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The Amended German Telecommunications Act New Challenges for the Regulation of VoIP-Networks and Services

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I. Introduction

The new German Telecommunications Act of 2004 was set into force on 26 June 2004.[1] It is implementing the European Telecommunications Regulatory Package of 2002.[2] The deadline for transposition of the new Directives except the Privacy Directive was 24 July 2003. Due to the late implementation, an ifringement proceeding against Germany was started on 9 September 2003 by the European Commission.

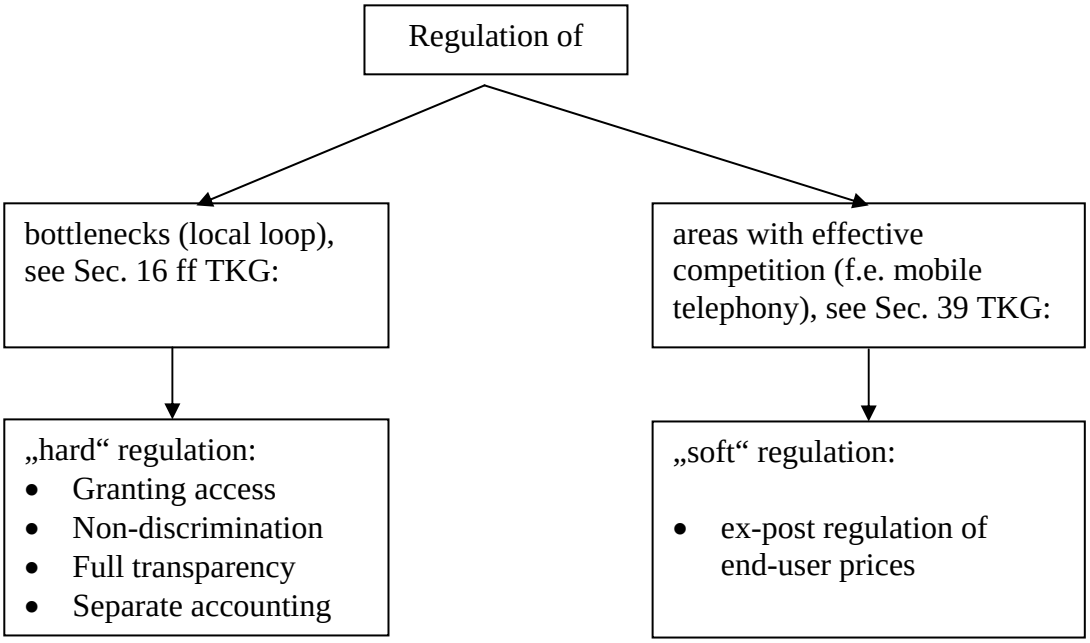
As stated in the new framework for electronic communication the prurpose of the Telecommunications Act is to provide for technological neutral regulation of communications services and networks.[3] One of the biggest changes for the regulation is the new market review process that has been implemented according to Art. 7 of the Framework Directive. The German Regulatory Authority RegTP will have to identify the operators with Significant Market Power (SMP) which are susceptible to ex-ante regulation and notify the results of the review at the

[1] BGBl. I 2004 S. 1190. An English of the Act version is available under http://www.bmwa.bund.de/Redaktion/Inhalte/Pdf/telekommunkationsgesetz-en,property=pdf.pdf.

[2] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive), OJ L 108 page 33;
Directive 2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the authorisation of electronic communications networks and services (Authorisation Directive), OJ L 108 page 21;
Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive), OJ L 108 page 7;
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 networks and services (Universal Service Directive), OJ L 108 page 51;
Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications), OJ L 108 page 37.

[3] See Sec. 1 TKG.

