

ZTE

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TECHNOLOGIES

GoTa Special Issue

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ZTE TECHNOLOGIES

A Monthly Publication

Vol. 9 No. 8 Issue 91 August/2007

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An Overview of the Development of ZTE's GoTa Digital Trunking System

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ZTE Profile

ZTE is a leading global provider of telecommunications equipment and network solutions. ZTE's product range is the most complete in the world—covering virtually every sector of the wireline, wireless and handset markets. The company delivers products and services to customers in more than 120 countries.

ZTE Voted Among the Top 20

“ Most Globally Competitive Chinese Company ”

ZTE was chosen among the Top 20 “Most Globally Competitive Chinese Company” in a business contest jointly organized by Roland Berger Strategy Consultants and Global Entrepreneurs Journal in China. ZTE’s operation in India was also handed a special award for the “Best Chinese Company in Emerging Market”.

As one of the pioneers in China’s IT industry to bring its expertise to the international stage, ZTE focuses on the incorporation of advanced innovation for commercial application.

In particular, the company puts significant effort in the development of high-end products that support the 3G standard. This successfully strengthens its core competence and allows it to be in the same class as the elite group of global telecom giants.

The “Most Globally Competitive Chinese Company” Award recognizes the achievements of Chinese companies abroad. Companies were evaluated using three dimensions –overall business performance, sustainable competitiveness and company culture, while rating

factors also include overseas business development, investment performance, R&D capability and social responsibility.

ZTE’s branch in India earns the “Best Chinese Company in Emerging Market” Award for its outstanding business performance and business influence in the local market. To date, it has become one of the top-tier service providers in the local telecom market in India. ZTE India has over 600 employees, of which 80% are local talents, and recorded a revenue of US\$600 million in 2006.

■ About Roland Berger Strategy Consultants

Roland Berger Strategy Consultants is one of the top consulting companies in the world, serving its clients with more than 1,700 employees in 32 offices located in 23 countries.

■ About Global Entrepreneurs Journal

The Global Entrepreneurs Journal was established in July 1993 and is the only business journal in China focusing on globalization.

(ZTE Corporation)



ZTE Complies With MSF

ZTE announced that after extensive tests, its IMS product portfolios support the MultiService Forum (MSF) R3 “NGN Guidelines” and comply with the MSF Release 3 Architecture. ZTE, one of the most active members of MSF, began its Global Multiservice Interoperability (GMI) testing at Verizon’s lab in Waltham, Massachusetts in October 2006.

MSF recently issued R3 “NGN

Guidelines” based on the MSF Implementation Agreements (IAs) after the validation in last October’s highly successful GMI 2006. Representing a distillation of the technical specifications provided by the MSF IAs, within the structure of the MSF R3 Architecture, the Guidelines provide a coherent framework for the practical implementation of large scale Next Generation Networks.

“By demonstrating compliance

with MSF Release 3 Architecture, we have once again proven to our customers and partners that our IMS solutions lead the industry in quality, interoperability and technology innovation,” said Mr. Ye Zheng, general manager of IMS product line for ZTE Corporation. “Service providers everywhere can rely on ZTE for their most mission-critical IMS infrastructure needs.”

(ZTE Corporation)



ZTE Becomes Largest CDMA Handset Supplier in India

ZTE is reported to have become the largest supplier of CDMA handsets to the Indian mobile phone market. The company now has a 26% market share according to market sources cited by the DigiTimes news publication.

As one of the world’s largest telecom market, India owns about 40 million CDMA mobile phone subscribers currently. However, influenced by local backward economy, the penetration of mobile phones is not high in the country.

ZTE originally entered the Indian market through an agreement with Tata Telecom in 2005 and now includes BSNL and the dominant CDMA operator, Reliance Communications as its customers.

ZTE is reported to have shipped some 15 million handsets in 2006, but had already passed that landmark by the beginning of June this year. The company is expected to ship something like 40 million handsets in total this year.

(July 10, cellular-news.com)

ZTE, Sprint Partner for WiMAX Equipment

ZTE USA, Inc. a subsidiary of ZTE Corporation, announced that it has entered into a master purchase agreement with Sprint Nextel. Under the terms of the agreement, ZTE will supply Sprint with WiMAX PC cards in express and USB form factors, and advanced modem solutions for home networking. The agreement was marked by a contract signing ceremony at Sprint's Herndon, Va. offices involving Mr. Hou Weigui, chairman, ZTE Corporation, and Barry West, President, 4G Mobile Broadband, Sprint.

Sprint plans to make its WiMAX services commercially available to 100 million people in the U.S. by year end 2008. "We chose ZTE because we found the company to be a cutting-edge innovator backed by the engineering resources of an established, leading global brand," said Mr. West.



ZTE's express and USB cards will equip Sprint subscribers with anywhere wireless data access on their laptop, desktop or mobile device while the home modem can serve as a replacement networking solution

for the home cable modem, enabling service providers to quickly roll-out fixed broadband wireless service access via their network. ZTE's modem is also equipped to enable carriers to offer VoIP-based voice services.

GSM and 3G Win for ZTE

ZTE has been awarded by Nepal Telecom ("NT"), Nepal's largest telecoms operator, a project that will help the telecom company to add 3.5 million lines to reach total GSM mobile capacity of 5 million lines within next three years. The project,

which is the biggest ever embarked by NT, includes installation of new networks for GSM mobile phones services as well as 3G cellular networks based on WCDMA protocol.

The building of these 3.5 million

mobile phone lines is expected to start in the next three to four months. One million of these lines will be provided for the Kathmandu Valley while the rest will be for other parts of the country.

(ZTE Corporation)

AT&T Wins Olympics Selection

AT&T has announced an agreement with China Netcom (CNC) to provide telecommunications services between China and the U.S. during the 2008 Olympic Games in Beijing.

The services will enable AT&T to provide a dedicated network through which NBC can transmit digital television coverage of the

Games, which will be held August 8-24, 2008, back to the U.S. for national broadcast throughout NBC's television network.

CNC was selected by Beijing Olympics Organizing Committee as the exclusive fixed-line telecommunications partner in China for the 2008 Olympic Games.

(Aug 8, Chinatechnews.com)

Nokia, Microsoft to Boost Mobile Entertainment

Cell phone giant Nokia will start to use Microsoft's copy protection software to boost the use of wireless entertainment, like music and videos, the two companies said on Monday.

Microsoft's technology allows users of Nokia cell phones to share protected pieces of content—like music, games or

videos—between phones, PCs and other devices.

Nokia will license Microsoft's PlayReady digital rights management (DRM) technology, and build it into its S60 software, the most widely used software platform in the cell-phone industry.

(Aug 6, Reuters)

Festivals Add Wi-Fi

Xirrus, Inc., the only provider of high-performance, long-range Wi-Fi products, and Wireless Events Ltd. announced successful Wi-Fi network deployments at several music

and arts festivals across the United Kingdom providing voice and data services throughout the venue for the artists, production staff, merchants and attendees.

(Aug 7, Unstrung.com)

T-Mobile Expands HSDPA

The T-Mobile broadband—offering download speeds of 3.6 Mbps and in certain Budapest locations even up to 7.2 Mbps—is currently available to more than 40% of the population. The mobile company installs additional 3G/HSDPA stations both in new locations and areas already covered. Most importantly, within the covered areas T-Mobile intends to provide indoor coverage and appropriate capacities in as many locations as possible.

(Aug 6, Unstrung.com)

IMS Plugs Again

The IMS ForumR, the industry's only association dedicated to IP Multimedia Subsystem (IMS) application and service interoperability certification, announced today the third IMS PlugfestT scheduled for October 15 through 19, 2007 at the UNH InterOp Lab (IOL) in New Hampshire. IMS Forum Plugfests deliver interoperability for cost effective “Quadruple Play” revenue generating applications and services.

