

# Kazakhstan

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## 1 OVERVIEW

The current independent state of Kazakhstan was declared in 1991. It has a population of 15.4 million people with a land mass of 2.7 million square kilometres. The GNI per capita was 1,860 Euro in 2005, according to the World Bank. Kazakhstan is a constitutional republic with a President and a bicameral legislature. The country consists of 14 provinces and 3 municipal districts.

### 1.1 Regulation of Electronic Communications

Existing problems with regard to interconnection are now being actively addressed by the competition regulator – ARNM (Agency for the Regulation of National Monopolies). ARNM, along with the AIC (Agency for Informatisation and Communications), both serve as national regulatory bodies, although they are not independent of government. The AIC is responsible for all aspects of electronic communications regulation, except tariff policy, which is the domain of ARNM.

The Kazakhstan incumbent is obliged to publish a RIO and may not refuse interconnection. The AIC has also drawn up model interconnection agreements. Local loop unbundling does not exist and there are no plans for its introduction.

Numbering resources are managed by the AIC. Numbering is generally managed on a non-discriminatory basis, although geographic numbers are not available for VoIP providers.

There are regulations for facilities sharing established by Kazakhtelecom and are available for download from its website.<sup>1</sup> Where there are problems, these are usually addressed by the AIC.

Tariff rebalancing is underway in Kazakhstan, although there is some criticism that this is progressing at an unduly slow pace.

A Fully Distributed Cost with Historic Costs methodology method was introduced for cost accounting at the beginning of 2005. A review of its implementation is currently being undertaken by the ARNM.

A basic universal service policy was introduced through the 2004 Law on Communications. A universal service fund may be introduced in the near future, although no precise plans are available regarding how this would be financed. A key priority was to ensure that all settlements have phone access by the end of 2006. Figures are expected to be published in early 2007 to show if this target has been met.

There are no obligations on any provider to ensure the availability of leased lines at all points in the country. The market is quite untransparent, as it is governed primarily by commercial arrangements between market players.

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<sup>1</sup> <http://www.telecom.kz>

Due to the geography of Kazakhstan, satellite communications are very important. The provision of satellite services is expected to improve following the launch of the Kazsat communications satellite.

There is no data protection legislation in Kazakhstan, although it is expected that a law will be published in 2007.

## 1.2 Regulation of Online Services

Kazakhstan adopted legislation on e-documents and e-signatures in 2003. However, the rules are quite complex and the necessary administrative elements are not yet all in place.

While the rules regarding the deliberate dissemination of illegal content are clear in Kazakhstan, the role of ISPs as “mere conduits” is not clear, nor is the situation regarding hosting providers unknowingly hosting illegal material. With regard to online child abuse images, all distribution of pornographic material is prohibited in Kazakhstan. While e-commerce is in a comparatively under-developed state in Kazakhstan, the e-banking sector is exceptionally advanced. Nevertheless, although most of the 35 banks operating in Kazakhstan have implemented online banking systems for corporate customers, only 5 have implemented online banking systems for individual customers.

Legislation on intellectual property have undergone significant changes in the recent years; however, additional work is needed.

## 1.3 Use of Information and Communications Technologies

Fixed network penetration is running at 17.9%,<sup>2</sup> buoyed by strong competition between seven major fixed line service providers. Approximately half of all telephone exchanges are now digital. The mobile penetration rate is quite significant (35.6%<sup>3</sup>) and growing very quickly.

While use of online services is still at quite a low level, the Government has adopted a very sophisticated and comprehensive approach towards the development of the information society, including a specific plan on the development of e-government services. If this is successful, it should form the basis of increased trust in, and impetus to use, online services.

A 2005-2007 action plan for e-government foresees a three-phase development of online services, starting with the development of basic online services, moving on to more interactive services and finally advanced e-health, e-education, e-culture and e-democracy services. Kazakhstan’s score increased significantly from 2.6 (out of 10) to

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<sup>2</sup> “Transport and Communications in 2005”, Agency on Statistics of the Republic of Kazakhstan, 2006

<sup>3</sup> “Science and Innovation Activity in Kazakhstan in 2005”, Agency on Statistics of the Republic of Kazakhstan, 2006

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2.97 from 2004 to 2005 in the Economist e-readiness rankings and reached 3.22 in 2006, attaining its best mark for business environment (5.37 – unchanged from 2005) and worst for consumer and business adoption (1.95 – up from 1.7 in 2005).

## **2 GENERAL ENVIRONMENT**

### **2.1 Influence of non-public stakeholders on regulation and policy**

There is only one association of telecoms service providers in Kazakhstan, the National Telecommunications Association. All major telecoms operators are members of this Association (with Kazakhtelecom having observer status). All tier-one ISPs are members of the National Telecommunications Association. Small ISPs are not organised in any form of association.

The National Telecommunications Association has proven itself to be very active and effective in lobbying on behalf of members. The Association is a member of the consultative council of the AIC (Agency on Informatisation and Communications) where it takes an active role in reviewing all upcoming changes in the industry, including examining and commenting on draft legislation.

A Council of Operators, under the chairmanship of Aben A. Bektasov, the Chairman of the Agency on Informatisation and Communications took place in June 2005. This meeting led to the setting up of a Commission on interconnection issues and a second on traffic flow issues. The aim of the Council is to improve the legal basis for a range of communications issues.

From a consumer perspective, the closest Kazakhstan has to user groups are the consumer protection NGOs that have proven to be very effective in the past. These include the Association of Protection of Consumer Rights<sup>4</sup> and the National League on the Protection of Consumer Rights<sup>5</sup>.

There are no particular barriers to the setting up of associations, including trade associations, in Kazakhstan. The Law on NGOs governs all associations and this law is very "user-friendly." Overall, the number of associations in Kazakhstan has grown significantly in the past years and the effectiveness of these associations is relatively high. Generally, businesses are inclined to join the relevant associations in Kazakhstan and place a high degree of trust in them.

### **2.2 National Development Plans**

Kazakhstan developed an extensive plan for the development of the telecommunications sector in 2003, entitled "The Programme for the Development of Telecommunications Sector in the Republic of Kazakhstan for 2003-2005." The Programme not only set out a series of goals but also enumerated a detailed methodology regarding the approach for dealing with problems in the sector, the financing of the project, the expected benefits of the programme, and a substantial list of

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<sup>4</sup> <http://www.cango.net.kg/homepages/kz/nacrps/>

<sup>5</sup> <http://www.potrebitel.kz>

action points that needed to be undertaken in order to achieve these goals. The expected benefits of the programme included:

- Establishment of a single regulatory and legal framework in the telecoms sector to ensure improved efficiency of government regulation;
- Creation of a competitive environment in the telecoms market, including more possibilities for the development of local access lines and value-added services;
- Establishment and provision of a system for the training of experts in the context of the rapid development of the sector; and
- Fostering of an investment level conducive both in the short- and long-run to the development of the sector.

The programme recognised the key competition issues that needed to be addressed to ensure the positive development of the sector. As a result, it was planned:

- To eliminate the non-transparent cross-subsidisation of services;
- To introduce cost accounting;
- To introduce rebalancing and a set of “economically sound tariffs” to create competition in market segments previously considered unattractive to business; and
- To create a fully market-oriented sector in order to lay the basis for the sustainable long-term development of the telecoms sector.

The Kazakhstan authorities produced a list of forty-five different and comprehensive actions that would need to be undertaken in order to ensure that the programme was successful, detailing the government agencies that would be responsible for each of the action points, the implementation deadline, the expected costs and the source of financing for the actions.

This level of coherence and sense of purpose has been maintained over the course of the past two years. A scorecard, which is not publicly available, has been seen by the study team which shows the durability of the government’s focus on the programme.

This scorecard shows that, despite some inevitable slippage regarding exact deadlines, the Kazakh civil service achieved most of its legislative targets.

In 2006, Kazakhstan developed a follow-on plan for the development of the telecom sector entitled “The Programme for the Development of Telecommunications Sector in the Republic of Kazakhstan for 2006-2008.” The programme aims to continue the reforms that were started with the previous programme and its targets to be achieved by the end of 2008 include:

- Fixed line penetration of 23%
- Mobile penetration of 50%
- Internet penetration of 10%
- 80% digitalisation of local telecommunications networks
- Revenues of communication service providers 4-5% of GDP
- Telecom revenues of 150-200 US\$ (124 to 165 Euro) per resident
- Telecom sector investments of 70-100 US\$ (58 to 83 Euro) per resident

The following priority tasks need to be completed to achieve the above mentioned targets:

1. Improvement of state regulation in telecom sector:

- More research to further develop the telecom sector
- Better interconnection of operators
- development of fixed and mobile communications through further rebalancing, connection of VoIP operators to the PSTN, improved mobile interconnection, etc
- development of Internet, including measures to improved broadband access, increase metro Ethernet services by Kazakhtelecom to reduce access prices and create PIAPs using Kazpost infrastructure
- provision of universal telecom services to population

2. Innovation technology and technical provisions for the telecom sector:

- innovative development of the telecom sector
- numbering resource allocation
- improvement of radio frequency spectrum allocation
- development of the national satellite communications
- improvement of standardisation and certification in the telecom sector
- organisation of a system for human resource training and re-training in the telecom sector
- provision for security- and law enforcement-related activities with the use of telecom networks

The “Programme on Bridging the Digital Divide in Kazakhstan” was approved by the Government of Kazakhstan in October 2006 in order to increase access to communication infrastructure and information resources, as well as to e-government services.

Three main goals of the programme are: 20% computer literacy rate, 20% Internet penetration rate (which, oddly, is twice the target rate in the Programme for Development of the Telecommunication Sector, which was adopted at almost the same time) and an increase in the role information systems play in life of an average citizen. These goals will be realised through creation of training centres and public internet access points, reduction of internet access tariffs and the cost of computers.

## **2.3 Data Protection**

There is currently neither a Data Protection Authority in Kazakhstan nor comprehensive data protection legislation. There will be a provision for the establishment of a Data Protection Authority in the Law on Data Protection that is currently in progress. It is currently unclear when this law will be approved.

On October 10, 2006 the President of Kazakhstan signed a decree that approved the Concept of Information Security. The Concept provides general information on possible threats to information security of the country and will serve as a reference point for all

further developments related to information security. It is expected that a Law on Data Protection (or Law on Information Security) will be adopted based on this concept paper.

## 2.4 Cybercrime and Spam

Kazakhstan has neither signed nor ratified the Council of Europe Cybercrime Convention (which is open to non member countries), but has signed and ratified the Optional Protocol of the Convention on the Rights of the Child on the Sale of Children, Child Prostitution and Child Pornography.

The Law on Mass Media (1999) prohibits the dissemination of all pornographic materials.

Intellectual property rights (IPR) are protected in Kazakhstan by the Law on Intellectual Property passed in 1996 and later amended in 2005. Software piracy nevertheless remains one of the major issues for Kazakhstan's growing software market. According to an annual Software Piracy Study by the Business Software Alliance and IDC, Kazakhstan is currently rated at number six among top twenty countries with highest software piracy with 85% of software installed in 2005 being pirated. One worrying statistic is that Kazakhstan's software piracy rate has remained constant in the period 2003-2005.

On November 22, 2005 Kazakhstan adopted a law On Changes to Various Legal Acts on Issues of Intellectual Property Rights. As a result, amendments were made to Criminal Code, Administrative Code, Civil Code, Tax Code, Budget Code and a number of laws. The amendments are aimed at increasing the penalties for infringement of intellectual property rights and improvement of their protection. One of the results Kazakhstan was able to achieve was its removal from the Special 301 Watch List, published by Office of the United States Trade Representative "due to progress on copyright enforcement."<sup>6</sup>

The rules regarding the deliberate dissemination of illegal content in Kazakhstan are clear; although the role of ISPs as "mere conduits" and the situation regarding hosting providers unknowingly hosting illegal material has never been clarified.

There is no legislation regarding the sending of unsolicited electronic communications.

It is expected that additional legal acts to prevent cybercrime will be developed based on the recently approved Concept on Information Security (see Data Protection section above). That document also makes unclear statements regarding the need to introduce legal measures to control Internet traffic and identify harmful and "negative" content. This implies potentially far-reaching measures to limit access to online information.

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<sup>6</sup>2006 Special 301 Report, Office of the United States Trade Representative,  
[http://www.ustr.gov/assets/Document\\_Library/Reports\\_Publications/2006/2006\\_Special\\_301\\_Review/asset\\_upload\\_file473\\_9336.pdf](http://www.ustr.gov/assets/Document_Library/Reports_Publications/2006/2006_Special_301_Review/asset_upload_file473_9336.pdf)

### 3 REGULATORY ENVIRONMENT FOR ELECTRONIC COMMUNICATIONS

#### 3.1 Interconnection

Access and interconnection are governed by Law 567-II On Communications, the Rules of Interconnection of Telecommunication Networks to the Public Switched Telecommunication Network and Regulation of Traffic Flow in the Public Switched Telecommunication Network of the Republic of Kazakhstan, and by various Orders of the Agency on Natural Monopolies (relating to methodologies and tariffs).

There have been problems regarding tariffs for interconnection between the incumbent (Kazakhtelecom) and competing operators. The Government, supported by the AIC, has been addressing these problems. Model interconnection agreements have been drawn up by the AIC for different levels of interconnection and the incumbent is obliged to interconnect with other operators. Crucially, *"a dominant operator cannot refuse to conclude an interconnection contract. In the event of evasion from the conclusion of a contract, a court can rule on non-conditional contract conclusion and reimbursement of damages to another party."*

The incumbent is obliged to publish an RIO which is available for download at its website.<sup>8</sup>

Legal provisions for carrier preselection came into force on 1 January, 2006. However, these are not supported by the incumbent and consequently there are no offers on the market.

The new telecommunications sector development programme approved by the Government of Kazakhstan in 2006 calls for changes to be made to the Rules of Interconnection of Telecommunication Networks to the Public Switched Telecommunication Network and Regulation of Traffic Flow in the Public Switched Telecommunication Network of the Republic of Kazakhstan. It is unclear what these changes will be. The programme also calls for possibilities for IP Telephony operators to freely connect to PSTN.

There are 369 active local phone companies, seven international and long distance service providers, and over 1000 licences issued for telecommunications services.

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<sup>7</sup> Law of the Republic of Kazakhstan # 567-II "On Communications" adopted July 5, 2004

<sup>8</sup> <http://www.telecom.kz>

**National long distance tariff rates**

| <b>National long distance tariff rates for outgoing traffic of interconnected operators through the Kazakhtelecom network, depending on distance, per 10 second interval, exclusive of VAT (15%) in euro cents</b> |      |
|--|------|
| Up to 100 km   | 0.55 |
| 101 - 300 km   | 0.63 |
| 301 - 600 km   | 0.71 |
| 601 - 1000 km  | 0.90 |
| From 1000 km   | 0.95 |

| <b>National long distance tariff rates for outgoing traffic from Kazakhtelecom's network terminated in an interconnected operator's network, depending on distance, per 10 second interval, exclusive of VAT (15%) in euro cents</b> |      |
|--|------|
| Up to 100 km   | 0.74 |
| 101 - 300 km   | 0.83 |
| 301 - 600 km   | 0.94 |
| 601 - 1000 km  | 1.20 |
| From 1000 km   | 1.27 |

There are four mobile operators, of which two control the vast majority of the market (GSM Kazakhstan<sup>9</sup> and Kartel<sup>10</sup>).

Revenue sharing is available for dial-up ISPs, which allows this market segment to grow profitably. There are two options for providing dial-up services. Prepaid cards are the most common way of using dial-up Internet from alternative (especially small) Internet service providers. Alternatively, the customer can opt to receive one bill, with the ISP working out the revenue share with the fixed-line incumbent.

Significant problems have not been identified regarding the termination of VoIP calls on the Kazakhtelecom network.

## 3.2 Numbering

The Rules on Allocation and Use of Numbering Resources of Telecommunications Networks in the Republic of Kazakhstan govern the issue of numbering in Kazakhstan.

In Kazakhstan, the AIC is responsible for the allocation of numbering resources.

The Law on Telecommunications and the Rules on Allocation and Use of Numbering Resources provide that numbering resources should be equally available to all operators. However, in practice, numbering resources are not equally available to all communications service providers in Kazakhstan. It is expected that the situation will improve in the near future due to numbering reforms.

<sup>9</sup> <http://www.kcell.kz>

<sup>10</sup> <http://www.k-mobile.kz>

The Government introduced a new numbering system in Almaty in 2006 and starting November 26, 2006 the city switched from 6 digit to 7 digit phone numbers, which will significantly improve the availability of numbers in the city.

The Rules on Allocation and Use of Numbering Resources stipulate that VoIP service providers are entitled to numbering capacity using non-geographic numbers. Providers of VoIP services apply for the numbers in the same way as any other telecom operator: in other words, current legislation does not directly discriminate against providers of VoIP services. New rules requiring preselection to be offered by communications providers entered into force on 1 January 2006.

A subscriber can keep an existing fixed phone number when changing service provider as long as:

- The subscriber does not change his place of residence;
- The operator has sufficient numbering capacity; and
- The contract with the previous service provider does not have provisions which prevent the number from being ported.

There are no clear guidelines as to whether the consumer has to pay for portability. It is usually determined on a case-by-case basis dependant on the contract with the provider.

### **3.3 Rights of Way and Facilities Sharing/Collocation**

Operators are free to establish agreements between each other for facilities sharing. There are no specific provisions in the law for collocation, although there are general non-discrimination provisions in the Civil Code. Kazakhtelecom posted guidelines for facilities sharing on its website in 2006. However, they are considered quite untransparent and insufficient as they allow for "Technical Conditions" to be created by Kazakhtelecom for each case of facilities sharing and these conditions can require practically anything from the requesting party.

The vast majority of planning decisions with regards telecoms infrastructure are made at local government level with the exception of large national projects (such as a fibre optic line connecting Almaty and Astana). However, as local governments do not generally have their own telecommunications services, this is less of a problem than it could otherwise have been.

There is no specific appeals procedure associated with telecoms infrastructure and rights of way. Usually, operators will first appeal to the Agency on Informatisation and Communications in case of denial of access. Courts will be the next option. Some operators indicate that appeals made to the Agency on the Regulation of Natural Monopolies are usually effective although others have claimed that, even after a year of appeals, both to the Agency and in courts, they are still denied access to build new infrastructure.