European Commission. Hereby "RegTP shall take utmost account to the Commission Recomendation of 11 February 2003 on relevant product and service markets.[4] Furthermore the Act provides for separate rules of regulation for wholesale products (f. e. access to the local loop) and retail services (f. e. mobile roaming charges)[5] a growing degree of regulation with regards to Telecommunications date retention[6] and a reduction of the legal remedies by one instance to fasten the regulatory process.[7] The degree of regulation is now depending on the question whether competition is effective in a relevant market:



One of the future challenges of regulation in the telecommunications sector will be the treatment of Voice over Internet-Protocol-Services in Germany and elsewhere in the world. It will also be a test for the effectiveness and technological neutrality of the new German TKG.

II. Technical and Economical Background of VoIP-Services

The term "Voice over IP" is commonly used for general transmission in networks using the "Internet Protocol". VoIP is one of the most promissing services that can be provided over IP-networks and expected to replace classc voice telephony in the near future.[8] It offers the potential to

[4] See Sec. 10 par. 2 TKG.
[5] See Sec. 27 ff TKG.
[6] See Art. 110 ff TKG.
[7] See Sec. 136 par. 3 TKG.
[8] *Saverio Niccolini and others*, IP Telephony Cookbook, Chapter 8.1., http://www.informatik.uni-bremen.de/~prelle/terena/cookbook/main/ch08.html, visited on 11/8/2004.

increase competition, to stimulate new and innovative services for the citizen, and to reduce operators' costs.[9]

In general, IP-networks are designed to transmit digital signals on a decentralized basis to their point of termination while using packet switched technology. In contrast, traditional Public Switched Telephone Networks (PSTN) have a hierarchical structure with a centralized intelligence. IP-Networks enable the transport of data at significantly lower costs than PSTN and provide for a full convergence of Internet-broadcasting- and voice-telephony-services.

In Asia and America, for example, classical voice telephony is substituted more and more by VoIP. In Europe, British Telecommunication (BT) announced on June, 11 2004 its plans to turn its entire PSTN into an IP-network by 2009.[10] It is expected that most of the PSTN will be converted into IP-networks in the near future.[11]

III. The Regulatory Aspects of VoIP-Services in Germany

1. Definition of VoIP-Services

The starting point for the regulatory discussion on VoIP-Services is whether they are to be regarded as telecommunication services[12] or public available telecommunications services (PATS)[13]. The distinction implies different obligations such as whether suppliers need a general authorization, whether and how they can demand interconnection and what quality of services they are obliged to provide.

Telecommunication service-users have the right to a contract operators must publish comparable, adequate and up-to-date information on the quality of their services. If they assign numbers to their customers, they have to meet all reasonable requests for the provision of publicly available directory enquiry services and directories.

Companies offering PATS have an obligation to provide emergency services and number portability, have to assure the integrity and availability of the networks in case of a catastrophic network breakdown, subscribers have a right to have an entry in public directories, only subscribers of PATS have the right to port numbers, only PATS suppliers can explicitly request access to carrier selection and carrier pre-selection on the network of an operator with SMP, only PATS subscribers have the right to be listed in a public telephone directory.

2. Regulatory aspects according the Value Chain of VoIP-Services

[9] EU Commission Staff Working Document "The Treatment of Voice over Internet Protocol (IP) under the EU Regulatory Framework", http://www.eco.de/servlet/PB/show/1377584/20040614_EU-KOM-voip_consult_paper.pdf, p. 4, visited on 12/8/2004.
[10] Computerworld-News of June,11 2004, VoIP needs serious security review, say experts, http://www.computerworld.com/networkingtopics/networking/voip/story/0,10801,93791,00.html, visited on 15/4/2005.
[11] Questionnaire of RegTP on Voice over IP (VoIP), p. 1, www.regtp.de, visited on 15/4/2005.
[12] See Sec. 3 Nr. 24 TKG.
[13] See Sec 3 Nr. 17 TKG.

For the discussion on the regulation of VoIP-Sevices it is very helpful to have a look at the value chain of VoIP-Services, which consist of three steps (Lokal Access, IP-Connectivity and the VoIP-Service provision on top):

a. Local Access

In the first link of the value chain, access to bottleneck facilities like the Local Loop is crucial because VoIP-Services can only be provided in combination with a high speed Internet-connection. Since most of the VoIP-Service providers so not run a sufficient infrastructure they are depended on the provision of wholesale broadband services by the incumbent.

