

27 November 2009

## **TDC submission:**

# **ERG DRAFT Common Position on Next Generation Networks Future Charging Mechanisms/Long Term Termination Issues Draft**

### **Summary:**

TDC believes the ERG draft Common Position (CP) provides an interesting assessment of the potential gains of shifting from the current regime for regulated termination services to a possible less regulated framework that better fits with the gradual introduction of NGN/all-IP networks. However, the CP still leaves a number of unanswered questions where TDC in addition to issues raised by other stakeholders in particular will focus on 1) boundaries and 2) the relation with the Internet peering/paid peering/transit regime.

Voluntary bilateral and commercial B&K agreements may be concluded any time but in case of a regulatory defined general introduction of B&K ERG will have to set up a well-defined regulatory framework to avoid regulatory conflicts notably regarding boundaries. ERG will also have to take into account that interconnection obligations of the revised Access Directive should be interpreted flexible in a way that allows counteracting of arbitrage.

TDC<sup>1</sup> will firstly emphasise that we welcome the attempt by ERG to describe in more specific terms how a future interconnection regime could be designed.

So far several studies and reports<sup>2</sup> have examined the possible consequences of the upcoming all-IP based networks (NGN) and the possible impact on the current system for handling switched Interconnection traffic, notably termination.

A general consensus in most of these studies seems to be that in theory there will be some gains by shifting from the current regulated EBC (ppm) regime for interconnection charges to a less<sup>3</sup> regulated 'B&K' wholesale regime.

So far the conclusions and recommendations have, however, remained at a very general level but undoubtedly the more detailed examination given in the ERG CP will allow a further clarification of the outstanding issues that can bring the issue forward and eventually lead to a change **once** the effects of the ongoing transition to 'pure LRIC' following the Commission Recommendation<sup>4</sup> have been implemented and assessed.

While TDC agrees with the CP that a theoretical level a wholesale interconnection regime based on B&K offers theoretical attractions the CP also demonstrates that a number of is-

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<sup>1</sup> [www.tdc.com](http://www.tdc.com)

<sup>2</sup> By ERG, by WIK and others

<sup>3</sup> 'Less regulated' in particular because the current LRIC price regulation of all termination markets will not be needed

<sup>4</sup> COMMISSION RECOMMENDATION on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU

sues call for further clarification. From among those we will in our submission only focus on the two we see as the most critical ones, i.e. the questions 3 and 11 in the CP<sup>5</sup>.

The ERG CP fails to deal sufficiently with two interrelated key questions in relation to a practical replacement of the current regulated EBC charging regime with one building on B&K:

- Q3: Definition of boundaries
- Q11: Interaction with the IP peering/transit/paid peering system

We refer for the remaining CP questions to the contributions from the trade associations where TDC is a member<sup>6</sup>. These submissions touch on most of the general problems with B&K, i.e. timing, the transition phase, applicability under the current legal regime, arbitrage opportunities, impact on low usage customers, impact for QoS etc.

### **Q3: Definition of boundaries**

The CP defines 'boundaries' as:

*The term "boundary" describes the locations or PoIs of the terminating network (in other words: the network level) from where BaK is applicable. **So the boundary is defined as the set of PoIs at which BaK only applies if an operator connects to all these PoIs, unless the terminating operator voluntarily also provides the possibility to connect at fewer PoIs.*** (CP p. 18)

However, this definition may not in practice be workable neither for existing PSTN arrangements that may co-exist with NGN in a transition phase and indeed not for future NGN/IP based interconnection and traffic termination.

