

Preamble

The deepening international division of labour, the rapid technical progress, the cost and price development within communication technologies with at the same time shortened product cycles as well as the worldwide politics of the privatisation and market opening leads to a dynamic sampling and globalisation of the communication markets. This change again structure and market behaviour of the companies which are basically active in this realm; this applies likewise for the regulation deepness.

Basis for this is the indemnification of a competition in performance free of discrimination. Beside the regulatory policies tasks a regulation also has to provide the indemnification of the technical quality of the infrastructure as well as their protection from abuse.

Out of this background IfKom thanks for the possibility of a statement for the presented strategy paper of the European Regulation Group (ERG) from the 5/5/2007, with regard to target oriented regulatory requirements for the subject Next Generation Access (NGA) as well as for the hereon constructive Next Generation Network (NGN).

The engineers for communication inc. (IfKom) are the professional organisation of technical specialists and executives in the German communication economy. As a professional association the IfKom are the biggest professional organisation of communication engineers in Europe.

Initial position for the ERG

The objective of the hearing by the ERG is the creation of a European position paper to market-supporting regulation requirements with regard to NGA aspects. This intention is based on the already initiated reform of the legislative framework for electronic communication at EU level ("TK review"). The TK review concerns the revising and development of the European regulation scope for electronic communication (ECNS).

Particular inducement arose amongst others from the technological change as well as from the imminent operational changes with wired subscriber network accesses out of the monopoly age; is it by a substitution, e.g., of the copper dual conductor by fiberglass options for both the whole tie-in section or only for parts of it. However, from the NGN point of view especially established subscriber accesses exclusively based on fiber optic option (ISIS/OPAL) or radio-supported network access possibilities (WiMax, WLAN), are to comprise as well as existing mobile radio options (GPRS, UMTS) or wired bus-topologies (cable networks). The challenge to be mastered becomes enhanced via new questions from the market trend in terms of the Next Generation Network (NGN), respectively by the fair development chances for new provider constellations (e.g. Service provider without own network infrastructures) and the consequences relevant for competition from the functional separation between the transport level and internationally accessible service use on the basis of packed switching protocols.

The real realisable development chances will only thrive on the direct correlation with an area-wide provision of much more access bandwidth to the end users or customer locations, which are not to be realised with the present predominantly

established subscriber access networks on universal metal basis (double conductor).

Previous market development

The use of versatile and different telecommunication options depicts in the private realm not only a socially accepted form of the daily cooperation or tools to cover personal needs (reservations, orders, sales), but assures within division of labour and decentralized positioned economy an essential requirement to be able to organise branch specific business sequences reliable, assured and cost efficient at all. For this it is unambiguous to emphasise that area wide and tailored to suit a market need available TK options for advantageous conditions has direct impact on the worldwide competitiveness for many national branches within a globalised competition..

In front of the background of the already at the beginning of the 90th years initiated telecommunication liberalisation (ONP guideline 90 / 387 / European Economic Community) it is to regret sustainable that some regulation efforts revealed only a superficial objective and furthermore the assertion in the past was too time consuming.

A continuous strategy with variable course of actions, even by short-termed changes of essential marginal conditions, was rather rare. The current achieved status due to amongst others by irrefutable or hesitant regulation interventions, without long termed really self-supporting deregulation concepts, with partly considerable regulation subsidence slopes (e.g., Wholesale discounts of the Incumbent versus of alternative infrastructure investments in urban regions, broadband deficits in the surface), cannot be designated as sustained success due to ascertained nationwide price wars with extrusion

Concerted customer requests as the main crucial competitive factor can in a completely intransparent market action only take the lowest role as expected if local TK supplier alternatives really exist and offers as regard content distinguish not only in nuances respectively were selectable from TK users according their specific subsistence as a sensible differentiated price / service offering.

The contrary declaration is based on user's experiences in a technically mature voice telephone service environment with actually clear supplier's arrangements and product bases. Differently expressed; without transparent and for users understandable quality criteria at anytime the EU intention will not to be achieved concerning perceptible quality improvements.

