DETERMINATION OF VOICE INTERCONNECTION RATES

ISSUED BY

NIGERIAN COMMUNICATIONS COMMISSION

20th March 2013

VOICE INTERCONNECTION RATE DETERMINATION BY THE NIGERIAN COMMUNICATIONS COMMISSION

INTRODUCTION

1. Interconnection is critical to the proper functioning of a competitive communications market. This is recognised in the Nigerian Communications Act 2003 (The Act), which requires network facilities providers and network service providers to provide other licensees with interconnection on request at any technically feasible location.

2. The current regime of interconnection rate regulation was implemented through the Commission's Interconnection Rate Determination issued on 21 December 2009. Since then, the Nigerian Communications Market has seen tremendous growth in both, subscriber numbers as well as traffic volumes and available technologies (e.g. 3G).

3. Due to these developments the Commission decided to review the rates set in its 2009 Determination in the light of current information including technological changes as well as market evolution.

4. The scale of changes noted above inevitably lead to changes in the unit cost of providing services including interconnection and may give rise to differences between regulated interconnection rates and underlying costs which in turn may result in differences between on-net and off-net retail tariffs which are not cost reflective. Such differences may be used by larger operators strategically to limit switching to smaller networks.

5. The Commission has retained PricewaterhouseCoopers (PwC) to undertake in-depth cost studies of the voice interconnection rates.

LEGAL BASIS FOR THIS DETERMINATION

BACKGROUND

6. The Commission's functions and duties are set out i**n** the Nigerian Communications Act 2003 (the "Act"). Section 4 of the Act lists the Commission's functions, which include the facilitation of investments in and entry into the Nigerian market for the provision and supply of communications services, equipment and facilities (section 4(a)), the protection and promotion of the interests of consumers against unfair practices including but not limited to matters relating to tariffs and charges and the availability and quality of communications services, equipment and facilities (section 4(b)), and the promotion of fair competition in the communications industry and protection of communications services and facilities providers from the misuse of market power or anti-competitive and unfair practices by other service or facilities providers (section 4(d)).

7. The Commission also has general responsibility for the economic and technical regulation of the communications industry (section 4(w)).

8. Section 4(2) of the Act requires the Commission to carry out its functions, meet its duties, and exercise its powers efficiently, effectively and in a non-discriminatory and transparent manner and in a way that is best calculated to ensure that throughout Nigeria, subject to the regulatory controls set out in the Act, all forms of communications services, facilities and equipment are provided on such terms and subject to such conditions specified by the Commission from time to time.

9. Network services providers and network facilities providers are required by section 96 of the Act to provide other licensed operators with interconnection to their communications systems on request at any technically feasible location. Agreements for interconnection must according to section 97(1)(a) comply with the Act, the regulations and any guidelines published intermittently. Although the terms and conditions of interconnection agreements are primarily to be those agreed on by the parties, section 97(2) of the Act empowers the Commission to intervene on its own initiative or at the request of one or both negotiating parties where the Commission considers that an agreement or individual provisions of the agreement are inconsistent with the provisions of the Act or subsidiary legislation, where agreement cannot be reached, where there is a delay in reaching agreement, or if the Commission considers that it is in the public interest to do so.

10. Section 97(2) of the Act therefore provides significant discretion for the Commission to intervene in interconnection negotiations and in concluded agreements. Further, section 98(3) of the Act provides that the Commission can, following consideration of the terms and conditions and charges set out in an agreement; require that the parties revise the agreement if it is not consistent with the Act, the regulations, or interconnection guidelines.

11. The National Telecommunications Policy also empowers the Commission to publish clear and appropriate studies and standards for any cost analysis required to support the development of equitable interconnection charges. Rate setting methodologies can also be included in any regulations made by the Commission under section 99 of the Act.

12. The Interconnection Regulations 2006 oblige the Commission to encourage and secure adequate interconnection and interoperability of services and to carry out its functions in a way that promotes efficiency, sustainable competition and gives the maximum benefit to users (para 2). The Interconnection Regulations 2006 further envisage interconnection charges determined by the Commission (para 6).

BASIS FOR SETTING BINDING RULES

13. Voice and data interconnection underpins the provision of a wide range of services to consumers and is essential in order to ensure the development of “modern, universal, efficient, reliable, affordable and easily accessible communications services” in Nigeria. This is one of the objectives of the Act itself and is reflected in the Commission’s functions, which are described in paragraph 2 of this section of the determination.

