



**EXPLANATORY MEMORANDUM ISSUED BY  
THE INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY OF SINGAPORE  
("IDA")**

**DIRECTION OF THE INFOCOMM DEVELOPMENT AUTHORITY OF SINGAPORE  
MADE PURSUANT TO SECTION 27 OF THE TELECOMMUNICATIONS ACT  
(CHAPTER 323) IN RESPECT OF THE REVIEW OF OPENNET PTE LTD'S  
DRAFT REVISED INTERCONNECTION OFFER FOR THE PROVISION OF  
SERVICES OVER THE NEXT GENERATION NATIONWIDE BROADBAND  
NETWORK**

**27 February 2012**

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## EXPLANATORY MEMORANDUM

### DIRECTION OF THE INFOCOMM DEVELOPMENT AUTHORITY OF SINGAPORE MADE PURSUANT TO SECTION 27 OF THE TELECOMMUNICATIONS ACT (CHAPTER 323) IN RESPECT OF THE REVIEW OF OPENNET PTE LTD'S INTERCONNECTION OFFER FOR THE PROVISION OF SERVICES OVER THE NEXT GENERATION NATIONWIDE BROADBAND NETWORK

27 FEBRUARY 2012

1. This Explanatory Memorandum explains the Direction dated 27 February 2012, issued by IDA to OpenNet Pte Ltd ("**OpenNet**"), directing it to incorporate Further Proposed Modifications to its Interconnection Offer ("**ICO**").
2. For the avoidance of doubt, OpenNet is required to give effect to IDA's Required Modifications as specified in this Explanatory Memorandum, in addition to IDA's other Required Modifications as specified in other parts of the Direction.
3. Unless the context requires otherwise, all capitalised terms used in this Explanatory Memorandum shall have the same meanings as in the ICO.

#### PART I: INTRODUCTION

4. The Next Generation Nationwide Broadband Network ("**Next Gen NBN**") is of strategic importance to drive Singapore's economic and productivity growth into the next decade. As the Network Company ("**NetCo**") layer is the foundation of the Next Gen NBN and plays a pivotal role in the implementation of the Next Gen NBN, IDA places significant emphasis on achieving a successful and effective implementation of the NetCo layer.
5. It had come to IDA's attention that certain operational issues had arisen relating to the implementation of Next Gen NBN, some of which concerned the NetCo layer, such as more timely provisioning of services to end-users.
6. In view of the above, IDA considered it necessary to conduct a review of OpenNet's ICO at this juncture. Under section 10 of the Code of Practice for Next Generation National Broadband Network NetCo Interconnection ("**NetCo Code**"), IDA is empowered to review and require OpenNet to modify the terms and conditions of the ICO at any appropriate time.
7. As part of the ICO review, IDA had previously required OpenNet to propose certain changes to its ICO ("**IDA Initiated Changes**"). OpenNet had also proposed certain changes of its own to its ICO ("**OpenNet Initiated Changes**"). OpenNet has since submitted both sets of proposed changes to its ICO ("**Draft Revised ICO**") for IDA's approval.

8. On 8 November 2011, IDA commenced a public consultation (“**Public Consultation**”) to seek views and comments from the industry and the public on the Draft Revised ICO.
9. By the close of the Public Consultation on 30 December 2011, IDA had received comments from Asia Pacific Carriers’ Coalition, M1 Limited, Nucleus Connect Pte Ltd, Singapore Telecommunications Ltd, StarHub Ltd, SuperInternet Access Pte Ltd, Viewqwest Pte Ltd, and several individual consumers. IDA thanks all respondents for their comments.

## **PART II: SUMMARY OF COMMENTS RECEIVED AND IDA’S DECISIONS**

### **Section 1 – OpenNet’s Maximum Quota**

10. In its Draft Revised ICO, in respect of Requests for Basic Mandated Services and Layer 1 Redundancy Services, OpenNet has proposed amendments such that OpenNet shall process a combined total of no more than 480 Requests for each Business Day instead of the current 2,050<sup>1</sup> Requests per week (“**Maximum Quota**”). OpenNet has also proposed amendments such that a Requesting Licensee (“**RL**”) is able to select such dates on a “first come, first served” basis using the OpenNet Platform.

#### Industry Submission

11. IDA received the following comments from several industry respondents on OpenNet’s proposed changes:
  - (a) OpenNet’s proposed changes would restrict the number of requests for each Business Day and RLs would not be able to fully utilise the 2,400 Requests per week, since the demand for such Requests would differ for each Business Day in a week. Therefore OpenNet should maintain the current clause to process requests per week for all Schedules in OpenNet’s ICO.
  - (b) It would not be acceptable for OpenNet to seek to change its quota from a weekly quota to a daily quota because such a proposed change would lead to inefficiencies as there would be a higher chance of daily quotas not being fully utilised, as compared to weekly quotas.
  - (c) Considering the surge in demand for fibre broadband services during the 2011 PC and Comex Shows, it would be important for OpenNet to review its resources and increase the quota to keep pace with the rapid take up of Next Gen NBN.
  - (d) The existing OpenNet quota (of 2,400 orders per week) was a major constraint in the take-up of Next Gen NBN services. The problem would be worsened with a daily quota. It would therefore be necessary

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<sup>1</sup> Due to increases in demand, OpenNet has decided to increase its quota such that it would process not more than 2400 Requests per week, with a daily quota limit of 480. The increase was however not reflected in the ICO.

for IDA to mandate: (i) a significant increase in the OpenNet quota; and (ii) the establishment of a separate quota for Non-Residential orders.