The challenge within NGN competition scenarios will still be complicated by a multiple. The creeping and up to now regulatory rather unstructured deployment of essential NGN elements, e.g., in form of a VoIP substitution of the public voice telephone service under flat rate conditions or as a cost-free part of more significant product packages, encourages economically questionable competition constellations; which will outcrop clearly with the NGN by the functional separation between transport level and worldwide retrievable service offers. For the avoidance of doubtful aberrations or substantially more instable operating bases the previous restraint respectively the time-critical waiting in terms of general bindings viz structurally unequivocal competition recommendations or even the regulatory decree of indispensable detailed court orders to essential NGN operating conditions (not only emergency call, disaster authorisations or national crisis situations) should be given up. Even such aspects are an integral component of a responsible

regulation activity.

Target oriented ERG - Structuring efforts?

Unfortunately, the presented and partly very detailed explanations of the ERG doesn't reveal no content or chronologically dependable approach, when which drafted course of action became / could be transformed. An awaiting approach, or the predominant intervention after procedure applications, with NGN global development trends e.g. with the settlements of manufacturer specific balance points or absolutely different standardisation approaches (TISPAN/ETSI, RFC/IETF, IMS, 3GPP), and already accrued NGN realisation is not defensible any more.

The formally overemphasized deductions of the ERG increase, without complementary legal definitions by not more technology-neutral or supplier-neutral approaches (specialist demarcations), the risk to describe on the one hand basic regulation key points only abstractly and on the other hand therefore more than ever to complicate a national realisation or juridical likely refurbishment of opposed points of view later on.

Apart from the time need of intended single measures and possible down streamed isolated case clarifications. However, every technology oriented allusion contains the latent danger during convergent market development to discriminate or to benefit special supplier's bases regulatory.

Advanced included aspects (EU keyword: ECNS) possibly justify a completely new adjustment of future technology-neutral regulation efforts which is to be guaranteed now, due to not to be overlooked NGN-challenges, via a more stringent and in itself causal regulation model. Hence, it appears to be less promising to align possible regulation interventions predominantly at infrastructure points of view as before and to classify therefore other regulation aspects factual as subordinated. This is particularly true for a benevolent attitude towards infrastructure-based suppliers (keyword Telcos) whose previously circuit switched business bases faces the most serious changes related to NGN criteria.

Enhanced supplier constellations under NGA or NGN conditions

Beside the infrastructure-based suppliers the market entry of more and more service providers will increase explosively during the NGN age. Within a transfer scenario with IP-amended network accesses (e.g. based on xDSL), the entrance or access provider with a formal customer relation (e.g. web account) initiate sustainable influence amongst future market protagonists.

A market situation would become regulatory dubious if the Incumbent decreed of considerable time and resources advantages which couldn't or shouldn't be substituted equally by alternative suppliers (pure IP service execution) and therefore the access offer economically (end users tariffs, product grouping), technically (protocol interpretation, access filter, portal compulsion) or as regards content (bandwidth projection for IP TV, but also editorial restrictions) would be dominant.

Detectable infrastructure subsidence slope

The regulation discussion initiated by the ERG is driven from national developments to find market economical adopted and further on solutions which are fair and free of discrimination for "changed" infrastructure conditions in conurbations. Towards this it stays open how the already perceivable digital splitting between the urban and peripheral areas as in the meantime crucial location disadvantage will be mitigated or be removed with lasting effect.

Even with a Line-Sharing of the last mile with exclusively dedicated xDSL-access bandwidths of only 756 kBit/s (download) or 256 kBit/s (uploads) it should not of it spoken of a tailored to suit a market need NGN broadband access. Other partially available network access alternatives on sharing principles, as for example WiMax or satellite options, are most welcome as selective complements, however, they do not detach the under NGN expected access bandwidth demand.

Within congested areas in most of the cases several concept approaches (access porting, line-sharing, cable network alternatives) and a real infrastructure competition are available for interested end users, which is put on already substantially advanced synchronous or asynchronous access bandwidths (from 2,000 to 16,000 kBit/s downloads and up to 1135 kBit/s uploads per ADSL port or 2.3 Mbit/s with SDSL) and announces now punctually even much higher Bandwidth options.

In both cases it is problematic that the former monopolist due to incontestable infrastructure advantages from the past has to be subdued furthermore to an appropriate regulation and has thereby to adduce on the one hand furthermore technically concrete definable advance performances according the demand and under fair expenses refund and might on the other hand not be hampered or disadvantaged concerning independent product or business developments. The thereby arising dilemma between a single-sided investment risk for infrastructure advance performance improvements in the expanse, as a prepared bed for alternative suppliers without immediate purchase liabilities or risk participation; and a not roughly substitutable location advance in terms of broadband network upgrading (e.g. VDSL-overlay) in the cities, plus a contents offer advantage linked with it and scaling effects with the product design, emphasises a predominantly only punctual, mostly out of urgent necessity stamped regulation activity in the past.

