

## SUPPLEMENTARY AGREEMENT

**THIS SUPPLEMENTARY AGREEMENT** is made \_\_\_\_\_ 2015 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) **SINGAPORE TELECOMMUNICATIONS LTD**, a company incorporated under the laws of Singapore with its registered office at 31 Exeter Road, COMCENTRE, Singapore 239732 ("**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 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) On or about 4 June 2010, Nucleus Connect and the Contracting QP entered into NC ICO pursuant to which Nucleus Connect would supply certain mandated services to the Contracting QP, as amended and supplemented from time to time (collectively, the "**ICO Agreement**").
- (D) The Ministry of Home Affairs of Singapore ("**MHA**") has issued a tender entitled **Tender No. HOMHQ0ETT14000124** on 29 May 2014 requesting for the provisioning of NGNBN Services to MHA ("**MHA Project**").
- (E) MHA has awarded the MHA Project to the Contracting QP.
- (F) Upon and subject to the terms and conditions of this Supplementary Agreement, Nucleus Connect will provide certain Mandated Services to the Contracting QP for the purposes of enabling the Contracting QP to deliver the said NGNBN Services pursuant to the MHA Project.
- (G) For the avoidance of doubt, the terms and conditions of this Supplementary Agreement (as may be amended and supplemented by the mutual written agreement of the Parties from time to time and subject to approval of the Authority) shall be in force for the contract term of the MHA Project.

- (H) The Parties hereby agree to enter into this Agreement as a Supplementary Agreement to the ICO Agreement and shall form part of the ICO Agreement to regulate Parties' obligations and responsibilities with regards to NGNBN and the MHA Project.

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

## 1. DEFINITIONS

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 Without prejudice to Clause 2.3, 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 the Commencement Date; Provided that the Contracting QP acknowledges and agrees that:
- (i) with effect from the Commencement Date until such date to be notified by Nucleus Connect to the Contracting QP (the "**Notification Date**"), Nucleus Connect will use commercially reasonable efforts to process all Orders submitted pursuant to this Supplementary Agreement on a manual basis in a manner determined by Nucleus Connect provided that Nucleus Connect reserves the right to reject any such Orders if the Orders cannot be provisioned manually as aforesaid for any reason whatsoever; and
  - (ii) with effect from the Notification Date, Nucleus Connect will process all such Orders via the Platform.

## 3. AMENDMENT OF SERVICE SCHEDULE FOR L2 VPN SERVICE

The new Service Schedule for L2 VPN Service as attached to this Supplementary Agreement as Annex A shall apply to Nucleus Connect's supply of Mandated Services to the Contracting QP for the MHA Project upon and subject to the terms and conditions

herein. For the avoidance of doubt, the Service Schedule for L2 VPN Service of the ICO Agreement shall continue to apply to other Mandated Services acquired or to be acquired by the Contracting QP under the ICO Agreement.

**4. AMENDMENT OF SERVICE SCHEDULE FOR L3 VPN SERVICE**

The new Service Schedule for L3 VPN Service as attached to this Supplementary Agreement as Annex B shall apply to Nucleus Connect's supply of Mandated Services to the Contracting QP for the MHA Project upon and subject to the terms and conditions herein. For the avoidance of doubt, the Service Schedule for L3 VPN Service of the ICO Agreement shall continue to apply to other Mandated Services acquired or to be acquired by the Contracting QP under the ICO Agreement.

**5. AMENDMENT OF SERVICE SCHEDULE FOR E-LAN SERVICE**

The new Service Schedule for E-LAN Service as attached to this Supplementary Agreement as Annex C shall apply to Nucleus Connect's supply of Mandated Services to the Contracting QP for the MHA Project upon and subject to the terms and conditions herein. For the avoidance of doubt, the Service Schedule for E-LAN Service of the ICO Agreement shall continue to apply to other Mandated Services acquired or to be acquired by the Contracting QP under the ICO Agreement.

