# ERG Consultation Document on Regulatory Principles of NGA

**- Response of QSC AG; Germany -**

Cologne-based QSC AG (QSC) is a nationwide German telecommunication provider offering businesses and premium residential customers a comprehensive portfolio of high-quality broadband communication options. QSC implements complete enterprise networks (VPNs), operates voice and data services and provides leased lines in a wide variety of bandwidths for business customers. In addition, QSC utilizes its network as the basis for its wholesale business and provides high-level upstream products to carriers, Internet service providers (ISPs) as well as marketing partners with strong consumer brands. Following the acquisition of a majority interest in Broadnet AG, QSC enjoys access to a microwave network in 42 regions of Germany. QSC operates on a nearly nationwide scale, together with Broadnet AG connects over 160 German cities over its broadband network and currently employs a workforce of 700 people. In fiscal 2006, the company generated revenues of € 262.5 million and is forecasting consolidated annual revenues of more than € 350 million for 2007.

Plusnet GmbH & Co. KG ("Plusnet") is the German joint venture of Tele2 Deutschland (32,5%) and QSC AG (67,5%). Plusnet was founded in September 2006 combining QSCs LLU-based access network with additional capital from Tele2 to increase network roll-out. Plusnet serves its parent companies with efficient bitstream access and broadband products, it has no own retail customers. It currently operates the third-largest LLU-based alternative network and plans to connect up to 2000 MDFs at the end of 2007. Organizational models like Plusnet may be part of the competitive response to increasing returns to scale in NGA environments.

## 1. General Comments

QSC congratulates the ERG for its very comprehensive work and expresses unanimous support for the conclusions drawn. This consultation document does not need much more work to become the ERG Common Position. QSC does hope, though, that these findings by the ERG will be much more adhered to by its members than has happened in the past or in the present.

One fresh example is certainly BNetzAs draft market review and draft measures proposed for Market 11. Although the ERG clearly and correctly states that collocation in the street cabinet and backhaul do constitute the two mayor bottlenecks in a FTTCab scenario, BNetzA has chosen to put forward only a remedy for the second bottleneck but not for the first one.

## 2. Specific Comments

Business Cases

The different business cases analyzed in this paper quite clearly and correctly show, that in an NGA scenario with disappearance of the MDF layer more traditional responses towards the problems do no longer work to a satisfying degree. LLU at the MDF has been possible and also quite success – in some member states – as collocation for new entrant equipment was possible without providing new or enlarged buildings. MDFs and their surrounding space were there and collocation was available for – almost – incremental cost. With sub loop

unbundling and enlargement of the street cabinet – either mutual or ex-post – the ability of a new entrant to collocate own equipment is seriously impaired. So the time to invest is determined by others (incumbent or other competitors enlarging the street cabinet) and the cost of collocation per addressable customer is going up as a marginal approach does not seem likely. With the emergence of automated line switching equipment at the street cabinet level and its necessary capacity the challenge in terms of forecasting and investing acc. to the incumbents business and roll-out plans becomes even bigger.

In addition, FTTCab scenarios for alternative operators are – even for the very limited reach shown by those business cases – dependant on an increase in ARPU. As the French example with IPTV shows, IPTV may be used to keep broadband prices stable but has only limited success in generating additional ARPU. This holds especially in member states with well developed TV alternatives (satellite, DVB-T) and a tradition of free programming.

We do support the notion provided by ERG, that the world of infrastructure competition is changed by the emergence of NGA networks, be it in addition or as a substitute to existing "copper-from-the-MDF"-based networks. As long as NRAs do not provide a chance for some entrants to step on the next rung of the ladder of investment, WBA will certainly emerge as an ever more important tool to secure some level of competition for the benefit of retail and corporate customers. To secure competition and choice in the market for WBA, at least three companies (incl. the incumbent) are needed at the street cabinet level to secure competitive offers to other providers. The beneficial effects of competitive pressure can be observed in Germany, where at least four LLU-based network providers vie about wholesale business with other providers, at least in their geographic footprint.

Dynamic Efficiency

QSC may add some thoughts to ERGs considerations concerning the preservation of dynamic efficiency in the age of NGA networks. The ability to innovate and to differentiate ones products from competitive offers is a strong incentive for operators to move up the ladder of investment and for NRAs to enable this move. As stated above in the section about business plans, the traditional means to enable infrastructure-based competition may no longer be that effective. To be able to innovate a new entrant collocated its equipment (DSLAM et. al.) with the incumbent MDF. Control over the DSLAM served the purpose of innovative services (SDSL or ADSL 2+) or differentiation (QoS). With sub loop unbundling collocation within the street cabinet is costly and probably not in line with roll-out plans. It might require a lot of "dumb" infrastructure investment (especially if own cabinet and own backhaul facilities are necessary) plus – unnecessary – duplicating investment (enlarged street cabinet distribution frame; enlarged cabinet; enlarged automated line switch) to be able to reap the "innovation rent" for a small number of customers. In economic terms, the barriers to entry for innovation and differentiation will rise, ceteris paribus the economy as a whole will get less of it in the traditional collocation approach.

Enter something called "Line Card Access" (s. next section). This access model, made possible in the future due to a shift of technological intelligence from the "central" DSLAM to each "decentralised" line card within the DSLAM, may change the less favourable result for innovation in NGAs. With Line Card Access, the necessary investment by new entrants and the economy as a whole for participation in the innovation game is reduced. Dumb investments and excess capacity in cabinets, distribution frames and switches, as with the traditional collocation model, are not needed. So Line Card Access, which so far has not

found reference in this document, should be given a closer look as a realistic step on the ladder of investment.