NGN introduction versus classical telecommunication or voice telephone service

Against the background of gradual, partially covered accrued introduction of NGN elements (keyword VoIP) the question has to be allowed whether under the exemplarily outlined aspects the approach brought up for discussion by the ERG is convertible under the premise of the original EU intention generally strategically as well as technological stable or practicably.

Of course an adequate charging of Interconnection performances for infrastructure-based suppliers depicts an essential pillar of the respective business model. On the other hand, it is not to be overlooked that the transport of IP packages itself drags only a fraction of the operating expenses even over a larger distances as it has been deviated before out of the circuit switching. With every day of increasing propagation of the flat rate telephony, e.g., on xDSL basis or a VoIP account as a cost-free addition within bundle products, a regulatory solution of these elementary opposites for a subscriber network access free of

discrimination becomes more and more pressing. Any further temporary abstinence (preventive recommendations or binding decision) delays national sensible efforts for consensus for network comprehensive crucial company bases; as for example certificated identity of VoIP-Participants, reliable transmission support for fax connections and sporadic data connections (e.g., remote maintenance), a sufficient protection concept against unauthorized listening within virtual IP networks versus EU Data retention, as well as a acceptable accessibility and voice intelligibility with own customers or suppliers or private interlocutors or optional connection destinations.

If in NGN scenarios equal for all conceivable forms of legitimate supplier neutral competition stimulation should be aspired like the original intention of a self-supporting and fair competition, for example, in the infrastructure-based PSTN circuit switching, a network-comprehensive delivery and performance transparency has to be created for TK users or customers as there were not so far yet. A further as before, will on the one hand hardly boost quality supplement towards "best effort" principles, on the other hand force rather technological indirect market demarcation attempts (wallet garden). A carefully coordinated, at least a guaranteed teamwork at any time – legal - independent NGN elements is necessary for the unchecked customer's access to versatile service offerings; whereas a NGN subscriber can only meet concretize able agreements with their access provider. At the latest with three-stage organised IP transmission line sections (access - transit - termination) even for access provider no reliable prediction wouldn't be currently possible under which special infrastructure condition (WLAN, WiMax, cable networks, etc.) any local area network telephone numbers will be generally reached. The therewith collective linked function imponderability may even not satisfy the postulated universal service thought of the EU commission. Especially therefore initiated preparation activities on predominantly national level have first of all to source certain neutrality and then prove the aspired success under remuneration relevant in the direct competition.

Within a crowding out it cannot be expected that singular business models with legitimate single objectives really consider collective interests. This is and remains a task of governmental institutions which has to transform this problem proactively and with published detailed perspectives in a more contemporary way. Juridical case specific Interpretations of too striking regulation aspects let too many stumbling locks arise in the past.

Drastically diminished procedure periods are essential

An again accruing displacement of crucial competitive conditions on an absolutely time-consuming proceedings and instances path might on the one hand disadvantage the EU economic area in the TK sector even stronger compared with other world regions and make clear, on the other hand, that the by then found but obviously interpretation able modelling bases deemed to be as judicial vulnerable. Here no indispensable analysis and structuring phase is meant, but the partial clarification of demarcation positions relevant for the accomplishment in immediate competitive situations. To what extent an existing creation risk of opposed business interests can be reduced by a proactive and sustained presentation via national regulation authorities (cf. mediator in tariff conflicts), depends of course on many factors. A consensus oriented and sustainable strategy acclamation as the only remaining activity alternative has clearly to be preferred instead of a formal decision chamber procedures with possibly concurrent decisions to several

similar objections.

Lasting for month, partly long lasting procedure periods, with decisions towards as regards content outdated starting point bases, would be devaluated rapidly by themselves in the meantime by changed market conditions and in connection with a necessary deductive inventory protection if applicable complicate every later still so necessary correction considerably.

If as an alternative the economically disentanglement of the technical telecommunication infrastructure basis (universal service aspect?) out of the monopoly age as an independently operating business unit NETWORK can not longer be considered, then in anticipation of the NGN age finally enduring practicable, more consistent and more contemporary convertible regulations coordinates has to be developed. Thereby has to be allowed for the technically not irrelevant changed marginal conditions and the divergent economic interests of the incumbents, alternative infrastructure suppliers and pure service models equally.

Strategy alternative

The wired connection of the future, on the basis of IP, will, by the use of local rules, result in a public provided TC network access complemented for personal communication needs of wireless access options (WLAN, WiMax, but also UMTS / GPRS) if applicable. Due to the functional independence between pure IP transport and separated service execution (e.g., VoIP switching, e-mail, WEB-Access, Streaming, news ticker, etc) established marketing and application bases (and embosomed operation sequences) will hardly persist. Could only one service (e.g. Fax) be handled so far via one ISDN channel at the same time, IP connection ports support in principle the "simultaneous" use of absolutely different communication forms (Broadcast, point to point, etc.) or communication services (Voice, e-mail, etc.). A crucial user's criterion becomes amongst others the really locally available bandwidth (via differentiated QoS classes if applicable), the revealing access to service providers of all kind and the in each case realised IP protocol interpretation; which underlies successively used, from each other separated network carrier responsibilities transmission conditions. That a single case oriented service usage with "selectable" rate bases, puts the correct remuneration determination at any time and an afterwards practicable expenses control by the liable to pay subscriber I front of absolutely new challenge, will only be mentioned for the sake of completeness.

A position paper of the ERG has therefore not to put only infrastructure-based points of view into the foreground. The furthermore increased altercation in terms of consistent remuneration regulation bases for advanced performance products disguised the glance on the real challenge. With a customer-driven, unchecked service choice the value added potential within NGN scenarios does not lie at the access provider yet, but within the service level. In this respect the ERG intention has to be supported beside a more stringent unbundling for direct separate able advanced performance products, in addition for a relevant advanced performance structuring with technically not completely uncomplicated basic conditions to stand for higher concentration layers whereas all factors for later evaluation steps, but also juridical procedures has to fit into the same grid.

Only an integrated approach simplifies the regulation model of a ladder of investment mentioned by the ERG and thereby boosts a more consistent and even more practicable

manageable remuneration regulation. Such a regulation approach has also to reach in the cases if within the same region different advanced performance stages are demanded, or if only provision alternatives of higher concentration level are considered from the outset.

For the reduction of increasing or non-causal demarcation difficulties in addition it appears to be appropriate, to conduct also a specification as regards contents of the market contents only generally described by the EU commission.

With regard to an otherwise diverging and therewith competition-critical situation in terms of end user's rates, it is categorically to exclude that regulatory omissions or interventions could benefit a supplier specific single-sided product development, which has to be implicate with an unfounded or insufficient market classification of advanced performance products.

Market 11

Unbundled key-account access (including the common access) to landline circuits and sub circuits for the provision of broadband services and voice services.

Beside German EU version the English version of the mark definition also (L114, 5/8/2003, p.45) from 2003 / 311 / the EC:

Wholesale unbundled access (including shared access) to metallic loops and sub-loops for the purpose of providing broadband and voice services.

Hereunder all individually demanded and technically separate able unbundled products for key accounts and alternative competitors has to be integrated in the future, which are to be provided due to a market-dominating position or from alienated resources from the former monopoly position (Incumbent) under a consistent remuneration regulation for a self dependent creation of utilisation and use creation

Beneath is especially to be understood:

Empty conduits or route rights

Single copper twin conductors, also within track section

Passive Line-Sharing, e.g., for xDSL accesses via local splitters

Separate able fibreglasses between not spliced or otherwise disposed sections (dark fibre)

Co-location premises incl. power supply and air-conditioning technology; but also in connection with individual necessary system components for Hvt/Kvz access

HVT access or HVT-co-location

KVz access or KVz-co-location

The previous regulatory separated exceptional position for fibre tic distances within the subscriber realm cannot be justified technically. In many EU countries, the fibreglass technology was already established before 1998 on the basis of single fibres as a normal

subscriber access (e.g., primary multiplex connection, NTPM or Uk2). With the infrastructure like the cable empty conduit, HVt- and KVz-co-location clear rules must be confessed for all market participants, how the scarcely resources are distributed to market participants.

Market 12

This market comprises "bit flow" access which permits the broadband data transfer in both directions and other key accounts access provided via other infrastructures if they provide equivalent equipment to the "bit flow" access.

Beside German EU version the English version of the mark definition also (L114, 5/8/2003, p.45) from 2003 / 311 / the EC:

This market covers 'Bitstream' access that permit the transmission of broadband data in both directions and other wholesale access provided over other infrastructures, if and when they offer facilities equivalent to Bitstream access. It includes 'Network access and special network access' referred to in annex I (2) of the Framework Directive, but do not cover the market in point 11 above, nor the market in point 18.

Hereunder all advance performance access options on a higher concentration layer for key accounts and alternative competitors has to be integrated in the future, which are to be provided due to a market-dominating position under a consistent remuneration regulation as independent realisation bases for a self independent product design towards end users.

Beneath is especially to be understood:

Active Line-Sharing, e.g., under inclusion of special transmission regenerators

PDH or SDH transmission circuits

ATM accesses

Spliced fibreglass distances

Uncoupled accesses to the optical transmission networks (OPAL / ISIS)

Uncoupled wavelengths (colour, DWDM) via optical or electric ports

IP accesses on every protocol transmission layer or net layer (incl. QoS criteria)

Market 13

Termination segments of leased lines for key accounts

Beside German EU version the English version of the mark definition also (L114, 5/8/2003, p.45) from 2003 / 311 / the EC:

Wholesale terminating segments of leased lines.

Beside the local supply to national connections of different bandwidths between 2 Mbit /s (E1) and 155 Mbit / s (STM-1), all individually demanded and technically separate advanced performance products which are to be provided due to a market-dominating position or from alienated resources from the former monopoly position (Incumbent) as feed orifice to advanced performance products out of the market 12 (including co-location support) to own network infrastructures necessarily and under a consistent remuneration regulation as an independent advance performance product for a self dependent product design towards end customers are to be provided under this for key accounts or alternative competitors in the future.

Under this aspect also fall all transmission technologies out of the market 11, which do not have effect within the scope of an immediate access of end customers or direct

realisation of subscriber access lines.

Marginal conditions

For regulatory simplified consideration under inclusion of specifically composed market definition essential marginal conditions for advanced performances are also to be applied for the preventive reduction by demarcation delays of a more stable basis. This necessity is true for all the more, the higher the concentration layer of the advanced performance turns to:

- concrete embodiment or definition of all specific advanced performance products according technically neutrally traceable points of view; viz on the basis of generally published standards or internationally approved standardisation principles.
- a as regards content recommendation if applicable a concretised definition of implementation conditions for every advanced performance category; incl. infrastructure information in order to be provided before (e.g., information about essential pipeline routes or operational company principles), as well as essential company bases like fault clearance procedure and configuration default to be kept.
- classification in a causal, in itself logical cost model, which allows a contemporary and consistent remuneration regulations for any demanded kind of advanced performance and thereby regardless of the respective consideration of the value added level a permanently resilient utilisation of a standardised regulation model guaranteed.

A regulation model on the basis of an economically graduated ladder of investment remains causal only if beside separate able cost components for all telecommunication-supported performance components also a relation to the real end user's rate (of the incumbent) in each case can be found. This has to be absolutely true for NGN offers also (e.g., Triple Play), although it might be about absolutely new product developments within this market sector. However, for an approach free of discrimination infrastructural regulation principles has to remain enforceable at any time in a contemporary way.

Since once introduced end user's rates or by civil law arrangements to take with regulatory afterwards adjusted upwards infrastructure parts (and therewith price increases) for end users must contain a notice option (and so for suppliers depict a demand default risk) but concurrently with afterwards necessary regulation interventions no inventory keeping may be deducible, national regulation authorities (NRA) will not get round for the prevention of serious competition subsidence slope at the Ex-ante regulation in the market 12 outlined here. With technology-neutral regulation objectives an exceptional position or even occasional regulation holidays for VDSL transmission basics might be surely out of the question, because of concerning this matter supported end user's connections solely technically forced bandwidth extensions are allowed.

Any other regulation alternative under consideration of the market-dominating infrastructure advantages from the monopoly age which is to be substituted within a transition period not to be overlooked today by no alternative supplier's team in a comparable form has to take care that from the outset an cross subsidisation in bundle products or an inadequate rebates with the Wholesale or Resale will be excluded.

Furthermore, procedure precautions are to be made that not already such attempts lead to the fact that crucial regulation conditions will only time-delayed accordingly be enforced.

It depends essentially, how far national regulation authorities (NRA) have prepared itself for changed administrative challenges. A therefore required time consuming preparation or a possibly insufficient staff and material equipment depict no persuasive counter argumentation. After factual adequate preparations, amongst others though a consistent regulation model on the basis of a concrete graduated ladder of investment, every national regulation authority (NRA) could examine rather quickly new bundle products on a discrimination free calculated remuneration parts and concerning this matter a release easily convert. With different structured regulation approaches it is to be demonstrated that not only alternative network carriers, but also all service suppliers or IP service providers without infrastructure are not essentially disadvantaged.

Otherwise, by the direct crowding out of all protagonists among each other, incl. Wholesale and Resale, a re-monopolisation on the supplier's page becomes up to final NGN establishment not unlikely. With continuation of the economically extremely questionable price fighting, because for buyers the product contents are hardly or not at all differentiable, financially strong supplier's syndicates are in clearly in advantage for a transition period.

Infrastructure-based competition changes

Unfortunately, the now upcoming challenge has to work off the inadequacies from the regulation past, loop, e.g., for an unbundled and therewith a non-discrimination creation of subscriber accesses (local loop), finally, also to include fibreglass technologies, what would have had to happen a long time ago. A similar development, viz a "postponement" or partial foreclosure of actually known or likely regulation circumstances may repeat itself in no case.

Just by a regulatory reappraisal of "changed" infrastructure bases only economically disposed regulation model with a technology relevant specificity can support the non-discrimination objective whereby, for example, real connection segments would be classable. Any architecture considerations are to be subordinated to such an approach and to sort accordingly with alternatively considerations.

Due to regional specifics local infrastructure bases (historical star shaped wiring on copper basis versus later on conducted fibreglass wiring; ISIS/OPAL) might be under examination in more detail e.g., on the basis of EU-market definitions. Within a regionalised or city-related market analysis, so not more under national area-wide consideration, local competitive conditions would possibly relieve the Incumbent which would not have an appropriate effect by a national average creation.

On the other hand, the danger also appears to be real that by decentralising of essential

network components or by the exclusively usage of existing street cabinets from the monopoly age, but now with active switching technology, the existing infrastructure investments of alternative network provider within the main distribution frame firstly will be economically devaluated, secondly a permanent maintenance of the copper connections between the MDF and the street cabinet and therefore the existing marketing basis is no longer given or temporary and thirdly the advanced performance relevant access obligations for new planned street cabinets locations was not guaranteed or appropriate defined.

Aggravatingly is added, that single local authority and more than ever surely no affected local adjacent owners, will agree to an inadequate parallel construction of additional and substantially enlarged street cabinets in the street scene. The German Association of Cities has this expressed. Here considered considerations of a second network carrier might possibly already come across into clear reservations. A judicial allowed persisting on an enforceable right of way if applicable, would at the persons concerned absolutely not only affect superficial problems of acceptance.

Due to the partly rather far advanced NGN preparations, so not only superficial infrastructure changes, contemporary principle decisions with longer-term orientation are indispensable. At this point it must be complained that under national points of views such partial developments since 2005 became more than likely. A reference to a formal expiry prerequisite indeed understandable but excuses not an informal contention with recognisable regulation contents without conceptual pressure of time.

In this context the principle question will become relevant for competition how to proceed exactly if for detailed demanded provision locations the actually expected advanced performance in the concretised perimeter is exceptionally not. On this occasion, it has to be clarified unmistakably that a case specific exception obligation for the provisioning of certain, otherwise not obtainable advanced performance products a clear refusal has to be issued.

Firstly saps a discretion oriented creation of actually basically demanded oriented to be generated advanced performances the existential warranted legal claim as a essential marginal condition of a non-discriminating competition. Secondly, a generally designed regulation model, e.g., of a ladder of investment would be devaluated, which has actually under economically fair conditions the alternative usage of telecommunication-technically conceivable partial performances arranged. Thirdly is currently not predictable which instance could evaluate the partly locally high complex connections objectively and should decide afterwards non-discriminatingly and easily, when and where such exceptions would be justifiable and not nevertheless still another advanced performance alternative which is more closer to demand would be available.

Already the outlook of a clarification by the judicial normal channel would prefer the Incumbent chronologically disproportionately because without realisation compulsion his competition-strategically unique selling point will be applied.

Miscellaneous NGN competitive conditions

Beside a still to be considered specification of public equal IP gateways, or company bases between independent but publicly offering operators, viz a non-discrimination extraction of concrete NGN advanced performances out of the company bases of another operator is

given amongst others to the technical implications in future public IP network accesses as a crucial criterion of a flexible NGN usage too little attention. Here less technically concretised specifications are questioned, but practicable legal definitions what has to be understood as regards content precisely under a non-discriminating basis of a publicly provided network access in the crossing to subscriber's premises.

- ▲ in circuit switched environments the supported features or the performance feature perimeter arise from the centralised system components which are optionally activated and transacted in the network termination point by internationally standardised signalling elements (D channel with the ISDN-voice telephone service according to ETSI) As a rule only a concrete service (language, dates, etc.) can be used by a connection or B channel for the same time whereby unequivocal remuneration relations are given.
- ▲ with packed switched systems protocol elements can influence the transmission } (QoS) as well as the further expiry {e.g. SIP switching realisation} of the service, whereas compatible default out of the direction of the connected customer location with respectively affected transmission sections are dependent from separate line operation configurations or proprietary manufacturer's standards. By the same IP network access a parallel use of several communication forms (point to point, broadcast, etc.) or communication services (Voice, WEB, e-mail) will be supported, which could be obtained from independently operating service providers. Without network-comprehensive acting quality classes every parallel use of several communication forms will provide even by more wide-banded accesses for increasing frustration, if e.g., streaming contents or downloads with variable transmission rates of one service provider and a VoIP discussion by another service provider will be processed uncoordinatedly within in the same transmission level of the network access, or the Access provider in his net-highness supports only his own service workflows quality-oriented.
- ▲ furthermore it has to be taken into consideration that packed switched network accesses in customer locations are made available only partly by active access components (xDSL modem, access router) of the connection providers. Active network crossing points in customer locations become regularly necessary if the subscriber net access is realised for packed switched systems by fibreglass (fibre) or cable networks. Whether the fibreglass access was accomplished by a fibre or colour (wavelength) plays first of all no role for connected customers. A binding liability for suppliers would be not only here relevant for competition, whether limited usable or technically limited IP network accesses for as a rule ignorant end users has to be classified
- ▲ by the to be expected NGN propagation it has to be taken into consideration that I doesn't make any differences in terms of available access possibilities or end users by which infrastructure basis the access is realised. Aspired port compatibility is only given if towards subscribers publicly available network accesses were un-ambiguously specified or the really supported protocol elements were published in a traceable way.

The exemplarily mentioned aspects are relevant for competition because in NGN environments primarily the account disposer towards the packet switching level as the

effective access provider will determine the basic flexibility and the potential of utilisation available in total and no more automatically the physical network carrier of the subscriber's access (local loop). However, extremely questionably becomes a constellation if the physical network carrier and the access provider pursue commercially identical interests and therefore for subscribers or end users concealed or subliminal restrictions of utilisation or preferred / preset service offers will not regulatory excluded or preventively displayed.

Independent service providers affect with their performance production always the network-highness of at least the access provider which charge with often similar offers. For the regulatory assured derivation and sustained promotion of the supplier's variety for end users consequent rules has to be arranged, that for subscriber in spite of a possibly preferential service activation immediately via the access provider the basically freedom of choice to all other service providers remains on a continuing basis. Should technological factors of influence be opposed of the claim in publicly provided NGN and IP network accesses, such aspects would be disclosed in the ideal case unsolicited. A contractual relativisation or technological concealed access restrictions lead stealthily to one-sided dependence which does not lie in the interest of the majority of TC users concerning alternatively usable rates or a limited activate able variety of performance.

At this point, it must be clearly highlighted that in a completely migrated NGN company, still no real equivalent for a Call-by-Call-or reselection option is recognizable and therefore this structurally introduced network carrier choice is practically dropped out.

Conclusion

With already existing IP infrastructures (cf. WEB-Access in the Internet) first of all bandwidth aspects are affected by the upcoming NGN-development but not transmission technologies. Viz a part of the future NGN possibilities can be realised already today by punctual available connection technologies (Hotspot or ADSL2 +). For the rapidly spreading VoIP use this has already happened with lasting effect; with all advantages and disadvantages of a creeping market penetration.

For the purposes of a fair coexistence free of discrimination of absolutely different business models and marketing approaches it should not be waited any loner with the measurements regulatory deemed as necessary. Whereas according interventions in terms of competition effects with all publicly offered IP subscriber accesses with star-shaped wired access networks or cabled-bounded bus topologies (TV-cable network) are to comprised as well as wireless infrastructures, e.g., WiMax, WLAN or with the classical mobile radio (GPRS, UMTS). Individual interventions in converging market action would only lead to further competition-critical subsidence slopes.

In view of legitimate interests of end users as well as their generally assigned task within competition, it is to provide that crucial company factors for every publicly provided network access, even in the network-comprehensive teamwork, remain recognizable at any time and become predominantly understandable and comparable. Specifications referring to this have not only to highlight really usable quality points of view but to correspond to certain revelation claims and should be provided from to be obliged suppliers always unsolicited:

- physical connection specification (neutral network access port?)

- defined protocol implementing at public network accesses (POP)
- protocol interpretation and transparency up to the gateways (POI) if applicable
- traceable transmission defaults for all independent network sections or guaranteed processing and operating conditions at any time

At this it is to be emphasised that in the future IP network responsibilities are to be considered as self-dependent and side by side emancipated; so a leading or established network topology will not exist any more. With it certain standardisation matters of course (ITU, ETSI) are omitted as they are known out of the classical circuit switching and were further-developed for decades or were accepted in general. From the definitions according to article 17 paragraph 4 of the framework directive in 2002 / 21 / the EC up to now no alternative applicable standardisation bases are deducible,

A naturally to be avoided "over regulation" should not be abused repeatedly as an excuse, to leave EU-wide or nationwide open for which graduated single aspects within the outlined NGN topic it has to be anticipated with a regulation (ex-ante or ex-post). An excessively delay with the European voting could in some national economies let facts occur which would hardly or only by much more serious regulation interventions to be changed.

A nationwide considered waiting on EU-wide recommendations invalidate on the one hand the dispensability of a European-wide TC-regulator, however, occurs by the normative strength of the actual one, e.g., a responsible and proactive revision of a universal service basis expected from user's view in the future within the original sense (minimum requirements) of the EU commission.

A written out regulation perspective with a very clear focal point on handed down, infrastructure-based perceptions will satisfy no participants. Just as few as a regulatory passive reservation up to objections of persons concerned towards an Incumbent or a market dominant oligopoly. That after 10 years of TC liberalisation to be ascertained imbalance with really available access bandwidths in and rural areas, as well as a real infrastructure competition there, the question for a regulatory correct focusing or for an adequate realisation has to be permitted. If in this coherence an insufficient instrument is pointed out an emphatically infrastructure promotion might not be to be held as an urgent regulation goal not even as a striking statement.

The current regulation status must in front of the background of a still innovative and rapid technology advance as well as dramatic changes on the supplier's site, not only as dissatisfactory, compared with innovative business ideas (business case) even be denoted as unacceptable.:

- ▲ market-dominating suppliers are left too long in the unclear under which conditions they have to make parts of their infrastructure, existing as well as partially developed or independently built up interconnection or connection options if necessary also available to other competitors.
- ▲ conditioned by an inconsistent remuneration regulation or a temporally too generous national conversion or irrefutable necessary regulation interventions (ex-post) are competition-discriminating developments no exceptional case; is it by avoiding of locally initiated infrastructure investments, e.g., for trade parks about specific retail minus activities in connection with "early" infrastructure efforts

or by Wholesale discounts in form of local marketing promotion.

- ▲ alternative suppliers cannot compensate the existing realisation projection with the best will and in spite of considerable financing means due to sustained route advantages from the monopoly age, in addition they have no clues of how the competitive environment in relation to the already physically independently opened customer's potential will be adjusted or in terms of further customer acquisition basis will be regulated.
- ▲ compared with new product approaches, e.g., VoIP as an factual substitution of the voice telephone service, but under completely different company prerequisites, it does not become clear, in spite of a considerable numbers of subscribers, whether this IP application or service is subjected to a regulation or not. If so, in which business management relevant forms or in which administrative or operational conditions for suppliers?