



CONSULTATION DOCUMENT

PUBLIC CONSULTATION ON NETLINK TRUST'S INTERCONNECTION OFFER

26 January 2017

PUBLIC CONSULTATION ON NETLINK TRUST'S INTERCONNECTION OFFER

INTRODUCTION

1. Under the existing Interconnection Offer ("**ICO**"), CityNet Infrastructure Management Pte Ltd (as Trustee-Manager of the NetLink Trust) (the "**NetLink Trust**") is required to install a fibre cable into each residential unit. However, for residential developments built in accordance with the Code of Practice for Information Communication Facilities in Buildings 2013 ("**COPIF 2013 Buildings**"), building owners/developers of residential developments ("**BO/BDs**") provide each residential unit with a 2-core optical fibre cable, which terminates into a fibre interface point ("**FIP**") located in the telecommunication riser / gate pillar (as the case may be) at one end and terminates into a fibre termination point ("**FTP**") in the premise at the other end to facilitate the provisioning of fibre services to the residential unit. With this new fibre deployment arrangement going forward, it is necessary to review the ICO service provisioning processes for residential premises in COPIF 2013 Buildings.
2. Since the initial ICO that NetLink Trust offered to its Requesting Licensees ("**RLs**") in 2009 to date, the one-time charges ("**OTCs**") of the ICO have remained unchanged. Considering that NetLink Trust is now into its eighth year of operation as the Network Company of the Nationwide Broadband Network ("**NBN**") and that COPIF 2013 Buildings are progressively coming onboard, it is an appropriate juncture for IMDA to perform a holistic review of the OTCs so as to ensure that the prices suitably reflect the current market conditions as well as to create a more sustainable arrangement in the longer term to harmonise the one-time provisioning activities between the two groups of buildings (COPIF 2013 Buildings and residential units built in accordance to versions of the COPIF before COPIF 2013 ("**Pre-COPIF 2013 Buildings**")).

REVIEW OF NETLINK TRUST ICO

3. IMDA has been engaging NetLink Trust on changing the ICO to effect the above. IMDA has also sought and considered the views of NetLink Trust's RLs before setting out its required changes to the ICO ("**IMDA's Required Changes**"). IMDA's Required Changes can be found in the Annex of this consultation document.
4. Accordingly, NetLink Trust has submitted the language changes to its ICO ("**Draft Revised ICO**") to effect IMDA's Required Changes for IMDA's approval. The contents of the Draft Revised ICO are as follows:
 - (a) Main Body of the ICO; and
 - (b) Schedules to the ICO:

CONFIDENTIAL

Schedule 1	Residential End-User Connection;
Schedule 2	Non-Residential End-User Connection;
Schedule 3	NBAP Connection;
Schedule 4	CO to CO Connection;
Schedule 5	CO to Building MDF Room Connection;
Schedule 6	Building MDF Room to FTTB Node Connection;
Schedule 7	FTTB Node to DP Connection;
Schedule 8	Building MDF Room to Residential Premise Connection;
Schedule 9	Building MDF Room to Non-Residential Premise Connection;
Schedule 10	CO to NBAP DP Connection;
Schedule 11	NBAP DP to NBAP TP Connection;
Schedule 15	Charges;
Schedule 18	Dictionary.

5. Further to IMDA's Required Changes, NetLink Trust had initiated changes to the ICO to streamline the fault rectification process for Pre-COPIF 2013 Buildings. Under this change, NetLink Trust will rectify a fault and bill the RL directly upon detecting during fault identification that NetLink Trust's network located within the Residential or Non-Residential Premise has been damaged and requires repair and/or replacement. NetLink Trust had justified that this process will reduce service downtime experienced by the end-user and at the same time provide a single point of billing contact for the end-user.

REQUEST FOR COMMENTS

6. As part of IMDA's review of NetLink Trust's Draft Revised ICO, IMDA hereby invites interested parties to submit written comments on NetLink Trust's proposed language changes on the Draft Revised ICO.
7. IMDA requests that comments be presented in the following format:
 - (a) Description of the respondent and its interest in the proceedings;
 - (b) Summary of the respondent's position;

CONFIDENTIAL

- (c) General comments; and
 - (d) Views regarding specific provisions of the Draft Revised ICO.
8. In all comments, respondents should identify the specific provisions of the Draft Revised ICO (by paragraph/section number, where provided) to which comments are made. Where appropriate, respondents may suggest additional or alternative language, provided always that any such suggestions should be accompanied by an explanation of the reason for the proposal. All respondents are requested to keep their comments clear and succinct. All views and comments should be submitted in writing in soft copy (in Microsoft Word format) to reach IMDA by **16 February 2017**.
9. For each set of comments, respondents are required to include their personal/company particulars as well as their correspondence address. Submissions should be addressed to:

Ms Aileen Chia
Director-General (Telecoms & Post),
Asst. CE (Connectivity & Competition Development)
Infocomm Media Development Authority
10 Pasir Panjang Road
#10-01 Mapletree Business City
Singapore 117438

Please submit soft copies via email to: Consultation@imda.gov.sg.

10. IMDA reserves the right to make public all or parts of any written submissions made in response to this consultation, and to disclose the identity of the respondent. Any part of the submission which the respondent considers is commercially sensitive must be clearly marked and placed as a separate annex to the comments raised. IMDA will take this into consideration when disclosing the information submitted.

Section 1 – Residential End-User Connection Service

(A) Residential End-User Connection Service Ordering and Provisioning

1. NetLink Trust is required to propose changes to clarify that NetLink Trust shall be responsible for patching works from the FIP to the Fibre Distributuon Point (“**FDP**”) for Residential End-User Connection (“**EUC**”) orders to COPIF 2013 Buildings and RLs need not submit separate additional work requests for such patching works.
2. In line with NetLink Trust’s existing ICO obligations and practice, NetLink Trust is required to propose changes to clarify that it shall service end-users’ requests for FTP installation / relocation to their homes in relation to an active service / request for new NBN service after the buildings have attained TOP status for both Pre-COPIF 2013 Buildings and COPIF 2013 Buildings.

(B) Residential End-User Connection OTC

3. With regard to the OTCs for Schedule 1 to the ICO, NetLink Trust is required to propose changes to clarify the scope and quantum of the charges in Table 1, which will apply to both COPIF 2013 Buildings as well as Pre-COPIF 2013 Buildings. For the scope of the Service Activation Charge, NetLink Trust shall specify that the charge will cover works related to patching at the MDF room, FIP and/or FDP as well as any subsequent corresponding un-patching arising from order deactivation, termination or service relocation. For the scope of the Installation Charges, NetLink Trust shall specify that the charges will cover works such as those related to the installation of NetLink Trust’s network and the FTP.

Table 1: OTCs for Schedule 1 to the ICO	
Installation Charge for High-Rise Buildings	\$150
Installation Charge for Landed Properties	\$270
Service Activation Charge (for High-Rise Buildings and Landed Properties)	\$53

4. NetLink Trust shall also specify the scenarios for which the Service Activation Charge may be levied: (a) when an RL submits a new Residential EUC order for a new address; (b) when an RL requests a relocation of the Residential EUC from an old premise address to a new premise address; (c) the Residential EUC order is arising from a churn from one RL to another RL; or (d) subsequent activation of the second fibre to an FTP. Further, NetLink Trust shall specify that the Service Activation Charge will not be applicable when an RL submits a request for the Residential EUC to be relocated from one point in a premise to

CONFIDENTIAL

another point in the same premise.

(C) *Fault Management Regime*

5. NetLink Trust is required to amend the ICO to clarify its responsibility for the fault management process in accordance with the following:
 - (i) NetLink Trust shall be the sole party fronting its RLs on fault management for both Pre-COPIF 2013 and COPIF 2013 Buildings.
 - (ii) NetLink Trust shall continue to be responsible for fault investigation and identification for the passive fibre infrastructure for all faults reported by the RLs, including for faults between the FIPs in the risers to the FTPs in residential premises of COPIF 2013 Buildings.
 - (iii) Where the fault is between a CO and an FDP for Pre-COPIF 2013 Buildings, or between a CO and an FIP for COPIF 2013 Buildings, and attributable to NetLink Trust, the principle of NetLink Trust bearing the cost and responsibility for fault identification and/or rectification shall continue to apply.
 - (iv) Where the fault occurs between the FDP and the FTP for Pre-COPIF 2013 Buildings, or between the FIP and the FTP in COPIF 2013 Buildings, NetLink Trust shall (i) continue to bear the responsibility for fault identification and/or rectification for the part of the network belonging to NetLink Trust; and (ii) be the operator of last resort for fault identification and/or rectification for the part of the passive fibre infrastructure not belonging to NetLink Trust.
6. On fault management related charges, NetLink Trust is required to amend the ICO to clarify that the treatment for both COPIF 2013 Buildings and Pre-COPIF 2013 Buildings will be streamlined, such that the No Fault Found Charge will be removed and the Fault Identification Charge (as detailed in Table 2) will be introduced for requests from RLs to investigate reported faults. NetLink Trust is also required to clarify that should further fault rectification be required beyond the FDP or FIP to the FTP, NetLink Trust may recover any efficiently incurred costs in replacing and repairing FTPs and fibre cables in accordance with clause 1.12.1 in Schedule 15 – Charges to the ICO. Further, NetLink Trust is required to clarify the scope of the Fault Investigation Charge and the scenarios whereby the Fault Investigation Charge will be applicable in accordance to Diagram 1.

Table 2: Fault Identification Charge	
Minimum charge (per visit up to the first two hours)	\$64
<i>Subsequent hourly blocks will be charged according to the rates below</i>	

CONFIDENTIAL

Period	Time	Rate (S\$/Hr)
Monday to Friday	9.00am to 5.00pm	\$20
Monday to Friday	After 5.00pm to 9.00am the next day	\$30
Saturday	9.00am to 1.00pm	\$20
Saturday	After 1.00pm to 12.00am the next day	\$30
Sundays and Public Holidays	12.00am to 9.00am the next day	\$40

7. NetLink Trust shall clarify in its ICO that it remains NetLink Trust's responsibility to identify and rectify any faults residing in its own network without recovering OTCs from its RLs. NetLink Trust shall also clarify that the Fault Identification Charge will apply only in instances where
- (a) NetLink Trust is requested to identify faults on NetLink Trust's Network in Pre-COPIF 2013 Buildings that are evidently caused by end-users, the RSP and/or the RL;
 - (b) NetLink Trust is requested to identify faults on NetLink Trust's Network in COPIF 2013 Buildings that are evidently caused by end-users, the RSP and/or the RL; or
 - (c) the fault reported resides in the Building Owner/Building Developer's ("**BO/BD**") Infra in COPIF 2013 Buildings and where the fault is not evidently caused by NetLink Trust.
8. For faults on NetLink Trust's Network in Pre-COPIF 2013 Buildings and NetLink Trust's Network in COPIF 2013 Buildings that are not evidently caused by end-users, the RSP and/or the RL (e.g., where NetLink Trust's network is destroyed by rodent bites or cable cuts by contractors), the ICO shall specify that NetLink Trust shall not impose the Fault Investigation Charge when requested by the RL to investigate the fault. Where the RL requests NetLink Trust's rectification of faults on (a) NetLink Trust's network that are evidently caused by end-users, the RSP and/or the RL; or (b) BO/BD's Infra in COPIF 2013 Buildings and where the faults are not evidently caused by NetLink Trust, NetLink Trust may charge RLs for the fault rectification according to the TP repair charge under Schedule 15 to the ICO. NetLink Trust shall replace all instances of No Fault Found Charge regime in the ICO with this new Fault Investigation Charge regime.

Diagram 1: Framework Depicting when NetLink Trust's ("NLT") Fault Investigation Charge ("FIC") and Repair Charges under Schedule 15 to the ICO Shall Apply

Pre-COPIF 2013 Buildings



Central Office

NLT's network in a Pre-COPIF 2013 Building stretches from CO to FTP in premise

- For **faults due to NLT**: It will be NLT's responsibility to identify and rectify faults. Accordingly, NLT shall not charge FIC or repair charges.
- For **faults evidently caused by RL/RSP/End-user**: NLT may charge the FIC and repair charges under the ICO for fault identification and rectification.
- For **faults not caused by RL/RSP/End-user**: It will be NLT's responsibility to maintain its network and hence, to identify and rectify any faults. Accordingly, NLT shall not charge FIC or repair charges.



FTP in Premise

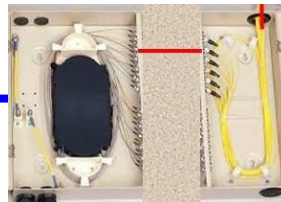
COPIF 2013 Buildings



Central Office

NLT's network in a COPIF 2013 Building stretches from CO to FDP (including patch cord from FDP to FIP)

- For **faults due to NLT**: It will be NLT's responsibility to identify and rectify faults. Accordingly, NLT shall not charge FIC or repair charges.
- For **faults evidently caused by RL/RSP/End-user**: NLT may charge the FIC and repair charges under the ICO for fault identification and rectification.
- For **faults not caused by RL/RSP/End-user**: It will be NLT's responsibility to maintain its network and hence, to identify and rectify any faults. Accordingly, NLT shall not charge FIC or repair charges.



FDP-FIP Interface

BO/BD's network in COPIF 2013 Building stretches from FIP to FTP in premise

- NLT may charge the FIC and repair charges under the ICO for all cases of fault identification and rectification requested by the RL, unless the fault is evidently caused by NLT.