14. In line with economic efficiency principles and international best practice interconnection rates should be based on the economic costs of providing the services in question. Cost based interconnection rates were determined in Nigeria in 2006 and 2009 and have now been updated in the light of technological and market developments.

15. For the reasons summarised above, the Commission believes that it is in the public interest to intervene at its own instance to determine voice interconnection rates to be applied by all fixed and mobile operators, both in concluded agreements and when negotiating interconnection. In reliance on section 97(2)(c) of the Act, the Commission makes this Determination.

PROCESS ADOPTED

16. In June 2012, the Commission appointed PricewaterhouseCoopers LLP (www.pwc.co.uk) to undertake a cost study for voice interconnection.

17. In line with its commitment to a policy of openness, transparency, fairness, and participatory regulation, the Commission informed stakeholders in July 2012 of its engagement of PWC to advise on the review of interconnection rates for mobile and fixed telephony services.

18. Furthermore, a general stakeholder meeting took place on the 18th July, 2012. At this meeting with the operators the Commission explained the rationale for the appointment of PwC, the work that would be undertaken by PwC, and the level of cooperation required from operators. Additional meetings were held during the course of the week with some of the operators. In the course of these meetings, PwC met with operators representing different license groups to explain the consultancy, discuss issues of voice and data interconnection, and to obtain the required information and documentation. Appendix A provides an overview of a range of issues related to the interconnection framework which were discussed between the Commission, PwC, and industry stakeholders in a workshop on 18 July 2012.

19. Following these meetings, PwC provided the Commission with recommendations related to the regulation of voice interconnection.

20. For the voice interconnection cost modelling the recommendations can be summarised as follows:

Topic	Recommendation
Cost modelling approach	Hybrid costing model; Modelled network is based on a scorched node approach; Modelled network takes the actual and planned coverage of a typical operator and the specific factors of Nigeria into account; Calculation of cost of efficient service provision
Cost modelling concept	LRIC plus mark-up for joint and common costs; Allocation of common costs by using an equi-proportionate mark-up; Retail costs are excluded from interconnection rates
Cost basis	Forward-looking costs; The model reflects the year 2011 and three future years.
Depreciation	Tilted annuity is used as depreciation methodology
Cost of capital	Estimation of the current Cost of Capital based on CAPM model and current market information.
Quality of Service	Model reflects the targeted quality of service

21. Applying these principles, PwC then built a model for GSM/3G network for a representative operator in the Nigerian market. The underlying methodology of the model is based on the dimensioning of the network based on traffic demand and network design parameters having regard to the Nigerian operating environment.

22. After the stakeholder meeting, where the consultant briefed the operators on the scope of the assignment, a harmonised questionnaire to gather information and views of operators was sent:

- MTN Nigeria Communications Limited (MTN)
- Glo Mobile Limited (Glo)
- Airtel Networks Limited (Airtel)
- Emerging Market Telecommunication Service Limited (Etisalat Nigeria)
- Multilinks Telecommunications Limited (Multilinks)
- Starcomms Nigeria limited (Starcomms)
- Visafone Communications Limited (Visafone)

23. These written requests were followed up with telephone and email discussions to elaborate and explain the nature of the data.

24. In response to the Commission's requests, Data was received from the following operators: MTN, Glo, Airtel, Etisalat, and Visafone.

25. In September and October 2012, the consultants reviewed and analysed the data received from the operators. These reviews revealed certain gaps and other issues with some of the data that was submitted by the operators.

26. Between the 30th of October and the 1st of November 2012 PwC met with Etisalat Nigeria, Airtel, Visafone, MTN Nigeria and Glo in order to reconcile identified inconsistencies in data provided and to obtain additional information to address gaps in data provided. Based on this updated information, additional benchmark values for equipment prices and external analyst forecasts the set of input variables for the model (GSM/3G) was defined and the cost model was populated.

27. On February 1st, 2013, the Commission held a consultative meeting with operators and other stakeholders. The consultants' recommendations were discussed and the majority of the operators found these recommendations acceptable. In addition operators were provided with the electronic version of the voice interconnection model. This model version only contained the input data that was used to model the generic operator and all operator specific and confidential data was withheld.

