Vietnam Telecom Brief

By Ken Zita

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Vietnam has entered a period of remarkable economic transformation. After decades of inward-looking self-reliance, the government has embraced market liberalization of the communications sector to speed infrastructure expansion, stimulate the economy, and deepen strategic partnerships with international firms. The initial fruits of *doi moi,*

Vietnam's version of *perestroika*, are abundant. In recent years the telecom sector grew 24 percent annually, the second fastest in Asia. Meaningful competition was only introduced in 2003 when two state-owned entities led by the military (Viettel) and the electrical utilities sector (VP Telecom) received licenses to compete with the national monopoly, Vietnam Posts & Telecommunications Corp. (VNPT). The market is now poised for accelerated take-up of mobile services driven by increased pricing competition and a more prominent role for foreign strategic investors. Broad-based ICT adoption, led by e-Government initiatives, is set to follow.

Vietnam signed a Bilateral Trade Agreement with the U.S. that went into force in December 2001, a major step in its bid to join the WTO. The BTA put in motion a schedule for private ownership of telecommunications networks and services. Thus far foreigners have been prevented from making direct investments in operating companies. Instead, Business Cooperation Contracts, or BCCs, have served as a transitional investment vehicle for revenue-sharing. The critical next phase involves the conversion of the BCCs into equity joint ventures, enabling foreign management control in network services companies.

Today five mobile operators are active but the two market leaders, Vinafone and Mobifone, are controlled by VNPT and account for 90 percent of subscribers. Each operator has ambitious network expansion plans for 2005 and local banks are providing generous access to

Key Indicators

Socialist Republic of Vietnam	
Population	82.7 million
GDP	$204 billion (2003)
GDP real growth*	7.2 percent (2003)
GDP per capita	$2,500
Literacy	90.3 percent
Phone lines	10 million+
Telephone density	12.06
Mobile phones	5.3 million
Mobile density	6.6

Sources: CIA Factbook, US Department of State, Network Dynamics Associates

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investment capital. Mobile phone density is only 6.6 percent, compared to 9 percent for fixed, an anomaly for a country at this stage of income development. Hutchison recently made a bold $656 million winning bid for a 3G license and is clearly gambling on robust growth and an improved investment climate. The structure of competition in Vietnam's communications sector is still evolving, unlike the other large economies in Southeast Asia, offering potentially significant opportunities for investors.

Political and Economic Brief

After the fall of Saigon in 1975 – renamed Ho Chi Minh City, in honor of the revolution's political mastermind – Vietnam collectivized farms, nationalized factories, seized private assets, and ran a centrally planned economy. A new Constitution was adopted in 1992, enshrining the principle of economic innovation or *doi moi* (its own version of *perestroika*). With substantial aid from the World Bank and the Asian Development Bank (ADB), Vietnam began a major opening of the country to foreign investment and an encouragement to greater domestic competitiveness.

Vietnam[1] is a one-party state, ruled and controlled by the Communist Party of Vietnam (CPV). Though it remains a one-party state, adherence to ideological orthodoxy has become less important than economic development as a national priority. The party's constitutionally mandated leading role and the occupancy of all senior government positions by party members has ensured the primacy of the Politburo guidelines and enabled the party to set the broad parameters of national policy. In addition to the CPV, the most important powers in the Vietnamese Government are the offices of the president and the prime minister. The Vietnamese President, presently Tran Duc Luong, functions as head of state but also serves as the nominal commander of the armed forces and chairman of the Council on National Defense and Security. The Prime Minister of Vietnam, presently Phan Van Khai, heads a cabinet currently composed of three deputy prime ministers and the heads of 26 ministries and commissions, all confirmed by the National Assembly.

In recent years, the CPV has gradually reduced its formal involvement in government operations and allowed the Government to exercise significant discretion in setting and implementing policy. Notwithstanding the 1992 constitution's reaffirmation of the central role of the Party, the National Assembly is the highest representative body of the people and the only organization with legislative powers. It has a broad mandate to oversee all government functions. Once seen as little

[1] This section excerpted from U.S. Department of State documents: Background Note: Vietnam (http://www.state.gov/r/pa/ei/bgn/4130.htm) and 2004 Country Reports on Human Rights Practices (http://www.state.gov/g/drl/rls/hrpt/2004/41665.htm).

more than a rubber stamp, the National Assembly has become more vocal and assertive in exercising its authority over lawmaking, particularly in recent years. However, the National Assembly is still subject to party direction. More than 80% of the deputies in the National Assembly are party members. The assembly meets twice yearly for 7-10 weeks each time; elections for members are held every 5 years, although its Standing Committee meets monthly and there are now over 100 "full-time" deputies who function on various committees. There is a separate judicial branch, but it is still relatively weak. Overall, there are few lawyers and trial procedures are rudimentary.

