

SINGNET PTE LTD

RESPONSE TO JOINT IDA/MDA INDUSTRY DIALOGUE PAPER - PROJECT NIMS OUTCOME – BASED APPROACH

1. INTRODUCTION

- 1.1 SingNet Pte Ltd (**SingNet**) refers to the Info-communications Development Authority of Singapore (**IDA**) and the Media Development Authority of Singapore (**MDA**) Industry Dialogue on Outcome-based Approach issued on 24 August 2010 (**Industry Dialogue Paper**) soliciting views and feedback on the proposed outcomes that constitute the outcome-based approach.
- 1.2 SingNet is a leading Internet service provider (**ISP**) in Singapore and has been at the forefront of Internet innovation since 1994, being the first ISP to launch broadband services in Singapore. It is licensed to offer IPTV services under a nationwide subscription television licence granted by the MDA.
- 1.3 SingNet welcomes the opportunity to make this submission on the Industry Dialogue Paper and the various issues identified by the IDA/MDA.
- 1.4 SingNet would be pleased to clarify any of the views and comments made in this document, as appropriate.

2. GENERAL COMMENTS

- 2.1 As SingNet has previously indicated, it is too early to develop standards. SingNet believes that using a voluntary outcome-based approach, it is possible to achieve some of the outcomes that the IDA/MDA has outlined, including providing government services over the SingNet network, enabling other operators to provide IPTV services over the SingNet network etc. SingNet does not support an approach that requires compliance.

2.2 SingNet is pleased to provide the IDA / MDA with its responses to the specific issues raised in the Industry Dialogue Paper.

3. SPECIFIC COMMENTS

Outcome-based approach should not be overly prescriptive

3.1 SingNet refers to paragraphs 2.1.4 and 2.2.5 (a) of the Industry Dialogue Paper wherein the IDA/MDA indicate that:

- (a) there will be no dictating of standards to achieve technical compatibility;
- (b) IPTV RSPs should have complete autonomy over methods they wish to employ as long as the desired outcomes of Project NIMS are met; and
- (c) There was support for a form of industry and government collaboration to develop a set of outcomes which would be beneficial for Singapore's IPTV market and which would not be overly prescriptive and can be technologically neutral, thus providing the industry with a wider range of options to achieve the outcomes of Project NIMS.

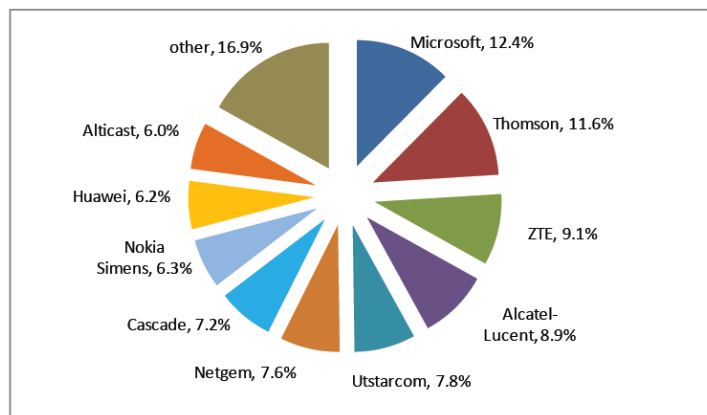
3.2 SingNet agrees with these views. SingNet does not support a prescriptive approach. The industry must be allowed to make commercial decisions in respect to the technology/platform that they would want to adopt for their respective IPTV systems whilst achieving the desired outcomes.

3.3 We believe this is consistent with the IDA/MDA policy objectives and approaches for other matters, including the technologies that are to be implemented for GSM/3G, HSPA, wireless broadband, wireless@sg, IP Telephony, etc

3.4 Accordingly, SingNet had earlier proposed that the IDA/MDA

- (a) not mandate the standards for IPTV CF-STB; and
- (b) allow the industry players to determine and implement their own IPTV technology/system.

- 3.5 To be specific, SingNet submits that an outcome-based approach means that IPTV RSPs make commercial decisions as to when is the best time to adopt a technology and which technology to adopt
- 3.6 SingNet would remind the IDA/MDA that there is still no global IPTV standard that enjoys widespread adoption, as can be seen from the diagram below. As can be seen, the Mediaroom platform has the largest market share in the IPTV middleware market in 2009 but there was still a large variety of standards used.
- 3.7 An overly prescriptive outcome would subject the IPTV RSPs to the risks of selecting and being locked-in to the wrong IPTV technology/system, and unable to keep up with the fast evolving IPTV market. It may also result in significant stranded investment costs.



