OpenNet
BROADEN YOUR MIND

ON/REG/1211/0171

15 December 2011

**INFOCOMM DEVELOPMENT AUTHORITY OF SINGAPORE ("IDA")**
10 Pasir Panjang Road
#10-01 Mapletree Business City
Singapore 117438
Via email & fax: IDA_Consultation@ida.gov.sg; (65) 6211 2116

Attention: Ms Aileen Chia
Deputy Director-General (Telecoms & Post)

Dear Ms Chia

**PUBLIC CONSULTATION ON THE REVIEW OF THE CODE OF PRACTICE FOR INFO-COMMUNICATION FACILITIES IN BUILDINGS**

We refer to the consultation paper issued by IDA on 4 November 2011 with regard to the review of the Code of Practice for Info-communication Facilities in Buildings ("COPIF").

OpenNet welcomes the opportunity to comment on IDA's proposed key changes to the COPIF 2008. We submit herein our views and comments for IDA's consideration.

Please do not hesitate to contact the undersigned should IDA require any clarification on this submission.

Yours sincerely,

Lee Khoon Aik
Director (Regulatory & Interconnect)
OpenNet Pte Ltd

Enc.

OpenNet
BROADEN YOUR MIND

# PUBLIC CONSULTATION ON THE REVIEW OF THE CODE OF PRACTICE FOR INFO-COMMUNICATION FACILITIES IN BUILDINGS

# RESPONSE BY OPENNET PTE LTD TO THE CONSULTATION PAPER ISSUED BY THE INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY OF SINGAPORE ON 4 NOVEMBER 2011

## (I) STATEMENT OF INTEREST

*a.* OpenNet welcomes this opportunity to provide its comments on the proposed changes that the Info-communications Development Authority of Singapore ("IDA") has identified for the review of the Code of Practice for Info-communication Facilities in Buildings ("COPIF").

*b.* OpenNet was established in 2008 as a joint venture between four partners – Axia NetMedia Corporation, Singapore Telecommunications Limited, Singapore Press Holdings Ltd and Singapore Power Telecommunications Pte Ltd.

*c.* In September 2008, OpenNet was appointed by IDA as the Network Company to design, build and operate the passive infrastructure of the Next Generation Nationwide Broadband Network.

*d.* OpenNet received its Facilities-Based Operator Licence from IDA on 1 April 2009, and was designated as a Public Telecommunication Licensee under Section 6 of the Telecommunication Act (Chapter 323) on the same day.

*e.* As the Network Company responsible for the design, rollout and operation of the passive infrastructure of the Next Generation Nationwide Broadband Network, OpenNet has a keen interest in seeing that the COPIF is regularly reviewed and updated to keep pace with the evolving needs of info-communications infrastructure operators and end users.

## (II) SPECIFIC COMMENTS

1. OpenNet provides in this section its comments on IDA's proposed key changes to the COPIF 2008.

*Section 1 – Provision of Space & Facilities to Facilities-Based Operators Licensed to Provide Public Mobile Telecommunication Services*

2. In general, OpenNet has no objection to IDA's proposed amendments to the COPIF to allow Mobile Telecommunication Operators ("MTOs") to deploy installation and plant in the relevant space and facilities of Developments, for the provision of better mobile coverage within these Developments.

3. OpenNet anticipates that, with the requirement for developers and owners of Developments to provide Potential Mobile Deployment Space ("PMDS"), the likelihood of contention for space and/or facility may increase in tandem with the increased number of parties accessing those space and facilities.

4. In this regard, IDA has proposed an order of priority for access to Main Distribution Frame ("MDF") rooms, Telecom Equipment Rooms ("TERs"), telecommunication risers, cable trays/metal trunking, and underground pipeline systems within a Development.

5. OpenNet agrees with the proposed priority order, as it appropriately and correctly assigns the importance of access based on the service obligations of the different groups of Facilities-Based Operator ("FBO") Licensees.