- (e) The quota and therefore the queue for Non-Residential service provisioning should be separate and distinct from that for Residential service provisioning. Such an arrangement would ensure that Non-Residential Orders (which were typically lower in number than Residential Orders) would not get delayed when the quota for Residential Orders was fully utilised.
- (f) Notwithstanding having separate quotas for Residential and Non-Residential orders, OpenNet should also ensure that where the quota from one service was not fully utilised, it would be automatically used to fulfil orders from another service. This would ensure that the overall quota could be fully utilised, and would reduce the chances of an order backlog.
- (g) IDA should impose on OpenNet a requirement to monitor its backlog, and where there was evidence to suggest that OpenNet would not be able to meet its SAP for a specified time period, OpenNet should increase its quota (at no additional cost to its RLs) to meet its Service Activation Period (“SAP”).
- (h) OpenNet’s quota should not be applicable to requests for termination, and the quota should be solely used for orders for new services.

### IDA Assessment

12. IDA has carefully considered the comments from the industry and considers it imperative that there should be an adequate service provisioning quota to meet the increasing demand for Next Gen NBN services. The quota of 2050 orders per week was submitted by OpenNet as part of its bid proposal to the Next Gen NBN NetCo Request For Proposal. However market evidence has shown that this quota is no longer sufficient and is not responsive to market demand resulting in long waiting time for end-users.
13. OpenNet has further proposed to modify the weekly quota to a daily quota. In considering the operational need to manage a weekly quota on a daily basis, IDA agrees that it may not be unreasonable to allow OpenNet to propose a daily quota, provided that the proposed daily quota is substantially better than the current weekly quota system and is responsive to market demand.
14. Taking into consideration all the relevant circumstances, IDA hereby directs OpenNet to propose changes to its ICO as follows:
  - (a) OpenNet is to propose a new quota taking into consideration the demand from recent months to ensure that the newly proposed quota is sufficient to meet the increasing demand for connections to Residential and Non-Residential end-users;

- (b) OpenNet is to further propose a mechanism to allow for adjustments to its newly proposed quota on an ongoing basis, subject to the following requirements:
    - i. If OpenNet finds that more than a stipulated percentage of the quota has been used consistently over a stipulated period, OpenNet is to increase its quota accordingly within a stipulated timeframe;
    - ii. OpenNet is to stipulate the percentage, period and timeframe referred to in paragraph 14(b)(i), and provide justifications on why they are reasonable; and
    - iii. OpenNet must also ensure that the proposed mechanism accounts for and accommodates increased demand to cater to seasonal fluctuations (e.g., IT fairs). The mechanism should also ensure that orders for connections to Non-Residential end-users would still be fulfilled in a timely manner during such seasonal fluctuations;
  - (c) IDA has carefully considered the issue of splitting the quota and determines that it would be inefficient to split the quota to have a separate pool of capacity to cater to Non-Residential orders, which may result in sub-optimal use of resources within the sub-quota. As such, the newly proposed quota should not have any restrictions (i.e., it should not be differentiated by the type of premise or the type of provisioning work to be carried out), and it should be common to all Basic Mandated Services and Layer 1 Redundancy Services (i.e., there should not be separate quotas for Residential and Non-Residential orders); and
  - (d) The newly proposed quota should not be applicable to requests for termination and should be solely used for orders for services.
15. IDA is of the view that any increase in the quota to support the increased demand for Next Gen NBN services should not result in additional charges as additional costs should already be offset by the additional revenue to OpenNet which would accrue from the higher number of orders being processed.
16. That said, if OpenNet believes that it has strong reasons for IDA to consider allowing additional charges to be imposed, OpenNet may raise the issue at the upcoming NetCo ICO price review, pursuant to section 12 of the NetCo Code. Under section 12 of the NetCo Code, IDA shall review and may require OpenNet to modify the prices of Mandated Services set out in the ICO on the First Review Date which is the earlier of: (a) the date five years after the date that the ICO was first offered by OpenNet; or (b) at such time IDA may consider appropriate, provided that the First Review Date shall not be earlier than three years from the date that the ICO was first offered by OpenNet (i.e.,

not earlier than 26 April 2013, given that IDA required OpenNet to offer the ICO on 27 April 2010).

## Section 2 - New Patching Charges

17. OpenNet has proposed, in its Draft Revised ICO, to effect a new Patching Charge of S\$160 per Patch Cable for patching in the Main Distribution Frame Room (“**MDF Room**”) in respect of Residential End-User Connections (e.g., clause 1.4.1 of Schedule 15).
18. Further, OpenNet has proposed amendments to provide for charges for the deactivation of the Patching Service and/or the removal of the relevant Patch Cable to be charged on a per cable basis, with the amount payable depending on the Patching Location (e.g., clause 1.4.3 of Schedule 15 (in respect of Residential End-User Connection), and clause 2.3.4 of Schedule 15 (in respect of Non-Residential End-User Connection)). OpenNet has proposed that S\$30 be charged per Patch Cable deactivated/removed at the Central Offices and that S\$150 be charged per Patch Cable deactivated/removed at MDF Rooms.

