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Ihr Zeichen, Ihre Nachricht vom

Unser Zeichen, Sachbearbeiter

Durchwahl

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Comments on ERG's public consultation on Wholesale Broadband Access via Cable ERG (04) 19 rev1

The Division Cable-TV ("Berufsgruppe Kabel-TV") within the Association of Telecommunication and Broadcasting Companies („Fachverband der Telekommunikations- und Rundfunkunternehmen“) as a part of the Austrian Federal Economic Chamber ("Wirtschaftskammer Österreich") is the legally based representation organisation of Austrian cable network operators interests.

The ERG-Paper

On February 11, 2005 the ERG12-Plenary of the European Regulators Group (*ERG*) approved a paper on Wholesale Broadband Access via Cable (ERG (04) 19 rev1, the *ERG-Paper*) for public consultation. In its introduction to the ERG-Paper ERG states that the key question to be answered in the context of market analysis proceedings with respect to Market 12 of the European Commission Recommendation is (see page 4 of the ERG-Paper):

Does cable offer facilities equivalent to DSL?

ERG clearly recognizes the fact (see page 8 of the ERG-paper) that cable and DSL networks were initially deployed for different purposes and that significant technical differences between DSL and cable exist which restrain a "straight swap" between the treatment of the two technologies. However, ERG still concludes that DSL and cable are equivalent and focuses in its analysis of this key question on mere technical feasibility aspects only. Therefore, it is doubtful whether ERG's conclusion on the equivalence of cable and DSL can be upheld in a regulatory context and in light of the significant commercial differences between cable and DSL and in particular in light of the fact that cable is a shared infrastructure with a number of unique restrictions and limitations which DSL does not have to cope with.

Albeit the principle of technological neutrality mandates consistent regulatory treatment of various types of networks, it remains inevitable to address and take into adequate consideration the evident technical and commercial differences between cable and DSL among which the fact is outstanding that cable as a shared medium features inherent capacity limits.

ERG's analysis on (technical) equivalence of cable and DSL blinds out the "real life" situation that cable operators do not operate their networks in an experimental laboratory environment but have to match technical constraints resulting from limited capacity of their shared infrastructure with commercially reasonable business cases and market standard "triple play" (broadcasting, data and telephony) service portfolios requiring increasing amounts of spectrum on the cable. In addition, the delay of the "analogue turn off" on cable networks will even further escalate the shortage of spectrum on the cable over the next couple of years as the networks will have to operate on "simulcast mode" and offer both analogue and digital services. This is not the case on DSL-networks.

In the context of any regulatory market analysis the assessment of "equivalency" of cable and DSL must address technical and commercial aspects as well as the fact that cable is a shared medium. It is doubtful whether one could uphold the conclusion of the ERG-Paper on the basis of a comprehensive analysis which is - besides technical differences - also taking into account the highly relevant commercial aspects and inherent capacity restraints of shared cable networks.

Relevant differences of DSL and cable

Cable networks are structurally different from DSL networks. Whereas one fibre node typically connects 1,500 to 2,000 homes with an average of 300 to 800 Internet service recipients which are sharing the infrastructure, the last mile on a copper based DSL access infrastructure provides dedicated and exclusive single-user customer drops offering the full (technically available) spectrum range for one single customer.

Further, the availability of spectrum and bandwidth on the cable not only depends on the number of customers but also on the technical standard of the cable network. On average, cable networks in Europe operate on shared spectrum ranges of 300 to 600 MHz with a maximum 870 MHz out of which between 30 and a maximum of 65 MHz are typically used for shared upstream traffic. Up to 97% of the available downstream spectrum are - and have to be - used for digital and analogue broadcasting services. This leaves one to two data channels of only 6 to 8 MHz with a bandwidth of 38 to 54 Mbit/s for an average number of about 400 broadband subscribers in a typical and commercially reasonable configuration of a cable network. In light of that, the significant capacity constraints of cable networks as opposed to dedicated DSL networks with transparent 25 Mbit/s bandwidth per each single subscriber become evident, whereas a mere technical comparison between cable and DSL provides a biased view.

The dedicated bandwidth of DSL subscriber lines enables granted QoS up to the physical bandwidth limits of the technology. On the other hand, stable QoS in a shared cable network requires complex capacity management and still can by far not reach similar levels of granted bandwidth availability as is the case on a single-user copper based subscriber line.

