Introduction

Deepening international division of labour, rapid technological progress, cost and price developments in communication technologies with ever shorter product cycles at the same time as worldwide policies of privatisation and market opening leading to communications markets becoming more dynamic and global. These factors are fundamentally changing structures and the market behaviour relations of companies active in this sector; which also applies to the degree of regulation.
The basis for this is a guarantee of discrimination-free competition. Along with their regulatory tasks regulators also have the task of ensuring the technical quality of the infrastructure as well as protecting against misuse.

Against this background IfKom is pleased to take the opportunity to make a statement about the DRAFT presented for a joint position from the European Regulation Group (ERG) from 24 October 2007 on harmonising VoIP regulation.

Considering the familiar VoIP basis and the long recognisable market developments we would like to express our amazement that this public statement about the results from the task-force deployed (42 pages after four interim drafts since beginning work on 18 April 2007) is expected within a few days (6 November 2007). Due to this short amount of time the statement presented has to be limited to a few standpoints which could be supplemented at a later point in time with a differentiated emphasis.

The Ingenieure für Kommunikation e.V. (IfKom) is the professional association for technical specialist and management employees in the German communications sector. As a professional federation IfKom is the largest professional association for communications engineers in Europe.

The starting point of the ERG

Irrespective of the expected NGN development (Next Generation Network; Next Generation Access) and the already initiated reform of the legal framework for electronic communication at EU level ("ECNS-Review"), the ERG sees itself as authorised to formulate jointly agreed positions about the regulatory treatment of VoIP. The initial position included critical aspects which were highlighted at the 19th ERG plenum in Bratislava on 7 to 8 December 2006:

- numbering and number portability (starting with discrepancies in the assignment of geographic and non geographic numbers to PATS and non PATS providers)
- access to emergency services including cross border issues
- consumer information

With reference to the general harmonisation targets to be drafted within the ERG the expected framework recommendations should contain the following focal points:

- Numbering (E.164)
- Number portability
- Access to emergency services
- Regulatory treatment of wholesale services which impact on VoIP diffusions

Target-orientated ERG – structuring efforts?

Depending on the commentator's standpoint the previously recommended regulation principles have to deal with the view that important key words are missing, without any practicable or operationally target-orientated implementation or realisation time frames being recognisable. Adopting VoIP or ECS-Trends (electronic communication services) can hardly be target-orientated from the point of view of tried and tested infrastructure providers against a background of dynamic marketing scenarios as well as IP service provider alternatives which can be reached worldwide.

There are also real national implicitly-addressed basic questions e.g.

- What does the value added future of infrastructure-based TC providers look like?
- How will further improvements to the infrastructure (real broadband connections considerably higher than 16 MBit/s such as that required in the programme 100 x 100) be set up from a central point or be actually achieved?
- How will the digital gap that has unfortunately opened up between urban areas and rural areas be quickly closed?
- How will value-increasing quality be encouraged?

These questions cannot be regulated by generally formulated "what ifs?"

Helpful and discrimination-free harmonisation recommendations?

It is much too little for the European association of national regulators, with the corresponding knowledge this implies, to agree on only sound-bite demands, which could at best be used to support the arguments of one-side interest groups and require interpretation. Of course, most of the demands listed concerning numbering, number portability and emergency call support are correct. But this did not have to be repeated using different words, because since 2002 detailed requirements concerning these items have been included in a technology-neutral EU framework directive. It would be more target-orientated to show how clear EU regulations could also be suitably implemented at last against the background of further technological developments. Or how, with the assistance of balanced and sufficiently detailed operational activity recommendations, the encouragement of a European domestic market as well as the successful support of all EU residents nationally or across the ERG could be accelerated.

At this point all national regulators should be strongly reminded that in global competition with other regions of the world a large number of jobs outside the TC sector in their own countries are dependent on efficient, stable, flexible and reasonably priced TC products.

Infrastructure related i.e. not completely technologically-neutral regulation recommendations, such as emergency calls (PSAP; Public Safety Answer Point) mainly conflict with the interests of telecommunication companies. Through a too hasty and too general expansion of the PATS definition (public available telephone system) to IP operating environments a threat (additional expenditure, operational IT restrictions, non-recognised protection of confidential customer data etc) to the existence of small and medium IP service providers and the jobs they provide, as well as their innovative business potential, has been blithely accepted. Through insufficient PATS limitations i.e. possible cost-increasing operational burdens, private LAN /WLAN operators, which only utilise public telecommunication options for their own purposes, i.e. internally, will also be financially affected.