### Industry Submission

19. IDA received the following comments from several industry respondents on OpenNet’s proposed amendments:
  - (a) OpenNet’s proposed amendments to clause 2.3.4 of Schedule 15 would enable OpenNet to impose additional patching charges without any justification, and would add to the costs of delivering the Next Gen NBN-supported services, which would ultimately impact on the costs that end-users would need to bear in order to subscribe to Next Gen NBN-supported services.
  - (b) In relation to the proposed Patching Charge of S\$160 per Patch Cable for patching in the MDF Room under clause 1.4.1 of Schedule 15, it should be noted that under clause 1.3.2 of Schedule 15, the Installation Charge for Residential End-User Connections already includes the charge payable for the Patching Service within the Building MDF Room. Hence, there would be no need to include the charge for the patching service at the MDF Room in clause 1.4.1. If OpenNet is to proceed with the additional Patching Charge, clause 1.4.1 should elaborate on the different scenarios where the additional Patching Charge at the MDF Room would be applicable. Clause 1.4.1 should also be amended to reflect that the additional Patching Charge would not be applicable where the Installation Charge under clause 1.3.2 applied.
  - (c) In relation to OpenNet’s proposed Patching Charge of S\$160 per Patch Cable for patching at the MDF Room under clause 1.4.1 of Schedule 15, the Patching Charges imposed by OpenNet were unreasonably high and much higher than industry norms. The additional charges

proposed by OpenNet in clauses 1.4.1 and 1.4.3 were likely to find their way back to end-users in the form of higher subscription rates.

- (d) In relation to the deactivation and/or removal charges under clauses 1.4.3 and 2.3.4 of Schedule 15, the charge for deactivation of the Patching Service in the MDF Room was excessive as the work done was simply a removal of the relevant Patch Cable at the MDF Room. The charges for the deactivation/removal of the Patch Cable at the MDF Room should be no higher than the deactivation charges at the Central Office. Based on the description of work in Schedules 1 and 2, OpenNet would not be retrieving the patch cables but simply unplugging the connectors. Therefore, the charge for such a service (i.e., deactivation of the Patching Service and/or removal of the Patching Cable) was unreasonably high.
- (e) The deactivation of the Patching Service and/or removal of the Patch Cable was of no relevance to the service ordered by the RL. Hence, this should not be included in the ICO. It is an operational matter for OpenNet to housekeep and to maintain its Network.

#### IDA Assessment

- 20. Having carefully considered all the industry comments, IDA agrees that OpenNet's proposed Patching Charge of S\$160 per Patch Cable for patching at the MDF Room (e.g., under Schedule 15 clause 1.4.1) has been subsumed under the Installation Charge. In this regard, IDA notes that clause 1.3.2 of Schedule 15 provides that "The Installation Charge comprises **the charge payable for the Patching Service within the Building MDF Room**, onsite manpower charges and cable drop from DP to ..." (emphasis added). With regard to the patching removal or deactivation charge for existing services, IDA agrees that such patching deactivation and/or removal should similarly be considered part and parcel of OpenNet's housekeeping and maintenance of its Network. Notwithstanding the above, if OpenNet wishes to review its existing service activation and termination related pricing, IDA considers that it would be more appropriate for IDA to review OpenNet's proposed new Patching Charge of S\$160 per Patch Cable for patching in the MDF Room and proposed charges for the deactivation of the Patching Service and/or the removal of the relevant Patch Cable, with the exception of relocation of services to different premise, in the upcoming NetCo ICO price review, pursuant to section 12 of the NetCo Code.
- 21. On the patching removal or deactivation charge for relocation of services from one residential premise to another residential premise, which is a new service proposed under the IDA Initiated Changes with new work activities involved, IDA's view is that there is reasonable ground for OpenNet to include the charge. IDA will therefore take the above into consideration when reviewing the charges for the said relocation of services offered under the ICO.

22. Accordingly, IDA hereby directs OpenNet to remove its proposed new charges relating to patching in the MDF Room and the deactivation of the patching service and/or removal of the relevant patch cable. The exception to the above will be the deactivation of the patching service and/or removal of the relevant patch cable in the MDF Room during the relocation of services to a different premise.

### **Section 3 – Service Provisioning Delays**

23. As part of the ICO review, IDA had required OpenNet to propose certain changes to its ICO to improve the current process in relation to the provisioning of Non-Residential End-User Connections in order to address issues related to long provisioning times for Non-Residential End-User Connections.

#### Industry Submission

24. Several industry respondents have made the following comments:
- (a) For both Residential and Non-Residential orders, there have been significant provisioning delays due to OpenNet, resulting in service cancellation by frustrated customers in a number of cases. In respect of Non-Residential Connections, OpenNet had failed to meet the SAPs in the ICO for the majority of cases. The SAPs prescribed in the ICO should be strictly followed by OpenNet, failing which effective penalties should be imposed on OpenNet, and adequate compensation should be provided by OpenNet to the RLs.
  - (b) Between January and October 2011, OpenNet failed to deliver 70% of its Non-Residential orders within its stipulated SAP, and in many cases, the eventual length of delay lasted several months. The effect of OpenNet's service delivery performance in the Non-Residential market had caused significant frustration to RSPs and corporate end-users.
  - (c) The cancellation charge currently imposed by OpenNet should not apply if OpenNet fails to discharge its duty in accordance with the ICO, for example where OpenNet misses its SAP, as the RLs should not be penalised for OpenNet's failures. Further, for delays of more than 2 weeks, RLs should have the option to cancel the order without charge.

