31 May 2012

The Honourable Minister of Communications

Per email: ICTcolloquium@doc.gov.za

Dear Minister Pule

COMMENTS ON THE DEVELOPMENT OF A NATIONAL INTEGRATED ICT POLICY FOR SOUTH AFRICA

INTRODUCTORY REMARKS

1. MyBroadband.co.za ("MyBroadband") – the leading website and forum for consumers of electronic communications services in South Africa – is intent on addressing the lack of consumer input into the policy-making and regulatory process for electronic communications.

2. The announcement by the Minister of Communications ("the Minister"), that South Africa will undertake a long-overdue review of electronic communications policy represents an opportunity to bring the consumer voice to the ear of the policy maker.

3. MyBroadband users – generally IT-savvy consumers and ICT industry staff, business owners and professionals – are perfectly placed to speak to the potential of ICTs to revolutionise both their business and private lives.

4. MyBroadband confirms its intention to continue to engage with all aspects of the policy review and will submit further submissions in response to the draft Green Paper to be published later this year.

5. The quotation from one of our members, set out below, reflects the spirit in which these submissions are made:

> "The end user needs to be supported and enticed to utilise the available possibilities that the internet has to offer. By making it affordable and aligned with 1st world countries. Imagine the possibilities of allowing the person on the street to access the internet and enjoy learning about various things and discovering their passion. In the long term rural schools would be able to afford the internet and children can learn faster quicker and grow South Africa to be what it should be. ISPs can therefore afford to provide customers with a more comprehensive range of options. All in all growing the entrepreneural businesses in SA.
> **Come on ICT make South Africa better**."

ABOUT MYBROADBAND

6. MyBroadband is South Africa's biggest and most popular Information Technology website, with around 1 million unique visitors per month. MyBroadband provides news and information on a range of issues relating to the Internet, electronic communications and access to these services. MyBroadband hosts a free and open forum that allows users from diverse areas and backgrounds to voice their opinions on various topics of interest.

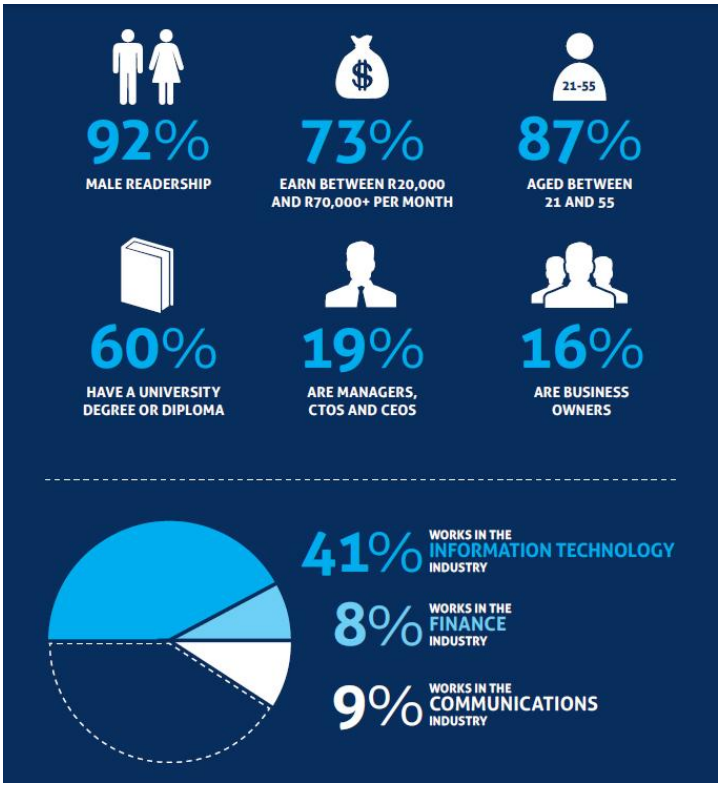
7. MyBroadband actively seeks to raise awareness amongst its membership about regulatory and policy issues.

   7.1. A dedicated telecommunications regulation sub-forum is run by a regulatory consultancy with the aim of providing information to members and answering their queries.

   7.2. A steady stream of information relating to policy, legislative and regulatory developments.

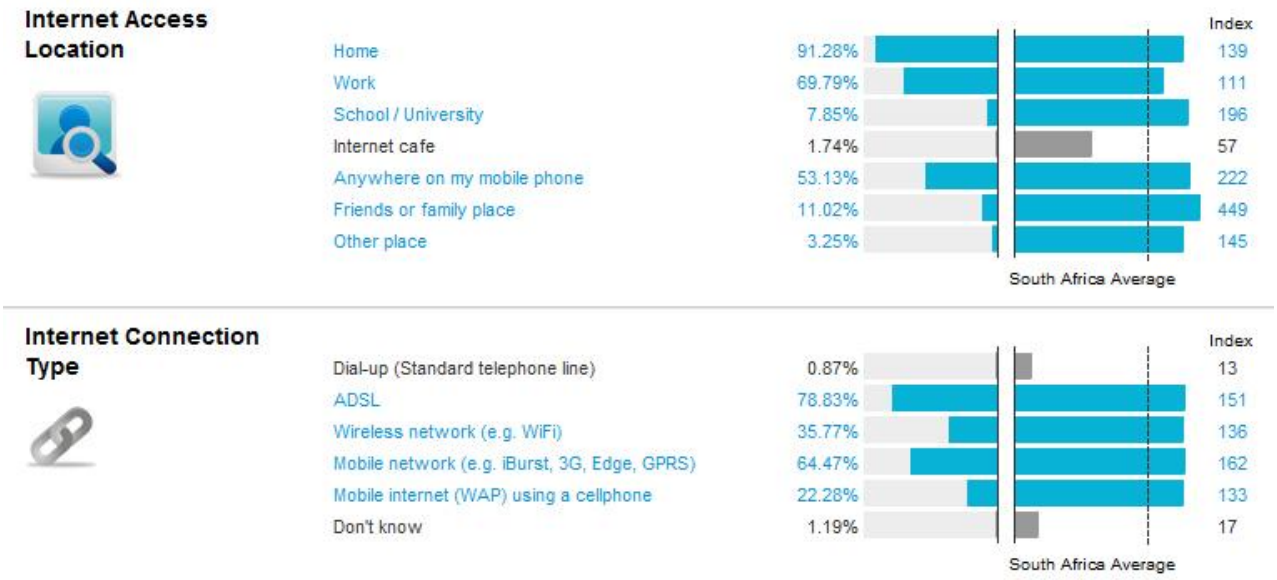
   7.3. Attendance at ICASA for hearings into matters relating to LLU and ADSL.

8. Many MyBroadband members work in and are experts in the communications industry, and are thus well-placed to provide insight and opinions into topics related to the communications industry.



Graphic 1: Demographics of the MyBroadband community

9. As can be seen from the summaries of comments received, there is a bias towards ADSL services in the suggestions made. This reflects the fact that a large number of active members receive their broadband over the Telkom ADSL network, as illustrated in the graphic below:



Graphic 2: Connection types used by the MyBroadband community

10. MyBroadband wishes to emphasise that membership of its forum and access to information is free and that it is open to any South African (or anyone from outside South Africa) to join.

11. Finally, the Minister and the Department are asked to accept that most members are making submissions in a public process for the first time and that points may be raised in a less than diplomatic manner on occasion. Further members have differing views on issues – we have not tried to reconcile these but rather presented them as is.

12. Please accept these as genuine consumer concerns from those who may not know the technical or legal detail surrounding the industry but who – as consumers of electronic communications - have a direct interest in the future of broadband in South Africa.



GENERAL COMMENTS

13. MyBroadband initiated the process of gathering ideas and submissions from its members by making available a copy of the Discussion Document published on 13 April 2012 as well as giving extensive coverage to the ICT Policy Colloquium and policy statements such as the Minister's Budget Speech.

14. In order to assist members and simplify the process of engaging with the Discussion Document, MyBroadband decided to engage its members as follows:

"What needs to be done to sort out broadband in South Africa? MyBroadband would like to tell the Department of Communications what you think needs to be done to ensure we have world-class broadband in South Africa - what you post here will be included in written submissions to the Department on how we realise a vision for a broadband rich SA by the year 2030.

Your submissions please...

- Where do you think the problems are now?
- How do we deal with these?
- What is the most important intervention to be made to get cheaper, faster broadband to more people?
- How do we deal with the problem of broadband services in rural areas?"

15. Members were also encouraged to provide their vision of the ICT industry in 2030 and what would constitute world-class broadband services at that time.

16. A separate line of engagement was opened with members around the idea of a National Broadband Network ("NBN") for South Africa:

"National Broadband Network (NBN) for South Africa?

There are strong indications that the Department of Communications is considering the creation of a National Broadband Network (NBN). Basically this would be a national FTTH network in urban areas with complimentary satellite and LTE networks for other areas operated on an open access basis, i.e. it would provide wholesale services to retailers.

The most recent example is being rolled out in Australia. From Wikipedia:

'The National Broadband Network (NBN) is a national wholesale-only, open-access data network under development in Australia. Up to one gigabit per second connections are sold to retail service providers (RSP), who then sell Internet access and other services to consumers. The NBN has been subject to political and industry debate for a number of years, before construction actually

commenced.

The network is estimated to cost A$35.9 billion to construct over a 10-year period, including an Australian Government investment of A$27.5 billion. The build cost has been a key point of debate. NBN Co, a government-owned corporation, was established to design, build and operate the NBN, and construction began with a trial rollout in Tasmania in July 2010. The mainland rollout began with five first-release sites with the first services connected in April 2011.