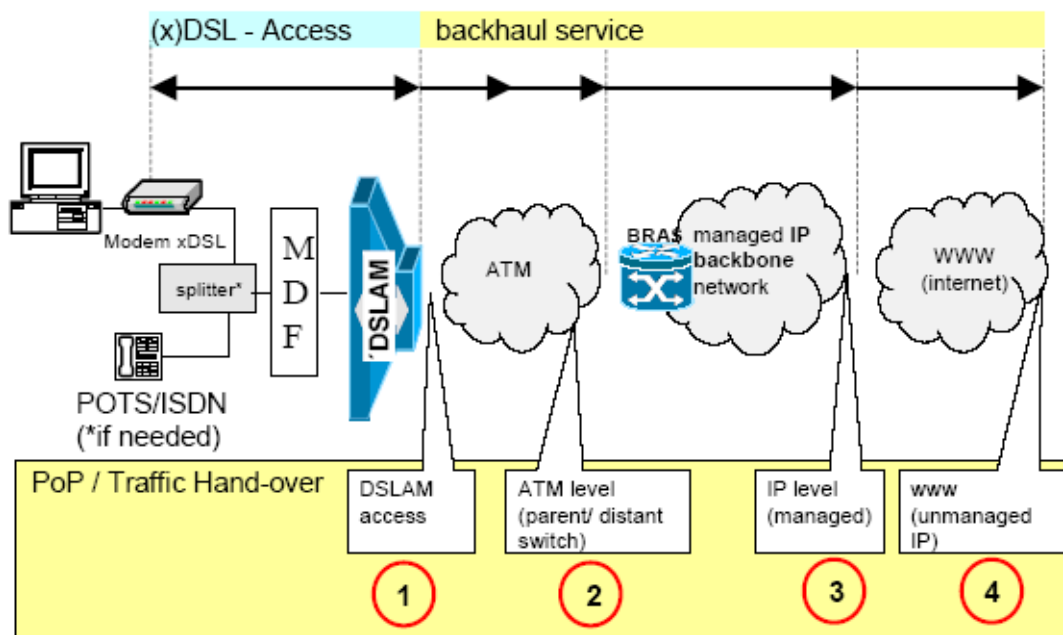
Due to differences in traffic volume and network structure there will inevitably be conflicting interests on how to define the 'set of PoI' – which will be essential for the functioning of the B&K regime.

In a full-fledged IP/NGN network as also noted by the CP some operators will prefer to interconnect if we push it to the extreme at only one PoI similar to PoP 4 in the ERG's model for BSA access (just with a reverse traffic flow):

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<sup>5</sup> Issues which TDC as well as other companies also raised at the public consultation 4 November

<sup>6</sup> We refer to contributions from CableEurope, ECTA and ETNO



This single entry point to the entire network will fulfil the criteria set by the CP because B&K obviously could be applicable and because the operator may claim to have interconnected at *'all these PoIs'*. In this case the terminating operator will have to provide a termination service which in practice includes a comprehensive transport service as well.

However, such an arrangement could only make sense in case of a symmetrical exchange of traffic and similar networks structure in which case it corresponds to a peering arrangement.

In contrast the terminating operator will prefer that the sender covers his own transport costs and thus interconnect at the lowest level, i.e. at the last point of routing capabilities similarly to the local level of the classic PSTN interconnection hierarchy cf. remote concentrator/MSAN in the OFCOM model for call termination (cf. the figure in Annex below)

The same applies for the 'three layers' PSTN world (local, 'tandem', 'double tandem') where interconnection by the sender could be requested to take place at the top of the switching hierarchy again because B&K can be applied at this point and because the sender can claim in accordance with the proposed ERG definition that he has interconnected to 'all these points'. Also here the terminating operator will prefer PoI at the lowest local switch level.

## Conclusion

Thus ERG will have to consider two important points for clarification of 'boundaries';

1. Will regulatory intervention be necessary to define the boundaries?
2. How should a framework for identification of boundaries be defined to ensure the optimal distribution of transport costs and to avoid distortive effects ('hot potato' etc)?

The underlying question is what constitutes the 'right' level for PoI. In this respect it may be helpful to recall that the CP insists that B&K only applies to termination *stricto sensu*. This understanding is in line with the original 'CoBAK model' described by DeGraba<sup>7</sup>, i.e. B&K should be applied from the lowest level: be it an MSAN, a local switch or a distribution point. In essence it is the level of the termination bottleneck as also described by the CP:

*The so called problem of hot potato routing does not exist as long as the application of BaK is limited to termination at a specified boundary and does not extend to transit services*

Ideally the definition of PoI and 'boundaries' should be left to commercial negotiations but it seems unlikely that this will be workable as the conflicting interests need to be sorted out from the outset.