28. Operators were invited to study the model and provide comments to the Commission by 15 February, 2013.

CONSIDERATION OF SUBMISSIONS MADE BY OPERATORS

29. The purpose of this section is to provide an overview of the comments received as well as the responses of the Commission to these comments. Comments not directly relevant to voice interconnection have not been included in this determination.

30. The comments received have been summarised and grouped by subject area. The names of the operators making the individual comments have not been included.

Comments on the Regulation of Voice Termination

Comments on Asymmetry

31. Asymmetry of interconnection rates (whereby different operators are entitled to charge different interconnection rates) was a recurring theme in the comments from many operators who submitted responses during the consultation process. However, their views on asymmetry were different.

32. Some operators argued that smaller operators have a significantly different and higher unit cost structure as a result of their size when compared to larger established operators and that the asymmetric regime should therefore be re-established.

33. One operator stated that there should be an asymmetric regime to be applied to dominant operators as their size should translate into differences in interconnection costs compared to other operators.

34. One operator argued that interconnection regulation should be implemented only in response to a specific market failure.

35. Other operators argued that asymmetry was meant to be a temporary measure and that the 2009 determination established all asymmetries were to expire by the 31st of December 2012.

Response:

36. While it is true that there are significant differences in the sizes and traffic volumes between different operators in Nigeria, it is the case that there are also significant differences in the areas that operators cover. The principle driver of the unit cost of traffic services is traffic density rather than total traffic. For example it is probable that a smaller operator which carries more traffic per square km than a larger operator will enjoy a lower unit costs.

37. Furthermore, some operators have the same amounts of spectrum allocated in the same bands, using the same technologies and have the same rollout obligations. Therefore, even though they might not all have similar sizes, there are no differences in their conditions which would translate into systematically higher cost.

38. When a single interconnection rate is set, the information from a heterogeneous group of operators is taken in order to derive the interconnection cost of the representative operator. By definition the resulting network does not perfectly resemble any of the existing operators in the country.

39. With regards to the issue of dominance, Mobile Termination has generally been determined to be a relevant market in telecommunications and one in which each operator has a monopoly. Therefore, other things being equal, all operators have an incentive to set termination rates at monopoly levels regardless of their size. The way in which this issue has been traditionally addressed has been through cost-based regulated interconnection rates as is the case in Nigeria. Whether there is dominance in other relevant markets and the remedies that are to be implemented is not part of this study and determination.

40. In its 2009 determination the NCC stated that "The Commission further determines that after 31st December 2012, all termination rates shall henceforth be symmetric". Nonetheless, the 2009 determination also stated that "This Determination shall take effect from 31st December, 2009 and remain valid and binding on Licensees for the services specified in paragraphs 1(a) to (e) of this Section, until further reviewed by the Commission." Thus, the Commission recognised that a further review would be performed and subject to the findings of such a review retains the rights to issue a new Interconnection Determination, setting out new rules and determinations related to interconnection including rates, including the option of extending the application of asymmetry and the specification of which operators should be eligible for asymmetric rates.

Comments regarding the calculation of the WACC

41. Some operators argued that the effect of the weakening currency had not been taken into account in the calculation of the WACC and that this was bound to have a significant effect on the costs of the operators.

42. Another operator argued that there were significant differences in the inflation rates that were used for the calculation of the WACC and that these could have a significant effect on interconnection rates going forward.

Additional comments were made in relation to some of the parameters that were used in the calculation of the WACC. These included the use of information from other jurisdictions to estimate the value of the parameters when Nigeria-based information was available and the capital mix ratios used and their impact on other parameters.

Response

43. The statement that the effect of devaluation has not been taken into account is incorrect. The calculation of the Cost of Capital (WACC) was based on several foreign currency rates such as the yield of the US treasury bonds. In order to arrive at a rate in nominal Nigerian Naira an adjustment has to be made to account for long term devaluation. This is given by the difference between the long term Nigerian inflation and the long term US inflation. Therefore, the effect of devaluation is indeed taken into account in the calculation of the Cost of Capital.

44. In addition to this, inflation has been applied in the calculation of the WACC in order to have an estimation of forecast devaluation, which is required to convert rates in USD to rates in Naira. This however does not preclude adjustments in the actual interconnection rates being made using actual inflation in the future.