The fibre to the premises (FTTP) rollout is planned to reach approximately 93 percent of the population by June 2021. Construction of the fixed wireless network is planned to begin in 2011, delivering its first services in 2012 and to be completed by 2015. Two satellites will be launched by 2015. The network will gradually replace the copper network, owned by Telstra and currently used for most telephony and data services. As part of an agreement with NBN Co, Telstra will move its customers to the NBN, and lease access to its exchange space and extensive network ducting to assist in the rollout.'

Sound good?

MyBB is making submissions to the Department of Communications on its policies for the next 10-15 years, and this is one of the issues.

Is this a good thing? Any suggestions as to how this could be achieved? Post here and your words could be winging their way to the ears of the Minister…".

17. A total of XX responses were received. Members were incentivised to respond by the offering of a prize – an iPad 3 - for what was adjudged to be the best entry. It was felt that this was necessary to broaden participation amongst those who would otherwise not be aware of engage with policy processes.

18. We have set out summaries of the responses received below.

19. In the Annexure to this document we have set out several of the more detailed responses and ideas submitted by members so that these can be directly taken into account in the policy review. We ask that these be read as separate submissions in their own right.



WHERE DO YOU THINK THE PROBLEMS ARE NOW?

20. Respondents identified the following as the main obstacles to affordable, high-quality broadband services in South Africa.

20.1. A lack of defined vision and objectives to work towards. Members appreciated, however, that the policy process embarked upon by the Minister was intended to address this. Timelines, however, remain a concern.

"There is no co-ordinated National Broadband Plan enforcing the co-operation of all the network operators to achieve Vision 2020. Each Network operator is doing their own thing, causing overlaps in some areas and totally missing other areas."

20.2. Ineffective regulation of industry and the lack of transparency and accountability on the part of the Independent Communications Authority of South Africa. ICASA's legal department was specifically singled out for criticism.

"ICASA must provided GUIDELINES, RULES and a LEGAL FRAMEWORK for the industry.
- who can do what, when, where, how and for how long
- who gets punished for doing what and what is the punishment and appeal process
- PROPER adjudication and licensing of operators"

20.3. Telkom's continued control of the Local Loop and other critical communications infrastructure and the monopoly pricing that results from this.

"The industry needs to be opened up so that anybody can provide broadband related services and / or infrastructure. That is to say, bandwidth, lines, backhaul, fibre, whatever. Actual, real competition for Telkom on all fronts will increase quality and decrease prices. Of course, a large part of the solution to this is LLU."

"Supply must be driven by MARKET DEMAND forces, not by Telkom's current 'Demand Management'."

"Congested exchanges...This goes without mention. There are tons of Exchanges all over the country that are simply performing poorly. Before jumping the gun and trying launch new products/ services fix the stuff that is broken first."

20.4. The long-standing lack of capacity at the Department of Communications and the need for strong and informed leadership to meet the challenges of making SA internationally competitive.



"There is a distinct lack of initiative in the DoC for the implementation and regulation of a competitive communications market. It seems as if the department is somewhat out of touch with the average consumer on issues like pricing, distribution and competition."

20.5. The apparent duopoly in the mobile voice and data markets between Vodacom and MTN and the resulting high prices for mobile voice and data services.

"The only place I can think of where I'd like the gov to interfere is cellphone companies. While its starting to change, VC + MTN have a pretty cozy duopoly going there & that shows in the pricing. Pricing on data has dropped fast, but the overall cost of an average contract w/ minutes and a nice phone hasn't really moved an inch."

20.6. The use of legal delaying tactics and court applications and actions to delay the introduction of competition:

"The big telcos are quick to threaten ICASA (and competitors) with legal action and delay competition. Look at the discussions between Telkom and Neotel on whether LLU is part of Facilities Leasing Regulations. Look at how long it as taken the ADSL anti-competitive pricing case with Telkom - the bread price fixing issue was a lot quicker. It is cheaper for the large telcos to pay lawyers to delay competition than to deal with an open and competitive market where you stand to lose more in revenue.

Does legislation have to be simplified and more clear to allow less room for different interpretations and legal disputes?"

20.7. The difficulties in obtaining wayleaves for the deployment of communications networks and the failure to co-ordinate the fibre deployment explosion already taking place.

20.8. The ongoing delays in the assignment of radio frequency spectrum suitable for the provision of broadband access services. There is a clear concern that the availability of digital dividend spectrum will be negatively impacted upon by delays in the completion of the digital migration process.



HOW WE DEAL WITH THESE?

21. The following suggestions were received for overcoming the obstacles identified in the previous sector:

21.1. Lower the cost to communicate for ordinary South Africans and businesses, including the cost of handsets and other customer premises equipment.

"The first step is to shake the idea that communication is luxury and should be distributed and charged for accordingly. Communication is a commodity. And although we have some of the latest cellular technology and good companies the price of communication is prohibitive for everyone."

"Devices to access online services is a different issue, but ISP's/government could work together build mobile/fixed kiosks which connect to the wi-fi network. Providing each household with a (very) low-cost computer is even an option - low-cost computer offered as an option with every government subsidized home?"

"If you look at the Internet today, more and more people are using services from the Internet instead of services from the local operator - e.g. Skype, Facebook, Google services, You Tube, Amazon, etc. The local telcos (Vodacom, MTN, Cell C and Telkom) are simply becoming bit pipes - and by 2030 connectivity to the Internet will be their sole source of revenue. By 2030, Internet connectivity should be a utility service (like access to water and electricity)."

21.2. Separate Telkom into several smaller companies and give each a clear mandate.

"Telkom is a monopoly, unregulated as they can set the prices of products and services to what they choose. Telkom has to be broken up into smaller businesses; it won't only help the ICT sector but increase job opportunities."

"The Government must decide what they want from Telkom. Do they want it to provide affordable broadband to all or do they want it to be run as a profitable, listed company?"[1]

21.3. Finalise a National Broadband Plan.

"The National Broadband Plan must be a very simple document. It must define the term "broadband". It must define the term "underserviced areas" and provide a very detailed list of these areas. It must define the term "affordable" and provide a method to determine an affordable price, which differentiates between serviced and underserviced areas. This method must remain constant to determine future annual broadband tariff increases. It must provide incentives to Telcos for investing in underserviced areas, whether it be discounts on spectrum licence fees or on the annual ICASA fees based on the Telcos' turnover. The annual rate at which Broadband services must be provided to achieve Vision 2020 should also be detailed. The rate should represent a graphical Bell

[1] See page 43 of this document for further submissions in this regard.

curve or even upward trend and not a hockey stick with everything to be rolled out in the last year or two."

21.4. Taking steps to promote greater transparency and accountability in the work that ICASA does.

"ICASA needs to be fined for deadlines missed as they also just do what they want when they want (Usually taking forever). ICASA needs to be regulated. Without regulation the ICT sector is never going to make any significant progress this meaning no potential growth regarding ICT in South Africa."

"The regulator needs to be held accountable for its poor track record, and it needs to be given the legal teeth to be able to do things without worrying that the incumbents will take them to court over every little thing. Almost to the point that the regulators decisions stand, even if they're challenged in court."

21.5. Ensuring that ICASA's legal department is appropriately capacitated.

"From ICASA's perspective the solution entails: Getting idealistic legal professional\graduates who actually understand the legal principles applicable and who are not afraid to put in the necessary hours and secure the ire of their colleagues working in the private sector. Once you have them pay them properly and put on trade restraint (revolving door) protections – nothing is more frustrating than observing somebody who worked incompetently for ICASA's in-house legal service appearing with Telkom's legal team and attacking the validity of the ICASA regulations drawn up while he worked for them. Quite simply the working conditions and remuneration offered by ICASA for the legal department lend themselves to securing the bottom of the barrel."

21.6. Prioritising the finalisation of the Local Loop Unbundling (LLU) process so that Full LLU and Naked ADSL are available to consumers.

"...we should have naked ADSL, that extra R160 for a landline just makes myself and a lot of others stay away from ADSL because instead of paying R550 pm we pay over R700 and with how expenses are that is not feasible."

21.7. Addressing existing service problems experienced with Telkom.

"Build the relevant infrastructure for the public to be able to take advantage of broadband. In the interim, we need the ADSL technicians to be able to sort out the problems that arise with the exchanges that have been built or will be built in the future. Its all well and good implemented higher speeds to South Africa, but as I said, it's the basic that need to be sorted out first. What is the point of having 100Mbps lines when they fail?"



21.8. Taking urgent steps to fill vacant posts at the Department with appropriate expertise so as to ensure that the Department has the capacity to play an effective lead role in ensuring the provision of broadband services to all.

> "We need highly qualified and experienced people in this department to implement strategies that will grow the entire industry for the benefit of all South Africans."

21.9. Licensing radio frequency spectrum suitable for LTE / IMT-Advanced services as a matter of urgency and ensure that spectrum is used and used efficiently by those to whom it has been assigned.

> "Re-allocate much needed bandwidth spectrum to wireless players who will use it wisely."

21.10. Address the lack of competition in the provision to consumers of mobile voice and data retail services through the introduction of an effective reseller model and the implementation of MVNO Regulations.

> "The current "fixed line" ISPs should be given access to the mobile retail data space."

21.11. Embracing emerging technologies:

> "New solutions appear every day, instead of having a sort of 'sandbox' environment for them to see just how much they can help access, we'd rather just wait for the big guys to pressure us so we can slap on a large licensing and admin fee should they wish more spectrum/licensing."

21.12. Setting regulations and rules mandating infrastructure sharing to the maximum feasible degree.

> "We pretty much have FOUR cell towers covering the same areas, one for each company, in each location! What a waste."

21.13. Clarify the role of State-owned Companies such as Broadband Infraco, Sentech and SITA in the provision of broadband services, particularly around rural networks and open-access principles.

21.14. Ensuring the co-operation of all stakeholders in the deployment of networks.

> "Construction and public work policies need to incorporate an open access electronic communications ethos. When SANRAL build a road (with or without corrupt tolls) they ultimately should build them such that fibre can be run without the road being dug up. Basic construction to includes ducts and so forth will avoid stupidity from municipalities seeking to halt fibre roll out."



21.15. Revisiting the definition of “Broadband” in the National Broadband Policy.

“The definition of Broadband need to be changed to minimum 2 Mbps.”

“Give everybody access to at least 512Kb line. If you want more you need to pay for it. Start of with a 5 gig per person. This will be entry level for all. If you want more you just pay for it.”

“Vision 2020 must be challenging, e.g. every household will have access to affordable broadband services. The term "broadband services" will be defined separately and be updated as new technology is developed. Right now we could peg it at 10Mb/s in urban areas and 1Mb/s in rural areas. However this could become 40Mb/s in urban areas and 10Mb/s in rural areas if new technology is developed in the near future. We cannot predict technology, hence the definition must not make mention of fixed line, wireless, radio or satellite.”

21.16. Finally, a member made the following two suggestions which we believe are worth further thought as a response to the need for universal service.

- Government subsidised cellular access - Government provides guidelines to have all cellular networks provide free data-only access to their networks at a minimum speed(e.g 384k) while the networks can provides faster speeds at a premium. Government then provides subsidies or pays cellular providers a fee based on how many users they service and how wide-spread their networks are so that the more users they provide for the bigger the subsidy. This would then prompt cellular networks to cover as much area as possible to obtain the biggest subsidy and increasing the potential of customers purchasing the premium services.

  The incentives provided by government could also be in the forms of government owned base stations and cheaper access to government owned network infrastructure which lowers the investment require by a cellular network to provide the services and since infrastructure is government owned, all cellular providers have equal opportunity to compete for premium customers.

- Creation of a government cellular network data provider using current national broadband infrastructure to provide a usable standard of data access only. I say standard data access only as government should not try to compete with cellular providers as it does not have the expertise to compete and it should not be seen as trying to interfere with the current market which would cause distrust among other providers and inevitably many lawsuits that would make the project unfeasible.



WHAT IS THE MOST IMPORTANT INTERVENTION TO BE MADE TO GET CHEAPER, FASTER BROADBAND TO MOST PEOPLE?

"The most important thing that we can do at this moment, is to demand lower costs per megabyte,

lower costs for lines and overall lower communications costs."

22. Most of the responses received to this question are covered in the previous section.

23. Areas to which suggestions related that were repeated by many members, included the future of Telkom, making spectrum available for LTE and the reduction of the cost to communicate.

    23.1. Given that a majority of MyBroadband members use DSL services it is unsurprising that the most frequently suggested interventions related to Telkom and its ADSL service. Members were particularly keen to see the introduction of naked ADSL and the abolition of two separate line charges (what is often referred to as the "Telkom tax").

    23.2. Other DSL-related interventions identified included further reductions in the IPC cost – essentially the wholesale cost at which Telkom makes ADSL available to ISPs – full LLU and the functional separation of Telkom (or even its nationalisation to form a wholesale open access provider and with a clear mandate to reduce costs as opposed to generating profit.

    23.3. Other members felt that the finalisation of a Spectrum Assignment Plan detailing how radio frequency spectrum available for the provision of access services was the clear priority.

    "The Spectrum Assignment Plan must be fair to all duly licensed parties. It must clearly stipulate performance indicators, impose a principle of "use it or lose it" on all parties (including Sentech) but also allow the licensees to resell spare capacity. The finalisation of the SAP is more important than LLU and must be finalised a.s.a.p."

    23.4. One member emphasised that lowering the cost to communicate required the introduction of greater competition.

    "Lack of effective competition at a retail level - as the infrastructure owners have a monopoly over resources. Only a few networks have radio spectrum and don't allow access to non-spectrum holders. Telkom owns majority of the fixed line access and backhaul infrastructure."



HOW DO WE DEAL WITH THE PROBLEM OF BROADBAND SERVICES IN RURAL AREAS?

24. Members made a number of interesting suggestions relating to meeting the challenge of ensuring affordable broadband coverage in all parts of South Africa.

25. Members appreciated the challenges involved given that South Africa is a very large country and that there are many competing priorities. Some members pointed to the more fundamental difficulties of providing access to safe drinking water, housing and electricity as being more pressing concerns which would need to remedied prior to their being a focus on broadband services.

26. Nevertheless there was support for declaring broadband as an "essential service".

> "ICT in this country should be like the post office... Priorities should lie in service delivery and NOT profits. Telecommunications is an essential service and should be treated as such."

27. Members were unanimous that rural coverage is to be provided through wireless networks. They also indicated that there was already wireless coverage in many areas and that the constraint on use in these areas related more to affordability than a lack of access.

> "There is not enough mobile coverage nationally either. The companies that do have masts and towers in rural areas , still cannot provide you with a single colour coverage map of S.A. There are still many grey areas that don't have 3G reception (4G/LTE is now becoming a standard and not just the future anymore) I just can't see the point in running around trying to cover the whole of Johannesburg with LTE when you can't even make a phone call from a small town?"

> "Wireless connectivity and satellite solutions seem to be the way forward here. In tandem with the fibre initiative the DoC should also aim to make rural connectivity of at least one megabit available to 90% of the country. There are a variety of ways to do this so the possibility is open to interpretation. What does need to be assured is a low cost and easily available subscription method, as well as readily available equipment and installation."

> "Logically speaking, fixed line internet should be more expensive than wireless internet due to the costs of maintaining infrastructure, the cost of deployments and the amount of staff involved in the process. This is however not the case, as wireless, without the high cost of maintaining copper wires and the installing thereof, still proves to be much more expensive than fixed line connectivity."

28. It was noted that a broadband mapping exercise was needed and that there needed to be clarity on which areas should be targeted and in which order.

> "Firstly establish which rural areas actually want internet access before creating the infrastructure. It is most easily set up in the form of a WiFi base station which needs to be high to ensure good signal and an open, uncapped public network that allows free connections for http and email. A landing page can be made that explains how to use the internet in the language that is required."



29. There was support for universal service and access obligations to be imposed on licensees.

"If you want to get connectivity to rural area's I would be nice if the companies that are given licences are given a requirement that they have to commit to XYZ rural cable development."

30. One member stressed that there needed to be a comprehensive network planning strategy to cover rural roll-out:

"More than the last mile (which can be many many miles) dealing with rural broadband requires a systematic construction of multiple network intensive nodes (data centres, POPs, "inx"s).

Whilst it may seem counter-intuitive sneakernets and IP by carrier pigeon should not be entirely scoffed at for moving high volume data which is not time sensitive in rural areas – largely to free up capacity for broadband internet services where latency matters. Most rural households have connections to towns or other nodes where wired internet connectivity at a high speed is possible. When considering offsite backup services for farming communities the benefits of the cloud need to be put into the perspective of whether solutions which sees the uploading of data by way of a continuous upload onto removable storage which is physically taken to a connection point for syncing with the server and where rural based businesses operate servers in datacentres (virtual or otherwise) and perform syncs using physical handover. In essence a farmer may have a torrent server (for legal downloads of course) which is on a high speed internet link away from the farm. "

31. Some members made proposals regarding the kind of access required:

"Rural ICT projects should be more targeted in terms of their needs: e.g. Cover the entire S.A. with dirt cheap <40KB/s data (e.g. satellite). Enough for a kid to read wikipedia/email/online tutorial. That will provide max benefit without being prone to overkills that end up being 5x as costly as planned.

Given the above wikipedia angle, it would have to be some kind of (semi) smartphone. Something like a basic android handset. Those aren't all that expensive. Clicks sells them at <R700. Spread that over say 2 years and its not that bad."

32. Another set out the following broad process:

- Sort out Digital Dividend.
- Finalise Spectrum Allocation Plan.
- Finalise National Broadband Plan.
- Nationalise Telkom.
- Telkom to provide optic fibre POPs to rural access nodes.
- Network operators to build LTE networks in rural areas (shared access model).
- Use the USAF to incentivise rural access network build.
- Broadband via wireless or satellite services in rural areas.



33. Finally in this regard, there was recognition of the potential of ICTs to transform South Africa and the need to focus on demand-side strategies as well as supply-side.

> "The end user needs to be supported and enticed to utilise the available possibilities that the internet has to offer. By making it affordable and aligned with 1st world countries. Imagine the possibilities of allowing the person on the street to access the internet and enjoy learning about various things and discovering their passion. In the long term rural schools would be able to afford the internet and children can learn faster quicker and grow South Africa to be what it should be. ISPs can therefore afford to provide customers with a more comprehensive range of options. All in all growing the entrepreneural businesses in SA. Come on ICT make South Africa better."

> "Lack of broadband penetration means that the IT industry remains in a fledgling, uncompetitive state. Online oriented business - retail, trading, hosting, development, as well as enterprise, cloud, and general IT entrepreneurship - is stunted because there is not a strong profitable web infrastructure for them to tap into. There is undoubtedly a huge market for it but bandwidth remains frighteningly expensive for most people. The eBays, Amazons, Oracles, Steams, Foursquares etc that thrive in the US and Europe simply don't have a foothold to scale adequately"

DOES SOUTH AFRICA NEED A NATIONAL BROADBAND NETWORK?

34. Members were asked to address this question on the basis of indications from the Minister in her Budget Speech that the roll-out of a National Broadband Network (NBN) was being considered within the cluster of public infrastructure projects intended to be launched by Government.

