels TVOD with 72 hours, NPVR service with 8 hours and 4T storage capacity for VIP users, and Karaoke service.

**Powerful services generator**
In the next phase of Belarus IPTV, ZTE’s VAS platform will be deployed. It is a powerful services generator and an integrated platform that facilitates the operators, services providers and manufacturers to develop and manage VASs. The services program of the second phase of Belarus IPTV is as below:

- **Video communication**
  Video communication allows face-to-face conversations across the network. It supports P2P video communication, multi-point video communication and interoperability with fixed and mobile terminals such as STB, PC and 3G terminals.

- **Instant message**
  Instant Message (IM) enjoys great popularity in PC and handset. The users can send short messages on ZTE’s “Eye-Will” IPTV platform, and the messages could be sent to other IPTV users or mobile users. The feature also allows the users to communicate with other IPTV users and Internet users by email.

- **Information browser**
  Information service is an important service of ZTE’s “Eye-Will” solution. It continuously provides ample and real-time information and at the same time attracts more information providers to the service contribution and development. With this feature, people have access to the information they care about, especially some life-related information like water/electricity fare, consumable price, temperature, etc.

- **Interactive games**
  ZTE’s “Eye-Will” solution provides various interactive games. It has included some chess games like international chess. At present ZTE is trying to cooperate with some third-party professional games providers to enrich the interactive games.
As IPTV deployments grow in number and maturity, assuring Quality of Experience (QoE) is rapidly becoming a top priority for telecom operators. The QoE plays a crucial role for IPTV success in order to gain maximum Return on Investment (ROI) for the operators.

Today the operators around the world are racing to deploy video services. The question is no longer “how to make IPTV possible,” but rather, “how to ensure the highest quality video delivery.”

In order to satisfy the operators’ demands and customer requirements, ZTE offers its IPTV QoE solution that includes six parts: Electronic Program Guide (EPG) responding, fast zapping, Video on Demand (VOD) responding, one-key switching, Set-Top-Box (STB) QoS testing, and packet loss compensation.

**EPG Responding**

The EPG page loading time is affected by three factors: network status, complexity of page scripts, and complexity of page images. As the page content needs to be downloaded from the operator’s network, the loading time will increase if the network is busy. There can be several scripts compiled for the same page, and due to their dynamic size, the loading efficiency might be affected. Scripts containing simple images with smaller size can be decoded quicker as compared to complex and large size images. The common formats that can be fast decoded by ZTE’s IPTV STB are GIF, JPG and PNG.

ZTE has gained rich experience in optimizing EPG pages and lowering the complexity of page scripts and images on a live network. The page loading time is less than 1.5 seconds in the commercial IPTV network deployed by ZTE.

**Fast Zapping**

**Slow A/V synchronization**

The audio and video packages received by STB are not synchronous, but have a delay of about 100-300ms
depending on the network status. To reduce this delay, ZTE adopts its patented “slow A/V synchronization” technique in which STB displays videos when receiving the audio packets without waiting for the synchronous video packets. Generally, STB receives the A/V packages at T0, but displays them at T1. By using the “slow A/V synchronization” technique, STB can display them at T0, as shown in Figure 1.

**Multicast without RTSP**

Generally, for multicast and unicast broadcasts, STB must set up a RTSP link. In ZTE’s multicast solution, the program playlist is sent to STB at first. When a user switches to another channel, STB will add directly the new multicast address without redirecting. Therefore, RTSP is not used for multicast, which can reduce the wait time of channel switching.

**Save the last picture**

ZTE’s STB can save the last frame of the previous channel until it receives the code streams from a new channel. In this way, the blank-screen caused by channel switching can be eliminated. From a user experience perspective, the switching time is reduced.

**VOD Responding**

**Slow A/V synchronization**

The slow A/V synchronization solution in VOD responding is the same as that in fast zapping.

**Fast sending mechanism**

To optimize the VOD respond time, the streaming media server adopts the strategy of fast sending code streams, which enables the decoder buffer to quickly reach the threshold for decoding and shorten the time for displaying videos on the STB. It should be noted that the fast sending of code streams is used in unicast program. The streaming media server sends unicast streams at higher data rate in the first few seconds.

