

EVNT Network Development Strategy

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1. Introduction

At present, the CDMA450 technology is considered as one of solutions for wireless access full of potentials for operators. Combining advantages of the wireless CDMA2000 with greater coverage at the 450MHz band, this new technology leads to new opportunities for network operators in East Europe, Central Europe, Central Asia, Africa and Southeast Asia. Up to late September 2006, CDMA450 has been deployed commercially in 18 countries with an average growth rate of 20.4% for the subscriber base.

Up to the end of September 2006, there were some 20 million telephone subscribers in Vietnam making the telephone density reach 24.42 phones per 100 people; of which the mobile subscriber account for 70% with a density of 15.1 mobile phones per 100 people. This density is low in comparison with some surrounding countries. At present, there are four suppliers of fixed-line telephone services in Vietnam: VNPT, Viettel, SPT and EVNT. As for mobile services, there are six players and three of them – Vinaphone, VMS and Viettel – use the GSM technology and control a market share of 92% while the other three – Sfone, EVNTelecom and HTC use the CDMA technology. Of the six players, only EVNTelecom uses the 450MHz band while others operate at the 800MHz band. CDMA users have only small shares because they have just come into the market: SPT in early 2004, EVNT in late 2005 and HTC by late 2006 (if everything takes place as planned). This paper wants to present EVNT experience in developing the CDMA network at 450MHz in order to provide fixed-line and mobile services, especially in rural and remote areas where no coverage exists.

2. Business strategy and CDMA450 network services

Most CDMA450 networks have been launched in countries where telephony services were supplied by operators at other bands, such as 800-900 MHz or 1800-2000MHz. This means that CDMA450 operators have to compete against existing players for customers by making the best use of their greater coverage to offer services to rural and remote areas where customers only use traditional services. In developing countries, rural residents with limited incomes have become a potential market for CDMA450 services.

EVNT has adopted and implemented a business strategy that is based on the customer segmenta-

tion. It's worth noting that the Vietnamese population is distributed among regions and the EVNT has to work out strategies for different regions. In big cities and towns, the EVNT aims at groups of consumers with high incomes while in rural areas its main customers are residents with medium or low incomes because the telephone density in these areas is low.

a. Cordless fixed services:

The most appropriate strategy for the EVNT is to look for capabilities for applying the CDMA450 to meet the needs for telecommunication services in areas with no network coverage, especially remote areas where no telephone line is available. The CDMA450 is the most suitable solution for the supply of traditional voice services because of its lower costs, greater coverage and more efficient use of radio spectrum. The fixed cordless service targets at low-income rural residents who can't afford mobile phones. Construction of BTSs (base transceiver station) needed for the supply of fixed cordless services could be done easier and faster in comparison with the building of telephone lines. Besides voice services, the CDMA450 network can also provide Internet access that is almost impossible in many rural and mountainous areas. The EVNT has cooperated with the Ministry of Education and Training in popularizing the information technology by providing the Internet access to all schools in rural and remote areas. Another benefit offered by the CDMA450 network is distant meter reading. In Vietnam, employees of the EVN have to visit each house every month to take meter reading. This task is time-consuming and in many cases becomes a waste of energy because of the bad road network. The CDMA technology allows automatic transmission of data (meter readings for example) to data centers through wireless equipment.

The fixed cordless services could also be supplied to cities where the telephone density is high. In many crowded residential areas or apartment buildings, customers have to wait for a long time before their homes are connected with telephone line. The fixed cordless service will be a new option for them.

Statistics show that 60% of the EVNT subscriber base is using the fixed cordless service and the rest are subscribers of local and national mobile services.

Value-added services supplied along with the voice service are additional services (CNIP, CNIR, CF, CH, etc.) and voice-added services (VMS) and messaging service. The messaging service is an outstanding feature of the fixed cordless service in comparison with the fixed line telephone service because it allows customers to send and receive messages to/from mobile phones.

b. Local and national mobile services:

Another noteworthy strategy for the EVNT is to supply the local mobile service to customers with low mobility. This service aims at medium-income customers. To attract high-income customers in big cities and towns, the EVNT will offer advanced services based on CDMA2000 1x and CDMA2000 1x EV-DO technologies.