### 3.4 Tariff Policy

Tariff rebalancing is currently underway in Kazakhstan, although implementation is considered by some analysts to be progressing too slowly. Fixed telephone charges were increased by 20% in 2004 and international long distance call charges were reduced, also by 20%. A second wave of price adjustments that was planned for the second half of 2005 did not, in fact, take place and the bulk of rebalancing remains to be undertaken. The AIC has indicated that there is no clear timeframe to complete tariff rebalancing; the plan will be determined by ongoing market analysis.

The AIC plans to conduct thorough market analysis once yearly with monitoring and updates conducted at 6-month intervals. According to the Agency on Regulation of Natural Monopolies report for the second quarter of 2006, the analysis has not yet been completed.<sup>11</sup> One of the explanations for a slow rebalancing rate is that in Kazakhstan, as in other parts of the former Soviet Union where residential telephones were assigned without regard to commercial viability, there is a significant number of households that cannot afford commercial prices and would be forced to disconnect from the network. However, the Government has already taken steps to counter this problem and has created a system of loss compensation for operators to help low-income households pay utility bills. This protects low-income families from having to give up their service as prices are rebalanced to commercial levels.

According to the AIC, the tariff-rebalancing model being used in Kazakhstan is comparable with the EU. The World Bank has provided the Agency with advice on best practice and has been consulted on the tariff rebalancing model. However, according to the statement made by World Bank experts at the High Level Brainstorming Seminar on Telecoms in February 2005, things are not moving as quickly as they should.<sup>12</sup>

### 3.5 Cost Accounting

A Distributed Cost Methodology was developed and approved by the Agency for the Regulation of Natural Monopolies in December 2003.<sup>13</sup> The Agency is the Government body responsible for telecoms tariff regulation in Kazakhstan, amongst other activities.

The methodology came into force on 1 January 2004 with a one-year adjustment period. Operators had to adhere to the new methodology from 1 January 2005 and submit a report every six months. The first reporting deadline for operators was 15 August 2005. The Agency on the Regulation of Natural Monopolies is currently compiling reports on

<sup>11</sup> ARNM 2<sup>nd</sup> Quarter Report available at <http://www.regulator.kz> accessed on November 10, 2006

<sup>12</sup>

[http://siteresources.worldbank.org/INTKAZAKHSTAN/Resources/BackgroundPaper11\\_TelecomBrainstormingFeb05\\_eng\\_final.pdf](http://siteresources.worldbank.org/INTKAZAKHSTAN/Resources/BackgroundPaper11_TelecomBrainstormingFeb05_eng_final.pdf)

<sup>13</sup> "Rules on conducting separate accounting of revenues, expenditures and involved assets of communications operators by types of telecommunication services regulated according to legislation on natural monopolies and antimonopoly legislation" approved by Order #312-OD of the Chairman of the Agency for the Regulation of Natural Monopolies on 12 December 2003

the effectiveness of the new methodology, on how well the operators were able to adjust to the new cost accounting mechanism, and to what degree the rules are being observed. According to the Agency on Regulation of Natural Monopolies report for the second quarter of 2006, the analysis has not yet been completed.<sup>14</sup>

The cost model is comparable with the Fully Distributed Cost methodology with Historic Costs (FDC-HC), which was used in some EU countries but advised against in the Commission Recommendation of 8 January 1998 on Interconnection Pricing (98/158/EC).

According to the AIC, the current accounting system is considered to be comprehensive and transparent for local and national long distance calls, although non-transparent for international calls.

### 3.6 Universal Service

The concept of universal service provision was introduced in the Law on Communications in July 2004 and the list of services to be included under the umbrella of universal service was approved by the Government in August 2004.<sup>15</sup> The AIC does not consider the services listed to be affordable for the country due to a lack of developed telecoms infrastructure in rural areas, a view that is now supported by the Government.

The following elements of the Law on Communications and the Universal Services list differ from the EU Universal Service Directive:<sup>16</sup>

- Universal service will be limited to areas with populations of over 200 people;
- Directory enquiry services and directories are not in the universal services list. However, there is a provision that entitles all telecom service subscribers to free telephone access to emergency services;
- There are no special measures for disabled users;
- There are currently no measures in place to permit selective call barring by consumers.

Kazakhstan does not currently have a universal service fund. However, the AIC has indicated that the Government is planning to introduce one. Plans could emerge as early as 2007; though it is not yet clear how this will be financed.

On 27 September 2005 during the meeting of the Commission on Human Rights hosted by the President of Kazakhstan, the Chairman of the Agency on Informatisation and Communications, announced that, by the end of 2006, all of Kazakhstan municipalities would have fixed line access. Mr. Bektasov highlighted that there were around 800 rural

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<sup>14</sup> ARNM 2<sup>nd</sup> Quarter Report available at <http://www.regulator.kz> accessed on November 10, 2006

<sup>15</sup> List of Universal Telecommunication Services, approved by the Decree of the Government of Kazakhstan no. 866 on 19 August 2004

<sup>16</sup> Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002, on Universal Service and Users' Rights relating to Electronic Communications (Universal Service Directive)

areas with populations of over 50 people (the reference to rural settlements with populations of over 50 people marks a small change in policy, as previous statements referred to settlements of over 200 people) that did not have access to fixed telephony. According to the Chairman, a joint Kazakh-Chinese-Russian joint venture will be providing connectivity for these areas.<sup>17</sup>

### 3.7 Local Loop Unbundling

LLU does not yet exist in Kazakhstan. Experts do not foresee the introduction of LLU for at least three years as so many basic concepts of market liberalisation have yet to be introduced or to show favourable results.

### 3.8 Leased Lines

Currently no operators are required to supply a minimum set of leased lines in the Republic of Kazakhstan. Conditions and payments for leased lines are determined by individual agreements between operators.

There are no special regulatory requirements established for transparency, non-discrimination and cost-orientation for the supply of leased lines and/or leased line part circuits other competition law.

Lead times for the provisioning and repair of leased lines are determined by individual agreements between operators and vary according to the conditions set in the specific agreement.

The Agency for the Regulation of Natural Monopolies is only concerned with monitoring the dominant operator – Kazakhtelecom. However, as the methodology for accounting separation has been introduced only recently this monitoring has yet to commence.

As leased lines are dealt with through individual commercial contracts, it is difficult to gain information on leased lines from operators. Operators do not want to disclose any information, including prices, related to leased lines, as they consider that such information is commercially sensitive.

Neither the AIC nor Kazakhtelecom indicated any technical limitations for interconnection between leased lines and public telecommunications networks.

Kazakhtelecom offers the following prices for leased lines at range of speeds:

| Line Speed | Price in Euro per month for all customers (except operators) | Price in Euro per month for operators |
|------------|--|---------------------------------------|
| 512 Kbit/s | 2,425.43   | 4,851.891                             |

<sup>17</sup> Source: Kazakhstan Today News Agency, accessed at <http://www.gazeta.kz>

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|             |           |           |
|-------------|-----------|-----------|
| 768 Kbit/s  | 3,235.619 | 6,548.666 |
| 1024 Kbit/s | 4,314.159 | 8,731.555 |
| 1536 Kbit/s | 6,471.238 | 13,097.34 |
| 2048 Kbit/s | 8,628.318 | 17,463.11 |
| 3 Mbit/s    | 12,132.29 | 23,296.45 |
| 4 Mbit/s    | 16,176.38 | 31,061.93 |
| 5 Mbit/s    | 20,220.48 | 38,827.42 |
| 6 Mbit/s    | 24,264.58 | 46,592.91 |
| 7 Mbit/s    | 26,418.24 | 50,955.61 |
| 8 Mbit/s    | 30,192.27 | 58,234.98 |
| 9 Mbit/s    | 33,966.3  | 65,514.35 |
| 10 Mbit/s   | 37,740.34 | 72,793.73 |

In 2006, Kazakhtelecom stated that the total capacity of its international connectivity was 665 Mbps. According to Kazakhtelecom the connections available are as follows:

- Almaty – Hong Kong, 155 Mbps
- Almaty – Moscow, 310 Mbps
- Astana – Frankfurt, 100 Mbps
- Astana – Moscow, 100 Mbps

Capacity in Kazakhstan is being continually improved. Towards the end of 2005, Kazakhtelecom completed the construction of the main ring of the National Information Super Highway (NISH) by launching the North segment of the network, which connected the Petropavlovsk – Kostanai – Aktobe sector. The NISH now consists of over 11 thousand kilometres of fibre-optic lines that connect oblast (regional) centres, Almaty and Astana (total of 14 large cities), and 116 smaller cities and towns. The full completion of the project is expected in 2007, with the connection of Aktobe and Uralsk to the main ring via fibre-optic lines.

### 3.9 Mobile Services

There are four licensed mobile operators in Kazakhstan. These are GSM Kazakhstan<sup>18</sup> (45% market share), Kar-Tel<sup>19</sup> (47.2% market share), Altel<sup>20</sup> (7% market share) and Telecom Service (0%). There are no 3G operators on the market and there are no immediate plans to award any 3G licences. However, Altel's CDMA 2000 technology is capable of providing 3G services, although it does not plan to launch any in the short term. There are also no MVNOs on the market.

<sup>18</sup> <http://www.kcell.kz/en/>

<sup>19</sup> <http://www.k-mobile.kz/ru/>

<sup>20</sup> <http://www.altel.kz/>

There are 6,103,000<sup>21</sup> mobile users in Kazakhstan, representing 39.9% (35.6%<sup>22</sup> at the end of 2005) of the population, based on the Kazakhstan's Statistics Agency figures from July 2006.

Taking GSM Kazakhstan as an example, standard prices are free subscription, plus 529 KZT (3.26 Euro) for the SIM card, with a monthly fee of 1589.49 KZT (9.81 Euro); there is no sign-up fee. A three-minute call to another network costs 114.45 KZT (0.71 Euro) while an SMS costs 7.96 KZT (0.05 Euro). Mobile Internet access costs 33.13 KZT/Mb (0.205 Euro) during peak hours and 19.88 KZT/Mb (0.12 Euro) off peak. Mobile phone use is still significantly more expensive than fixed telephony.

Over 90% of mobile services offered are prepaid services, while 10% of subscribers use data services such as MMS and WAP.<sup>23</sup>

A third GSM 900 licence was given to Kazakhtelecom's Mobile Telecom Service subsidiary which plans to offer services in 2007 under the trademark NeoTelecom and expects to gain a minimum of 700,000 subscribers by the end of 2007.<sup>24</sup>

### 3.10 Satellite Services

Satellite services are particularly important for Kazakhstan due to its low population density and difficult terrain. For example, Kazakhtelecom uses satellite technologies in hard-to-reach rural areas. Kazakhstan launched its own communications satellite (KazSat) in 2006 to bring down the costs of satellite services. Currently, 27 million US\$ (22.31 million Euro) per year are spent on the rental of satellite services. A second Kazakh satellite, for commercial use, is also planned.

Only a few geographic areas have their universal service needs provided by satellite, but Kazakhtelecom is increasing the number rural areas covered by universal service through satellite.<sup>25</sup>

Satellite services available include IP uplink/downlink, television and telephony. Both IP uplink/downlink and satellite telephony services are considered to be very expensive by individual customers and there is limited demand for them (an important exception is universal service provided via satellite by Kazakhtelecom to rural areas). Satellite television on the other hand is very widespread in Kazakhstan and is sometimes less expensive than cable television.

For businesses, services available include IP uplink/downlink, telephony, IP connection for resale by ISPs and television. These services are usually in high demand and their prices are relatively low (by business standards).

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<sup>21</sup> Agency on Statistics of the Republic of Kazakhstan, 1<sup>st</sup> half of 2006 report, July 2006

<sup>22</sup> "Science and Innovation Activity in Kazakhstan in 2005", Agency on Statistics of the Republic of Kazakhstan, 2006

<sup>23</sup> Based on statistics from subscriber data from providers, and data from the Agency on Statistics

<sup>24</sup> According to Press Release by JSC Samruk accessed at <http://www.interfax.kz> on November 9, 2006

<sup>25</sup> Kazakhtelecom Joint Stock Company Annual Report for 2004, available at <http://www.telecom.kz>

The only problem reported by satellite service providers relates to restrictions placed on international companies operating in the domestic market place. In order for international satellite companies to provide services in Kazakhstan they need to have both a billing centre and a centre for network management in Kazakhstan.

Thuraya<sup>26</sup> is the only operator of pure satellite telecommunications in Kazakhstan and its market share is very small. There are 3 satellite operators that provide only satellite television services. Other operators use satellite data transmission (including VoIP and other IP services) as part of their telecoms network and it is difficult to approximate the share of data transmitted by satellite.

Costs (and prices) of satellite services are much higher than those of fixed or mobile networks, with the exception of satellite television. The launch of the KazSat satellite should help reduce these.

There is an Association of NRENS in Kazakhstan called KAZRena,<sup>27</sup> which now provides high-speed, low-cost Internet access for education and research institutions in Kazakhstan using satellite technologies. It is funded by a NATO grant.

### **3.11 Resources of National Regulatory Authorities (NRAs)**

The AIC is responsible for all aspects of telecommunications sector regulation except for tariff policy. The Agency on the Regulation of Natural Monopolies (ARNM) is responsible for tariff policy in the telecoms sector. The two agencies are interlinked and coordinate their work. Both agencies are required to report to the Government of Kazakhstan.

Recent changes in government company management introduced in 2006 have transferred the management of Kazakhtelecom from AIC to the newly created Joint Stock Company Kazakhstan's Holding for State Assets Management "Samruk." Although this is a step towards creating a truly independent regulator. The AIC still is neither legally nor functionally independent and cannot be considered to be a wholly independent national regulatory authority, as both AIC and Samruk report to the government of Kazakhstan and Kazakhtelecom remains one of the largest taxpayers in Kazakhstan. Inadequate resources exacerbate this problem. According to market players and some employees of the AIC, limited staff, particularly a lack of qualified specialists and limited financial resources, are the biggest areas of concern.

There are allegedly cases where staff from Kazakhtelecom work for the AIC and for the ARNM. However, these cases have not been verified.

According to the Implementation Plan of the Programme for Telecommunications Sector Development for 2006-2008, there are no plans to establish an independent regulator, although this had been included in the draft version of the plan. The AIC has been advised by the World Bank on the issue of setting the stage for an independent regulator and the World Bank has recommended that the AIC consider the experience of other

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<sup>26</sup> <http://www.thuraya.com/>

<sup>27</sup> <http://www.kazrena.kz/>

countries, including EU models. The recent dismissal of the third chairman of AIC in three years poses a lot of new questions on the reform of AIC.

The consultation processes of the current regulatory system are not sufficiently transparent to avoid undue lobbying pressure by service operators such as the incumbent. Kazakhtelecom has a considerable degree of lobbying power, which it uses at every opportunity. The AIC undertakes consultation exercises with the National Telecommunications Association (NTA). However, most market players (except for large ones that are part of the NTA) do not believe that the consultations are sufficient.

To illustrate the close relationship between AIC and Kazakhtelecom the following facts can be mentioned:

1. 2005 – Aben Bektasov, (then a Director of Kazakhtelecom becomes Chairman of AIC)
2. 2006 – Khairat Karibzhanov, President of Kazakhtelecom is publicly relieved of his duties by the President of Kazakhstan due to “outrageously high” salary of 365,000 US\$ per year with 1.7 million US\$ received in bonuses for 2005 alone.
3. 2006 – Askar Zhumagaliev, Chairman of AIC leaves his post to become President of Kazakhtelecom.

There are no specific guidelines set for the AIC with regard to how quickly it needs to deal with disputes. However, it must adhere to general government protocol, which requires that disputes be dealt with in a 30-day period.

When decisions are made by the AIC, the standard reaction of Kazakhtelecom is to appeal, triggering the instigation of the appeals process. At the end of this process, Kazakhtelecom generally accepts the decision and does not take the action any further. This automatic appealing of decisions, however, uses considerable resources of an already under-resourced authority.

### **3.12 Licensing and Authorisation**

Licences are issued by the AIC. In order to provide services, mobile operators, fixed operators and Internet access providers have to hold a valid licence. Exceptions to this rule apply to resellers of services of licence holders as long as they sell the services under the brand of the licence holder. For example, a company can resell Internet traffic under Kazakhtelecom's brand without holding a licence.

#### **3.12.1 Mobile operators:**

There is no set licence fee for mobile operators. Licences are awarded on a tender basis with the “best price offer” system. The first two GSM operators paid 67.5 US\$ million (55.7 million Euro) for their GSM licences in 1997. There is no information available how much has Kazakhtelecom paid for GSM 900 licence it acquired for Mobile Telecom Service, its subsidiary, in 2006.

### **3.12.2 Fixed operators:**

The licence fee for fixed operators is set at 6 monthly indexes.<sup>28</sup> Currently the licence fee is 6,180 KZT<sup>29</sup> (38 Euro). There are eleven types of communications licence in total – national long distance, international long distance, IP telephony, data transmission services (including Internet and telegraph), leased line services, mobile satellite communications services, mobile communications (including radio, trunking and paging), private network services, postal services and technical services for communications lines and infrastructure.

### **3.12.3 Internet access providers:**

The licence fee for ISPs is set at 6 monthly indexes. Currently the licence fee is 6,180 KZT<sup>30</sup> (38 Euro).

There is a long list of requirements that have to be met in order to be able to obtain a licence. These requirements are listed in Decree of the Government of Kazakhstan 998 On Certain Issues of Licensing in the Sphere of Communications and Government Decree 909 On Approval of the List of Qualification Requirements and Criteria on Selection of International and National Long Distance Communications Operators.<sup>31</sup> The requirements set forth in the decree create a significant barrier for new market entrants.

## **3.13 Spectrum**

The Commission on Radio Frequency Spectrum oversees spectrum management and allocation. The Commission consists of representatives of various Government bodies, including the Agency on Informatisation and Communications (AIC), the Ministry of Defence and the Committee on National Security.