(Aug 2, Lightreading.com)

India and China Markets can Complement Each Other

June 15, 2007, ElectronicsForYou



ZTE is the fastest growing telecommunications equipment suppliers in the world. In 2005, its global sales revenue reached approximately \$2.8 billion with over 27,000 employees worldwide. The next year the company's India revenue hovered around \$500 million and now it hopes to cash on the merging trend of contract manufacturing in India. Prasoon Srivastava of Electronics Bazaar, in an interaction with Liu Ren, director, marketing, ZTE India and Ding Kun, director, R&D Center finds out more about the company's India plans and discusses the recent trends of Chinese companies showing investment interest in India.

In recent times we find governments of both India and China encouraging bilateral trade activities. What is your opinion about such initiatives?

The political and business relations between India and China have certainly improved qualitatively. Immediately after the MOU was signed between ASSOCHAM and the visiting Mayor of Shenzhen last year, the former set up an office in Shenzhen and Indo-China business ties were formed. This was a quantum leap. We strongly believe that India and China will be powering the world economy in the coming

future. ZTE is also optimistic about the growth of Indian telecommunications industry and feels honored to be a part of it.

When did you start marketing your products in India? How has been your experience in the country till date?

ZTE operations in India commenced way back in 2001-02—almost six years ago. Initially we used to market our products through our partners. But since the last few years, our products are being sold directly to the service providers through local offices. In last

financial year ZTE India garnered a revenue of \$500 million.

How would you compare the Indian market vis-à-vis China? How do players from both the countries benefit from each other's strength, mitigating the weakness?

While there are lot many differences, the two markets are similar in many ways. Both the nations have a huge technical and skilled manpower base, both are economically dependent on agriculture. The differences actually lies in the state of economic development. China is miles ahead

of India, as far as development is concerned. However, India is rapidly catching up, so much so that, the Chinese companies are expecting a large share of their revenues to flow in from India.

Everything said and done, there is no denying the fact that the Indian and Chinese markets are complementary to each other. While China boasts of a strong manufacturing base, software development and IT skills happen to be India's forte. These are the areas where the countries can synergize their strengths and complement each other. India will be offering software and applications IT hardware will be supplied by China.

The Indian Semiconductor Association in conjunction with Frost and Sullivan, predicted that electronics equipment production in India would grow up to \$363 billion by 2015. Your take on this...

This is quite feasible. Leave aside the ever-inflating demand for electronics consumer durables. Look at it from the telecommunications perspective alone. The government is keen on providing 650 million phones by 2012 (from the current level of 200 million). Coupled with this is the target of touching the 30 million mark in broadband during the same period (from the current level of one million). All these will eventually result in a tremendous creation of basic and value-added infrastructure, thereby spurting production of electronics equipment like semiconductors, PCBs, etc. So, production worth \$363 billion

by 2015 is not that impossible a dream either!

If this be the case then what is it that keeps Chinese investors away from India?

The problem lies with infrastructure—road, rail, air, power, visa, etc. Add to this the menace of bureaucratic red-tapism and couched political statements with veiled messages on threat to internal security.

From our interaction with some Indian and Chinese associations we came to know that your company is planning to go for contract manufacturing in India. Tell us your plan on the same.

ZTE India is very optimistic about its prospects in the Indian soil and our growth plans were marked by the creation of a low-cost manufacturing set up. Till the plan matured, we were thinking of going for contract manufacturing to meet the requirements of some of the government tenders. But now we have a full-fledged manufacturing facility in Manesar.

What is your take on the Semiconductor Policy recently introduced by the Government of India? How are things on the manufacturing unit front?

It is definitely a welcome step. This policy, we believe, would be in sync with the government's initiatives to promote telecommunications and IT over the next five to ten years.

The Indian unit is in its infancy

as compared to our other plants located worldwide. They are much bigger both in terms of size and production capacity. But the Indian telecommunications sector offers the most potential market for business growth. As the business expands, so will the plant size and its capacity.

What made ZTE set up both its research and development (R&D) center and manufacturing plant in India?

India has been doing tremendously well since the last seven years. ZTE sees it as the most lucrative market outside China.

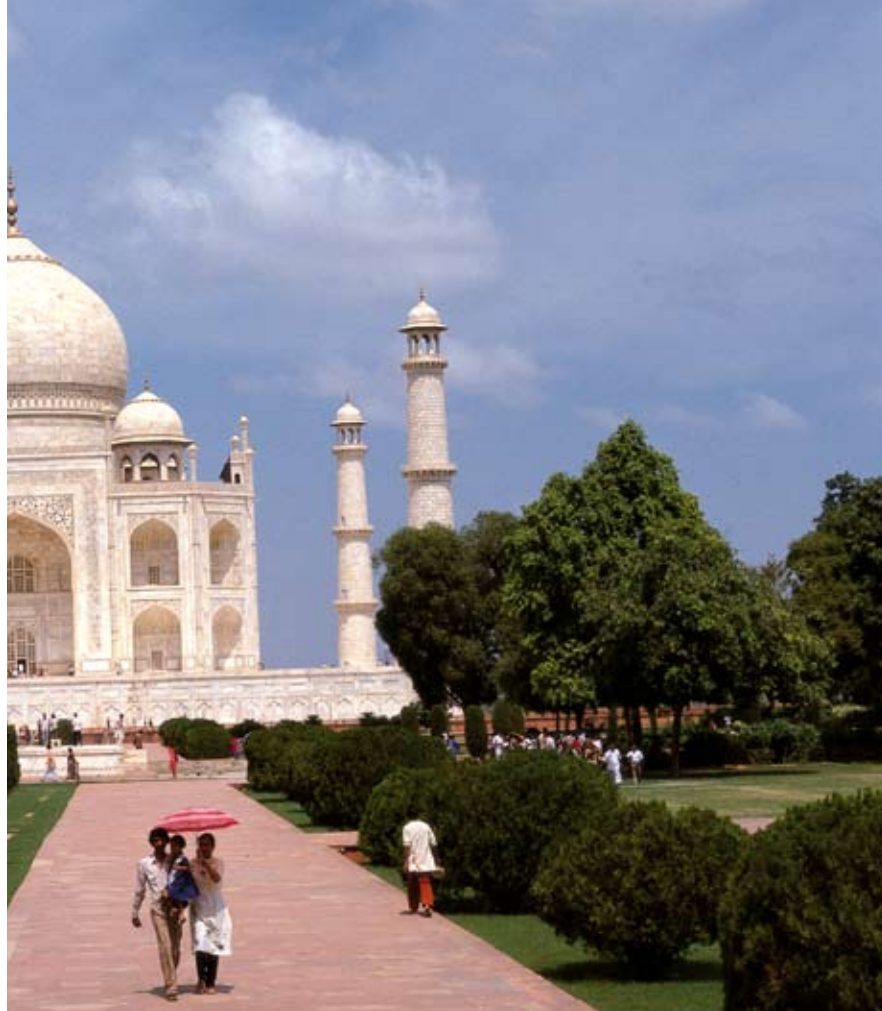
The Indian telecommunications industry promises the kind of opportunity that no other industry in the world can offer. Keeping this in mind, we are intending to set up another manufacturing unit in the near future. A manufacturing plant will not only enable us to meet the customer demands on time, but also help us offer better customer service.

What have been the technical achievements of ZTE R&D center in India since inception? How has it helped ZTE clients?

With about 40 per cent of the work force dedicated to R&D and with 10 per cent of annual revenues channeled to this field. ZTE has 14 wholly owned R&D centers and institutes across North America, Europe and Asia. International standards such as CMM and CMMI are strictly applied to our R&D management processes in India as well as abroad.

In 2000, ZTE launched the world's first CDMA mobile phone with detachable SIM card. This was followed by the launched of the world's first CDMA-based digital trunking technology—Global open Trunking architecture (GoTa) in 2004. This included many technologies based on ZTE-owned intellectual property.

For our customers we have a dedicated customer support engineering and R&D center together with a training center in Bangalore. The idea behind this training center is to provide a rich experience in project implementation along with end-to-end customer solutions. We also have a strong support for our India R&D and training centers from our headquarters in China.



