



Digicel

Digicel Response to the Consultation on
Cost Model for Fixed Termination Rates – Draft Model

10th August 2016



We thank you for providing this opportunity for Digicel to share its views on the Draft Cost Model for Fixed Termination Rates. Digicel is of course available, and would be happy, to discuss our submission further.

The comments as provided herein are not exhaustive and Digicel's decision not to respond to any particular issue(s) raised in the draft Regulations or any particular issue(s) raised by any party relating to the subject matter generally does not necessarily represent agreement, in whole or in part nor does any position taken by Digicel in this document represent a waiver or concession of any sort of Digicel's rights in any way. Digicel expressly reserves all its rights in this matter generally.

Please do not hesitate to refer any questions or remarks that may arise as a result of these comments by Digicel to: -

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Introduction

In general in jurisdictions where both fixed and mobile termination services have been cost modelled Fixed Termination Rates (FTRs) are a fraction of Mobile Termination Rates (MTRs). A situation has arisen in the Jamaica whereby the level of FTRs is multiples of MTRs. This is notwithstanding the fact that Section 30(1)(a)(iii) of the Telecommunications Act applies equally to both Fixed and Mobile operators.

This anomaly gifts windfall profits to the dominant incumbent fixed operator. It allows them to use these excess profits, derived in large part from payments from Digicel and its mobile customers, to cross-subsidise retail fixed market pricing in both the consumer and enterprise segments. This in turn creates a barrier to entry for Digicel into what is, following the recent Flow/Lime merger an effective monopoly market for fixed services.

Digicel has concerns that the proposed draft model will yield estimates for FTRs which are still above the correct levels. However even with these flaws the model should result in FTR levels which are lower than the existing rates and as such are less of a distortion on the market.

On this basis we urge that the OUR proceeds with the utmost speed in determining a level of FTR based on the current model as an interim measure. Once this is done and based on the changes in the market following the Lime/Flow merger and the attitude of the merged entity to the pre-merger commitments it had given we believe that there is justification for a second wave of consultation to refine the model. This should be commenced once the current model is stable and before the output interim FTR price is determined.

To delay the setting of an interim FTR in order to improve the model would grant the incumbent an extension of the regulatory holiday which it currently enjoys.

Almost 12 months have passed between the determination of the modelling principles¹ and this consultation. The market cannot afford a similar timespan to the actual determination of a rate.

In this context in our response to the consultation questions we have made observations on the current proposed model which we believe will improve its accuracy without requiring substantive restructuring.

¹ OUR document 2015/TEL/006/DET.002



This is without prejudice to our view, set out above, that the model structure will not yield the best estimate for FTRs which are in accordance with the required cost standard set out in legislation.



Response to Consultation Questions

Question 1: Do you agree that the demand presented above reasonably represents the Jamaican fixed market? Please explain your views.

Response

Digicel believes that the projections for non-voice services are an underestimate. This underestimate will favour the incumbent as it will increase the “increment” attributable to Fixed Termination.

Cisco² estimates that there will be a 21% Compound Average Rate of Growth in internet traffic between 2015 and 2020. In areas with current low levels of penetration such as Africa it is predicted to be in excess of 40% as there will be a compounding effect from both the underlying throughput increases and network demand increases due to increases in uptake levels. Given Jamaica’s relatively low current levels of fixed broadband uptake. This compounding can be expected to be a feature of volume throughput increases in the Jamaican market.

Using the 2015 broadband figure in Table 2 of 19.9 Gbps as a baseline and applying a conservative CAGR of 20% the 2020 estimate for throughput is 49.7Gbps or almost 15% higher than the estimate used in Table 2.

Under separate cover Digicel will provide to the Office confidential information regarding the non-voice peak load for its fixed Broadband service.

Further Table 2 shows a decline in the peak network load attributable to leased lines. Digicel believes that this is incorrect. Enterprise use of both dedicated and virtual private networks is increasing. This coupled with the need for fibre connections to high usage mobile LTE cell sites means that this is almost certainly an underestimate of the required network capacity for non-voice services. Digicel is available to explore this issue in more detail with the Office.

Following the merger between Lime and Flow it is probably that the core network connectivity of the two will be merged meaning that the combined core will also be used for the distribution of TV. This may not be a short term issues and would not affect cost modelling for the next 1-2 years but is one of the areas why the model must be revisited within the next 12 months.

