

DECISION AND INQUIRY REPORT

The renewal of the Declarations of the Domestic Mobile Terminating Access service (DMTAS) and the Domestic Fixed Terminating Access Service (DFTAS)

27th October 2014

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1 EXECUTIVE SUMMARY

1. Part VI of the *National Information and Communications Technology Act 2009* (the Act) provides for the Minister, upon the recommendation of NICTA, to declare a wholesale service. Operator Licensees that supply a declared service are required to comply with statutory non-discrimination obligations in relation to that declared service. The pricing of a declared service must also be consistent with the General Pricing Principles and any relevant Service Specific Pricing Principles.
2. NICTA has held a public inquiry into whether or not the existing declarations of the Domestic Mobile Terminating Access Service (DMTAS) and/or the Domestic Fixed Terminating Access Service (DFTAS) should be renewed following their expiry by 31st December 2014.
3. NICTA is satisfied that all of the declaration criteria specified in section 128 of the Act would be met by the continued declaration of the DMTAS and the DFTAS. Accordingly NICTA hereby recommends that the Minister declare those services for a period of five years.
4. A draft declaration that reflects this recommendation (and which NICTA has considered against, and is satisfied meets all of, the declaration criteria) is provided at Annex C.
5. This report identifies:
 - the specific terms of the recommended declaration;
 - the extent to which the declaration criteria are met by the recommended declaration;
 - the extent to which the terms of the recommended declaration are technology neutral and non-discriminatory; and
 - the expiry date for the recommended declaration.
6. By doing so this report fulfils the requirement set out in section 129 of the Act. It also sets out NICTA's findings as a result of the public inquiry for the purposes of section 235 of the Act.
7. As envisaged in subsection 129(4) of the Act, NICTA has consulted with the Independent Consumer and Competition Commission (ICCC) during the inquiry process and in the preparation of this recommendation. The ICCC supports NICTA's recommendation.

2 BACKGROUND

2.1 The legislative framework

8. Part VI of the *National Information and Communications Technology Act 2009* (the Act) sets out the wholesale access regime for the ICT industry. Under that regime:
 - (a) NICTA may recommend to the Minister that certain wholesale services should be made declared services;
 - (b) Access providers (i.e. operator licensees) that supply a declared service are required to comply with certain non-discrimination obligations in relation to that declared service (unless exempted);
 - (c) The terms and conditions on which access providers are required to comply with the non-discrimination obligations are subject to agreement between the access provider and the access seeker, which must be consistent with the General Pricing Principles and any relevant Service Specific Pricing Principles;
 - (d) In the event that such an agreement cannot be reached, the terms and conditions of access will be as set out in any reference interconnection offer (RIO) that the access provider has submitted to NICTA and which NICTA has accepted. A RIO must also be consistent with the General Pricing Principles and any relevant Service Specific Pricing Principles. In the absence of both an agreement and a RIO, the terms and conditions of access are those determined by NICTA through arbitration.
9. NICTA may only recommend that the Minister declare a particular wholesale service if NICTA is satisfied that such a declaration would satisfy all of the declaration criteria set out in section 128 of the Act as follows:

The “declaration criteria” are as follows –

(a) that declaration of the wholesale service will further the achievement of the objective of this Part [of the Act] as set out in Section 124; and

(b) specifically, in relation to the competition objective, that –

(i) access or increased access to the wholesale service (as a consequence of declaration) is necessary for the promotion of effective competition in at least one market other than the market for the wholesale service; and

(ii) the wholesale service is supplied in whole or in part via a facility that cannot feasibly be substituted, as a matter of

commercial reality, via another facility in order to supply that wholesale service; and

(c) specifically, in relation to the efficiency objective, that –

(i) declaration would not materially compromise the incentives for efficient investment in any facility over which the wholesale service may be supplied; and

(ii) access or increased access to the wholesale service (as a consequence of declaration) is technically feasible having regard to the specific factors identified in Section 124(2)(a); and

(iii) in the case of wholesale services that are facilities access services, increased access to the wholesale service would avoid inefficient replication of underlying facilities that may be efficiently shared.

10. The DMTAS and DFTAS were deemed to have been declared upon the commencement of the Act by virtue of section 131 of the Act. The terms of those deemed declarations were set out in Schedule 1 to the Act and were specified to expiry on 31st December 2014 (being approximately five years from the expect time of commencement in 2009).

2.2 The public inquiry

11. In August 2014 NICTA decided to hold a public inquiry to examine whether or not the DMTAS and/or the DFTAS should continue to be declared services under section 130 of the Act following the expiry of the existing declarations of those services on 31st December 2014.
12. As part of the inquiry process NICTA published a public discussion paper on 1st September 2014 that set out NICTA staff's preliminary examination of relevant issues. The deadline for written submissions from interested parties in response to the discussion paper was 30th September 2014, which was subsequently extended upon request.
13. Submissions were received from:
 - (a) Bmobile Limited (Bmobile);
 - (b) Digicel (PNG) Limited (Digicel);and
 - (c) Telikom PNG Limited (Telikom).
14. The results of that consultation process were set out in a Response to Comments report, to be published. The consultation processes confirmed the tentative

conclusions that NICTA staff had reached and identified in the discussion paper, namely that the continued declaration of the DMTAS and the DFTAS would satisfy the declaration criteria and should be recommended to the Minister.

