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**For Attention
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South African Communication Union – Bitstream & Shared /Full Loop Access regulations submission

Notice 768 Of 2013

SACU (South African Communications Union) is a registered Trade Union that is affiliated to FEDUSA, organizing in the information technology and communication industry. Therefore we believe that we are very familiar with the nature of telecommunications regulation as it has evolved in South Africa and we are knowledgeable about its strengths and weaknesses.

The proposed Bitstream & Shared/Full Loop Access regulations for South Africa will not significantly increase competition due to advances in technology in recent years as well as the dominance of the mobile operators and the drastic reduction in voice revenues. ICASA must manage the details of the LLU regulation, in such a way to guarantee the success of the LLU strategy.

We need to remind ICASA of their findings note that was published in the government gazette on the 6th December 2011. At this juncture we will reiterate our position that the implementation of LLU will lead to unemployment in the fixed line business industry, it is a well known fact that the voice telephony has been the cannibalised by the mobile operators and fixed line voice revenue is in massive decline and will continue to do so in the medium term.

The mandate of ICASA since the onset of the formulation of LLU is to open the fixed line market thereby increasing competition in the fixed line voice as the incumbent has significant market share, this market share provides employment for not only Telkom employees, but various independent contractors and Labour brokers within the Telecommunication Industry.

Findings

Local Loop Unbundling is to be introduced in a phased approach to minimise disruptions in the ICT sector, particularly regarding employment and network investments, whereby:

The Authority will engage industry, as part of a separate regulatory process, to ensure that IPConnect prices are reduced starting from the 31st March 2012.

The Authority will engage industry to ensure ways of introducing Bitstream by 1 November 2012.

An industry working group will be established to address the ordering system specification mechanisms to support the introduction of Bitstream, with the working group to be convened by the Authority in February 2012.

The Authority will engage industry on establishing an Access Line Deficit recovery scheme, through a public consultation process, as a precursor to the introduction of Bitstream.

Questions to ICASA – How does the regulator intend funding the fixed line deficit as the Access Line Deficit recovery scheme has not been established?

Collocation – Is a very complex issue to deal with and this has been proven (internationally).

The issue of Collocation within the incumbents (Telkom`s) MDF, particularly referring to site preparation costs. **Who is responsible for these costs?**

A Regulatory Impact Assessment on the costs and benefits of the fixed line full loop, sub loop and shared line forms of LLU will be conducted, commencing in mid-2012.

The Authority will introduce supplementary LLU Regulations and conduct Market Reviews after completion of the Regulatory Impact Assessment.

The Authority will undertake an inquiry into the unbundling of wireless access networks.

We note that several aspects of the proposed LLU regulations do not support governments (NDP) National Development Plan. "The National Development Plan states that to achieve the country's information and communications technology (ICT) goals it must have a coordinated ICT strategy and plan, a key aspect of which would be the establishment of a common carrier network. Further that SA has lost its status as continental leader in Internet and broadband connectivity. The price of services and equipment remains a significant barrier to expanding fixed-line use. The proposed regulation laments "ineffectual" regulation of Telkom's dominance in SA telecoms, which will result in an increase in the cost of services and products and inhibit investment in business process outsourcing and offshore IT-enabled services".

The obsession with promoting network competition has had negative consequences for capital investment and led to duplication of infrastructure and not produced the desired level of innovative services on the network. It has resulted in huge jobs losses and very few jobs has been created as a result of liberalization. Contrary to earlier expectations of a phasing down of interventions, this remains a persistent and costly feature of the telecommunications scene. There has been a lack of regulatory strategy and insufficient focus on creating a world-

class national broadband infrastructure to enhance the international competitiveness of ICT in South Africa.

The formulation of the Bitstream & Shared/Full Loop Access regulations for South Africa must take into cognizance the objectives of the broad band policy and ICASA must strike a new and appropriate balance between the interests of the public of South Africa and consumers. While the narrower interest of consumers might suggest the provision of the maximum competition, the broader interest of the South African public requires more consultation, innovation and investment.

