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Protecting the communication: Data protection and security measures under telecommunications regulations in the digital age

Gönenç Gürkaynak*, İlay Yılmaz, Nazli Pinar Taskiran

ELIG Attorneys-at-Law, Istanbul, Turkey

ABSTRACT

Keywords:

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This paper aims to provide a comparative overview and evaluation of various legal frameworks for electronic communications security in light of the recent developments in the electronic communications sector. The article also includes an insight on European Union and Turkish legal environment for data protection security in electronic communications sector.

The dynamic and ever-changing nature of electronic communication technologies brings brand new opportunities for quick access to extensive information and communication through integrated channels. On the other hand such dynamic nature paves the way for new challenges and concerns regarding electronic communications security. Both national and international sector regulators and policy-makers are encountering new threats for security of electronic communications while trying to adapt to convergence and the ongoing tendency for Internet Protocol ("IP") based digital networks.¹ Various legal frameworks come into force accordingly and legal security measures are created by the regulators and the sector actors, in order to overcome security concerns. Evolution of electronic communication technologies and new challenges that it yields, forces national and international authorities to work for unified solutions and cooperation in fighting against these challenges.

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1. Introduction

The history of communication begins with the history of humanity. Invention of the optical telegraph in the year of 1792 is accepted as a corner stone of the communication systems.² In 1862 first fax was sent by an Italian physicist's pantelegraph

and it was only 15 years before Alexander Graham Bell patents the telephone.³ A rapid development in communication systems and invention of fax machine with the ability of scanning, invention of telautograph, audio and radio transmission took place after the following years since the worldwide communication systems emerged by virtue of Internet in 1991.⁴ This

* Corresponding author. ELIG Attorneys-at-Law, Citlenbik Sok. No: 12, Besiktas, Istanbul, Turkey. Tel.: +90 212 327 1724.

E-mail address: gonenc.gurkaynak@elig.com (G. Gürkaynak).

¹ Centre for European Policy Studies (CEPS), E-communications: Regulatory Challenges for the Post-Lisbon Era, available at <http://www.ceps.eu/taskforce/e-communications-regulatory-challenges-post-lisbon-era>.

² William von Alven, Bill's 200-Year Condensed History of Telecommunications, <http://www.cclab.com/billhist.htm>.

³ Id.

⁴ Telecommunications and Industrial Development, United Nations Industrial Development Organization, Research and Statistics Branch Working Paper 14/2009, Anders Isaksson, Research and Statistics Branch Programme Coordination and Field Operations Division UNIDO, available at http://www.unido.org/fileadmin/user_media/Publications/Research_and_statistics/Branch_publications/Research_and_Policy/Files/Working_Papers/2009/WP%2014%20Telecommunications%20and%20Industrial%20Development.pdf.

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was the beginning of a new era which boosted the communications' pace of improvement. Previously, before the transition to the electronic communication, communication was limited with distance and speed.⁵ Electronic communications enabled people to communicate nearly as quickly as the speed of a light, over much greater distances with scores of people and vast amount of data can be transferred.

Electronic communications term encompasses all forms of communications through electronic means, including but not limited to communications via fixed line, mobile telephone, facsimile, Internet, cable or satellite. In the age of converged technologies gathering various kinds of communications in the widest possible description has significant importance due to the information technologies' rapid development. Therefore, "electronic communications" term shall be regarded as comprehensive description covering existing means of electronic communications as well as the future technologic innovations.⁶

Public Switched Telephone Network ("PSTN") and Integrated Services Digital Network ("ISDN") were considered as the most traditional and widely-used networks which are known as secure and reliable. However, by virtue of the Internet's recent improvement, electronic communications services steered for the IP based systems, as of mid-nineties.⁷

Next are the Next Generation Networks ("NGNs"), which are IP based systems providing telecommunication systems by using broadband. NGNs enable all information and services such as voice, data and media transferred through the same network. Rapidly emerging communication technologies are compatible with both IP based and new generation applications. In this respect NGN is a platform wherein all kinds of electronic information and communications are combined.⁸ According to the International Telecommunication Union ("ITU"), NGNs may be described as packet switching networks providing high standards of electronic communication services and supporting various broadband technologies. As the NGNs provide mobility, services become accessible and consistent for all users. Therefore NGN enables the convergence of various networks compatible with the developments in telecommunication sector by way of providing various kinds of services through an IP based network to the end-users or in other terms the consumers.

Convergence is a concept providing all voice, data, video, imagery, and other applications and all access, transport, and other service requirements through a single telecommunication facility.⁹ Convergence makes traditional regulatory approaches of telecommunication sector insufficient, since it is difficult to foresee the future issues related to electronic communications.

Electronic communications operators focus on delivering convergent services in order to keep up with the needs and

requirements of the consumers.¹⁰ The Organization for Economic Co-operation and Development ("OECD") defines convergence in two other aspects; first one is the overlapping of technology, service and companies of different sectors.¹¹ The other definition given by OECD for the term "convergence" is the vanishing of the technical and regulatory borders between the sectors.¹² In this respect, NGN and the term "convergence" are compatible with each other. Thus, European Telecommunications Standard Institute ("ETSI") refers NGN as convergence of PSTN, mobile networks and Internet.

It can also be argued that "convergence is expected to foster a multimedia environment where voice, audio, video, and data can be seamlessly exchanged between users".¹³ Along with the social, economic, and technological developments, the need of transforming the traditional competencies and responsibilities of national regulatory authorities for the electronic communications emerged.

As a result of a legal need with respect to the above mentioned developments in telecoms world, Directive 2002/21/EC of the European Parliament and the European Union Council, stipulates that each member state shall take necessary measures to safeguard its electronic communications security, including the national regulatory authorities' establishment of specific and proportional obligations applicable to the providers of electronic communications services.¹⁴

2. Governmental regulators for electronic communications

The urge to establish the data protection and security measures for electronic communications sector, certain governmental bodies are established under national and international laws. Bearing in mind that mere governmental efforts are not sufficient to fight against data protection breaches and that a public private cooperation needs to be established, a number of data protection authorities have been constituted.

The Body of European Regulators for Electronic Communications ("BEREC") is an umbrella organization which is actively initiated in January 2010¹⁵ and the main authority in the Europe which serves for the development and better functioning of the European electronic communications. BEREC advises the European Commission ("EC") and national regulatory authorities on issues related to the application

⁵ Id.

⁶ European Commission – MEMO/05/255 14/07/2005, available at http://europa.eu/rapid/press-release_MEMO-05-255_en.htm.

⁷ J. Lintao, 2005, Concern over the Security of Communication Networks, Huawei Technologies Issue 16.

⁸ Available at <http://www.etsi.org/technologies-clusters/technologies/next-generation-networks>.

⁹ J. A. Pecar, D. A. Garbin, *The New McGraw-Hill Telecom Factbook*, 2000, p. 722.

¹⁰ A. D. Çaycı, *Convergence Of Information And Communication Technologies With A Regulatory Point Of View: Turkish Case*, 2009, available at http://www.tk.gov.tr/kutuphane_ve_veribankasi/tezler/diger_tezler/Aysel_Deniz_CAYCI.pdf.

¹¹ *Convergence and Next Generation Networks*, available at <http://www.oecd.org/sti/40761101.pdf>.

¹² Id.

¹³ C. Saxtoft, *Convergence User Expectations, Communications Enablers and Business Opportunities*, 2008, England, John Wiley & Sons Ltd., p.101.

¹⁴ Directive 2002/21/EC, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:108:0033:0033:EN:PDF>.

¹⁵ Available at http://berec.europa.eu/eng/about_berec/what_is_berec/.

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