

## 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) **M1 NET LTD.**, a company incorporated under the laws of Singapore with its registered office at 10 International Business Park, Singapore 609928 ("**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 20 May 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) At the Contracting QP's request, Nucleus Connect has agreed to provide customised Quality of Service ("**QoS**") for L2 VPN Service, L3 VPN Service, E-LAN Service, Non-Residential Per-End-User Connections and NBAP Per-End-User Connections, upon and subject to the terms and conditions of this Supplementary Agreement.

**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 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. AMENDMENT OF SERVICE SCHEDULE FOR L2 VPN SERVICE**

The Service Schedule for L2 VPN Service of the ICO Agreement shall be deleted in its entirety and substituted therefor by the new Service Schedule for L2 VPN Service as attached as Annex A to this Supplementary Agreement.

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

The Service Schedule for L3 VPN Service of the ICO Agreement shall be deleted in its entirety and substituted therefor by the new Service Schedule for L3 VPN Service as attached as Annex B to this Supplementary Agreement.

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

The Service Schedule for E-LAN Service of the ICO Agreement shall be deleted in its entirety and substituted therefor by the new Service Schedule for E-LAN Service as attached as Annex C to this Supplementary 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**

Type of Connection	Standard SAP (from SAP Start Date)
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; and iii. E-LAN Service, 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

**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) For the avoidance of doubt, Express SAP shall not be applicable to provisioning and activation of EPL-Gigabit Connections in Service Schedule for L2 VPN Service, L3 VPN Gigabit Connections in Service Schedule for L3 VPN Service and/or E-LAN Gigabit Connections in Service Schedule for E-LAN Service.
- (c) 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 6.2, 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**”):

Type Of Service	Customised Class A QoS		
	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, OpenNet'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. CUSTOMISED GPON QoS

8.1 Subject to the provisions of this Clause 8, Nucleus Connect shall provide the following customised GPON QoS parameters (the “**Customised GPON QoS**”):

Non-Residential Per-End-User Connection	Customised GPON QoS		
Class of Service	Jitter	Latency	Packet Loss
Class A Real Time	0.5ms	4ms	0.1%
Class B Near Real Time	0.5ms	8ms	0.1%
Class C Mission Critical	2ms	10ms	0.05%

8.2 The Customised GPON QoS shall only apply to Non-Residential Per-End-User Connections over GPON access.

8.3 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.

8.4 All Orders for the Customised GPON QoS shall be submitted in such form and manner as may be notified by Nucleus Connect to the Contracting QP.

8.5 Each Order for the Customised GPON QoS shall be subject to a minimum contract term of twelve (12) months.

### 8.6 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 GPON QoS on the RFS Date:

Non-Residential Per-End-User Connection with Customised GPON QoS (100Mbps PIR)		Monthly Recurring NC Charge (12 months' contract term)	
		First 25Mbps CIR	Next 5Mbps CIR (up to 100MbpsCIR aggregate)
Class of	Class A (Real Time)	\$150	\$8.00

Service	Class B (Near Real Time)	\$144	\$6.80
	Class C (Mission Critical)	\$136	\$5.20

## 9. CUSTOMISED NBAP QoS

- 9.1 Subject to the provisions of this Clause 9, Nucleus Connect shall provide the following customised NBAP Per-End-User Connection's QoS parameters (the "**Customised NBAP QoS**"):

<b>NBAP Per-End-User Connection</b>			
<b>Class of Service</b>	<b>Jitter</b>	<b>Latency</b>	<b>Packet Loss</b>
Class A Real Time	0.5ms	4ms	0.1%
Class B Near Real Time	0.5ms	8ms	0.1%
Class C Mission Critical	2ms	10ms	0.05%

- 9.2 The Customised NBAP QoS shall only apply to NBAP Per-End-User Connections.
- 9.3 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.
- 9.4 All Orders for the Customised NBAP QoS shall be submitted in such form and manner as may be notified by Nucleus Connect to the Contracting QP.
- 9.5 Each Order for the Customised NBAP QoS shall be subject to a minimum contract term of twelve (12) months.
- 9.6 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 NBAP QoS on the RFS Date:

<b>NBAP Per-End-User Connection (100Mbps Port)</b>		<b>Monthly Recurring NC Charge (12 months' contract term)</b>	
		<b>First 10Mbps</b>	<b>Next 5Mbps (up to 100Mbps aggregate)</b>
Class of Service	Real Time	\$475.20	\$8.00
	Near Real Time	\$472.30	\$6.80
	Mission Critical	\$468.50	\$5.20



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NBAP Per-End-User Connection (1Gbps Port)		Monthly Recurring NC Charge (12 months' contract term)	
		First 250Mbps	Next 5Mbps(up to 1000Mbps aggregate)
Class of Service	Real Time	\$1,596.00	\$8.00
	Near Real Time	\$1,524.00	\$6.80
	Mission Critical	\$1,428.00	\$5.20

## 10. 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.

## 11. AMENDMENT AND REVIEW

11.1 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.

11.2 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.

## 12. 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.

## 13. 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.