The significant obstacles that still hamper the development of LLU-based competition require a revision of the technical and economic conditions of service supply. Such a revision, however, should not be prejudicial in the long term to investment in access networks. For we may assume that, especially in the residential market segment, short-term competition based on carrier selection and pre-selection could be the prelude to a transition, in the medium-term, towards a competitive model based on unbundled access, and that in the long term – Expecting more favorable economic cycles than currently – that it may be desirable to establish regulatory incentives for the construction of alternative networks. Therefore, the Authority should focus on measures that may favor greater development of disaggregated access in order to spur an effective and stable competition based on infrastructures, without hampering the development of alternative networks in the long period

Operational, technical and implementation issues, in summary the main issues in LLU implementation in other countries

- Collocation (tariffs, features, potential scarcity, walk through procedures),
- Bitstream access (that will ensure non discrimination between ISPs and the incumbent or other operators),
- Line sharing (e.g. splitter),
- New access lines (e.g. scope of Telkom's & Neotels license obligations),
- Spectrum management (e.g. costs and possibility to recoup via LLU tariffs),
- LLU tariffs (e.g. non discrimination between the incumbent or other operators),
- Access to information systems (e.g. non discrimination between Telkom & Neotel and ISPs and others),
- Switching/migration of end users from operator A to operator B (e.g. time frame between disconnection and new DSL connection).

The main focus points: the impact of LLU regulation on infrastructure and services competition, a regulatory strategy must mediate the complex web of practical and legal difficulties

LLU is not an example of infrastructure competition, line sharing and especially full unbundling provide operators with a substantial amount of technical and commercial autonomy. On the investment and competition ladder, LLU is 'close to infrastructure competition'.

Line sharing enables operators to compete with the incumbent in the wholesale and retail DSL markets.

In the drawing the line between infrastructure and service competition. This means that complete unbundling as well as shared access, bit stream access and sub loop unbundling will be considered as forms of service based competition. The reason is that the incumbent still has a degree of technical control over the access loop even though competitors, for instance in the case of DSL, put up their own DSLAM equipment when offering their services based on either complete unbundling or shared access. Furthermore, the incumbent should be allowed to charge a fee for leasing out the access path and thus has a 'cost control' on interconnecting operators. However, though it is relevant to draw such a line of demarcation between infrastructure and service competition, it is also important to notice that it is not an absolute dichotomy but a continuum of different kinds of competition with re-selling as the purest form of service competition and complete unbundling as being closest to infrastructure competition

The LLU regulations should propose a series of remedies;

Logical access forms may be useful to kick-start competition since they allow operators to enter the end service market before full vertical integration

Collocation - One very complex issue to deal with was proved to be the issue of collocation costs, particularly referring to site preparation costs.

LLU cost vs. wholesale product cost (bitstream) resale product cost vs. retail price

Given these ambiguities the regulation of access to the local loop, unbundling obligations and line sharing provisions are essential remedies which are implemented internationally. Differences, however, occur with respect to the cost models used, collocation obligations and the speed of implementation. For example, in Italy the use of historic costs is justified by the observation that increased labour costs would lead to higher access charges if other cost models were employed. Regulation in other countries relies on analytical cost models in order to reflect actual costs and to spur efficient investments. Going a step further and emphasizing the concept 'real equality of access', the UK regulator also forced an operational separation of access services and other market activities of the incumbent. Differences also exist with respect to bitstream access. In Sweden, retail minus approach is employed. The regulator in the UK uses the same concept but in combination with the costs of an efficient new entrant. Concerning access at the DSLAM, Italy relies on cost orientation using historical costs. The Dutch regulator states that line sharing, full local loop unbundling and broadband

connections offered by cable operators lead to effective competition on both the wholesale and retail market for low quality broadband connections most commonly used for households. Therefore, it can be expected that low quality bitstream must remain unregulated. Thus Retail markets should be regulated differently to wholesale markets.

It has been observed that LLU could undermine the incentives to invest and innovate, both for new entrants and for the incumbent, thus damaging the long term development of competition. If unbundling is implemented at very low prices, incentives to invest in building a transmission network will be reduced, while, on the contrary, high retail and access rates would strongly encourage self provisioning of network infrastructures.