Source: FROST & SULLIVAN
Marketshare of top-10 IPTV Middleware providers: Q1 2009

Focus on Next Gen NBN

- 3.8 The IDA/MDA indicate that there is a range of opinions as to whether IDA/ MDA proposed approach towards standardisation should be focused on IPTV services deployed over the Next Gen NBN first.

- 3.9 SingNet stresses that IPTV RSPs must be free to make their own commercial decisions with respect to technology/platforms – indeed, the Next Gen NBN was supposed to foster a vibrant and diverse RSP environment. IPTV RSPs therefore should be able to offer non-NIMS IPTV services on Next Gen NBN. This is also consistent with a principle of technology neutrality. No single IPTV standard(s) nor IPTV system(s) should be singled out for standardization. This is consistent with the objectives of Next Gen NBN and is also consistent with the fact that there is no global IPTV standard that enjoys widespread adoption.
- 3.10 SingNet believes that IDA/MDA must take into consideration the significant investments that have made by existing industry stakeholders in the content and media industry to bring world class IPTV services to Singapore since 2007. In early 2010, there were already some seven (7) IPTV providers in Singapore; there is likely to be further new entry. The existing IPTV RSPs are experienced in delivering pay TV services in Singapore using world class IPTV solutions. The IDA/MDA should also consider the likely impact to the consumers in Singapore who have already grown accustomed to the usage of existing pay TV services.
- 3.11 SingNet believes that IDA/MDA should draw from the experience of the smartphone and mobile broadband industry, which has seen unprecedented innovation and growth in the recent years. Customers in Singapore today are able to enjoy the widest choice of mobile solutions based on different mobile OS (Apple iOS, Android, Windows Mobile, RIM, Palm Pre, Symbian, Meego, Bada, etc.), platforms (iPhone/iPOD/iPAD, Droid phones, WinMo phones, Blackberry, eReaders, tablets, etc.) and a wide range of marketplaces (iTunes, Android Marketplace, Windows Live!, RIM , OVI, SingTel Amped, SingTel Apps Zone, M1 AppStore, Starhub App Store, Vodafone 360, Telefonica mStore, etc.). Mobile network operators, mobile phone manufacturers, applications developers and service providers were allowed to innovate and flourish without the imposition of standards by regulators worldwide, including the IDA and MDA.



3.12 SingNet believes that IDA/MDA cannot ignore the global trend and developments in the unmanaged model to deliver video over the public Internet, i.e. OTT (live + on-demand) IPTV. Emerging IPTV service providers like Apple, Google, Sony Playstation, Hulu, Netflix, TV Everywhere, etc., are not regulated as they do not require a IPTV license to deliver multimedia content to Singapore. These OTT platforms do not need to comply with any of the proposed four (4) requirements of the Outcome Based Approach for NIMS programme. The imposition of the proposed four (4) requirements on nationwide IPTV RSPs on the Next Gen NBN would impose costs, dampen incentives to invest and innovate and serve only to disadvantage IPTV RSPs' in Singapore.

Bye-bye TV? YouTube debuts live streaming

Posted by Seth Weintraub
September 13, 2010 8:10 AM

The new service which debuts today could give cable TV's last real advantage, live news and sports, a run for its money.


You can already watch just about any TV show or movie out there on Hulu, iTunes, Netflix, Amazon (AMZN), YouTube or some other Internet site. Some are pay per view, while others use paid advertising or "commercials." Clearly the Internet has made the archives of pre-recorded video content a virtual catalog from which consumers can shop and buy or rent.

The one thing that the Internet hasn't quite mastered yet, however, is live events like news and sporting events. Companies like Qik, Ustream and a few others have done this on a small scale, but it hasn't hit the mainstream. Sporting events which have smaller disparate audiences have been one of the bigger draws, with sites like ESPN, MLB and the NFL offering feeds at a fee.




The all-new Apple TV

Apple TV has been redesigned to be small in size but big on entertainment. Rent from the largest selection of HD movies — many available the same day they come out on DVD. Watch Netflix titles instantly. Rent TV shows, commercial free in HD. And stream photos and music from your computer to your widescreen TV. Best of all, **Apple TV is just \$99.**


Member Sign In

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Watch as many movies as you want! For only \$8⁹⁹ a month.

