

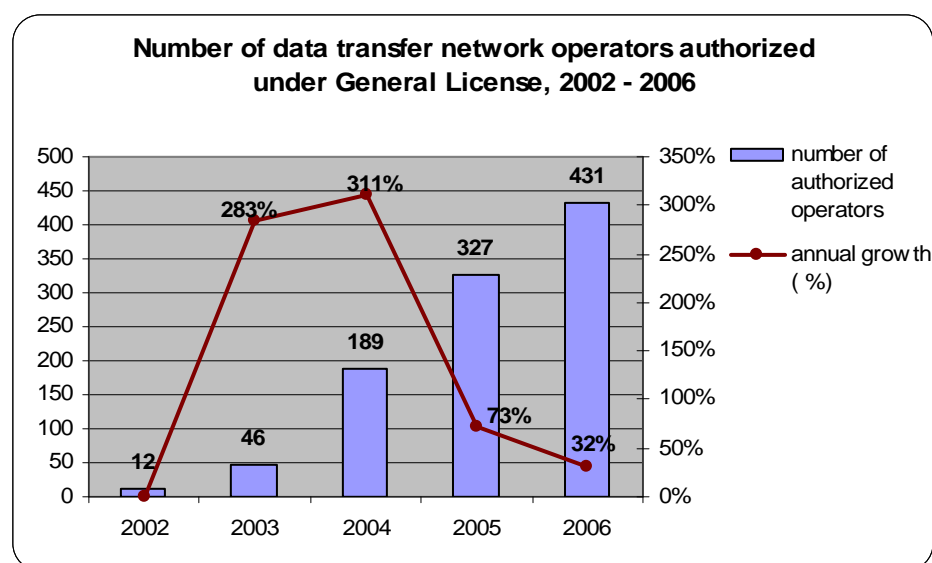
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6. Data transfer networks and Internet access service provision

In 2006 the number of operators authorized under General license No 217 to carry out telecommunications through public telecommunications network for data transfer without use of scarce resource and provision of telecommunication services through it reached 431 (Figure 62), which is 32% more compared to last year. The growth's slowing down is due to the fact that a great number of Internet service providers have been registered during the preceding years. Nevertheless, for a four-year period, the number of registered operators has increased almost 36 times. This market segment comprises also the operators registered under General license No 220 for carrying out telecommunications through public RLAN network in the mobile radio service (adopted by CRC Decision No 1809 of 01.10.2004), which at the end of the year are 123 in total and have increased almost twice compared to 2005.

In connection with the intensive registration of the Internet providers as operators of public data transfer networks without use of scarce resource, since 2005 CRC examines the data transfer networks and Internet access provision services as one common market segment.



Source: CRC

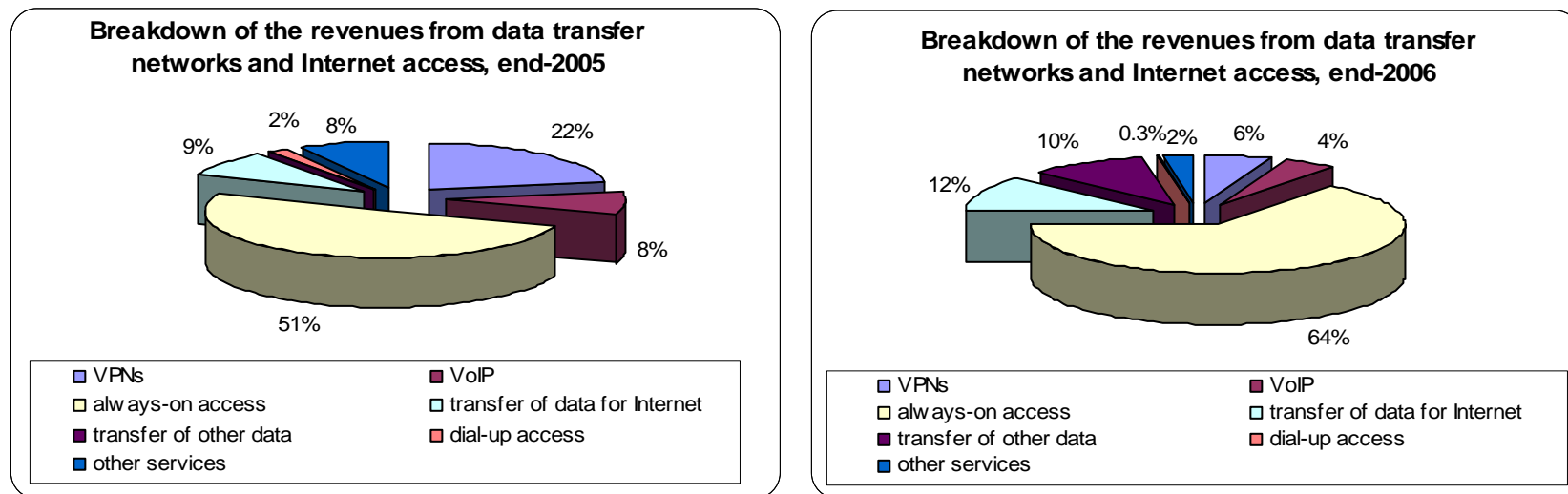
Figure 62

In 2005 there are no newly licensed operators, carrying out activities on individual licenses for data transfer networks having rights to use scarce resource – numbers from the National Numbering Plan. At the end of the year, the number of that kind of operators is 4 – the license of COMNET BULGARIA HOLDING OOD was revoked in April as the operator is registered under General license for data transfer.

The data transfer and Internet segment includes also the operators licensed by individual license for carrying out telecommunications through public telecommunications network in the fixed service of the point-to-point type, which number at the end of the period is 25.