**6. PRESCRIBED SAP**

- 6.1 Paragraph 2 of Appendix 1 of the General Service Terms and Conditions shall be deleted in its entirety and replaced therefor by the following new paragraph 2:

"The Prescribed SAPs in relation to taking up of new Connections (except NBAP Per-End-User Connection, IP Multicast Connection and Connections provided through the NBAP Service Port) are:

**Standard SAP**

<b>Type of Connection</b>	<b>Standard SAP (from SAP Start Date)</b>
Residential Per-End-User Connection	6 Business Days
Non-Residential Per-End-User Connection	13 Business Days
i. L2 VPN Service (exclude EPL-Gigabit Connection); ii. L3 VPN Service (exclude L3 VPN Gigabit Connection); and iii. E-LAN Service (exclude E-LAN Gigabit Connection), where the Connection provided is delivered through a Residential Service Port	6 Business Days
i. L2 VPN Service (exclude EPL-Gigabit Connection); ii. L3 VPN Service (exclude L3 VPN Gigabit Connection); and iii. E-LAN Service (exclude E-LAN Gigabit Connection), where the Connection provided is delivered through a Non-Residential Service Port	13 Business Days
i. EPL-Gigabit Connection in Annex A, Service Schedule for L2 VPN Service; ii. L3 VPN Gigabit Connection in Annex B, Service Schedule for L3 VPN Service; and iii. E-LAN Gigabit Connection in Annex C, Service Schedule for E-LAN Service	15 Business Days (where there is sufficient network capacity in existing AE access)  45 Business Days (where there is insufficient network capacity in existing AE access)
QP-EVPL Service Port	15 Business Days
PB-EVC	15 Business Days
AG-EVC	15 Business Days

**Express SAP**

<b>Type of Connection</b>	<b>Express SAP (from SAP Start Date)</b>
Residential Per-End-User Connection	2 Business Days
Non-Residential Per-End-User Connection	2 Business Days
i. L2 VPN Service (exclude EPL-Gigabit Connection); ii. L3 VPN Service (exclude L3 VPN Gigabit Connection); and iii. E-LAN Service (exclude E-LAN Gigabit Connection), where the Connection provided is delivered through a Residential Service Port	3 Business Days
i. L2 VPN Service (exclude EPL-Gigabit Connection); ii. L3 VPN Service (exclude L3 VPN Gigabit Connection); and iii. E-LAN Service (exclude E-LAN Gigabit Connection), where the Connection provided is delivered through a Non-Residential Service Port	3 Business Days

Type of Connection	Express Service Activation Period (SAP)
i. EPL-Gigabit Connection; ii. L3 VPN Gigabit Connection; and iii. E-LAN Gigabit Connection, Provided that (a) there is sufficient network capacity in existing AE access and (b) the Connection is not delivered to an NBAP	<p>Within three (3) calendar days of date of receipt of Order provided that the Connection is provided via an existing Nucleus Connect's NTE which is installed at the End-User premises (where there is sufficient network capacity in the existing NTE).</p> <p>Within three (3) Business Days of date of receipt of Order provided that (i) the Connection is provided via a new Nucleus Connect's NTE which is connected to an available fibre of the Termination Point at the End-User premises, (ii) NetLink Trust has available fibres in all segments from the relevant NetLink Trust's Central Office to such Termination Point and (iii) NetLink Trust has implemented its express service activation for the provisioning of the relevant NetLink Trust's services.</p>

Notes:

- (a) The Contracting QP may submit an Order for Express SAP in accordance with Annex 1-1, at the time of its submission of the Order for the relevant Connection.
- (b) If Nucleus Connect is unable to provision the Connection within the Express SAP, the Standard SAP shall apply and Nucleus Connect shall notify the Contracting QP of the aforesaid as soon as practicable.”

6.2 For the avoidance of doubt:

- (i) save as expressly amended and supplemented by this Clause 6, the terms and conditions of Appendix 1 and Annex 1-1 of the General Service Terms and Conditions; and
  - (ii) the Express SAP Charges as set out in the relevant Service Schedules,
- shall apply.