Options for voluntary and non-discriminatory arrangements will of course exist but if B&K should ever be successfully introduced as a general regime for call termination services it requires a well described framework. The operational conditions such as definition of boundaries will have to be specified to a degree that does not allow an endless number of conflicts to arise and that makes arbitrage and similar opportunities for exploitation as unattractive as possible.

Furthermore: Following the logic of the B&K concept as described in the CP the appropriate level where 'boundaries' ex-ante should be defined thus appears to be at the lowest level to ensure that transport costs are efficiently allocated and that conflicts are avoided.

### **Q11: Interaction with the current IP peering/paid peering/transit system**

To provide a viable case for a possible future B&K regime the CP also needs to consider in more depth the interaction with the current Internet world of peering/paid peering/transit agreements.

One reason is because the CP's approach to B&K seems to rely on the existing switching hierarchy for voice traffic whereas convergent traffic streams in an all-IP environment may make the identification of a particular terminations service less meaningful. In the medium term it will be difficult to sustain a distinction between a voice part and an Internet/TV part of the telecommunication services, all using the IP protocol. Already today many products from the telecom sector include triple play, based on IP.

In this respect the CP in line with the prevalent assumptions observes that today the charging system of peering and transit in the global Internet world relies on various commercial

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<sup>7</sup> Bill and Keep at the Central Office As the Efficient Interconnection Regime, deGraba, FCC, 2000

agreements and will continue to do so even if a mandatory B&K is introduced for the final terminating segment:

*Considering the migration to all IP-networks it seems plausible to apply the charging mechanism of IP networks (that are not phased out as PSTN networks will over time) because a change of charging mechanism cannot necessarily be expected for the unregulated part of IP-networks applying BaK, Peering and Transit. (CP p. 51)*

At the same time the CP recalls that two preconditions should be in place for B&K to work properly:

*It is further outlined there (page 23/24) that BaK for the last segment of termination of the broadband access provider requires no regulatory intervention as long as two conditions are fulfilled: 1) The transit market on IP-backbones is sufficiently competitive to exert competitive pressures on IP-backbone providers. With an oligopoly of Tier 1 providers allowing choice of transit provider this condition has so far been considered to be fulfilled. 2) The broadband access market is sufficiently competitive so that access providers are under competitive pressures to be prevented from establishing abusive mark-ups on retail prices (CP note 34)*

Although these statements can be well understood within the present set-up with an unregulated Internet world and a regulated telecommunication world, it seems to be necessary to analyse the interaction between these two systems in more depth. The point is the following:

For the Internet world peering agreements have been the prevailing form for many years between 'peers', i.e. networks/operators that have similar geographic coverage, number of subscribers etc. At the same time, however, many arrangements of interconnection have developed as 'paid peering' and 'transit agreements' between networks/operators, where one of the two parts make payments to the other, but no payment the other way.

If a BaK system is introduced as a general rule for a whole region (EU) it is assumed that no payment take place for interchange of traffic between networks with no 3rd transit party involved. But if that should be the case, paid peering and the general form of transit agreements should by and large not continue.

So if the CP only assumes a payment for pure transit services, when for example traffic has to be transported between two areas far from each other then the general form of transit agreements where a smaller network/operator pay a bigger one to take care of the connection to the rest of the Internet world should not survive in a general BaK regime. And as triple play, based on the IP protocol, as mentioned, probably will be the most common service, it does not make sense to make a distinction between interconnect agreements for voice on the one hand compared with interconnection agreements for Internet traffic and TV on the other hand.

## **Conclusion**

The conclusion of this is therefore, that ERG should describe as a goal on the long term a full comprehensive regime for interconnection, covering both voice, Internet and TV. This description of the long term goal might be based either on a full BaK regime (and therefore with

no paid peering and transit agreements as they exist today) or on some kind of termination payments for two-access between networks and with special kind of payments for pure transit services (pure transit means offering a link between networks far away from each other).

### Annex:

Figure 7.2 Call termination on BT's current network and 21CN