#### IDA Assessment

25. IDA has observed that OpenNet has a longer provisioning time for the provision of Non-Residential End-User Connections due to a variety of issues attributable to various parties, in particular building owners/developers and OpenNet. Arising from the above, IDA has been working with OpenNet to review its internal processes to improve its efficiency and its performance to reduce service provisioning time. However, there remain a number of issues related to OpenNet's inability to gain access to buildings, particularly Non-Residential buildings. When such issues arise, IDA may facilitate a meeting



between the building owner/developer and OpenNet to clarify the roles and responsibilities of each party, and IDA has done that on a number of occasions. In addition, IDA has updated the Code Of Practice for Information Communication Facilities (“**COPIF**”) Guidelines<sup>2</sup> to more clearly reflect the roles and responsibilities of building owners/developers.

26. Notwithstanding that delays may not be solely due to OpenNet, IDA has carefully considered all the feedback, and considers that the current process in relation to the provisioning of Non-Residential End-User Connections, in particular the long provisioning times for Non-Residential End-User Connections, is unsatisfactory.
27. As such, in order to further improve the current situation of long provisioning time to Non-Residential end-users and to address the situations where end-users cancel their service with RLs due to long delays, IDA has determined that the ICO terms must be improved. IDA agrees with the industry that where OpenNet is unable to provision services after an undue delay (i.e., delays that are longer than 2 weeks from the Request For Service (“**RFS**”) date), there is a possibility that the end-user in question may decide to cancel its service with the RL. Considering that this is beyond the control of the RL and through no fault of the RL, the RL should be allowed to cancel such orders without charge. Similarly, if OpenNet is unable to provision its Residential End-User Connections after an undue delay, it should also allow RLs to cancel such orders without charge.
28. IDA further considers that, in order to facilitate the provisioning of service to Non-Residential Premises by RLs, OpenNet should extend greater flexibility by allowing RLs to also pick up OpenNet’s connection at an intermediate point between the serving FTTB Node/MDF Room and the Non-Residential premise. The RL would then perform the necessary work to provision its services from that intermediate point to the Non-Residential premise which it is serving. In IDA’s opinion, a logical intermediate point would likely be near the vertical telecommunication riser (designated to service the particular Non-Residential Premise) which is located on the same level/floor as the particular Non-Residential Premise.
29. Accordingly, IDA hereby directs OpenNet to modify its ICO as follows:
  - (a) OpenNet must waive any cancellation charges (currently equivalent to the Installation Charge) for long unresolved delays. For Non-Residential End-User Connections, long unresolved delays are delays that are longer than 2 weeks after the RFS date. As for Residential End-User Connections, OpenNet shall propose for IDA’s consideration the period of delay for which it would waive the cancellation charges; and

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<sup>2</sup> The COPIF Guidelines stipulates the detailed specifications of the space and facilities which developers or owners of buildings are required to provide under COPIF.

- (b) OpenNet must propose the prices, terms and conditions for the option described in paragraph 28 above under its Non-Residential End-User Connections Schedule. As this option is a subset of the existing Non-Residential End-User Connection service offering under the ICO, the charges and the SAP that it can offer as a result of the option should be no higher and longer than the standard form of the service where OpenNet deploys fibre to the Non-Residential premise.

#### **Section 4 – Penalty Framework**

30. The penalty framework under the current ICO provides that in the event OpenNet fails to meet the applicable Service Level Guarantees (“**SLGs**”) in respect of a Request or a service, OpenNet shall rebate the RL an amount up to 30 times the associated Weekly Recurring Charge or 10% of the Monthly Recurring Charge for the type of connection requested or provisioned.

#### Industry Submission

31. Several respondents have commented that the current penalty framework under the ICO was too low. One respondent commented that with the increase in adoption of Next Gen NBN services, there would be a need for a more stringent penalty framework in the ICO, as the current penalties under the ICO were not a sufficient deterrent to ensure that OpenNet meets its SAPs.
32. Another respondent observed that from April to September 2011, OpenNet had not met its 8 hour Mean Time to Repair (“**MTTR**”) in any month, but had only paid out a total compensation of S\$958 (Residential) and S\$54 (Non-Residential) for the 6 months, and added that such compensation was insufficient to ensure that OpenNet would take its obligations seriously. The same respondent noted that IDA has imposed a Quality of Service (“**QoS**”) framework on OpenNet in relation to installation-related faults, but noted that it was downstream users that suffer. Hence, there was a need for a compensation framework (in addition to the QoS framework) to ensure that at least a part of the costs incurred by RLs as a result of OpenNet’s failure to meet its SAPs would be recovered from OpenNet. In addition, the same respondent noted that the current ICO did not address delays beyond 30 days and that there were no punitive measures to ensure that further delays would be avoided, hence there was a need for a multiplier to be applied for delays beyond 30 days.

#### IDA Assessment

33. IDA has carefully reviewed the feedback, and considers that the current compensation scheme should be maintained, as the penalties imposed on OpenNet should be commensurate with the charges of the service provided. Assuming that the maximum penalty is imposed on OpenNet for failing to meet its SAP (i.e., 30 times the Weekly Recurring Charge), this amount would be approximately 7 times the Monthly Recurring Charge (i.e., 7 months of the yearly revenue). Given that the RL can terminate the service after the

minimum duration of 12 months without penalty, the compensation level is quite a large proportion of the annual charge. In addition, IDA also noted that such a compensation scheme is not unique to OpenNet and is also implemented in other industry service offerings (e.g., in Singapore Telecommunications Limited's Reference Interconnection Offer).