What are the projects that ZTE R&D is currently working on? Are they client specific or industry specific?

We are currently concentrating on the Indian telecommunications industry. Right now, the focus is on value-added services (VAS), as it is the most important part of business for ZTE. For this, we have introduced Anyservice, which is the brand for our VAS business. This service has a lot of applications for all the major service providers in India. Currently, four of our R&D centers are working on Anyservice development with 2000 dedicated R&D staff.

Anyservice—what is it all about? What are its key features?

ZTE's Anyservice is a one-stop solution for VAS, including applications, service control, network

access and terminals. Besides using proprietary software and hardware, it can provide a full range of VAS to support the operator's business needs. The solution can be used in legacy and future network infrastructures. This well-designed and easy-to-use service greatly reduces operational expenditures.

Which ZTE projects developed in India have won accolades from the market?

See, we are relatively new to the Indian market with just six years of presence. Within this short span of time we have bagged some of the major contracts here besides becoming the most favored suppliers to almost all the big operators. We have also received high appreciation from the Indian market for our quality

deliverables in terms of various products and services.

The sales of our infrastructure products range between CDMA, GSM, optical transmission, data networks, softswitch, WiMAX and VAS. Terminals products include handsets, data card and IFWT, which in itself is a great accolade for ZTE in the Indian market.

Not only this, with the development of an efficient after-sales team, our company has gathered abundant experience in after-sales infrastructure maintenance. Add to this the breakthrough that we got in providing capacity and management service to our customers. For terminals, our service centers cover almost every area in India. We have recorded a 100 per cent average growth rate during the past six years.

ZTE TECHNOLOGIES



↑ The commercial launch ceremony of ZTE GoTa network. The ceremony held on January 9, 2007 in Kuala Lumpur was attended by Dato' Seri Dr. Lim Keng Yaik, Minister of Energy, Water & Communications of Malaysia, and Mr. Yin Yimin, President of ZTE



↑ The signing ceremony of "China-Malaysia Economic Cooperation Projects" on December 15, 2005

ZTE Provides GoTa System to Malaysian Operator Electcoms

Liu Shouwen

Overview of Malaysia's Trunking Market

Electcoms, Malaysia's leading trunking radio and radio-paging operator, has 400 MHz MPT and 800 MHz analogue trunking systems. These trunking systems principally cover the key areas of the economically developed West Malaysia with a capacity of over 80,000 trunking subscribers and about 10,000 paging subscribers.

Electcoms is one of the two operators that have been licensed to

operate a national trunking network. The company has played a crucial role in the field of radio trunking communications since it entered the Malaysian analogue trunking communications market in 1989. However, after years of operation, Electcoms found itself in a difficult situation: on the one hand, the paging business was declining, and on the other hand, the existing analogue radio trunking systems have limited expandability and need to find new technologies to replace them.

Electcoms' GoTa Network Plan

Electcoms began to track the digital trunking technology and solutions in 1999. The company reviewed a wide range of vendors for the current project and selected ZTE's CDMA-based Global open Trunking architecture (GoTa) as a strategic technology for the future development of its trunking networks based on the system's feature-rich services and advanced digital technologies.

In December 2005, when Chinese Premier, Wen Jiabao, visited Malaysia, ZTE signed a commercial contract with Electcoms at the signing ceremony of "China-Malaysia Economic Cooperation Projects", which marked the start of a long-term strategic cooperation between ZTE and Electcoms.

The Electcoms GoTa network was built in three phases. Phase 1 of the network covers West Malaysia, including Kuala Lumpur, and is expected to reach a subscriber base of about 50,000 in two to three years;

Phase 2 and Phase 3 will expand the Phase 1 system to cover the whole of Malaysia.

In the initial stage of network development, Electcoms will utilize the differentiated capabilities of the newly built GoTa system to develop new customer groups. The Malaysian government required the analogue-to-digital conversion of all the trunking networks to be completed by the end of 2008; Electcoms planned to migrate all the existing analogue trunking subscribers to the GoTa network.

On January 9, 2007, Electcoms held a press conference in Kuala Lumpur announcing the commercial use of the network based on ZTE's GoTa. This is the large-scale commercialization of the Chinese-developed digital trunking system in the overseas market.

Reasons for Choosing GoTa Equipment pricing

In order to adapt to competition, Electcoms started to trace the digital trunking technologies and solutions as early as 1999.

Electcoms has considered the Integrated Digital Enhanced Network (iDEN) technology and made contacts with Motorola, which then budgeted the costs of deploying an iDEN system in West Malaysia for Electcoms. However, Electcoms thought the network-side equipment were far too expensive, and that it would be impossible for them to control the future network construction and operating costs. In fact, Electcoms knew well the Asia-Pacific's trunking communications market: the iDEN

networks of trunking operators in the Philippines, Indonesia and Singapore were running at little or no profit, or even at a loss; two iDEN operators in Singapore have merged for survival, but their situation has not improved yet.

Network coverage

Electcoms has been invited to visit Sprint Nextel's iDEN commercial network in the U.S. Through field testing, Electcoms felt the network test results, especially the coverage results, failed to meet its expectation. However, the GoTa digital trunking system has significant greater coverage capability than iDEN, winning high favor from Electcoms.

Security

Electcoms has 30,000 legitimate trunking subscribers on its existing 800 MHz analogue trunking network, but the fraudulent subscribers reached 20,000. Electcoms often has to dedicate manpower to detect and prevent subscriber number cloning. On the contrast, GoTa gives enhanced authentication and privacy.

Professional trunking and rich value-added services

Electcoms, as a private enterprise, is very cautious about its future development direction. To really know about GoTa products, Electcoms's top officials came to China to visit China Tietong and China Satcom's GoTa commercial trials, and tested key technical indicators such as GoTa services, coverage, call setup time

and voice quality. With the test results far exceeding their expectation, Electcoms's management finally made the decision to adopt GoTa as the technology for their future network development. Moreover, Electcoms was impressed with the value-added services supported by the GoTa system, such as data services, SMS and Location Based Service (LBS), and the basic dispatch control station services.

ZTE's powerful R&D strength

Through visiting the company, reading major media reports, and especially by knowing the fact that ZTE is listed on Hong Kong Stock Exchange, Electcoms believes ZTE is an excellent enterprise with powerful R&D and management capabilities, with which they can enter into a long-term strategic partnership.

Electcoms' future development plan

Electcoms is currently focusing on professional radio trunking communications. Electcoms hopes to continually attract customers with its professional trunking services at first and then utilize the GoTa system's value-added data services to explore potential customers, building a mature trunking network. GoTa is undoubtedly the best choice for Electcoms as it employs 3G wireless technology and advanced system structure to bring new space for service development of trunking technology, which also strengthens Electcoms' commitment to GoTa as the future development trend.

ZTE TECHNOLOGIES

ZTE Builds a National Information Security Network in Ghana

Mao Bin

In cooperation with the government of Ghana, ZTE built the Ghana national information security network by utilizing its advanced Global open Trunking architecture (GoTa) technology, and with the help of the concessional loans offered by the government of China.

The government of Ghana chose ZTE, among a host of trunking products vendors, as it can offer

security network adopts ZTE's GoTa as the dedicated network trunking technology. The network can serve the needs of various government departments such as the security system, the police system, prison, fire fighting, the Immigration Bureau, customs, ports, frontier, army, the Presidential Palace, Ministry of Interior, the National Communications

improving their emergency response speed and coordination capability under the condition of guaranteed security.

The Phase-1 project covers main cities, towns, border entries or exits, and main traffic arteries in six regions of southern Ghana including the Greater Accra Region.



a cost-effective turnkey solution, cutting-edge technologies, fast project execution, and assistance in acquiring financing for the project. This project also reflects that the government of Ghana has confidence in ZTE, Chinese mobile communication technologies and China. Its implementation has brought Ghana substantial social and economic benefits, driving the growth of its society and economy.

Project Overview

Ghana's national information

Authority, confidential communications, and etc., as well as hospitals and hotels.

