

EIGHTH SUPPLEMENTARY AGREEMENT

THIS EIGHTH SUPPLEMENTARY AGREEMENT is made _____ between:

- (1) **NUCLEUS CONNECT PTE. LTD.**, a company incorporated under the laws of Singapore with its registered office at 3 Tai Seng Drive #04-01, Singapore 535216 ("**Nucleus Connect**")
- (2) **STARHUB LTD**, a company incorporated under the laws of Singapore with its registered office at 67 Ubi Avenue 1, #05-01 StarHub Green, Singapore 408942 ("**Contracting QP**")

(together, the "**Parties**" and each, a "**Party**").

WHEREAS:

- (A) The Info-communications Development Authority of Singapore (the "**Authority**") has published a Singapore's Next Generation National Broadband Network ("**NGNBN**") Project Operating Company ("**OpCo**") Request for Proposal (the "**OpCo RFP**"). The OpCo RFP closed on 5 December 2008 and Nucleus Connect has been selected on 3 April 2009 as an OpCo to design, build and operate the active infrastructure of the NGNBN.
- (B) Under Nucleus Connect's Facilities-based Operator Licence issued by the Authority on 30 October 2009, the OpCo must offer certain mandated services to certain qualifying persons on the terms of an Interconnection Offer ("**ICO**"). Nucleus Connect's ICO was submitted approved by the Authority on 6 April 2010, with further amendments approved by the Authority on 19 April 2010, 21 July 2010, 6 October 2010, 14 March 2011, 25 April 2011, 1 November 2011, 4 May 2012, 12 March 2013 and 15 January 2014 (collectively, "**NC ICO**").
- (C) Further, the Parties entered into a customised NC ICO pursuant to which Nucleus Connect would supply certain mandated services to the Contracting QP on or about 16 August 2010, as amended and supplemented by mutual written agreement of the Parties (including the Supplementary Agreement dated 2 September 2010, the Second Supplementary Agreement dated 12 November 2012, the Third Supplementary Agreement dated 19 December 2012, the Fourth Supplementary Agreement dated 10 May 2013, the Fifth Supplementary Agreement dated 31 October 2013, the Sixth Supplementary Agreement dated 5 May 2014 and the Seventh Supplementary Agreement dated 17 July 2014) (collectively, the "**ICO Agreement**").
- (D) The Info-Communications Development Authority of Singapore has issued a tender (tender reference number: IDA (T)-1217) "**BULK TENDER FOR THE PROVISION OF SG-WAN BANDWIDTH SERVICES TO THE GOVERNMENT MINISTRIES/DEPARTMENTS, STATUTORY BOARDS, AND ORGANS OF STATE**" in November 2013 ("**IDA T1217 Tender**").
- (E) IDA has awarded IDA T1217 Tender to the Contracting QP.
- (F) Upon and subject to the terms and conditions of this Supplementary Agreement, Nucleus Connect will provide certain customised Mandated Services to the Contracting QP for the purposes of enabling the Contracting QP to deliver services pursuant to the IDA T1217 Tender.

NOW, THEREFORE, in consideration of the mutual agreements and obligations set forth herein, the Parties hereby agree as follows:

1. DEFINITIONS

- 1.1 Unless otherwise defined in this Supplementary Agreement or the context otherwise requires, all terms and expressions used in this Supplementary Agreement will be construed to have the same meanings as found in the ICO Agreement. Where a term or expression is defined specifically in this Supplementary Agreement, the provisions herein shall prevail.

2. COMMENCEMENT DATE

- 2.1 Nucleus Connect shall submit to the Authority a copy of this Supplementary Agreement.
- 2.2 This Supplementary Agreement shall take effect on a date (the “**Commencement Date**”) falling the later of:
- (i) the date on which this Supplementary Agreement is signed by both Parties; and
 - (ii) the date on which this Supplementary Agreement is approved by the Authority (or deemed approved by the Authority as provided for in the Code).

