

Broadband and the digital divide

by Prof Dr Ali M. Abbasov, Minister of Communications and Information Technologies of the Republic of Azerbaijan

Broadband is the key to bridging the digital divide. There are three interrelated broadband development issues: funding, network neutrality, and affordable access to the Internet backbone. Direct government investment, tax incentives and universal access requirements can provide the funding. The net neutrality issue will require new business models that let telcos profit from rapidly growing P2P, video and cloud-computing traffic. Affordable access calls for local content and services backbones, regional transit networks, regional exchanges and content delivery networks.



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He attended the Azerbaijan Oil and Chemistry Institute, transferred to the Moscow Energy Institute where he graduated with a specialization automation and tele-mechanics. at post-graduate courses of the He received a post-graduate degree in technical sciences in the field of microelectronics from the Academy of Sciences of Ukraine where he earned the degree of Doctor of Technical Sciences with a thesis on Information Processing and Management Systems. He subsequently was awarded the degree of Professor.

Broadband is becoming a utility, a key infrastructure for participating in global information society. The establishment of the Broadband Commission for Digital Development has become a very significant and valuable milestone for further identification and prioritization of the global broadband agenda in line with MDGs (UN Millennium Development Goals). As a Commissioner, I believe that

after comprehensive multilateral discussions the Commission will develop a shared and accessible roadmap to encourage further private and public investment into global broadband infrastructure, while developing strategic policy recommendations.

We are at an important historic cross-road, where the global stakeholders make difficult and important decisions on broadband

development to ensure continuing innovation, economic freedom, and the bridging of the digital divide. The wider broadband agenda provides a number of policy challenges, including balancing government and private investment, balancing ISP's needs for covering low-income communities, lowering costs of international upstream access and developing local content.

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There are three interrelated issues in global broadband development: the funding challenge, the network neutrality argument, and the cost of access to Internet backbone.

Telecom companies are facing the challenge of profitably transitioning to the second generation broadband services. Telcos are concerned that the providers of centralized service and content, virtualization and cloud-computing players will reap the most profits, while they, the telcos, will be relegated to the ‘dumb pipe’ status. Historically, telcos found it difficult to increase ARPU through increased bandwidth. While telcos can benefit from selling services, they compete with centralized companies that can more easily access the customers via the introduction of second generation broadband. However, the high level of competition in urban developed markets encourages telcos to deploy second generation broadband, and private funding is available. As a result, a new Internet ecosystem of global, regional and local operators, service and content providers, and customers will emerge.

The more difficult challenge is funding broadband deployment in the rural, under-populated areas of the developed world and in many urban areas of the developing world. In the developed countries, a set of government incentives and subsidies should be created to support broadband penetration for underprivileged communities. Innovative economic models should be encouraged, such as advertising-based free broadband services. In the developing world, the key to driving broadband penetration would be a set of government incentives, including direct government investment, tax and tariff incentives, coupled with universal access requirements as part of the service provider operating licence.

The net neutrality issue has been a subject of much debate recently. I believe that the end-to-end principle that has been crucial to rapid Internet development for the past 40 years will continue to play a vital role in encouraging innovation and free competition. New business models that allow telcos to profit from rapidly growing P2P, video and cloud-computing traffic should emerge, while

threats such as piracy and spam should be adequately addressed.

Finally, the developing countries face the issue of high Internet upstream costs. Global rollout of broadband means that developing countries need to greatly increase the inbound traffic to stay connected and to access cloud-computing services and media content. The long-term strategy to address this facet of the digital divide problem is to build local content and services backbones. This should be combined with introduction of regional transit networks that will enable regional exchanges and content delivery networks, therefore reducing the upstream load.

One policy initiative that addresses these priorities is the Trans Eurasian Information Super Highway (TASIM) initiated by the Republic of Azerbaijan, expected to directly reach more than half of the population of the Eurasian continent. The initiative would promote diversification of the continent’s economy, which is currently driven by natural resources, thereby accelerating economic growth by increasing the productivity of non-energy sectors. In December 2009, the creation of TASIM was endorsed by the UN General Assembly resolution A/RES/64/186.

I expect TASIM will also deliver regional macroeconomic benefits by supporting regional economic connectivity and improving regional e-commerce. We expect that the small, underdeveloped countries of the region may choose to employ TASIM as their IP backbone provider to immediately gain high quality, inexpensive, upstream international access and the ability to rapidly deploy local broadband access.

Global deployment of content delivery networks (CDN), data centres, Internet exchanges, proliferation of virtualisation and cloud-computing all place a premium on geographic connectivity to decrease the speed of light related latency. TASIM will take full advantage of the participating country’s geographic potential, allowing local businesses to better integrate into the global cloud computing mesh.

TASIM will support the regionalisation of traffic, especially by containing P2P and video traffic regionally, thereby reducing the costs of upstream connectivity. Overall, development of local content and resources will improve the peering attractiveness of the region and, accordingly, drive the costs of connecting to IP backbone down.

We are currently working with major regional operators to establish the TASIM Consortium. TASIM will be an operator for operators, primarily addressing regional long-haul IP transit market. We are creating a network architecture that will define how Eurasia, from Eastern Europe to China, connects to the rest of the world. ●



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