34. Accordingly, IDA considers that the penalty framework under the current ICO, which is commensurate with the charges of the service provided, should be maintained at this juncture. Notwithstanding the above, where the situation warrants, not limiting to OpenNet failure to fulfil the requirements in the respective codes and/or its licence, or where there are persistent and systemic performance issues pertaining to OpenNet's service offerings, IDA may take appropriate enforcement actions and/or implement additional QoS standards on OpenNet.

## **Section 5 – Third Party Fibre Access to OpenNet's Connectivity Points**

### Industry Submission

35. One respondent commented that OpenNet's ICO should allow RLs to access Mandated Services at any technically feasible Connectivity Point without having to acquire segment services or Co-location Services from OpenNet. The respondent also commented that OpenNet's ICO should allow RLs to deploy their own fibres to connect directly to their own Fibre Distribution Frame ("**FDF**") within OpenNet's Co-location Space or OpenNet's FDF within OpenNet's NetCo Room. IDA has carefully considered the respondent's submission.

### IDA Assessment

36. At the outset, IDA would like to stress the importance of effective and sustainable competition as a regulatory principle, as well as the need to ensure inter-operability and reasonable access to networks to prevent impediments to effective competition in and growth of the industry, as set out in section 1.5.2 of the Telecom Competition Code 2010 ("**TCC**"). Where the Next Gen NBN is concerned, one of IDA's policy objectives is to ensure fair and open interconnection and access to the fibre infrastructure and associated facilities provided by OpenNet.
37. On this note, IDA refers to section 6.1 of the Minimum Requirement for ICO (Appendix 1 to the NetCo Code), which provides that OpenNet should offer access to its infrastructure at any technically feasible Connectivity Point in order to access Mandated Services provided by OpenNet. IDA understands that the OpenNet NetCo Room is not designed to allow RLs to pick up traffic directly at these points and RLs are unable to deploy their own fibres freely within the OpenNet Central Office. On the contrary, the current layout of the OpenNet Central Office was designed on the understanding that RLs would situate their equipment within the OpenNet Co-location space. As a result, there may be design limitations and/or space constraints that prevent RLs

from deploying their own fibres within the OpenNet Central Office and being offered direct interconnection at the OpenNet NetCo Room.

38. In this respect, IDA further refers to its direction to OpenNet titled “Direction of the Info-Communications Development Authority of Singapore: IDA’s Public Consultation on Proposed Interconnection Offer for the Provision of Services on the Next Generation National Broadband Network”, dated 3 July 2009 (the “**3 July 2009 Direction**”), and the accompanying Explanatory Memorandum (the “**3 July 2009 Explanatory Memorandum**”).
39. In paragraph 5(d) of the 3 July 2009 Direction, IDA had required OpenNet, where it is requested by any NetCo Qualifying Person (“**QP**”) who is a Facilities-Based Operator (“**FBO**”), to negotiate a Customised Agreement in good faith to allow it to access Connectivity Points in OpenNet’s Network for the purpose of deploying its own telecommunication cables to interconnect with OpenNet’s network. IDA had additionally stipulated that, where the Connectivity Point is at OpenNet’s Central Office, OpenNet shall ensure that the Customised Agreement provides for the following, at a minimum, to facilitate deployment of the relevant NetCo QP’s cables into the Central Office:
  - (a) Access to lead-in ducts and associated manholes connecting to the Central Office;
  - (b) Cable trays;
  - (c) Trunking to route cables from lead-in ducts to the NetCo QP’s FDF in the Co-location Space; and
  - (d) Any other necessary supporting services.
40. For the avoidance of doubt, IDA hereby clarifies that OpenNet continues to be subject to the requirements of the 3 July 2009 Direction as stated in the preceding paragraph.
41. In light of the above, the present requirements on OpenNet already provide for the services suggested by the respondent at the OpenNet Co-location Space. Accordingly, IDA considers that there is no need at this juncture to require OpenNet to provide such service offerings at OpenNet’s FDF at OpenNet’s NetCo Room in its ICO. Instead, parties should seek to negotiate a Customised Agreement in good faith, in accordance with IDA’s existing requirements as stated above and the procedures set out in section 6 of the NetCo Code. IDA further notes that, in the event that parties experience any disputes arising out of the negotiation of a Customised Agreement, they may submit a request for conciliation to IDA under section 13 of the NetCo Code. If IDA decides to determine the dispute, IDA will review the charges quoted by OpenNet to ensure that they are reasonable and non-discriminatory.

## Section 6 – Bypassing RL/RSP

42. Currently, under the layered industry structure of the Next Gen NBN, it is the RSPs' role to interface with end-users and to bill end-users for any charges passed on from OpenNet.

### Industry Submission

43. Several industry players commented that overly strict adherence to the layered industry structure may in some instances result in inefficiencies and inconvenience. Some respondents suggested that end-users should be able to interface and deal directly with OpenNet for certain TP-related services such as installation, relocation and fault rectification.
44. For example, one respondent commented that in cases where an end-user requested service from an RSP but did not have a TP installed in his/her home, OpenNet would not deal with the end-user directly but would require the end-user to request an installation appointment through the RSP, who would relay the information to OpenNet or relay such information via an intermediate supplier (e.g., RLs like Nucleus Connect Pte Ltd) to OpenNet. In the event that there were difficulties in arranging the appointment, the entire process would have to be repeated. Another respondent commented that in cases where end-users had requested additional internal cabling, and/or required the use of deployment techniques other than open ducting during the installation process, the RLs might not have been informed of the details for such requests and the charges involved, which would lead to delays and confusion during the billing process.