The network can provide fixed wireless access, mobile communication services and value-added services (e.g., voice, data and short messages); it can interoperate with the networks of other operators. Moreover, according to the needs of the customers, it can flexibly regroup the call groups, enabling better communications efficiency between different departments, as well as

The Phase-2 project covers four regions of northern Ghana. The whole network covers the entire country and supports 851 user groups.

Serving Ghana's 50th Independence Anniversary

The GoTa-based Ghana information security network, as the sole digital trunking system adopted by the Ghana

government, successfully provided onsite command and dispatching services to Ghana's 50th independence anniversary celebration held in Accra this March. The network delivered communications services for various departments responsible for security and logistics support, including military and police force, security guards and medical services.

The 50th Anniversary event was attended by tens of thousands of people. Present at the ribbon-cutting ceremony were former United Nations Secretary-General Kofi Annan, President of Ghana, Minister of State Security, General of the Army, Chinese ambassador to Ghana



and commercial counselors.

Ghana President, Minister of State Security, and the Chinese ambassador to Ghana, highly praised the cooperation between ZTE and the government of Ghana, as well as ZTE's engineering services in their speeches. His Excellency Mr. John Agyekum Kufuor, President of Ghana, in a later visit to the central equipment room, gave full recognition to the outstanding performance of the GoTa system after

experiencing GoTa services.

Benefits of ZTE's GoTa Technology

- GoTa delivers a variety of communication services such as voice, professional trunking dispatch and SMS.
- GoTa ensures security and privacy as required by the dedicated communication network; allows higher frequency efficiency, easier network planning, better voice quality and bigger capacity; and offers 3G services capability as it is based on the 3G technical platform, CDMA2000.
- GoTa provides wireless broadband data services capabilities while ensuring the continual evolution

communications, driving the growth of trunking radio communications and satisfying the current and future requirements for government public security and coalition emergency response.

- ZTE provides competent after-sales service support and powerful maintenance capabilities.
- ZTE owns core technologies and independent intellectual property rights (IPR) for GoTa. The company now owns over 100 GoTa core patents, which have been registered by both domestic and overseas IPR organizations.
- ZTE can help the Ghana government solve the problem of loan financing.

of the technology, service and network;

- As the GoTa system utilizes the CDMA network platform, it can provide Push-to-Talk (PTT) service as well as all CDMA service functionalities. It integrates trunking services with traditional mobile services onto a single system and a single terminal (A GoTa terminal supports all functions of a conventional CDMA terminal).
- GoTa meets the requirements of current and future mobile

Conclusion

ZTE has accumulated rich experience in the overseas project implementation and established a good reputation. It employs plenty of Chinese and local professional engineers and operation and maintenance (O&M) staffs. To date, ZTE's GoTa products have been implemented on a large scale in over 20 countries. This China-made digital trunking system, now, has a wide application and a high degree of internationalization. **ZTE TECHNOLOGIES**

GoTa Dispatch Solution Serves Informatization Construction of China's Tianjin Port

Feng Zhihong

Tianjin Port is located in the lower reaches of the Haihe River in North China Plain. It is the biggest man-made harbor in China and an important international trade port in North China. It serves as the ocean gateway to the country's capital, Beijing, and Tianjin City; it is also one of the starting points of the Eurasian continental bridge in the east. It is 66 km away from Tianjin City and over 170 km from Beijing City. It has established trade connections with more than 400 ports of over 180 countries and regions across the world.

To meet the requirements of building a modernized large port around the Bohai Sea Rim region, as well as a super large-scale port in China, Tianjin Port should become a leader in the construction of an intelligent, informatized port. The powerful radio dispatch and wireless data services supported by the GoTa system can meet the port's requirements in production dispatch, data collection, transmission and processing, as well as resource management, thus realizing the intelligent dispatch management function.



The GoTa services serving Tianjin Port have won unanimous praises from port leaders and employees. ZTE provided a series of customized functions and solutions for Tianjin Port that has features such as high density working areas, high intensity work, and coexistence of several types of work.

Customized Development for the Dock Application

Through analyzing the radio dispatch requirements for a Tianjin Port container dock, ZTE's expert team summarized the following features concerning the radio trunking dispatch applications at this dock.

- Fixed working area: Trunking users at the dock work in a certain small

area, which can be covered by a sector or a BTS.

- High-density working area: The working area has a large number of users and can be divided into many trunking groups.
- Frequent trunking dispatches: During working hours, trunking users make frequent use of the dispatch function.
- Continuity of trunking dispatches: When users use the dispatch service of the trunking system, the continuity of their operations is required.
- Complicated trunking dispatch procedure: The radio dispatch operations at a large port dock involve a lot of departments, and the process is relatively complicated.

- High requirements for connection time: To ensure the security of dock work, high requirements have been placed on the connection time of trunking group calls.
- Flexible radio dispatch operations: During the specific loading and unloading operations, workers at the port should be dynamically arranged, that is, trunking users can be grouped as needed.
- Practicality and operability of trunking dispatch operations: Users require flexible and convenient operations.

While taking these features into consideration, ZTE's expert team has gained a deep understanding of the users' specific requirements after communicating with relevant staffs of the dock. It divided the working group of the dock into three types—operation, maintenance, and routine—and applied GoTa functions to the site, such as dynamic regrouping, multiple priorities, dispatch console function, and functional number. At present, the dispatch services at the dock are running in an efficient and stable manner.

Customized Development for the Container Yard Application

Compared with the traditional trunking radio communications systems, GoTa has a powerful data transmission capability. ZTE, based on the system's data transmission capability, created a custom data collection system for the container yard, targeting the container yard industry features, such as a large

working area, widely distributed workers, frequent information collection, and low precision of the existing system. This system changes the traditional working mode in the container yard (calling and manual input) and improves the timeliness and correctness of container information transmission. In view of users' specific working scenario, as well as the Short Message Service (SMS) transmission function of the GoTa system, ZTE developed custom SMS-modem and user interface software, which enables real-time input of on-site information into the user database via SMS. The whole process doesn't involve any manual operation, ensuring work efficiency.

Unified dispatch management of Logistics Vehicles

The port is a big arena for logistics services. The great variety of logistics vehicles makes it difficult to uniformly dispatch them. Leveraging the powerful dispatch, data transmission and positioning functions of the GoTa system, the port can implement unified dispatch of most vehicles.

- A unified dispatch platform for timely command and control: All vehicles of the port are equipped with the vehicle-mounted stations. The logistics companies are installed with the dispatch stations, capable of dispatching and commanding most of their managed vehicles at any time.
- A positioning platform for real-time information about the vehicles: The interface of the dispatch console can

provide real-time information about the location and route of the vehicle that is equipped with GPS vehicle-mounted stations.

- A complete monitoring of special vehicles to improve work efficiency: Under the traditional vehicle management mode, it is hard to get information about the concrete and bulk cargo trucks—Tianjin Port has many such types of vehicles—which may lead to losses and damages of goods. Supported by the GoTa system platform, the background station can provide real-time information about the status of both the vehicles and the containers. When any abnormality occurs, for example, a driver slacks off at work or unloads cargo without permission, the background station will automatically record it and send alerts to the driver, protecting the owner's benefits and improving work efficiency.

Conclusion

So far, GoTa has been serving Tianjin Port for about two years with the user groups distributed in various departments of the port, covering all frontline production units and functional departments. As the port informatization construction is deepening and the port scale is expanding, the GoTa service platforms will further integrate more applications like coalition emergency response, remote metering, electric power management, electronic patrol and mobile office, offering better services to Tianjin Port.

ZTE TECHNOLOGIES



A Business Analysis of a GoTa System in Shandong, China

Wang Lei

controllers (BSCs), a BSCB, a Mobile Switching System (MSS), a Packet Data Switching Subsystem (PDSS), a Dispatch Subsystem (DSS), a Short Message Service (SMS) system, a Fail Call Notice (FCN) system, a Mobile Location System (MLS) and an Intelligent Network (IN) system.