15. A list of the inquiry documents published by NICTA is provided at Annex B. All documents were published on, and remain available from, NICTA's Public Register on its website.

3 THE INQUIRY FINDINGS

16. The public inquiry into the potential continuation of the declaration of the DMTAS and the DFTAS led NICTA to find that:
 - (a) There is a separate national market for the wholesale termination of voice calls and SMS/MMS on each individual mobile network in PNG; and
 - (b) There is also a separate national market for the wholesale termination of voice calls on each individual fixed network in PNG.
17. NICTA reached this conclusion through the application of the hypothetical monopolist test (HMT), which is a commonly used approach to identify close demand-side and supply-side substitutes. NICTA's analysis covered the forward-looking five-year period ending 31st December 2019.
18. A product is considered to constitute a separate market if a hypothetical monopolist supplier could impose a small but significant (taken to mean a 5–10% increase), non-transitory (at least one-year's duration) increase in price without losing sales to such a degree as to make the exercise unprofitable. Whether or not the small but significant non-transient increase in price (SSNIP) is profitable will depend on the number of customers that move to a substitute service or to reduce service usage on an ongoing basis or/and the extent to which alternative suppliers are encouraged to enter the market.
19. The hypothetical monopolist test starts by identifying a focal product, i.e. the most narrowly-defined product that is obviously in the named market. Other candidate products will then be included in the same market depending on the extent to which any of the following forms of substitution applies between the candidate product and the focal product:
 - supply-side substitution;
 - wholesale demand-side substitution; and
 - retail demand-side substitution.
20. If the SSNIP would be unprofitable because consumers would switch to other products or because suppliers of other products would begin to compete with the hypothetical monopolist, then the market definition should be expanded to include the substitute products in the same market. If the SSNIP would be profitable then this will be evidence of the absence of appropriate substitutes and therefore that a discrete market exists.
21. Consistent with the regulatory principle of "one network, one market", which has seen telecommunications and competition regulators around the world define markets for

voice call termination at the individual network level, NICTA began by identifying the relevant focal product as wholesale termination of voice calls and SMS/MMS on each individual mobile network in PNG.

22. Wholesale supply-side substitution—whereby an alternative supplier is attracted into the market in response to a small but significant non-transient increase in price (SSNIP) being implemented by a hypothetical monopolist supplier of the focal product—was found to be infeasible and unrealistic. This was because in many countries, including PNG, the terminating interconnecting regime is based on the principle of the calling party's network pays (CPNP) the receiving party's network for the cost of terminating calls. This means that the only way in which the called party can be accessed is via the called party's network operator. That is, the hypothetical monopolist has exclusive control over the access to the end-users via services connected to its network.
23. Wholesale demand-side substitution—whereby the purchasers of wholesale termination of voice calls and SMS/MMS on the hypothetical monopolist's mobile network are persuaded to use alternative products in response to a SSNIP—was also found to be infeasible and unrealistic given the absence of any alternative means of connecting a call/SMS/MMS to a subscriber of the hypothetical monopolist.
24. Retail demand-side substitution—whereby the retail purchaser of wholesale termination of voice calls and SMS/MMS on the hypothetical monopolist's mobile network is persuaded to use an alternative product in response to a SSNIP—was similarly found to be infeasible and unrealistic. Once again, as the hypothetical monopolist controls access to the end-users connected to its network, there is no alternative means by which a person could complete a call to a subscriber of the hypothetical monopolist other than having that monopolist terminate the call. Although there are other ways of contacting that subscriber electronically, such as making a call that he answers on a fixed telephone or by some sort of internet-based messaging application (e.g. Facebook or WhatsApp!), NICTA has previously found that such services are not substitutes for retail mobile telephony and exist in separate markets. These previous findings are now reconfirmed.
25. As NICTA did not identify any basis for expanding the boundaries of the market beyond those established by the focal product, the focal product defined the market. NICTA thus found there is a separate national market for the wholesale termination of voice calls and SMS/MMS on each individual mobile network in PNG
26. NICTA then repeated this process in relation to fixed call termination, this time commencing its analysis with the focal product being wholesale termination of voice calls on each individual fixed network in PNG. For the same reasons that call termination on each individual mobile network was found to be a separate market (outlined in paragraphs 22–24 of this report), NICTA found that call termination on each individual fixed network also constitutes a separate market. Once again the

determining factor was that (under the structure created by the CPNP model) the only means of having a call connected to a subscriber of a particular network is via the operator of that network and the purchase of a wholesale termination service. Accordingly NICTA found there is a separate national market for the wholesale termination of voice calls on each individual fixed network in PNG.