**One-Key Switching**

The remote control of STB allows one key to switch to the corresponding program such as Live TV, TVOD and VOD. For example, when a user is watching VOD program, he can press the Live TV key to directly watch the Live TV program. The one-key switching function provides ease of use, ensuring good QoE.

**STB QoS Testing**

STB monitors information about packet loss and media code rate on a real-time basis. All this information is recorded on STB and the Network Management System (NMS) can query the relative information through the Tr069.

**Packet Loss Compensation**

**Live TV packet loss compensation**

Through the Forward Error Correction (FEC) algorithm, the redundant streams are generated in the source streams and used for packet loss compensation in the source streams at the receiver. The source and redundant streams are sent simultaneously to the receiver. Using the redundant streams, the receiver can make up for the lost packets in the source streams through the FEC operation. In this way, the complete source streams can be recovered at the receiver’s end. Even though certain redundant streams are lost, the receiver can still recover the source streams. The recovery effect depends on the redundancy of the redundant streams and the packet loss status. The higher the redundancy, the better the network QoS adaptation, and hence the higher the requirements for network bandwidth and receiver/transmitter processing capability.

**VOD packet loss compensation**

The media streams received by the STB buffer are checked whether there is packet loss before being sent to the decoder. If packet loss occurs, STB will send a packet loss message to the streaming server via the RTCP signaling. After receiving the RTCP message, the streaming server will again send the lost packets to STB. This UDP retransmission function has no effect on network QoE when the packet loss rate is about 2%.

In order to create strong customer loyalty, it is critical that the subscriber QoE is equal or better than competitive offerings from the first day of video delivery. ZTE’s IPTV system can provide robust service assurance and control solutions to ensure optimal QoE. Recently, ZTE has been awarded the Best Practice Award—2009 IPTV Equipment Vendor of the Year title by Frost & Sullivan. Its IPTV system has been widely deployed for operators around the world such as China Telecom, CANTV in Venezuela, and Beltelecom in Belarus.
Telecommunications equipment vendor ZTE has been awarded the 2009 IPTV Equipment Vendor of the Year title by Frost & Sullivan.

Frost & Sullivan noted that global IPTV subscriber base has been growing rapidly since 2005, at an average annual growth rate of 78.0%. By the end of 2008, global IPTV subscriber base had reached 21.84 million, marking a year-on-year growth at 63.7%.

Globally, Asia is now the most important emerging IPTV market. Besides Europe and the United States, the Asian IPTV market has gradually attained large scale, especially in South and East Asia and China. Frost & Sullivan thinks this was primarily due to the drive of broadband market in Asia.

According to Frost & Sullivan, ZTE accounted for 42.0% of the Asian IPTV middleware market in Q1 2009, showing its dominance in the region. Besides the Asian market, ZTE attained significant share in the emerging markets such as South America and Africa.

In emerging markets like South and East Asia, Commonwealth of Independent States, and South America, ZTE is actively utilizing the extensive resources of carrier clients in the broadband access market. For example, ZTE is taking advantage of the better broadband infrastructure available in the South American countries, and with its comprehensive influence in telecom field, the company tries to seize potential IPTV opportunities.

ZTE plans to further deepen cooperation with carriers and to promote the market development actively in order to strengthen its leading position in the emerging market, Frost & Sullivan noted.

ZTE is also suggested to explore the European and North American markets, mainly in tier 2 and tier 3 carriers, especially to seize opportunity to satisfy the carriers’ demand for low operating cost during the economic crisis, the research firm said.

The provision of end-to-end solutions, the triple-play applications, and lower operating costs are driving the company to invest in these markets.