45. It is also incorrect to assume that preference should be given to local data when available over internationally observable data. For instance, one of the assumptions of the CAPM model is that assets are traded in an efficient market where non-systematic risk can be fully diversified. This is rarely the case in capital markets in developing markets. For this reason, even though local data might be available, information from foreign markets is used and adjusted to bring it into the Nigerian context. There are also issues of liquidity and duration of the assets being used to estimate the parameters which mean that local information might not be usable. For this reason, even though local data might be available, information from foreign markets is used and adjusted to bring it into the Nigerian context.

46. The information collected to estimate the D/E ratio and beta is that of companies that operate in developing countries where infrastructure is being rolled out. For instance, the sample includes companies such as Millicom International (Tigo), MTN and Bharti Airtel, all of which have focused their operations in developing countries.

Comments on the assumptions of the operating conditions and required investments

47. One operator commented that the model did not take into account the investments that are required in order to provide the required quality of service including investments in future capacity reflecting the operating conditions in the Nigeria, for example, the requirements for independent power sources at the sites.

Response

48. The network that was dimensioned not only takes into account demand parameters but also target Quality of Service (QoS) indicators. The model that was provided to operators includes the QoS parameters including a Grade of Service (Blocking probability) of 2%. Therefore, the dimensioned network can convey the dimensioned demand at the specified level of QoS. It is worth mentioning that the information that has been gathered would seem to indicate that few, if any, operators currently meet this grade of service.

49. Furthermore, the network is dimensioned in such a way that this quality of service can be achieved while new capacity is being built to cope with the increased demand. It is therefore not correct to conclude that there was no consideration to the need for future investments in future capacity.

50. The assertion that the model does not take into account the investments required to cope with the forecast demand for 2013 and beyond is also inaccurate. The model is specifically specified to identify the investment and operating cost requirements for a network conveying forecast traffic loads at a specified QoS standard. Therefore, even for the last year of the forecast, the resulting network that gives the interconnection cost for this year is capable of conveying the dimensioned demand at the established level of Quality of Service.

51. Finally, the assumptions that were used in the model were based on the information that was collected from the Nigerian operators and this includes network layout including power sources at sites. Even though the model assumptions may not precisely coincide to those of a specific operator it is representative of the data obtained from operators as a whole.

Comments on the effects of bad interconnection debt on the cost estimation

52. Some operators raised the issue of the existing bad interconnection debt and the possible effects that this should have on the calculation of the interconnection rate. It is argued that bad interconnection debt has a capital cost and should therefore be included.

Response

53. The issues relating to bad interconnection debt, should be resolved through enforcement of existing regulations and facilitation of dispute resolution by the NCC, not by making adjustments to the interconnection rates.

Comments on data assumptions

54. One operator requested to know where assumptions were used when there was insufficient data in order to assess the possible impact of these assumptions on the overall results.

Response

55. Although there were some gaps in the data collected from operators, in most cases the information that was collected from other operators was sufficient to cover these gaps. In the very few instances where this was not possible, the assumptions that were used were based on PwC's experience in building these models across the world, including in sub-Saharan Africa.

56. All assumptions are included in the model which was provided to operators. The model provided is fully operational and operators are free to change any input or assumption data to observe the impact on modelled interconnection costs.

Comment on impact assessment of the 2009 interconnection determination

57. One of the operators argued that there has not been a complete assessment of the effects of the 2009 interconnection determination and that one should be carried out before issuing a new interconnection determination.

Response

58. The main purpose of carrying out an update of the interconnection rates is to reflect the changes that have taken place in the telecommunications sector in the country and their effect on the cost of interconnection. As such, the need to update the interconnection rates is not based on the impact or lack thereof of the previous interconnection rates but rather the need to ensure that rates remain cost based and reflect the conditions of interconnection in the country.

Comments regarding economies of scale of large international brands

59. One operator argued that it does not enjoy the same purchasing economies of scale of other international operators present in Nigeria when it comes to buying equipment from vendors.

Response

60. The cost base that has been used for the determination of the interconnection rate has been based on information provided by all operators. Furthermore, all operators received a fully functioning copy of the model, including the cost information that was used and could therefore compare the costs that were used to its own and highlight the ones where these differ significantly and provide the necessary evidence.

Conclusions

61. The Commission would like to thank all operators who have submitted information relating to the regulation of interconnection rates and the costing models.

62. The Commission has carefully considered the information provided by stakeholders and has taken a view on parameters and regulatory measures in the light of this and other information – such as international experience and publicly available information. The process of arriving at a new regulatory regime for the interconnection of operators and for retail pricing in Nigeria has been conducted in a climate of openness and with a view to providing maximum transparency to all parties without compromising the confidentiality of commercially sensitive information.