This market comprises the revenues of the non-licensed Internet providers who have submitted data to CRC. A certain trend is observed on the national Internet market right now: the small providers are acquired by the big ones; other small ones have completely terminated their activities.

In 2006 the volume of data transfer and Internet access services market segment amounts to 142 mln BGN, what is by 25,8% more compared to the preceding year. The analysis of the breakdown of revenues from services provided by the operators in 2006 shows that the biggest share have those from always-on internet access (64% in 2006 to 51% in 2005). Growth of 27% registers the transfer of data for Internet. The rest of the services have relatively decreased (Figure 63). The greatest drop shows the dial-up Internet (7 times), due to the increasing consumer needs for high-speed broadband access and to the non-profitability of dial-up Internet use (the prices of this type of access in Bulgaria are highest in South Eastern Europe, see Prices). Drop is observed also regarding the build-up of virtual networks (almost 4 times) and VoIP – almost 2 times have decreased the revenues reported from provision of that type of service. Probably one of the reasons for that is the fact that during the last year Skype became very popular in Bulgaria. Through Skype is offered free PC-PC IP telephony and cheap PC-POTS telephony. With the entrance of more and more computers both in the households and the business, the Skype significance will grow.



Source: CRC

Figure 63

The investment made for building, maintenance and operation of data transfer networks amounts to 40,375 mln BGN what represents a 9%-increase compared to the preceding year.

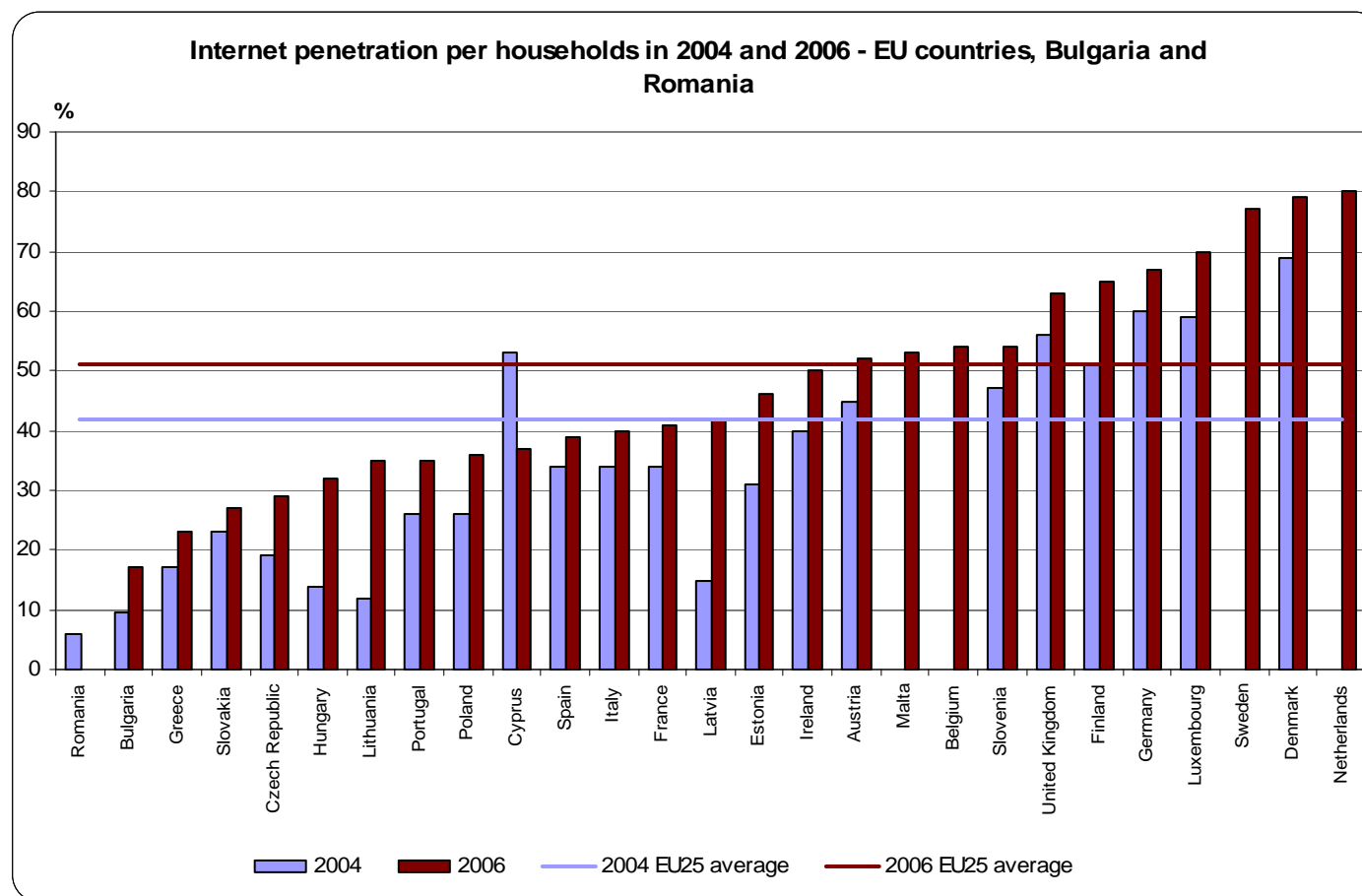
In 2007 14 of the operators who have submitted data plan to introduce VoIP services and 6 of them intend to offer IP television as well.

Internet access services

During the first trimester of 2006 was carried out already traditional survey for the information and communication technologies usage by the households and persons at the age of 16 up to 74 years, e-Bulgaria 2006¹. According to the survey, at the beginning of 2006 over 25% of the population over 15 years of age in our country uses Internet².

