

# Kazakhstan

The Kazakh government has extended its control over the Internet, even as it seeks to liberalize the telecommunications market and position itself as a major IT power in the region. The state uses its significant regulatory authority to ensure that all Internet traffic passes through infrastructure controlled by the dominant telecommunications provider KazakhTelecom.



Selective content filtering is widely used, and second- and third-generation control strategies are evident. Independent media and bloggers reportedly practice self-censorship for fear of government reprisal.

## Background

Kazakhstan has taken an authoritarian turn under the rule of President Nazarbayev, who has served as head of state since national independence in 1991. Nazarbayev is widely alleged to have manipulated results of elections and suppressed opposition to remain in power.<sup>1</sup> Although press freedom is enshrined in the Constitution, the government controls mass media outlets and exerts influence over most printing and distribution establishments.<sup>2</sup> Anecdotal evidence points to online media and bloggers

RESULTS AT A GLANCE					
Filtering	No Evidence of Filtering	Suspected Filtering	Selective Filtering	Substantial Filtering	Pervasive Filtering
Political			•		
Social			•		
Conflict and security	•				
Internet tools	•				
Other Factors	Low	Medium	High	Not Applicable	
Transparency	•				
Consistency	•				

KEY INDICATORS	
GDP per capita, PPP (constant 2005 international dollars)	10,259
Life expectancy at birth (years)	66
Literacy rate (percent of people age 15+)	100
Human development index (out of 179)	71
Rule of law (out of 211)	160
Voice and accountability (out of 209)	171
Democracy index (out of 167)	127 (Authoritarian regime)
Digital opportunity index (out of 181)	94
Internet users (percent of population)	12.4

Source by indicator: World Bank 2009a, World Bank 2009a, World Bank 2009a, UNDP 2008, World Bank 2009b, World Bank 2009b, Economist Intelligence Unit 2008, ITU 2007, Miniwatts Marketing Group 2009.

practicing self-censorship for fear of prosecution by the state under highly restrictive defamation laws.

Pressed by growing domestic discontent and international criticism, President Nazarbayev agreed to a constitutional reform. In May 2007, the Parliament adopted amendments to the Constitution, including cutting the presidential mandate from seven to five years and increasing the role of Parliament. These changes are not expected to enter into force until the next presidential elections in 2012. The proposed reforms remove restrictions on how many terms a head of state may serve. Consequently, President Nazarbayev can stay in power indefinitely.

### Internet in Kazakhstan

The Kazakh Internet community is growing rapidly. Between 2001 and 2005, the number of Internet users increased from 200,000 to 1 million. By 2007, Kazakhstan reported Internet penetration levels of 8.5 percent, rising to 12.4 percent in 2008.<sup>3</sup> The National Statistical Agency reports that 73 percent of users access the Internet by dial-up, 15 percent by means of ADSL, and 6 percent using satellite access. Over 50 percent of users accessed the Internet from home in 2008.<sup>4</sup> Forty-two percent of families living in towns with populations of at least 70,000 people have a personal computer. KazakhTelekom (KT) reported an increase in its broadband subscriber base from 270,000 to 456,000 in 2008.<sup>5</sup> Despite these increases, Internet usage is concentrated in urban centers, while outside those centers access remains beyond the reach of most Kazakhs.<sup>6</sup>

The official language in the country is Kazakh, spoken by 64 percent of the population. Russian, spoken by 95 percent, is recognized as the official language of international communication. Russian is the most popular language used on the Internet

(94.1 percent), followed by Kazakh (4.5 percent), and English (1.4 percent), a figure which may account for the high percentage of Kazakh Web sites hosted in Russia (including those on the country-code domain name “.kz”). Six percent of “.kz” domain Web sites are hosted in Kazakhstan, with the remainder hosted in Russia and elsewhere.

The cost of Internet access remains high relative to the average salary (54,500 tenge in 2008, or USD 363).<sup>7</sup> KazakhTelecom’s tariffs for unlimited ADSL access with capacity of 128 Kbps were USD 30. However, as a result of the ongoing liberalization in the telecommunications sector in 2007, the operators’ tariffs fell considerably. Since 2007, schools in Kazakhstan are provided with free dial-up access, which is being expanded to include broadband connections (although access is restricted to Web sites and other Internet resources within the “.kz” domain).<sup>8</sup>

Liberalization of the telecommunications market in 2004 increased competition among the five licensed operators: KazakhTelecom (the former state monopoly, now with 51 percent state participation), Transtelecom, Kaztranscom, Arna (DUCAT), and Astel. The first-tier ISPs with international Internet connections and their own infrastructure are KazakhTelecom, Nursat, Transtelecom, Kaztranscom, Arna, Astel, and TNS Plus. There are approximately 100 second-tier ISPs that are purchasing Internet traffic from the first-tier ISPs. Market liberalization has not been completely carried out, as there are restrictions on foreign ownership for fixed-line operators providing long-distance and international services. In addition, KazakhTelecom retains dominance over the telecommunications market, making it difficult for other operators to compete.<sup>9</sup>

One of the largest ISPs, Arna (DUCAT), accused KazakhTelecom of breaching the Law for Promoting Competition and Limiting Monopolist Activities. Arna claimed that KazakhTelecom used uncertified systems that monitor and interfere with the telecommunications of customers who are using services offered by competing companies. An investigation of the Kazakh government revealed that such systems indeed existed and were used by KazakhTelecom, but no evidence was found to prove KazakhTelecom was intentionally interfering with competitor activities.