The solution to this problem has been the “ladder of investment” theory, described in a 2003 paper of Martin Cave and Ingo Vogelsang. The mechanism is simple. At the beginning, the regulation should encourage the access to wholesale markets (where Telco companies exist) through fixing very low access prices for the network elements too expensive for new entrants to replicate. As soon as new entrants consolidate their market positions, regulatory Authorities should increase access prices, starting from network elements easier to duplicate. The price increase of these network elements should induce new entrants to invest on these elements, thus to migrate to higher steps of the investment scale in infrastructure. According to Oldale and Padilla (2004, p.71): “The ladder of investment presupposes that the regulator will lead entrants through a clear sequence of investments. It will first identify the bottom rung-a replicable asset that it considers a suitable basis for entry. Then the regulator will encourage a cohort of new suppliers to invest in that asset and start providing services by making sure they have cheap access to all the other assets of the incumbent (including especially those that are not-replicable) which are needed to complement the one they have invested in themselves. Once the cohort of entrants have finished building their first asset, the regulator will decide what assets they should invest in next and raise the price of access to them while keeping access to the remaining ones low. And so on.”

Tariffs for LLU (including collocation),

- Calculation of maintaining the site,
- Costs and tariffs for local interconnection (demand was less than expected),
- Carrier Preselection (Develop procedures to process registration of the competing operators customers),
- Number portability (Telkom’s costs such as personnel to process requests).

To summarize the issues related to LLU tariffs, besides collocation,

- ICASA to implement a cost structure based on the number of unbundled lines (mid 2014–mid 2015 period), to determine tariff per line.
- LLU project costs (e.g. automatisation of ordering and delivery procedures) and the proposed allocation of project costs to specific LLU services (e.g. 1st time installation/ delivery and monthly rental fee).

- Reasonable profit margin, based on the incumbent`s (Telkom`s) human resource salary obligations (e.g. whether and how to include a profit margin on labour costs).
- Tariffs for installations e.g. number of FTTH (First Time Installs and other costs related to installation/delivery of unbundled local loops).

If the above is satisfied ICASA must implement an integrated regulatory strategy (including cost accounting) for full unbundling, line sharing and bitstream access.

To summarize four elements:

- If full unbundling is a substitute for line sharing, the regulation of line sharing might be less strict or abandoned,
- If bitstream access via full unbundling is a substitute for bitstream access via line sharing, the regulation of bitstream access must be abandoned,
- The regulation of full unbundling remains proportionate as long as no real alternatives are available (cable and other alternative infrastructures),
- Cost accounting for full unbundling and line sharing (local level) should be strict, with a low mark-up; cost accounting for bitstream access should include a mark up on (forward looking) costs.

Possible LLU regulations

- Provision of full and shared unbundled access to the local loop and sub loop, together with accessory services, such as co-location services, and provision of updated information on the availability of network resources;
- Publication of a LLU Reference Offer including also a service level agreement ("SLA");
- Transparency;
- Non-discrimination

Accounting separation;

- Price control (based on a network cap mechanism) and cost accounting.