Till now, the network has been running smoothly with an ever expanding commercial subscriber base. It has provided a variety of trunking services to Rizhao Port, comprehensive law enforcement brigade, logistics, frontier inspection, 120 Emergency Center, Jinan Iron and Steel Group, the Qingdao Olympic Sailing Regatta, and emergency response for Weifang City.

Shandong Satcom's GoTa network is capable of delivering integrated communications services such as voice, Push to Talk (PTT), packet data, SMS, fail call notice, location-based services (LBS), streaming media, video monitoring, and etc. The following strategies have been adopted to develop the GoTa network:

- Accurate market positioning: The digital trunking communication

system, with special applications like emergency dispatch or response, cannot be operated in the same way as the existing mobile communication system. Its application mode should give a full play to its trunking features. Shandong Satcom launched the GoTa system under the brand name "Push to Action", which clarifies the difference between the dedicated trunking and public mobile communications and highlights the unique service advantages created by PTT services.

- A wealth of services: In addition to professional services such as group call, private call, floor taken, late entry and dynamic regrouping, the GoTa system has also developed rich new services to meet the needs of users, including floor queue, on-line user status query, call restriction, call forwarding, service priority and Do not disturb. With respect to dispatch console, GoTa can provide new functions like "send to group" SMS, status display and number management, in addition

Global open Trunking architecture (GoTa) is the world's first CDMA-based next generation trunking system that is independently developed and launched by ZTE.

ZTE and Shandong Satcom, a subsidiary of China Satellite Communications (China Satcom), jointly built a GoTa trial network in Shandong Province, China. The GoTa trial network now has a certain scale, consisting of 68 BTSs, two base station

to the functions of professional dispatch and management consoles. These rich service functions can satisfy the demands of industrial users for basic services, as well as integrated or combined ones.

- Detailed enterprise analysis: There are differences in the requirements of different industries on the digital trunking system as they all have different operating procedures. After making a detailed investigation on the specific operation procedure of each industry, Shandong Satcom developed different application solutions that integrate the rich service functionalities of the GoTa system with operating procedures of different industries, ensuring the optimal experience of the industrial users.
- Diversified network construction modes: Shandong Satcom built its GoTa system in a flexible way. Take the Shandong jail system for an example. Jails in Shandong are distributed over the whole province, and they have a high security and privacy requirement for their communications system. So, Shandong Satcom and the jail system made joint investments to build Base Transceiver Stations (BTSs), which not only saves investments but also satisfies the needs of the jail system.
- A flexible tariff policy: Shandong Satcom offers different price packages options for PTT, voice, packet data and SMS services to maximally fulfill the consumption habits of various industries.

- Perfect after-sales service: ZTE, by closely working with Shandong Satcom, can quickly respond and solve both the system and terminal problems reported by end users. Moreover, follow-up calls to customers help ensure that the end user ultimately has a satisfying experience.

Conclusion

GoTa makes use of 3G CDMA 2000 technology and boasts distinct technical advantages. GoTa can meet

the requirements of both private and public trunking network applications, and it is particularly attractive to users because it can be bundled with value-added services, offering richer functions compared to other trunking technologies. The successful operation of the GoTa digital trunking system in Shandong provides a good example for the promotion of the digital trunking systems, and the exploration of new revenue-generating market opportunities.

ZTE TECHNOLOGIES

Link

ZTE Provides Unique Telecoms Technology for Prestigious International Finance Forum

July 18, 2005, *Telephonyworld.com*

The Finance Ministers' Meeting (FMM), at the Asia-Europe Meeting (ASEM), is the latest major event to utilize the communications provided by ZTE's unique Global open Trunking architecture (GoTa) technology.

ZTE's GoTa digital trunking system and GoTa handsets were selected by China Satcom for the construction of the telecommunications network at the prestigious event, which serves as a forum for fostering policy dialogues and consultations on financial issues between Asia and Europe. The event was attended by leading figures from financial institutions such as the World

Bank, the International Monetary Fund and the European Central Bank and was opened by His Excellency Wen Jiabao, Premier of the People's Republic of China.

"A conference of this importance requires perfect dispatching functions, maximum security, quick sequencing, channel sharing and good voice quality," said Mr Wu Guoqing, GM of Tianjin Satcom. "We chose ZTE's GoTa system as we were confident that it would meet our high demands.

"The praise from the meeting committee and the security group proves that our choice was right," he added.

An Overview of the Development of ZTE's GoTa Digital Trunking System

Liu Shouwen

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Trend in the Trunking Market

Over the past few years, global trunking technologies and services have gradually broken the narrow bounds of traditional private networks. Many successful Public Access Mobile Radio (PAMR) network operators have emerged, guiding the development of the technologies towards higher-level applications. Under the new trunking operation modes, more cost-effective, convenient and professional trunking service applications are provided to more fleet and enterprise users.

Recent years have seen the rapid growth up of China-developed digital trunking technologies led by ZTE's Global Open Trunking Architecture (GoTa). ZTE has not only launched a new-generation digital trunking product that has an independent intellectual property right, but has also explored a successful business mode through conducting technical and commercial trials with Chinese operators.

GoTa is now the only Chinese digital trunking product that finds widespread commercial applications in the global market. The introduction of GoTa marks the first time that a Chinese vendor, as a standard-setter, takes the lead in the new-round reform of the global trunking communications market.

GoTa Technologies and Products

ZTE's self-developed GoTa is the world's first CDMA-based professional digital trunking technology, and it is one of the three strategic product

lines of ZTE. Since starting key trunking technology research and high level design in 2002, the company has invested a total of over 1 billion RMB on GoTa products. Continuous high investments ensure constant technical innovations, serialization in systems, terminals and service, and enhancement of product quality and functions.

ZTE owns over 100 GoTa-related patents for CDMA-based core technologies and extended services. As a CDMA-based technology, GoTa offers significant advantages over traditional trunking technologies: it can meet the application requirements of both private and public trunking network applications; it can capitalize on the combination of trunking service and value-added services to attract large amounts of users to access the network. The GoTa system and terminals have a low cost, meeting the requirements of large-scale network deployments and greatly lowering the threshold of professional trunking service applications. Therefore, GoTa is a cutting-edge digital trunking technology that has high competitiveness and a huge market potential.

In the past year, ZTE has made great technical breakthroughs in GoTa technology and product development. ZTE solved the key techniques in delivering group call service that allows a group to have unlimited number of members to be served by a single sector. This function meets the requirements of professional trunking technologies and radio dispatch in

various application scenarios. After further performance optimization, the GoTa trunking call setup time has been shortened to less than one second. Recent applications in professional environments (such as Tianjin Port) have proven that GoTa can fully satisfy the dispatch requirements of professional trunking users.

Moreover, the quality stability of trunking terminals has been greatly improved. Upon release of the G612, a new intercom handset, it has won full recognition from many professional customers such as the Tianjin Port and the Qingdao Olympic Sailing Committee. In the future, ZTE will continue to make improvements on the system connection time and terminal serialization.

Market Applications

In terms of market applications, ZTE's GoTa undoubtedly takes the lead among the Chinese digital trunking technologies.

In the international market, ZTE has implemented commercial GoTa systems in countries including Russia, Malaysia, Norway, Benin, Ghana, Gabon, Sri Lanka, Mongolia, Vietnam and Haiti. Moreover, ZTE deployed GoTa trials in countries like Portugal, the United States, Ukraine, Kazakhstan, Tajikistan, Egypt, Tunis, Libya, Saudi Arabia, Algeria, Nigeria.

In May 2005, ZTE unveiled the GoTa commercial network built for the Norwegian operator, NMT, and held a CDMA Global Demo in Oslo.

In 2006, Electcoms, the biggest PAMR network operator in Malaysia,

started to build its national GoTa network to replace the existing analogue trunking system. The network was launched in January 2007.

In 2006, ZTE entered the North American market by setting up a GoTa trial network with Sprint Nextel. Now, ZTE and Sprint Nextel are cooperating on the applications of CDMA trunking technologies.