Economy


Picture: AFP from Economist.com

Vietnam is undergoing rapid transition from a wholly central planned economy to a "socialist-oriented market economy." In 1986, the Sixth Party Congress approved a broad economic reform package called "Doi Moi" (renovation), that introduced market reforms and dramatically improved Vietnam's business climate. Vietnam became one of the fastest-growing economies in the world, averaging around 8 percent annual GDP growth from 1990 to 1997 and 6.5 percent from 1998-2003. During the first 6 months of 2004, growth was approximately 7 percent. Vietnam's inflation rate – which soared to over 300% in the mid 1980s – has been below 4 percent since 1997, but reached 7.2 percent in the first half of 2004. Since the reforms began agricultural production has doubled, transforming Vietnam from a net food importer to the world's second-largest exporter of rice. Agriculture, forestry, and fishery sectors employ about 60 percent of the labor force and account for 21.1 percent of total economic output.

Foreign trade and foreign direct investment have improved significantly. The shift toward a more market-oriented economic model improved the quality of life for many Vietnamese. Per capita income has risen from $220 in 1994 to $483 by 2003. However, average income is widely disparate: $483 for all of Vietnam but as high as $1,640 in Ho Chi Minh City and much lower than average in poorer provinces of the central and northern highlands. Many regions remain affected by acute poverty.

Vietnam was impacted by the Asian financial crisis but growth has returned, primarily as the result of ongoing economic and trade liberalization. The country's economic response to the crisis was first to emphasize macroeconomic stability and only then shift focus toward growth. The Government continues to hold a tight rein over major sectors of the economy, such as the banking system and primary utilities such as telecommunications and electrical power. The government has plans for reforming key sectors and privatizing state-owned enterprises, but implementation has been slow. Greater emphasis on private sector development is critical for job creation. Urban unemployment has been rising in recent years, and rural unemployment, estimated to be between 25% and 35% during non-harvest periods, is already at critical levels. Layoffs in the state sector and foreign-invested enterprises combined with the lasting effects of an earlier military demobilization further exacerbate the unemployment situation.

The December 10, 2001 Bilateral Trade Agreement (BTA) between the U.S. and Vietnam is a significant milestone for Vietnam's economy and for normalization of U.S.-Vietnam relations.

Implementation of this agreement, which includes provisions on trade in goods, trade in services, enforcement of intellectual property rights, protection for investments, and transparency, is fundamentally changing Vietnam's trade regime and helping liberalize its economy. The BTA gave normal trade relations (NTR) status to Vietnamese imports in the U.S. market. Bilateral trade between the two countries has expanded dramatically, reaching $5.88 billion in 2003.

Telecom Policy Environment

As a country in transition, Vietnam has moved cautiously in the process of reforming its model of state-owned infrastructure. It has as a result been trapped in the classic dilemma faced by many socialist economies: desperately needing new investment in basic infrastructure while trying just as desperately to avoid private, and especially foreign, ownership of what it perceives as strategic assets. Early change came in 1988 when Vietnam signed its first revenue-sharing "Business Cooperation Contract" (BCC) with OTC, now part of Telstra, to build satellite earth stations for international traffic. A BCC is a form of revenue-sharing concession that enables restricted market entry for a fixed period of time. It does not involve equity ownership, and contractual terms can be variable. Rates of return are fixed according to a contractual collar, though may be subject to revision depending on market conditions. Since that initial contract, Vietnam has negotiated 10 BCCs that have brought in over $1 billion of investment in basic fixed and mobile services infrastructure (see table).

VIETNAM: LIST OF BCCS	
East Ho Chi Minh City (HCMC) BCC	France Telecom in 1997 entered into a $467 million BCC with state-owned Vietnam Post and Telecommunications (VNPT) to install 540,000 fixed-telephone lines over seven years
Mobiphone BCC	Comvik of Sweden (and Millicom of Belgium) in US$324 million BCC with Vietnam Mobile Service Company (VMS), an affiliate of VNPT
4 province BCC	Korea Telecom with VNPT in $40m BCC projects to install 150,000 lines in four provinces: Haiphong, Quang Ninh, Hai Duong, Hung Yen; also providing ADSL service on a trial basis
Hanoi BCC	NTT (Japan) in VNPT BCC building local telephone network in Hanoi
Saigon Postel BCC	SK Telecom (Korea) led consortium with Saigon Post and Telecoms (Saigon Postel) in US$230m CDMA BCC
Hanoi BCC	*Exit – Cable & Wireless*: 1999 withdrew from $207 million BCC to install 250,000 phone lines in Hanoi
HCMC BCC	*Exit – Telstra*: 2003, contract with VPNT ended. Worked on satellite stations, the North-South fiber optic cable line, and submarine fiber optic cable lines for international connectivity. Had also earlier pulled out of a $300 million deal to develop telecoms network in HCMC.
HCMC BCC	*Exit – SingTel* (withdrew): back in 1991 SingTel International (STI, a subsidiary of SingTel) invested ~$10m with HCMC P&T in a mobile network which had 11,000 subscribers

Some of the BCCs have been subject to renegotiations to reduce the foreign partner's commercial risks. Revision of revenue-sharing arrangements has been allowed if return on investment fell below target due to deteriorating market conditions. For example, Korea Telecom sought and obtained a revised revenue share when the value of the dong fell twenty per cent in 1997, precipitating a fall in tariffs to roughly half of the projected per line to $150 annually. Similarly, in 2000, the VNPT agreed to a proposal from Comvik (Millicom) to abandon the previously contracted reduction of revenue-sharing from 50 percent to 40 percent in exchange for further commitments to invest. This decision came in for scrutiny in Hanoi in 2004 as state inspectors contended that such a deal had cost the government $47 million in lost revenues.

The BCCs have been the best opportunity for foreign participation in Vietnam's services sector, but they are hardly an ideal arrangement. The structure evokes memories of China's "CCF" (*Zhong-Zhong-Wai* or Chinese-Chinese-Foreign) ventures with China Unicom: foreigners are allowed to provide capital but have no rights to an equity ownership position and no management control. The policy and market is set to change – and in fact has begun to change in non-strategic sectors such as Internet and value-added services as a result of the recent US-Vietnam trade pact.

Vietnam and the U.S. signed a Bilateral Trade Agreement (BTA) in July 2000 that, among other issues, defines a schedule for direct foreign investment in telecommunications services and sets the stage for conversion of BCCs to equity joint ventures. The agreement calls for Vietnamese partners to retain a 51 percent equity share. Under the BTA agreement, which applies to all countries that have normal trading relations with Vietnam, the schedule for sector opening is as follows:

December 2003	Value added services (e-mail, voice mail, online information)
December 2004	ISP services
December 2005	Mobile cellular services
December 2007	Fixed line services[2]

The thorniest issue related to telecom is the conversion of the BCCs to equity joint ventures. The objective is agreed but the devil, as they say, is in the details. Washington would like to see 100 percent foreigner ownership. Hanoi wants to retain the cap on foreign stakes to a minority equity position. The Vietnamese side is tracking toward a process of "equitization" in which employees are offered shares in a process yet to be determined, rather than full privatization of assets. The Vietnamese offer is conceivably subject to change as it refines its accession offer for WTO. Vietnam hopes to achieve WTO membership at the Sixth WTO Ministerial Conference in Hong Kong in December 2005. Analysts believe only two countries will be selected, and Vietnam is competing for coveted WTO approval with Russia, Saudi Arabia and Ukraine. The WTO's Regulatory Reference Paper requires that a pro-competition regulator and cost-based interconnection be in place, neither of which are clear in Vietnam at the moment, and Hanoi may be open to deal sweeteners.

A new law is expected to create far better transparency for the conversion deal that ultimately emerges. The existing Foreign Enterprise Law and Commercial Law will be consolidated into a new Common Enterprise Law that it is expected to provide far better protection for investments. The new law is currently in draft and expected be implemented in late 2006.

Significantly for US vendors, the BTA frees the way for the US EXIM bank to support US companies trading with Vietnam.

[2] http://www.usvtc.org/BTA/CRS%20Vietnam%20BTA.21jun01.pdf

Regulation

The political psychology of a country that fought for so long, so bitterly and so recently for its independence with close neighbors is unlikely to change quickly. The current government sees the importance of greater integration with the world economy and is taking calculated measures to increase the pace of reform. In an effort to comply with WTO stipulation for an independent regulator, the Directorate General of Posts and Telecommunications (DGPT, 1993) was replaced by the Ministry of Posts and Telematics (MPT) in 2002.[3] MPT is responsible for sector liberalization and for guiding the dismantling of VNPT's monopoly. It was mirrored by the compilation of the Post & Telecommunications Ordinance which also came into force in 2002, the first professional legal document governing the posts and telecoms sectors issued by Vietnam's legislative body. It covers management efficiency, the creation of a fair and legal environment for enterprises and the protection of consumer interests.

Ties between the MPT (www.mpt.gov.vn) and VNPT remain cozy, creating questions about MPT's independence and effective power. In reality, VNPT remains a hugely powerful force, sorely testing the independence and fairness of the regulator and its ability to curb VNPT's influence. The MPT minister, Dr. Do Trung Ta, sits on the Communist Party's central committee.

According to a market note from The Economist Intelligence Unit, the Standing Committee of the National Assembly approved Ordinance 43 on May 25, 2002 to provide a foundation for improved transparency by requiring publication of interconnection agreements, reference interconnection offers and general licensing criteria, as well as requiring interconnection regulations to be based on transparent rules. The ordinance has been unevenly applied. Competitors have had difficulty getting interconnection. Additionally, radio frequency bands have not published and the terms and conditions of individual licenses are opaque.

The government's longstanding desire to keep a close rein on foreign participation has resulted in complex and lengthy licensing approval procedures. As in China, there have been grey areas where temporary licenses have been applied to carry out trial runs for new services. Some analysts view these temporary licenses as legitimizing contracts inconsistent with government guidelines, particularly those governing FDI restrictions. The *Far Eastern Economic Review* reported in 2003 that Deputy Prime Minister Nguyen Tan Dung approved a trial for a satellite-linked Internet service provided by Loral Skynet at one-quarter of the cost of the competing VNPT service.[4] In 2004 the Vietnam Power Telecoms Co. (VP Telecoms), an affiliate of Electricity of Vietnam (EVN), was operating a WLL network on a trial basis in Hanoi, Thua Thien Hue, Danang and Ho Chi Minh City and awaiting approval from the Ministry to expand its WLL service using Electriciy of Vietnam/EVN's nationwide power grid.

The MPT has not thus far issued a Reference Interconnect Offer (RIO). Instead, major competitors to VNPT such as Viettel have had to negotiate bilateral arrangements. Predictably, VNPT has taken good advantage of its dominant market status and routinely stalls

[3] Decree 90/2002/ND-CP dated Nov. 11, 2002

[4] The Loral trial run was aimed at Vietnamese software developers (budding software industry) clamoring for cheaper, faster Internet access in order to secure more outsourcing contracts and increase software exports, which totaled US$75 million in 2002. Saigon Software Park decided to procure Loral's satellite services at $7,000 per month, far cheaper than the $37,850 rate charged by VNPT. The MPT initially allowed the Loral deal to go ahead, only five months later in December to clamp down, issuing a March 4 deadline for the park to abandon Loral's service or face hefty fines or prosecution. But in late March, Dung stepped in. (*FEER*, 10 April 2003)

interconnection requests. In its early stages of operation Viettel received a quarter the number of circuits requested from VNPT for its fast-growing VoIP service. Viettel's network soon overloaded and it began a battle with VNPT to have its capacity increased. Viettel sought assistance from the MPT but the regulator declined to get involved. As Viettel expanded beyond Hanoi and HCMC, it had to negotiate agreements with local PTTs instead of a blanket agreement with VNPT's central management. VNPT affiliates were given what they needed in terms of transmission lines while competitors were denied or had to wait long periods of time for their leased-circuit orders to be fulfilled. There have been several examples of the VNPT squeezing potential competitors through interconnection fees and lease lines that cost 30% more than the regional average. Research suggests that the problem remains acute, especially in provincial areas. The MPT understands that cost-based interconnection is required for WTO, and positive steps toward a RIO are believed to be underway.

There is a Radio Frequency Management Department (RFM) under the MPT that has issued a number of decisions to regulate frequency issues.[5] Specific information about the band plan and frequency assignments is not easy to obtain. Instead, the government discusses which frequencies are available when considering a license application. Information about the content of the plan on the radio frequency spectrum for services covering the division of the bands of from 9 kHz to 400 GHz into smaller bands is available on the website of the Radio Frequency Department of the MPT at: http://www.rfd.gov.vn/. In 2003 VP Telecom complained that it was not able to begin its mobile phone service because it could not lease the necessary radio frequency band, as it had been told that no frequency was available.

E-Government

The government's primary focus has been on developing physical network infrastructure but applications, and specifically e-Government, are rising in strategic importance. The current party leaders see increased flow of information within society as a critical component of greater opening and economic transition, and recognize that the state needs to lead the country in ICT adoption. Reports from January 2005 suggest that the Government plans to spend 1 percent of GDP from next year forward on e-Government projects, or as much as $2 billion annually. The target should be considered optimistic. In 2005, the Central Government expects to spend approximately $1.2 million on such projects (Vnd 200 billion). During 2006-2010, e-government deployment will focus on three key projects: completing the prime minister's information management system; applying information technology in the finance industry, banking systems, and national resource and environmental management; and developing the application of online systems in state staff management. According to the computerisation proposal for administration reform, or board report 112, at least 30 per cent of state administration staff at ministries had their own e-mail address by the end of last year.[6]

[5] Including 109/1997/NĐ-CP dated 12/11/1997, 85/1998/QĐ-TTg dated 16/4/1998, and 158/HĐBT.
[6] Government gets set for online revolution ByTrang Anh
21 February 2005, Vietnam Investment Review

A draft plan for building and developing Vietnam's e-government infrastructure was submitted to the Government for approval in December 2004 by the MPT, under the Chairmanship of Deputy Minister of the MPT Mai Liem Truc. Minister Do Trung Ta believes that, through issuing a number of decrees, the government has created a "legal corridor" for the development of e-government technologies in the country. MPT estimates that all information about administrative procedures will be posted on the web and that at least 30 per cent of the population in big cities will be accessing government services online by 2010. MPT seeks to have all government agencies launch interactive web sites. A more ambitious project is a nascent plan to equip more than 25 per cent of the population with e-identity cards that enable citizens to transact electronically with the government by 2010.