6. In addition, it is OpenNet's view that IDA should also consider imposing a dispute resolution framework in anticipation of the increased likelihood of: *(i)* contention for space or facility within Developments; and *(ii)* interference between network installation and plant due to different telecommunications networks and systems co-locating in close proximity.

7. There should also be a binding framework to make sure MTOs' installation and plant installed do not interfere with the installation and plant installed by Public Telecommunications Licensees ("PTLs"). In the event of interference to PTLs' installation and plant, it shall be the responsibility of MTOs to ensure the interference is immediately eliminated, including deactivating MTOs' equipment to remove the source of interference. OpenNet further submits that IDA should consider implementing a mechanism to actively monitor the use of space and facilities provided by building developers and owners pursuant to the COPIF, to ensure such limited space and facilities are efficiently utilised in compliance with the COPIF.

8. In the consultation paper, IDA has also asked for views on whether a cap should be placed on the amount of floor area that a single or a group of similarly-situated FBO Licensees may occupy in the MDF room, TER and PMDS.

9. OpenNet recommends a minimum of 30 percent of the space available in MDF rooms, TERs, telecommunication risers, cable trays/metal trunking and underground pipeline systems be reserved for NGNBN deployment by OpenNet. This is to support the advent of the Next Generation Nationwide Broadband Network ("NGNBN") and its pervasive deployment nationwide. The space and facilities that are reserved will be for OpenNet's network rollout, service provisioning, and operations and maintenance of the NGNBN, which will include (but not limited to) telecommunication riser and cable tray space, metal trunking, underground pipeline system etc.

10. IDA also requested for views on whether the existing requirements in the COPIF 2008 (e.g. number of pipes, size of telecommunication risers, cable trays/metal trunking and underground pipeline systems) are sufficient, to facilitate the deployment of installation and plant by MTOs.

11. OpenNet would note that the existing space and facilities as required under the COPIF 2008 are already insufficient to cater to the needs of FBO Licensees. OpenNet would therefore recommend an increase in the overall space and facilities to: *(i)* address the existing limitations; and *(ii)* cater to potential additional requirements from MTOs for PMDS. OpenNet would like to propose that IDA commission a study by the Telecommunications Facilities Coordination Committee to assess the aggregate requirements of PTLs and FBO Licensees.

12. For existing Developments where an increase in space and facilities may not be possible or feasible and there are no practical alternatives, OpenNet would propose that IDA consider the option of using info-communication facilities provided in nearby buildings. Please refer to paragraphs 32 and 33 for details of this proposal.

*Section 2 – Provision of Cables for Telecommunication (Non-Broadband Coaxial Cable) System in All Residential Properties*

13. OpenNet supports the proposed requirement for building developers and owners to provide optical fibre cables from the gate pillar or telecommunication riser into each residential unit, terminating in a fibre termination point within a unit.

14. OpenNet submits that only the NGNBN Network Company be allowed to access and connect to the pre-installed optical fibre cables and fibre distribution boxes provided by building developers and owners. This arrangement supports the Government's intent and objective to leverage on the ultra-high-speed NGNBN, being a key national

infocomm infrastructure, in delivering rich broadband experience pervasively to end users[1].

15. OpenNet also recommends that building developers and owners be required to obtain a NGNBN Readiness Certification, to certify that the pre-installed optical fibre cables and fibre termination points comply with the relevant technical specifications. Where necessary, building developers and owners will be given an opportunity to rectify any defects detected during the certification process, prior to obtaining the Temporary Occupation Permit.

16. OpenNet believes that, with the NGNBN Readiness Certification, end users will experience more seamless service provisioning and delivery due to the additional pre-installation checks to ascertain service readiness.

17. In addition to optical fibre cables and RJ11/45 combination outlets, OpenNet believes it is also necessary to clarify in the revised COPIF the requirement for adequate power points to be installed near the fibre termination points and RJ11/45 combination outlets. OpenNet also proposes that the fibre termination points and RJ11/45 combination outlets be placed next to television points (where applicable).