Notwithstanding anything in this Supplementary Agreement to the contrary, the Parties hereby acknowledge that this Supplementary Agreement will not be effective until approved by the Authority (or deemed approved by the Authority as provided for in the Code).

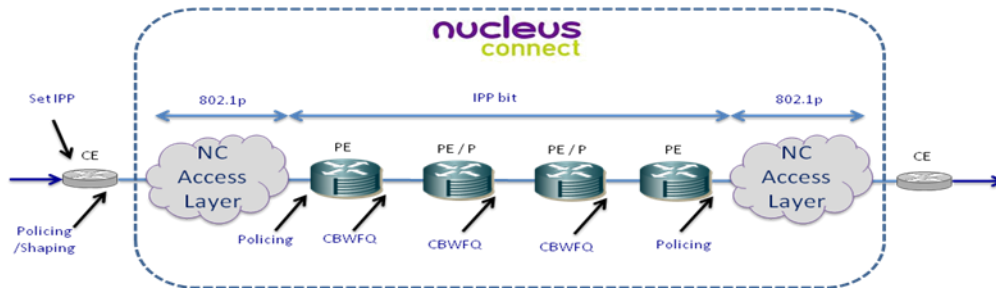
- 2.3 Notwithstanding any provision of this Supplementary Agreement, all customisations covered by this Supplementary Agreement shall only take effect from a date or date(s) to be notified in writing to the Contracting QP.

3. CUSTOMISATIONS TO L3 VPN SERVICE

Nucleus Connect shall provide such customisations to its L3 VPN Service as set out in Clauses 4 and 5.

4. SUPPORT FOR IP PRECEDENCE (IPP) BIT SETTINGS IN IP PACKETS

- 4.1 Subject to the provisions of this Clause 4, Nucleus Connect shall provide the following support for IP Precedence (IPP) bit settings in IP packets for L3 VPN Service (the “**IPP Support Customisations**”):
- (i) For IDA T1217 Tender, traffic is differentiated and classified by IP Precedence (“**IPP**”) bit settings in IP packets by the CE router. Nucleus Connect’s network will then police or shape the traffic based on the reserved bandwidth specified by the Contracting QP. For example, a voice application can reserve the required amount of bandwidth and efficiently utilise the WAN circuit.
 - (ii) Overview



- (iii) Packets will enter the CE router and will be assigned with various IPP values. For example, packets will be classified (based on application ports) into various classes (ie: video, voice, corporate data, and internet etc) and assigned corresponding IPP value. This assignment of IPP values will be the responsibility of the Contracting QP and/or its End-User(s).
 - (iv) It will be the End-User(s)'s responsibility to apply traffic policing or shaping to the egress port of the CE router (end user responsibility). Therefore, a certain amount of bandwidth is enforced to each Class of Service.
 - (v) At the egress PE router facing the CE, traffic will be policed or shaped based on the subscribed bandwidth allocation of each IPP marking.
 - (vi) The IPP bit will not be modified throughout the transmission.
 - (vii) L3 VPN Service will only support one Class of Service (“CoS”) based on 802.1p priority bit and will maintain CoS transparency.
 - (viii) The Contracting QP may request Nucleus Connect to allocate bandwidth within the subscribed CIR based on IPP bit value.
- 4.2 All Orders for L3 VPN Service (with the IPP Support Customisations) shall be submitted in such form and manner as may be notified by Nucleus Connect to the Contracting QP.
- 4.3 For the avoidance of doubt, SAP, Standard SAP and SLA regimes as set out in the ICO Agreement shall remain unchanged and shall continue to apply.
- 4.4 Charges
- (i) The costs for implementing the IPP Support Customisations will be determined after the Commencement Date. Such costs shall be passed through to the Contracting QP on a cost-oriented basis and shall be determined by Nucleus Connect in its absolute discretion.
 - (ii) Without prejudices to Clause 4.4(i) and 5.6, the charges for L3 VPN Service as set out in the Service Schedule for L3 VPN Service shall remain unchanged and shall continue to apply.