Ho Chi Minh City, the nation's technology and economic leader, has developed its own e-Gov master plan. HCMC seeks to stimulate the ICT market by steering the power of the state sector towards a variety of planned e-Government programs. A first concrete step has been to establish the *HCM City Metropolitan Network*, a closed network connecting 40 government buildings in the city center with leased facilities from VNPT, and operating at speeds ranging from 1-10 GBs. With the physical connectivity now in place, attention is shifting to management of the network (gateways, firewalls, network operating center, encryption), and to computerization of the City administration. An estimated $4 million will be invested in 2005 to provide computers to the city's administrative departments; establish department-level information systems and databases; and to launch the MCHM web site (http://www.hochiminhcity.gov.vn/). The next step is to inaugurate an e-Government agenda focusing initially on government-to-government applications (G2G), followed by government-to-business (G2B) and, in time, government-to-citizens (G2C). World Bank has appointed consultants to prepare a feasibility study for the phased e-Government program. Some $2 million is expected to be committed to the project in 2005, rising to $8 million to $10 million in 2006. Early initiatives include online registration of companies. Reports suggest that in 2004 the number of domestic investors making business registration online for the first time surpassed those applying directly in person. The local government hopes that 10 percent of tenders will be executed via the Internet in the next six years.

Additionally, with about $22 million of World Bank support over five years, the city government is building an *ICT Tower* as a central point of organization for HCMC's overall ICT modernization efforts. The *Tower* will feature a conference center and showrooms, provide office space for new technology companies, and hopefully promote public awareness of ICT. A more comprehensive IT training institute has also been established at Quang Trung Software City (QTSC) that is now said to be training 2000 professionals per year. More than 63 companies and 1500 software developers are working at QTSC, primarily in the outsourcing industry, and collectively turning over revenues of approximately $20 million in 2004.

Telecom Market Environment

Vendors selling to Vietnam find that the overall procurement environment is tricky. Vietnam was ranked the third most corrupt nation in Asia in March 2004 by the Hong Kong-based Political and Economic Risk Consultancy and incidents flare up due to lack of transparency in the system. A Vietnam government State Inspector's report in April 2004 stated that ninety percent of projects involving telecoms equipment and materials were carried out in a manner that contravened State regulations, with total misappropriated funds totaling approximately $87.4 million. A couple of years back, Do Trung Ta, Vietnam's telecom minister and former head of VNPT, acknowledged the company had made some purchases without tenders due to soaring demand from telecoms users – particularly to one company run by his son-in-law.

Enforcement of all forms of intellectual property rights in Vietnam is very weak. Foreigners may also discover a challenging and sometimes unpredictable business culture. Depending on their degree of exposure to international markets, local companies can be alternatively enlightened, welcoming and sophisticated – or massively xenophobic, bureaucratic and rude. Most investors will discover a self-selecting process in identifying potential partners. All U.S. participation in the market must be through joint ventures or business cooperation contracts (BCCs), with the U.S. partner limited to a 49% share of any JV. All imported equipment into Vietnam requires an import/export license and each shipment needs a foreign trade permit from the Ministry of Trade in order to clear customs. Business and consumer telecom products are subject to import duties which vary according to the product. In addition to VNPT, there are currently 20 joint ventures manufacturing equipment and facilities for national telecom needs. About 40% of telecom equipment and services are sourced locally, while the rest must be imported.

VNPT

Vietnam Posts and Telecommunication (VNPT) (www.vnpt.com.vn) currently owns and controls the national network on behalf of the government. It is the second-largest corporate contributor to state coffers after oil giant Petro Vietnam, paying in an estimated $190 million taxes in 2001. VNPT's market position towers above new entrants. In 2003, the VNPT generated 92.6% of all industry revenue, estimated at about $1.7 billion. Competition is still in the very earliest stages and only began in earnest in 2003 for access networks (VoIP began in 2001). Other operators included: Viettel, with turnover of $63 million (3.7%); Saigon Postel with $44.2 million (2.6%); ETC (Ministry of Defence), $11.9 million (0.7%); and FPT, $6.8 million. According to a draft government strategy vetted at a United Nations Development Program (UNDP) conference in August 2003, new enterprises are projected to reach 25-30% market share by 2005 and 50% by 2010 – targets that are clearly high.