35. At this stage there is no specific detail on what is being proposed, other than a rough cost estimate for establishing an NBN of between R60 billion and R89 billion. MyBroadband therefore sought to provide context for members by setting out information relating to the Australian NBN project. Notwithstanding there was evidently some confusion as to the exact meaning of an NBN and what its implication would be.

36. There was a mixed response as to whether an NBN is something which SA should be considering.

    36.1. A number of members were supportive of the initiative and the proposed role of the Government.

    > "In areas we Fibre can be rolled out that would be ideal, I think a target should be set for the speeds though. Nothing less than 10 Mbs should count as Broadband.
    >
    > Government needs to just go ahead and start rolling out the Cabling, don't wait for the Telecoms companies to get on-board, if you lay the cable you're opening the door for healthy competition. Most start-ups in South Africa can't afford that initial cost of laying cable - but if it's there to use I'm sure they'll make good use of it!"

    > "Replace the current copper lines with fibre, bit by bit, then sell the copper to cover the cost or keep it as assets. If copper is worth something to criminals, then its Telkom's biggest asset. Basic internet or Government internet should be introduced (384kb/s max) where its free to poorer houses as it will be a need such as electricity and water. Nationalise Telkom. If internet is going to be a need then it must be tax money paying for it but no line rental."

    36.2. One member made explicit reference to the eThekwini Metroconnect service as an example of municipal level fibre and an intervention which resulted in lowering the cost to communicate through the provision of lower wholesale prices.

    > "The eThekwini Metroconnect is an example of a municipal level fibre network - that seems to be cheaper than fibre from the usual private companies. I would expect the NBN to be the national equivalent of the eThekwini Metroconnect."

    36.3. Others did not see a role for Government in the roll-out of broadband infrastructure and/or services:

"My first indication is that while this project has obvious merits, I do not know that the competence exists either in Telkom or the DoC to implement it timeously and within the budget constraints. I would suggest that they contract third parties from within and without South Africa to bid fairly for the contract.

I would question whether this project is intended to be a net revenue provider or a government service. If the former, how do they intend to monetize it? If the latter, how will they fund it over the long term? Once the infrastructure is rolled out, it will still require a great deal of maintenance. The use of the word 'complimentary' suggests that they have some idea of providing free wireless internet to rural areas. Is this realistic or even necessary, when those areas still don't have decent basic amenities, and education facilities are in total shambles? If 'reducing connectivity costs' is the end-goal, there are already a number of steps they could take in that direction, but are not apparently willing to do."

"Leave broadband to the business, it is the most efficient way to develop infrastructure."

36.4. There was a view that Government's role should be limited to creating incentives for the deployment of broadband infrastructure.

"I would rather see the DoC make the funding available to private companies that agree to permanent open access and settlement-free peering. I think it would also make sense the limit these companies from entering into any services businesses and keep them focus on purely operating the network."

"Would it not be better to provide tax breaks and subsidies to private operators who choose to roll out the network as long as the company agrees that the network covers x and is open to all at cost + y%.

Example: For every meter of fibre an operator puts down in a metro, government will pay for a further 2 meters. For every base station an operator puts down in a rural or under developed area, government will pay for a further 2 stations.

This way the private sector manages and maintains the network, which "should" be better."

36.5. Members in general stressed that there would be little value to the country as a whole unless there was some form of price regulation governing the cost of services to be offered over the NBN.

36.6. One line of thought was that any NBN in South Africa should be based on Telkom's existing fibre network.

"If this does go ahead the first step would be to nationalise Telkom, then they are halfway there.



The next step would be to accelerate the MSAN rollout to get at least FTTC for the short term, while upping the tempo of the backhaul fibre upgrades and legacy equipment replacement.
More importantly they need to revise the Spectrum plan and allow LTE to be deployed immediately.
Once the first few MSANs are deployed they can turn to FTTH in a prioritised program; business parks, gated communities, high demand business/residential areas, etc."

36.7. The notion of nationalising Telkom was not universally supported:

"I would argue against nationalising Telkom and would instead suggest that the government buys the fibre backbone itself. This way Telkom can be downgraded to the role of ISP and the government can supply the network on a rental basis to third parties (i.e. Telkom would become equivalent to MWEB).

Telephone comms could remain in Telkom's hands but the last mile could become a public asset, allowing the required upgrades to be made. I agree that fibre is needed but perhaps the government could contract Telkom to do the construction in tandem with their MSAN plan rather than doubling up on different upgrade schemes."

36.8. There is perhaps not a great deal of difference between these two positions, as reflected in the below submission:
"There are a number of cheaper and faster options to achieving the DoCs goal.

1. Government buys out all the other Telkom shareholders and delists the company, aka nationalise Telkom. This is still far cheaper than rolling out new infrastructure.

2. At last year's ICASA LLU hearing Telkom complained about the deficit on the copper infrastructure. In this case it may be better for government to buy all Telkom's infrastructure. The last file would be a separate company. The national backbone could be combined with the Broadbad Infraco infrastructure. The international connectivity could be combined with Sentech's international gateways. Telkom Mobile's infrastructure can become the basis for a wholesale wireless access network for service providers who do not have spectrum.

As suggested, Telkom would now be a service provider. It may also interest Telkom as they would not have to complain our copper theft. Government may also be better positioned to deliver on the Broadband for all targets.

3. There is a mandate that Telkom is split into multiple entities, where one owns the last file, one owns the national backbone, one owns the wireless network and one that owns the international gateways. The entities that own the infrastructure will be mandated to sell services to all licensed operators.

Options 2 and 3 will certainly help to ensure more parties have access to the infrastructure already in place and more parties pay for use of this infrastructure more efficiently."

36.9. A variation on the above was that the network assets of Telkom should be merged with those of Broadband Infraco and Sentech

"Telkom has the biggest backhaul network. Government should acquire Telkom and unbundle it in Access, Long Distance BackHaul networks. Infraco and Sentech should be merged into the latter.

There should be emphasis on regional operators that operate where "Telkom finds it difficult" to operate and unwilling to do so. The local loop should be unbundled.
The Access network and Transmission should be opened to smaller operators as well at wholesale prices.

While we're at it, Vodacom came about because of Telkom who benefitted from the previous dispensation. Vodacom should also be approached to open it's network on a wholesale level."

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CONCLUSION

37. MyBroadband and its users wish to express its thanks to the Minister for considering the above submissions, and will gladly provide any further information which may be requested.

38. While MyBroadband certainly does not claim to speak for all consumers – its members are obviously amongst those already connected to broadband service (mostly) – we hope that the Department will welcome the entry of at least one aspect of the consumer voice into what we hope will be an open and rigorous debate.

Regards,

MyBroadband.co.za



ANNEXURE – A SELECTION OF SUBMISSIONS MADE BY INDIVIDUAL MEMBERS

[a-person]

Where do you think the problems are now?

We are ten years behind the rest of the world. Telkom has all the say if you want a fixed line and the cellular companies have all the say if you want a wireless line. None of these companies operates a service (for the same or similar price) that you find in England or America, or even in Egypt, Kenya or Morocco. The attitude in South Africa is not one of DOING it's one of PLANNING.. and planning... and planning.

Most important is to get more of the country connected up. Connectivity can be used to fight corruption, bad education and poverty... Imagine a poor family who previously never had a voice being able to report a rape, dodgy cop or neighbourhood criminal without having to incur violence or stigma from those around? Or how xenophobia could become a thing of the past once a better understanding of other cultures becomes freely available?

How do we deal with these?

The first step is to shake the idea that communication is luxury and should be distributed and charged for accordingly. Communication is a commodity. And although we have some of the latest cellular technology and good companies the price of communication is prohibitive for everyone.

What is the most important intervention to be made to get cheaper, faster broadband to more people?

Companies should be encouraged to sponsor bandwidth for rural/poor areas in the form of free WiFi. Government should set up wireless access points in poor and rural areas. The private sector could be encouraged to sponsor cheap tablets, PCs or laptops for schools. Make sure there are no stumbling blocks for the likes of Dark Fibre Africa and other competitors. Move Telkom internet over to fibre connectivity. Make naked ADSL a reality and do away with expensive line rentals.

How do we deal with the problem of broadband services in rural areas?

Firstly establish which rural areas actually want internet access before creating the infrastructure. It is most easily set up in the form of a WiFi base station which needs to be high to ensure good signal and an open, uncapped public network that allows free connections for http and email. A landing page can be made that explains how to use the internet in the language that is required.

[Billy.Mc]

I can see from the draft document of the DoC they consider multiple angles. Especially consultation seems a good idea. They touch on matters like IPv6 and Cloud communication. The fact of the matter is that we have insufficient copper structure and Service Provision on fixed lines & mobile to provide the whole country with Acceptable standards of Broadband.

There is not enough fixed line provider coverage nationally. Yes , Telkom owns the majority of the copper structure and is busy with rolling out of their Fibre-to-the-curb Solution , but wil the citizens of Pofadder and Riemvasmaak enjoy this too? The Neotel network is in competition with Telkom , but outside major cities they are non-existent. Money is needed to purchase , trench , lay and terminate fibre nationally - we're talking billions to cover the whole of S.A.

There is not enough mobile coverage nationally either. The companies that do have masts and towers in rural areas , still cannot provide you with a single colour coverage map of S.A. There are still many grey areas that don't have 3G reception (4G/LTE is now becoming a standard and not just the future anymore) I just can't see the point in running around trying to cover the whole of Johannesburg with LTE when you can't even make a phone call from a small town?

I believe that money is the main factor. Too much of it with Controlling Authorities and too little available to the new Providers. Pre-paid Broadband (fully pre-paid) would be a good start for fixed lines. Re-looking at data prices in 1G increments instead of 10Mb for mobile providers and having a standard , would be a good thing for the mobile providers.

Ths is just my humble opinion and I think that Cloud computing and Cloud-based communication is just around the bend. Although there are still security issues with the cloud scenario , having decent broadband available to the majority of the citizens (if not to all) would be a great boost to our GDP.

[B.O.F.H.]

Where do you think the problems are now?
This is a very complicated question in itself, but one of the biggest stumbling blocks atm is a poor regulator who often seems to side with the incumbents rather than with the consumers they are supposed to be protecting, and is often unable to even meet its own rather lacklustre deadlines.

There are also issues with the incumbents being quite happy to tie things up in legal battles rather than accepting progress and changing to suit, but this is unfortunately not something that can be regulated away.

How do we deal with these?
The regulator needs to be held accountable for its poor track record, and it needs to be given the legal teeth to be able to do things without worrying that the incumbents will take them to court over every little thing. Almost to the point that the regulators decisions stand, even if they're challenged in court.

What is the most important intervention to be made to get cheaper, faster broadband to more people?
This is where a multipronged approach needs to be adopted. We are such a large country that there are places where it is not feasible to rollout high speed broadband, but they should have access to the internet at reasonable prices. Large metro areas should have FTTx at the very least, if not FTTH. Rural areas should be some form of wireless connectivity.

How do we deal with the problem of broadband services in rural areas?
Wireless is going to be the answer for this, without a doubt.



[cerebus]

Where do you think the problems are now?

- Lack of broadband penetration means that the IT industry remains in a fledgling, uncompetitive state. Online oriented business - retail, trading, hosting, development, as well as enterprise, cloud, and general IT entrepreneurship - is stunted because there is not a strong profitable web infrastructure for them to tap into. There is undoubtedly a huge market for it but bandwidth remains frighteningly expensive for most people. The eBays, Amazons, Oracles, Steams, Foursquares etc that thrive in the US and Europe simply don't have a foothold to scale adequately.
- Lack of IT talent, and drainout of the talent that does exist natively. In our department for instance we have over 30 unfilled IT spaces.
- Lack of funding for IT entrepreneurship.

How do we deal with these?

- ICASA and DOC to be held liable for results, and not just more filibustering.
- Permitting companies to hire and promote (and if necessary fire) on a purely meritocratic basis.
- Create funding resources

What is the most important intervention to be made to get cheaper, faster broadband to more people?

- Not just unbundling but eliminating the line rental component of ADSL pricing.
- Forcing Telkom to compete as a private enterprise, without special preferences, benedictions, parastatal status or any other kind of privilege. They are given too much slack when they fail, and too little incentive to pursue aggressive pricing and infrastructure.

How do we deal with the problem of broadband services in rural areas?

I can't help but feel that wireless penetration is more important than fixed line in rural areas due to huge last-mile costing problems. However, here the responsibility lies with the mobile service providers to build the infrastructure - towers, satellite etc. The DoC may talk, but I suspect that they simply don't have the resources to build cables out to the Poffadders and so forth.

[djEJ]

Telkom is a business like any other. The payment of the line (not the telephone line, but the physical line to get connected to the exchange) is their right, since we use their infrastructure, just like you pay for the equipment/connection when using Neotel (although the price of this is lower than Telkom's rental costs). What we need is a lower cost for using the infrastructure and a removal of the lower speed 384K. With an entry-level connection of 1M and speeds up to the planned (or currently rumoured) 40M, we can truly enter the broadband spectrum as a country.

I also believe that other ISPs must build their own infrastructure so that we have competition in the market. A consortium such as MWEB/Afrihost/etc... can be formed which will jointly drive ADSL access costs down much like the broadband costs have gone down. In my opinion, we should have the option not to include a telephone line to our subscription though, as some of us pay less for calls (or nothing some months) than the cost of rental.

In rural areas, we just need to build the infrastructure. Look at the articles stating that facebook is more popular than mxit (http://mybroadband.co.za/news/intern...xit-in-sa.html) . People in these areas use their cellphones for these services as the broadband necessary is not available to them physically, so they go ahead and make use of what they can. The Cape Town government is planning a broadband installation in rural areas such that the people would have this access. Concerning the hardware (laptops and computers), well, if people in rural areas can get satellites installed in their shacks (many have), they can get a cheap laptop or computer too.

With a push from government, all these changes can be made. We do need the external support and drive though in my opinion to make it sustainable and to make it work well.

[Emperor]

Let's have a look at the problems that exist within the communications sector.

Firstly, like the rest of South African business, we bear the brunt of what should be called "get rich quick schemes", whereby products manufactured in SA, are much cheaper in other African countries than in SA, this applies to electricity as well as telecoms. Whilst we have to pay exuberant costs for telecoms, our neighbours are enjoying faster and cheaper internet than we will ever be able to enjoy. In the past, Telkom was largely to blame for this, but more recently the independent telecoms providers have become the culprits. Logically speaking, fixed line internet should be more expensive than wireless internet due to the costs of maintaining infrastructure, the cost of deployments and the amount of staff involved in the process. This is however not the case, as wireless, without the high cost of maintaining copper wires and the installing thereof, still proves to be much more expensive than fixed line connectivity.

The second problem is the cost of fixed lines together with the amount of complaints regarding it. Telkom's management inherited a modern network, but they were so busy awarding themselves bonus packages that they failed to do proper maintenance of the system and now they are faced with a telecoms system that is falling apart, technical expertise that is leaving the country and dwindling profits due to their mismanagement. The only way they know to recover, is to increase the prices of products way past what they should be. Telkom should be streamlined. They should get rid of all the excess baggage that they are carrying around. Telkom's customer base has shrunk considerably and therefore they do not need that many employees anymore, yet they insist on paying employees to sit on sidewalks doing nothing. This is what is keeping ADSL costs out of reach of many people. Then there is Telkom's management, who obviously think that everybody else is illiterate as they continue to claim that their practises reflect practises elsewhere on earth.

So how do we deal with these issues?
Well, Telkom needs to lay off some staff, lay off all the thousands of staff that are not competent or just sit around doing nothing. Lower the price of ADSL lines to about R250 per month, regardless of the speeds and do not charge telephone line rental in addition to ADSL line rental.

Cellular comapnies, lower the cost of your broadband to enable more people to use the internet. R2 per megabyte is NOT what you'd call a bargain or even affordable. Lower costs per megabyte down to about 5c per megabyte and you should have every Tom, Dick and Harry queing to do business with you.

Wireless broadband companies, introduce lower cost equipment, lower the price per megabyte and introduce proper affordable uncapped packages.



The most important thing that we can do at this moment, is to demand lower costs per megabyte, lower costs for lines and overall lower communications costs. The problem however is that people have become complacent, accepting everything as the norm and not asking for better services and lower costs.

Rural areas?

I honestly do not know why every Tom, Dick & Harry is making such a fuss over rural access. Most people in rural areas do not have access to electricity or running water but we want to provide them with internet. This is a bit of a waste. Most of these people are also not anywhere near computer literate, besides not owning a computer. First provide them with running water and electricity, teach their children to attend school and once you have accomplished this, provide them with methods of broadband communication. Wifi would be better suited for situations such as this as it would make it cheap to access the internet using any wifi enabled device, but yet again, costs would need to come down for these people to be able to afford it. People earning less than R50 a day will not spend R20 on 10megabytes if they can use that same R20 to buy their families food.



[Garyvdh]

Where do you think the problems are now?

- Telkom's de facto monopoly continues to negatively impact the Broadband market in South Africa. They are a barrier to new and innovative entrants as they still control critical parts of the system in South Africa and are able to use their dominant position to stifle new players.
- The regulator ICASA is toothless and clueless. If they do somehow manage to formulate a decent strategy, it is never implemented or dragged out into oblivion.
- The Department of Communications continues to show massive bias toward Telkom and protects their monopoly.
- They are all big talk, but no action.
- Key personnel were appointed not for their qualifications or experience, but for simple party politic favour or for self enrichment.
- We need highly qualified and experienced people in this department to implement strategies that will grow the entire industry for the benefit of all South Africans.

How do we deal with these?

- Appoint experienced and independent personnel to the regulator and give them the power and punch to implement much needed change.
- Force them to abide by deadlines and punish them for unacceptable delays.
- Break up Telkom's retail and wholesale arms into different companies.
- Force them to compete like everybody else on a level playing field.
- Unbundle the local loop and implement strategies and requirements for all players to get access to the copper loop.
- Pour some money into upgrading and expanding the grid.
- Re-allocate much needed bandwidth spectrum to wireless players who will use it wisely.

What is the most important intervention to be made to get cheaper, faster broadband to more people?

- Unbundle the local loop.

How do we deal with the problem of broadband services in rural areas?

- Re-allocate wireless spectrum to companies that will use it wisely.



[HavocXphere]

Where do you think the problems are now?

Telkom, ICASA & DoC.

How do we deal with these?

Let the private sector do its thing & don't sue them every time they are making progress. (See Altech license debacle)

What is the most important intervention to be made to get cheaper, faster broadband to more people?

Drop IPC cost. Get rid of paying 2x ADSL rental (line & adsl rental). Allow naked ADSL.

How do we deal with the problem of broadband services in rural areas?

3G. The cell companies have it covered pretty well imo.

I'm inclined to say that any major rural ICT project would be misguided atm. Who cares about having a 100mbps connection when you don't have safe drinking water?

Nonetheless: Rural ICT projects should be more targeted in terms of their needs: e.g. Cover the entire S.A. with dirt cheap <40KB/s data (e.g. satellite). Enough for a kid to read wikipedia/email/online tutorial. That will provide max benefit without being prone to overkills that end up being 5x as costly as planned.

Given the above wikipedia angle, it would have to be some kind of (semi) smartphone. Something like a basic android handset. Those aren't all that expensive. Clicks sells them at <R700. Spread that over say 2 years and its not that bad.

If you look at the value you are getting from the private sector, do you think they are currently part of the solution or part of the problem (or a bit of both?)

I'm inclined to say they are 100% the solution. e.g. Take the combo of MWeb, DFA, Altech, Seacom, IS & Neotel. Between them they are responsible for pretty much all the progress we've made on the wired front. Thinking in terms of value one gets is tricky imo, because value is subjectively linked to an individuals needs & wants. Better to think of SA ICT progress as a whole imo.

The only place I can think of where I'd like the gov to interfere is cellphone companies. While its starting to change, VC + MTN have a pretty cozy duopoly going there & that shows in the pricing. Pricing on data has dropped fast, but the overall cost of an average contract w/ minutes and a nice phone hasn't really moved an inch. Also relevant w/ the rural angle as you said.

We'll need to get rid of the copper network & replace it with fibre/ethernet. Everything else will sort itself out naturally (barring interference from gov):
Undersea cables we've got
National fibre is being built by various companies
Wireless tech is covered (40mbps+ towers)

That really only leaves a gap in last mile wired area. The whole copper infrastructure is outdated & bad plus prone to uniquely South African challenges like cable theft. I don't see that being upgraded & amended - needs to be scrapped.

Looking into the future...
For those we'll need high b/w and low latency. Baring the gap mentioned above those will be fixed by then. Sure the goal posts will have shifted too, but there is a limit to how much b/w one needs to surf & email. Media is of course another matter.

IPv6 for the internet of things, but the rest of the world will lead there, so SA *could* simply follow instead of leading there & still get the benefit.



[Jackshiels]

Where do you think the problems are now?

There is a distinct lack of initiative in the DoC for the implementation and regulation of a competitive communications market. It seems as if the department is somewhat out of touch with the average consumer on issues like pricing, distribution and competition. To make matters worse the effect of such negligence is compounding at a steady rate, threatening to kill off the small IT industry we currently have.

Physically speaking South Africa's fixed lines communication market is lagging behind the rest of the world. There has been a severe lack of investment in this sector that has made it financially infeasible for the underprivileged to expand into the market. We are far behind and need to sort it out as soon as possible. If the DoC wishes to help aid and expand job creation in the digital sector it is imperative that they act now.

Lastly, ICASA needs to move faster when implementing their objectives. LLU (local loop unbundling) was promised to be completed last year. When the deadline was reached we were told to wait another year for full implementation. This is simply unacceptable and a trademark trend of the regulation of communications in South Africa. LLU should already be active and available to ISP's, yet another opportunity has passed the country by. Again, it is imperative that initiative is grown and fostered in the respective divisions of regulation in order to make up for the time that has been lost.

How do we deal with these?

If the DoC wishes to see job creation, economic growth and a vibrant technology sector they should work to sort their initiative out. We need to see ministers that are passionate about technology, not completely unaware of how it works. The minister should seek to gain market opinions, both speculative and positive, regarding products and services in order to be better informed about the state of affairs when making decisions.

The second step would be to liberalise the fixed communications market. Currently prices are far too high due to the stranglehold of incumbent operator Telkom. This needs to be sorted out through ICASA regulations that are more forceful than in the past. IPC pricing should be dropped again by at least another 30% in order to equalise South Africa with most other countries in the world and release the ever present pressure on independent ISP's. This should be accomplished before the implementation of LLU in November.

Thirdly, and most importantly, the department should aim to present and implement a long term

countrywide network overhaul that focuses on bringing high-speed fibre connectivity to urban areas. The aim of such an objective would be to lower the price of fibre for businesses, introduce the underprivileged to the concept of digital entrepreneurship and attract foreign IT companies to join the local market. It would also allow currently degraded network infrastructure to be modernised and more available (less congestion). This initiative would create jobs, boost economic growth and make South Africa a beacon of progress on the continent, not to mention completely eradicate the problem of copper theft.

What is the most important intervention to be made to get cheaper, faster broadband to more people?

Telkom needs to cut ADSL line rental by at least 50% and make naked ADSL (not requiring a telephone subscription) a reality. This coupled with a reduction in IPC would allow low income demographics to access the internet at home for under a hundred rand a month. As well as this the "minimum speed of broadband" definition needs to be raised to at least one megabit a second in order to provide a suitably adequate medium of connection for consumers.

How do we deal with the problem of broadband services in rural areas?

Wireless connectivity and satellite solutions seem to be the way forward here. In tandem with the fibre initiative the DoC should also aim to make rural connectivity of at least one megabit available to 90% of the country. There are a variety of ways to do this so the possibility is open to interpretation. What does need to be assured is a low cost and easily available subscription method, as well as readily available equipment and installation.



[McT]

Where do you think the problems are now?

Chiefly it lies with Telkom, ICASA and Government/Minister of Communications

Telkom's monopoly and apparent protection by government is a problem and hindrance to other potential players/entrants to this space. Telkom's domination of fixed line and high pricing in line rentals for adsl doesn't help either. It makes it prohibitive for most to get a landline, adsl connection and isp. Also, I firmly doubt that Telkom alone can reach every household. So trying to do it alone it a hindrance to those who could possibly do it.

ICASA just doesn't appear to the ability and clout to exercise it core functions. The problem here probably lies with their management.

An apparent lack of political will by Government and DOC to crack the whip, to develop strategy and make a difference in this space. I believe it will make a difference in job creation, business and education.

How do we deal with these?

Telkom: their political protection and monopoly should be completely removed or they should be nationalised with the focus of making broadband cost effective for everyone ... even the lower income groups.

ICASA: committed management, empowered by the DOC and backed by a willing Government

Government/DOC: the minister should be someone who knows the industry, has some experience in this regard, politically willing, etc. There should also be political willingness from Government to make a difference.

What is the most important intervention to be made to get cheaper, faster broadband to more people?

Telkom's focus should move away from being profit driven to become consumer focused. I think that 8ta is probably as distraction to what should be their core focus.

Honestly, I think the answers to this question lie in the mobile broadband. Almost everyone and their dog has a cell phone which can access the internet. Why shouldn't their be a focus to make the mobile network's more comprehensive and improve the speeds at which that all can access the internet. And

here I am thinking more of people in townships, informal settlements and rural areas. With commitment I feel it is possible.

How do we deal with the problem of broadband services in rural areas?

Mobile broadband is the key.



[Paul Hjul]

Where do you think the problems are now?

The first problem in establishing (near) universal broadband internet services is a lack of a defined vision and objectives as well as a generally dysfunctional and disconnected (mind the pun) industry. Setting specific goals require discussions and I would take a starting point of unrestricted "commodity internet access" (to pillage the concept from academic electronic networks) with access speeds guaranteed (if it is lower than this it is downtime) to at least 1Mbs and a latency which allows World of Warcraft to be played (at least one silliness definition is needed). The Blackberry Internet Service and most of the tailored smartphone packages which restrict which sites may be accessed is therefore not within the scope of broadband, nor would tailored content delivery products (such as IPTV through to a complex, obviously a triple play solution which includes commodity internet is broadband if the commodity internet component meets the criteria).

The second problem is a lack of a proper regulator. ICASA simply needs to be sorted out and a large part of the problem seems to be the legal department.

The third problem is Telkom.

The fourth problem is Vodacom and MTN.

The fifth problem is IS (and by extension Dimension Data). IS is a problem because for too long it has had to adopt strategies which verge on parasitic – Why is IS not, like Neotel, using the Facilities Leasing Regulations to force access to exchanges and ultimately unbundle the local loop? IS argues until the cows come home that Telkom's network was state funded without dealing with the issue of liability impairments, creating a net scope for Sayre's fights from Telkom. Fundamentally everything that emerges from IS suggests a company which is accustomed to providing internet services at externally determined pricing to those who can afford it. While this might be great for a business sector which requires connectivity and is prepared to pay for it the contribution towards actually building a broadband internet culture is severely restricted.

The sixth problem is that there is only one MWeb. I am making this remark with great disdain for Naspers outside of MWeb. The important thing about MWeb is that is a well backed ISP that does its homework before bringing out a major market shaker who is building a network. MWeb, unlike IS, Vodacom, MTN and Telkom put its money, mouth and future on open peering.



How do we deal with these?

The 1st problem (Lack of Vision etc …) is either going to be dealt with or aggravated in this process: Depending on the end product we will either have something which works or we will have yet more nonsensical literature to trawl through.

The 2nd problem requires political will more than anything. From ICASA's perspective the solution entails: Getting idealistic legal professional\graduates who actually understand the legal principles applicable and who are not afraid to put in the necessary hours and secure the ire of their colleagues working in the private sector. Once you have them pay them properly and put on trade restraint (revolving door) protections – nothing is more frustrating than observing somebody who worked incompetently for ICASA's in-house legal service appearing with Telkom's legal team and attacking the validity of the ICASA regulations drawn up while he worked for them. Quite simply the working conditions and remuneration offered by ICASA for the legal department lend themselves to securing the bottom of the barrel.

The 3rd problem requires Telkom to be held accountable absolutely – even if this entails bankrupting the company – because the stall and delay ethos needs to be brought to an end. There have been major improvements coming from the CEO and Telkom's ability to offer value as a home user ISP clearly exists. I don't believe that a government planning document should overly dive into Telkom because this entrenches the monopolistic parastatal thinking which is the problem. As a pet piece SAIX needs to be moved out of Telkom and turned into an IX.

The 4th problem (Cellular providers), like the 3rd, requires accountability and the addressing of the second problem. However unlike the first two problems the fourth problem also requires that the spectrum bungling come to an end and that collusion (as opposed to monopolistic practices) are brought to an end. The two cellular giants position opposing "wireless LLU" is particular cause for concern.

The 5th problem (IS/Dimension Data) should solve itself if the other problems are addressed – IS will need to adapt to a changed market or will become less significant – but it can also be addressed proactively by IS – and there may be attempts within the company to do this.

The 6th problem cannot be solved by any form of intervention.



What is the most important intervention to be made to get cheaper, faster broadband to more people?

Firstly the brutal enforcement of the Facilities Leasing Regulations; Telkom should be facing crippling fines by this point in time.

Secondly ICASA through the processes has to introduce a wholesale per megabyte price for the "wireless local loop" which would be unbundled in this process. (The price runs from device to the point where the operator hands traffic over – so the operator is able by acting intelligently to avoid using its national backhaul capacity.)

The simple reality is that wireless based services in urban areas are exceptionally cost efficient as a last mile for moving across reasonably high volumes of data (per user), but in order for a wireless system to deliver high volumes of content you need a concentration of access points and ultimately the wired backbone of the network gets closer to the point of usage. Fundamentally it should be asked whether users should be using a wireless option in an urban area if they are transferring more than 100Gb in a month from a fixed point, inversely does ADSL (or other fixed line) orientated infrastructure makes sense for users who are transferring less than 3Gb in a month. In certain high density environments the mobility of most wireless offerings (3G) is the primary driver … Mobile operators have the power to introduce access at a reasonable rate by introducing products aimed for single tower usage (restricting its mobility and greatly adjusting planning processes). A fixed home broadband solution can be introduced by the evil two operators at R150 per month for 3Gb access with the operators pillaging in funds from the exercise.

Thirdly national policy needs to endorse and support open peering and the creation of network internet exchanges and other facilities around the country. The fact that Telkom provides handover for ADSL to ISPs only at three locations is ludicrous.

Fourthly the state should avoid putting money into individual operators or trying to put projects out for tender. Instead funding should be directed towards establishing an internet technologies financial services provider which provides suitable loans to the industry as a whole. [Whilst I haven't fully researched the idea the principles applicable to co-operative banks (which the state has passed legislation for in 2007) might actually be beneficial in the industry – essentially communication licence holders (which are juristic persons) as well as natural persons working in the industry are eligible to be members of the co-op and applications for financing are received from licence holders. This approach moves it out of DoC possible problems – supervision for co-op banks lies with treasury and SARB and introduce further democratisation into the process]. If the financial service provider for internet development is truly open and transparent businesses which benefit from the network effects of broadband internet can readily be relied on to provide investments – it makes no sense for Google or

the now listed Facebook to install a meter of copper on the last mile as they cannot charge for the access, but it makes sense for them to invest millions if it will see households having access to their service.

Fifthly construction and public work policies need to incorporate an open access electronic communications ethos. When SANRAL build a road (with or without corrupt tolls) they ultimately should build them such that fibre can be run without the road being dug up. Basic construction to includes ducts and so forth will avoid stupidity from municipalities seeking to halt fibre roll out.

Sixthly we desperately need Class-ECN licence holders to make a mark and build localized network infrastructure, every single local municipality should have one localized ECN operating. There is no point in Broadband Infraco building (or purporting to build) backbone infrastructure when nobody is going to be able to use it.

How do we deal with the problem of broadband services in rural areas?

A wireless last mile is generally presented as capable of ensuring rural area broadband with WiMax being particularly noted. The extent to which this is possible in the area protected for the SKA radio telescope project requires serious consideration. Whilst a major consequence of the SKA is (and will continue to be) the rolling out of fibre and connectivity for the project this needs to translate into broadband internet services for the communities which are in the area.

WiMax is well positioned for low population density areas (where other restrictions do not apply) but it is foolhardy to conduct planning applying the maximum distance possible and maximum speeds available.

More than the last mile (which can be many many miles) dealing with rural broadband requires a systematic construction of multiple network intensive nodes (data centres, POPs, “inx”s).

Whilst it may seem counter-intuitive sneakernets and IP by carrier pigeon should not be entirely scoffed at for moving high volume data which is not time sensitive in rural areas – largely to free up capacity for broadband internet services where latency matters. Most rural households have connections to towns or other nodes where wired internet connectivity at a high speed is possible. When considering offsite backup services for farming communities the benefits of the cloud need to be put into the perspective of whether solutions which sees the uploading of data by way of a continuous upload onto removable storage which is physically taken to a connection point for syncing with the server and where rural based businesses operate servers in datacentres (virtual or otherwise) and perform syncs using physical handover. In essence a farmer may have a torrent server (for legal downloads of course) which is on a high speed internet link away from the farm.

[Pavan]

My advice to the DoC: set up the necessary processes to effectively manage convergence amongst the many misaligned policies and procedures. Wireless and Fixed line will both play pivotal roles in true broadband penetration, the key is to allow these technologies to leverage of one another to produce the most efficient solution.

Here's some useful advice for our Government from the broadband strategies toolkit:

- Government should focus on maximizing competition, including removal of entry barriers and improving the incentives and climate for private investment
- Government should provide for specific, limited, and well-justified public funding interventions only in exceptional circumstances (e.g., where governments are trying to promote growth of underdeveloped markets).
- Government funding or policy should not compete with or displace private sector investment.
- Government should maintain a level playing field for competition even with public investments by avoiding favoring one company (or access technology, e.g., telephony vs. cable) over another.
- Subsidized networks should be open access (i.e., offering capacity or access to all market participants in a non-discriminatory way).
- Government may need to regulate dominant providers to avoid market concentration or other adverse impacts on overall market competition.
- Government should eliminate barriers to content creation and refrain from blocking access to content, including social networking sites, or restricting local content creation.

And lastly, there is a MASSIVE need for aggressive government policies to generate demand, expand networks, and reach underserved areas and communities.



[Sting]

Where do you think the problems are now?

1. There is no clear vision as to where we want South Africa to be in terms of Broadband in the year 2020. The current Vision 2020 is not worth the paper it is printed on. Universal 384kbps by 2020 is a joke.

2. There is no co-ordinated National Broadband Plan enforcing the co-operation of all the network operators to achieve Vision 2020. Each Network operator is doing their own thing, causing overlaps in some areas and totally missing other areas.

3. The roles of the DoC and ICASA must be very clearly defined and they must adhere to them, rigidly. Both parties are currently too distracted by litigation on too many fronts.

4. The Government must decide on what role they want to play in the Telecommunications sector. They cannot continue to operate on all fronts with significant vested interests (shareholdings, board members, outright ownership, etc.).

5. ICASA must sort out the Digital Dividend (800 MHz frequency band), which is totally dependant on the analogue to digital migration of Broadcast services.

6. The Spectrum Assignment Plan (SAP) can only be finalised once the National Broadband Plan (NBP) has been approved. This is another example of Government, DoC and ICASA not being on the same page. The SAP must flow from the NBP.

7. Sentech's role in providing Broadband services must be clarified and explained in full detail.

8. Broadband Infraco's role in providing backhaul and broadband services must be clarified and explained in full detail.

9. SITA's role in providing broadband services must be clarified and explained in full detail.

How do we deal with these?

1. Vision 2020 must be challenging, e.g. every household will have access to affordable broadband services. The term "broadband services" will be defined separately and be updated as new technology is developed. Right now we could peg it at 10Mb/s in urban areas and 1Mb/s in rural

areas. However this could become 40Mb/s in urban areas and 10Mb/s in rural areas if new technology is developed in the near future. We cannot predict technology, hence the definition must not make mention of fixed line, wireless, radio or satellite.

2. The National Broadband Plan must be a very simple document. It must define the term "broadband". It must define the term "underserviced areas" and provide a very detailed list of these areas. It must define the term "affordable" and provide a method to determine an affordable price, which differentiates between serviced and underserviced areas. This method must remain constant to determine future annual broadband tariff increases. It must provide incentives to Telcos for investing in underserviced areas, whether it be discounts on spectrum licence fees or on the annual ICASA fees based on the Telcos' turnover. The annual rate at which Broadband services must be provided to achieve Vision 2020 should also be detailed. The rate should represent a graphical Bell curve or even upward trend and not a hockey stick with everything to be rolled out in the last year or two.

3. Government via the DoC and ICASA must clearly state it's intentions in the ICT sector and it must be legislated to ensure non-interference. The DoC and ICASA's functions must not overlap in any way. ICASA must put pressure on the DoC to put pressure on the DTI and DoJ to conclude all outstanding litigation a.s.a.p.

4. Government must disinvest from any direct shareholding in any Telco immediately.

5. The analogue to digital migration of Broadcast Services must be accelerated and given the highest priority. This will free up the Digital Dividend, which is essential for the Spectrum Assignment Plan.

6. The Spectrum Assignment Plan must be fair to all duly licensed parties. It must clearly stipulate performance indicators, impose a principle of "use it or lose it" on all parties (including Sentech) but also allow the licensees to resell spare capacity. The finalisation of the SAP is more important than LLU and must be finalised a.s.a.p.

7. Sentech must focus on Broadcast Services and disinvest from any form of Broadband provision. Any Spectrum allocated to Sentech not used for Broadcast Services must be returned to the pool for fair allocation as per the Spectrum Assignment Plan. This includes any spectrum currently resold to other operators.

8. Broadband Infraco must either be privatised or sold off to the highest bidder. Immediately. No further taxpayers' monies should be inested in BBI.



