

22 March 2013

IPSTAR appreciates the opportunity to respond to the ACCC request for comments on the approach taken to identify the location of POIs.

IPSTAR wholeheartedly agrees with competition in the market place. It is the end users who bear the brunt of the pricing of high cost telecommunications models. Competition should lower the price to the end user. The IPSTAR product was designed to reduce the cost of High Speed Satellite Broadband, and allow rural populations to enjoy the Internet and other products as much as those living in the city. Furthermore, the IPSTAR-1 satellite platform provided smaller Telecommunication providers access to a product that allowed cost effective service to these otherwise geographically inaccessible areas.

The NBNCo Satellite Product should build upon this low cost and ease of access.

This document begins with a background on the IPSTAR service, followed by our experience, a sharing of our views on the issue of concern about POI choice, with a number of recommendations in closing.

### **Background**

The IPSTAR system is composed of a gateway earth station communicating over the IPSTAR satellite to provide broadband packet-switched communications to a large number of small terminals with network star configuration.

The terrestrial network overhead for this platform is low as that it the way it was designed. In Australia there are the two earth stations in Kalgoorlie (KGL) and Broken Hill (BKH). Nevertheless, at the time of building these earth stations, procuring backhaul to Sydney (Mascot) was troublesome due to lack of competition and infrastructure to KGL and BKH. It was expensive to purchase.

In 2004, Australia had significant data centre and Internet presence in Sydney, Adelaide and Perth. These were chosen to be the initial Points of Presence (PoP). IPSTAR procured backhaul to Mascot PoP from KGL and BKH and routed to Adelaide PoP and Perth PoP. Each location presented layer 3 access for the IPSTAR Service Provider (SP).

The IPSTAR PoP's served as a demarcation point between Service Provider (SP) & IPSTAR. The PoP's also serves as the primary point of interconnection between SP and IPSTAR. It was designed to provide a flexible solution to reduce backhaul costs for SP's as IPSTAR could get a better volume deal. The SP could connect at any or all PoPs and IPSTAR offered routing solutions between PoPs.

### **Multiple PoPs – Our Experience**

IPSTAR entered multiple year deals at each PoP location which secured rack space, environmental control, power, redundancy and cabling. IPSTARs provided day to day Engineering to keep these sites ready, whether used or not.

Between 2005 and now, the Adelaide and Perth PoPs never became viable for the retail customer base. They remain open for 1 customer who has 20 business users.



While IPSTAR saw a theoretical need for having multiple PoPs investing and planned accordingly, the reality was one was required. As with significant topology changes we engaged the SPs and found that, the single Mascot PoP was viable because:

- They already had presence there
- Easy for smaller Telcos to access and manage
- Easy access for Engineering
- Cost competitive Internet capacity
- Simple to support
- Simple billing
- Cheap access to their racks

All SPs, including those in WA had significant existing presence in Sydney. The shutdown of Adelaide and Perth would not inconvenience retail SPs, but a single Business Service Provider objected, so we keep those sites live for them but it has been removed from our product offerings.

### **Points of consideration**

There are 4 points when considering how to balance keeping costs down and providing flexibility in a product that is easy to integrate, maintain, and is reliable.

#### **1. Multiplication of Costs in multiple PoPs**

Based on the experience of IPSTAR, duplicating the requirements of a PoP multiplies the cost by the additional number of PoPs. The factors that multiple costs are:

- Telehousing costs
- Equipment
- Support contract for that equipment
- Engineering costs
- Onsite work costs

Also additional sites carry additional risks and consequential financial and reputation penalties. Providing a wholesale platform uptime also becomes more difficult and expensive. Increased complexity increases the cost to provide >99.5%. Additional overheads are factored into pricing which eventually the end user pays for.

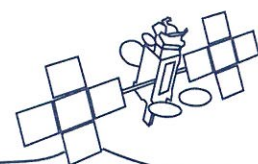
#### **2. Flexibility to choose the POI that fits.**

During the connection peak IPSTAR had 80,000 households connected into the Mascot PoP. NBN expects that there are around 200,000 satellite connections which will be distributed by a locality choice across 121 POI from numerous gateway/earth stations. It is our opinion that trying to force satellite into this terrestrial solution doesn't work. Why? Satellite is ubiquitous.