As a beneficiary of *doi moi*, Vietnam's telecom sector grew at a compound annual growth rate of 24 per cent between 1997 and 2002, according to the ITU. VNPT indicates that the number of fixed-line subscribers in Vietnam by the end of 2004 was over 10 million, or a teledensity of 12.06. Broadband penetration is miniscule. Only 30,000 DSL line were operational as of first quarter 2005, 83 percent of which were provided by VNPT. The market may grow to 100,000 lines by year-end.

As a state entity in a planned economy, VNPT forecasts are made according to the national five year plan. By 2005, all provinces and cities are to be connected to broadband networks. Teledensity is expected to increase to 8-10% in 2005 and to 15-18% by 2010. In 2010, the national information highway will be connected to all communes and districts nationwide by cable and other high bandwidth methods, with at least 30% of subscribers able to access the Internet. By 2010, telephone and Internet use is targeted to reach the regional average, with 60% of households owning telephones.

Universal service remains a challenge. Only cross-subsidies within VNPT and donor aid have provided means to extend basic services to rural areas. In the summer of 2004, the Vietnamese government announced the Vietnam Public Utility Telecommunication Service Fund (VTF). Mobile phone service providers are required to contribute 6 per cent of their annual revenue to the VTF; international fixed telephone providers contribute 5 per cent; and inner-country fixed telephone providers, 4 per cent. The fund is meant to subsidize the difference in price between urban and remote areas to create a universally equitable rate. It is expected to have paid-in capital of $31.2 million in the first two years, including $12.5 million from the state budget.

Historically the state made a significant contribution to VNPT's budget to ensure network expansion. With the gradual process of market liberalization, including the emergence of competition and local debt financing, the state is slowly withdrawing from the micro-management of the sector. An exception is where Overseas Development Aid (ODA) money is concerned. ODA money in the form of direct grants and foreign sovereign soft loans running into several hundreds of millions of dollars are applied for large scale projects like Vietnam's north-south rural backbone. Around $2.5 billion is granted to Vietnam each year, for all sectors. ODA funds are estimated to account for about 35% of total telecom investment from 1993 to 2001 (compared to 9% in Thailand during a similar period). Japan, France and Sweden are leading lenders. Some of the largest projects with ODA support include the Rural Telecom Network Development program; submarine cables linking Vietnam to Singapore, to SEA-ME-WE3, and to Hong Kong. Another project that has been discussed for many years is the Greater Mekong Sub-region (GMS) Backbone Telecommunications Network Project supported by the ADB and JBIC. Originally the plan was to connect all six GMS countries, from China in the north to Thailand in the south with an optic fiber cable as part of a much wider and more ambitious GMS regional vision for infrastructure development. From a purely economic viewpoint, whether a regional broadband cable network really warrants such large-scale investment at this time is open to question.

Additionally, VNPT is making maximum use of an increasingly liquid local debt market. Vietnam Investment and Development Bank (Vietindebank), for example, lent around $63 million to the telecoms sector in 1999 and in 2000 issued a 5-year bond for about $125 million for infrastructure projects, including telecoms. The Government has sanctioned the issue of foreign currency denominated bonds by state corporations. VNPT is publicly listing more than twenty of its subsidiary engineering and equipment companies while maintaining its central authority over national networks. The submission of a proposal in 2001 to separately list VNPT affiliates is the first step towards privatization of the incumbent: a privatization through divestiture policy.

Important reform of VNPT corporate structure is expected before the end of the 2005 or early 2006. It will be organized as a holding company and possibly renamed the Vietnam National Broadband Company. The restructuring is likely to take place through an "equitization" process that disburses shares to its employees, rather than through a privatization or market IPO. Initial scenarios suggest that the new entity will remain a state-owned enterprise. The company would include what is now VTN (the local access network), VTI (the dominant international gateway operator), and VDC (the national data backbone and largest ISP). Vinafone, the leading mobile and VNPT subsidiary, might be spun out separately. VNPT is inefficient and clearly overstaffed, as one employee manages only 60 lines, low even by emerging markets standards. Rationalizing the labor force does not appear to be a ready option as many of VNPT's employees were soldiers in the 'American War.'

VNPT can anticipate powerful competition from Viettel, the national network controlled by the Ministry of Defense. Viettel already operates two national backbones, at 2.5 Gbps and 10 Gbps, totaling more than 500,000 km, according to Viettel. VNPT, by contrast, states that its backbone network is only 6000 km. (Only VNPT, Viettel and VP Telecom have permission to build national backbone networks; other operators, like the BCCs or mobile operators, must purchase wholesale capacity from these three.)