### IDA Assessment

45. IDA has reviewed the feedback and considers that there is merit in the points raised by industry respondents. IDA considers that in some instances, it would promote greater efficiency and convenience if end-users are able to deal directly with OpenNet, and be billed directly by OpenNet, for TP-related services. Accordingly, IDA considers that end-users and RLs should be accorded the flexibility to decide between: (a) dealing with OpenNet for TP-related services through the existing arrangement, and (b) allowing end-users to bypass the RLs/RSPs to deal directly with OpenNet.

Accordingly, IDA hereby requires OpenNet to also offer equivalent retail service offerings to end-users for TP-related services (i.e., installation, removal, relocation and repair of TP), subject to OpenNet obtaining the necessary approval from IDA for such services.

## Section 7 – Classification of Premises

46. In OpenNet's Draft Revised ICO, OpenNet had proposed to modify the definitions of "Residential Premise" and "Non-Residential Premise". In particular, OpenNet had proposed to introduce a minimum 'length-of-stay' requirement (which is not currently in the ICO) for Residential Premises – premises would have to be designed, adapted or used for human habitation

*other than on a daily, weekly or monthly basis*, in order to qualify as a “Residential Premise”. In addition, OpenNet proposed to link the definition of “Non-Residential Premise” to the definition of “non-residential building” in the COPIF.

### Industry Submission

47. During the Public Consultation, IDA received feedback from a number of respondents on OpenNet’s proposed revised classification of premises. A number of respondents commented that there was a need for greater clarity and certainty for classifying premises for the purpose of Next Gen NBN service provisioning. Some respondents further noted that OpenNet’s proposed changes would effectively confer upon OpenNet the right to determine the classification of premises between Residential and Non-Residential use, which would reduce the level of clarity and certainty involved. Some respondents also noted that under OpenNet’s proposed revised definitions, some former Residential Premises (e.g., service apartments, student hostels, and workers’ dormitories) would end up being reclassified as Non-Residential Premises. This would in turn result in an end-user who lives in such premises having to pay Non-Residential rates for services.

### IDA Assessment

48. Having considered the changes proposed by OpenNet, and the related feedback, IDA considers that there is merit in maintaining a greater level of certainty in terms of the classification of Residential and Non-Residential Premises. In this respect, IDA considers that OpenNet’s proposed changes to the classification of premises could potentially result in greater uncertainty amongst industry players and end-users. For example, while most end-users would stay in hotels for a short duration, there may be other end-users who may stay in hotels for extended periods of time. Under such situations, different treatment would be required for each premise type above under OpenNet’s proposed change which may cause confusion. IDA further agrees that OpenNet’s proposed changes would indeed result in a reclassification of some premises from Residential to Non-Residential, and notes that OpenNet has not offered any justification for this.
49. Notwithstanding the above, IDA recognises that there may be cases where the actual use of a premise may have changed, or there may be good reasons why premises should be classified differently from the default classification (e.g., an end user residing in a bungalow converts the premises into a pre-school). In such cases, it would be more appropriate for the RL to apply for an end-user connection based on the type of use at the point of application. Therefore, it is necessary for OpenNet to propose a process such that an RL could provide evidence of the change of use so as to allow OpenNet to change the corresponding classification and allow the RL to apply for the services accordingly. In addition, IDA is also prepared to accept exception-based treatment of a particular premise from the default classification on a case-by-case basis provided that OpenNet can provide the necessary justification for such treatment.

50. Further, similar to the process proposed by OpenNet to assist the industry to determine whether a particular location should be considered a Non-Residential Premise or a Non Building Address Point (“**NBAP**”), IDA is of the view that there is also merit for such a process to assist the industry, in a timely manner, to ascertain whether a particular premise should be considered a Residential Premise or a Non-Residential Premise.
51. Accordingly, IDA directs OpenNet to propose changes to its ICO as follows:
- (a) OpenNet must remove its proposed changes to the definition of “Residential Premise”, and to restore the existing definitions, unless it can propose changes to the definition such that:
    - i. There is, as far as reasonably possible, no ambiguity as to what constitutes “Residential Premises”; and
    - ii. Premises that are currently classified as Residential Premises under the existing definition would not be reclassified as Non-Residential Premises under the new definition proposed by OpenNet, unless OpenNet can justify otherwise (as described in paragraph 49);
  - (b) OpenNet must propose changes to the definition of “Residential Premise” so as to clarify that a Residential Premise can also exist within a building that is also used for Non-Residential purposes;
  - (c) OpenNet must propose a process to assist the industry, in a timely manner, to ascertain whether a particular premise should be considered a Residential Premise or a Non-Residential Premise, similar to the process proposed by OpenNet to assist the industry in determining whether a particular location should be considered a Non-Residential Premise or an NBAP. In the process, OpenNet should also address what the parties should do if they cannot agree to the classification. In IDA’s opinion, the parties should follow the dispute resolution process in the ICO but with a shorter timeframe as the item under dispute is not complex; and
  - (d) OpenNet must propose a process to allow an RL to provide evidence of a change in usage of a particular premise, following which OpenNet would change the classification of the premise accordingly.
52. For completeness, IDA refers OpenNet to IDA’s Required Modifications in relation to the definition of “Non-Residential Premise”, as set out in Appendix 20 of this Direction. IDA reminds OpenNet that any changes proposed by OpenNet to the definition of “Residential Premise” should be consistent with OpenNet’s definition of “Non-Residential Premise” and IDA’s Required Modifications thereto.

## Section 8 – Prices For New Services

### Industry Submission

53. IDA notes that several respondents to the Public Consultation had expressed concern with the unreasonableness of OpenNet's proposed charges and the lack of justification thereof.

### IDA Assessment

54. In this respect, IDA would like to highlight an example of a new service (i.e., installation of second/subsequent Termination Point ("TP")) in Schedule 15, clauses 1.3.2 and 1.3.3, of OpenNet's Draft Revised ICO. IDA notes that OpenNet has proposed to impose an installation charge of \$220 per connection for first TPs versus \$303 per connection for second TP in High-Rise Residential Buildings, and an installation charge of \$450 per connection for first TPs versus \$578 per connection for second TP in Landed Residential Premises. IDA considers that there is a significant difference between the pricing for first and second TPs.
55. Previously, OpenNet's ICO had only specified the terms for installation of a first TP. IDA had in the current ICO review considered that end-users should have the option of requesting installation of additional TPs, and had required OpenNet to clarify the prices, terms and conditions associated with the installation of the first and additional TPs for Residential and Non-Residential premises. In addition, IDA had stated that it was prepared to allow OpenNet to propose terms and conditions for additional TPs that differ from those of the first TP, but subject to the requirement that OpenNet must first provide a satisfactory justification for any differentiated prices, terms or conditions.
56. IDA has carefully considered the proposed changes made by OpenNet in its Draft Revised ICO for the new services, as well as the feedback received from the Public Consultation, and considers that the concerns raised are not unwarranted. IDA wishes to highlight that it is the responsibility of OpenNet to ensure that all costs are reasonably incurred and incurred for the purpose of services set out in Schedule 15. Accordingly, IDA would require OpenNet to provide documentary evidence that its proposed cost incurred for the new services is in line with the industry norm of an economically efficient firm. Where OpenNet is unable to justify the above, IDA may decide not to allow OpenNet to fully pass on such costs of providing services to its RLs.

## Section 9 – Timely Status Updates

### Industry Submission

57. The industry has also commented that there would be a need for a greater degree of status updates to be provided by OpenNet in relation to faults and outstanding orders. Several industry respondents commented that OpenNet did not currently provide adequate status updates in relation to outstanding orders and related faults and delays. A number of respondents also reported



instances where there had been delays in service provisioning but no information was forthcoming from OpenNet. There were also several comments that the lack of status updates from OpenNet had led to difficulties on the part of RLs in being able to address the concerns of end-users, who were affected by such delays and would expect updates to be provided on such delays. One respondent also suggested that, in cases where OpenNet cites obstruction by building management as the reason for a delay, OpenNet should be required to furnish a 'certificate' containing details on the type of obstruction. A couple of respondents also suggested that OpenNet should be required to provide status updates at various key milestones during the SAP, to be stipulated within the ICO.

### IDA Assessment

58. Having reviewed the industry's feedback as well as the current industry situation, IDA agrees that OpenNet's downstream customers and end-users should be given more timely status updates in relation to faults and outstanding orders and any delays thereto. These parties are likely to be impacted by delays in service provisioning or unavailability of service, and it would be reasonable for them to expect OpenNet to take reasonable steps to give them timely updates on the status of their order or service.
59. In respect of the comment on the provision of status updates at various key milestones during the SAP, IDA agrees that this would help to ensure the provision of timely status updates to OpenNet's customers. On the suggestion to have a "certificate" containing details on the type of obstruction, IDA is of the view that it would be more efficient for OpenNet to furnish documentary evidence only in cases where RLs have genuine disputes as to the cause of a delay. OpenNet should however provide the reasons for such delays in its status updates.
60. Accordingly, IDA hereby directs OpenNet to propose, for IDA's review and approval, changes to its Draft Revised ICO to stipulate that timely status updates will be provided to RLs on faults and outstanding orders. In OpenNet's proposal, it should at a minimum include the following:
  - (a) Completion of key milestones during the service provisioning for Non-Residential End-User Connection. For example, the completion of site survey, submission of plan to building management and installation of cabling;
  - (b) Where there is a delay during service provisioning (e.g., building management misses its appointment or building management postpones the date of service provisioning), OpenNet should provide the reasons for the delay/postponement and should further provide the estimated/revised timeframe to complete service provisioning; and
  - (c) When a fault is discovered in its network, a periodic update on the resolution of the particular fault as well as an update when there is a change of status (e.g., OpenNet has completed its investigation up to

the FTTB Node). In addition, OpenNet should provide details of the fault and corrective action taken upon the resolution of the fault.

## **Section 10 – Details on Automated Processes**

### Industry Submission

61. Comments were also submitted in relation to OpenNet's automated operational processes, in particular, OpenNet's online ordering and provisioning processes. A couple of respondents noted that, to a large extent, OpenNet's ICO presently only reflected its manual processes. For example, Schedule 1 of the Draft Revised ICO provided for a request for Residential End-User Connection to be made via submission of the physical form set out therein, whereas in reality such a request could be submitted via OpenNet's Platform or via Business-to-Business ("**B2B**") interfaces with the RLs.