Frequencies are allocated according to the Joint Order of the Chairman of the AIC and the Minister of Defence on approval of the rules on radio frequency spectrum allocation for radio services, and on the allocation of frequency band and radio frequencies (radio frequency channels) for radio electronic purposes for all needs on the territory of the Republic of Kazakhstan.<sup>32</sup>

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<sup>28</sup> Instead of setting prices in currency for e.g. fines, licence fees, processing fees, etc. the Government developed the idea of a "monthly index", which takes account of currency, interest rates and inflation rates fluctuations. This way, any legal documents will stipulate a fee in a number of monthly indexes, which, in the case of a telecoms licence, is six. The monthly index value is set every year. In other words, this is instead of having to change laws and regulations every time; only the monthly index value has to be amended. This innovation was introduced after 1997-1998 when inflation went up to almost 40%, creating considerable difficulties for the Government, which had to amend all laws and regulations to adjust the amounts for fines and fees.

<sup>29</sup> The monthly index for 2006 is 1030 KZT

<sup>30</sup> The monthly index for 2006 is 1030 KZT

<sup>31</sup> Decree 998 was made on 29 September 2004 and Decree 909 was created on 27 August 2004.

<sup>32</sup> The statements were issued on 15 July 2004 and 30 July 2004 respectively.

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In order to receive a number of channels in a certain frequency range for commercial usage, an application has to be submitted to the Commission on Radio Frequency Spectrum. The Commission then decides whether to allocate the spectrum or not. The annual spectrum usage fee is very low (less than 100 Euro). Some frequencies are allocated as a part of a licence for the provision of telecoms services (as is the case with mobile operator licences, for example).

The AIC has indicated that a draft Law on Radio Frequency Spectrum is currently in the works in the first half of 2007.

Radio frequency spectrum in Kazakhstan is divided into three categories – Government/military, civil and shared use. Very limited spectrum range is available for civil use. Some frequencies in 450MHz, 800MHz, 900MHZ, 1.2GHz, 1.8 GHz and 2.4GHz bands are available. Spectrum is readily available for Wi-Fi use.

## 4 REGULATORY ENVIRONMENT FOR ONLINE SERVICES

### 4.1 Digital Signatures

The Law on Electronic Documents and Electronic Digital Signatures was considered a priority in Kazakhstan and was adopted on 7 January 2003.

The law foresees a complicated system of certification authorities, which will be dealing with technologies for creating digital signatures. Moreover, the law requires that only the signatures created on the basis of technologies that have been approved by a state standards body will be recognised as having mandatory force. The law suggests a complex system of recognising digital signatures based on cryptography. An exception is made for corporate certification authorities and certification authorities of other countries that can be chosen by businesses or citizens. However, any electronic interaction with the government will require the use of government-approved certification authorities.

The Law on e-signatures covers hardware, software, and other facilities for securing and controlling the efficiency of information security and certifying compliance with information security requirements. However, the standards for such certification are only now being developed.

The majority of central government bodies were assigned digital signatures in 2006, however, most of them are yet to use electronic document circulation systems in their daily activities.

The Ministry of Industry and Trade has indicated that it intended to develop a Law on Electronic Trade in 2006, with adoption in 2007. However, this was not done and it no longer seems to be a priority. It remains unclear what problems with the existing legislation have been identified by the Ministry that this new law intends to solve and why the adaptation of existing legislation has been ruled out as the solution to those problems.

### 4.2 Payment systems

While e-commerce is comparatively undeveloped in Kazakhstan, the e-banking sector is exceptionally advanced. Most of the 35 banks operating in Kazakhstan have implemented online banking systems for corporate customers (although only 5 have implemented online banking systems for private customers). Online banking systems for corporate customers are very effective, offering the majority of banking services through electronic means (direct dial-in and Internet).<sup>33</sup>

Online banking for individual customers (consumer e-banking) has been available in Kazakhstan for 5 years. Texakabank,<sup>34</sup> Halyk Bank<sup>35</sup> and Kazkommertsbank<sup>36</sup> launched

<sup>33</sup> This information was provided by the major banks of Kazakhstan. No official statistics are currently available

<sup>34</sup> <http://www.texakabank.kz/eng/>

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this service during the summer of 2000, with BTA and ATF banks following suit in 2003. Current revenues from consumer e-banking are believed to be low,<sup>37</sup> except for Halyk Bank's system, which is, apparently, generating profit. According to Halyk Bank, the annual turnover in 2004 for consumer e-banking totalled 93 million Euro, with profit in the region of 313,000 Euro.

All five of these banks offer account access with information on transactions; three banks offer bill payment services; and only two banks offer online bank transfers. Halyk Bank has the most sophisticated e-banking system, with the maximum amount of functions, including online currency conversions for five major currencies.

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<sup>35</sup> <http://www.halykbank.kz/>

<sup>36</sup> <http://en.kkb.kz/>

<sup>37</sup> Texakabank, Kazkommertsbank, BTA and ATF banks chose not to disclose their revenues from consumer e-banking.

## 5 USE OF ELECTRONIC COMMUNICATIONS SERVICES

### 5.1 Fixed Telephony Penetration

Fixed network penetration is currently 17.9%,<sup>38</sup> buoyed by strong competition between seven fixed line service providers. 52% of telephone exchanges in rural areas are now digital while in urban areas this figure is over 77%.<sup>39</sup>

### 5.2 Mobile Usage

The mobile penetration rate is already quite significant 39.9% and growing very quickly (up from 35.6%<sup>40</sup> at the end of 2005). There is a significant proportion of the country that is not covered by mobile networks, as Kazakhstan has very low population density (5.5 people per km<sup>2</sup>).<sup>41</sup> Mobile networks cover all major cities and towns, some rural areas and major highways. Since 55% of the population lives in cities or towns,<sup>42</sup> it can be estimated that at least 60% of the population is covered by mobile networks. There are currently no 3G services available.

According to the results of the survey conducted by COMCON-2 Eurasia<sup>43</sup> in 2004, 35% (approx. 640,000) of urban households (in cities with populations of 70,000 and more) in Kazakhstan have a mobile phone. In two major cities, Almaty and Astana, this number is higher, 55% and 57% respectively. These numbers do not include corporate mobile users.

### 5.3 Cable Network

According to the publication Expert Kazakhstan, there are over 600,000 paid TV users in Kazakhstan which includes cable and satellite. AlmaTV has the largest cable customer base and controls over 40% of the market. The other 60% are split among over 60 different providers of paid TV services. AlmaTV is planning to start offering digital TV services in 2007.<sup>44</sup>

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<sup>38</sup> "Transport and Communications in 2005", Agency on Statistics of the Republic of Kazakhstan, 2006

<sup>39</sup> Agency on Informatization and Communications, June 2006

<sup>40</sup> "Science and Innovation Activity in Kazakhstan in 2005", Agency on Statistics of the Republic of Kazakhstan, 2006

<sup>41</sup> These data are from the Agency on Statistics.

<sup>42</sup> These data are from the Agency on Statistics.

<sup>43</sup> <http://www.eng.comcon-2.kz/index.php>

<sup>44</sup> Expert Kazakhstan, accessed at <http://www.expert.ru/printissues/kazakhstan/2006>

## 5.4 Computer Availability

There are currently 5.1 computers per 100 inhabitants.<sup>45</sup> In 2005, there were 444,341 personal computers sold in Kazakhstan, which constitutes a 20% increase from 371,768 sold in 2004 and a 265% increase from the 121,858 sold in 2003.<sup>46</sup> Experts predict market saturation in only 8-10 years.

There were 335 companies that supplied computers in Kazakhstan in 2005.<sup>47</sup> Production of personal computers in Kazakhstan is limited to assembly of computers from imported parts. According to the Agency on Statistics, there were 45,114 personal computers produced in the country in 2005, including Personal Digital Assistants (PDA) and servers.

Computer penetration in the business sector is much higher than among the population in general – 73.9% of businesses reported to have at least one computer in 2005, an almost 10% increase from 2004.<sup>48</sup>

## 5.5 Internet Access

The majority of Kazakhstan's users connect to the Internet via dial-up connections. According to the Agency for Statistics, 4% of population had access to the Internet in 2005, according to the Agency on Statistics. The ITU puts the Internet penetration rate at 2.7%.<sup>49</sup> At the same time, 51.2% of business reported to have online access in 2005, a 13.9% increase from 2004.<sup>50</sup> The majority of dial-up Internet access services are priced per hour, billed in one-minute increments. Kazakhtelecom is the only provider that offers Internet access through dial-up virtually everywhere in Kazakhstan (as long, obviously, as the potential user has access to a Kazakhtelecom phone line). In 2006 Kazakhstan saw a significant decrease in dial-up internet prices when Kazakhtelecom reduced prices three times in the course of the year to 120 KZT (less than 1 Euro) and 45 KZT (0.27 Euro) for one hour of Internet use during peak and off-peak times respectively. This constitutes a 50% decrease for the peak tariff and 75% decrease for the off-peak tariff. The Government plans to continue decreasing Internet access prices for dial-up services down to 80 KZT (about 0.5 Euro) per hour at peak times in 2007.

