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5 October 2012

StarHub Ltd
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Attention: Mr Timothy Goodchild
Head (Government & Strategic Affairs)

Dear Sirs

**DECISION ON RECONSIDERATION IN RELATION TO FURTHER
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 ("ICO")
FOR THE PROVISION OF SERVICES OVER THE NEXT GENERATION
NATIONWIDE BROADBAND NETWORK**

1. Please refer to the following:
 - (a) IDA's direction dated 27 February 2012 in respect of the review of OpenNet Pte Ltd's ("**OpenNet**") ICO for the provision of services over the Next Generation Nationwide Broadband Network;
 - (b) IDA's direction dated 3 July 2012 in respect of the review of OpenNet's ICO for the provision of services over the Next Generation Nationwide Broadband Network ("**Further Direction**"); and
 - (c) The request to IDA dated 17 July 2012 to reconsider certain aspects of the Further Direction ("**Reconsideration Request**") made by the StarHub group of companies, namely StarHub Ltd, StarHub Mobile Pte Ltd, StarHub Internet Pte Ltd, StarHub Online Pte Ltd and StarHub Cable Vision Ltd (collectively, "**StarHub**").

Capitalised terms not specifically defined herein shall have the meanings ascribed to the terms in the Further Direction (including the accompanying explanatory memorandum).

2. Pursuant to Section 69(6) of the Telecommunications Act (Cap. 323) (the "**Act**"), IDA hereby issues its decision on the Reconsideration Request ("**Decision on Reconsideration**").
3. In arriving at this Decision on Reconsideration, IDA has carefully considered the issues that StarHub has raised in the Reconsideration Request. IDA's Decision on Reconsideration and the accompanying grounds for the decision are set out in the attached Explanatory Memorandum.
4. If you should require any clarification, please direct your written queries to the undersigned via email at IDA_ILO@ida.gov.sg.

Yours faithfully



Aileen Chia (Ms)
Deputy Director-General (Telecoms & Post)

EXPLANATORY MEMORANDUM

1. This Explanatory Memorandum sets out IDA's decision and the accompanying grounds for the decision on the Reconsideration Request submitted by StarHub dated 17 July 2012 in respect of IDA's Further Direction dated 3 July 2012 on the review of OpenNet's ICO.
2. Pursuant to Section 69 of the Act, StarHub has sought IDA's reconsideration on the following five issues in the Further Direction:
 - (a) Quota Adjustment Mechanism;
 - (b) Seasonal Slots;
 - (c) Charges for Non-Residential End-User Connections;
 - (d) Non-Building Address Points ("**NBAPs**"); and
 - (e) Definitions – Residential End-User Connection, Non-Residential End-User Connection and NBAP Connection.

ISSUE (A): QUOTA ADJUSTMENT MECHANISM

StarHub's Submission:

3. StarHub submitted that the following aspects of the Quota Adjustment Mechanism ("**Mechanism**") should be clarified and/or reviewed:
 - (a) the timing when the quota is changed needs to be clear. StarHub submitted that it is currently unclear when OpenNet will change the quota and this may prolong delays and lead to customers' dissatisfaction. StarHub proposed that the change be implemented within one week (from the start of the review month) of the Mechanism being triggered;
 - (b) the meaning of "consistently over a period of twelve (12) weeks" has to be clarified. StarHub submitted that this could mean usage on an average basis over the period or an absolute minimum that must be achieved each day over the period. StarHub submitted that the former interpretation should be the correct interpretation as demand for each day is unlikely to be consistent within the period;
 - (c) the meaning of "used" in the context of the trigger for the Mechanism has to be made clear. StarHub submitted that orders received by OpenNet, whether or not they were subsequently cancelled or rejected, would count towards the utilisation of the quota;

- (d) the treatment of Seasonal Slots in the Mechanism has to be stated. In StarHub's view, the Seasonal Slots should be excluded from the computation of the Mechanism when assessing the average demand during the twelve (12) week period; and
 - (e) the approach to ensure OpenNet's compliance with the Mechanism will need to be clarified, given that no individual Requesting Licensee ("RL") could monitor the Mechanism.
4. In addition, StarHub proposed that the review period for the Mechanism should be changed to an eight (8) week period (which is more flexible) and that the trigger percentages for the Mechanism should be reduced to 80% and 60% from the current 95% and 80% (respectively).