Mobile services will not be deployed, or profitable for operators, content developers and device manufacturers if they are not accepted by customers. Thus, the EVNT should position its services according to the customer segmentation. The EVNT plan to launch its value-added services commercially comprises different phases:

(1) Phase 1: Besides traditional services similar to ones supplied by other operators, the EVNT will develop special data services:

- Message-based services: They include SMS, VMS, SMS game, SMS chat, topical news, weather forecast and road directions, etc. and aim at young customers.

- WAP-based services

- LBS positioning services

- E-commerce services: They include e-banking, e-lottery, e-shopping and e-payment, etc. and the EVNT estimates that the e-payment is the most commercially appropriate under current conditions in Vietnam. In the coming years, the EVNT will offer this service to the EVN customers.

- Java/Brew-based services, such as Email, MMS and WEB, etc.

(2) Phase 2 in the years 2008-2010: Online communication will be the main target. It is a new and special service supported by the 3G network in which data are transmitted and run online. There are different types, such as programs on demand, publicity transmission and online downloads. Applications of online communication offer easy-to-understand contents, such as financial and economic information, entertainment programs (movie, TV programs, music, fashion, news, sports, games, etc.) Looking at developments of 3G services in the world, we could predict that these services will be a main component of mobile services in Vietnam in the years to come.

c. Building of network infrastructure:

Up to now, the biggest expenses for newcomers to the wireless market are investments in the network infrastructure. They include not only expenditures on network equipment but also cost of hiring or building base stations. Long-term success for operators depends on reduction in initial investment and operating costs after they come into operation.

Setting forth the business strategy and establishing the technical infrastructure of the network are two important components of an enterprise, es-

pecially to CDMA450 operators because they have to depend on other companies, such as device manufacturers, for the network design. To ensure success, new operators need good advisors for those two fields. Realizing this aspect, the EVNT has worked with many consultants, such as Qualcomm, to work out the business strategy and estimate tasks involved in the building of the network infrastructure.

This process has been carried out carefully by the EVNT through many stages:

- Pilot stage (from mid-2003 to late 2004): In this stage, the EVNT determined who was the most suitable supplier of equipment and technology. Three operators were selected to build three pilot networks with a capacity of serving 10,000 subscribers each.

- Initial development stage (2005): The network came into shape comprising some 600 BTSs that provided services for some one million subscribers.

- Expansion stage (from mid-2006 on): Some 500 BTSs were built making the total number of stations reach 1,100 in order to cover all districts and major communes and serve some two million subscribers.

- The coming stage (2007): Some 900 BTSs will be built to cover all communes in Vietnam.

As mentioned above, the low frequency band can provide a greater coverage, the mobile network at 450MHz requires lower production costs from operators. A CDMA450 station could cover an area that is twice as large as one covered by an 800MHz station. In rural areas, a CDMA450 could cover an area within a radius of 20km, as compared with some 10km by an 800MHz one. After the expansion state, the EVNT CDMA450 network with 1,100 BTSs could cover the same area covered by 1,500 BTSs run by GSM-based operators.

The EVNT also saved some investment in transmission infrastructure by running the optical cable along existing electricity lines on their posts instead of having it run underground. Moreover, operating and maintenance costs for the wireless network are much lower than ones for a fixed line network, especially in mountainous areas where the road network is not good enough.

These advantages allow the EVNT to reduce investment in the network infrastructure, and operating and maintenance costs, thereby increasing investment in development of value-added services. High-speed data capability is an important competitive advantage of the CDMA technology. The EVNT is deploying both CDMA2000- 1x and CDMA2000 1x EV-DO with the maximum data speed of 153kbps FOR cdma2000-1X and 2.4Mbps for the CDMA2000 1x EV-DO. ■