

ATUG was at CommunicAsia in Singapore last week hearing about developments with Singapore's Next Gen NBN. This week's ATUG Focus is a collection of media announcements and slide briefings outlining Singapore's approach to its NBN. While Australia's approach will necessarily reflect our particular context, Singapore's thinking is relevant background information.

The NBN in Singapore has three key conceptual industry layers:

- the Network Company (Next Gen NBN NetCo),
- the Operating Company (Next Gen NBN OpCo) and
- the Retail Service Providers (RSPs).

The Next Gen NBN NetCo is responsible for the design, build and operation of the passive infrastructure layer. The Next Gen NBN Operating Company will be responsible for the design, build and operation of the active infrastructure to provide wholesale broadband connectivity to Retail Service Providers, the downstream operators.

NBN NetCo – September 2008

Government Selects OpenNet's Proposal To Build Passive Infrastructure

By 2012, homes and offices nationwide will be connected to Singapore's ultra high-speed and pervasive Next Generation National Broadband Network (Next Gen NBN). In two years' time, 60 per cent of homes and offices can already expect to have access to this new, pervasive, all-fibre network.

At a media conference this afternoon, Minister for Information, Communications and the Arts (MICA), Dr Lee Boon Yang, said, "I am pleased to announce that the Government has decided to select the proposal from OpenNet Consortium to design, build and operate the passive infrastructure for the Next Gen NBN."

OpenNet's proposal offers attractive wholesale prices that can stimulate a vibrant and competitive retail market. Users can look forward to innovative services from as early as 2010. OpenNet will be making use of existing ducts and other underlying infrastructure, thereby minimising disruption to the public and enabling the network to reach homes and buildings nationwide by 2012.

OpenNet is led by Axia NetMedia Corporation with Singapore Telecommunications Ltd, Singapore Press Holdings Ltd and SP Telecommunications Pte Ltd as the other members of the consortium. The NetCo Request-for-Proposal (RFP) was launched on 11 December 2007 and closed on 5 May 2008 with proposals from two consortia, namely Infinity and OpenNet.

OpenNet's Proposal

As the selected NetCo, OpenNet will design, build and operate the passive infrastructure of the Next Gen NBN that will be capable of delivering speeds of up to 1 Gbps and beyond. The Government will provide a grant of up to S\$750 million to the NetCo to support the network rollout.

OpenNet will offer attractive wholesale prices of S\$15 per month per residential fibre connection and S\$50 per month per non-residential fibre connection, to the Operating Companies or OpCos. Such wholesale prices are expected to bring about competitive retail prices in the ultra-high speed broadband market.

To encourage premise owners to connect their homes and businesses to the network, OpenNet is required to waive installation charges for home and building owners when the network first reaches their premises.

Under a Universal Service Obligation, which will take effect from 2013, OpenNet will also fulfil all subsequent requests to install fibre termination points in homes, offices and buildings.

In its proposal, OpenNet will deploy and own all the fibre optic cables and offer wholesale dark fibre services to downstream operators on a non-discriminatory basis as set out in the RFP. OpenNet will make use of relevant existing underlying passive infrastructure assets, such as ducts, manholes and exchanges, belonging to its partner, SingTel, to facilitate the deployment of its fibre network. As part of OpenNet's proposal, SingTel has committed to transfer these underlying assets to a neutral party within 24 months of the NetCo's Contractual and Financial Close, or CFC in short. The CFC will take place within seven months of today's award. The neutral party, called the Asset Company or AssetCo, will be an independent and separately managed company. It will be owned by a registered business trust or will be structured in a similar manner to be approved by IDA.

SingTel, as a member of OpenNet, has also committed to reduce its stake in this AssetCo within five years of the CFC and seek the relevant shareholders' and regulatory approvals, where required. As part of the successful close of the RFP, SingTel is also required to submit to IDA for approval, a detailed implementation plan on the formation of the AssetCo and subsequent partial divestment of its relevant underlying assets.

Dr Lee mentioned at the December 2007 launch of the NetCo RFP that the Government views Effective Open Access through a structural and/or operational separation as key to the achievement of a vibrant and competitive next generation broadband market. The RFP has achieved this outcome for the Next Gen NBN. Nevertheless, Government will continue to consider the need for legislation to entrench Effective Open Access in this market over the long term.

At today's media briefing, Dr Lee also said: "Today, we have arrived at a significant milestone for Singapore. 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.

To sum up, Singaporeans can look forward to the ABC of Next Gen NBN: Attractive prices for ultra-high-speed broadband; Benefits from innovative services, Coverage nationwide with minimal disruption during fast roll-out.”

Slide Briefing:

http://www.ida.gov.sg/doc/News%20and%20Events/News_and_Events_Level_2/20080926174755/NetCo26Sep08.pdf

NBN OpCo – April 2009

The Infocomm Development Authority of Singapore (IDA) announced the selection of StarHub's proposal for the Next Generation National Broadband Network Operating Company (Next Gen NBN OpCo) Request For Proposal. Under its proposal, StarHub will establish the Next Gen NBN OpCo, called Nucleus Connect, to design, build and operate the active infrastructure. The Government will provide a grant of up to \$250 million to Nucleus Connect to support its deployment of this infrastructure. Together with the grant of up to \$750 million for the Next Gen NBN Network Company OpenNet, the Government is investing up to a total of \$1 billion to put in place the Next Gen NBN.

Nucleus Connect will deploy advanced technologies to support and enable a comprehensive range of ultra-high speed wholesale broadband services to Retail Service Providers, or RSPs, at competitive prices that will be regulated by IDA.

Nucleus Connect will, for example, offer a wholesale price of \$21 per month for a 100 Mbps residential end-user connection and \$121 for a 1Gbps connection. For non-residential premises, such as offices and schools, Nucleus Connect will offer a wholesale price of \$75 per month for a 100 Mbps connection. Enterprise users who have more demanding requirements can opt for a 1Gbps connection at \$860 per month.

Nucleus Connect will work together with OpenNet, on a coordinated nationwide rollout of the network. It is expected to start offering commercial services by the first half of 2010, and be ready to fulfil its Universal Service Obligations of meeting all reasonable requests for service from 2013.

The Next Gen NBN NetCo and OpCo RFPs were structured to ensure that downstream operators have Effective Open Access to the Next Gen NBN. This is to spur a vibrant and competitive Next Generation broadband market where businesses and consumers can enjoy innovative services from a

variety of RSPs. Effective Open Access through structural separation for the Next Gen NBN NetCo and operational separation for the Next Gen NBN OpCo is key to achieving such a vision. Nucleus Connect will be operationally separated from all RSPs. It will also be a separate legal entity from StarHub, with a different corporate brand, separate premises and an independent board of directors. With such an industry structure, RSPs can obtain wholesale bandwidth services from Nucleus Connect on a fair and non-discriminatory basis, and offer a wide range of services at competitive prices to end-users.

StarHub's proposal was selected from four bids received for the Next Gen NBN OpCo Request for Proposal (RFP) on 5 Dec 2008. The four bids were from IntelliNet Consortium (Axia NetMedia Corporation & Cisco Systems International BV), MobileOne Ltd, Singapore Telecommunications Ltd and StarHub Ltd.

Slide Briefing:

http://www.ida.gov.sg/doc/News%20and%20Events/News_and_Events_Level_2/20090403155250/BriefingSlides.pdf

IDA NBN Update March 2009 APECTEL –
<http://www.atug.com.au/Focus/fs240609/apectel.pdf>

IDA NBN June 2009 Update at CommunicAsia Conference –
<http://www.atug.com.au/Focus/fs240609/opennetcmma.pdf>