Due to pending or already initiated PSTN substitution of the circuit-switched core network according to NGN or IP operating principles, a n d rapidly spreading user network access without a separate PSTN connection, it makes little sense to rely on a PSTN affine realisation approach (e.g. in the realisation of monitoring functions in the network). In addition, in terms of regulation it remains unclear here to what extent the ERG would have to deal with serious technological constraints. Individual aspects that should be highlighted here include:

- How will the realisation of VoIP facilities whose servers are in technically non-reachable foreign countries be dealt with? This is independent of the fact that end customers cannot recognise these internal supply connections at all due to the local use of normal end-telephone appliances with downstream IP-technical adaptations in the background.
- How will the end-appliance related input of EU-wide emergency numbers be recognised at all so that, if feasible, possible graduated existing transfer priorities can be reached? And this does not only apply to multi-sequential IP network gateways with a physical separation between transport and service level i.e. spatially divided and independent realisation responsibility under operationally similar transfer quality criteria.
- How will emergency number call procedures from infrastructures with bus topologies (IP media sharing via cable networks, WiMax/WiFi, etc.) be considered?
- How will for example, a reliable multi-network emergency number transfer (CLIP) or AOC function content (ISDN-Feature Advice of Charge) between TDM carriers and IP network principles be guaranteed?

A PSAP concept forced by regulation without considering sequentially inclusive solutions for digital identities in IP operational environments could possibly be justified if long-lasting and unmistakeable regulations also existed. These would have to consider in which form a technologically neutral and discrimination-free company and transparency PSAP process format would be made available to all participants. To surrender power to particular interests as part of competition-relevant regulationary intervention for the desired implementation within the context of a direct process to eliminate competition, as well as between individual providers and technology concepts, has to be seen as absurd.

Will customers be supported in competition-relevant demand decisions?

Of course, in the ERG paper several references are made to supporting and partly indispensable customer information and the basic challenge of providing a “Quality of Service” (QoS). It is precisely this decisive user issue that is persistently emphasised, where despite clear EU regulationary requirements hardly anything has been transparent for customers in terms of deciding on a network operations provider.

The demand made by the ERG that all participants are informed about any possible limitations for voice telephone services is not wrong in principle. But to make a regulatory decision about the divergent provider interests about how such a technology restriction could be objectively and comprehensively implemented long term for customers, leads unavoidably to one-sided discrediting and to further uncertainty among TC users. Unfortunately, due to the continuing absence of public standardisation results (e.g. ETSI-TISPAN has been working for years on VoIP-Integration) it can be assumed

that not all of the existing characteristics from voice telephony services will be supported for interworking between the current VoIP approaches with the ISDN network.

On the one hand it could be investigated whether a technically expanded and multi-network uniform transfer quality classification for multi-faceted utilisable IP user network access would make more sense. That is, not only between PSTN connections or VoIP operation at the same time as general WEB-Access. Instead, also for simultaneous IP-Streaming (e.g. IPTV) for example, or for games offers using completely optional offers from intermediate IP providers acting in a multi-network manner. On the other hand in the ERG draft it is often left open how provider criteria that can be substantiated and are publicly available would be developed, implemented and be monitored for only two classification characteristics. This also affects how customers would be supported in their intended contract decisions as well as in terms of carrying out ongoing IP service provider evaluations on their own initiative.

At this point it should be clearly emphasised that customers can only, if, realistically at all in a mass-market business, exercise a certain influence on their selected local access provider or user network operator. However, they have no influence on the technological connection conditions of their telecommunications partner. For three-level cascaded IP transfer sections (Access - Transit - Termination) at the latest, every quality approach would be doomed to failure without transparent and continuous, provable individual operating principles. From daily practice it is known that many access providers are happy to refer to their unfortunately only limited realisation responsibility but then use such mechanisms to circumscribe independent third party offers (wallet garden ?).

Experts would not dispute that important quality indicators for customers in the ISDN vs. IP telephony via DSL field for example, are significantly worse than in currently established voice telephony. This is not due to VoIP technology in itself. It is due instead to the absence of transparency and honesty towards customers who, with only few exceptions, are hardly in a position to assess the highly complex consequences of their market decisions.

At the moment no clarifying regulatory conditions are recognisable to signal appropriately to all customers on dial switching via normal user dialled numbers, in advance if possible, on connection release, that the activated quality level of the desired call currently made cannot be met due to qualitative conditions at the other end.

Comprehensible assistance points from access providers are seldom known by customers. This concerns where the limits of joint voice and data communication are only set by physical network access. This is why, for example, in Upstream on the customer's side (!), as far as it is improved by limited band width or by asynchronous (what is that?) transfer band widths voice traffic has to be prioritised over data traffic. For the virtually forced VoIP substitution offered, if applicable, small and medium sized enterprises (SME) could, with 1-2 ISDN basic connections currently, quickly prevent themselves from acquiring a sufficient basic qualitative understanding without actually knowing why. For only very modest IP upload band widths in the countryside, for example, the use of VoIP should be dispensed with for this reason alone.

Realisable assertion of legitimate customer interests?

Alongside the important question of reliable identification of fees and their comprehensibility at all times (transfer relevant, service specific, service related) an unsolved

question, decisive for competition, continues to stand in the foreground. Can customers understand at all at any time and to a suitable extent who is part of each IP supply and service relationship? Or, are certain regulatory transparency structures indispensable in order to clarify who is responsible for which part or the whole of the service?