63. The Commission is confident that the results will make a significant contribution to the development of a thriving telecoms sector in Nigeria and hence benefit both consumers and the industry.

DETERMINATION

1. The Commission hereby determines that:

   a) The Termination Rates for voice services provided by New Entrants and Small Operators in Nigeria irrespective of the originating network shall be:

      i. N6.40 (Six Naira Forty Kobo) from 1st April, 2013;

      ii. N5.20 (Five Naira Twenty Kobo) from 1st April, 2014; and

      iii. N3.90 (Three Naira Ninety Kobo) from 1st April, 2015.

   Note:

   i) New Entrant is defined as newly licensed Operator entering an existing or new market within 0 to 3 years.
   ii) Small Operator is defined, for the purpose of this Determination, as an existing Operator with a market share of 0 – 7.5% in terms of subscriber base.
   iii) Asymmetry shall cease as soon as it is evident that any Small Operator has exceeded the 7.5% market share threshold before the end of this determination period.
   iv) Any Small Operator that has benefited from Asymmetric Rates before exceeding the threshold of 7.5% market share shall cease to qualify for Asymmetry in the future should the referenced market share decline.

   b) The Termination Rates for voice services provided by Other Operators in Nigeria irrespective of the originating network shall be:

      i. N4.90 (Four Naira Ninety Kobo) from 1st April, 2013;

      ii. N4.40 (Four Naira Forty Kobo) from 1st April, 2014; and

      iii. N3.90 (Three Naira Ninety Kobo) from 1st April, 2015.

2. The operators satisfying the asymmetry test will be defined by the Commission and currently comprise:

   - Visafone Communications Limited
   - Starcomms Nigeria Plc
   - Multi-Links Nigeria Limited
   - Reliance Telecommunications
   - Intercellular Nigeria Limited
   - VGC Nigeria Limited
   - 21st Century Nigeria Limited
   - Monarch Communications Limited
   - Intra Networks Limited

3. This Determination shall take effect from 1st April 2013 and remain valid and binding on Licensees for the next three years until further reviewed by the Commission.

4. The interconnection rates determined in paragraph 1 above shall be applied by and payable (including by way of internal transfer pricing) to all licensees who have been allocated numbers by the Commission.

5. In this Determination, unless the context requires otherwise, the following expressions shall have the meanings set out below.

"Mobile voice call termination"	Termination by the receiving operator of a voice call intended for a number within a range ascribed to mobile services in the national numbering plan and allocated to the receiving operator which call has been delivered to that operator by an interconnected operator (which may be the originating operator or another operator, including an operator providing transit of the call through its telecommunications network) at a point of interconnection and routed by the terminating operator through its telecommunications network.
"Fixed voice call termination"	Termination by the receiving operator of a call intended for a number within a range ascribed to fixed services in the national numbering plan and allocated to the receiving operator which call has been delivered to that operator by an interconnected operator (which operator may be the originating operator or another operator, including an operator providing transit of the call through its telecommunications network) at a point of interconnection and routed by the terminating operator through its telecommunications network.

This Determination shall take effect from 1st April 2013 and remain valid and binding on Licensees for the next three years, for the services specified in paragraphs 1(a) and (b) of this Section, until further reviewed by the Commission.

Dated this 20th day of March, 2013.

Dr. Eugene Juwah
Executive Vice-Chairman
Nigerian Communications Commission
Abuja – Nigeria.

APPENDIX A

During an initial stakeholder workshop held in Lagos on 18 July 2012 PwC presented an overview of their work programme which included an analysis of a range of wider policy issues related to the matter of interconnection. The discussions included the following issues:

- Methodology being used compared to the previous study and which assumptions from the previous model were to be carried over
- Services to be modelled
- Operator to be modelled and how smaller operators were to be accommodated
- Whether the model was to include both 2G and 3G technologies
- Frequency of the reviews of the interconnection rates
- The effect of interconnection regulation in a market with a dominant operator
- Interconnection models used in other jurisdictions
- Steps to be taken to avoid small operators continuing to be net payers of interconnection
- Whether the study was to consider the rollout conditions of smaller operators
- What is being done to address the effect of bad debt
- The need for a study to ascertain the level of competition in the market
- Depreciation method to be used and asset categorisation
- Practicality of implementing a bill and keep mechanism