It results from the nature of a shared cable medium as opposed to physically dedicated subscriber lines in a DSL setup that the bandwidth demand of different services and multiple users directly impact and interact with each other. Available bandwidth and services of other subscribers on the shared medium have to be jointly managed. Theoretically and with significant investments way beyond commercially reasonable business cases, it may not be impossible that as a consequence of further technological development and further splits of cable segments the inherent capacity constraints and technical limitations in cable networks may be mitigated or even "may diminish" as ERG presumes on page 17 of the ERG-Paper. However, for regulatory purposes a commercially unrealistic, mere theoretical and only potential equivalence of cable and DSL sometime in the future does not provide a sufficient basis for uniform regulatory

treatment. If this were the case, other technologies like power line communications would have to be treated in the same way, which is – for good reasons – not the case.

The shortcomings of ERG's (technical) approach of equal treatment of cable and DSL which are based on the mere technical feasibility of providing wholesale access on cable networks become evident, wherever such bitstream access cannot be matched with a realistic business plan.

Commercial view

A typical and suitable criterion to commercially assess the equivalence of DSL and cable are the port costs per customer. The port price of an DSLAM per DSL-customer depending on the technology used reaches between 50 to 60 € on average, irrespective of the granted bandwidth (up to about 25 Mbit/s) required by the service portfolio of the subscriber.

The commercially realistic equivalent on cable networks is a 54 Mbit/s (8 MHz) downstream channel (at about 20,000 €) which, if shared by an average of about 400 subscribers, also results in port costs per customer of about 50 €. In this typical scenario the granted (no excessive overbooking) bandwidth is significantly lower and shows only a fraction of the bandwidth which is available on DSL networks.

On the background of increasing demand of bandwidth in the market the limitations of cable networks become evident. Port costs for a granted 25 Mbit/s connection (this is the current limit in DSL networks) without dropping other (analogue and digital TV) services explode to about 10,000 € for a maximum of only two customers. Hence, from a mere technical point of view it may still be considered reasonable to treat cable as an "equivalent" to DSL. However, increasing bandwidth requirements of typical broadband retail products in the market render such an analysis commercially unrealistic.

This calculation does not even take into account that any upgrade of the cable networks to allow wholesale access at different levels of access points further boosts the port costs per subscriber.

Legacy infrastructure

In most cases the initial foot print of typical cable networks has been rolled out for a different purpose, namely for providing TV and broadcasting services, rather than for providing interactive broadband connectivity. In many cases this is still the core business of cable networks and broadband access is a valuable supplement to the business model. Still, despite considerable improvements, investments and technological development cable operators remain caught within narrow spectrum limits although the demand of bandwidth in the market is constantly increasing.

From a regulatory point of view it is still important to maintain a stable and investment-friendly regulatory environment for cable operators. Wherever cable operators compete with DSL on the retail side, significantly higher broadband penetration can be observed. Although compared to DSL the net adds of retail market shares are currently declining for cable-based broadband products, this stimulating effect remains favourable.

ERG's approach driven by technology neutral regulatory intervention is – if implemented in the respective market analysis proceedings – likely to cut back on this stimulating effect which cable networks doubtlessly have on retail broadband product markets. Cable networks which are open for wholesale bitstream access are even further limited in providing competitive and market

standard service offerings. This even adds to the obvious and inherent technical restraints of an upgraded legacy infrastructure.

Expected and required service portfolio

Soaring demand of spectrum and capacity can be expected from both increasing bandwidth of existing products as well as from new retail products.

It is a matter of time and overcoming a couple of legal hurdles rather than of resolving technical problems that TV and broadcasting services will be offered by today's DSL operators on the basis of copper based infrastructure. (This is already the case in France today. E.g. NEUF Telecom <http://www.neuf.fr/offres/tv/>). Therefore, triple play products remain mandatory for cable operators as well in order to remain competitive. Thereby, in order to compete with DSL it will not be sufficient to just keep these service offerings in the typical service package but also to add and replace existing services by cutting edge technology, like HDTV, which require even more bandwidth.

In addition, an increasing market demand for higher bandwidth on broadband services can already be observed in more mature markets such as Sweden or France, where broadband access of up to 18 Mbit/s (symmetrical) is available on the market. The gradual shift to higher bandwidth per subscriber further escalates the above-mentioned limitations of spectrum on shared cable networks. Further, user profiles are shifting towards increasing simultaneity of bandwidth usage which further limits the application of network management measures like overbooking or higher latency tolerance on shared infrastructures.