IDA's Assessment:

5. IDA is of the view that the one-week period proposed by StarHub for OpenNet to change the quota may be too short and does not provide sufficient lead time for OpenNet to increase its manpower and other resources. Instead, IDA would generally expect OpenNet to make changes to its quota in particular if an increase to its quota has been triggered within two (2) weeks from the start of each review month in most cases. For example, if OpenNet were to review the orders received from January to March (i.e., twelve (12) weeks) in the month of April for the purpose of adjusting the quota under the Mechanism, OpenNet is expected to implement the new quota by the middle of April. For the avoidance of doubt, the orders received in the month of April will be included for the next review period in July. Accordingly, IDA expects OpenNet to submit its proposed quota changes to IDA, including the supporting documentation, within two (2) weeks from the start of each review month for IDA's consideration. Notwithstanding this, where there are exceptional circumstances (e.g., there is a need for OpenNet to significantly increase its quota due to unanticipated or overwhelming demand), IDA may consider to extend the timeline to implement the new quota.
6. With regard to the meaning of "consistently over a period of twelve (12) weeks", IDA would like to clarify that IDA's intention and the proper interpretation of the phrase is usage on an average basis over twelve (12) weeks.
7. With regard to the interpretation of "use", IDA would also like to clarify that it should include all orders received by OpenNet, including those that are subsequently cancelled or rejected.
8. In relation to the role of Seasonal Slots in the Mechanism, IDA would like to clarify that StarHub's view is consistent with IDA's intention. As the basic quota and the Seasonal Slots quota are separate and serve different functions, the two should operate independently. In this regard,

utilisation of basic quota should be treated independently from the utilisation of the Seasonal Slots quota.

9. To ensure OpenNet's compliance with the Mechanism, IDA will carry out periodic audits on OpenNet's performance as to how it arrives at the new quota levels.
10. With regard to the review period and the trigger percentages proposed by StarHub, IDA believes that the current parameters provide more certainty to the industry and strike an appropriate balance considering the interests of the different parties concerned. IDA is of the view that a shorter review period of eight (8) weeks compared to twelve (12) weeks may not be reflective of actual utilisation trends and the increased frequency of quota changes may create confusion to the industry and end-users. With regard to the lower trigger percentages proposed by StarHub, IDA is concerned that this may result in excessive capacity being provisioned which would lead to inefficiencies. Further, as IDA explained in the explanatory memorandum to the Further Direction, there is a lack of compelling data or other reasons to justify why the review period and the trigger percentages are not workable at present. Unless there are compelling reasons to change these parameters, IDA will retain them for now. IDA will nevertheless continue to monitor market developments and may review these parameters where necessary in the future.

ISSUE (B): SEASONAL SLOTS

StarHub's Submission:

11. StarHub has requested the following clarifications regarding OpenNet's Seasonal Slots:
 - (a) the circumstances under which OpenNet would be required to deploy Seasonal Slots (other than IT fairs); and
 - (b) in relation to the explanatory memorandum to the Further Direction, what is meant by "... *unless there are exceptional fluctuations in demand, IDA would generally expect OpenNet to provide sufficient Seasonal Slots to enable it to fulfil seasonal demands within a reasonable period of time, which shall be in-line with any Quality of Service standards that IDA may issue from time-to-time ...*".

IDA's Assessment:

12. As stated in OpenNet's ICO and the Further Direction issued on 3 July 2012 (specifically paragraph 40 of the explanatory memorandum thereto), IDA has required OpenNet to provide Seasonal Slots to address seasonal fluctuations in demand (e.g. during the IT fairs in March, June, September and November). Where an RL has other requirements, to meet any other anticipated surges in demand, it may approach OpenNet to see whether alternative arrangements could be put in place via Customised Agreements.
13. With regard to what is considered "exceptional fluctuations in demand" or "sufficient Seasonal Slots", would ultimately depend on the facts of the matter. Without limitation, IDA would expect OpenNet to monitor the average demand of the previous IT fair when establishing the quota for the next Seasonal Slots to ensure that services can be provisioned in a timely manner. In this regard, IDA recognises that past trends in demand for its ICO services are a relevant factor for OpenNet to consider in forecasting its future demand. Hence, where the demand at a particular IT fair far exceeds the average demand from the immediately preceding IT fair, IDA may consider such an occurrence as exceptional in nature. OpenNet is however expected to adjust the quota accordingly for the subsequent Seasonal Slots to cater to the higher levels of demand.
14. As StarHub may be aware, IDA has recently issued a Quality of Service Standards Framework on OpenNet's Provisioning of Residential and Non-Residential End-User Connection Services ("QoS"). IDA therefore expects OpenNet's performance to be in-line with the timeframes as set out in the QoS framework, upon commencement of OpenNet's Universal Services Obligation.