9. SITA's role in providing government's infrastructure services must be restricted to its original mandate. They may not break out of their own networks.

National Broadband Plan...

1. The Government must decide what they want from Telkom. Do they want it to provide affordable broadband to all or do they want it to be run as a profitable, listed company?

2. If they want affordable broadband then they must nationalise Telkom by buying out all the other shareholders (and obviously stop the KT deal). Telkom must remain self-funded (no taxpayer bail outs).

3. Telkom must then be split into various automous divisions, including: Core Network, Access Network, Data centres, Retail Services, etc.

4. Telkom Mobile (8ta) will form part of the Access Networks and will lease its network from the Core Networks at the same tariff as any other operator.

5. The Core Network includes everything up to the cable distribution frame on the Access Node (DSLAM, MSAN, ISAM, etc). The Access Network is from that frame to the customer's premises (a.k.a. the last mile).

6. Telkom can then absorb Broadband Infraco and consolidate the national backhaul infrastructure in the Core Network. This includes BBI's capacity on the undersea cables.

7. Telkom must be tasked with providing backhaul and POPs to all areas of South Africa, including the underserviced areas. The tariff at which they are leased to other licencees must be based on actual costs and be approved by ICASA.

8. All shortcomings in the backhaul network must be identified and a prioritised replacement program must be drafted, costed, approved, executed and tracked. This must be made visible to all parties including the public. Some of the congestion could be relieved by using the existing BBI infrastructure!

9. One of the biggest hurdles in the ADSL market is the last mile copper (Access) network. Notwithstanding the fact that it is a huge and vast network, a lot of the copper is old and in a poor condition due to lack of routine maintenance over the last 10 or so years. This is also one of the

most expensive components in the cost to provide ADSL as it is labour intensive and prone to natural (weather) and non-natural (theft, damage, sabotage) elements.

10. This gives rise to Telkom's claim of an Access Line Deficit whereby they claim that they provide the physical cable to the subscriber at a loss, i.e. the cost to provide a copper cable to a customer is higher than the line rental received from the customer.

11. Another cause for poor ADSL service provision and high costs is the long distances between the customer and the Access node (DSLAM, ISAM, MSAN). This will be alleviated through the expansion of the Core Network, viz. the replacement of the DSLAMs with ISAM/MSAN equipment, which can be installed in a street cabinet closer to clusters of customers. Simultaneuously the copper access network is rehabilitated or upgraded to its original capabilities.

12. This will bring real FTTC to South Africa and go a long way to facilitating full LLU. Other licencees will then be able to lease ports at these Access Nodes from Telkom at reasonable rates as approved by ICASA. They will also have the option of leasing the copper line from Telkom or providing their own copper or optic fibre cable from the Access Point to their customer.

13. The MSAN/ISAM roll out must be made public. This will enhance transparency and enable all parties to plan accordingly. It will also eliminate plenty of energy wasted replying to queries and complaints.

14. The bad news is that the term Broadband does not automatically mean that everyone must have fixed line access. Financial constraints will limit the fixed line rollout to metro areas and some major towns.

15. The rest will be serviced via wireless networks or satellite services, unless Government steps in and either incentivises or subsidises fixed line access (last mile) networks in these areas. These are typically areas where a LTE network will be the preferred choice of the network operators.

16. As the national backhaul provider Telkom can provide optic fibre POPs in the rural areas, which can be accessed by any other network operator to connect their own access network with the technology of their choice. As Telkom is nationalised in this scenario, the other network operators can be incentivised to provide rural services via subsidies from the USAF (Universal Service and Access Fund).

17. In the metro area the MSAN/ISAM equipment can also be used to provide FTTH. Here any network operator can step in and build their own access fibre network (fibre to the home) at their own cost. They can either use it exclusively or lease it out to other operators. This will initially be financially

viable in gated communities and small business centres but the medium to long term objective must be FTTH in the metro areas.

18. All of this does not preclude any other network operator from building their own Core or Access networks.

What is the most important intervention to be made to get cheaper, faster broadband to more people?

- Nationalise Telkom now and remove their obligation to generate shareholder value (in terms of monetary profits).
- Stop taxpayer spend on Broadband Infraco and Sentech (non-Broadcast Services).
- Merge Broadband Infraco and Telkom.
- Finalise investigations regarding the Access Line Deficit.
- Determine a fair and reasonable "all-in-one" ADSL service rental cost (naked ADSL).
- Finalise all the legislation required to implement full LLU.

How do we deal with the problem of broadband services in rural areas?

- Sort out Digital Dividend.
- Finalise Spectrum Allocation Plan.
- Finalise National Broadband Plan.
- Nationalise Telkom.
- Telkom to provide optic fibre POPs to rural access nodes.
- Network operators to build LTE networks in rural areas (shared access model).
- Use the USAF to incentivise rural access network build.
- Broadband via wireless or satellite services in rural areas.
- No copper to steal.

General comments

Many folks do not realise the extent of Telkom's network (Core and Access), full range of services or the strict regulatory conditions under which they operate. Just see how Neotel has struggled to get where they are now and they are far from where they would want to be.

Telkom is also at fault for not marketing themselves better by utilising their network and products. This has also been their weakness as they stretch themselves too thin in terms of product/technical expertise for the geographical area in which they operate. And then there are the Telkom Call Centres.



[WireFree]

Please also think about this from a long-term perspective - what are we going to need in 2030? What will be the world standard in 2030 for connectivity be?

If you look at the Internet today. More and more people are using services from the Internet instead of services from the local operator - e.g. Skype, Facebook, Google services, You Tube, Amazon, etc. The local telcos (Vodacom, MTN, Cell C and Telkom) are simply becoming bit pipes - and by 2030 connectivity to the Internet will be their sole source of revenue. By 2030, Internet connectivity should be a utility service (like access to water and electricity).

Don't underestimate the need for broadband in rural areas. Broadband Internet in the rural areas may make it cheaper for people in rural areas to use solar-powered 3D-printers to reproduce a spare part for a device than to drive to a urban area to get the part - if petrol is projected to cost much more by 2030. It may also be cheaper to use broadband internet for tele-medicine and holographic meetings than flying or driving (depending on the cost of fuel).

Where do you think the problems are now?
Lack of effective competition at a retail level - as the infrastructure owners have a monopoly over resources. Only a few networks have radio spectrum and don't allow access to non-spectrum holders. Telkom owns majority of the fixed line access and backhaul infrastructure.

How do we deal with these?
Spectrum is a national resource. Radio spectrum holders should allow smaller operators access to their network. Telkom's infrastructure and monopoly value was built during pre-90s and 90s when it had a monopoly and hence they should be subjected to the equivalent of infrastructure equality. They should also be required to provide services to rural areas at subsidised rates.

What is the most important intervention to be made to get cheaper, faster broadband to more people?
Reduce monopolies of infrastructure that was built on exclusive access to radio spectrum and licences in the past.

How do we deal with the problem of broadband services in rural areas?
Impose obligations on monopolies of infrastructure that was built on exclusive access to radio spectrum and licences in the past.

How would you like to see Telkom sorted out?
Split Telkom into multiple companies - Service Provider, Access Network, Backhaul Network, Wireless

Network and International Gateway.
Don't forget about BT Openreach - http://en.wikipedia.org/wiki/Openreach

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[zain76]

Realistically, with the broadband environment in South Africa being what it is we should consider alternatives that suit everyone instead of people with particular needs. Most of the people who comment on mybroadband already have ADSL connection and would would almost always argue to get cheaper, more accessible ADSL connections. However, standard internet user do not require the low latency provided by ADSL and fibre to meet the internet needs. Along with laying the necessary fibre/adsl infrastructure, last mile connections is just too expensive implement on a national scale, especially with the population being geographic dispersed as it is. There are thousands of little towns where big cable companies would agree to no lay fibre to each and every home.

What we should consider then is some sort of wireless access which covers more users for a lower capital expenditure(CAPEX) as single installation provides services at a much lower cost than ADSL. This then leaves us with operational expenditure(OPEX) as petrol/diesel is used to power many of these base which the biggest expenses in maintaining base stations providing these service. Using self-sustaining, renewable energy sources such as solar and wind power which brings down the operational costs significantly. The costs of entry for using this technology is also much cheaper than ADSL which in most cases are used with a computer and adsl router. 3g access is provide to any cell phone or sim compatible device so the cost of access is cheaper. Many modern phones can also provide wireless hot-spot services to support other devices that do not have 3g connectivity. With a country that has over 100% cell-phone penetration this kind of solution just makes more sense than adsl type connections. The question then becomes, how would these services reach the last mile?

There are many options here but the ones that make the most sense to me would be:

- <u>Government subsidised cellular access</u> - Government provides guidelines to have all cellular networks provide free data-only access to their networks at a minimum speed(e.g 384k) while the networks can provides faster speeds at a premium. Government then provides subsidies or pays cellular providers a fee based on how many users they service and how wide-spread their networks are so that the more users they provide for the bigger the subsidy. This would then prompt cellular networks to cover as much area as possible to obtain the biggest subsidy and increasing the potential of customers purchasing the premium services.

  The incentives provided by government could also be in the forms of government owned base stations and cheaper access to government owned network infrastructure which lowers the investment require by a cellular network to provide the services and since infrastructure is government owned, all cellular providers have equal opportunity to compete for premium customers.



- Creation of a government cellular network data provider using current national broadband infrastructure to provide a usable standard of data access only. I say standard data access only as government should not try to compete with cellular providers as it does not have the expertise to compete and it should not be seen as trying to interfere with the current market which would cause distrust among other providers and inevitably many lawsuits that would make the project unfeasible.
