Comments on the ERG Common Position on VoIP (Draft)

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General Comments

Arcor wishes to thank the ERG for the careful and considered analysis of the regulatory challenges of VoIP. We agree that the problems of numbering, number portability, and access to emergency services are of utmost importance for today's and the future regulatory framework.

It is in the nature of European consultation process that the problems and suggested regulatory solutions are presently rather abstract. Subsequently, we therefore wish to substantiate the problems competitors are facing in the German context in particular, and wish to suggest regulatory measures which from our point of view will be effective in ensuring sustained competition. We strongly believe that our proposals will also be valid in the wider European context.

Quality of Service

ERG mentions the possibility of differentiating IP-services according to quality of services (QoS), but does not use this attribute of IP-services to solve some numbering-problems:

Quality of service in telephony is at its peak with TDM-technology. Until now VoIP is a decrease in QoS because quality is not built in the service definition and the user of a broadband network without QoS management has barely any means to influence QoS when it is too low. Therefore a substitution of TDM- and IP-based telephony is only possible, if the latter guarantees the same QoS as TDM-technology. We would call this IP-technology "Voice of over NGN (VoNGN)".

Beside that IP-based telephony the best effort product "Voice of over Internet (VoInt)", which is routed completely or partially through the public internet without guaranteed QoS, is also expected to exist further on.

Building QoS into VoIP as an interoperable and user-friendly feature is a major task ahead for competitive operators as well as for regulators, if IP-technology is meant to substitute TDM.

Numbering

A simple solution to account for different VoIP-qualities is to differentiate in the allocation of numbers: Geographical numbers should be allocated to VoPSTN and VoNGN subscribers, and numbers of a special range (in Germany this would be the range “(0)32”) for VoInt subscribers.

Subscriber using a geographical number expect that connection is made by a technology that guarantees the same characteristics as he or she is used to. Exactly for this reason an allocation of geographical numbers cannot include VoInt-technology. VoInternet differs in substantial characteristics from PSTN-connections and/or VoNGN-connections. VoInt-connections exhibit substantial quality disadvantages in relation to PSTN and/or NGN connections:

Different to PSTN and NGN connection the transmission quality is not guaranteed with VoInternet. In the PSTN net an exclusive utilizable channel is reserved for a connection. In NGN respectively, quality is guaranteed by a defined high bandwidth reserved for the subscriber. Arcor additionally provides a “virtual private circuit (VPC)” to the costumer. Such a VPC reserves a certain bandwidth solely for IP-telephony and prioritizes the related packets. Therefore VoNGN is functional equivalent to PSTN.

With VoInt however, the connection is made by the World Wide Web (www). The www as a combination of IP-networks is characterised by the fact that transmission paths are not firmly defined, but the packets, into which the language connection is divided, find their way on their own. Depending upon extent of utilization of the ways concerned, a qualitative loss might be the consequence: If the transmission of the IP-packets is delayed, a telephone call in real time is challenged.

Number portability

ERG emphasizes that number portability enables competition and therefore should not be restricted to certain services. Namely VoIP should not be excluded from portability. It should be noted that a number-differentiation between VoNGN and VoInt would not hinder portability from PSTN to IP technology. The portability should be enabled between comparable services, in the context here between PSTN and VoNGN. This would allow the transition from PSTN to IP-technology, even if VoInt is excluded from the portability of geographical numbers.

Network architecture

ERG is mentioning that the transition towards NGNs entails several structural changes such as rearrangement of core network nodes and points of interconnection, number of points of interconnection or changes in the number of network hierarchy levels, as well as the question of interconnection tariffs.

The ability to maintain the quality of PSTN in an “all IP world” will not be for free. Significant investments are necessary, among others in points of interconnection. To ensure quality, Arcor believes that a higher number of points of interconnection in the range of plausibility should be an objective of the regulatory framework. The more points of interconnection are necessary, the more carriers will invest in infrastructure. Since ERG has been emphasizing the goal of infrastructure-based competition regularly, a number of about 200 points of interconnection in an area as large as Germany would maintain infrastructure-based competition.

Access to emergency services

ERG states that the possibility to access emergency telephone numbers is a right of all citizens. This applies for all subscribers, no matter which technology they are using. Therefore the actual transition period should be ended soon and the provision of access to emergency services be made mandatory for all services.