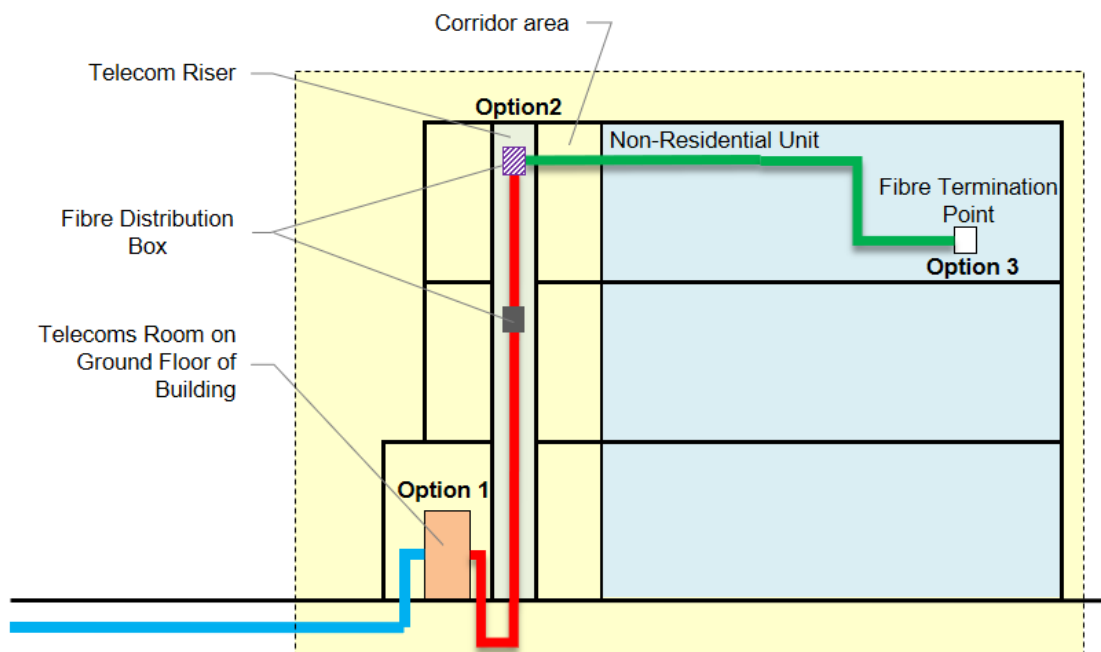


FTP in Premise

Section 2 – Non-Residential End-User Connection Service

9. The three deployment options for the Non-Residential EUC Service, as illustrated in Diagram 2, are, (a) a Non-Residential EUC from the Central Office (“CO”) to the Fibre to the Building Node of the non-residential premise where NetLink Trust’s network ends (“**Option 1**”); (b) a Non-Residential EUC from the CO to the FTP in the vertical telecommunication riser on the same floor where the non-residential premise is located (“**Option 2**”); or (c) a Non-Residential EUC from the CO to the FTP of the non-residential premise (“**Option 3**”).

Diagram 2: Three Deployment Options for Non-Residential EUC Service



With regard to the OTCs for Schedule 2 to the ICO, NetLink Trust is required to propose changes to clarify the scope and quantum of the charges in Table 3. For the scope of the Service Activation Charge, NetLink Trust shall specify that the charge will cover works related to patching at the MDF room, as well as any subsequent corresponding un-patching arising from order deactivation, termination or service relocation. For the scope of the Network Installation Charges, NetLink Trust shall specify that the charges will cover third-party works necessary for the provisioning of Non-Residential EUC service orders (e.g., engaging third-party contractors to create access panels for NetLink Trust to access cable trays, deploying scissor lifts or any other suitable means to access cable trays). In other words, if a Non-Residential EUC order requires the use of such third-party works, NetLink Trust shall provision the service order without requiring the RL to incur additional Third-Party Costs and ensure that the service order is provisioned in accordance to the ICO Service Activation Periods. In submitting the above changes to the ICO, NetLink Trust shall also specify the scenarios for which the respective charges will be applicable.

CONFIDENTIAL

Table 3: OTCs for Schedule 2 to the ICO	
Network Installation Charge for Option 1	\$41
Network Installation Charge for Option 2	\$494
Network Installation Charge for Option 3	\$717
Service Activation Charge	\$64

Section 3 – Consequential Changes to Other Schedules to the ICO

10. NetLink Trust is also required to make consequential changes to the installation charges and service activation charges under Schedule 8 – Building MDF Room to Residential Premises Connection and Schedule 9 – Building MDF Room to Non-Residential Premise Connection, as well as to the OTCs in Schedule 13 – Patching Service, to align these charges with the revised charges under Schedule 1 and Schedule 2 to the ICO.