27. NICTA assessed these termination markets against the so-called three criteria test,¹ and found that they are susceptible to ex ante regulation. Although this test is not a statutory requirement in PNG it is, in NICTA's opinion, an important filter for determining whether a market may warrant being subject to ex ante regulation of the sort provided for in Part VI of the Act. As such, NICTA considers it an important (if non-mandatory) part of its process for determining whether it is necessary to consider the potential declaration of a wholesale service against the statutory declaration criteria.
28. NICTA concluded that these termination markets are susceptible to ex ante regulation because each has high non-transitory barriers to entry and is not trending towards being effectively competitive. Indeed, each market is a monopoly and looks likely to continue to remain so for the foreseeable future. Further, given the nature of the potential market failures and anti-competitive behaviour that might arise in these markets, and the experiences in New Zealand between 1987–2001 when shortly after market liberalisation it relied entirely upon ex post competition laws to prevent anti-competitive behaviour occurring in interconnection markets, NICTA considered that ex post control by the *Independent Consumer and Competition Act 2002* would of itself be insufficient to address the types of competition issues that may arise in these markets.
29. As each network operator has significant market power (SMP) in the market for wholesale termination services on its own network, that SMP poses a material risk of harm to the development of effective competition in the downstream retail markets and to consumers' long term interests. This is because a vertically-integrated network operator may abuse its SMP at the wholesale level to:
 - (a) refuse to supply wholesale termination services to its competitors, or delay or otherwise frustrate the supply of wholesale termination services to its competitors, leading to foreclosure of the downstream retail market;

¹The application of this test has been documented by the European Commission and by the Body of European Regulators for Electronic Communications and has since been adopted widely and is applied in many countries outside of Europe, including in Africa, the Middle East and the Pacific.

- (b) discriminate between competitors or between competitors and its own retail operations in the pricing or quality of its wholesale termination services, leading to foreclosure of the downstream retail market;
 - (c) excessive wholesale prices being charged for the supply of termination services, resulting in distorted pricing structures and allocative inefficiencies; and
 - (d) tacit collusion with another vertically-integrated network operator to set excessive price for the reciprocal supply of wholesale termination services, resulting in distorted pricing structures and allocative inefficiencies.
30. Given these circumstances NICTA decided it was appropriate to consider the renewal of the declaration of DMTAS and the DFTAS against the declaration criteria. Such findings are not required by the Act in order to recommend the declaration of a service to the Minister. However, international best practice in competition regulation is that obligations such as those that flow from a declaration under section 130 of the Act should only be imposed on competitors with SMP and only to address identified risks of market failure and/or anti-competitive consequences.

4 THE SERVICES RECOMMENDED FOR DECLARATION AND THE TERMS OF DECLARATION

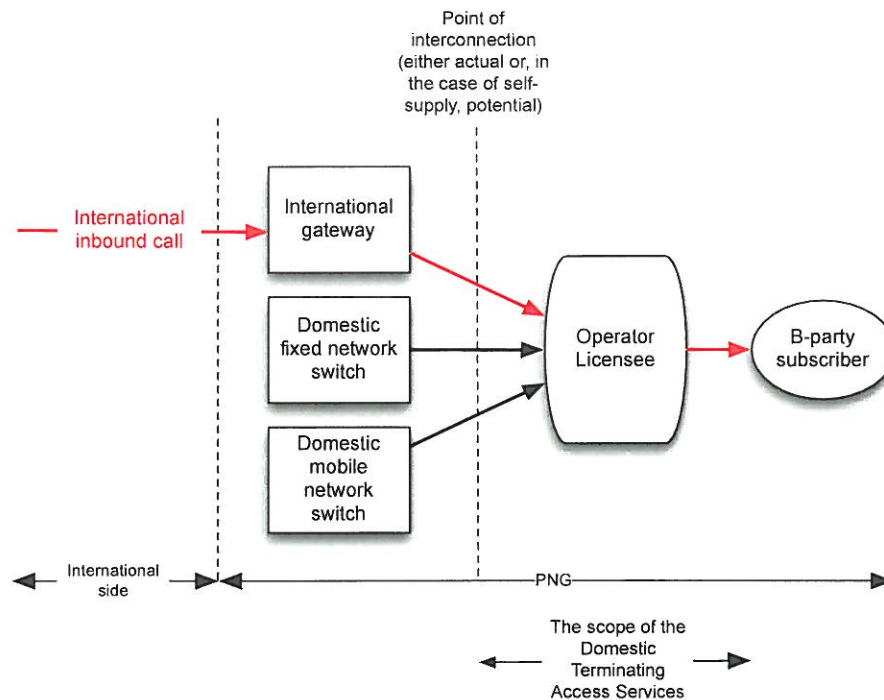
31. NICTA recommends that the Minister declare the following services:
- (a) the domestic mobile terminating access service; and
 - (b) the domestic fixed terminating access service.
32. NICTA defines the:
- (a) DMTAS as a network service for the carriage of any combination of voice communications and/or short messaging services from a point of interconnection, or potential point of interconnection, to any B-party connected to the access provider's mobile network; and
 - (b) DFTAS as a network service for the carriage of any combination of voice communications from a point of interconnection, or potential point of interconnection, to any B-party connected to the access provider's fixed network.
33. The definition of these services includes such facilities access services as are necessary to enable the access seeker to interconnect its facilities to the facilities of the access provider at points of interconnection to realise any-to-any connectivity.
34. These definitions are reflected in the specific terms that NICTA recommends the Minister incorporate into the recommended declaration. They are set out in the draft declaration in Annex C. Those terms are identical to the terms of the existing deemed declaration (set out in Schedule 1 to the Act) with two exceptions:
- (a) the exclusion of the paragraph 1(2)(c) of Schedule 1 which states '[the service] is a designated interconnection service for the purposes of the any-to-any connectivity obligation', which is set out in section 137 of the Act; and
 - (b) the addition of a clause that, for the avoidance of doubt, makes it clear that the scope of both the DMTAS and the DFTAS includes the termination of the domestic component of calls (and messages in the case of the DMTAS) that have been originated outside of PNG (i.e. inbound international calls).
35. The text in paragraph 1(2)(c) is being excluded because the Act (in paragraph 137(3)(b)) provides a specific process for declared services to be made designated interconnection services. The deemed declarations achieved this same outcome through the terms of the declaration but given paragraph 137(3)(b) of the Act, it would not now be appropriate for these or any declared services to be made designated interconnection services through the terms of a declaration. This aspect is discussed further in section 65.

36. The addition of text clarifying that the scope of the termination services includes the termination of calls (and messages) that have originated outside PNG does not constitute a change to the effective terms of the declaration of either service and is proposed now only to clarify some licensees' misunderstanding of the scope and effect of the declaration of domestic terminating access services. As NICTA has noted on a number of occasions,² the source of a call (or message) is not a relevant consideration when examining the termination arrangements for calls within PNG. As shown in Figure 1.
37. Figure 1, it does not matter whether a call originates on a fixed or mobile network in PNG or originates in another country and comes into PNG via an international gateway; the terminating access portion of the call is the same. This has been recognised by telecommunications sector regulators in many other countries, many of which explicitly incorporate the termination of internationally originated calls (and SMS) into their equivalent regulation of termination services.³

²For example, in the discussion paper that accompanied the Public Inquiry into the need for declaration of certain wholesale services in international connectivity markets in September 2012, and in unrelated correspondence with licensees in April and May 2014.

³See for example TRA's *Resolution No.3 of 2012 promulgating the Regulation of Wholesale International Inbound Telecommunications Service* in Bahrain; ICTA's *Telecommunication Directive (2 of 2011)* in Mauritius; New Zealand's *Telecommunications (Mobile Termination Access Services) Order 2010*; the OUR's *Determination Note for Cost Model for Mobile Termination Rates – The Decision on Rates* (2013) in Jamaica; the MCMC's *Commission Determination on Access List, Determination No.1 of 2005* in Malaysia; the TCRA's *Interconnection Determination No 2 of 2007* in Tanzania; and the TATT's *Determination 2010/01 under sections 29(3) and 29(4) of the Telecommunications Act 2001–Termination of international incoming telecommunications traffic on domestic networks in Trinidad and Tobago*. In addition, the countries of the European Union are obliged to ensure that the pricing of call termination does not discriminate between domestically-originated and internationally-originated traffic.

Figure 1: Scope of the domestic terminating access services



38. During the public consultation process Digicel objected to the inclusion of this provision. Digicel disagrees with NICTA's view that the existing declaration applies to the termination of international incoming traffic and thus regards the inclusion as an inappropriate expansion of the scope of the DMTAS (and DFTAS). Digicel's specific comments were addressed in NICTA's Response to Comments Report. However, on Digicel's broader point, namely that the scope of the existing declarations of the termination services does not include the termination of international incoming traffic - NICTA maintains its position and believes that any renewed declarations of the DMTAS and the DFTAS should not discriminate based on the origin of traffic and should apply equally to the termination of traffic in PNG regardless of whether that traffic originates inside or outside of PNG. That is NICTA's view and recommendation and is based on the following considerations:

- (a) As a matter of policy it is important that end-users and customers in PNG should receive calls that are addressed to them, even if those calls enter PNG via an international gateway that is operated by another network operator than the service provider to which the customer's service is directly connected. The network operator to which the called customer's service is connected has the same position of significant market power wherever the call originates. Clarification of the scope of the declaration therefore serves to address the potential risk of abuse associated with that SMP position.
- (b) From the perspective of the network operator to which the called customer's service is connected (the access provider) the point of interconnection is on the

PNG side of the international gateway. It is not between the originating overseas network and the international gateway. For all intents and purposes the call component that the access seeker is concerned with is entirely within the territory of PNG. It should therefore be treated as would any other call, such as those originating within PNG.

- (c) The risks associated with international telecommunications commercial arrangements, and the detailed arrangements for interconnection at the international level, are borne by the overseas operator and the PNG gateway operator. An interconnected national network operator that terminates incoming calls once they have been switched via the international gateway is not subject to those risks and there is no basis for its demanding other than a defined domestic termination charge.
- (d) It has been suggested that the inclusion of the domestic component of incoming international calls within the scope of the declared service will result in competition between gateway operators to receive international traffic and that the beneficiaries of such competition will be international and overseas carriers and their customers. This is extremely unlikely given that the overwhelming majority of incoming calls are received at the international gateway of the network operator to whom the called services are connected. Insofar as this does not happen, the various network operators in PNG are able to suitably inform their overseas affiliates of the appropriate gateways to receive traffic destined for their customers.

39. Further, the traffic routing and therefore the costs of the terminating access service should be the same regardless of where the call originates. Thus the price charged for the termination in PNG of an inbound international call after it passes through an international gateway facility of some kind should be consistent with the General Pricing Principles and cost-based. This applies regardless of whether the terminating access service is being supplied:

- (a) by an Operator Licensee to another Operator Licensee, as is the case in the termination of a national call or the termination of an inbound international call that enters PNG via the second licensee's gateway; or
- (b) by an Operator Licensee to itself, as is the case in the termination of an inbound international call that enters PNG via that licensee's own gateway.

4.1 Extent to which the terms are technology neutral

40. Section 129(1)(b)(iii) of the Act requires NICTA to identify the extent to which the terms of the recommended declaration are technology neutral. It does not require that the recommended declaration *be* technology neutral, although the Act elsewhere

envisages that regulatory measures 'to the extent feasible, should be technology neutral to reflect the potential for convergence of technologies' (s.3(b)(ii)).

41. The terms of NICTA's recommended declaration are technology neutral to the fullest extent practicable. Although the definition of the DMTAS refers to a 'mobile network' and the definition of the DFTAS refers to a 'fixed network', these references are necessary given the network-specific nature of termination services. Further, other than the references to 'mobile' and to 'fixed', the recommended terms of the declaration are the same for the DMTAS and the DFTAS, meaning that there will be no difference in the way in which termination is regulated on mobile and fixed networks. Importantly, the recommended terms of the declaration do not include any reference to or limitations based on specific mobile network technologies (such as GSM or LTE) or specific fixed network technologies (such as SS7).

4.2 Extent to which the terms are non-discriminatory

42. Section 129(1)(b)(iii) of the Act requires NICTA to identify the extent to which the terms of the recommended declaration are non-discriminatory. It does not require that the recommended declaration *be* non-discriminatory, although the Act elsewhere envisages that regulatory measures 'should be non-discriminatory in application such that, to the extent appropriate, similarly situated ICT licensees are treated on an equivalent basis subject to recognition of legitimate differences' (s.3(b)(v)).
43. The terms of NICTA's recommended declaration are completely non-discriminatory as they apply equally to any and all ICT licensees that supply the services recommended for declaration.

4.3 The recommended duration of the declaration

44. Section 129(1)(b)(iv) of the Act requires NICTA to identify an expiry date for the recommended declaration. NICTA recommends that the declaration remain in effect for a period of five years. That is the maximum period permitted by the Act. Neither the circumstances that warrant the declaration of the termination services nor the finding that their declaration meets all of the declaration criteria are likely to change in the foreseeable future.

5 EXTENT TO WHICH THE DECLARATION CRITERIA ARE MET

45. NICTA has considered whether the declaration criteria in section 128 of the Act would be met by the making of the recommended declaration at Annex C and is satisfied that all the criteria would be so met. The extent to which the declaration criteria would be met is described below.

5.1 Declaration criterion 1

46. Paragraph 128(a) of the Act specifies that declaration will further the achievement of the objectives set out in Section 124 of the Act (i.e. the competition objective subject to the efficiency objective). The competition objective is to 'promote effective competition in markets for ICT services in Papua New Guinea'. That objective is subject to the efficiency objective, which is to promote 'the economically efficient use of, and the economically efficient investment in, the facilities by which ICT services may be supplied'.
47. NICTA is satisfied that the declaration of both services would meet this criterion (for the reasons identified here and those discussed further below).
48. Declaration of DFTAS and DMTAS are designed to enable intervention should the position of overwhelming SMP enjoyed by each network operator result in abuse and anti-competitive conduct. The most likely way in which that would occur is through the imposition of unfair and unreasonable terms and conditions for call and message termination, and especially through unfairly high termination charges. If that were to occur and if there was no declaration, the relevant network operators would be able to gain unfair advantages in downstream retail service markets at the expense of other retail competitors including access seekers. On the other hand, the declaration of the services will enable regulatory intervention to prevent the risks of abuse from being realised, and will prevent anti-competitive outcomes and market distortion that might otherwise occur.
49. NICTA appreciates that these consequences for the promotion of competition would result from the re-declaration of the DFTAS and DMTAS services were recognised in most of the submissions received in the course of consultation.