A comparison chart for dial-up Internet access is provided below.

| Time of access | Provider            |                             |                      |
|----------------|---------------------|-----------------------------|----------------------|
|                | Ducat <sup>51</sup> | Kazakhtelecom <sup>52</sup> | Nursat <sup>53</sup> |

<sup>45</sup> "Science and Innovation Activity in Kazakhstan in 2005", Agency on Statistics of the Republic of Kazakhstan, 2005

<sup>46</sup> Data provided by the Agency on Statistics of the Republic of Kazakhstan

<sup>47</sup> Data provided by the Agency on Statistics of the Republic of Kazakhstan

<sup>48</sup> "Science and Innovation Activity in Kazakhstan in 2005", Agency on Statistics of the Republic of Kazakhstan, 2006

<sup>49</sup> Data from <http://www.internetworldstats.com>

<sup>50</sup> "Science and Innovation Activity in Kazakhstan in 2005", Agency on Statistics of the Republic of Kazakhstan, 2006

<sup>51</sup> Ducat (Arna) Official Website, accessed at <http://card.arna.kz>

<sup>52</sup> Kazakhtelecom Official Website, accessed at [http://www.telecom.kz/index.php?content=tarif/zona\\_inet](http://www.telecom.kz/index.php?content=tarif/zona_inet). Unusually, the evening rate is higher than the daytime rate

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|               |        |        |                                    |
|---------------|--------|--------|------------------------------------|
| Day           | € 1.54 | € 0.77 | € 0.98                             |
| Evening       | € 0.54 | € 1.03 | € 0.85                             |
| Night         | € 0.06 | € 0.28 | € 0.68<br>(€ 0.34 from 2 am – 8am) |
| Weekend day   | € 0.54 | € 0.77 | n/a                                |
| Weekend night | € 0.06 | € 0.28 | n/a                                |

Access to the Internet via satellite is currently very expensive for small users in Kazakhstan and only large corporate customers can afford it. No information on prices for satellite Internet access is publicly available. Providers claim that prices are determined on a customer-by-customer basis.

The final option of connecting to the Internet is using ADSL technology. The largest provider of ADSL services is Kazakhtelecom, providing ADSL-based access to the Internet in virtually every city of Kazakhstan (as long as a phone line connected to a conditioned Kazakhtelecom digital exchange is available). There are currently no statistics available on the number of ADSL users in Kazakhstan, but the figure is believed to be around 5,000 users.

A comparison of prices for broadband Internet access is provided in the table below. Three Internet access providers, AlmaTV, Ducat and Kazakhtelecom, are represented. Service plans usually include a certain amount of prepaid traffic for use in a given month; this amount usually varies depending on the connection speed. Unused traffic usually does not carry over to the next month. Service plan prices are given per month.

### Broadband Internet Access (price per month)

| Provider  | Monthly fee at various connection speeds |                       |            |
|---|--|-----------------------|------------|
|   | 64 kbit/s                                | 128 kbit/s            | 256 kbit/s |
| Ducat <sup>54</sup><br>Including 500Mb of traffic         | € 108.80                                 | € 112.00              | € 129.60   |
| Ducat<br>Unlimited traffic                                | € 440.80                                 | € 850.40              | € 1,612.80 |
| Kazakhtelecom <sup>55</sup><br>Including 500Mb of traffic | € 57.60                                  | € 24.80               | € 39.20    |
| Kazakhtelecom<br>Unlimited traffic                        | € 343.20                                 | € 33.60 <sup>56</sup> | € 1,236.80 |
| AlmaTV <sup>57</sup><br>Including 500Mb of traffic        | € 51.20                                  | € 60.00               | € 72.80    |

<sup>53</sup> Nursat Official Website, accessed at [http://nursat.kz/page.php?page\\_id=38&lang=1&parent\\_id=39](http://nursat.kz/page.php?page_id=38&lang=1&parent_id=39)

<sup>54</sup> Ducat (Arna) Official Website, accessed at <http://www.ducat.kz/?lan=ru&id=46>

<sup>55</sup> Kazakhtelecom Megaline Portal, accessed at <http://www.megaline.kz/index.php?content=tarify/main>

<sup>56</sup> Unlimited access at 128Kbit/s up to 7Gb of traffic per month. Should a user exceed the 7Gb limit, port speed automatically reduces to 32Kbit/sec

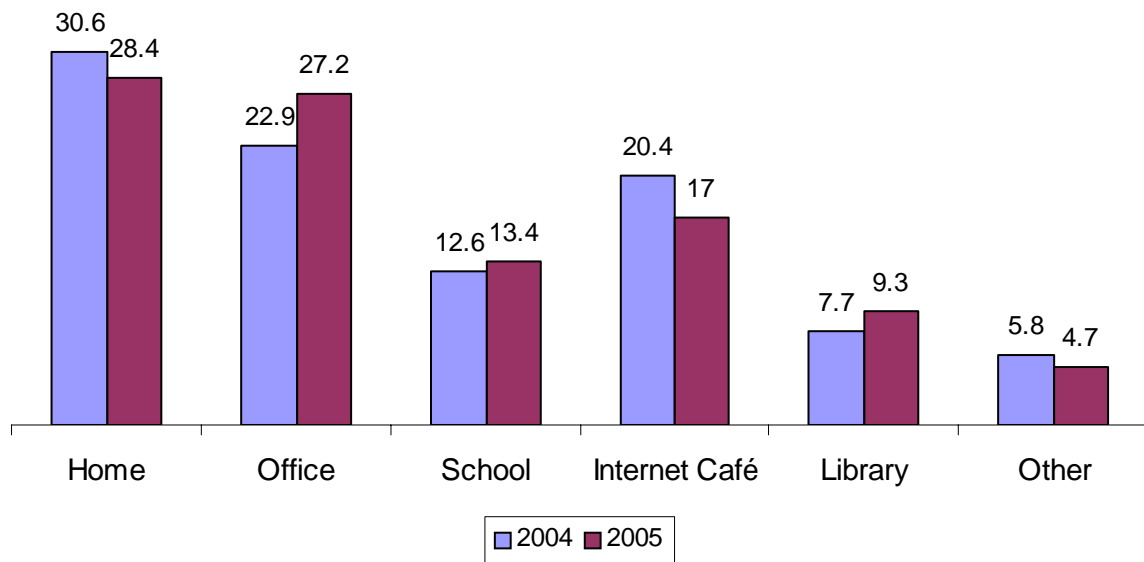
Kazakhstan

|                             |          |          |            |
|-----------------------------|----------|----------|------------|
| AlmaTV<br>Unlimited traffic | € 428.00 | € 860.00 | € 1,291.20 |
|-----------------------------|----------|----------|------------|

**5.6 Public Internet Access Points**

Internet cafés are gaining popularity although they are still few in number and most of them turn into computer game clubs rather than Internet access points. Nevertheless, 17% of users access Internet from Internet cafes according to the Agency on Statistics. The graph below provides Internet access patterns of Kazakhstan’s population by point of access.

**Internet Access by Point of Access, 2004-2005<sup>58</sup>**



The International Research and Exchanges Board<sup>59</sup> has been active in creating PIAPs in a network of towns and cities around Kazakhstan, primarily in libraries. The network currently covers thirteen establishments, providing Internet access, hosting services and technical training.

**5.7 Wireless Internet Access**

It was originally intended that radio frequency bands in the range of 450-470 MHz, 824-890 MHz and 1850-1990 MHz would be allotted for use in wireless subscribers’ radio

<sup>57</sup> AlmaTV Official Website, accessed at [http://www.almatv.kz/t\\_internet.php](http://www.almatv.kz/t_internet.php)

<sup>58</sup> “Science and Innovation Activity in Kazakhstan in 2005”, Agency on Statistics of the Republic of Kazakhstan, 2006

<sup>59</sup> <http://www.irex.org/>

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access systems (WLL) by the third quarter of 2003. In 2003, the AIC<sup>60</sup> issued licenses to JSC TelecomService and JSC Altel for frequencies in the 824-890 MHz range. However, the Ministry of Defence failed to allocate frequencies of 1850-1990 MHz, due to their use for military purposes. Limited progress has been made since then.

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<sup>60</sup> <http://www.aic.gov.kz/en/default.asp>

## **6 AVAILABILITY OF ONLINE SERVICES**

### **6.1 E-Commerce**

While e-commerce has not yet taken off in any significant way in Kazakhstan, the banking sector has advanced quite considerably. Moreover, the Kazakh government has made considerable progress towards ensuring that a comprehensive regulatory framework is in place in anticipation of the development of this market.

### **6.2 E-Government**

Kazakhstan's e-Government implementation began with the National Information Infrastructure Development Program, approved by Presidential Decree in March 2001. Since then, Kazakhstan has successfully built the necessary foundation for e-Government and work on implementation is ongoing, focussing primarily on the development of government databases and the Government portal. Among other things, the Development Programme has led to the drafting of the Law on Informatisation and the Law on Electronic Document and Electronic Digital Signature, both of which were adopted in 2003. Most of the implementation for both these laws has already been undertaken. Currently, amendments to the Law on Informatisation are being considered by the Parliament which are aimed at speeding up the implementation of e-government in Kazakhstan.

Since 2001, the following Agency information systems were implemented:

- Integrated internal revenue information system;
- Taxpayer and tax entity registries;
- Automated customs information system; and
- Automated pension (social security) payment system.

Since 2004, the Government developed and approved a comprehensive strategic framework for e-Government, comprising an e-Government Concept Paper, an e-Government Development Programme for 2005-2007 and an e-Government Implementation Action Plan for 2005-2007.