- ✓ Get movies 2 ways for 1 low price
- ✓ DVDs by mail plus watch instantly on your TV
- ✓ Cancel anytime

Questions? 1-866-636-3076
24 hours a day

We're not sure you will be able to sign up for Netflix from your area.




You will need a valid U.S. mailing address to sign up for Netflix. Also, you will only be able to watch instantly if you are in the 50 United States or Washington, D.C. It looks like you are outside the United States. If this is incorrect, please contact your Internet provider for help. We are sorry for any inconvenience.

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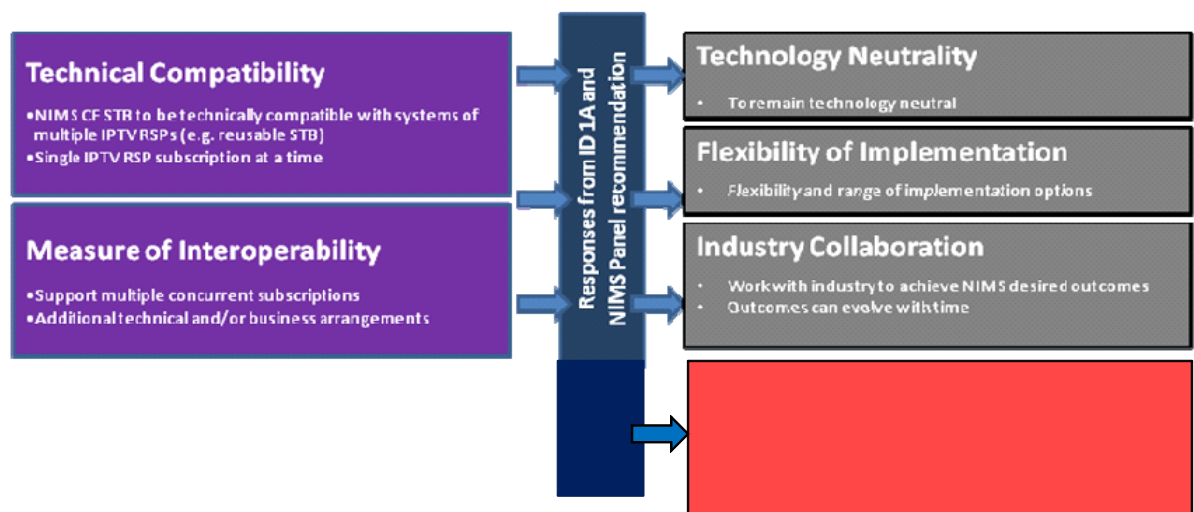
My Videos

VMA Winner
Congratulations to Thirty Seconds to Mars for taking home an MTV Video Music Award for Best Rock Video. See the winning video here.

Achieving Desired Outcome of Project NIMs in ID 1A

- 3.13 The Industry Dialogue Paper indicates that the NIMS panel concluded standardization is only one aspect in the achievement of the Long-Term Goal, and that there are several other areas that require attention as well (e.g. operational issues like coordination of firmware and upgrades) as challenges to standardisation in areas like achieving technical compatibility of the NIMS CF STB. Given that the international developments on standards have yet to mature and considering the shifting consumer trends, the need for technical compatibility has correspondingly taken on a lesser significance.
- 3.14 First, SingNet highlights that while the “proof of concept” (**POC**) conducted at the laboratory had demonstrated the feasibility “that multiple IPTV RSPs are able to seamlessly deliver services to end-users”, the POC trials had also demonstrated that the international developments on standards are still at a nascent stage.
- 3.15 SingNet therefore cautions against the view that technical compatibility has correspondingly taken on a lesser significance. Rather, SingNet emphasizes the following:
- (a) There is still a need for technical compatibility to ensure the NIMS Common-Featured Set Top Boxes (**CF STB**) can work with dissimilar IPTV systems/platforms (as there are wide ranging variants in the implementation of each IPTV standard). Without technically compatible NIMS CF STB, IDA/MDA would not be able to meet the Long-term goal through “facilitating a range of implementation options” and “industry collaboration to address evolving requirements”.
 - (b) Nonetheless, whilst encouraging technical compatibility, there is a need to ensure that there is no prescription of the actual standards involved, in order to preserve the principle of technology neutrality and avoid the risk of stranded investments.

- 3.16 To reiterate, SingNet believes that the pay TV industry is currently undergoing significant changes and fast evolving due to the disruptive innovations brought forth by new players like Google, Apple, Netflix, etc. The IDA/MDA long term goal should seek to protect the investments by existing stakeholders in the content and media industry, and consider the impact to Singapore consumers who are accustomed to existing pay TV technologies (cable TV and managed IPTV). Notwithstanding IDA/MDA plan to achieve the outcomes of the NIMS Programme, IDA/MDA must maintain the technology neutrality principle by allowing the implementation of non-NIMS IPTV over the Next Gen NBN.



SingNet’s view of “Calibration of requirements to achieving the Long-Term Goal”

Foreclosure of market

- 3.17 The IDA/MDA have expressed concern that operators delivering video services on a nationwide basis may have an opportunity to pre-empt and foreclose any competition in the market, especially if they are the first to reach the end-users’ homes. Hence, to achieve the objectives of Project NIMS, IDA/MDA consider that the achievement of the outcomes should be required of operators delivering and/or capable of delivering video services on a nationwide basis over the Next Gen NBN, as well as other networks to the extent possible.

- 3.18 These comments are contrary to the NGNBN policy goals and the actual state of competition in Singapore in respect of the delivery of video services in Singapore.
- 3.19 Foreclosure of markets is only possible if an operator with market power can foreclose entry through unilateral conduct of the operator (eg preventing access to its network/platform). SingNet submits that the evidence establishes a contrary state of affairs in Singapore.
- 3.20 First, the delivery of video over the Singapore NGNBN already benefits from the open access policy goals already implemented by the IDA. In particular, these policy goals have been implemented through an open access market structure. This open access market structure prevents an operator from misusing its market power in a way which would allow foreclosure of the market for the delivery of video services in Singapore.
- 3.21 The objectives of Next Gen NBN, including promoting choice, innovation and creativity are enhanced by the open market structure as stated by the IDA:

“Singapore’s Next Generation Nationwide Broadband Network (Next Gen NBN) creates new market opportunities for Retail Service Providers (RSPs) and Application Service Providers (ASPs) to provide impactful and innovative next generation broadband services and applications for the public, private and people sectors”



3.22 Secondly, the IDA/MDA concerns about market foreclosure are not borne out in market evidence. The evidence establishes:

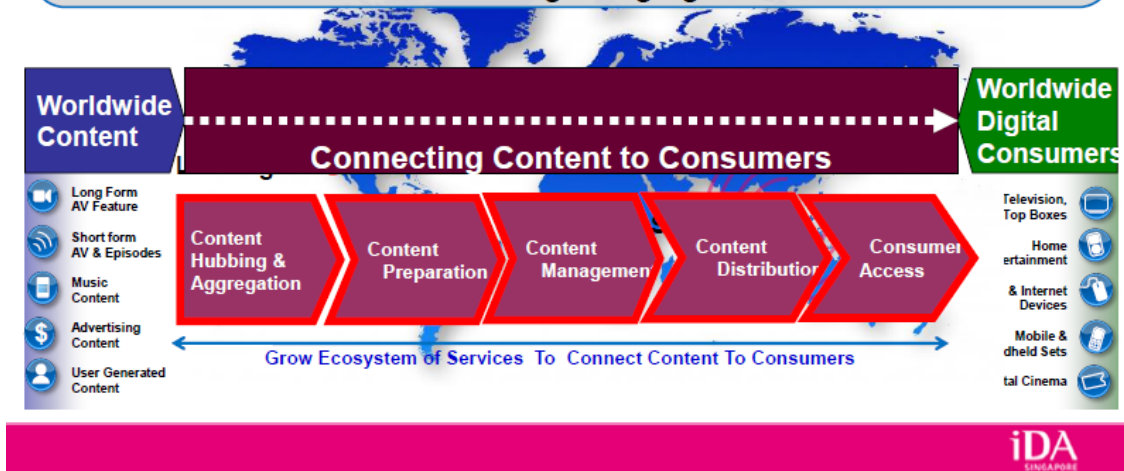
- (a) **that barriers to entry are low.** This is evidenced by the existence of multiple IPTV operators in Singapore, for example, SingNet (Mio TV), MediaCorp (MOBTV), M2B World (WOW TV), SPH (Razor TV), VeeV, OneIPTV and Creative Zii. Where barriers to entry are low, foreclosure is not possible because attempts at foreclose simply fail. Even if an IPTV operator could seek to foreclose entry by not allowing access to its platform, access would be provided by competing IPTV platform providers. In any case, open access to the Next Gen NBN promotes entry and prevents foreclosing behaviour;
- (b) **the existence of wholesale products suitable for the delivery of video services.** This is evidenced by tariffed wholesale services made available by operators including SingTel - such as the Wholesale B-Access product – which support video delivery. The Next Gen NBN OpCo, Nucleus Connect, also offers a competing wholesale offering on IDA approved terms and conditions. So, not only is foreclosure not possible, operators are actually encouraging entry through the existence of wholesale products which promote multiple service provider delivery models.

3.23 SingNet submits that the IDA/MDA concerns about the foreclosure of markets does not justify the outcomes based model. Open access policy goals implemented through the Next Gen NBN market structure prevent these concerns. In any case, there is strong evidence in the market that entry is occurring, barriers to entry are low and wholesale products are available for the delivery of video services in Singapore.

Industry Development for Media and Entertainment

Digital Marketplace Programme

Goal: Establish Singapore as a **trusted** digital media management and distribution **hub for Asia** offering **innovative** and competitive **digital services** to the fast-growing digital consumers.



Multiple RSP support

3.24 DA/MDA envisages that with an outcome-based approach, there should be ability for a consumer to access multiple IPTV RSPs through a video-based services delivery platform and an end-user terminal device (e.g. set-top box) instead of having to subscribe to multiple IPTV platforms to access a variety of IPTV RSPs' services. Furthermore, it is envisaged that there will be three (3) distinct entities playing different roles:

- the 'RSP' who purchases the video-based services delivery platform wholesale services to deliver content and services to consumers;
- the 'STB Coordinating Party' who coordinates the shared use of set-top boxes amongst the RSPs on the video-based services delivery platform. Such a role can be played by RSPs or could be played by an external neutral party; and

- (c) the ‘Consumer’ who is able to receive content and services from the RSPs through the same end-user terminal device. However, it is not sufficient simply to achieve an outcome where the video-based services delivery platforms are capable of supporting multiple RSPs. To ensure that the objective of Project NIMS to encourage a vibrant marketplace for interactive multimedia, applications and services is met, two (2) important principles underpin this outcome of multi-RSP support.
- 3.25 SingNet views that a multiple RSP environment does not necessarily need the introduction of a CF STB. First, On 12 March 2010, the MDA revised the Media Market Conduct Code to include a Public Interest Obligation to enable mandatory cross carriage of exclusive content in the pay TV market (**Cross-Carriage Obligation**). The Cross-Carriage Obligation requires subscription television licensees (including nationwide and niche licensees) to make their exclusive content (acquired on or after 12 March 2010) available for cross carriage by nationwide subscription television licensees (e.g. SCV and SingNet) with effect from 1 September 2010.
- 3.26 SingNet notes that under the Cross-Carriage Obligation, end-users would not need to use different end user devices or subscribe to multiple IPTV platforms in order to access the exclusive content of different IPTV RSPs. In fact, the same end user device can be use to access the exclusive content of different IPTV RSPs.
- 3.27 SingNet has also put in place a walled garden to enable RSPs to launch innovative IPTV applications, video content and services. Currently, various overseas and local content providers to distribute their content to the local audience, that is, Singapore customers are already able to obtain content from multiple parties through SingNet’s IPTV platform
- 3.28 We further elaborate on this below.

Principle 1: Competitive Market Environment Conducive to Multi-RSP Support

3.29 *Competitive and Attractive Pricing Terms & Unbundled Offerings* – As indicated above, there has been multiple new entry and there is evidence of tariffed wholesale services made available by operators including SingTel - such as the Wholesale B-Access product – which support video delivery. And the Next Gen NBN OpCo, Nucleus Connect.

Principle 2: Ability to Differentiate Effectively from Competing RSPs with Distinct Brand Identity & Retention of Customer Billing Relationship

3.30 SingNet supports the idea that IPTV RSPs should be able to differentiate their IPTV offerings through various means like branding, EPG, walled garden applications, etc. SingNet’s IPTV platform can allow multiple RSPs to use the same end user device to deliver their IPTV content and offers these RSPs the ability to customize services, features and the UI (within specified parameters) to reflect their service and branding customization requirements.

3.31 However, SingNet would like to point out that the ability to perform the aforesaid functions would be subject to the capabilities of the middleware, STB, backend integration of RSPs’ order taking/billing systems, ADK, capabilities/competencies of system integrators and applications developers, ecosystem of partners, etc. SingNet IPTV platform uses the Microsoft Mediaroom Presentation Framework which is currently used by more than 26 IPTV operators worldwide. To date, there are more than 160 companies that are certified and actively development IPTV applications using the Microsoft Mediaroom Presentation Framework.

Common Applications and Service Environment

3.32 SingNet draws the IDA/MDA attention to the vibrant eco system of mobile industry where we have witnessed unprecedented growth and innovation with multiple applications and services environment.

- 3.33 Mobile phone application developers are able to launch innovative services and applications over a diverse mobile platform landscape without intervention from regulators on the standardization of operating systems or common features mobile phones. Therefore, a technology neutral stance for NIMS Programme similar to that of a mobile industry should be adopted. SingNet believes that IPTV application and service development can be very successful even without a common application and service platform.

Principle 1: Competitive Market Environment Conducive to a Vibrant Application and Services Landscape and Principle 2: Ability to Differentiate Effectively from Competing RSPs

- 3.34 SingNet's IPTV is able to offer advertisers a platform that provides infomediary services and contextualised advertisements applicable to the genre of the programme. Interactive capabilities include gathering end users feedback via the real-time voting and contest submission interfaces (e.g. BPL channel application).
- 3.35 SingNet also plans to set up an incubation lab to encourage application developers to test and trial interactive applications on SingNet mio TV platform. This would enable both developers and RSPs to explore new service feature concept and new business models.
- 3.36 A managed IPTV infrastructure would offer subscribers with an enhanced level of personalization, interactivity with applications that immerses the end users with the type of content being served. It will benefit both the end users as well as the ecosystem of partners from the advertisers to the content providers and the application developers.
- 3.37 Currently, SingNet's mio TV provides the support for application developers for Microsoft Mediaroom Presentation Framework applications via incubation test beds, application qualification framework that equips and selects promising applications to launch. Microsoft Mediaroom IPTV is currently the market leader in IPTV and has the largest installed base and no. of set top boxes globally.

3.38 However, SingNet asks that with such innovation, the IDA/MDA should correspondingly allow for more flexibility in the applicable regulatory framework. For example, customization of features for advertisements and presentation of sponsor content should be facilitated with a more flexible set of guidelines pertaining to advertisements and sponsorship; otherwise, the restrictions in the existing framework will invariably dampen any effort towards implementing innovative features.

Embracing Options for Delivery: Managed Networks & OTT

3.39 SingNet's IPTV platform is able to support the OTT delivery model and web access through a "walled garden approach", while Free-To-Air broadcast channels is already available on the mio TV service.

3.40 With the Microsoft Presentation Framework, website, RSS/Atom feeds and XML feeds can be ported onto a scaled down interface optimum for the TV. Developers who are conversant with Microsoft ASP.NET framework can develop application and test them with the ADK provided by Microsoft.

3.41 Microsoft technologies like Silverlight and PlayReady are currently widely adopted by OTT applications, e.g. Netflix.

Benefits

3.42 SingNet generally believes that Over-the-Top TV content like Apple TV, Google TV, Hulu, NetFlix, etc. are best supported over devices like PC, eReaders, NetBook/NetPC, smartphones, etc.

3.43 Furthermore, OTT content are often encoded in various technologies like Flash, HTML5, Silverlight, DIVX, MKV, etc., and using various CA/DRMs, which will increase the costs and complexity of the CF STB.

3.44 SingNet believes that the critical success factors of a CF STB include low cost, reliability, remote management capabilities and small form factor. The addition of options for delivery would increase the complexity of the CF STB and the

associated costs. Furthermore, the interoperability of the hardware extensions (or add-ons) would complicate the operation process, introducing longer delays to trouble shooting, features upgrades and enhancements.

- 3.45 Hence, SingNet would generally prefer that RSPs which require these additional features should obtain customised STBs, so as to ensure that the basic CF STB is not subject to frequent firmware upgrades, bug fixes, etc. that are attributed to the enhancements.

Carriage of T-Government Services:

- 3.46 SingNet agrees with the concept of common platform to support T-Government.
- 3.47 The SingTel Group has vast experience in project managing large scale government projects. SingNet is able to leverage on the SingTel group's resource and capabilities to develop T-Government services on mio TV.
- 3.48 SingNet IPTV provides a proven platform to support T-government services
- 3.49 We are prepared to work with the IDA and MDA to define the scope of works for the T-government initiative and jumpstart the provision of T-government services over mio TV.