

**M1'S RESPONSE TO IDA'S CONSULTATION PAPER ON
INTERCONNECTION OFFER FOR THE PROVISION OF SERVICES ON
THE NEXT GENERATION NATIONWIDE BROADBAND NETWORK -
NETWORK COMPANY PROPOSED CO-LOCATION SPACE & SERVICE IN
NEW CO-LOCATION ROOM**



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ANNEX 1: M1’S RESPONSE TO IDA’S CONSULTATION PAPER ON INTERCONNECTION OFFER FOR THE PROVISION OF SERVICES ON THE NEXT GENERATION NATIONWIDE BROADBAND NETWORK (“NGNBN”) – NETWORK COMPANY PROPOSED CO-LOCATION SPACE & SERVICE IN NEW CO-LOCATION ROOM

1. M1 welcomes the opportunity to submit our views and comments to IDA’s consultation on OpenNet’s proposed Co-Location Space and services in new Co-Location Room.
2. M1’s comments are set out below.

(A) General Comments

Important to incorporate measures for efficient and effective management of Co-Location Space

As the appointed Network Company (“NetCo”) in Singapore, OpenNet plays a crucial role in ensuring a successful and smooth implementation of NGNBN in Singapore. It is imperative that OpenNet manages the issue of space constraints on a timely basis such that:-

- (a) The sales of fibre services to End Users will not be delayed; and
- (b) Requesting Licensee’s (“RLs”) provisioning of fibre services to Retail Service Providers (“RSPs”) will not be interrupted,

due to lack of co-location space for installation of necessary equipment for service provisioning.

So far, from industry experience, there were instances of space crunch, where additional/alternative Co-Location Space was provided only when the situation reached the critical stage of impacting sales and/or provisioning of services to RSPs. Hence, to avoid the recurrence of space constraint issues, it is important that OpenNet put in place a mechanism in Schedule 12C to assure all stakeholders (i.e. IDA, RLs and End Users, etc) of forward planning for Co-Location Space e.g. sufficient lead time in acquisition and provisioning of suitable Co-Location Space and/or alternative solutions when the utilisation reaches a certain level in the available Co-Location Space, specified timeframe for OpenNet to provide the additional Co-Location Space, etc.

(B) Specific Comments

Section/ Clause	Description	M1’s Views/Comments
Schedule 12C – Co-Location Space & Service in New Co-Location Room		
Section 3.1	“OpenNet shall process ...OpenNet shall be entitled to take back such unused Co-Location Space allocated to the Requesting Licensee and terminate the license of such Co-Location Space, by giving the Requesting Licensee a notice of not less than ten (10) Business Day. Unused Co-Location Space refers to Co-Location Space allocated to Requesting Licensee in which no active equipment has been activated for more than thirty (30) Business Days after the final site inspection.”	<p>For cases where termination of a Co-Location Space is requested by OpenNet and not the Requesting Licensee (“RL”), as clarified in IDA’s Direction and Explanatory Memorandum dated 3 July 2009, termination charges, including premature termination charges, should <u>not</u> apply.</p> <p>Further comments:-</p> <ul style="list-style-type: none"> • Not all space shall be deployed with active equipment. Some space would be used by RLs for passive equipment such as Optical Distribution Frame (“ODF”) which is used for fibre termination. Hence, such usage is valid and should not be excluded or deemed as “unused”.

		<ul style="list-style-type: none"> Unused racks should be evaluated based on the intended utilisation of the request, e.g. space for OLT can be requested even though there may be Active Ethernet (“AE”) or Dense Wavelength Division Multiplexing (“DWDM”) racks available. This is because different equipment requires different rack space. An OLT will not be able to fit into rack spaces meant for Active Ethernet or DWDM. Hence, the management of space ought to factor in such practical realities to be effective.
Section 3.2	<p>“Where more than ..., OpenNet is entitled to request for more information from the Requesting Licensee and shall then allocate such Co-Location Space to the Requesting Licensees which may or may not fulfil the Requesting Licensee’s request. ...”</p>	<p>Please refer to M1’s comments on Section 3.1.</p> <p>As highlighted earlier, the management and/or allocation of space should take into consideration the type of equipment to be installed.</p> <p>In addition, we propose the removal of “or may not fulfil the Requesting Licensee’s request”. It is not meaningful to allocate space that does not fulfil the Requesting Licensee’s request e.g. allocation of DWDM space which cannot be used to place an OLT. This would also result in inefficient usage of space which could otherwise be used to serve other purposes e.g. needs of other RLs, etc.</p>
Section 3.4 (c)	<p>“the manner of utilisation by the Requesting Licensee of the Co-Location Space in the original Co-Location Room stating in particular the Co-Location Equipment installed in the original Co-Location Room and the level of usage for each Equipment.”</p>	<p>We propose that OpenNet make available a template in Annex 12C-1 for the RLs, to provide transparency and clarity on the required information in Section 3.4 (c).</p> <p>Similar to M1’s comments in Section 3.1, the rack size of the Co-Location Space is dependent on the type of equipment that the RLs are going to install. Hence, it would make more practical sense for the RLs to provide and OpenNet to evaluate the utilisation of space considering the type of equipment to be installed.</p>
Section 3.4 (f)	<p>“the future demand forecast within the next six (6) months;”</p>	<p>OpenNet should clarify in this section whether demand forecast is required when RLs request for a rack space to provide End User’s GPON service only, or it is applicable for all RL’s equipment i.e. OLT, AE, ODF, etc.</p> <p>It is not clear if the space in Annex 12C-1 for the “Future demand forecast (within the next six months): [Utilization]” is for future demand forecast or utilisation level. Hence, similar to Section 3.4 (c), M1 propose that OpenNet provide a template in Annex 12C-1 for the RLs to submit the required information in Section 3.4 (f).</p>

Section 3.4 (g)	“the maximum projected heat load of the Requesting License’s Co-Location Equipment which cannot exceed 3kW;”	The heat load limit stated in Section 3.4 (g) is 3kW per RL’s equipment, whereas the heat load limit in Section 1.5.3 of Annex 12D-1 is 3kW per rack. OpenNet should clearly define if the heat load limit is applicable on a per equipment or per rack space basis.
Section 3.8	“Where OpenNet is unable to offer the Co-Location Service due to unavailability, OpenNet shall take reasonable measures to cater for additional space where possible. The provision of such additional Co-Location Space shall not be subject to the Provisioning SLG.”	There should be provisions in the ICO whereby OpenNet gives assurance to all stakeholders that it has measures in place for effective management of Co-Location Space. In view of the possible impact on the entire NGNBN market, the provisioning of additional Co-Location space should be subjected to Provisioning Service Level Guarantee (“SLG”).
Section 7.5	“OpenNet shall install the Transmission Tie Cable within twenty five (25) Business Days from the date of the receipt of the request for additional Transmission Tie Cable”	Please clarify if the twenty five (25) Business Days also apply for request on Transmission Tie Cable submitted together with the request for the new Co-Location Space.
Section 8	Cross-Connection Between Co-Location Room	There is no cross-connection services provided for the Ethernet cables or Unshielded Twisted Pair (“UTP”) cables used for the End User’s OE connection between the RL’s equipment in the original and the new Co-Location Room. Hence, M1 propose that OpenNet include the provisioning of cross-connection service for Ethernet/UTP cables under Section 8.
Section 8.1 (b)	“subjected to clause 8.2, termination of the Transmission Tie Cable to the Requesting Licensee’s FDF located in the new Co-Location Room listed under this Schedule 12C for the installation performed for the first sign up request in the new Co-Location Room listed under this Schedule 12C.”	OpenNet should provide a list of termination works/solution e.g. pigtailed termination that is included in OpenNet’s own cost under Section 8.1.
Section 8.2	“OpenNet shall provide ... during the first sign up which will be terminated during the installation according to the first sign up request by the Requesting Licensee, to interconnect the Requesting Licensee’s FDF in the original Co-Location Room as listed in Schedule 12 (Co-Location Service), Annex 12B provisioned by OpenNet and the Requesting Licensee’s FDF in the new Co-Location Room as listed in Schedule 12C, Annex 12B-1 provisioned by OpenNet	M1 proposes that FDF termination points be determined by the RLs as RLs may or may not require FDF termination at all racks. This also provides flexibility for location of termination points at optimal position.

	Subsequent Transmission Tie Cable will be at the Requesting Licensee's cost."	
Section 8.3 (b)	"The Requesting Licensee had not fully utilised the Co-Location Space within the original Co-Location Room allocated to the Requesting Licensee"	<p>The term "fully utilised" is not defined. It is also unclear if "utilisation" is defined as utilisation of rack space or the RL's equipment. Please also refer to M1's comments on Section 3.1.</p> <p>We propose that Section 8.3 (b) include the following:-</p> <ul style="list-style-type: none"> • Definition of "full utilisation" of the Co-Location Space; and • The utilisation of the Co-Location Space to be assessed individually according to the type of equipment for new request.
Annex 12D-1, Section 1.1.2 (a) &(b)	<p>"The Requesting Licensee shall house only the following rack types in the Co-Location Space:</p> <p>(a) 600mm (Width) by less than or equal to 1000mm (Depth) by less than or equal to 2200MM (Height), these are industry standard 19 inch racks; and/or</p> <p>(b) 800mm (Width) by less than or equal to 1000mm (Depth) by less than or equal to 2200mm (Height) racks, these are based on industry-standard 24-inch but incorporates space for cabling and airflow."</p>	As the specified height (i.e. less than or equal to 2200mm) is higher than the usual height for the 42U racks, we seek OpenNet's confirmation that RLs can effectively use the full height of 2200mm as stated in Section 1.1.2 of Annex 12D-1.
Annex 12D-1, Section 1.5.2	<p>"OpenNet shall provide power up to a maximum of 120kW per Co-Location Space on the whole, provided on a 'first come, first service' basis. OpenNet shall provide redundant dual power supply to each rack:-</p> <p>(a) Twenty (20) Amps circuit breaker or thirty-two (32) Amps circuit breaker or forty (40) Amps circuit breaker or sixty-three (63) Amps circuit breaker where the Requesting Licensee requires 48V direct current;</p> <p>(b) Sixteen (16)Amps circuit breaker where the Requesting Licensee required 230V alternating current,</p> <p>Circuits are based on provisioned power (not utility rates) and provisioned in accordance with OpenNet standard circuit size as stated above.</p>	<p>We propose to include the following under Section 1.5.2 in Annex 12D-1:-</p> <ul style="list-style-type: none"> • Clarification on the redundancy of the 120kW provided. Specifically, if it is fully redundant or only 50% or less redundancy; • Clarification on how OpenNet would terminate the direct current and alternating current into the RL's racks, including but not limited to the provisioning of the electrical diagram/schematics details on the provisioning of DC power, limits of the number of breakers available at each Co-Location Space, number of feeds provided per request, etc; • Clarification if the charges for "per fused Amp" in Section 12.3, Schedule 15 (Charges) would still be applicable for power supply at the new Co-Location Room. <p>We would also point out that there is no clause that explains the terms and conditions for RLs to increase/decrease the Amps circuit breaker. The prices, terms and conditions for such request should be included in this section.</p>

Annex 12D-1, Section 1.5.3 (ii)	“Power consumed in each rack is 50% of the circuit size for the redundant dual power to work in the event where one feed is down”	For cases where the RLs are charged based on per fused Amps, it is only fair that redundancy be provided for the full fused Amps requested and not at 50% of the circuit size.
Annex 12F-1	Physical Access Procedures	We seek clarification on Annex 12F-1 if one (1) physical access request to a particular Central Office enables RL’s authorised person(s) to access to both the original and new Co-Location Space.
Annex 12F-1, Section 1.8.1 (c)	“a complete list of persons (limited to maximum of eight (8)) who may be physically accessing the facility on the relevant date of access, from which list a maximum of four (4) persons will be confirmed as being the persons who will be undertaking the physical access in accordance with clause 1.8.2; and”	There would be some installation works which require more than (4) persons. Thus, to improve efficiency, rather than increasing the administrative work to submit multiple requests for works that require more than four (4) persons, we propose that OpenNet increase the maximum number of authorised person(s) to eight (8) per request.
Annex 12F-1, Section 1.11.4	“No still, motion or digital cameras, ... are allowed in the Central Office.”	We are of the view that still and/or motion camera is necessary in the Central Office to provide evidence in case of any dispute e.g. when there is a displacement of RL’s FDF accidentally by 3 rd parties (e.g. contractors after splicing, etc).