Viettel is the second largest provider of international VoIP traffic, with 10 percent market share generated from 40 points of presence around the country and carrying about 30 million minutes per month. It also has recently-launched a switched local access network with 24,000 subscribers; an ISP and value-added services business; and national GSM network (see below). Investment capital is not a problem due to the keen interest in telecom by the national banks. With such formidable basic facilities and a market-oriented management team, it can be expected to shake up VNPT on its core turf.

Another emerging competitor is VP Telecom, the subsidiary of the national electrical utility. It too has a large backbone network of about 3400 km that is being upgraded to 10 Gbps speeds. It has set for itself a target of 7 million subscribers by 2010, of which 6 million will be mobile and 1 million fixed. Capital spending for 2005-2008 is expected to reach $500 million. VP Telecom is evaluating the potential of introducing broadband-over-powerline via existing last-mile electrical transmission grids. While it has the right licenses, nationwide reach, cash and access to technology, VP Power is an inward looking company that will have difficulty competing with more aggressive players in a sector it does not fully understand.

In HCM City, Saigon Post and Telecom Co. is a BCC with Korean partners that has a number of licenses. It has 55,000 fixed line subscribers in HCM City and the right to extend the network nationwide. Its mobile network, S-Fone, has 180,000 subscribers (see below), and expects to grow to 500,000 subscribers this year. It has 110,000 dial-up Internet subscribers as well as small number of DSL and private lines. It is also an international gateway provider.

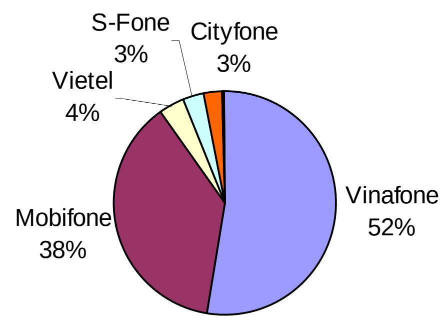
Vishipel, a corporation organized under the Ministry of Transportation, hopes to expand its traditional service area in maritime communications to a wide range of services. It has 32 branches managing coastal and port radio systems, ships-at-sea systems, Inmarsat services, etc. In 2004 it received an international gateway license, which it manages in a 50:50 BCC with Universal Telecom Services of the US. It expects to deploy a VSAT network in 2005, principally in support of banking sector clients. It has applied for a 3G mobile license but its prospects for securing the license are not known.

Mobile Market

Vietnam has barely scratched the surface of mobile adoption. As of year end 2004 there were 5.3 million mobile subscribers for a national penetration rate of 6.6 percent. The ITU believes that

Vietnam is the fastest growing mobile market in the region, after China. Mobile penetration still lags that of fixed line but mobile substitution is expected to gather pace as competition takes hold. VNPT enjoyed a monopoly until mid-2003 and predictably leads the market. It helps that the company controls three separate operators: GSM market leaders Vinaphone and Mobifone, and Citiphone, a provider of PHS in Hanoi and HCM City. To summarize:

- *Vinaphone* is estimated to have about 56 percent market share with 2.8 million subscribers, a figure expected to rise to 4.1 million subscribers by the end of 2005. Vinaphone currently has the largest coverage across the country and is projected to spend $100 million to upgrade its network in 2005. It expects to build three new MSCs for its GSM network in Hanoi, Ho Chi Minh City and northern Vietnam's Hai Duong province, raising overall capacity to 5.4 million subscribers.



- *MobiFone* is the second largest operator and also a GSM provider, has nearly two million subscribers, and 38 percent market share. Together with Vinafone, the two VNPT ventures account for 90 percent of subscribers. MobiFone was established as a BCC with Comvik International Vietnam AB which expires on May 19, 2005. Together, Vietnam Mobile Telecommunications Services Company, the mobile holding unit within VNPT, and invested more than $456 million in the MobiFone network to date. It is widely expected that, once the BCC is concluded, MobiFone will be taken public with the State continuing to hold a majority of shares.

- *Viettel*, owned by the Ministry of Defense (not the military per se), is the fastest up-and-comer. The company launched commercial operations only in October 2004 but quickly earned third place in the market with more than 200,000 subscribers by early 2005. Other networks took two years to achieve a similar number of subscribers. It is targeting 1 million subscribers by the end of the year. The company expects to sepnd just over $50 million in 2005 expanding and upgrading its mobile network.