Interference Issues

In a FTTCab scenario with continuing operation of LLU from the MDF, interference issues between incumbent VDSL from the street cabinet and new entrant DSL from the MDF may provide additional negative impact of NGAs on the competitive outcome. NRAs should take into account that VDSL from the street cabinet will have detrimental effects on the performance of competitors lines from the MDF. Depending on the VDSL mode used, this effect will be more or less strong. Especially if the incumbent operator is moving more and more of its broadband customer base onto VDSL, it is less and less inclined to consider this detrimental impact as it is no longer affecting its own customers. Together with pressure from the product and marketing side of the operations of new entrants, this issue will create the need to go beyond LLU at the MDF – even if the incumbent does not publish plans to close down the MDFs (or part of the total number).

Efficient Investment

QSC does appreciate und support ERGs view in section 3.4 (page 24) that an investment made is not necessarily an efficient investment. Unfortunately this sensible view has not found too many followers in media, academics and politics. As the ERG correctly states, investments made in NGAs with the sole or major purpose of leveraging market power are not efficient investments and should therefore not be protected by NRAs resp. the governments of member states and the Commission.

The same reasoning is applicable to unnecessary “dumb” infrastructure investments (supplication of street cabinets or backhaul facilities), if more efficient alternatives are technically possible (infrastructure sharing for backhaul; Line Card Access vs. collocation).

Unbundled Optical Fibre

QSC does explicitly support the ERG position that market definitions are be made technologically neutral. That said, QSC has in both reviews for market 11 in Germany proposed the inclusion of unbundled optical fibre into this market. Under the old framework (since 1996), unbundled access to optical fibre had been possible in Germany. Only the NRF made it possible to exclude them from the list of necessary wholesale products. In our view unbundled optical fibre is a necessary product for the development of the market but also for regulatory and investor certainty. If investment in local access fibre (or FTTCab for that matter) can be made the subject of a political campaign to reduce competition, withholding this investment to increase the perceived (political) revenue can make sense for incumbent companies. In contrast the Japanese situation shows that an early signal to the incumbent operator that fibre access lines have to be unbundled, do not deter such investments but may even encourage them. Otherwise the strong increase in fibre access lines in Japan AFTER the unbundling decision cannot be explained. An economist would point to regulatory certainty (= yes, you have to unbundled so assign true costs and revenues to this investment) and a generous guaranteed rate of return as reasons for this seemingly improbable outcome. In a scenario where the intention of the investor in fibre optic access networks is not to leverage this market power into retail, unbundling will be natural part of its product portfolio to increase the customer base for the network. Removing the strategic incentive to leverage market power from a bottleneck through access obligation or functional

or structural separation will achieve the same positive result. NRAs have to decide which way takes national circumstances into account in the most efficient way.

### 3. Line Card Access

As Line Card Access has been labelled above as a possible solution for lowering barriers of entry to innovation and differentiation, a short description of the concept will be provided. Line Card Access in general draws on current technological developments in the DSL field, where product differentiation and network management capabilities are moving from the DSLAM into its line cards. Control over these line cards will therefore deliver a certain amount of degree of differentiation not possible with WBA and close to the one with own DSLAM. Line Card Access will need at least the following parameters to operate properly:

- Sub loop unbundling – but unbundled line will still be switched to the distribution frame of the incumbent operator (via its automated line switch). No additional capacity needed here.
- Slot in incumbent DSLAM to install own line card (up to now from the same manufacturer as the DSLAM concerned) – no additional space in street cabinet necessary.
- Proportionate distribution of costs for DSL services (DSLAM, cabinet, air conditioning, power supply).
- In case incumbent DSLAM provides more than one optical interface, backhaul via own fibre laid through incumbent ducts or dark fibre leased.
- In case incumbent DSLAM does not provide more than one optical interface, transport via incumbent network to VLAN interface.

### 4. Multicast capabilities

QSC has not been able to gain a definite position on the access parameters necessary. In our view, regulatory treatment of multicast has to be considered only in the environment of WBA. Within WBA different scenarios have to be weighed up. WBA access at the MDF or similar access point may allow the provider to use its own content servers and multicast equipment – provided the incumbent DSLAM does not interfere with the emergence of a second (or third or fourth) recipient of multicast signals (from the end user equipment). In case WBA access is not possible close to the MDF or street cabinet, either the incumbent multicast equipment must be receptive to multiple agents and/or some direct access to the incumbent multicast equipment (via Ethernet connection) has to be provided. Otherwise competitive providers and their (wholesale) customers will be disadvantaged through significantly higher traffic costs for the concentrator part of the incumbent network.

### 5. Encouragement

QSC wants to encourage the ERG to continue on the path outlined in this document and to be steadfast concerning the convictions and policy measures in the face of governmental and incumbent operator pressure. This pressure is to be expected as the regulatory measures proposed in the document are effective and proportionate to the nature of the

problem. As this may seriously derail incumbent plans to use NGA investment to leverage market power in the access network, incumbent operators and their sponsors within governments have a lot to lose from these sensible proposals.

QSC expresses its full support for the conclusions drawn by the ERG and hopes to continue the mutual beneficial dialogue with the ERG and its members.