KazakhTelecom is the operator of the national data transfer network, which connects the major cities of Kazakhstan with a total bandwidth of 957 Mbps<sup>10</sup> and carrying capacity in separate local segments of up to 10 Gbps.<sup>11</sup> KazakhTelecom had about 2.5 million fixed-line subscribers in 2005 and accounted for approximately 90 percent of the country’s fixed-line market. It also controls 49 percent of the country’s leading mobile operator, GSM Kazakhstan, and 50 percent of another cellular operator, Altel.<sup>12</sup> KazakhTelecom is also launching an interactive IP TV service, as it attempts to maintain its dominance in the fixed-line market.<sup>13</sup> Other leading first-tier ISPs, Nursat and Astel, operate terrestrial and satellite-based infrastructure. There are five mobile operators in the country. Three operators are offering GSM services and

two CDMA. The government estimates that 60 percent of the population uses mobile services.

### Legal and Regulatory Frameworks

The Kazakh government exhibits an ambiguous and at times contradictory approach to the Internet. The long-term development strategy of Kazakhstan for 2030<sup>14</sup> demonstrates the government's strong commitment to create a modern national information infrastructure. The government has announced plans to develop e-government as a part of a 2005–2007 program.<sup>15</sup> Since 2008, government officials have been encouraged to create their own personal blogs.<sup>16</sup> At the same time, the government follows a multilevel information security policy, which maintains surveillance of telecommunications and Internet traffic in the country.

The Ministry of Transport and Communications (MTC) is the main policymaker and regulator in the telecommunications market. The Agency for Informatization and Communication (AIC), a central executive body in the IT field, is authorized to implement state policy in telecommunications and information technology development industries, exercise control in these sectors, and issue licenses to every type of telecommunications service.<sup>17</sup> The Security Council (SC), a body chaired by the president, is responsible for drafting decisions and providing assistance to the head of state on issues of defense and national security.<sup>18</sup> The SC also prepares a list of Web sites every six months that should be blocked or forbidden from distribution. A 2005 SC decision made it illegal for key national security bodies to connect to the Internet (namely, the Ministries of Emergency Situations, Internal Affairs, and Defense, and the National Security Committee). However, despite this prohibition, ONI field researchers found evidence that state officials access forbidden Web sites using dial-up accounts and anonymizer applications.

The security system in Kazakhstan is complex and multilayered. The Inter-Departmental Commission is charged with coordinating and developing the national information infrastructure. The National Security Committee (NSC) monitors presidential, government, and military communications. The Office of the Prime Minister is an authorized state body responsible for the protection of state secrets and maintenance of information security. Broadly defined, a “state secret” encompasses various government policies as well as information about the president's private life, health, and financial affairs. The NSC has issued a general license to the private Agency on Information Security to establish and organize facilities for cryptographic protection of information, as well as to formulate proposals on information security to state organizations, corporate clients, banks, and other large commercial companies.

The Kazakh Ministry of Internal Affairs operates Department “K”, which bears the functions of its counterpart in the Russian Federation. This department is tasked

with investigating and prosecuting cyber crime and cyber attacks. At present, ISPs are required to prohibit their customers from disseminating pornographic, extremist, or terrorist materials or any other information that is not in accordance with the country's laws.<sup>19</sup> Kazakh officials are also considering additional laws to further regulate the Kazakh Internet.<sup>20</sup> One draft law presently under consideration envisions liability for owners of Web sites hosting weblogs and forums, as well as users of chat rooms. The draft law equates Internet sites to media outlets and applies similar regulations with respect to content. The authors of the law justified tighter oversight by the need to fight cyber crime and provide greater accountability for Internet users.

The Kazakhstan Association of IT Companies is the officially recognized administrator of the “.kz” domain. It is registered as a NGO, but it has 80 percent government ownership. The rules of registration and management of the “.kz” domain were issued by the State Agency on Informatization and Communication of the Republic of Kazakhstan in 2005. In recent years, the cost for registering and maintaining a domain name have significantly decreased, thereby boosting the development of the Kazakh portion of the Internet. Registrations are subject to strict regulation. Applications may be denied if the server on which they are located resides outside Kazakhstan. Even though the primary legislation guarantees freedom of speech and prohibits censorship, the government often resorts to various legal mechanisms to suppress “inappropriate” information or to ensure that domain names used by opposition groups are frozen, or withdrawn. As a result, very few political parties in Kazakhstan use the Internet, and few opposition or illegal parties have an online presence (at least within the “.kz” domain).