According to the e-Government Development Programme (2005-2007), the implementation of e-Government in Kazakhstan will consist of the following three phases:

- Phase I focuses on the development of e-Government infrastructure, which implies making available such e-Government components as a portal, payment clearance gateway allowing interfacing with bank systems, national unified identification system, unified transport medium for Government agencies, inter-agency and standard intra-agency systems for national and sub-national Governments, providing access to e-services, bridging the digital divide and

reducing computer illiteracy. This phase will see a number of online and interactive services offered.

- Phase II envisages the development of e-Government services which would satisfy the many needs of the public and businesses. Interactive services will be offered during this phase.
- Phase III will see the emergence of an information society in Kazakhstan, which will transform all facets of public activities. Under the broader effort, numerous services will be pursued, such as e-health, e-education, e-culture and e-democracy.<sup>61</sup>

The institutional framework for e-government has evolved substantially since 2001, but still requires adjustments based on the performance to date. A high-level coordination body, the Commission on Informatisation, was formed within the Prime Minister's office, and includes the Deputy Prime Minister and various Ministers and Heads of Agencies. The body has so far not proven to be widely effective. Kazakhstan still requires an effective Chief Information Officer (CIO).

The AIC is the government body responsible for implementation of the programme. The AIC is responsible for initiation of programme activities, coordination with all Government ministries and agencies, and overall integration of the e-Government efforts across the different levels of Government. This last point is difficult to achieve as the Head of the AIC is essentially a Minister and, as a result, the AIC has little authority over other ministries and agencies. The AIC also appears to be seriously understaffed for its responsibilities in the implementation of e-Government.

For the e-Government Implementation Action Plan, the AIC receives technical support from National Information Technologies (NIT), a 100% Government-owned company, which has been designated as the National IT Operator. NIT was established to implement the National Information Infrastructure Development programme, and is in charge of the development of e-Government infrastructure and the technical integration of Government IT systems. After approval of the e-Government Development Programme in 2004, NIT became responsible for certain aspects in accordance with the e-Government Implementation Action Plan. For this purpose, NIT is staffed with many professional IT experts and is responsible for international best-practice research, systems study, proposal evaluation, and IT project management support for e-Government projects. Software development efforts are outsourced to the private sector under the overall supervision and project management of NIT staff. Due to understaffing of the AIC, many of its responsibilities are now being handled by NIT.

The following is a short list of Government sectors with major e-Government projects planned for implementation by the end of 2007, according to the e-Government Development Programme Annex.<sup>62</sup> There are a total of 87 different individual initiatives in the full list.

- Tax and customs obligations
- Entrepreneurship and business
- Social protection and employment

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<sup>61</sup> Kazakhstan e-Government Program, available at <http://www.aic.gov.kz>

<sup>62</sup> Annex to the National E-Government Development Programme in the Republic of Kazakhstan for 2005 – 2007 approved by the Decree of the President of the Republic of Kazakhstan of 10 November 2004 No.1471

- Education, science and health care
- Law enforcement
- Economy and trade
- Defence, national security and management
- Environment protection
- Culture, sports and tourism
- Diplomacy and international relations

Some Government agencies already provide interactive services outlined in the list of services above, with a certain degree of success. For example, it is already possible to submit tax-return forms electronically and to check whether tax payments have cleared the system or whether there are any tax liabilities outstanding. All of this is done in real time using digital signatures, which sets Kazakhstan apart from other CIS countries. It is reported that over 60% of businesses in Kazakhstan submit their tax reports electronically.

A majority of government ministries and agencies now have web presence, with some websites being extremely popular. For example, the website for the Committee of Financial Control and State Procurement under the Ministry of Finance is ranked number seven in the number of daily visits out of all websites in Kazakhstan. Most government websites are only informational and do not provide any interactive services as yet. There are some websites that are only there for the sake of being online, ones that are quite outdated and/or of little use to businesses or the general public. However, an electronic public procurement system has been created and is due to be launched shortly.

### **6.3 E-Health**

Telemedicine is at an early stage of development in Kazakhstan. However, the government has identified this as an important issue for the country and the equivalent of over one million Euro has been invested in the development of a new national system.

### **6.4 ICT Connectivity in Schools**

CNews Analytics<sup>63</sup> states that there is an average of 54 students per one computer in primary schools. Only 44% of primary schools are connected to the Internet. In professional schools and colleges there are 31 and 25 students per one computer, respectively. 39% of professional schools are connected to the Internet; for colleges this number reaches 51%.

Only 25-30% of students in Almaty have home computers and only 10-15% of those have access to the Internet from home, according to CNews Analytics research.

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<sup>63</sup> <http://www.cnews.ru>

## Kazakhstan

According to data provided by Actis Systems Asia<sup>64</sup> in 2003, students comprised only 9.4% of Internet users in Kazakhstan.

As of December 1, 2005 85.8% of schools received telephone connections (6760 out of 7880 total). Rural school telephone penetration reached 82.7% with 4986 out 6030 schools connected to the telephone network. Internet connectivity in schools is 82.2% total and 80.1% in rural areas. In July 2005, 77% of Kazakhstan's schools had telephones (6,121 out of a total of 7,915) and only 60% were connected to the Internet. It is expected that by the end of 2006 all of schools in Kazakhstan will have telephones and Internet connectivity at schools will reach near 100%.

The Scientific Committee of NATO decided to continue technical support to the KazRENA association with the aim of developing distance learning in Kazakhstan. This was announced during a press-conference in Almaty on 28 October 2005. NATO has provided technical support to the Network Operations Centre of KazRENA since 2003. KazRENA provides programme development as well as Internet connectivity via satellite to universities in Kazakhstan. Currently, 12 universities in Kazakhstan are working with KazRENA and providing distance learning programmes.<sup>65</sup>

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<sup>64</sup> A web design, hosting and consulting company

<sup>65</sup> Source: Kazakhstan Today News Agency, accessed at <http://www.gazeta.kz>

## 7 STRUCTURE OF THE COMMUNICATIONS INDUSTRY

### 7.1 Fixed Line Market

Kazakhtelecom<sup>66</sup> is the largest telecoms operator in Kazakhstan and controls about 50% of the telecommunications market. The majority of Kazakhtelecom's shares are owned by the Kazakhstan Government. The ownership structure of Kazakhtelecom is as follows: just over 50% of shares are owned by the federal Government in the form of Samruk Holding, with the bulk of the other 50% being owned by holding companies and banks, and the remainder owned by minority shareholders.<sup>67</sup>

The other 6 major telecoms operators are Transtelecom,<sup>68</sup> KazTransCom,<sup>69</sup> Arna,<sup>70</sup> Nursat,<sup>71</sup> Astel<sup>72</sup> and TNS Plus. There are also 62 providers of data transmission and internet services.

Transtelecom is a subsidiary of Kazakhstan Temir Zholy, the national railroad company, which is 100% Government owned. KazTransCom is a subsidiary of KazMunaiGas, a national oil and gas company, which is also 100% Government owned. In other words, both companies are indirectly owned by the Government. Nursat was a private company, until Kazakhtelecom acquired 41.25% of its shares in 2002, and in 2006 Kazakhtelecom announced its plans to acquire the remaining shares in the company. There is no information if the transaction has gone through.<sup>73</sup> Only Arna, Astel and TNS Plus remain free of Government ownership.

Additionally, Kazakhtelecom owns a 49% stake in GSM Kazakhstan, the largest mobile operator and 100% of the shares in Altel, another mobile operator.

Currently, Kazakhstan's legislation prohibits foreign businesses or individuals owning more than 49% of fixed line telecommunications companies that are licensed to provide national or international long- distance services. Arna, a private company, was 51.25% foreign-owned in 2003. In 2004, the foreign ownership in the company decreased to 47.50% in order for the company to keep its licence for national and international long-distance services.

Kazakhtelecom has developed over eleven thousand kilometres of fibre-optic network, connecting fourteen larger cities as well as 116 smaller towns and cities as part of the National Information Super Highway (NISH) project. The full completion of the project is

<sup>66</sup> [http://www.telecom.kz/index\\_eng.php](http://www.telecom.kz/index_eng.php)

<sup>67</sup> This information comes from the Kazakhtelecom Joint Stock Company Annual Report for 2004, which is available at <http://www.telecom.kz>. The report does not mention the exact amounts owned by the Central Asian Industrial Holdings N.V. and the minority shareholders. The report also does not name the minority shareholders.

<sup>68</sup> <http://www.transtelecom.kz/index.php?item=142&lang=2>

<sup>69</sup> <http://www.kaztranscom.kz/>

<sup>70</sup> <http://www.arna.kz/>

<sup>71</sup> <http://www.nursat.kz/>

<sup>72</sup> <http://www.astel.kz/english/index.php?p=about>

<sup>73</sup> This information can be found in the Kazakhtelecom Joint Stock Company Annual Report for 2004.

expected in 2007 with the connection of Aktobe and Uralsk to the main ring via fibre-optic lines. In 2006 Kazakhtelecom stated that the total capacity of its international connectivity was 665 Mbps. According to Kazakhtelecom the connections available are as follows:

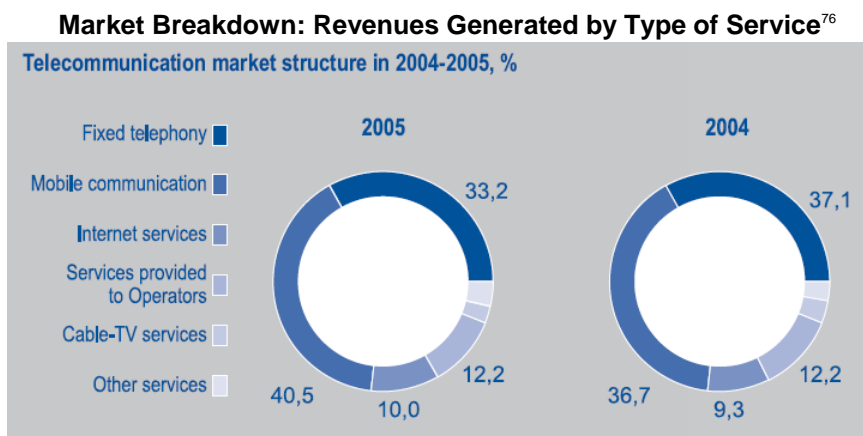
- Almaty – Hong Kong, 155 Mbps
- Almaty – Moscow, 310 Mbps
- Astana – Frankfurt, 100 Mbps
- Astana – Moscow, 100 Mbps

## 7.2 Mobile Market

The cap on foreign investment (as mentioned above) has prevented foreign owned companies from acquiring licences for long distance services. This requirement will also prevent both GSM operators, GSM Kazakhstan<sup>74</sup> (51% owned by a Fintur holding) and Kartel<sup>75</sup> (over 50% owned by Russia's Vimpelcom) from acquiring such licences. As a result, both companies currently provide long distance services through Kazakhtelecom.

According to the AIC, the 49% restriction on foreign ownership is a temporary measure, which was supposed to be abolished in 2006 but currently remains in effect. This measure was put in force in order to accelerate the development of Kazakhstan's telecoms companies after Kazakhtelecom's exclusive rights on the provision of long-distance services were suspended and to better prepare Kazakhstan for accession to the WTO, as competition from foreign companies is likely to increase dramatically.

## 7.3 Communications Market Overview

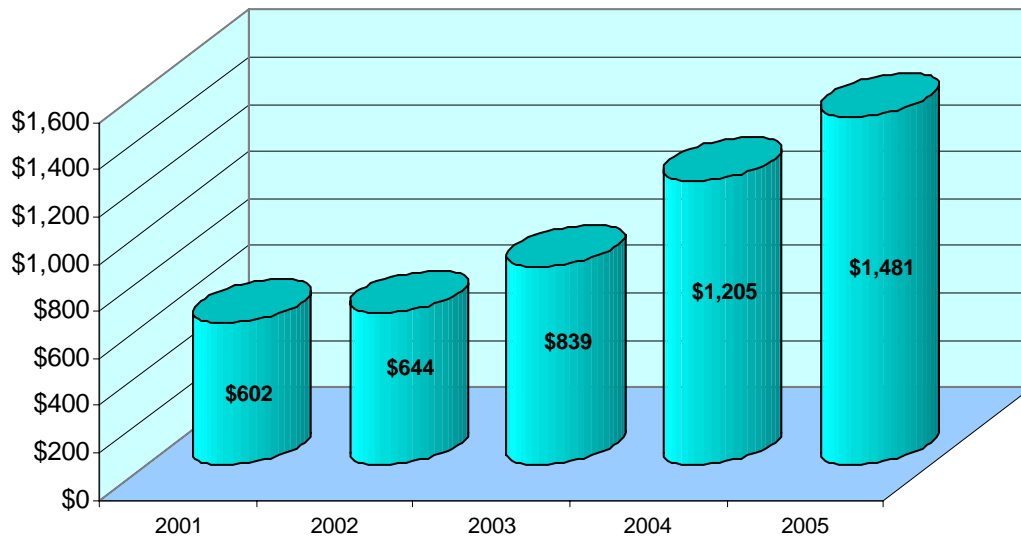


<sup>74</sup> <http://www.kcell.kz/en/>

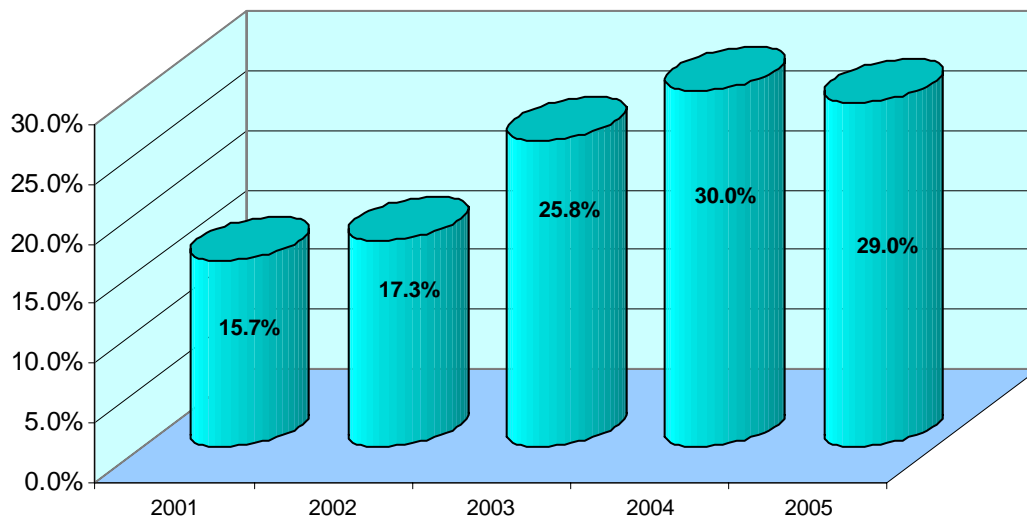
<sup>75</sup> <http://www.k-mobile.kz>

<sup>76</sup> Kazakhtelecom Annual Report for 2005.

**Annual communications market revenues 2001-2005, millions USD<sup>77</sup>**

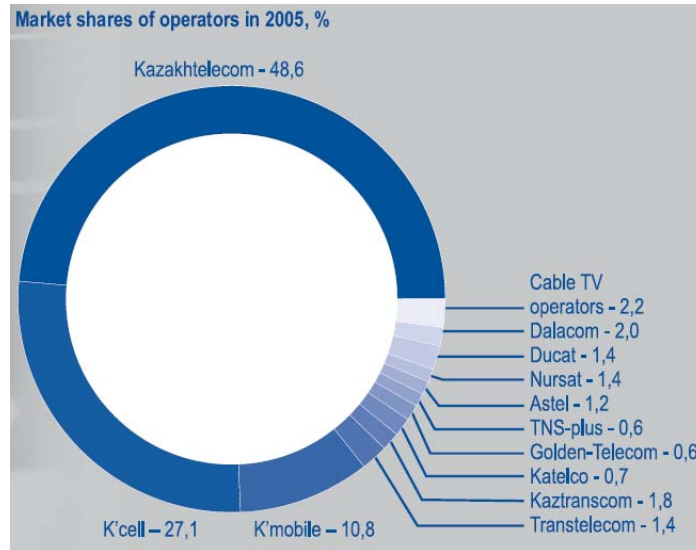


**Annual communications market growth rates 2001-2005<sup>78</sup>**



<sup>77</sup> Data provided by the Agency on Statistics of the Republic of Kazakhstan

<sup>78</sup> Data provided by the Agency on Statistics of the Republic of Kazakhstan

**Market shares of telecom operators in 2005<sup>79</sup>.****7.4 Ownership Structure of the Wider ICT Industry**

There are limited statistics available on the wider IT industry in Kazakhstan.

There were 335 companies that supplied computers in Kazakhstan in 2005.<sup>80</sup> The number of computer suppliers has been growing steadily from 263 in 2004 and 201 in 2003. Most of these companies are small businesses. However, there are a few large players; some have been on the market for over 10 years. There are estimated to be a total of over 500 companies in the IT sector. The vast majority of IT companies in Kazakhstan are privately owned.

Foreign IT companies have gained solid positions in Kazakhstan's market. Large international companies, which are well represented in Kazakhstan, include Ericsson, Alcatel, Nokia, Siemens, Huawei, ZyXEL, ZTE, Microsoft, SAP, Intel, Oracle and Hewlett Packard.

Clients of foreign companies include Kazakhstan companies and citizens, foreign businesses and government entities. Annual revenues of foreign companies are rapidly increasing. For example, Microsoft have near doubled its sales in Kazakhstan in year 2005 and showed a 47% increase in 2006, while Oracle has seen a steady growth of about 40% in the last 3 years and expects to keep this growth rate. Both companies have showed even higher growth rates in the small and medium business segment for 2004 – Oracle, 60%<sup>81</sup> and Microsoft, 92%<sup>82</sup>. Intel's turnover was up 128% in 2004 from 2003. IBM opened a representative office in Kazakhstan in November, 2005.

<sup>79</sup> Kazakhtelecom Annual Report for 2005

<sup>80</sup> Data provided by the Agency on Statistics of the Republic of Kazakhstan

<sup>81</sup> "Oracle conquers the market", Expert Kazakhstan, #7(33), April 11, 2005

<sup>82</sup> Microsoft Press Releases, accessed <http://www.microsoft.com/kazakhstan>