ISSUE (C): CHARGES FOR NON-RESIDENTIAL END-USER CONNECTIONS ("EUCS")

StarHub's Submission:

15. StarHub submitted that IDA should review the standard charges levied by OpenNet for Non-Residential EUCs at different connection points to take into consideration the extent of work to be carried out by OpenNet and the RL respectively.
16. StarHub also submitted that OpenNet must state that the RL owns the cables where the RL has provided the cabling from the vertical telecommunication riser or the FTTB Node to the premises and that OpenNet will not use any of these cables. In addition, StarHub also submitted that OpenNet's ICO should be amended to further clarify the

hand-over point of Non-Residential EUCs where the RL deploys its own cabling from the MDF Room/FTTB Node¹.

IDA's Assessment:

17. IDA understands that StarHub is requesting IDA to review the current charges in OpenNet's ICO for existing ICO services, namely where OpenNet provisions the Non-Residential EUC to the Termination Point at the Non-Residential Premise or otherwise to the FTTB Node of the Non-Residential Premise. As StarHub is aware, IDA has only reviewed the charges for new ICO services (including the new option for Non-Residential EUCs where OpenNet provides the Termination Point in the vertical telecommunication riser) for the current review of OpenNet's ICO. For these new ICO services, IDA has audited and reviewed the relevant documentation provided by OpenNet to ensure that the charges are reasonable and reflect appropriate efficiencies. Where necessary, IDA has amended OpenNet's charges for these new services. For the existing services which have been included in OpenNet's ICO approved by IDA on 30 October 2009, StarHub would have known that they were submitted based on certain requirements in the NetCo Request For Proposal and were the result of a competitive bidding process. IDA has accepted OpenNet's bid and its terms therein and the agreed charges were established on that basis. In this regard, charges for these services are not part of the current review of OpenNet's ICO. Notwithstanding the above, IDA will be conducting a comprehensive price review of OpenNet's ICO services shortly. IDA is of the view that it is more appropriate to review the charges for existing ICO services during the price review. Accordingly, IDA's decision is to maintain the current charges for Non-Residential EUCs as stipulated under the Further Direction.
18. With regard to the ownership of cables deployed by RLs and the use of such cables, IDA notes that OpenNet's ICO has not made any ownership claim over them nor suggested that OpenNet will be able to use such cables installed by RLs. In this regard, IDA does not consider that it is necessary to amend OpenNet's ICO.
19. With regard to the hand-over point of Non-Residential EUCs where an RL deploys its own cables from the MDF Room/FTTB Node, IDA has already clarified that OpenNet will hand over the Non-Residential EUCs at the FTTB Node of the Building in which the Non-Residential Premise is located in the Further Direction issued on 3 July 2012 (for e.g., at paragraph 72(a) of the explanatory memorandum thereto). It follows that OpenNet's responsibility in its deployment of EUCs to Non-Residential Buildings will end at such a hand-over point. In this regard, IDA does not consider that it is necessary to amend OpenNet's ICO.

¹ StarHub quoted its letter dated 26 June 2012 in which it sought clarification from IDA on the hand over point of Non-Residential EUCs where an RL deploys its own cabling from the MDF Room/FTTB Node. IDA has subsequently responded to StarHub on 25 July 2012 on the above matter.

ISSUE (D): NBAPS

StarHub's Submission:

20. In its Reconsideration Request, StarHub has submitted that there could be circumstances in which a single NBAP might need to be connected to multiple points. StarHub said that it would be uneconomical if the RL had to purchase multiple NBAP connections for the above purpose and requested IDA to clarify that where an NBAP connection is used by one End-User, each NBAP may serve multiple points, if those points are in close proximity.
21. StarHub also submitted that RLs have very little information as to the network topography OpenNet uses to deploy its NBAPs and may therefore face considerable uncertainty as to the charges OpenNet will levy for NBAP services. To see greater take-up of NBAP services, StarHub submitted that OpenNet should be required to disclose its network layout to RLs.
22. StarHub further submitted that given the uncertainty of costs and timing of NBAP services, it should be possible for RLs to cancel the NBAP services without punitive cancellation charges. StarHub therefore requested that OpenNet be required to remove the cancellation charges.