It doesn't matter where the consumers are. It matter's where the SP is, where their systems are, how they provide consumer access to the Internet and how the SP connects to manage it all.

#### **3. POI Choice Impact**

It is the view of IPSTAR that the initial POI specification may have overlooked the ubiquitous nature of the satellite service rather only focussing on the terrestrial needs of NBNCo. Satellite does not fit the model of consumer locality deciding the POI to which the SP must connect.



Being forced to be connected to every POI where the SP may have “near by” satellite users leads to a burden cost to the SP which, in turn, will be passed on to end users. In our view, it is an artificial barrier that by nature disadvantage small SP (which most likely will not have a large terrestrial network) from the competition with big nationwide providers.

Routing from the NBN earth station to the households closest POI to then have the Service Provider route it back to their data centre is unnecessary. For a ubiquitous satellite product this does not make sense. Actually any ubiquitous service doesn't care where the POI is, it's irrelevant.

Furthermore, the NBN policy and plan should ease and allow small and medium SPs to be able to compete with large SPs. Our experience is evidence that the small and medium satellite SPs benefit by having the connection to the earth stations aggregated to a single PoP.

#### **4. Backhaul and Location Serviceability**

As we all know, everything is cheaper the more you buy. It's the scale that counts. But if the SP has to connect to a POI where they may have only a handful of customers, the cost per customer for the POI is high. They may decide to not sell into a region because of this. Until a scale of economy is reached, that POI will be a cost. Sure if the SP has other POIs that are profitable, the costs are spread across the platform, but in our experience with the backhaul to KGL and BKH, price break were far and few between. As SPs build their business on the NBNC0 satellite platform the startup costs will be high. Only the larger providers who have scale will survive. It leaves no space for the smaller SP. In the end, without the diversity of providers (which is the goal of NBNC0 to level the wholesale playing field) the customer will no longer have the choice of a niche SP who may provide better service than a large SP, who “processes” all telephone contact overseas.

#### **In closing**

IPSTAR understands that our ideas may not fit the NBNC0 network design, but a one size fits all does not suit satellite. It places a burden on the satellite providers and may reduce the serviceability and competition of some regions.

What we suggest is if NBNC0 can look at broadband satellite network connectivity in some other countries where similar kind of spot beam satellites are used, e.g., ViaSat or Hughes in USA.

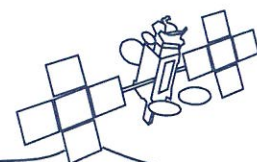
I am sure NBNC0 will figure out quickly whether distributed or aggregated architecture is more benefit to the players in the industry, after all, it's only 7% of the network.

Our proposed solutions:

1. NBN should offer the aggregation of the earth stations to a small number of POIs.
2. NBN should offer the flexibility to SP to connect to the most viable POI.

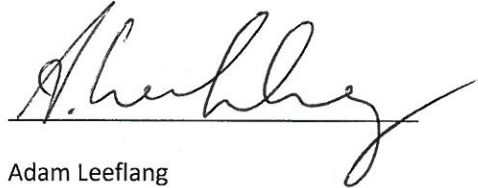
This would allow the legacy Satellite SPs to transition to NBNC0 Satellite simply and easily, keep their costs down and treat all regions equally.

While 121 POIs make sense for the Fibre and Fixed wireless customers, it does not fit the ubiquitous nature of satellite. Furthermore it gives advantage to Service Providers who have Fibre and Fixed Wireless products available at the POIs over the niche Satellite Providers, who do not.



NBNCo is trying to change the market place away from a number of big providers however forcing smaller satellite providers to connect to POI that may not be financially viable will reduce the choice of providers in those areas.

IPSTAR recommends that the smaller niche Satellite Providers are not forced to connect to all POIs, rather they are exempt from the geographic rules.



Adam Leeflang

Operations Director