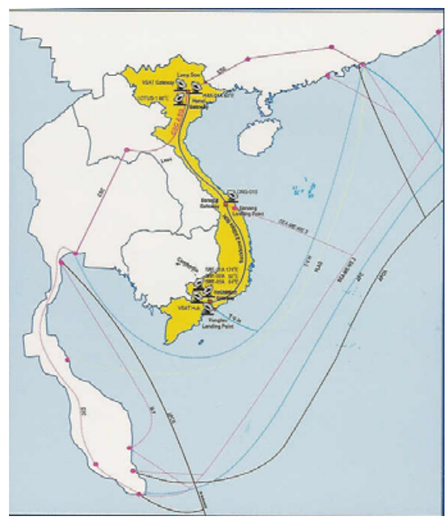
- *S-Fone* was licensed in 2003 and operates the first CDMA network and has an estimated 180,000 customers. S-fone is a $230 million BCC led by South Korean consortium SLD Telecom, a Singapore-registered investment vehicle comprised of SK Telecom, LG Electronics and Dong Ah Elecomm. It is the first telecom operator in Vietnam to initiate customer-oriented marketing strategies such as 10-second block pricing and one-zone tariffs. It expects to have nationwide coverage by the end of 2005. This year the company is said to be spending $40 million to expand network capacity and deploy a WAP 2.0 platform for value-added services. It expects to sign up 340,000 new subscribers in 2005, raising its total number of users to 500,000 by the year's end, up from 146,000 at the end of 2004.

- *Hanoi Post and Telecom (Hanoi P&T)*, a VNPT affiliate, has a 150,000 subscriber PAS/PHS system in Hanoi and HCMC that operates under the Cityphone brand. The company expects to increase capacity to 400,000 subscribers in 2005.

- *VP Telecom* has been piloting a CDMA mobile service since July 2003 but only has 10,000 users in five regions. Its supplier is ZTE of China.

- *Hutchinson Telecom*, the subsidiary of Hong Kong conglomerate Hutchison Whampoa, is the biggest news on the horizon. With Hanoi Telecom it obtained a $656 million license to launch Vietnam’s first third generation (3G) mobile phone network. The venture has a 15-year license to build and operate a CDMA2000 network with a target of 2.9 million subscribers within 10 years. It will benefit from a CDMA training center in Hai Duong being contributed by Qualcomm to provide training courses on CDMA technologies.

International Services and VoIP



International traffic to and from Vietnam is estimated at approximately 1 billion minutes per year, of which 10 percent is outbound, and 90 percent inbound. VoIP traffic is said to eclipse switched (TDM) traffic by a factor of 5:1. VoIP is classified as a basic telecom service so the number of providers is limited – currently to six companies. Gateway services are controlled by quota set by the MPT, according to formulas tied to domestic network reach and other factors that are not publicly disclosed. VTI, the former international services monopoly, now only controls about 55 percent of the market. Viettel has about 10 percent. Termination charges are likely to rise as the MPT considers options for rate rebalancing of local tail circuits. Other international gateway services providers include Vishipel, in a BCC with US-based UTS.

Internet

Internet services are closely regulated. There is one Internet Access Provider, Vietnam Datacommunications company (VDC), and 16 licensed ISPs. As in China, there are periodic crackdowns on the Internet in Vietnam in the name of ‘national security.’ A recent Ministry of Public Security decision prohibits using the Internet to disseminate ‘state secrets’ and calls for measures to be taken to stop acts that "infringe upon national security or social order and safety." All ISPs need a license, remain government-owned, and fall under joint control of Ministry of Culture and Information (MCI), Ministry of Science and Technology (MST), and the MPT. Online Service Provider (OSP) certificates are required for providing application services through the Internet. VCD, a subsidiary of VNPT, controls at least 60 percent of the dial-up access market of perhaps 4 million users in 2004. VDC utilizes 1.7 Gbps of international capacity, up from only 700 Mbps in 2003. The company’s market share is potentially much higher than 60 percent as it has unquestionably the lowest cost structure possible: VDC pays nothing for its access circuits and gets network connectivity for free. Cisco provided the platform. Other ISPs include the Corporation for Financing and Promoting Technology (FPT) and Netnam. Internet cafes are now extremely popular in urban areas. Connectivity costs only about $0.15 per hour. IDs or passports are now required to sign on at Internet cafes, just like at boarding gates for flights.

The Vietnam Next Generation Telecoms Center (VNGT) and the Hanoi Cable TV Service Co. (BTS) began broadband Internet service in Hanoi over BTS's cable TV network in early 2005. Installation is about $100 (VND1.6 million) for a corporate subscriber and $50 for residential.

Satellite

Vietnam currently leases satellite services and the government wants a national satellite to lower costs and expand broadcast and broadband services to remote villages. Vinasat was supposed to launch in 2005 but negotiations regarding overlapping orbital slots with Japan and Tonga are ongoing. The system has a planned 15-year lifespan with 30 transponders, each carrying up to six television channels or 500 telephone channels. Companies from the US, Russia, Japan and France are competing for the $300 million project.