IDA's Assessment:

23. IDA notes that where OpenNet provisions a Residential EUC to a specific premise for a particular End-User, OpenNet's service provisioning would be completed at the Termination Point within the said premise. The End-User will have the ability to decide for himself how he would want to utilise the connection within the said premise so that services can be made available to multiple points as long as they are within the said premise and are for the use of the same End-User.
24. Similarly, for an NBAP Connection, IDA is of the view that similar principles of usage should be adopted. As IDA has stated in the explanatory memorandum to the Further Direction, each NBAP Connection should be to one location and for the use of one End-User. In this regard, the End-User should have the same flexibility to utilise an NBAP Connection to multiple points as long as they are within the same location and are for the use of the same End-User.
25. With regard to the illustration raised by StarHub in its Reconsideration Request, namely where it was necessary to use an NBAP to connect up multiple security cameras in the lift lobby of a HDB block, where the NBAP Connection is for the use of the same End-User, IDA is of the view that such a scenario might be served by a single NBAP Connection as the deployment in question would be to the same location. That said IDA recognises that each NBAP deployment will be

unique and the demarcation of the boundaries of an NBAP location would ultimately depend on the specific facts of each case. In this regard, IDA intends to engage the industry subsequently to clarify on NBAP Connections and may issue further guidance where necessary.

26. For an NBAP Connection order, IDA understands that the location of the building MDF room (where OpenNet's splitters used for the NBAP Connections have been installed) is already available from the OpenNet Platform. Where OpenNet is required to provision the NBAP Termination Point to the desired location, OpenNet will have to perform a project study to determine how to best deploy to that location from the MDF room. Where the RL self-provides the NBAP Termination Point, the RL may determine its own deployment from the building MDF room to the desired NBAP location. In both cases, the RL does not require further information on OpenNet's network topology for the NBAP Connection order to be provisioned. In consideration of the above, IDA believes that there is already sufficient information available to the RL and there is no need to further amend OpenNet's ICO in this regard.
27. Due to the nature of an NBAP Connection, it is only possible for OpenNet to provide the costs and service activation time after it has completed its project study. While the RL could choose to cancel its order after receiving OpenNet's quotation, the RL should recognise that OpenNet would have incurred costs to perform the necessary project study. In view of the above, IDA considers that it is reasonable for OpenNet to impose a cancellation charge² on the RL to recover the costs that it incurs. Accordingly, IDA's decision is to maintain the cancellation charge as specified in the Further Direction.

ISSUE (E): DEFINITIONS – RESIDENTIAL EUC, NON-RESIDENTIAL EUC AND NBAP CONNECTION

StarHub's Submission:

28. In its Reconsideration Request, StarHub submitted that OpenNet's ICO would give OpenNet a wide discretion in deciding whether a particular premise/location should be a Residential Premise, Non-Residential Premise or NBAP. According to StarHub, this was inappropriate as OpenNet has direct financial incentive to classify a particular premise/location as the most expensive category. StarHub also added that the process for an RL to check on the classification of a premise/location and to dispute OpenNet's classification decision would be slow and controversial. StarHub requested that clearer definitions for Residential Premise, Non-Residential Premise and NBAP be set out, along with examples, in OpenNet's ICO and that IDA should act as the final arbiter on how particular connections are defined.

² IDA has required OpenNet to propose a fixed cancellation charge during the review of OpenNet's ICO as stipulated in Schedule 15. IDA has subsequently reviewed and amended the proposed charges.

IDA's Assessment:

29. IDA is of the view that the current definitions for Residential Premise, Non-Residential Premise and NBAP are largely adequate. In addition, to address exceptional cases, IDA had required OpenNet to: (a) provide a set of guidelines on how it would classify the respective premise/location; (b) include a process to allow an RL to check on the classification; and (c) incorporate a process to resolve disagreements over the classification of a premise/location promptly. The industry will therefore be guided by the definitions and guidelines in the classification of a particular premise/location. Where an RL has valid reasons to disagree on certain classification decisions made by OpenNet, there is also a process to resolve the disagreement promptly. In view of the above, OpenNet's ability to arbitrarily classify a particular premise/location is already tightly circumscribed. Additionally, the definitions and guidelines would provide sufficient clarity and certainty to the industry.
30. With regard to the effectiveness of the process to resolve disagreement over the classification of a premise/location, IDA considers that there is no evidence that the process is ineffective at present. Nevertheless, IDA will continue to monitor the situation and if the need arises, IDA will review and modify the process accordingly. Separately, while the current process does not involve IDA, the parties may mutually agree to refer the matter to IDA for our consideration.
31. Accordingly, IDA's decision is to maintain the current definitions and processes in OpenNet's ICO on the classification of a premise/location.