The latest in the series of ZTE’s IPTV contract wins is a large-scale commercial IPTV contract from CANTV, the largest telecom carrier in Venezuela. This contract, according to ZTE, is considered as the largest IPTV project in the whole South America region. The CANTV IPTV project is significant in the region because it is expected to trigger a wave of large-scale commercial IPTV deployments by other carriers in the region. ZTE will focus on covering most part of Venezuela’s territory in the next five years.
Global IPTV Equipment Market and Provider Competition Analysis

July 2009, selected from the global-growth consulting firm Frost & Sullivan

No manufacturer in the global market has achieved the status of absolute advantage in IPTV middleware market by the first quarter of 2009. Microsoft, Thomson, ZTE, Alcatel-Lucent, and UTstarcom are the Top 5 providers (calculated in accordance with the Subscriber License), and their market share totaled near 50%.

Frost & Sullivan forecasts that the global IPTV market is expected to maintain high growth rate for the future three years. The number of global IPTV subscribers is expected to reach almost 140 million by the end of 2012, at a compound annual growth rate of 45% from 2008 to 2012.

With the rapid growth of the global IPTV market, the Top 5 manufacturers are expected to expand their market share. Top 5’s market share totaled 55.8% by the end of 2008, and is likely to grow over 60% by the end of 2012. Among them, Microsoft, ZTE and Alcatel have stonger competitive power in the whole and will grow faster than others. On the other hand, Thomson’s and UTstarcom’s influences is likely to be limited in certain regional markets and will grow at a slower rate than the former three. To sum up, Microsoft has greatest influence in high-end market of North America and Western Europe, and ZTE has highest growth rate based on influence in emerging market of Asia and South America.

IPTV Market Development Analysis

Global IPTV subscriber base has been growing rapidly since 2005, at an average annual growth rate of 78%. Even during the global economic slowdown in 2008, IPTV’s subscriber base recorded a large increase. Global IPTV subscriber base reached 21.84 million by the end of 2008, and the year-on-year growth rate was 63.7%.

As a major source of IPTV subscriber, Western Europe accounted for about half of the total market in 2008. The other major regions were North America, South and East Asia, and Asia Pacific, holding 17.6, 16.6, and 14.1% of the market, respectively. The remaining regions East Europe, Latin America, and Africa, had not occupied any major share in the global IPTV service market.

With respect to regional IPTV subscriber growth from 2007 to 2008, as seen in Figure 1, based on a large scale of subscriber, Western Europe grew at a lower rate of 47.4%, lower than the global average growth rate. North America and South and East Asia experienced a rapid expansion with the growth rate of around 100%. Asia Pacific had a lower growth rate of 40.1%.

Competition Analysis of Top 5 Providers of IPTV Middleware

In general, there are many IPTV
middleware providers and more than 10 active competitors. As seen in Table 1, by Q1 2009, due to its influence in North America and Europe, Microsoft was ranked first with 12.4% share in the world middleware market (calculated in accordance with the License subscriber). Thomson benefited from development of FT’s IPTV business and ranked second with 11.6% share. ZTE surpassed Alcatel-Lucent and ranked third with 9.1% share, through its active market exploration in Asia, South America and other emerging markets. Alcatel-Lucent and UTstarcom were ranked fourth and fifth, with the market share of 8.9 and 7.8% respectively. Top 5 providers together held about 50% market share in the world, but none of them had gained overwhelming leadership the global market.

Based on the in-depth cooperation with FT, Thomson gained the largest share in Europe. Alcatel-Lucent took over Telefonica’s IPTV service and had an in-depth cooperation with Telecom Italia. Microsoft’s key client in Europe included BT and DT.

Most of mainstream carriers in North America adopted Microsoft’s middleware solutions. Other providers in North America mainly cooperate with tier 2 or tier 3 carriers.

Based on leading advantage in technology and user experience, ZTE and UTstarcom became the mainstream providers in the Chinese market. Besides the Chinese market, ZTE attained significant share in the South and East Asian markets. For example, ZTE cooperated with VNPT, which is the largest carrier in Vietnam, and established an IPTV plan with subscriber capability of 60,000. Thus, ZTE is the leader in the Asian market. Cascade ranked third due to its cooperation with PCCW. Microsoft implemented its high-end strategy in Asia and attained IPTV application in Chunghwa Telecom and was ranked fourth. Besides, it attained relationship with SingTel and Reliance, which have great potential in IPTV business.

In addition, ZTE and Alcatel-Lucent have great influence in other markets, such as South America and Middle East. For example, ZTE attained application in CANTV, which is the largest carrier in Venezuela, which made ZTE the mainstream

<table>
<thead>
<tr>
<th>Providers</th>
<th>Rank</th>
<th>Market Share</th>
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<tr>
<td>Microsoft</td>
<td>1</td>
<td>12.4%</td>
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<tr>
<td>Thomson</td>
<td>2</td>
<td>11.6%</td>
</tr>
<tr>
<td>ZTE</td>
<td>3</td>
<td>9.1%</td>
</tr>
<tr>
<td>Alcatel-Lucent</td>
<td>4</td>
<td>8.9%</td>
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<tr>
<td>UTstarcom</td>
<td>5</td>
<td>7.8%</td>
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Table 1  Market share of Top 5 global IPTV middleware manufacturers: Q1 2009

Source: FROST & SULLIVAN
provider in South America.

Overall, most of the global mainstream IPTV carriers are in rapid-growth stage, and the Top 5 providers have greater influence in relevant regional markets. Therefore, Top 5 providers are expected to expand their market share. Microsoft’s strategy of positioning in the high-end market has begun to gain favorable return. ZTE and UTstarcom have technical advantage and have more influence in emerging market of Asia and South America. Hence, these three have stronger overall competitive power and are expected to grow faster than others. On the other hand, although Thomson and Alcatel-Lucent are expected to increase market share, their influence seem to be limited in regional markets. Accordingly, Thomson and UTstarcom are expected to grow lower than the other three. To sum up, Microsoft has greatest influence in high-end market, and ZTE has highest growth rate based on influence in emerging market of Asia and South America.

**IPTV Market Trend Forecasts and Opportunity Analysis**

Frost & Sullivan forecasts that the global IPTV market is likely to maintain high growth rate in future three years. The global IPTV subscriber base is to reach almost 140 million by the end of 2012, with CAGR of 45% from 2008 to 2012, as seen in Figure 2.

With respect to regional distribution, Frost & Sullivan forecasts that the overall market share of Asia is expected to increase from 30.7% in 2008 to 39.3% in 2012. Then Asia is expected to become the world’s largest regional IPTV market. The market share of Western Europe is likely to fall from 47.6% in 2008 to 26.7% in 2012, while that of North America and Asia Pacific will rise to 24.0% and 23.2% respectively, in 2012 (see Figure 3).

As seen in Figure 4, in IPTV middleware market, the mainstream providers, such as Microsoft, ZTE, and Alcatel-Lucent, are likely to expand their market shares quickly and enhance market concentration, and regional providers are likely to be restricted in certain market and grow at a relatively slower rate. On the other hand, small and medium providers, such as Netgem, are not likely to grow at a significant rate.
BBWF:

ZTE Touts 10G EPON Trials

September 10, 2009
by Ray Le Maistre, International News Editor, Light Reading
(Source: Light Reading)

As the race to commercialize next-generation fixed broadband technologies speeds up, Chinese vendor ZTE Corporation says its 10G EPON technology has been involved in two carrier field trials in China.

The vendor says its ZXA10 C300 platform, which was first unveiled late last year and can house multiple FTTX technologies, was used for the trials, which began in July and which were recently completed (See ZTE Touts 10G EPON and ZTE Touts Next Gen PON).

The 10G EPON connections, which can support 10Gbit/s downstream and 1Gbit/s upstream, or 10Gbit/s symmetric (depending on the variant deployed), were used for a number of different services during the trials, including high-definition TV, high-speed Internet access, and data backhaul, according to Xu Ming, a Vice President at ZTE’s broadband business.

He didn’t identify the carriers involved, but Light Reading believes China Telecom is one of them: The carrier has been organizing 10G
EPON interoperability tests, and talk on the show floor in Paris was that the carrier was among those carriers trialing ZTE (See Opulan Passes 10G EPON Test).

All three of China’s giant carriers—the other two being China Mobile and China Unicom—are promoting high-speed fixed broadband services, and are exploring next-generation technology options for both their fixed and mobile access networks (See AlcaLu Lands GPON, 3G Deals in China and China Set for DSL, FTTH Boom).

Xu Ming expects mass deployment of 10G EPON systems (for which pre-standards chips have been available for some months) to start in 2010, and says that while there have been trials in China only, carriers outside China have also expressed interest (See Vitesse Intros 10G-EPON IC, PMC Unveils Symmetric 10G EPON, Teknovus Unveils 10G EPON, and PMC-Sierra Demos 10G EPON).

10G EPON, effectively an upgrade from EPON (which is broadly deployed across Asia/Pacific), has almost completed the standards process at the Institute of Electrical and Electronics Engineers Inc. (IEEE): Its ratification is on the agenda of the Institute’s Standards Board, which meets this Friday (September 11), says Glen Kramer, Chairman of the IEEE’s 10G EPON Task Force.

But it’s just one of three next-generation Passive Optical Network (PON) technologies set to supersede current favorites EPON (aka GEPON) and GPON, which has found particular favor in the U.S. though there are signs of growing interest in China (See BBWF: Ericsson Enters AT&T’s GPON Domain, AlcaLu Lands GPON, 3G Deals in China, Who Makes What: GPON & WDM-PON Equipment, and Ericsson Scores GPON Wins in China).

The other two next-generation PON technologies are still some way off being standardized, according to the recent Heavy Reading report, “FTTH Review & Five-Year Forecast: The Road to Next-Gen PON” (See Fiber, Fiber Everywhere...).

The ITU’s 10GPON (or NG-PON1) standard, is due to be ratified next year, with commercial products hitting the streets “at the end of 2010, or more likely early in 2011,” writes the report’s author, Heavy Reading chief analyst Graham Finnie. This technology will enable 10Gbit/s downstream and 2.5Gbit/s upstream.

Alcatel-Lucent demonstrated its 10GPON prototype during this week’s Broadband World Forum event in Paris (See BBWF: AlcaLu Shows Off 10GPON).

The third next-gen option is WDM PON, which is not yet in a formal standards process, though informal discussions are taking place, according to Heavy Reading’s Finnie. He doesn’t expect to see a standard until at least 2012, “and most likely later.” This technology delivers a dedicated wavelength to each end user over a long distance, with up to 10Gbit/s per wavelength.

Although that technology is a long way off, its potential is exciting some carriers, including Telecom Italia SpA (See BBWF: WDM PON? Bring It On!).
As the wind vane of the next generation mobile broadband technology, LTE has become a focus in all telecom equipment exhibitions since 2008. Most major telecom equipment suppliers have demonstrated static LTE products and dynamic LTE services, indicating that the LTE industry chain has moved to an “expressway”.

Among the mobile carriers, Verizon Wireless is the most aggressive; it has announced its plans to construct an LTE trial network by the end of 2009. Other worldwide carriers are planning to deploy LTE networks from 2012 to 2013.

What will the steady CDMA carriers do to seize the market opportunity of the expanding broadband data subscribers and get ready for LTE? As a strategic partner of these carriers, what will ZTE do to help them continue as leaders in this fierce competition? To tackle these issues, ZTE offers several suggestions:

**Increasing Voice ARPU**

At present, the voice service still accounts for more than 60% of mobile telecom carriers’ income. With the increasing tariff competition, the scale effect can effectively reduce the decline in 1X voice ARPU, expand the profit margin of 1X voice service, and offer sufficient cash flow for network upgrade. Network quality and user
experience are the key factors to retain the existing users and attract middle and high-end users. The carriers will be able to keep a steady subscriber growth and increase voice service income only by continuously improving their network quality and focusing on customer experience and demands.