As long as such decisive factors remain unbinding for virtual development or can only be clarified in a laborious investigation process for specific cases, customers can neither fulfil the competition influencing role foreseen for them (apart from a purely price perspective) in accordance with pure market economy teachings, nor will anything change in the non-transparent market situation with only superficial or barely comparable information basis.

If clear, customer-supporting EU obligations, as the national regulatory environment, do not finally lead to really operationally comprehensible supply and service conditions (with actionable validity, if applicable, also for application-relevant individual cases) resulting, for example, from the framework directive 2002/21/EU, Article 8, Para. 4, Letter d

> (4) The national regulatory authorities are to promote the interests of the citizens of the European Union in that, inter alia they….
> d) ensure that clear information is made available, in that they demand transparent tariffs and conditions for the use of publicly-accessible electronic communications services, in particular

or from recitals 17, 30 and 49 from the Universal Services Directive 2002/22/EU

> from 17) ... the national regulatory authorities should also be in a position to monitor the service quality which is reached by other companies (as with those only bound by universal service), which operate public telephone networks and/or operate publicly accessible telephone services for users at fixed locations.
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> from 30) ... in the event that other service providers, which are not direct telephone service providers, conclude contracts with consumers, the same information should also form part of these contracts. Measures to guarantee transparency in prices, tariffs and conditions will make it easier for consumers to make the best choice and to profit extensively from competition in this way.
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> from 49) ... This Directive should provide elements of consumer protection, such as clear contractual conditions, settlement of disputes and *tariff transparency* for the consumer. In addition, it should encourage the extension of such advantages to other categories of end users, particularly small and medium-sized enterprises.

it will not be possible for the vast majority of TC users, sooner or later, to determine a difference decisive for execution i.e. a qualitative difference between IP services or service offers from the EU internal market and the rest of the world.

The resulting competition situation e.g. concerning end prices on the basis of completely different product cost calculations, will lead to a direct business management danger to current jobs and not only in the TC sector.

Neutral Redefinition of ECS, PATS or PTN?

Although the formal emphasis of the ERG draft should focus on VoIP the definition considerations illustrated have to be seen as applying to the wrong object due to the currently rapidly converging infrastructure technologies on a uniform transfer basis (IP-Networking).

VoIP as a technical implementation of the tried and tested and mainly regulated voice telephone service in a packet switching environment represents only one, if important, service application, among many new types of IP communications forms. Against this

background it would have been better to highlight the integration of national specialist authorities or regulators instead of considering legal demarcations with evasively addressed responsibility for decisions, or at least presenting several alternative, sustainable harmonisation options.

An artificial separation of what are undoubtedly necessary technological and operational VoIP regulations prevents the completely changed communications principles being seen. These ought to be considered within universal service terms that urgently require reform in what has become a multifunctional IP environment. Whether this would also include the possibility of several parallel VoIP and fax connections being made available, via public access locally, parallel WEB access, long-term access to email providers, the option of a suitably supported video conferencing facility or just unidirectional streaming, as well as other minimum requirements, requires further discussion and final agreement.

With reference to the ERG draft presented it will be almost impossible to limit harmonised regulatory efforts only to VoIP within integrated NGN technology. According to the European Union Council directive that has since come into effect about the identification and allocation of critical European infrastructure facilities the whole telecommunication sector is one of the areas at risk. This risk is associated with considerable effects on almost all other economically critical infrastructure facilities (management assistance methods and information support) as well as in additional core business field (in other sectors).

Conclusion

Although certain ERG demands are technically correct and justified, particularly with reference to the different developments and realisation speeds in the national states, they do not provide any assistance in formulating the corresponding EU directive for the implementation or specification of a suitable regulatory course of action.

Continued adherence to tried and tested procedures and ideas without broad, operational incorporation of technological substitutes which have occurred since and their further development possibilities, could lead to considerable imbalances or very dubious restrictions on competition in the affected ERG states. This also applies to the still unresolved structural aspects and what are merely sound-bite harmonisation recommendations for the realisation of VoIP emergency calls and for the further unspecified regulatory necessity of guaranteeing basic telecommunications in terms of multi network stability with equal network responsibility in the event of a crisis, for example.

To enforce incomplete harmonisation recommendations (PSAP) and expand previously only service-relevant detail definitions (PATS) to other technology principles must,

without the simultaneous formulation of mandatory technology-neutral and recognisable implementation conditions and discrimination-free competition guarantees, be objected to as functionally ill-prepared and technically questionable. The ERG should avoid any appearance that the final ERG paper has preferred a simplified consideration of an undeniable i.e. necessary overall assessment, through, for example, compromises to make its adoption easier.

Instead of asking further questions or making reprimands about other general conditions which still have to be decided or to be finally clarified, individual details about the EU directive packet could have been expected from the ERG. These could have been associated with only one precise issue (VoIP) with alternative uses, technically precise and actual alternative courses of action which would take the already-identified IP reality into account.