The ICT sector in Kazakhstan is overregulated, as evidenced by some 300 legislative acts that expressly or implicitly control the ICT environment. All telecommunications operators are legally obliged, as part of the licensing requirement, to connect their channels to a public network controlled by KazakhTelecom. The so-called Billing Center of Telecommunication Traffic, established by the government in 1999, helps monitor the activity of private companies and strengthen the monopolist position of KazakhTelecom in the IT sphere. In the past, some telecommunications operators circumvented such regulations by using VoIP for their interregional and international traffic, but the imposition of VoIP telephony tariffs eliminated this option.

### Surveillance

The government has established systems to monitor and filter Internet traffic. Since the traffic of all first-tier ISPs goes through KazakhTelecom's channels, surveillance and filtering is centralized. The ONI suspects that state officials informally ask KazakhTelecom to filter certain content. KazakhTelecom, along with some Russian companies, has openly signed an agreement to provide filtering, censorship, and surveillance on

the basis of Security Council resolutions. There are several recorded cases of journalists and Web site owners that have been prosecuted under broad media and criminal provisions.<sup>21</sup> Oppositional and independent media sites have been permanently suspended, allegedly for providing links to publications concerning corruption among senior state officers and the president.<sup>22</sup>

In 2004, the chairs of the National Security Committee and the Agency for Informatization and Communications approved Rules Providing for Mechanisms for Monitoring the Telecommunications Operators and Networks. These rules prescribe full collaboration and information sharing between the government agencies. This system is similar to that of the Russian SORM, introduced to monitor activities of users and any related information. The rules oblige ISPs to register and maintain electronic records of customer Internet activity. Providers are required to install special software and hardware equipment in order to create and store records for a specified amount of time, including log-in times, connection types, transmitted and received traffic between parties of the connection, identification number of the session, duration of time spent online, IP address of the user, and speed of data receipt and transmission.

### **ONI Testing Results**

The OpenNet Initiative conducted testing on two main ISPs: KazakhTelecom and Nursat. KazakhTelecom blocks opposition groups' Web sites, regional media sites that carry political content, and selected social networking sites. A number of proxy sites providing anonymous access to the Internet have also been blocked. The ONI suspects that filtering practices in Kazakhstan are evolving and are performed at the network backbone by KazakhTelecom, which filters traffic it provides to downstream operators. Consequently, Kazakh ISPs may unknowingly receive pre-filtered content. At the same time, not all incoming and outgoing traffic passes through KazakhTelecom's centralized network, resulting in inconsistent patterns of blocking.

The majority of Internet users are on "edge" networks, such as Internet cafés and corporate networks. Kazakhstan companies apply filtering mechanisms at the user level to prevent employees from accessing pornography, music, film, and dating Web sites. However, ONI testing found that Kazakhstan does not block any pornographic content or sites related to drug and alcohol use.

### **Conclusion**

The Kazakh government has harnessed efforts to modernize the IT sector, promote ICTs, and encourage e-government in order to spur social development. Nevertheless, the lack of a competitive fixed-line market and the partial market liberalization leaves the growing demand unsatisfied and slows down development of the IT sector in the

country. The government has put in place a complex security system that is capable of state surveillance of Internet traffic and suppression of undesirable Internet content. Given government pressure on opposition media, self-censorship may also be an issue among online media publishers and bloggers. The technical sophistication of the Kazakhstan Internet environment is evolving and the government's tendency toward stricter online controls warrant closer examination and monitoring.

### Notes

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10. For comparison, by the end of 2002 the total Internet bandwidth capacity for Kazakhstan was 46 Mbps; by the end of 2003 it was 189 Mbps, and in June 2006 it was 665 Mbps. Paul Budde Communications, Pty., Ltd., "Kazakhstan—Telecoms Market Overview, Statistics and Forecasts," November 17, 2008.
11. This investment is part of the USD 110 million loan from the European Bank for Reconstruction and Development. Lucent Worldwide Services and Winncom Technologies are providing support for the project. In 2006, KazakhTelecom began construction of a next-generation network (NGN) and plans to deploy fixed wireless access (FWA) platforms such as Wi-Fi and WiMAX.

12. Paul Budde Communications Pty., Ltd., “Kazakhstan—Telecoms Market Overview, Statistics and Forecasts.”
13. The basic package on offer comprises 55 channels and will be available to broadband subscribers.
14. Republic of Kazakhstan (RK) Agency for Informatization and Communication, “Strategy: Kazakhstan–2030,” <http://www.aic.gov.kz/?mod=static&lng=rus&id=2>.
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17. Resolution No. 724 of the Kazakh government, dated July 22, 2003.
18. The SC was founded by the president of Kazakhstan, according to the provisions of the Constitution (item 20 of Article 44).
19. See the general user agreement between Nursat, a major ISP, and its customers at “Public Contract” (in Russian) at <http://www.nursat.kz/?72>.
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# **Access Controlled**

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Jonathan L. Zittrain**

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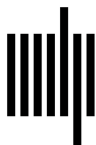
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