Improving Network Profitability

- Reducing expenditure: The adoption of 1X enhanced technologies and the introduction of new green base stations can help the carriers reduce the operation and maintenance costs per Erl. The mature 1X enhanced technologies such as 4GV and QLIC can help to improve 1X spectral efficiency only by merely a software upgrade without any change to hardware device, thus not only reducing the operation and maintenance costs of voice service, but also leaving some 1X frequencies for developing EV-DO services. By virtue of outstanding power-saving, small-footprint and transmission-saving features, green base stations help the carriers greatly slash their network TCO.

- Increasing revenue: The EV-DO broadband wireless access service expands the development space of Value-Added Services (VASs). In the service-centered era, it is a popular model for most carriers to share profit with the intelligent terminal manufacturers by cooperating with them to develop customized terminals and services. For the carriers that have no rich VASs, it is a good chance to cooperate with the service providers to develop VASs and share the profit. For the carriers that have abundant VASs, it is recommended to move directly to the high end of the mobile value chain and dominate the development and market exploration of VASs.

Deploying LTE-Ready Network

By taking advantage of a mature EV-DO industry chain and by upgrading the existing CDMA2000 1X network to multi-carrier EV-DO network at a proper time, the carriers can get as much value as they can out of the lowest investment. They can not only adopt the proper tariff to increase the number of data subscribers, but also develop subscribers’ habit of using data services. Moreover, they will be able to meet the subscribers’ future demands in a certain period by introducing the multi-carrier technology and therefore lay a solid foundation of subscriber base for LTE.

As LTE leads 4G mobile broadband, mobile telecom carriers pay more attention to the smooth evolution of radio access network equipment. If the carriers start to deploy LTE-ready SDR base stations from now on to fulfill the goal of a unified radio access network and ensure the coexistence of 2G, 3G and 4G networks by using only one set of access equipment, they can not only meet the current urgent development demands, but also make preparations for LTE, thus saving considerable network upgrade expenses.

Quickly Launching LTE Services

Through the early network and technology reconstruction, mobile carriers can not only reduce the operation and maintenance costs of their existing 2G and 3G services and improve their market competitiveness, but also get ready for commercial LTE. They can collaborate with VAS suppliers, focus on the development of value-added data services and maximize their value. When LTE technology reaches the expected hype cycle, the carriers can launch LTE services step by step, starting from dense urban areas according to their network development plans and progress and gradually swap high-end and high-bandwidth users to the LTE network. The carriers can focus their existing 3G networks on 1X voice and wide-area mobile broadband access to implement coexistence and mutual supplement of 2G, 3G and 4G networks.
New Era of Mobile Advertising

Promising Mobile Advertising

Mobile advertisement, a new comer in the advertising industry with its undoubted potential, is rapidly evolving and attracting huge revenues. It is considered as the next-wave of opportunity for marketing, branding, and advertising agencies to capture the attention of a large number of mobile subscribers.

Global market research outlook for mobile advertisement:

- Gartner says worldwide mobile advertisement revenue surpassed $2.7B in 2008, up from $1.7B in 2007.
- Informa sizes the global mobile advertising market at $11B by 2011.
- Strategy Analytics sizes the global mobile advertising market at $14B by 2011.
- ABI Research sizes the global mobile advertising market at $19B by 2011.
- Yankee Group says about 42% of mobile consumers are open to relevant mobile advertising, if it is relevant, if they asked for it or if they get coupons for free services.

According to the predictions from various research agencies, the mobile advertising market is rapidly materializing into over $10B opportunity globally. It promises future for the whole value-added service sector.

Message Advertising Rising Among Mass Mobile Advertising Channels

Although mobile advertising is a rapidly growing faction of the advertising industry, there are still some obstacles in its development, which according to Gartner are “ease of use and relevancy to consumers”. These two important factors must be addressed in order to build momentum in the mobile advertising market. How to effectively solve these problems has become operators’ major concern.

Message (SMS-based and MMS-based) advertising is the most prominent among all types of mobile advertising. In comparison with other mobile advertising channels, such as Push, WAP-site, and embedded advertising in mobile contents/services/applications, performance-based advertising and mobile TV advertising, the message advertising inherits the characteristics that can solve all problems in the development of mobile advertising.