Cable networks with broadcasting services still dominating their main business model not only compete with DSL but - even more - with satellite broadcasting. Without even offering data services it is hardly possible to provide a similar variety of TV-channels on typical 300 to 870 MHz cable networks as is already available via satellite. Without even opening up the available spectrum for wholesale bitstream access, cable operators are therefore forced to compromise on the service portfolio as to cope with limited availability of spectrum. The regulatory requirement of open access would result in even further limitations for cable operators.

Overall, the predominantly technical approach of ERG's proposed regulatory equivalence of cable and DSL fails in light of realistic business scenarios and market standard "triple play" service portfolios. Any wholesale offering would command unacceptable further constraints for cable operators to offer competitive service portfolios on the retail market. Cable operators in competitive environments with increasing demand of bandwidth do already struggle to provide market standard service packages at competitive prices. Further limitations coming along with mandatory open access inevitably reduce the stimulating effect which cable-based broadband offers currently provide on the retail markets.

Network management requirements

Mutual interdependency of service offerings on shared cable networks command network management and in particular capacity management to remain in one hand for spectrum efficiency reasons. It is evident that overbooking rates and network management need to be carefully balanced as to ensure reasonable and stable QoS for all customers and services on a given range of spectrum on a shared cable network. The only option for allowing multiple network managers without mutual interaction on either operator's QoS on a shared infrastructure would be to assign dedicated bandwidth and channels. However, such split of the spectrum would further cut the total spectrum efficiency of cable networks. The sum of all bandwidths available

on distinct sub-spectrums is typically a lot less than the theoretical bandwidth of the entire spectrum available on the cable.

Again, it is technically possible to split the spectrum which is available on a shared cable network in independent sub-segments as to allow individual service offerings with even the ability to effect changes to the technical parameters of the services provided to the end customer. However, this is not possible without either sacrificing stable and independent QoS of the individual offerings or without accepting a loss of total capacity and bandwidth as is available if one single operator manages and uses the cable network. From a regulatory perspective it cannot be a viable option to restrict QoS and or available resources on cable networks only to allow commercially unreasonable wholesale offers.

Market

Recent surveys illustrate constantly decreasing cable subscriber growth rates as compared to DSL growth rates in Austria. A totally scattered patchwork of over 200 cable operators across Austria with only five of them focussing on major cities compete with only a handful of DSL operators most of which provide nationwide coverage. Decreasing cable growth rates also result from the fact that only 41% of Austrian households have access to cable whereas 86% have DSL-coverage already. Further increasing DSL-coverage and growing market share is to be expected by simply upgrading local switches of the copper based PSTN networks. According to Telekom Austria AG's presentation of the results for the fiscal year 2004 currently 61% of the local switches are DSL-enabled and an additional 30% shall be by 2007. On the background of increasing demand for bandwidth and copper based DSL-networks gaining ground against cable, market shares of cable-based retail products will further decrease.

By opening up cable networks for wholesale access cable networks would have to cope with even further restraints and competitive disadvantages due to the above-mentioned technical and service based reasons.

The conclusion of the ERG-Paper remains in the context of the envisaged market analysis proceedings regarding the European Commission's recommended market for wholesale bitstream access. In the context of a realistic and competitive market environment, however, a mere technical feasibility study provides a number of shortcomings and is rendering ERG's conclusion commercially unreasonable.

Conclusion

An obligation to offer wholesale broadband access via cable commercially and technically squeezes cable operators below the "critical mass" required for a commercially feasible and competitive operation of cable networks. The ERG-Paper blinds out the fact that the limited number of existing cable based wholesale offers can only survive in scenarios where the natural limits of available spectrum on cable networks have not yet become relevant. It is impossible for typical triple play cable operators to provide open access without significant constraints to their business model having direct and adverse effect on competition on the retail level.

Only on in the absence of a comprehensive assessment and with a restricted focus on technical feasibility only, one could conclude "equivalence" of DSL and cable. This is not the case, if commercial and particular aspects applicable to cable networks were taken into account. Therefore, such a restrictive analysis can only be of limited use in the context of the market analysis for the wholesale broadband access market. Moreover, such an analysis is not able to

answer the key question of regulatory relevance, whether cable offers facilities equivalent to DSL.

We kindly ask you to consider our remarks. In case you have any questions, please do not hesitate to contact Mr. René Tritscher.

Kind regards

A handwritten signature in black ink, appearing to be 'G. SINGER'.

Mag. Günther SINGER
Vorsitzender der Berufsgruppe „Kabel-TV“

A handwritten signature in black ink, appearing to be 'R. TRITSCHER'.

Mag. René TRITSCHER LL.M.
Geschäftsführer