5. CUSTOMISED QUALITY OF SERVICE (“QoS”)

- 5.1 Subject to the provisions of this Clause 5, Nucleus Connect shall provide the following customised jitter parameter for L3 VPN Service’s Class C QoS (the “**Customised L3 VPN Class C QoS**”):

Class of Service (Customised)	Jitter (Customised)	Latency	Packet Loss
Class C Mission Critical	1.5ms	20ms	0.05%

- 5.2 The Customised L3 VPN Class C QoS shall only apply to L3 VPN Service.
- 5.3 For the avoidance of doubt, SAP, Standard SAP and SLA regimes as set out in the ICO Agreement shall remain unchanged and shall continue to apply.
- 5.4 All Orders for the Customised L3 VPN Class C QoS shall be submitted in such form and manner as may be notified by Nucleus Connect to the Contracting QP.
- 5.5 Each Order for the Customised L3 VPN Class C QoS shall be subject to a minimum contract term of twelve (12) months.

5.6 Charges

- (i) All applicable One-Time Charges (including, without limitation, Cancellation Charges, Installation Charges, Modification Charges, Maintenance or Repair Charges, Disconnection Charges and Deactivation Charges) shall remain unchanged and shall continue to apply.
- (ii) Nucleus Connect will commence charging the Contracting QP the following Monthly Recurring NC Charges for the Customised L3 VPN Class C QoS on the RFS Date:

L3 VPN Connection	Monthly Recurring NC Charge (12 months' contract term)	
	First 25Mbps	Next 5Mbps up to 1Gbps
Class C Mission Critical – customised jitter	\$193.20	\$38.64

L3 VPN Gigabit Connection (PIR=CIR)	Monthly Recurring NC Charge (12 months' contract term)	
	For First 1Gbps	For next 0.5Gbps up to 10Gbps
Class C Mission Critical – customised jitter	\$3,456	\$1,728

6. ENTIRE AGREEMENT

This Supplementary Agreement contains the whole agreement between the Parties with respect to the subject-matter herein and replaces all previous written or oral agreements relating to the subject-matter herein.

7. AMENDMENT AND REVIEW

- 7.1 Except to the extent expressly amended and supplemented by this Supplementary Agreement, all terms and conditions of the ICO Agreement shall remain unchanged and in full force and effect. This Supplementary Agreement and the ICO Agreement shall be read and construed as one and the same document and this Supplementary Agreement shall be considered to be a part of the ICO Agreement. Without prejudice to the foregoing, where the context allows, references in the ICO Agreement to “the ICO Agreement” shall be read and construed as references to the ICO Agreement as amended and supplemented by this Supplementary Agreement.
- 7.2 For the avoidance of doubt, the Parties hereby acknowledge that they shall, if required by the Authority, amend this Supplementary Agreement to incorporate any additional or modified Duties Related to the Provision of Mandated Services as required by the Authority during the term of the ICO Agreement.

8. COUNTERPARTS

This Supplementary Agreement may be signed in counterparts and by the Parties on separate counterparts, each of which when so executed shall be an original, but all counterparts shall together constitute one and the same document.

9. GOVERNING LAW

The interpretation, validity and performance of this Supplementary Agreement shall be governed in all respects by the laws of the Republic of Singapore, including the Code.

IN WITNESS WHEREOF this Supplementary Agreement has been entered into on the date stated at the beginning.

Nucleus Connect

Signed by _____)

(Name of Signatory)

for and on behalf of)

NUCLEUS CONNECT PTE. LTD.)

in the presence of:)

(signature)

Title: _____

(signature of witness) _____

Name of Witness:

Title:

Contracting QP

Signed by _____)

(Name of Signatory)

for and on behalf of)

StarHub LTD)

in the presence of:)

(signature)

Title: _____

(signature of witness) _____

Name of Witness:

Title: