

**SINGNET PTE LTD RESPONSE TO
THE INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY OF
SINGAPORE PUBLIC CONSULTATION ON THE PROPOSED CODE OF
PRACTICE FOR THE PROVISIONING OF COAXIAL CABLE HOME
NETWORKING SOLUTIONS**

1. INTRODUCTION

- 1.1. SingNet Pte Ltd (**SingNet**) refers to the Info-communications Development Authority of Singapore (**IDA**) public consultation on the Proposed Code of Practice for the Provisioning of Coaxial Cable Home Networking (**CCHN**) Solutions (**Code**) issued on 18 March 2013.
- 1.2. SingNet is a leading Internet Access Service Provider (**IASP**) in Singapore and has been at the forefront of Internet innovation since 1994, being the first IASP to launch broadband services in Singapore. SingNet offers a comprehensive suite of broadband Internet services delivered both over the Digital Symmetrical Line (**DSL**) and fibre technologies. SingNet is also licensed to offer IPTV services under a nationwide subscription television licence granted by the Media Development Authority of Singapore (**MDA**).
- 1.3. SingNet provides services to both corporate and residential end-users and is committed to bringing the best of global communications to its end-users in the Asia Pacific and beyond.
- 1.4. SingNet is committed to the provision of state-of-the-art telecommunications technologies and services in Singapore and welcomes the opportunity to make a submission in response to the Code issued by the IDA.
- 1.5. This submission is structured as follows:

Section 1 – Introduction

Section 2 – General Observations and Comments

Section 3 – Specific Comments

2. GENERAL OBSERVATIONS AND COMMENTS

- 2.1. With the availability of high-speed residential broadband plans of 100Mbps and higher over the Next Generation Nationwide Broadband Network (**Next Gen NBN**) since September 2010, the completion of the fibre roll-out to 95% of all Singapore premises since 30 June 2012 and with the remaining 5% of Singapore premises scheduled for completion by mid-2013, there is a critical need for suitable home networking solutions to realise and distribute the high bandwidth connection to multiple users and devices within the home.
- 2.2. Existing home networking solutions such as wireless local area networking (**Wi-Fi**) and powerline networking have their respective limitations in supporting bandwidth-intensive applications or applications that require reliable high throughput connections within the home. Wi-Fi networking is increasingly susceptible to interference from other nearby Wi-Fi networks and the signal weakens as it passes through walls. Powerline networking is also susceptible to interference caused by the operation of electrical appliances within the home.
- 2.3. Whilst the most suitable home networking solution to complement the Next Gen NBN is the use of structured network cabling utilising Cat5e or Cat6 cables, and this is a viable solution for new homes or homes undergoing renovations, it remains a potential challenge to install structured network cabling in existing homes due to both the one-time installation costs and the unsightly trunking used to house the structured network cabling.
- 2.4. As a result of the challenges of installing structured network cabling in existing homes, SingNet submits that the only truly viable alternative solution that is able to support reliable high-throughput connections within the home is CCHN. Given that most homes in Singapore already have coaxial cables installed throughout the home, CCHN offers home owners a quick, easy and reliable means of realising and distributing high-throughput connections within the home by leveraging on their existing coaxial cables within the home.
- 2.5. Given that CCHN is the only truly viable home networking solution that complements the Next Gen NBN and enables end-users to realise the high-

bandwidth speeds that the Next Gen NBN enables; it is critical that the IDA removes all barriers and impediments to the adoption of CCHN solutions.

- 2.6. While we welcome the IDA's efforts to facilitate the adoption of CCHN solutions with the proposed Code, SingNet is of the view that the IDA has not gone far enough in enabling access. The broadband coaxial cable system (**BCS**) Facilities in HDB, private condominiums and landed properties are provided by the building owner/developer at their own expense under the Code of Practice for Info-communications Facilities In-Building (**COPIF**). Home owners may have invested in additional coaxial cables/points when renovating their homes.
- 2.7. For the majority of Housing Development Board (**HDB**) units, the BCS needs to be accessed via the coaxial distribution tap boxes located outside the end-user premises. However, these coaxial distribution tap boxes are usually locked-up by the current BCS Operator who may seek to impose unreasonable terms and conditions for access. This prevents Solution Providers such as SingNet from deploying CCHN solutions using coaxial cables for home networking. This is detrimental to end-users.
- 2.8. In the Code, the IDA has proposed that the Solution Provider and the BCS Operator act in good faith to reach a commercial agreement for the terms of access to the BCS Facilities. SingNet submits that there is little or no incentive for the current BCS Operator to negotiate reasonable terms and conditions for access to the BCS Facilities. As the IDA is aware, SingNet has previously attempted to negotiate in good faith with the current BCS Operator for access to the BCS Facilities but these negotiations were unsuccessful.
- 2.9. Furthermore, given the BCS Facilities in HDB, private condominiums and landed properties are provided by the building owner/developer at their own expense under the COPIF, the IDA should require access to be provided by the current BCS Operator and determine the terms and conditions of such access. In addition, given the fact that access to the BCS Facilities is the only means of deploying CCHN solutions to a substantial number of homes, the BCS Facilities have the characteristics of bottleneck facilities to which access should be required and on IDA determined terms and conditions.

- 2.10. In summary, the IDA has not gone far enough in enabling access to BCS Facilities by Solutions Providers. Access to the BCS Facilities should be required on IDA determined terms and conditions.

3. SPECIFIC COMMENTS

- 3.1. SingNet provides the following specific comments to the Code:

Suitability of Home Configurations and Minimum Conditions for Deployment of CCHN Solutions

In-home coaxial cable systems layout

- 3.2. SingNet submits that it is unreasonable for the IDA to require isolation filters to be installed at coaxial distribution taps located outside the residential premise as shown in Figure 2.3 as the standard practice for the installation of CCHN solution if the IDA does not correspondingly require that the access to the coaxial distribution tap boxes be provided on IDA determined terms and conditions.
- 3.3. We would refer the IDA to our above comments. The IDA should require access to be provided by the current BCS Operator and determine the terms and conditions of such access.
- 3.4. In the event that the IDA does not require access to the coaxial distribution tap boxes be provided on IDA determined terms and conditions, SingNet submits that the Solution Provider should have the right to install the isolation filter within the home if the coaxial splitter exist within the end-user premise.
- 3.5. Notwithstanding the above, it is also unclear in the Code whether the Solution Provider has the right to refer any dispute in relation to the terms and conditions of access to the IDA for IDA determination. SingNet submits that any dispute in relation to the terms and conditions of access should be referred to the IDA and the IDA should resolve the dispute.

- 3.6. SingNet notes that the Code states in 2.1.4 that only homes served via a single coaxial splitter are suitable for a CCHN solution. As indicated in our response to the IDA consultation in September 2011, SingNet does not agree nor support this statement. CCHN solutions can be deployed where there are multiple splitters. Where a home is served via multiple coaxial splitters, the home may still be suitable for deployment of CCHN solutions provided that the CCHN solution is deployed to points on the same coaxial splitter. As a precaution, additional isolation filters could be installed at the additional splitter(s) to prevent any potential interference in the event the end-user decides to change the existing CCHN solution set-up to a different splitter.

General Setup Process

- 3.7. In relation to 2.2.1 of the Code, SingNet submits that the BCS Operator publishes a list of cable TV programmes and/or other services delivered over the BCS in the same/adjacent frequency band used by the CCHN solution so that Solution Providers can inform the end-user accordingly prior to the installation of the CCHN solution.
- 3.8. In relation to 2.2.2 of the Code, SingNet submits that there is no necessity to remove the isolation filter as it does not impact services carried over the BCS even if the CCHN solution has been removed.
- 3.9. In relation to 2.2.4(c) of the Code, SingNet submits that the use of a Carrier/Noise signal measurement tool is sufficient to measure and conclude whether the CCHN solution has been successfully deployed and we would recommend that this be adopted as the basis for post-installation verification set-out in Appendix A. For post-installation verification, SingNet does not support the use of speed test procedure as it is subject to various factors such as the availability of the speed test server which is beyond Solution Provider's control.
- 3.10. In relation to the dimension of the isolation filter indicated in 2.2.7 of the Code, SingNet submits that the IDA consider allowing the use of isolation filters with the overall length and diameter not exceeding 56mm and 21mm respectively.

BCS system inspection

- 3.11. SingNet submits that Solution Providers should only be required to inspect and verify the condition of the points of attachment e.g. if the isolation filter is installed within the residential premises then the Solutions Provider would not be required to inspect the coaxial distribution riser or the coaxial distribution tap.

Notification to BCS Operator of isolation filter installed within a residential premise

- 3.12. In relation to 2.2.12 of the Code, if the isolation filter has been installed within a residential premise because the BCS Operator did not grant reasonable access to the coaxial distribution tap outside the residential premise, it is unreasonable for the IDA to require Solution Providers to notify the BCS Operator of the address where isolation filters has been installed within the residential premises. SingNet submits that this clause should only be applicable if the IDA correspondingly determines the terms and conditions under which access to the coaxial distribution taps is granted by the BCS Operator.

Single point of contact for performance interference issues or disputes

- 3.13. The Code in 2.2.13 requires that Solution Providers serve as the single point of contact for any performance interference issues or disputes arising from the CCHN solution.
- 3.14. SingNet submits that in order for the Solution Providers to ensure that it is able to carry out investigations properly and promptly, the Code should correspondingly require:
- (a) the BCS operator to provide the Solution Providers with a single point of contact for the purpose of escalating interference or dispute cases involving multiple parties;
 - (b) the BCS operator to work with the Solution Providers on an escalation Service Level Agreement in good faith; and
 - (c) that the BCS operator not impose any charges for the above.

Grant of Access to Facilities Managed or Controlled by BCS Operators in Common Areas

Agreement between Solution Provider and BCS operator for the grant of access to the BCS facilities

- 3.15. The IDA has proposed that the Solution Provider and the BCS Operator shall seek to reach an agreement in good faith for grant of access to the BCS Facilities. As indicated above, there is little or no incentive for the current BCS Operator to negotiate reasonable terms and conditions for access to the BCS Facilities. As the IDA is aware, SingNet has previously attempted to negotiate in good faith with the current BCS Operator for access to the BCS Facilities but these negotiations were unsuccessful.
- 3.16. We would refer the IDA to our above comments. The IDA should require access to be provided by the current BCS Operator and determine the terms and conditions of such access.

Disputes between the Solution Provider and the BCS Operators relating to access to BCS Facilities for the installation or use of CCHN Solution

- 3.17. As indicated above, there is little or no incentive for the current BCS Operator to negotiate reasonable terms and conditions for access to the BCS Facilities. The IDA should require access to be provided by the current BCS Operator and determine the terms and conditions of such access. Further, SingNet submits that any dispute in relation to the terms and conditions of access should be referred to the IDA and the IDA should resolve the dispute.

4. CONCLUSION

- 4.1. While we welcome the IDA's efforts to facilitate the adoption of CCHN solutions with the proposed Code, the IDA has not gone far enough in enabling access to BCS Facilities by Solutions Providers. Access to the BCS Facilities should be required on IDA determined terms and conditions and any disputes in relation to the terms and conditions of access resolved by the IDA.