² <http://www.cisco.com/c/dam/en/us/solutions/collateral/service-provider/visual-networking-index-vni/complete-white-paper-c11-481360.pdf>



Question 2: Do you agree that the migration percentage above and the final number of nodes are reasonable and accurately represent the foreseeable future of Jamaican market? Please explain your views.

Response

Digicel has a concern regarding the transparency of the consultation. It seems that FLOW has no issues with confidentiality regarding the future topology of its network as its projected volumes of NGN nodes in 2020 have been provided. As this represents a forward view of its network and investment plans then it must have reached a view that indicating the volume of node types provides no competitive information to potential competitors. By the same logic giving a view of the current volume of node types would give no competitive information. In fact if there were to be no increase in the number of NGN nodes over legacy nodes then based on the migration phasing it would be possible to calculate the current levels of legacy nodes.

There is a reasonable inference to be drawn that the redaction of the current volumes of legacy nodes has the purpose of making it impossible for respondents other than FLOW to form a view as to whether the projected level of NGN nodes is reasonable.

Digicel notes that definition of Geotypes would indicate that the number of lines connected to Rural Geotype nodes will be less than 20% of the overall volume of lines. In addition it is Digicel's view that the penetration levels in Rural Spread nodes will be lower than Urban or Suburban nodes. This means that the proportion of lines connected to the Rural Geotypes and hence the volume of traffic terminating should be a small percentage of the overall and therefore should not be a material influence on the FTR. As a calibration of the model Digicel therefore believes that the model's sensitivity to the volume of Rural nodes should be tested and if a high sensitivity is detected it is indicative that there are structural issues with the model.

As the geotypes with the largest volume of connected lines are shown to be migrated by 2017 the majority of the impact of the migration to NGN should be embedded in the modelled FTR from that date.

On page 21 of the model description Axon state that the reason for the increase in the number of nodes is "... to shorten the loop and get better quality of service." Shorter loop lengths increase access speeds on DSL networks, this is an additional driver for considering that the peak throughput forecasts for non voice services in Table 2 of the consultation are under estimates. Digicel notes that shorter loop lengths also result in lower fault indices. The increase in the number of nodes should therefore result in lower Opex. The deployment of more modern equipment should also result in a lower fault index. Similarly the migration to NGN nodes means that the supervision, management and maintenance of the voice element of the network is no longer done on a standalone basis. This will also reduce Opex. The fact that much of the node functionality is shared across services means that faults affect multiple services and that the Opex



cost of repair is similarly shared. In fact in an incremental cost model the increment for the repair of the voice element is zero as the cost will have been necessarily incurred by the other services.

Digicel notes that while geotypes are a useful categorisation for estimating access network costs they are not as relevant for costings that exclude the access layer of the network. The most direct and relevant metric is number of active lines. This is because the number of active lines will depend not just on the population density but on the uptake/penetration levels. For example a low density but affluent area may have higher penetration (especially of broadband services) than higher density but less affluent areas. This is another area where the model would bear further refinement on review.



Question 3: Do you agree that the average distance extracted from the geographical analysis performed, reasonably represents the prevailing average length of the backhaul network in the geography of Jamaica? Please explain your views.

Response

Digicel is not in a position to comment meaningfully on this aspect of the consultation. However we can make a number of general observations.

If the distances for the “legacy” topology have been calibrated against actuals then this would be reasonable.

We note that the NGN link distances for the Rural Geotypes are the same as the legacy distances. This seems reasonable as there is less scope to add node locations in the access network of more distributed populations. This also indicates that the number of NGN nodes in these Geotypes will be roughly the same as the number of legacy nodes.

There are significant reductions in the link lengths for the Urban Dense and Suburban Geotypes indicating that the additional NGN nodes will be deployed in these areas. The increase in node volumes in the denser Geotypes also indicates that the NGN node sizes tend towards a more limited range of equipment types. A smaller variety of equipment types should yield cost efficiencies in spares stocks and in the flexibility of labour force as specialisms to deal with limited volumes of larger, less common node types are no longer needed.

While the link lengths may have decreased Digicel believes that these links will in general still follow the same routes as the legacy topology (particularly in urban areas). As such there should be no cost increase in the physical transmission layer.

The reduction in internodal distance must be matched by reduction in the access loop lengths. A reduction in internodal distance from 4.88 km to 1.43 km indicates that in some cases the access loop length could reduce by 3.5km. A reduction in copper loop length from 5km to 1.5km would increase ADSL2+ speeds from 2Mbit/s to nearly 20Mbit/s³. This is further indication that the non-voice forecast in Table 2 of the consultation is seriously understated.

³ <http://www.increasebroadbandspeed.co.uk/2012/graph-ADSL-speed-versus-distance>



**Question 4: Do you agree that the resources obtained are reasonable to satisfy the demand?
Please explain your views.**

Response

Digicel does not have sufficient information to comment meaningfully on this issue. However we note that based on a total projected installed base of some 500 NGN nodes in 2020 (from Table 4) the volumes set out in Table 7 are unsurprising.



Question 5: Do you agree that the unitary costs used for the resources are accurate for telecommunication operations in Jamaica? Please explain your views

Response

Digicel is still in the process of reviewing these cost inputs and are not be in a position to provide feedback at this time. We will be available to discuss our views with the Office from early September.



Question 6: Do you agree that the cost trends are reasonable? Please explain your views.

Response

Digicel notes that only a trend between 2013 and 2014 has been provided. Given the timing of the consultation we believe that the use of additional data points would give a more robust trend estimate especially as the model proposes to project forward until 2020.



Question 7: Do you agree that the cost structure shown above is reasonable for an operator with the demand presented in Table 1 and in Table 2? Please explain your views.

Response

Digicel does not agree that the trends for the cost structure are reasonable. The trends show an increase in the longer term of the Network Opex cost. Shorter loop lengths due to NGN, improved equipment reliability, improved network management capability and straightforward operational efficiency improvements over time should all improve operational performance and reduce costs.

Even though there will be more NGN nodes the energy efficiency of these should be much higher than the legacy nodes they replace driving even more Opex savings.

It isn't clear what is included in the category "NGN switching equipment". However the depreciation levels for the combined legacy and NGN switching category are higher in every year after 2014 than the initial combination in 2013. This peaks in 2017 at 5.5% compared to 4.4% in 2013. Given the IP nature of an NGN core Digicel believes that the depreciation attribution to voice switching should be declining over time. In this regard we note that the depreciation attributed to "Core equipment and platforms" does decline over time.



Question 8: Do you agree with the routing factors used? Please explain your views.

Response

In the absence of knowledge of the details of the modelled network it is not possible for Digicel to make an informed view regarding the exact levels of the proposed routing factors. We do have specific concerns regarding the spread of routing factors for the CSCF categories. Without detailed knowledge of the internal network handling of these calls it is not possible to form a view on whether these are reasonable or efficient.

In general the categories appear to be appropriate but we would make the following observations.

The fixed incumbent is also a mobile network operator and Digicel believes that many of the facilities such as sites, towers and generators will be shared between its fixed and mobile businesses. In this regard the costs associated with these in respect of its fixed operation must be rerated by applying a routing factor of less than 1 to shared facilities. It is not clear from the model that this is the case.

It is Digicel's view that a routing factor should not be applied to power. In an incremental model what is relevant is whether when one removes the service increment there is a change in the required equipment. So for a given Node does the node size change if the traffic associated with fixed termination is removed. If the node size decreases then the cost increment is the difference between the cost of the larger and smaller nodes, including the cost of ancillary services such as power and air conditioning. If the node size does not change there is no incremental cost. An approach of applying a routing factor will in all cases give rise to an incremental cost and overstate the cost of the Fixed Termination Service.

The routing factors applied to non-voice services appear to be "stuffed" values and it is not possible to comment on them meaningfully.

We would note that a number of the categories refer to the number of microwave hops or towers. The "stuffed" values appear to bear no relationship to the values in Table 7 of the consultation document.



Question 9: Do you agree that the services' unit costs obtained are reasonable? Please explain your views.

Response

While the costs appear to be within a reasonable range from an order of magnitude perspective relative to the Mobile termination rates Digicel has concerns that the trends indicate that the longitudinal aspects of the modelling exercise are flawed. In an all IP network (which this will be by 2020) with declining call volumes and very significant increases in network load to non-voice services one would expect the incremental cost of fixed termination to decline over time. Instead the model is yielding cost increases from 2018 onwards. This unexpected result indicates flaws within the model and reinforces Digicel's earlier call for a review of the model much sooner than the 5 year price setting horizon.

A number of the services show steady increases in cost over the entire modelling period. It is difficult to conceive that in an evolving network design during the migration to NGN a solution would be put in place which is more expensive than the current one.

These counterintuitive outcomes require further examination. However this should be done with an initial price setting so as to avoid giving the incumbent a regulatory holiday on Fixed termination rates due to any delay caused by the review.

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