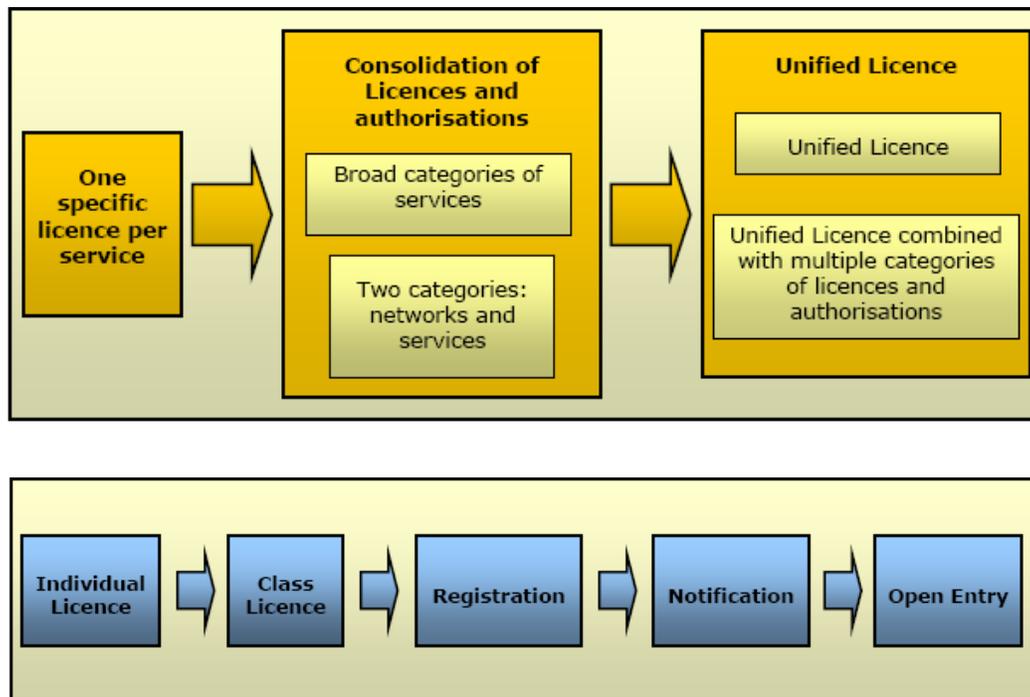
Non-aggregated - (unbundled) access, as the deliberation states, **"... is the statutory prediction that achieves the best balance between the need to favour the development of new infrastructures and the need to exploit existing infrastructures efficiently (...). As a matter of fact, the implementation of unbundling requires new entrants to invest significantly in order to be able to operate with their own infrastructure in the incumbent's local loops. However, entrants are not forced to duplicate the expensive and extensive infrastructure that starts from the local loops to reach individual end-users, as they can selectively rent the twisted pair lines needed to reach only their own clients ..."** (Leporelli et al. 2001, 254–255).

SACU (South African Communications Union) supports the view that;

- LLU regulations must be implemented as a National Perspective
- Regulation must support effective and sustainable competition
- Promoting economic and social development
- Enhancing productivity and competitiveness
- Helping job creation and opportunities
- Raise income and the broadband penetration in rural areas
- Bringing economies out of economic crisis
- Creating a knowledge based society

Comparative case studies

Licensing models - the SACU support s the notion of one specific license per service as illustrated below



Source: Report from ITU-D Study Group 1, Question 10-2/1

Migration Licensing: Consider appropriate regime for classes and types of licenses and licensing criteria, where licensing is required. There is a shift away from service and technology specific licensing towards horizontal licensing.

Numbering: To ensure access to numbering resources and ensure that numbering, naming and/or addressing schemes encompass legacy, transitional and NGN services and associated directory services

Interconnection Regulatory: considerations include whether new interconnection models may be required; the impact of IP based networks and traffic on current interconnection arrangements; ensuring no discriminatory access behavior; defining the parameters of interconnection in a multi-service environment and whether there will still be a need for mandated wholesale interconnection regimes, as well as a revision of the charging principles.

Standards and Interoperability: Regulatory considerations include mandating standards and interoperability between operators and new entrants to ensure no delays in the introduction of new services and providers in retail markets and to coordinate standardization activity where no specific body has been established.

Spectrum: The main regulatory consideration is ensuring equitable access to spectrum required by new NGN operators and services and ensuring that competition is not hampered through legacy spectrum assignments to incumbent operators for the provision of fixed, fixed-mobile and mobile services.

Universal Service Affordability and accessibility: are key policy goals that should not be abandoned or altered the Broadband Policy environment. There is ongoing relevance to the structure of universal service obligations and levies, whilst ensuring that these are not onerous on operators such that they compromise innovation and infrastructure development. Regulatory questions include whether VoIP providers should contribute to a universal service fund; how to structure universal service contributions and to which technology or service these should attach.