**7. CUSTOMISED CLASS A QoS - 0.01% PACKET LOSS**

- 7.1 Subject to the provisions of this Clause 7, Nucleus Connect shall provide the following customised Class A QoS parameters (the “**Class A QoS Customisations**”):

	Customised Class A QoS		
Type Of Service	Jitter	Latency	Customised Packet Loss
L2 VPN Service, L3 VPN Service & E-LAN Service	1ms	8ms	0.01%
Non-Residential Per-End-User Connection & NBAP Per-End-User Connection	0.5ms	4ms	0.01%

- 7.2 The Class A QoS Customisations shall only apply to L2 VPN Service, L3 VPN Service, E-LAN Service, Non-Residential Per-End-User Connections and NBAP Per-End-User Connections.
- 7.3 Orders for the Class A QoS Customisations must be submitted with Class A Class of Service bandwidth.
- 7.4 For access based on GPON, the subscribed CIR and/or aggregate CIR per Service Port shall not exceed 250Mbps or 80% of the Service Port's speed, whichever is lower. Strictly as an example, the maximum aggregate CIR for a 100Mbps Port type shall not exceed 80Mbps.
- 7.5 For access based on AE, the subscribed CIR and/or aggregate CIR per Service Port shall not exceed 80% of the Service Port's speed. Strictly as an example, a 10G L2 VPN Service's Service Port can only support the Class A QoS Customisations' Connection of up to 8Gbps CIR.
- 7.6 The Class A QoS Customisations shall not be applicable if the actual traffic delivered is above the subscribed CIR per Connection.
- 7.7 If pursuant to the submission of the Contracting QP's Order, Nucleus Connect is not able to provide the Class A QoS Customisations, Nucleus Connect shall be entitled to (a) reject the Order for such Connection and (b) on-pass to the Contracting QP any third party charges, NetLink Trust's charges which have been incurred by Nucleus Connect or which Nucleus Connect has committed to incur in respect of an Order.
- 7.8 For the avoidance of doubt but subject to Clause 6, the MTTR, SAP, Standard SAP and SLA regimes as set out in the ICO Agreement shall remain unchanged and shall continue to apply.
- 7.9 All Orders for the Class A QoS Customisations shall be submitted in such form and manner as may be notified by Nucleus Connect to the Contracting QP.
- 7.10 Each Order for the Class A QoS Customisations shall be subject to a minimum contract term of twelve (12) months.
- 7.11 Charges
- (i) All applicable One-Time Charges (including, without limitation, Cancellation Charges, Installation Charges, Express SAP 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 Class A QoS Customisations on the RFS Date:

Service	Minimum Term	Monthly Recurring NC Charge
L2 VPN Service, L3 VPN Service & E-LAN Service  Non-Residential Per-End-User Connection & NBAP Per-End-User Connection (CIR less than 250Mbps for GPON access)	12 months' contract term for each Connection	120% of the Monthly Recurring NC Charge which is applicable to a Connection (without Class A QoS Customisations) on 12 months' contract term as set out in NC ICO
L2 VPN, L3 VPN and E-LAN Service Port	12 months' contract term	The same Monthly Recurring NC Charge which is applicable to a Service Port (without Class A QoS Customisations) on 12 months' contract term as set out in NC ICO, shall apply

Strictly as illustrations, the tables below set out examples of the Monthly Recurring NC Charges (“**MRC**”) for the Class A QoS Customisations as at the date of this Supplementary Agreement:

Class A CoS	First 25Mbps CIR			Next 5Mbps CIR Bandwidth		
	Standard NC ICO MRC (\$)	Class A QoS Customisations MRC (\$)	Markup	Standard NC ICO MRC (\$)	Class A QoS Customisations MRC (\$)	Markup
L2 VPN Connection	\$420	\$504	20%	\$84	\$100.8	20%
E-LAN Connection	\$244	\$292.80	20%	\$48.80	\$58.56	20%
Non-Residential Per-End-User Connection (GPON)	\$95	\$114	20%	\$8.00	\$9.60	20%
Non-Residential Per-End-User Connection (AE)	\$150	\$180	20%	\$8.00	\$9.60	20%
L2 VPN Service Non-Residential Port (FE)	\$100 per port (no change in MRC)					
L2VPN Service NBAP Port (FE)	\$380 (no change in MRC)					



Class A CoS	First 10Mbps CIR			Next 5Mbps CIR Bandwidth		
	Standard NC ICO MRC (\$)	Class A QoS Customisations MRC (\$)	Markup	Standard NC ICO MRC (\$)	Class A QoS Customisations MRC (\$)	Markup
NBAP Per-End-User Connection	\$396.00	\$475.20	20%	\$8.00	\$9.60	20%

## 8. FAULT MANAGEMENT AND INCIDENT REPORTS

- 8.1 All Faults notified to Nucleus Connect pursuant to paragraph 9.2 of the General Service Terms and Conditions shall be logged and Nucleus Connect shall respond to the Fault as required. Save as expressly amended and supplemented by this Clause 8, the fault management and rectification process as set out in the General Service Terms and Conditions (including, without limitation, paragraphs 9.4 to 9.15 therein) shall apply.
- 8.2 The table below sets out the Severity Levels as defined in Part 2A of MHA's tender documents for the MHA Project.