18. With regard to the proposal to provision a minimum of one unshielded twisted pair cable (Category 6 or better) to the living room and each of the bedrooms, OpenNet would like to counter-propose a minimum of two unshielded twisted pair cables (Category 6 or better) to each room. This is to take into account end users may require connections for more than one Ethernet device and/or analogue telephone in each room. OpenNet also proposes that apart from the living room and bedroom, IDA should extend the same requirement (of minimum two unshielded twisted pair cables) to the dining room and study room.

---

[1] Extract of speech by Dr Lee Boon Yang, Minister for Information, Communications & The Arts, on 26 September 2008 – *"The Next Gen NBN propels Singapore to the forefront of broadband development internationally. Soon Singaporeans will be able to enjoy a richer broadband experience with more choices and at affordable prices. Businesses, large and small, will find it cheaper and easier to access ultra-high-speed broadband, and be able to use infocomm more extensively to boost productivity and competitiveness. The Next Gen NBN will be a strategic enabler that will transform the way we work, live, learn and play."*

Extract of speech by Ms Yong Ying-I, Chairman of IDA, on 3 April 2009 – *"The Next Gen NBN is a key national infocomm infrastructure that will enhance Singapore's competitiveness in a globalised and digital economy. It will spur the development of rich and innovative content, applications and services, and bring significant benefits to the various economic sectors such as finance, healthcare and education. All in Singapore can soon look forward to a richer broadband experience and a wide range of innovative broadband services at competitive prices, transforming the way we work, live, learn and interact. Indeed, the Next Gen NBN is a strategic enabler that will position Singapore well for the future."*

19. OpenNet notes that IDA will be releasing more detailed specifications at a later stage. OpenNet will work closely with IDA to finalise the specifications and other implementation details.

*Section 3 – Location of Main Distribution Frame Room & Telecommunication Equipment Room*

20. OpenNet supports the proposal to locate MDF rooms and TERs on the first storey (street-level) of buildings, notwithstanding that these buildings may have basement levels. In addition, OpenNet recommends that building developers and owners should provide anti-flood features at these facilities. The anti-flood features will serve as additional safeguards in the event the MDF rooms and TERs are flooded in spite of the street-level location.

21. IDA may also consider locating MDF rooms and TERs in a common service area that is easily accessible by licensees, without having to enter the compound of the Development (for instance, similar to the setup of a centralised refuse collection hub in a Development). This will help to minimise the disturbance/inconvenience to the residents/tenants of the Development, particularly when licensees need to access the MDF room or TER to perform operational and maintenance work during or after office hours.

22. In the event that it is not possible to locate the MDF room or TER on the first storey (street-level), the building developer or owner shall undertake that it will be liable for any loss or damage to the licensee's installation and plant inside the MDF room and TER room in the event of flooding. Alternatively, as stated in paragraph 20 above, building developers and owners should ensure there are anti-flood features at MDF rooms and TERs.

*Section 4 – Usage of Cable Trays/Metal Trunking in Buildings*

23. OpenNet refers IDA to the comments provided in paragraphs 10 and 11 above regarding the sufficiency of existing cable tray/metal trunking size requirements.

24. With regard to IDA's proposal to remove the designation of cable trays/metal trunking in telecommunication risers for either telecommunication (non-broadband coaxial cable) system or broadband coaxial cable system, OpenNet believes there will be a risk of possible interference issues arising due to sharing of cable trays/metal trunking. It would be prudent for IDA to consider conducting feasibility studies to assess the possible issues that may arise from sharing of such facilities. In addition, it is also necessary for IDA to consider the physical damage that could result due to co-location of different cable types on the same cable tray. Comparatively, optical fibre cables are less sturdy and hardy than copper and coaxial cables due to different physical construct.

