

# Broadband Market – Country Case Studies

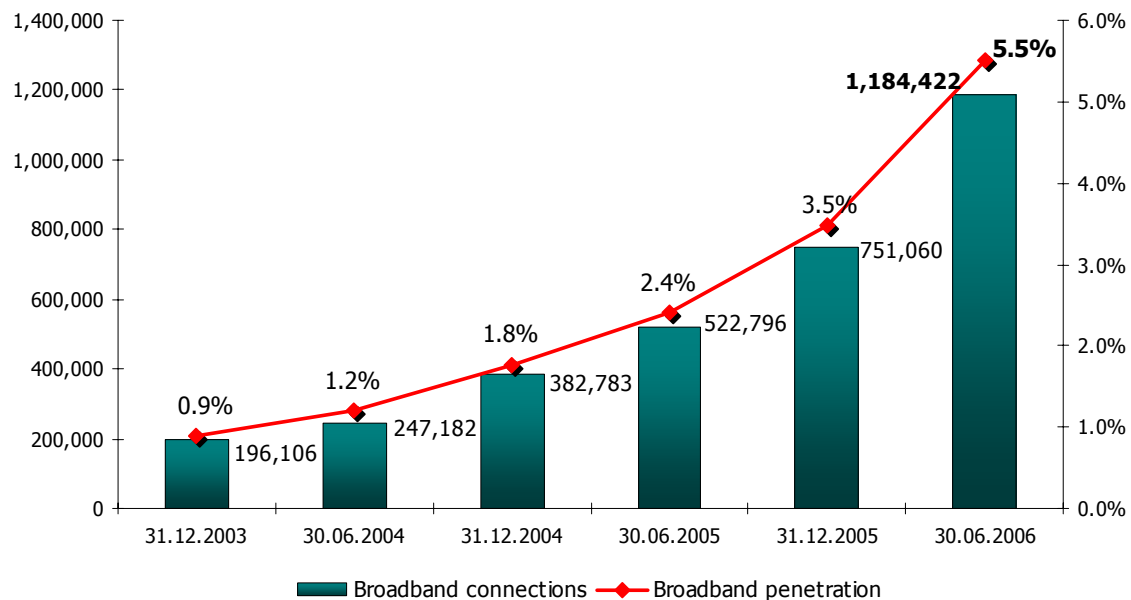
## Romania

### The Romanian Broadband Market

At the end of June 2006, there was a number of 1,184,422 broadband connections, with a growth of 58% from the end of 2005.

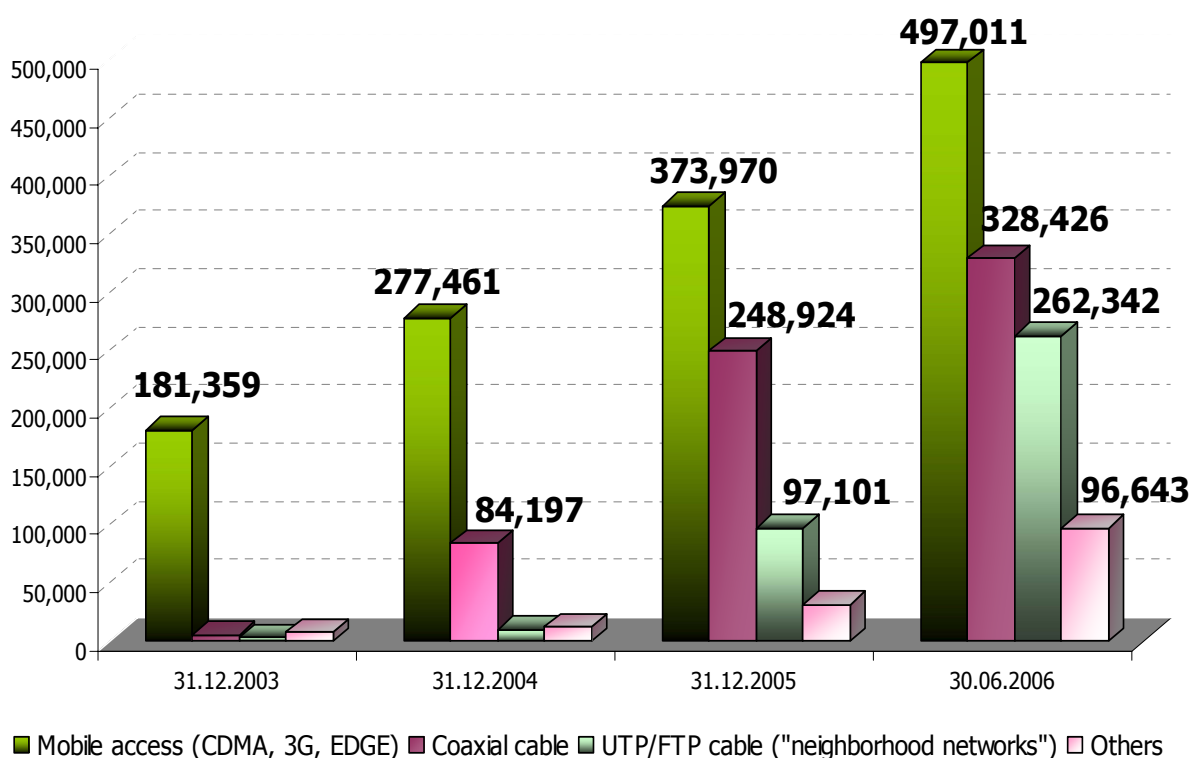
The broadband penetration rate (calculated as a percentage of the total population) reached 5.5% at 30 June 2006, compared to 3.5% at the beginning of 2006.

**Evolution of broadband connections and penetration**



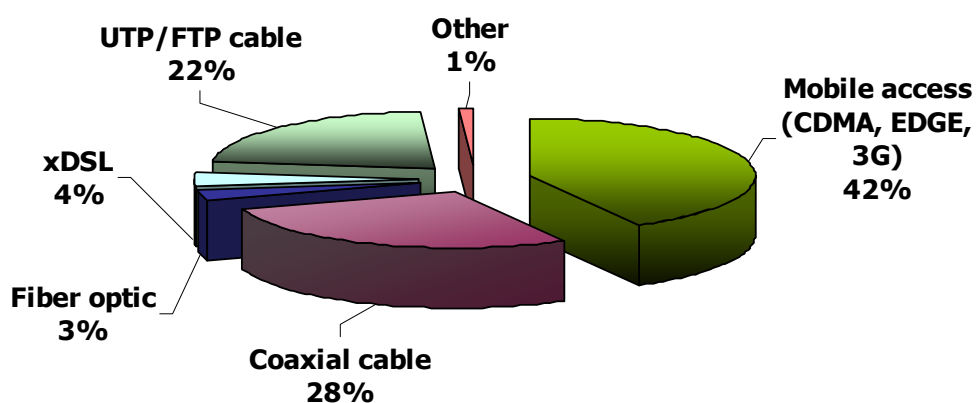
The Romanian BB market shows an interesting feature: the mobile access (CDMA/EVDO, EDGE, and lately 3G) had largest market share over time, followed by coaxial cable and lately UTP/FTP cable.

### Broadband evolution by technologies



At the end of June 2006, mobile access reached 42% of all broadband lines in Romania, followed by coaxial cable with 27.7% of the market and UTP/FTP cable with 22.1%.

### Broadband market structure at 30 June 2006



The broadband market is shared between<sup>1</sup>:

- Telemobil, a CDMA2000 1.x EV-DO operator, who offers mobile broadband access;
- 2 main cable operators UPC-Astral and RCS&RDS who provide double or triple play services (analogue TV, broadband access and IP telephony) using their own infrastructure;
- Romtelecom, the incumbent operator, who launched the xDSL services in 2005;
- Other operators including LLU operators, "neighborhood networks" operators, 3G operators etc.

The mobile access includes the connections that allow mobile access to the Internet, offered through CDMA technology as a part of the mobile telephony subscriptions.

High speed Internet over cable is very well developed with 328.426 subscribers, while the overall number of cable subscribers leads to a household penetration of over 50%). The share of cable modem in the broadband market, which reached 27.7% in mid 2006, has considerably increased during the past years. Two major cable operators control the cable modem market: RCS&RDS and Astral-UPC. The modem cable had a growth of 113% since mid 2005, becoming one of the most mature and affordable services in the market.

The category of UTP/FTP cable refers to the so called "neighborhood networks" which developed considerably in the past years. These networks consist of large LANs that are connected to the internet using different forms of wholesale or retail broadband access from other internet providers. They operate in the residential areas, offering affordable services at reasonable speed rates. In the first 6 months of 2006, the UTP/FTP cable had a growth of 170%.

With a number of 45,008 xDSL lines at 30 June 2006, the penetration rate of xDSL in the total broadband access is 3.8%, situation caused mainly by the late introduction of ADSL services by the incumbent (in May 2005) and also of the LLU services (as a result of the regulatory actions, RUO was published in September 2004, but the first LLU contract was signed in March 2005). Furthermore, ANRC did not regulate bitstream services yet, nor does the incumbent commercially offer them. However, the DSL part of the retail market shows an explosive dynamics, with the number of xDSL lines increasing by 516 % in the first 6 months of 2006. On the other hand, there is an extremely slow take-up of the LLU services, with only 1155 unbundled local loops. The maximum bitrate offer is 6Mbit/s, and the situation will evolve, as operators will soon start to use the ADSL2+ technology.