For the purposes of this Clause 8:

“**Site**” means the locations where services are to be performed or provided to MHA as indicated to the Contracting QP by MHA;

“**User**” means the MHA and/or any entity as designated/notified by MHA to the Contracting QP; and

“**Caller**” means an employee, agent or representative of (i) the User who notifies Nucleus Connect of a fault or (ii) the Contracting QP who notifies Nucleus Connect of a fault.

Severity Level	Description
1	<p>A. When any of the primary or secondary connection is down; OR</p> <p>B. When any service degradation in the Connections affect users within a site and unable to perform their business functions; OR</p> <p>C. When service degradation in the Connections halts the operation of the entire site for more than ONE (1) hour; or causes negative public reaction or creates chaos; OR</p> <p>D. When service degradation in the Connections results in negative image or adverse impact on MHA.</p>
2	<p>A. When service degradation in the Connections results in some impact on site's ability to perform its function; OR</p> <p>B. When service degradation in the Connections affects a particular process or NGNBN or function of the users for which there are existing alternatives bypassing the Fault; OR</p> <p>C. Service degradation in performance of Connections (i.e. drop packets)</p>

- (i) Nucleus Connect shall provide preliminary report and post incident review report describing the Fault, root cause, corrective actions and preventive measures. The report shall capture the following information:

- a. Caller information (Name, Department, Telephone Extension, Location, email);
  - b. Date and time of Fault reported;
  - c. Type/Category/Sub-Category of Fault;
  - d. Fault description;
  - e. Details of Fault resolution;
  - f. Date and time of response;
  - g. Date and time of Fault resolution;
  - h. Date and time of Fault closed; and
  - i. Severity Level of Fault.
- (ii) Nucleus Connect shall provide its own troubleshooting tools to bring about rapid Fault resolution without additional cost to the Contracting QP.
- (iii) Nucleus Connect shall use its best endeavours to perform a thorough analysis and resolution of the Fault, which includes identification of the cause of the Fault, the services affected, data or any loss suffered and the recommended solution.
- (iv) For Severity Level 1 Faults, Nucleus Connect shall provide in writing a preliminary report explaining the Fault within 24 hours of being notified of the same.
- Subsequently, Nucleus Connect shall provide a post incident review report to explain in detail the cause of the Fault, the corrective actions taken and the solutions to prevent the Fault from recurring, within 48 hours after the Fault has been rectified.
- (v) For Severity Level 2 Faults, Nucleus Connect shall provide a post incident review report to explain in detail the cause of the Fault, the corrective actions taken and the solutions to prevent the Fault from recurring, within 48 hours after the Fault has been rectified.

### 8.3 Proactive Monitoring and Performance Reporting

Nucleus Connect will provide proactive monitoring and performance reporting (which includes availability and utilisation) for L2 VPN Service, L3 VPN Service and E-LAN Service, at the monthly rate of \$20 per subscribed Connection. Upon being notified by the Contracting QP that the subscribed Connection requires such proactive monitoring and performance reporting, Nucleus Connect will need one (1) month to set up such monitoring and reporting for that Connection. Nucleus Connect shall provide the report to the Contracting QP on a monthly basis within the first week of every calendar month. Nucleus Connect and the Contracting QP shall negotiate in good faith in relation to any request for additional statistics and/or reports. Nucleus Connect shall be entitled to impose additional charges for such request.

## 9. 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.

## 10. AMENDMENT AND REVIEW

- 10.1 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.

- 10.2 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.

## **11. 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.

## **12. 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:

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(signature)  
Title:

(signature of witness)  
Name of Witness:  
Title:

Contracting QP

Signed by \_\_\_\_\_  
(Name of Signatory)  
for and on behalf of  
**SINGAPORE TELECOMMUNICATIONS LTD**  
in the presence of:

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(signature)  
Title:

(signature of witness)  
Name of Witness:  
Title: