

# Open Access IPTV Framework

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## Executive Summary

The Singapore government announced an initiative to deploy a nationwide Next Generation National Broadband Network (NGNBN) which will offer pervasive ultra high speed symmetric connectivity of 1 Gbps or more by 2015, with initial provisioning of 100 Mbps from as early as 2010. To keep the network attractively priced, the Singapore government co-funds the network's deployment and also demarcated the operators into three legally distinct layers: passive infrastructure operator (NetCo), wholesale operator (OpCo) and Retail Service Providers (RSP) as shown in Figure 1. The goal for such separation is to achieve open access to the NGNBN. As video streaming is very bandwidth intensive, thus we believe the layered architecture of the NGNBN will have profound impact on the TV and video service providers over the internet protocol in Singapore, which we loosely denote as IPTV. To support multiple IPTV RSPs, an IPTV open platform is necessary. However, there is lack of dominant international standards and thus, the next best alternative is to track the ITU-T IPTV Global Standards Initiative effort which is still on-going ([www.itu.int/ITU-T/gsi/iptv/](http://www.itu.int/ITU-T/gsi/iptv/)). An IPTV platform operator that interfaces to the RSPs would be a better choice to start with as this permits easy modification when the standard is established. As such, the IPTV system can be rolled out while giving room for modification to the deployed system to be in conformance to the ITU-T international standards when it is eventually approved and keeping the amount of changes needed by the RSPs to a minimum through an IPTV service API. However, such a model has to be balanced with ample rooms for differentiation among the RSPs so that the open platform will promote instead of hinder innovation. The common differentiation factors are content choice and diversity, cost and level of customer service. In such an open access framework, our proposition is that it will promote the increase in content choice and diversity to cater to the varied preference of customers. With lower entry cost and nationwide access, the breakeven point for content producers is lower and thus encourages content tailored to specific customer group to be produced viably (the long tail). Other possible differentiation factors include user interface design, ease of use and degree of

personalization. Good user interface requires innovation to the Electronic Programme Guide and metadata to support recommendation instead of page-by-page search. Interactivity would also be build-in to encourage viewers' active participation instead of just passive watching. Similarly, easy and seamless operation that allows the user to enjoy his favourite content at anywhere, anytime and on any device will increase the level of user satisfaction. This necessitates heterogeneous device scalability in content streaming and conditional access that does not tie content to machines. Personalization technology allows the user to get the relevant information in the way he wants it, such as in his preferred language, at the relevant location and in the appropriate context. We believe such differentiations are just the beginning in the exciting interactive TV space. There will be other innovations in the future that will create differentiation and to attract customers since there is no monopoly and that anyone is able to introduce contents and/or services if there is business case. Thus, it will be an exciting nationwide test-bed for IPTV.



**Figure 1. The Next Generation National Broadband Network Three Main Layers (courtesy of Infocomm Development Authority, Singapore)**