However, in Germany it is expected that the Local Loop (the line to the consumers premises) will remain a bottleneck-facility: Alternative infrastructure like broadband-cable (like in Belgium) or mobile networks (UMTS) and WLAN is (still) not comparable. Furthermore, incumbents like Deutsche Telekom may create a market entry barrier while offering broadband-access (via DSL), Internet Connectivity and VoIP-Services via their own subsidiaries as bundled retail services. The incumbents offering both services, i.e. voice and internet access, can offer a new service product, which includes online services with additional voice for a flat rate tariff a little higher than the traditional online rate.

The favored solution to overcome the local bottleneck is Bitstream-Access.[14] High speed bit stream access (provision of DSL services by the incumbent operator) refers to the situation where the incumbent installs a high speed access link to the customer premises (e.g. by installing its preferred ADSL equipment and configuration in its local access network) and then makes this access link available to third parties, to enable them to provide high speed services to customers. The relevant market (the provision wholesale broadband services in the local access market) is currently reviewed by RegTP and should be – according to the scheme above – subject matter to "hard regulation". In view of many new entrants the incumbent should be obliged to offer bitstream access. Nevertheless, RegTP has to ensure that the costs of the local loop are covered. This general problem in the wholesale broadband access-market has not yet been fully assessed by the regulator.

b. IP-Connectivity and Network Security

The second link along the value chain of VoIP-Services is called IP-Connectivity. Without IP-Connectivity users would not be able to communicate with each other.

At this link regulatory obstacles occur because of the technological differences of IP-networks and Public Switched Telephone Networks. Some critics consider IP-Networks rather a

[14] See Commission Recommendation On Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services of 11/2/2003, http://europa.eu.int/information_society/topics/telecoms/regulatory/maindocs/documents/recomen.pdf.

concept than an infrastructure because they can be configured by their users or third parties. That's why Clear definitions are necessary:

- what components are necessary to consider an IP-infrastructure as an IP-Network?
- what is from a legal point of view necessary to run a network?

In the opinion of Mr. Kurth, the chairman of RegTP, security interests are a key issue with regards to VoIP. VoIP-Providers will therefore have to meet the obligations to ensure Network Security in Art. 109 ff TKG.

c. Further Regulatory Discussion on VoIP

The further regulatory discussion on VoIP-Services in Germany (and elsewhere in the World) is connected with three topics:

1. access to numbers
2. issues of consumer protection like the availability of emergency services
3. telecommunications data retention.

With regards to numbering RegTP issued new rules on non-geographic numbers (032-Range) of 24 November 2004 for VoIP-Services providers. In contrary to classic geograpgic numbers those numbers will be implemented in order to meet the demand of nomadic VoIP-users. For the VoIP-market a timely transposition of the new rules crucial because if VoIP-Sevices are being realized in specific number ranges interconnection services need to be defined and developed again, prices must be calculated, routing has to be implemented, etc.

In order to safeguard consumers rights the German government issued a proposal for a new consumer protection ordinance of 30 July 2004.

Finally, the issue of telecommunications date retention for VoIP- and other telecommunications services is heavily discussed in Germany and at European level as well. The Lower House Committee on Justice and Home Affairs has adopted a draft-motion on 1 December 2004, forbidding the German Government to support a decision in any EU body to store traffic data "with reservation to the presentation of appropriate legal justification".

IV. Summary

The regulation of IP-Networks and VoIP-Services is a first test, whether the new German TKG is really technology-neutral.

There is a clear tendency at European level towards a shifting of regulatory competences to the European Commission (similar development as in competition law).

It will be of crucial importance for the success of VoIP how the numbering issue is handled and whether RegTP will succeed in promoting access competition in the wholesale broadband market.