Consumer Protection Issues: that require attention include but are not limited to, quality of service; priority access to emergency services; the provision of location information; rights and presence management, number portability, operators' liability; privacy and security. Regulators around the world have started industry wide consultations of the consumer aspects of Broadband policy to ensure that consumers are in no way adversely affected.

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Challenges for the employment in the telecommunications sector

Stimulating investments - How do we intend fueling investment in the LLU regulations to accelerate the network roll out, given the low level of investment globally. In South African we have an asymmetric regulation and diminishing fixed-line revenue

Employment is declining in the telecoms sector

South Africa is the biggest economy in Africa yet we have experienced a remarkably constant decline in telecoms employment (**Telkom SA an example**), with numbers falling dramatically

from 61,255 in 1993 to 33,775 in 2005 and in 2010 to 23000 ; 2012 to 21000 and in 2013 – 19000 employees (over a 10 period year a decline in unemployment of 42000 employees)

The only jobs that are created in the telecoms sector, sales and marketing and high level specialists, in the long run there will also be less low skilled technicians. If the LLU regulations are implemented as contemplated, Telkom will need a lot less employees as the demand for technicians will clearly decline

Challenges - employment in the Telecommunication sector need to stagger the implementation of the LLU regulations so as to compensate for the rollout of new technologies. These consequences are already visible in areas where the networks have been upgraded. In the residential areas, this is not the case as the fixed networks are not upgraded yet, but as soon as that happens there will be significantly fewer technicians and employment will decrease because of the deployment of optic fiber.

When analyzing what kinds of jobs have been disappearing since 1998, it appears that this can be attributed to the fixed-line industry, whereas the mobile industry continues to grow.

It is important to stress that in developing countries duplicate infrastructure and lower margins can affect the ability of the operators to extend coverage and serve the segments with lower incomes – especially in rural areas. Opening the market to many competitors may create incentives that reduce coverage, focus intense competition on high-end customers and raise the initial costs for marginal customers to access network services. The telecommunications sector in the African continent has experienced enormous growth during the recent year. This development is also reflected in the regulatory policies. In contrast to the developed countries, regulation in Africa has focused more on how to get connected than how to remove competitive barriers in the telecoms market. This government- supported regulatory priority has led to a high share of mobile users (about 76% of the total telephone subscribers are mobile users), since the costs of setting up a mobile network are relatively low compared to the costs of a fixed network or broadband infrastructure. The high share of mobile users also explains the low incentives for the major operators to make long term investments in broadband.

However, because of the extension of a mobile infrastructure there is not the same need for investment in fixed-line technology, when it comes to access and penetration. But in the long term the mobile technology is not sufficient to secure the necessary technological development of a high speed broadband network, and investments in fixed-line infrastructure cannot be neglected.

The low penetration indicators in the developing countries and the presence of more mobile than fixed-line networks in the developing countries thus have consequences with regard to

the pace and manner that a high speed broadband network assume in these regions of the world. Due to the lack of fixed-line networks, the current potential of upgrading to broadband infrastructure is low, since the convergence of networks requires a “meta-infrastructure” which supports all subordinated networks (fixed, mobile and data). Seen in this context, the low penetration rate of fixed networks and broadband is a serious obstacle in South Africa as well as for the developing countries in Africa.

Developing countries

Employment in developing countries is, among other factors, influenced by lack of investment and different technology, i.e. mobile technology is much more prevalent than fixed-line technology. Lack of regulatory capacity was one of the obstacles for new entrants since investors were reluctant to enter a market without safety in terms of stable political institutions. But times are changing. In Africa the business and operating environment in the telecommunication sector has shifted. The introduction of market liberalization has helped shape an environment which fosters competition. And most importantly, regulatory bodies are being established to monitor the introduction of services and to resolve disputes. It is difficult to compare developed and developing countries directly as developing countries primarily want to be “connected”, and only to a lesser extent have the same focus as developed countries on “moving into the information age” and “high speed, low cost and low price”. A study of wireless markets in Asia shows that the economic impact of the mobile markets in China, India and Philippines is up to four times the value of the wireless operators alone. The value results from productivity gains and a general economic surplus. Developing countries do have different market structures, use mobile technology and face a number of regulatory challenges; therefore a direct duplication of the regulatory set-up in the EU or US must be taken into consideration. Most of the Latin American countries have experienced an increase in the telecommunications sector in the period from 1993-2000, though a few exceptions occur. From 2001 until 2005, the picture is rather mixed.

The biggest economy in Africa it should be noted that South Africa has experienced a remarkably constant decline in telecoms employment, with numbers falling dramatically from 61,255 in 1993 to 33,775 in 2005.

The technological evolution that has enabled convergence between fixed-line, mobile and IT systems, meaning that different skills will be requested in the future, just as with the transition from analogue to digital technology. The demographic change means that a large share of telecoms employees will retire within the next few years. It is clear though that the technological development will lead to a further decrease of higher skilled technicians since there will no longer be the same demand on the functions they hold.

The decomposition of the telecommunications industry reveals that employment in wireless telecommunication increased by more than 20.6% per year from 1990 to 1996, while employment in wired telecommunications decreased by 2.1% per year in the same period, indicating a gradual shift from wired to wireless employment.

Infrastructure competition - Access to next generation fiber networks

There is a widespread agreement that infrastructure-based competition provides the most sustainable and effective level of competition in the communications market. In those circumstances where the establishment of networks competing with incumbents' NGN networks is not considered feasible, the pursuit of policies to promote inter-modal or service-based competition is an important goal. There is also general agreement that availability of next generation networks access is a crucial element in the provision of new broadband-based services and applications. The regulator must strike an appropriate balance between market incentives and ensuring an appropriate level of competition in access network markets, there is much less agreement on how to implement the broad band policy challenge and ensure that such networks are made available with maximum geographic coverage and at affordable prices.

In the context of fiber networks the regulator has, in general, 3 broad scenarios to choose from.

Allow free rein to the market

Efficient spectrum management

Wireless technologies, are becoming an important part of the telecommunications landscape. The range of technologies making demands on spectrum is growing rapidly (HDTV, mobile TV, mobile broadband like 3G and Long term evolution technologies (LTE)). Ensuring effective spectrum management is thus a key regulatory policy issue.

In 2009, South Africa ranked 34th in the world in terms of fixed-line telephony, with over 4.3-million fixed-line connections. South Africa is one of the fastest growing mobile communications markets in the world. As of 2009, there were over 46.4-million mobile users in South Africa, ranking the country 26th in terms of subscriber numbers. The mobile landscape is dominated by multinational companies Vodacom and MTN, with the smaller Cell C coming in third position.

Broadband Infraco was tasked with improving internet access and bringing down broadband prices in South Africa, started selling wholesale bandwidth capacity to the country's telecoms

companies and internet service providers in November 2010, yet we have not witnessed a marked improvement in internet users

Issues to be considered

It is becoming apparent that to remain profitable, telcos will offer a wide range of IP-based services. Investment will polarize away from the utilitarian transport network toward high value applications at the core and a powerful set of features at the access edge. It must be said that during rollout of a broad band network,

The likelihood of broadband penetration in SA being bolstered in any marked way by fiber-to-the-home (FTTH) technology in the near future is slight. This is in light of the complex competitive and regulatory environment the country finds itself in

SACU believes a mixed fibred and wireless network in the light of local loop unbundling hold greater promise to increase broadband penetration. Ultimately you cannot compete with the capacity offered by cable and FTTH (fiber to the home) networks in more densely populated areas elsewhere in the world. For this reason, South Africa must continue to explore FTTH models to ensure medium- to long-term globally competitive broadband penetration and capacity levels.

Infrastructure sharing

Based on cost of rolling out FTTH, sharing infrastructure can bring down the costs; we are in support of an open-access model that includes fiber, as this will bring the end cost down.

We need to empower consumers to make informed choices through the provision of information that will permit meaningful comparisons of costs and quality of service.

The LLU regulations should focus more on service, choice and reliability rather than network competition. The LLU regulations must adopt a strategic framework sufficiently clear and stable to encourage substantial network investments and to permit a fair return on these investments.

END

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