In November 2006, ZTE won the national security network project of Ghana. The project was to provide professional radio dispatch services for government departments of Ghana, like the national security department, police, fire control, army, customs and hospitals. On March 2, 2007, the first phase of the project was completed and immediately put into service at the Ghana Independence Day celebration.

In March 2007, at the opening ceremony of “the Year of China” in Russia, China and Russia signed a series of strategic cooperation agreements, including the GoTa industrialization cooperation. At present, a GoTa-based government security network is being implemented in Russia.

The overseas market breakthroughs made by GoTa fully demonstrate ZTE’s technical strengths, and that the company has accumulated rich commercial application experiences.

In China, ZTE worked with China Tietong and China Satcom to deploy the GoTa trial networks in early 2003. So far, the GoTa commercial trial networks have been deployed in five of the six cities approved by the MII, namely Changchun, Shenyang, Tianjin, Jinan and Nanjing.

Industry Chain and Standardization

In addition to the technologies and market applications, the survivability of digital trunking will be decided, in the long run, by the establishment of a healthy industrial ecology that can propel the sound development of the digital trunking industry.

While promoting global applications of GoTa technology, ZTE is making great efforts to propel the development of the GoTa ecology, which will cover various aspects of the market such as equipment manufacturers, industry application solution providers, content and service providers, and network operators.

With respect to GoTa system industrialization, ZTE has entered into a technical cooperation agreement with systems equipment manufacturers such as Nortel and Qualcomm to develop Open Standards and Interface Specifications, jointly building the industry chain alliance for interoperable communications systems equipment. In 2006, ZTE signed a GoTa technology license agreement with NMT. According to the agreement, the two companies will use GoTa as the only trunking technology to promote the GoTa network construction and applications in the pan-Northern European areas.

In terms of GoTa terminal industrialization, ZTE has developed its own GoTa terminal series. It also cooperates with many terminal manufacturers like Youthnet, Asiainfo, Besta, and SEG Communications, to diversify the terminal supply, as well as

to provide terminal serials, including ordinary trunking handsets, special handsets with waterproof, shockproof and dustproof features, and vehicle-mounted stations.

In December 2004, the Ministry of Information Industry (MII) released the *General Technical Requirements on CDMA-based Digital Trunking System*. GoTa is the only digital trunking product that complies with this national standard. So far, ZTE has edited all standards and specifications for GoTa that include ZTE-patented GoTa technologies. The company began to cooperate with carriers in Russia, Malaysia and Northern Europe on the local standardization of GoTa technology. ZTE is going to set up a global GoTa forum, with members including Chinese and international operators, as well as vendors with authorized use of IPR for GoTa, to push forward the internationalization of the GoTa standard.

The growing GoTa ecology is giving birth to a new global mainstream standard of digital trunking technology. For equipment manufacturers and operators, even for the whole communications industry, the time for the industrialization of digital trunking technologies has come. The worldwide launch of ZTE’s GoTa trunking system has great significance in improving the status of Chinese communication equipment vendors in the world; it marks the competition between Chinese communication equipment manufacturers and their overseas counterparts has moved up from product to standard. **ZTE TECHNOLOGIES**

Building a Public Security System with GoTa

Lu Zhifeng



Overview

Governments in most countries use public mobile networks to communicate. Public mobile network has many weaknesses: no guarantee of security and privacy, lack of efficient and centralized response system, incapability to meet the emergency communication requirements, no group call function, and high communication expenses. Therefore, there is an urgent need to establish a public security system (PSS) for government departments.

The PSS can improve the government image and work efficiency. For a modern service-oriented

government, discretionary services provided by individual departments can no longer meet the increasingly higher social requirements. Its capabilities to provide integrated services are an important index measuring the management level of a local government. The trend of government

service is towards integrated and unified external service offerings by effectively coordinating various resources of government departments.

The PSS supports emergency response command and dispatch. Emergency events such as infectious disease, flood, earthquake have a great social impact and involve lots of people. It requires coordination of response work, unified leadership and fast actions. The PSS should be built to ensure that government and other forces, when handling emergency, can quickly, timely and correctly

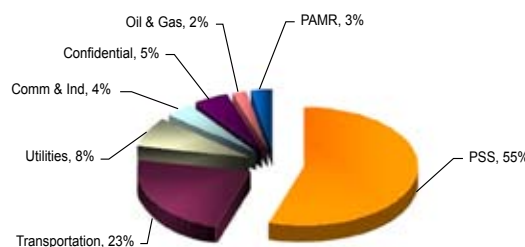


Fig. 1 Position of PSS in global trunking system market

collect information, and that they can effectively communicate in various ways. The PSS has gradually become one of the major integrated city management systems to be developed in many countries.

ZTE's Global opening Trunking architecture (GoTa) system can be customized for the PSS to meet public security authorities on dispatch and command system applications.

Service Applications of PSS

The GoTa system provides rich service functions. In addition to the basic group calls, private calls and broadcast calls, GoTa PSS offers professional services including emergency call, dynamic regrouping, direct mode operation and dispatch console. The system also provides high-speed wireless data transmission, location positioning, as well as the ordinary voice functions of the public mobile network. Meanwhile, to meet the needs of users, a variety of GoTa terminals are provided, including encryption-capable terminals, explosion-proof terminals, and GPS GoTa vehicle-mounted stations.

The PSS can be used by government department staff at different levels, and is applicable for handling their routine work and emergencies. The following are examples to illustrate the applications of GoTa PSS:

Routine work of security and police departments

To enhance communications and improve work efficiency, security and police departments can apply the GoTa PSS to their daily work such as stopping and detecting crimes; managing transport, fire control, dangerous goods; and fighting terrorism.

The supporting services provided by GoTa PSS include PTT services (group and private calls), ordinary telephone services, SMS, location-based service, mobile video monitoring, and data transmission. GoTa PSS's end-to-end encryption function meets the requirements for confidential communication. Its direct operation



mode enables secure communication between two terminals, and its positioning function can be used to track vehicles and people.

Emergency response to plant explosion or fire

For such severe incidents, there will be command headquarters and frontline command center to plan and execute coalition operations. The fire brigades are responsible for frontline fire fighting and rescuing while the police is in charge of guarding the fire site and maintaining the public and traffic order in nearby areas, and the medical treatment department handles emergency rescue, transfers of the injured patients, and making rescue treatment schemes.

Radio dispatch services include:

Group management

The commanding centers quickly group users via the dispatch console according to the alarms and the explosion pre-scheme, and regroup them according to the action schemes.

Group sending of short message

The commanding centers send group messages to inform all related people about the fire and the alarms.

Floor taken

A high priority user can take the floor of a low priority user so that emergency calls can proceed despite the system congestions; thus, the system can timely send out the most urgent and important information to guarantee fast response to emergencies.

Dynamic regrouping

The site commanders can dynamically regroup the police and fire staff, and other firemen for unified

dispatch according to the actual situation of the explosion site.

Positioning

The positions of rescue workers and vehicles can be tracked.

Video monitoring

The command vehicles for coalition emergency response can use video cameras to wirelessly transmit pictures of the explosion site to the command centers so they can monitor the explosion site in real time.

Broadcast call

The commanding centers can send out broadcast calls to inform all users of the explosion site situations via the dispatch consoles.

Features of GoTa PSS

GoTa PSS offers all the applications for government departments. It has the following features:

- **Feature-rich service offerings:** GoTa provides a whole set of wireless mobile services, including PTT, voice and broadband data services, to meet the wireless communication requirements of all government departments.
- **System security and privacy:** Based on the advanced and mature CDMA technologies, the security of GoTa, which is further enhanced by terminal and system access authentication, is higher than other trunking systems. Meanwhile, GoTa can provide users with customized end-to-end encryption schemes, ensuring service application security for government departments.
- **Fast call connection and large capacity:** The system offers fast call

connection; and provide trunking services when some places have a large traffic load, or other public networks are unavailable.