According to data of the National Statistical Institute³, at the end of the first trimester 24,4% of the population at the age of 16 to 74 years uses Internet, while for the first trimester of 2004 this percentage is 15,9, i.e increase of 53% is observed.

According to Alpha Research survey⁴, in January 2007 27% of the 18+ population uses Internet.



Source: Eurostat;

http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&

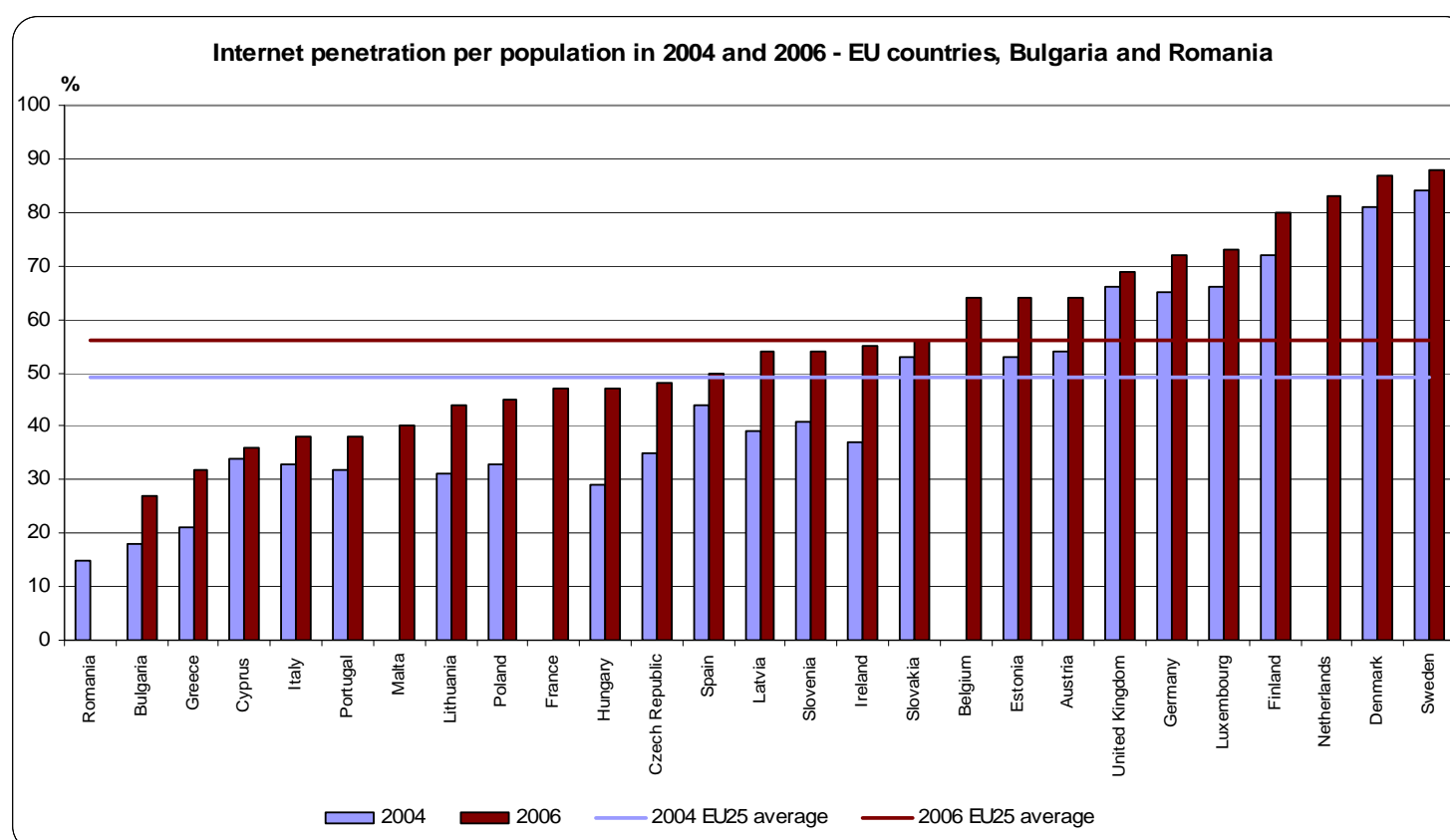
¹ <http://www.arcfund.net/fileSrc.php?id=1975>

² At retention of the growth rates, at end-2006 is expected that the Internet users in Bulgaria shall exceed 2,224 million (one third of the 15+ population)

³ <http://www.nsi.bg/IKT/IKT.htm>

⁴ <http://www.aresearch.org/internet.html>

Figure 64



Source: Eurostat,

http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&dad=portal&schema=PORTAL&screen=welcomeref&open=/science/isoc/isoc_si&language=en&product=EU_MAIN_TREE&root=EU_MAIN_TREE&scrollto=307

Figure 65

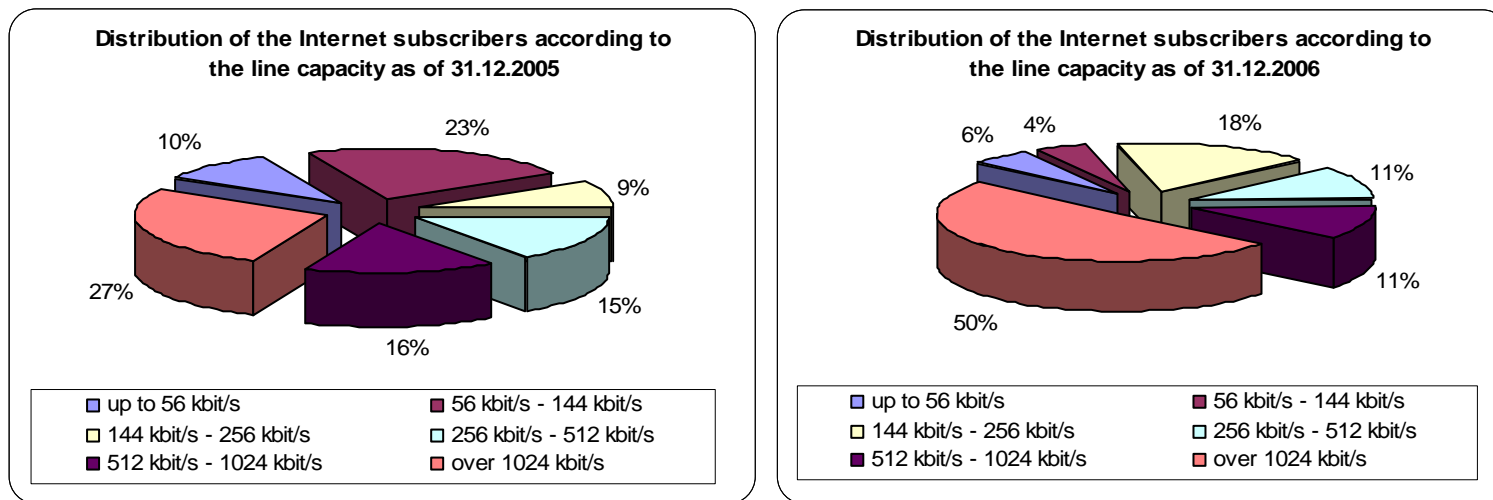
Figure 64 illustrates the Internet penetration based on households in the EU countries, Bulgaria and Romania, according to Eurostat data. The chart shows that regarding the Bulgarian households, the Internet penetration has increased by 77% for a two-year period and has reached 17%. Despite the growth, Bulgaria is still last in regard to the “household access to Internet” indicator and its value is significantly under the EU average.

The Internet penetration growth for the last two years based on population is 50% (Figure 65). Regarding this indicator, Bulgaria is last as well with 27%, excluding Romania with no data available. The average penetration rate per population for the EU member states is 56%. The penetration for Bulgaria (per population) should increase twice to reach the EU average rate of 56% at the end of the first trimester of 2006.

According to data submitted by the operator and the Internet service providers, the number of subscribers of Internet access services at the end of 2006 amounts to 466 022. The total number comprises the double and triple play subscribers, which have been declared by the operators of cable telecommunication networks registered under General License No 201. Data shows that compared to 2005 the number of subscribers has grown three times.

Figure 66 represents Internet subscribers’ distribution based on the capacity used. The accumulated relative share of Internet access subscribers at rates lower than 144kbit/s⁵ is 10%, i.e. the share of low-rate subscribers has decreased three times compared to the preceding year. The results presented show that the broadband subscribers in Bulgaria are the main part of the total number of subscribers reported by the operators and the Internet service providers (90%), while the share of subscribers using access at rates over 1024 kbit/s has doubled for one year and represents half of the total number of Internet subscribers.

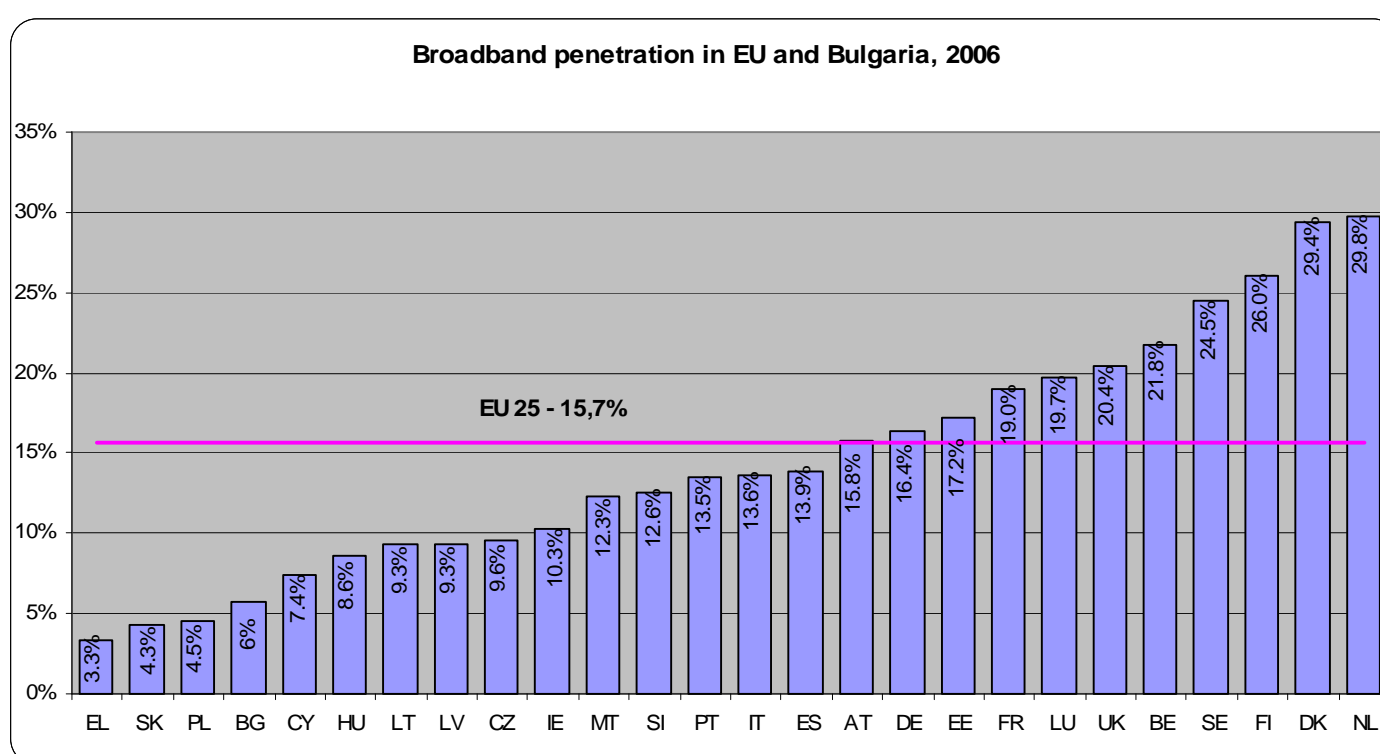
⁵ According to definition of the European Commission broadband access is the Internet access at speed over 144 kbit/s