It is the most ubiquitously available technology for all mobile phones. It can carry all kinds of advertisements including text, image, audio and video on a normal messaging enabled mobile phones, thus making full use of the SMSC and MMSC platforms that have been deployed throughout the mobile networks.

As most messaging service users are young and tech-savvy, with low to mid-level income range but with high purchasing power, the message advertising is the most effective channel to carry the advertisements of fashionable, interesting, and leading-edge products.

In 2007, China’s mobile advertising market grew 97% over the previous year, and among all the advertisement channels, the message advertising is the type of mobile advertising most widely used and represented an estimated 40–50% of China’s mobile advertising revenue in 2007.

Besides, Informa forecasts by 2011, among all advertising channels, message advertising will contribute as high as 25% revenue in global mobile advertising market.

ZTE's Signature-Based Message Advertising Solution

Why choose it?

When we talk about message advertising, the first thing that comes to our mind is pure advertising message as shown in Figure 1. Actually what is shown in the figure is not a typical advertisement, as it is a special promotion which can benefit the mobile consumer with a free cup of Starbucks coffee, as compared with typical ones that are pure advertisements, only with advertising information. Since the mobile phone is perceived more personal than a TV or PC, advertisers and operators need to be especially concerned that their campaigns aren’t perceived as spam. A research done by Jupiter Research last year among 2,000 American showed that only less than 10% expressed their willingness to receive commercial message advertisements, because most of them were worried about

![Figure 1 Pure advertising message](image-url)
spam messages.

How can we find a way out? The best way is to invite mobile consumers into the value chain, changing them from passively receiving advertisements to actively subscribing to the advertising service.

ZTE’s signature-based message advertising solution aims at driving the growth of message advertisement by appending the advertisement at the bottom of mobile users’ original messages. And to avoid spam, it delivers as much useful information as possible to enhance user experience on the advertisement. It also minimizes the application platform CAPEX and change to the message platforms such as SMSC and MMSC.

Who is benefited?

In the signature-based message advertising solution, the message advertising platform is added besides SMSC and MMSC platforms. It offers user-friendly GUI to the administrators for the content management and distribution, and communicates with the SMSC and MMSC platforms using the SMPP and HTTP protocols, as shown in Figure 2.

Mobile users subscribing to the advertising service can get special offers from operators or advertisers such as free talk, free SMS/MMS, free service trial or other coupons by appending advertisements at the bottom of sent messages. This will enable customers to select the advertisements according to their choice, which may cover sports, foods, and shopping promotional offers. In addition to appending the corresponding type of advertisement as required, the message advertising platform can set each type of advertisement as a box, such as sports box and foods box. The different types of sports advertisement in the box can be appended at random or regularly.

In order to enhance user experience, the message advertising platform also supports advanced distribution strategy. For example, when a mobile user exchanges a message with his friends about the most happening place for weekend, the platform can pick up advertisement information about clubs or bars to be appended and the recipient is happy to get the discount coupon with this advertisement, as illustrated in Figure 3. This strategy is very suitable for consumption-based advertising, such as shopping malls, restaurants, and clubs.

The signature-based message advertising is an all-win solution that gives all parties what they want. It is easier for advertising agencies to establish the business relation between advertisers and operators. The advertisers can find a new sizeable stage for products sales and reach out for services to a large number of mobile users. The operators consider it as a new revenue source, which features low construction cost, quick and easy time-to-market, and attractions to end users, while the end users are set free from pure spam advertising, and they can enjoy special offers from the operators as the message advertising platform can intelligently push an appropriate advertisement to them according to the keywords in their original messages.

Conclusion

The signature-based message advertising has many advantages over other mobile advertising solutions. It reduces construction cost required for a mobile advertisement campaign, creates effective and amazing user experience with mobile phones worldwide, and makes least modification to existing SMSC and MMSC platforms. The introduction of the signature-based message advertising solution is ushering in a new era of mobile advertising.
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