- **Wireless broadband data service capability:** GoTa, based on the 3G platform, offers the largest bandwidth for wireless data delivery among all existing trunking systems, providing government users with wireless data services such as high bandwidth wireless Internet access and image transmission.
- **Low network construction cost:** With open standards, complete industry chain, and high price-to-performance ratio of terminals and system, GoTa provides professional end-to-end trunking network solutions at reasonable prices.
- **Field-proven commercial deployments:** To date, ZTE has commercially deployed its GoTa products in more than 20 countries such as China, Russia, Malaysia, Norway, Sri Lanka, Mongolia, Ghana, Benin, Liberia, Sudan, Morocco and Libya.
- **Professional after-sales service team:** ZTE has set up customer service centers in more than 100 countries in the world. Its local professional engineering teams provide users with 24/7 services to guarantee the safe, reliable operations of the system.

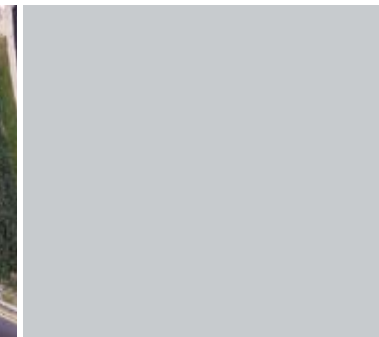
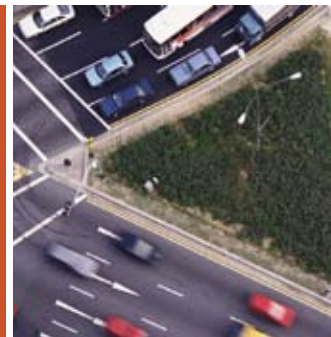
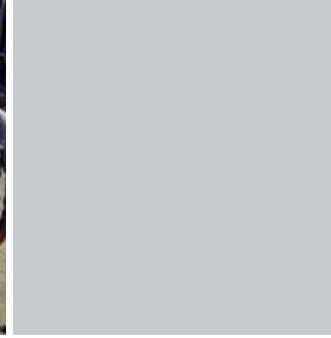
Conclusion

The GoTa PSS solution meets the dispatch requirements of the government and its subordinate departments in handling their routine

work and emergencies.

The GoTa system, when applied to the public security sector, plays an important role in the operation of a government. Its capabilities are represented in the following aspects. Firstly, it improves communication within government departments. The trunking network facilitates smooth communication between the government and its subordinate departments, such as the public security bureau, immigration bureau, fire control department and customs. Secondly, it guarantees secure communication between government departments. Through the CDMA-based GoTa system, safe and independent communication services can be provided to the national defense department, national security department, and etc. Thirdly, it enhances emergency handling capabilities of the government. In case of emergencies, the domestic affairs department, national defense department and security department can uniformly dispatch police, fire control, customs and army via the GoTa system. Lastly, it meets the requirements for the wireless data transmission. In addition to voice trunking communications, government departments require data communication services. The GoTa system provides high-speed data transmission and caters to the wireless data transmission requirements of government departments. Therefore, as a professional trunking communications system, GoTa PSS brings great political and economic benefits to the government.

ZTE TECHNOLOGIES



GoTa, the Ideal Solution for Public Trunking Radio Networks

Li Tie

Overview

Typically, a mobile telecommunication network is classified either as a Public Access Mobile Radio (PAMR) network or a Private Mobile Radio (PMR) network. The private communication system, also called the trunking system, fulfills the requirements of departments, industries and companies in production dispatch, and public security and safety applications.

At the early phase of trunking communications, a fleet such as a department or company, usually builds a professional system for its dedicated

use, which is called the Private Mobile Radio (PMR) system.

The Public Access Mobile Radio (PAMR) network is normally run by a network operator and can support tens to hundreds of thousands of users within an area. Different from the PMR network used by a fleet, the PAMR network offers services to a number of fleets with users distributed in governments, companies, enterprises and institutions. This operation mode of PAMR can give a full play to the advantages of trunking radio communications such as the sharing

of frequencies, channels, coverage areas, communication services and expenses. Therefore, digital PAMR networks are becoming a development trend for future digital trunking communications.

GoTa Digital Trunking System

Global open Trunking architecture (GoTa) is the world's first CDMA-based digital trunking system launched by ZTE, and it is also the only one that complies with the standard released by China's Ministry of Information Industry. The GoTa system consists of the Base Station Subsystem (BSS),

Dispatch Subsystem (DSS), Mobile Switching Subsystem (MSS), Packet Data Switch Subsystem (PDSS), terminals and Value Added Subsystem (VAS), as shown in Fig.1.

GoTa is a practical and professional 3G-oriented trunking service solution, optimized and improved at the basis of existing CDMA technology. It is designed with full consideration of PAMR features and various demands of commercial mobile users, and is capable of providing a variety of services to users such as radio dispatch, basic call, packet data services, as well as multiple value-added services like SMS and LBS. The new GoTa functions recently developed by ZTE include the following:

- All basic and supplementary services under the two modes of group call (traditional and enhanced group call)
- Roaming function to keep connection alive within the whole network
- Virtual DSS function that allows a single DSS to serve multiple areas
- Inter-fleet call and dynamic regrouping functions that enables easy collaboration between departments or fleets
- Open API interface of the GoTa dispatch console—to facilitate third parties to develop customized dispatch consoles
- Prepaid function to expand the billing capabilities of the GoTa system
- Automatic group information update
- Group call record query

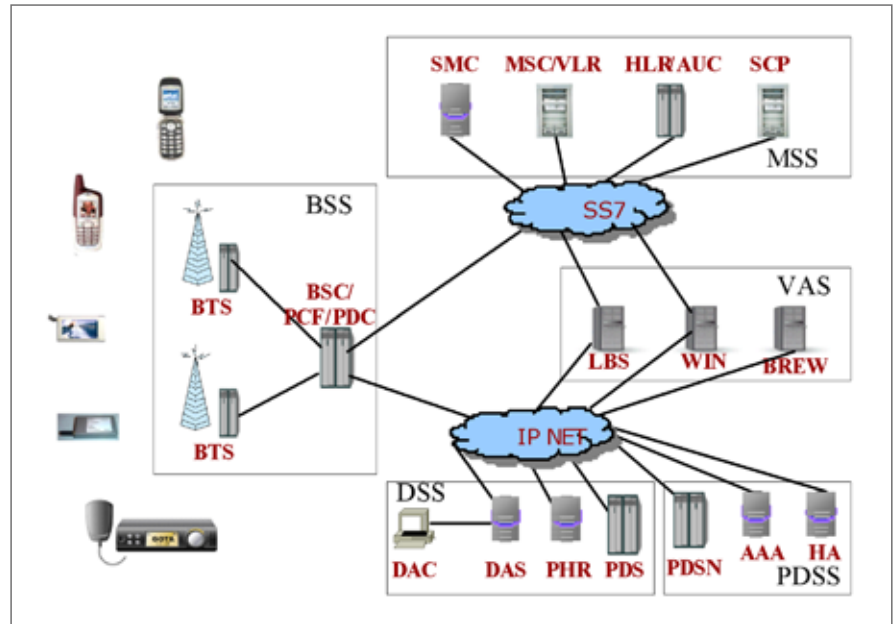


Fig. 1 Network structure of the GoTa system

Benefits of ZTE's GoTa

While fully inheriting many benefits of CDMA technologies, the GoTa system can also offer professional radio dispatch functions. It has the following advantages:

- More advanced technology, higher spectrum utilization, and simpler network planning
- Clearer voice, higher capacity, more flexible services, and lower network construction costs
- Professional radio dispatch and high-speed wireless broadband access capabilities
- A full array of GoTa solutions covering the system, terminals, services and application models
- Possession of core technologies and independent IPR
- 3G service capabilities based on the 3G technical platform
- Feature-rich service applications

PAMR Features of GoTa

As the GoTa system is capable of delivering voice, PTT and data three major services, as well as value-added services, it is especially suitable to build PAMR networks, which offer varieties of services for both ordinary and enterprise users.