Source: Data submitted to CRC

Figure 66

Figure 67 illustrates the broadband penetration⁶ data for EU and Bulgaria. Despite the significant broadband growth during the year, having penetration of 6%, Bulgaria is one of the last compared to the EU countries, still ahead of Greece, Slovakia and Poland.



* data for Austria as of July 2006, for the rest of the countries as of 31.10.2006

** data for Bulgaria as of 31.12.2006

Source: 12th Report on European electronic communications regulation and markets 2006 for the EU countries; CRC

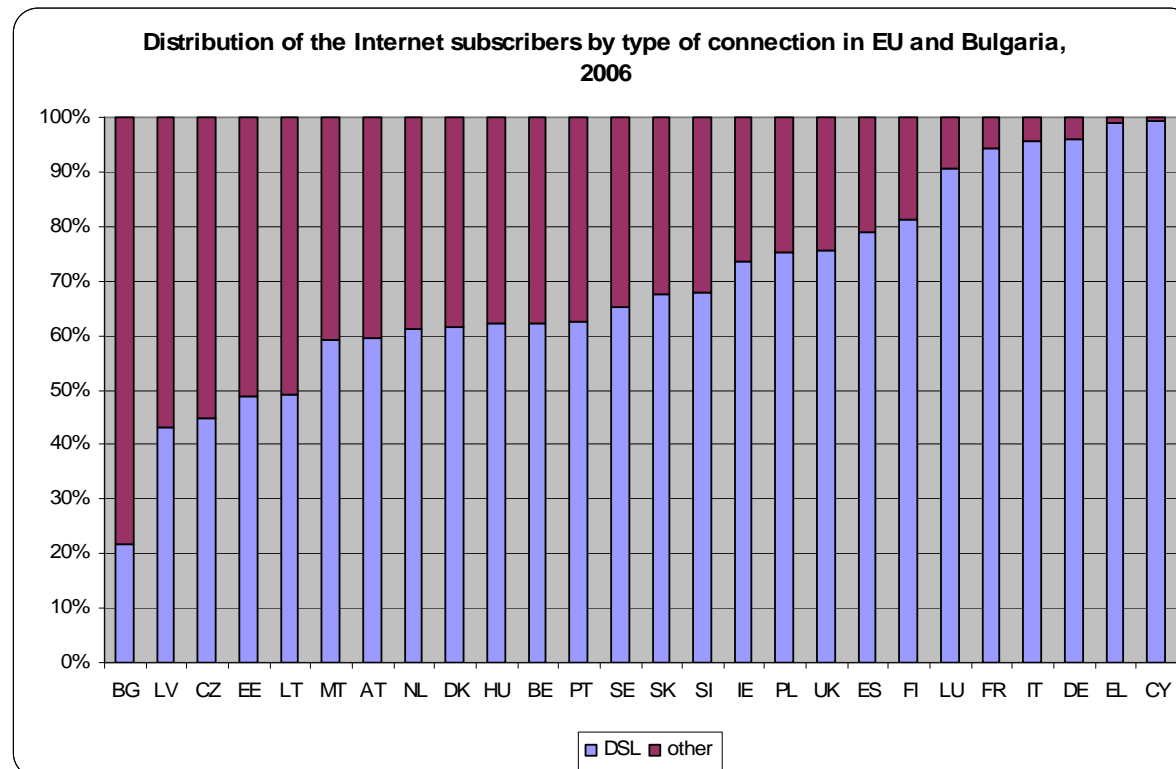
Figure 67

According to data from the 3rd comparative report for the SEE countries⁷, Bulgaria is in third place in the region by broadband penetration, being behind Romania and Croatia. Regarding the number of xDSL subscribers, Romania takes the first place, having growth of 20 times compared to the previous period, followed by Bosnia and Herzegovina (15 times growth) and Bulgaria (14 times). It should be noted that only in 4 out of 10 countries covered by the report, xDSL access is provided by alternative operators. In the rest of the countries this type of access is offered only by the incumbent operator.

The most wide-spread broadband technology in the EU is xDSL: 82% of the subscribers use it (figure 68).

⁶ Total number of broadband lines to the number of population for the relevant country

⁷ Report 3 – Country comparative report supply of services in monitoring of South East Europe - telecommunications services sector and related aspects – March 2007, Cullen International



* Data for Austria as of July 2006, for the rest of the countries as of 31.10.2006

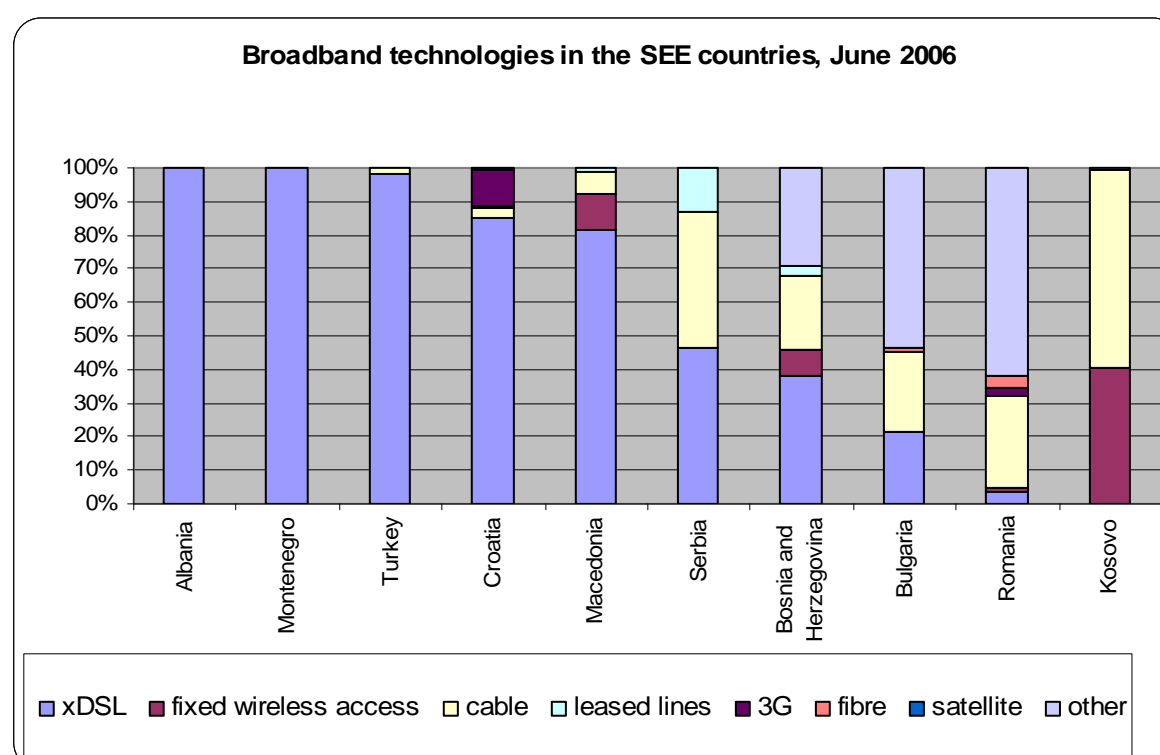
** data for Bulgaria as of 31.12.2006

Source: 12th Report on European electronic communications regulation and markets 2006 for the EU countries; CRC

Figure 68

Having hardly share of 22%, xDSL technology is least popular in Bulgaria, compared to the EU countries. BTC AD is still the only operator providing ADSL services in Bulgaria, which is an indicator for lack of competition in this market segment, while the number of ADSL subscribers has doubled for a year. The trend of building up and enlargement of the LAN networks has been kept during 2006. At the end of the year half of the Internet subscribers in the country are using LAN and RLAN networks, while 24% of them use cable networks for broadcasting of radio and television signals. Potential alternative option for ADSL access provision is the bitstream access which was not implemented in practice during 2006.

Figure 69 represents the broadband access distribution in the SEE countries based on the technology type. The most wide-spread broadband access is xDSL (61% of the total number of subscribers), followed by LAN (24%) and cable access (12%).



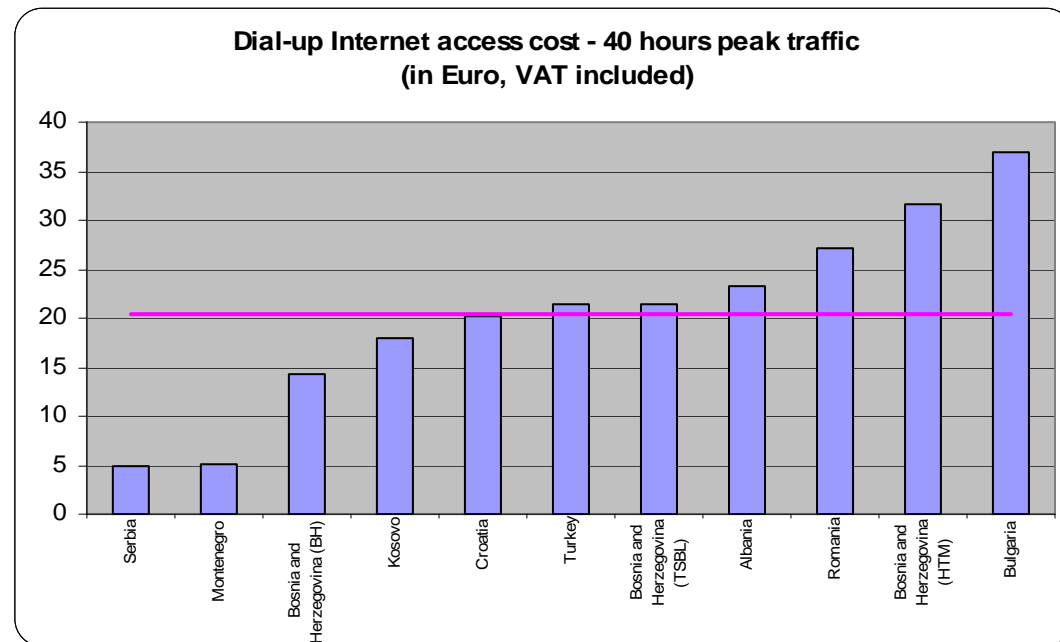
* data for Bulgaria as of 31.12.2006

Source: Report 3 – Country comparative report supply of services in monitoring of South East Europe - telecommunications services sector and related aspects – March 2007, Cullen International; CRC

Figure 69

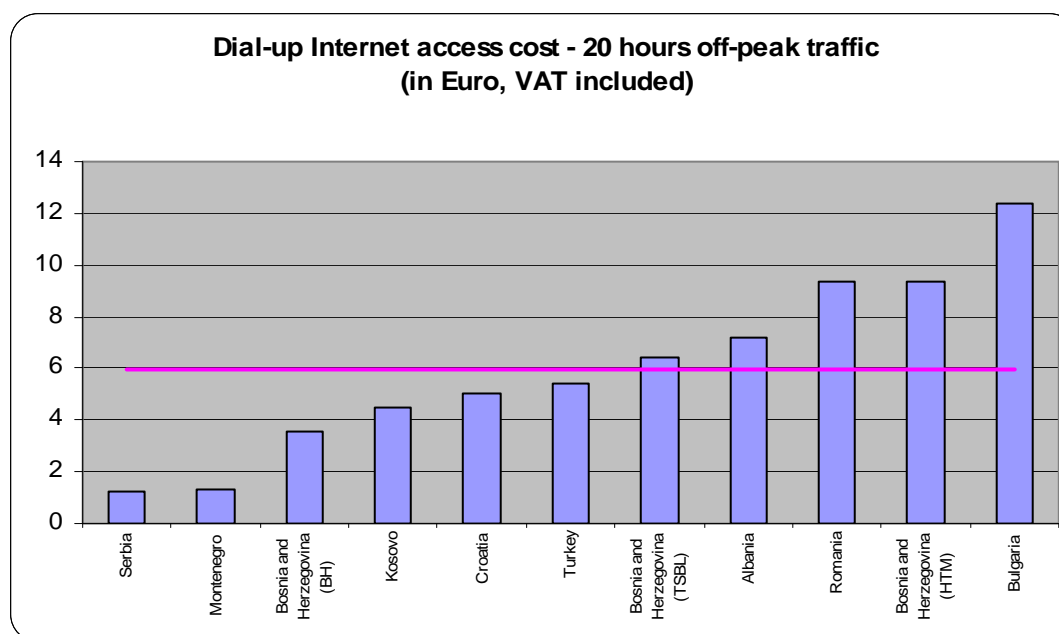
Prices

Figures 70 and 71 show the costs for dial-up Internet access⁸ in Bulgaria and the SEE countries. It should be noted that the costs for 40-minute access in peak hours and for 20-minute access in off-peak hours in Bulgaria are highest across the SEE. The dial-up access prices have not been changed during 2006, which, together with the low speed (up to 64 kbit/s) can explain the significant drop in the number of consumers using that type of Internet access.



Source: Report 3 – Country comparative report supply of services in monitoring of South East Europe - telecommunications services sector and related aspects, Cullen International

Figure 70



Source: Report 3 – Country comparative report supply of services in monitoring of South East Europe - telecommunications services sector and related aspects, Cullen International

Figure 71

According to a research for the Internet market⁹ carried out by Blog.bg, part of the INVESTOR.BG AD group, the Internet access prices in our country have decreased three times during the last year, while the drop in the capital is four times.

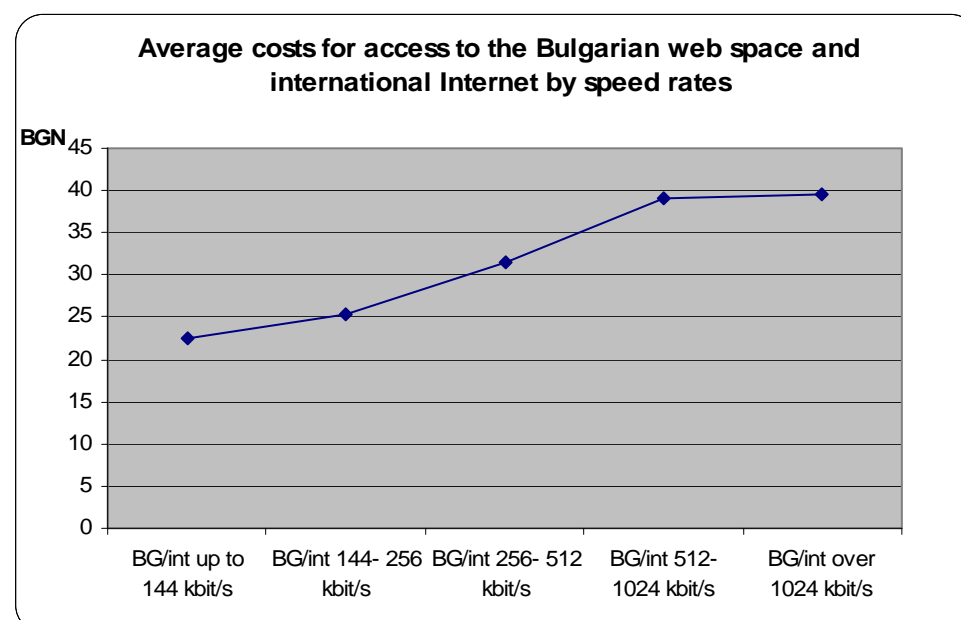
The research mentioned above shows that tariffs for limited traffic are offered by 50% less providers in Sofia, compared to the preceding year. More often are offered tariff plans for unlimited traffic, which is in favour of the consumers.

The price for unlimited Internet access is formed by initial connection charge and monthly usage charge. The analysis of data shows that the initial connection charge is due mainly out of Sofia. One-time installation charge is paid only to eight operators in Sofia. This charge varies between 10 and 40 BGN. In the settlements out of Sofia the initial connection charge also varies a lot: between 10 and 60 BGN. The presence of initial connection charge mainly in the country is due to the higher costs for cable installation and the smaller number of Internet providers.