25. In the event IDA decides to proceed with the removal of designation of cable trays/metal trunking for specific systems in spite of the concerns expressed above, OpenNet would recommend that Licensees should adhere to the order of priority for access (to the shared cable trays/metal trunking) as detailed in paragraph 9(a)(ii) of the consultation paper. Licensees should also comply with the measures put in place to mitigate the risk of interference.

*Section 5 – Sealing of Underground Pipes Entering the Main Distribution Frame Rooms, Telecommunication Equipment Rooms & Telecommunication Risers*

26. OpenNet is supportive of the proposal to require sealing of all underground pipes by developers prior to the handing over of such pipes to licensees. The method of sealing shall be specified by the licensee and adhered to by the building developer or owner. The installation and maintenance of the sealing system should be undertaken by the building developer or owner. One of the sealing systems currently in use is the Multi-Conduit Transit ("MCT") seal system. Where the sealing system needs to be replaced in future, the building developer or owner shall be responsible for the replacement.

27. Existing buildings installed with sealing systems (e.g. lead-duct seal, MCT or foam sealing) shall continue to operate with these systems. Maintenance of the sealing systems shall reside with the building developers and owners. Building developers and owners shall have to replace the sealing system if it is no longer effective.

28. As a general principle, OpenNet would propose that the provision and maintenance of sealing systems (to keep out water, debris, foreign particles and gases from underground pipes) reside with building developers and owners. Licensees shall seal up the underground pipes after completion of their cable installation works, using the means of sealing made available by the building developer or owner.

29. With regard to IDA's proposal to complete the sealing of underground pipes by a reasonable timeframe, OpenNet recommends that there should be further discussions between IDA and the licensees on a feasible implementation schedule, in view of the vast number of MDF rooms and the cables already installed underground.

*Additional Comments – Building Access & Non-Residential Buildings*

30. Currently, there are instances whereby buildings are served via licensees' installation and plant installed in nearby buildings (which are established as network nodes connecting to other buildings based on a star network topology). In the course of provisioning or activating services to the "served" buildings, licensees will require access to the MDF rooms of the "serving" buildings to set up and/or configure new connections.

31. OpenNet proposes that IDA should include in the revised COPIF the requirement for building developers and owners to facilitate and provide access to licensees to ensure timely provisioning/activation of services for end users, including for the scenario cited in paragraph 30 above.

32. In addition, there are instances where the space allocated for info-communication facilities is insufficient and licensees have to compete with one another to use the limited space available in MDF rooms and TERs. For buildings and landed estates which do not have a MDF room or TER, or when such info-communication facilities have been fully taken up, the options available to building developers and owners are to either build a standalone serving cabinet/MDF room/TER, or tap on a nearby building with existing MDF room/TER in the manner described in paragraph 30.

33. In order to overcome the space constraints, OpenNet would like to propose that the COPIF 2008 be amended to specifically provide for the scenario described in paragraph 30. The proposed broad criteria to be used in the selection of MDF room or TER for such purposes can include: *(i)* availability of space in the selected MDF room/TER; *(ii)* availability of lead-in pipes to support the intended use; *(iii)* location of the selected building relative to buildings served by it (e.g. a short distribution loop will achieve low signal loss and a reduced likelihood of cable cut outage); and *(iv)* number of end users who will be served by the selected MDF room/TER.

34. OpenNet would like to propose that developers and owners of non-residential buildings provide and pre-install, within their developments, conduits with draw ropes or airblown tubes connecting the individual units to the telecommunication risers and MDF rooms. In OpenNet's view, such an arrangement will facilitate the deployment of info-communications services to tenants of non-residential buildings. It will also minimise the disruption and inconvenience to non-residential end users during licensees' network rollout and installation to their premises.

***Ending Remarks***

OpenNet appreciates the opportunity to respond to IDA's public consultation on the review of the COPIF. Please do not hesitate to let us know if IDA should require any clarification on this submission.

Thank you.

---