5.2 Declaration criterion 2

50. Paragraph 128(b)(i) of the Act specifies that, with respect to the competition objective, access or increased access to the wholesale service (as a consequence of declaration) is necessary for the promotion of effective competition in at least one market other than the market for the wholesale service.
51. NICTA is satisfied that the declaration of both services would meet this criterion.

52. Declaration will ensure that the access terms for wholesale termination services will be non-discriminatory and the access prices will be cost-based. Without those safeguards, there is potential for each network operator to use its monopoly control over the termination of calls (and SMS in the case of mobile) to its network to significantly harm competition in the corresponding downstream retail services market. That is, without the declaration of the DMTAS, each mobile network operator has the potential to cause significant harm to the development of effective competition in the retail mobile services market.⁴ And with the declaration of the DFTAS, each fixed network operator has the potential to cause significant harm to the development of effective competition in the retail fixed telephony services market.
53. In the absence of the declaration of the wholesale termination services, the risks to the development of effective competition in the downstream retail markets arise from each network operator's ability and/or incentive to:
- (a) refuse to supply a wholesale termination service to its competitors, or delay or otherwise frustrate the supply of such services, which would prevent those competitors from offering any-to-any connectivity and the full suite of call services (or SMS in the case of mobile) in the downstream retail market;
 - (b) discriminate between competitors or between competitors and its own retail operations in the pricing or quality of its wholesale termination services, which can unfairly raise the costs of those competitors and prevent competition on equal terms in the downstream retail market; and/or
 - (c) set excessive prices for its supply of termination services (either unilaterally or in tacit collusion with another vertically integrated network operator), resulting in distorted pricing structures in the downstream retail market and allocative inefficiencies as consumers make and/or receive fewer calls (and SMS in the case of mobile) than they otherwise would if the market was effectively competitive.

5.3 Declaration criterion 3

54. Paragraph 128(b)(ii) of the Act specifies that, with respect to the competition objective, the wholesale service is supplied in whole or in part via a facility that cannot feasibly be substituted, as a matter of commercial reality, via another facility in order to supply that wholesale service.

⁴NICTA's definition and analysis of this particular market in 2013 found that the market was not effectively competitive, and contributed to the introduction of a retail service determination application to Digicel.

55. NICTA is satisfied that the declaration of both services would meet this criterion.
56. The DMTAS is supplied entirely via facilities that constitute a mobile telecommunications network and is specific to each separate mobile network. As the only means of connecting a call or SMS to a subscriber of a mobile network is via the operator of that network, it is both commercially and technically infeasible to use any other licensee's facilities to terminate that call or SMS. There are no substitutable facilities that can provide wholesale termination on a particular mobile network other than facilities of the operator of that network.
57. The same circumstances apply to the DFTAS. The DFTAS is supplied entirely via facilities that constitute a fixed telecommunications network and is specific to each separate fixed network. As the only means of connecting a call to a subscriber of a fixed network is via the operator of that network, it is both commercially and technically infeasible to use any other licensee's facilities to terminate that call. There are no substitutable facilities that can provide wholesale termination on a particular fixed network other than facilities of the operator on that network.
58. There are of course alternative ways of electronically contacting a subscriber of a particular network. For example, by making a call that requires the subscriber to answer from a device connected to a different network (e.g. by calling a fixed number instead of a mobile number or, if the called party happens to have a mobile service with two different mobile network operators, by calling the second mobile number). Alternatively the subscriber could be contacted via an internet-based messaging application. However, these are different ways of contacting a particular subscriber, which in concept is entirely different to whether or not there exists a substitutable facility over which can be provided a wholesale termination service in relation to a particular network, which is the focus of declaration criterion three.

5.4 Declaration criterion 4

59. Paragraph 128(c)(i) of the Act specifies that, with respect to the efficiency objective, declaration would not materially compromise the incentives for efficient investment in any facility over which the wholesale service may be supplied.
60. NICTA is satisfied that the declaration of both services would meet this criterion.
61. The DMTAS is supplied entirely via facilities that constitute a mobile telecommunications network, and the DFTAS is supplied entirely via facilities that constitute a fixed telecommunications network. The experience in PNG to date shows that the declaration of wholesale termination services does not materially compromise the incentives for efficient investment in telecommunications networks. Both the DMTAS and the DFTAS have been declared services since the commencement of the Act in 2009 and significant investment in both mobile and fixed telecommunications networks has occurred since that time and continues to be

made. Arrangements with similar effects to declaration were also in place in PNG prior to commencement of the current Act and those arrangements did not materially compromise the incentives for efficient investment in mobile and fixed telecommunications networks. Further, the experience of other countries with a CPNP model for telecommunications and equivalent regulation of wholesale termination services shows that such regulation does not materially compromise investment incentives.

5.5 Declaration criterion 5

62. Paragraph 128(c)(ii) of the Act specifies that, with respect to the efficiency objective, access or increased access to the wholesale service is technically feasible having regard to the technology available, the costs involved, and the effect of supply on the integrity, operation and performance of other ICT services and facilities.
63. NICTA is satisfied that the declaration of this service would meet this criterion; indeed, it is beyond dispute. The supply of wholesale termination services has been shown to be technically feasible over the last five years in which the DMTAS and the DFTAS were declared, and also before that when equivalent arrangements were in place under the former regulatory framework. The experience of all other countries also demonstrates that the supply of wholesale termination services is technically feasible.

5.6 Declaration criterion 6

64. Paragraph 128(c)(iii) of the Act requires that, with respect to the efficiency objective, in the case of wholesale services that are facilities access services, increased access to the wholesale service would avoid inefficient replication of underlying facilities that may be efficiently shared.
65. Both the DMTAS and the DFTAS are network services, not facilities access services. Accordingly criterion 6 is not applicable.

DESIGNATED INTERCONNECTION SERVICES

66. As noted above, under the terms of the deemed declarations, both the DMTAS and the DFTAS are currently designated interconnection services for the purposes of the any-to-any connectivity obligation in section 137 of the Act. However, given the Act provides (in paragraph 137(3)(b)) a specific process by which declared services can be made designated interconnection services, it would not be appropriate for either service (if re-declared) to be made designated interconnection services simply through the terms of the declaration.
67. If the Minister accepts NICTA's recommendation to declare the DMTAS and DFTAS, then NICTA further recommends that both services are made designated interconnection services for the purposes of section 137 of the Act. This could be achieved by the Head of State making an amendment to the *National Information and Communications Technology (Operator Licensing) Regulation, 2010* along the lines of the draft amendment provided at Annex D. It is clear from subsection 137(3) of the Act and also the very nature of the any-to-any connectivity obligation that terminating access services are the type of service that the Act envisages would be made designated interconnection services. Further, the any-to-any connectivity obligation fundamentally applies to voice and related complementary services (such as SMS in the case of mobile telephony services) rather than to access to data and it is precisely these services that the DMTAS and DFTAS are intended to cover.
68. NICTA made a copy of the draft amendment available for public consultation as part of its public inquiry process. Respondents to the discussion paper did not make any specific comments regarding the draft amendment.

6 CONCLUSION

69. NICTA considers that regulatory intervention is necessary in addressing the potential market failures and anti-competitive consequences of each network operator's monopoly control over the termination of calls (and SMS in the case of mobile) on its network. NICTA is satisfied that all of the declaration criteria would be met by the Minister's renewal of the declaration of the DMTAS and the DFTAS. In accordance with section 129 of the Act, NICTA recommends that the Minister declare those wholesale services on the terms set out in Annex C. Following that, NICTA recommends that the Minister arranges for the Head of State to amend the Regulations along the lines of the draft amendment at Annex D to make both the DMTAS and the DFTAS designated interconnection services for the purposes of section 137 of the Act.

ANNEX A: INQUIRY TERMS OF REFERENCE

Under the authority of section 127 of the National Information and Communications Technology Act 2009 (the Act), NICTA has decided to inquire into and report on whether the domestic mobile terminating access service and/or the domestic fixed terminating access service should continue to be declared services under section 130 of the Act following the expiry of the existing declarations of those services on 31 December 2014. In doing so, NICTA will:

- (a) analyse the extent of competition in the markets for call termination on each mobile network and on each fixed network;
- (b) consult with the Independent Consumer and Competition Commission, operator licensees, and any other relevant parties or government agencies;
- (c) form a view as to whether or not those markets are effectively competitive; and, if any is not effectively competitive,
- (d) consider whether the declaration by the Minister of any particular wholesale service or services in those markets—in particular the domestic mobile terminating access service and the domestic fixed terminating access services—would satisfy the declaration criteria specified in section 128 of the Act;
- (e) determine whether or not NICTA should recommend to the Minister that one or more wholesale services in those markets be declared, or continued to be declared, under section 130 of the Act; and, if such a recommendation should be made,
- (f) specify the recommended terms of the declaration(s) and the recommended expiry date(s) for the declaration(s).

ANNEX B: LIST OF INQUIRY DOCUMENTS PUBLISHED BY NICTA

- (A) NOTICE OF PUBLIC INQUIRY: Published on 1st September 2014
- (B) DISCUSSION PAPER: Published on 1st September 2014
- (C) NICTA STAFF'S RESPONSE TO COMMENTS REPORT: Endorsed by NICTA Board on 25 October 2014 for publication.
- (D) RECOMMENDATION AND INQUIRY REPORT (i.e. this report): Endorsed by NICTA Board on 25 October 2014 for publication.

ANNEX C: RECOMMENDED TERMS OF THE DECLARATION

WHOLESALE SERVICE DECLARATION NO. [1] OF 2014

National Information and Communications Technology Act 2009

The Minister for Communications and Information Technology makes this declaration under section 130 of the *National Information and Communications Technology Act 2009*.

Dated [month] 2014

Minister

[DRAFT—Not for signature]

WHOLESALE SERVICE DECLARATION NO. 1 OF 2014

PART I - PRELIMINARY

1. Name of declaration

- (1) This declaration is the *Wholesale Service Declaration No. 1 of 2014*.

2. Commencement and expiry

- (1) This Declaration commences on 1st January 2015.
- (2) This Declaration expires on 31st December 2019.

3. Interpretation

- (1) In this Declaration, unless the contrary intention appears:

“**Act**” means the *National Information and Communications Technology Act, 2009* and includes any regulations made under that Act;

“**call**” means a continuous communication;

“**cell**” means the geographic area served by a base station;

“**B-party**” means a retail customer located in Papua New Guinea to whom a call is made;

“**fixed network**” means a network that is not a mobile network;

“**mobile network**” means a network that:

- (a) comprises multiple base stations that transmit and receive radiocommunications to and from apparatus of a B-party located in a cell associated with each base station; and
- (b) detects the customer equipment within which the cell is located and causes the base station in that cell to transmit and receive calls to and from that customer equipment; and
- (c) enables calls to continue without interruption when such apparatus moves between cells;

“**point of interconnection**” is a location in Papua New Guinea which is a physical point of demarcation between the access seeker’s network and the access provider’s network.

- (2) Each of the following terms used in this Declaration has the meaning given to it by the Act:

- (a) access provider

- (b) access seeker
- (c) communication
- (d) facilities
- (e) facilities access service
- (f) interconnection
- (g) network
- (h) network service
- (i) retail customer
- (j) wholesale service

PART II—DECLARATION OF WHOLESALE SERVICES

4. Declaration

- (1) The following wholesale services are hereby declared:
 - (a) the domestic mobile terminating access service (DMTAS); and
 - (b) the domestic fixed terminating access service (DFTAS).

5. Service description—DMTAS

- (1) The domestic mobile terminating access service:
 - (a) is a network service for the carriage of any combination of:
 - (i) voice communications; and/or
 - (ii) short messaging services,from a point of interconnection, or potential point of interconnection, to any B-party connected to the access provider's mobile network; and
 - (b) includes such facilities access services as are necessary to enable the access seeker to interconnect its facilities to the facilities of the access provider at points of interconnection to realise any-to-any connectivity.
- (2) For the avoidance of doubt, the domestic mobile terminating access service applies to the termination of calls and short messaging services on mobile networks situated Papua New Guinea regardless of whether those communications were originated in Papua New Guinea or in another country.

6. Service description—DFTAS

- (1) The domestic fixed terminating access service:
 - (a) is a network service for the carriage of any combination of voice communications from a point of interconnection, or potential point of interconnection, to any B-party connected to the access provider's fixed network; and
 - (b) includes such facilities access services as are necessary to enable the access seeker to interconnect its facilities to the facilities of the access provider at points of interconnection to realise any-to-any connectivity.
 - (2) For the avoidance of doubt, the domestic fixed terminating access service applies to the termination of calls on fixed networks situated in Papua New Guinea regardless of whether those communications were originated in Papua New Guinea or in another country.
-

ANNEX D: RECOMMENDED AMENDMENT TO THE LICENSING REGULATIONS

NATIONAL INFORMATION AND COMMUNICATION TECHNOLOGY (OPERATOR LICENSING) AMENDMENT REGULATION, 2014 (NO. 1)

Statutory Instrument No. [xx] of 2014

I, Michael Ogio, Governor-General of the Independent State of Papua New Guinea, make the following Regulation under the *National Information and Communications Technology Act 2009*.

Dated [month] 2014

MICHAEL OGIO

Governor-General

[DRAFT ONLY — NOT FOR SIGNATURE]

1. Name of regulation

- (1) This Regulation is the *National Information and Communication Technology (Operator Licensing) Amendment Regulation, 2014 (No.[1])*.

2. Commencement

- (1) This Regulation commences on the day it is signed.

3. Amendment of the *National Information And Communication Technology (Operator Licensing) Regulation, 2010*

- (1) Schedule 1 amends the *National Information and Communication Technology (Operator Licensing) Regulation, 2010*.

Schedule 1 ***Amendment***

[1] After section 25

insert

26 DESIGNATED INTERCONNECTION SERVICES.

(2) The following declared services are designated interconnection services –

- (a) the domestic mobile terminating access service; and
 - (b) the domestic fixed terminating access service.
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