Double play and triple play offers are present in the market; operators have just begun to provide IPTV, TV on demand, VoB etc. or are in the process of doing so.

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<sup>1</sup> Market shares are confidential

In the matter of tariffs, retail offers differ a lot between them, as these are technology dependent. The broadband products offered by the cable operators start from 7 EUR/month for speeds up to 1024 kbps. The high bandwidth products offered by these operators go up to 50 Mbit/s metropolitan and 2 Mbit/s internet access and are charged with 19 EUR/month (a number of on-net and off-net call minutes being included in this tariff).

Tariffs for the xDSL services are quite high in Romania given the fact that these services were just launched last year. Currently, the average bitrate commonly purchased by end users is 512 kbit/s. Incumbent retail tariffs start from 19EUR/month for the 1024Kbps/256kbps service going to 79EUR/month for the 4096kbps/384kbps service, while OLO services are lower: 10EUR/month for the 768Kbps/256kbps service and 45EUR/month for the 6Mbps/640kbps service.

### **LLU Regulation**

ANRC's regulatory objectives are to promote competition, protect the best interest of the end-users and encourage efficient investments in infrastructure.

As mentioned before, the DSL market is only at the beginning, with little competition existing at the moment. In the light of its regulatory objectives, ANRC is keen to promote competition based on alternative networks and on innovative services.

ANRC considers that LLU services are very important in this stage as these allow alternative operators to enter the market in regulated terms and conditions by getting access to incumbent's network and thus being able to provide high bandwidth services to the end-users.

As a result, taking into account that LLU is the foundation of broadband competition, ANRC's ex-ante regulation focuses on the establishment of efficient access conditions to the incumbent's network.

In 2003, ANRC designated Romtelecom as having SMP on the market for the provision of the unbundled – full or shared – access to the twisted metallic pair local loop, for the purpose of providing broadband electronic communications services and publicly available telephony services at fixed locations.

By Decision no.1098/2004, ANRC imposes on Romtelecom a series of the obligations:

- transparency - publication of a reference offer for the unbundled access to the local loop;
- non-discrimination - apply equivalent access conditions under equivalent circumstances;
- allow access to all facilities and make available all the services that are necessary for the unbundled access to the local loop;
- accounting separation;
- cost oriented tariffs.

Other technical, provisional and operational aspects of access to the local loop were included in the decision.

S.C. Romtelecom S.A. published, on September 11, 2004, the Reference Unbundling Offer (RUO) and the Standard Agreement for the unbundled access to the local loop.

Regarding the level of tariffs for access to the local loop, ANRC sought to balance two essential objectives: facilitating the rapid entry of the new market players and encouraging infrastructure investment (building new access networks or developing the existing ones).

In 2006, considering the fact that some of the RUO provisions didn't comply with the ANRC LLU regulation and the slow take-up of the LLU services, ANRC revised the general LLU framework by issuing a decision which modifies the RUO and the decision 1098/2004.

In this decision, ANRC further detailed Romtelecom's non-discrimination and transparency obligations. As a result, the most important provision of the decision regards the Romtelecom obligation to publish a document concerning the internal reference conditions for unbundled access to the local loop that should contain high details of the LLU services that Romtelecom offers to its retail unit in order to provide retail broadband services. Other provisions of the decision concern the modification of the tariffs for LLU facilities, of the negotiation and implementation processes, the introduction of SLA, penalties etc.

As a particular remark, the process of incumbent's optical MSAG-ready (Multi Service Access Gateways) equipments installation into its access network inside main cities will have a major impact on the alternative operators' LLU business plans since it significantly increase the number of subscriber lines access nodes and simultaneously decrease the number of subscriber lines per access node. The process notably increases the amount of initial investments needed by the OLOs and diminishes the average number of subscriber lines per installed DSLAM, increasing the risk of business plan failure. Therefore, the take-off of LLU process might not happen in the expected parameters.

In 2006, ANRC set up a LLU working group with the main task of identifying viable economical and technical solutions to the problems raised by the installation of optical network units in the access network of the incumbent.

### **Bitstream**

Regulated bitstream is not available in Romania. ANRC identified the relevant market back in 2003 and, since it was impossible to apply the criteria to carry out a market analysis, could not identify any SMP operator. Therefore, ANRC decided to refrain from imposing regulations on the bitstream market in this stage.

### **VOB/VoIP**

ANRC did not take any step in regulating these services, like allocating a special numbering range etc., but will monitor the development of the VOB/VoIP services and will take any regulatory actions necessary.

### **Naked DSL**

There is currently no naked DSL type product available in the Romania.