### IDA Assessment

62. Having reviewed the submissions on this subject, IDA considers that, in the interests of clarity, OpenNet's ICO should be updated to reflect that OpenNet has launched its Platform and has started B2B transactions with the RLs. As OpenNet and the RLs have been relying to a significant extent on the Platform and B2B transactions to process orders for service provisioning, there is a need for the ICO to reflect these changes.
63. Accordingly, IDA hereby directs OpenNet to propose, for IDA's review and approval, the necessary changes to its Draft Revised ICO to reflect the fact that OpenNet has launched its Platform, commenced B2B transactions and that orders are processed through such means. In proposing these changes, OpenNet must ensure that it complies with the provisions of the NetCo Code, including section 7 of the NetCo Code, and section 10 of Appendix 1 of the NetCo Code<sup>3</sup>.

## **Section 11 – Processing of Trouble Tickets**

### Industry Submission

64. IDA has also received feedback concerning the manner in which OpenNet handled trouble tickets in relation to faults raised by RLs. One respondent complained that OpenNet's current trouble ticket process allowed OpenNet to update a trouble ticket status to "resolved", regardless of whether the fault had actually been successfully rectified. In the event that the fault had not been properly rectified, the affected RL had no means of reopening the same trouble ticket, but would instead have to raise a new trouble ticket.

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<sup>3</sup> Section 7 of the NetCo Code specifies the requirements which OpenNet needs to comply in relation to its Platform. These include the information to be made available, the people who could access the Platform. Section 10 of Appendix 1 sets out what OpenNet needs to include in its ICO in relation to the Platform and provides further details on these requirements.

### IDA Assessment

65. IDA has considered the feedback on this issue, and is of the view that there is merit in clarifying IDA's position on the above. In order to ensure that OpenNet's service levels remain at an acceptable level, OpenNet must ensure that each fault that has been raised by RLs has actually been rectified, before it can declare the fault to be resolved.
66. IDA would therefore like to remind OpenNet that:
  - (a) Where a fault has not been reasonably ascertained by OpenNet and the RLs to have been successfully resolved, OpenNet should not unilaterally close the trouble ticket in question; and
  - (b) In cases where a trouble ticket has been raised and subsequently closed, and an RL claims that the trouble ticket (or reported fault) in question has not actually been successfully resolved, OpenNet must reopen and reexamine the same trouble ticket.

### **Section 12 – Charges for Missed Appointments**

67. In OpenNet's Draft Revised ICO, OpenNet had sought to introduce a "Missed Appointment Charge". At clause 1.16 of Schedule 15 of its Draft Revised ICO, OpenNet had proposed that, in the event an RL had failed to inform OpenNet of any changes in appointment date/time and OpenNet's Contractor had shown up at the appointed date/time, the RL would be liable to pay a charge of S\$50.

### Industry Submission

68. A number of respondents commented on this proposed change. Several respondents submitted that OpenNet was itself responsible for numerous missed appointments and should be subject to reciprocal charges, i.e., required to pay Missed Appointment Charges where it was at fault. One respondent submitted that the ICO should be revised to include more details on the applicable processes to be followed by the parties in the event of missed appointments.

### IDA Assessment

69. IDA has considered the comments and notes that missed appointments may be the fault of different parties, including OpenNet, the RLs, or the end-users. IDA is of the view that imposing a Missed Appointment Charge, whether on one party or on multiple parties, is not the most effective and constructive way of managing missed appointments. Instead, IDA considers that a more effective approach would be for IDA to require OpenNet's ICO to contain improved processes that allow for better communication and coordination between the various parties involved in each appointment. With improved communication and coordination between the parties, the number of incidents of missed appointments should naturally be reduced without the need to

impose Missed Appointment Charges at this juncture. IDA will monitor the situation and should such a charge be considered still necessary at a later stage, IDA would agree that such a proposed charge be placed on both OpenNet and RLs.

70. Accordingly, IDA hereby directs OpenNet to remove the proposed Missed Appointment Charge from the various parts of its Draft Revised ICO. In addition, IDA also directs OpenNet to propose, to the extent possible, the necessary changes to its Draft Revised ICO to include, in sufficient detail, standard processes that would allow OpenNet and RLs to contact their respective officers without delay and share relevant information in the event of missed appointments, and to resolve the situation. This should include standard processes for rescheduling appointments and/or booking additional appointments.

### **Section 13 – Database Errors and Additional Information**

#### Industry Submission

71. The industry has related that there had been several cases of errors in OpenNet's coverage database, and that OpenNet would take a considerable time to rectify the errors after being alerted. The industry has also requested for a number of information to be provided by OpenNet (e.g., configuration of splitter deployment and length of diverted fibre).

#### IDA Assessment

72. On the first point, while most of such error scenarios may be captured by the Mandated Services Information ("MSI") remedy framework, IDA would nevertheless like to remind OpenNet of its obligation to correct such errors, when they are discovered or upon being informed of such errors, as soon as reasonably practicable. While OpenNet is in the process of correcting such errors in its systems, OpenNet should continue to allow RLs to place orders for the relevant services in the meantime. In addition, OpenNet should also not impose cumbersome or unnecessary procedural or other requirements on RLs who wish to place orders for these services.
73. On the point about additional information, it appears that the additional information requested by RLs appears rather specific to the requirement of each RL. In this regard, IDA is of the view that it is not necessary for OpenNet to amend its ICO to capture this requirement but more appropriate for the RL to separately request for such information from OpenNet.

### **PART III: CONCLUSION**

74. In conclusion, IDA assures the industry that it will be subjecting the ICO prices, timelines, processes, terms and conditions to review from time to time, and that as the Next Gen NBN matures, IDA will ensure that the ICO continues to be relevant to the industry and the prevailing market conditions in Singapore.