Radio dispatch services

The GoTa system has all radio dispatch functions of a professional analogue trunking radio system, capable of replacing the existing analogue systems. These functions include:

- Basic trunking services: private call, group call, broadcast call, call priority, emergency call, group user priority, floor taken, late-entry and forced insert/release, and etc.
- Supplementary trunking services: call forwarding, group number

presentation, calling number display restriction, call restriction, and etc.

- Virtual Private Network (VPN) services: fleet management, short number dialing, dynamic regrouping, terminal status query, dynamic group management, dispatcher services, and etc.

Featured trunking services

- Traditional group call

It is implemented to support dense group calls in special cases or occasions, without any restriction in group capacity.

- Enhanced group call

By taking advantage of high radio capacity of CDMA, the enhanced group call enables the system to monitor real-time status of each

services have a higher priority than telephone services, and telephone services have a higher priority than data services.

- Group management

The group administrator can manage the group on a real-time basis using his or her own GoTa terminal, including both adding and deleting a user, setting user's priority and call duration.

- Do Not Disturb

When a user is unable to join in the PTT call for a certain period due to personal reasons, he or she can set the trunking service to the Do Not Disturb (DND) status.

- Management console

Through the management console, users and groups within the fleet can be managed.

can track the location of the dispatched user or group on a real-time basis while implementing private or group calls.

Voice services

The GoTa system offers all the CDMA 1X voice services, including related value-added services such as SMS and WIN.

Data services

The GoTa system supports 14.4 Kbps circuit data services such as G3 fax, low-speed Internet access, and low-speed data transmission, as well as 153 Kbps high-speed packet data services such as mobile office, video on demand, online query, multimedia mails and data industrial applications.

Location services

With a perfect combination of CDMA-based positioning technologies and trunking services, the GoTa system can offer featured and differentiated location service solutions, which can be widely used by industrial users and civil departments in areas of ship navigation, emergency assistance, vehicle management, goods tracking, logistics management, location-based charged service, and etc.

Conclusion

As GoTa can offer rich service functionalities, it is capable of providing end-to-end public trunking radio solutions. Today, GoTa has been used by operators in various countries such as China, Malaysia, Czech Republic, and Norway to provide PAMR services.

ZTE TECHNOLOGIES

As the GoTa system is capable of delivering voice, PTT and data services, as well as value-added services, it is especially suitable to build PAMR networks.

member in a group call, thus ensuring service reliability and making it possible to introduce new functions.

- Floor queue

The system can line up floor request of the group members.

- User status query

A user can query the on-line status of other members in the group.

- Service priority

The operator can change priorities of the services. By default, trunking

- Dispatch console

Through the interface of the dispatch console, the dispatcher can implement functions such as calling users and groups, displaying the real-time status of group members, and checking calls.

- Positioning function of the dispatch console

Integrating dispatch and positioning functions is a featured function of ZTE's dispatch console. A dispatcher



GoTa Terminals

Ling Yong

GoTa terminals are trunking radio terminals developed by ZTE that enable rich and practical trunking services. Since 2003, ZTE has developed several generations of GoTa terminals, which are applied to various fields in radio trunking communications, meeting the requirements of different users.

Handheld Terminals

Based on experiences in developing ordinary consumer handsets, ZTE has developed several professional handheld terminals, offering multiple choices for GoTa users.

G800 series

The G800 terminal is ZTE's first GoTa handheld terminal product. Featuring a folding design, it well integrates fashion and style of a consumer handset with the specialization of trunking communications. Since its release, the product has won widespread recognition.

While promoting the G800 in the

market, ZTE has been continually improving it based on the feedbacks from consumers. Targeting user requirements such as high volume trunking calls, ZTE released several modified G800 terminals, including G800A, G800B and G800C. These products have further expanded the scope, as well as extended the market life, of the G800 folding terminal series.

As GoTa products got mature and stable, the G800 series gradually stopped production and exited the market. However, these products have played an irreplaceable role in promoting ZTE's GoTa solution.

G600 series

The G600 GoTa terminal series, with the bar-type design, are waterproof, dustproof and shockproof to IP54-level, complying with the professional trend in trunking communications. G600 terminals target government departments, public institutions and enterprises that need trunking as well as voice communications.

With their reliable quality, complete functions and professional appearance, G600 terminals are well received by users, becoming a major force in the GoTa trunking market. The functions and performance of G600 terminals are constantly improved while the GoTa



G800A



G800B



G800C



G600 bar-type terminals



C60 bar-type terminal

G5100 bar-type terminal

G612 bar-type terminal

technology is getting more and more mature.

G658 series

Trunking users are mostly professional users, who put professional requirements on trunking applications. For example, some security and military department users need to have trunking calls encrypted. To satisfy this requirement, ZTE developed a whole set of GoTa encryption system, relying on its comprehensive R&D capabilities. The G658 series, which have the same appearance as the G600 series, enable the encryption function by adding an encryption module into the G600 series.

C60

C60 is a handheld bar-type trunking terminal that features a professional appearance and a personalized user interface. The C60, basically, has the same functions as the G600 series.

G5100

The G5100 is the first GoTa trunking terminal brought to the

European market. With an appearance customized for European carriers, it incorporates GoTa technology and provides professional trunking functions.

G612 series

As the GoTa market expands, users are divided into different groups. To meet the requirements of frontline personnel, ZTE developed a new-generation G612 intercom series. Its target users are frontline workers and management staff who use intercom terminals as work tools, especially enterprises and public institutions that have the “analog to digital conversion” requirements.

Compared with the G600 series, the G612 has simpler appearance and

functions. It weakens the voice call function and gives prominence to the trunking function. The G612 provides graphic interfaces and is easy to use.

G616 series

Direct mode operation (DMO) is a necessary function of the trunking system to ensure that essential trunking functions are available in certain areas with no signal coverage of the trunking system. Based on the G612, the G616 realizes this function by adding a DMO module.

G618 series

GPS positioning is now a highlight in trunking applications and a practical requirement of many users. In developing the GoTa system, ZTE added the GPS positioning function into the set of GoTa applications, and developed the GPS-enabled G618, an intercom terminal based on the G612. Controlled by the background positioning system of GoTa, G618 can provide location information and achieve real-time positioning.

Trunking accessories

While developing a series of handheld terminals, ZTE has developed



Fast teardown shoulder strap



Vehicle-mounted charger



Portable shoulder Microphone

a series of trunking accessories to provide better support to the handheld terminals.

Vehicle-Mounted Series

Vehicle-mounted products are an important part in the GoTa trunking system, as well as a strong link in the GoTa terminal industry chain. They are used in transportation tools such as vehicles and ships, and provide the same or higher-level trunking services than handheld terminals.



TG670 vehicle-mounted station

TG650 vehicle-mounted station

TG650 is a basic GoTa vehicle-mounted product. It offers the basic trunking call and weakened voice call functions. This product has been widely applied in departments such as ports and transportation, and etc., winning recognition from users.



TG650 vehicle-mounted station

TG670 vehicle-mounted station

TG670 is an advanced GoTa product featuring a user-friendly interface, firm and reliable appearance, and a complete trunking function set including GPS positioning. It can be used in special industries such as taxis and logistics that require trunking and positioning capabilities.



Embedded GoTa vehicle-mounted station

Special vehicle-mounted station

To meet user requirements, the GoTa industry chain provides many special types of vehicle-mounted stations. The picture right above shows the embedded vehicle-mounted station used for the light rail project of Changchun, in northeastern Jilin Province, China. The product perfectly merges into the existing environment and provides high-quality GoTa trunking services.

Conclusion

As the GoTa system is being gradually popularized, the number of GoTa users continues to grow. Based on the rich experience in the field of trunking radio communication, ZTE will develop varieties of market-oriented GoTa trunking terminals with firm structure, stable performance, friendly interface, complete functions and advanced capabilities. **ZTE TECHNOLOGIES**

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