⁸ The prices for dial-up Internet access are formed by call set-up charge for a call to a unified access number for the whole country and price per minute.

⁹ <http://www.investor.bg/print.php?id=48866>

In 2006 many operators have reported higher speed rates of the offered Internet access, while the price has remained unchanged. Because of the variety of speed rates offered in the Bulgarian market, an analysis was carried out based on 6 large groups of rates¹⁰ depending on the rates offered for the Bulgarian web space. The results from the analysis done show that the average prices for always-on unlimited Internet access are around 22,58 BGN, VAT included for speed rate up to 144 kbit/s and up to 39,64 BGN, VAT included for speeds over 1024 kbit/s (Figure 72).



Source: CRC

Figure 72

The ADSL service is offered by BTC AD according to subscription plans for 6, 12 and 24 months. BTC AD started offering 5 ADSL plans in 3 cities during 2004 at prices up to 255 BGN and speed rates from 96 kbit/s to 1024 kbit/s. At the end of the year, 1024 kbit/s is the lowest speed rate offered, while the respective price is lower than the one paid before by the customers for speed rate of 96 kbit/s. Plans with possibility for installation by the customer are offered already, which additionally decreases the price. The ADSL plans include additional services: electronic mail inbox, web hosting and unlimited monthly traffic. The end user equipment is free of charge for all the customers. At the end of 2006 the service is offered already in 285 settlements in Bulgaria.

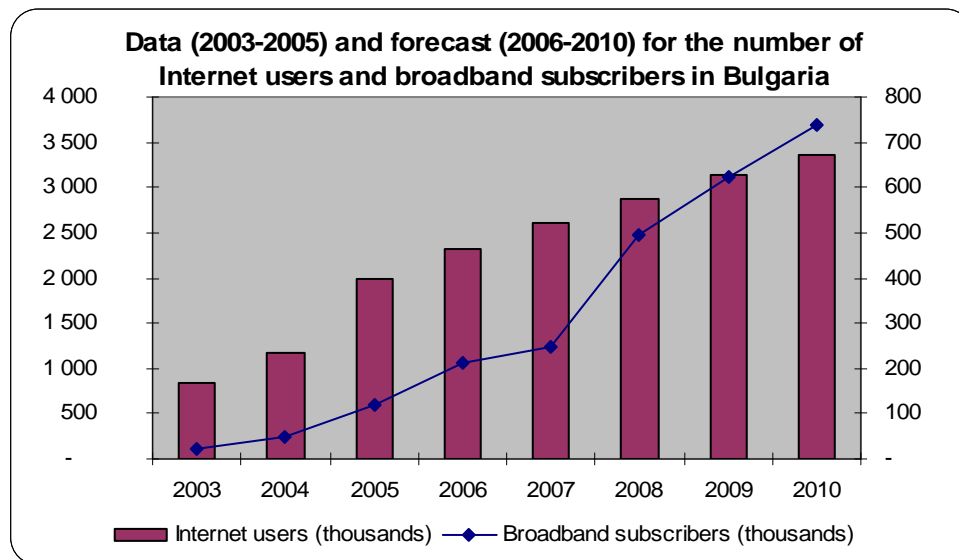
Inconvenience for the consumers is the need for purchase of expensive equipment when using cable or wireless Internet access. The prices of the wireless Internet equipment vary between 150 and 250 BGN, while the monthly subscription charge is between 24 and 180 BGN, depending on the speed rate. The cable modem costs between 80 and 140 BGN. The providers already offer rental of the equipment needed or extended payment and some of them even provide free of charge modem.

Prospects and trends

According to the Business Monitor International¹¹ forecasts, the Internet penetration in Bulgaria shall reach 44,9% in 2010, or it shall grow over 4 times for a 7-year period. The broadband penetration shall increase almost 10 times for the same period and at 2010 it can be expected to reach 9,9% (Figure 73).

¹⁰ rate up to 144 kbit/s; from 144 kbit/s to 256 kbit/s; from 256 kbit/s to 512 kbit/s; from 512 kbit/s to 1024 kbit/s; and over 1024 kbit/s; these 6 group were additionally divided into 4 subgroups depending on the speed rate for the international Internet.

¹¹ www.businessmonitor.com



Source: BMI

Figure 73

After the issuance of the first four licenses for building up, maintenance and operation of point-to-multipoint network (WiMAX) at the end of 2005, one year later activities has started only MOBILTEL AD. After testings done in December, NEXCOM BULGARIA EAD and TRANS TELECOM EOOD plan introduction of services in the big cities in 2007. The services provided by the operators through these networks are fixed telephony and Internet access. WiMAX is a new wireless technology developing fast worldwide. Beside the fact that it could be a last mile access solution, it offers variety of possibilities and applications for the end users (such as broadband Internet access, convergence of voice, data and video applications) and could be provided in poorly populated and hardly accessible areas. In addition, WiMAX ensures high quality of service. Compared to the DSL, for example, WiMAX allows symmetry, non-discriminated access to local and international internet and separate channels for voice and data transmission. The introduction of WiMAX would lead to a significant decrease in the maintenance costs compared to alternatives, such as cable and fibre networks and DSL.

The emergence of new wireless networks and the development of the existing fiber networks (29 of the data transfer network operators and 4 of the Internet service providers on free regime have declared to offer fibre access), the ADSL service and the triple play (cable television, fixed voice telephone service and broadband Internet through one cable) services offered shall stimulate the growth of the Internet consumption in the country. In addition, the presence of alternative options for content delivery, as well as the availability of new interactive services shall enhance the competition among the operators, which would result in cheaper services of higher quality for the consumers.