

THE IMPORTANCE OF CONVERGENCE IN THE ICT POLICY ENVIRONMENT

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PART 1 OF THIS PAPER LOOKS AT THE MEANING AND IMPORTANCE OF CONVERGENCE AND CONSIDERS SOME OF THE CHALLENGES TO IMPLEMENTING, ALONG WITH STRATEGIES FOR OVERCOMING THOSE CHALLENGES. PART 2 PROVIDES A GLOBAL PERSPECTIVE ON REGULATING CONVERGENCE AND BROADBAND FROM THE INTERNATIONAL TELECOMMUNICATION UNION (ITU) THEN LOOKS AT EXPERIENCES IN NORTH AMERICA AND EUROPE AS WELL AS REGIONAL AND COUNTRY APPROACHES IN AFRICA. PART 3 IDENTIFIES SOME USEFUL INFORMATION SOURCES. ANNEX 1 PROVIDES A CHECKLIST OF CONVERGENCE ISSUES FOR REGULATORS. ANNEX 2 INCLUDES BRIEF CHRONOLOGIES OF REGULATORY REFORM IN KENYA, SOUTH AFRICA, MAURITIUS AND TANZANIA.

PART 1. THOUGHTS ON CONVERGENCE

1.1. What is convergence?

Convergence has been made possible by digitalization which allows different types of content (audio, video, text) to be stored in the same format and delivered through a wide variety of technologies (computers, mobile phones, televisions, etc). There are therefore two broad definitions of convergence: technological and media or content. Definitions are shaped to some extent by the context in which they are offered.

Technological convergence refers to the trend for some set of technologies initially having distinct functionalities to evolve to having those that over-

lap; it occurs when multiple products come together to form one product with the advantages of all of them – eg your computer as purveyor of voice as well as text and graphics; cell phones that provide text and graphics as well as voice.¹

Convergence in the media refers to the removal of entry barriers across the IT, telecoms, media and consumer electronics industries, creating one large 'converged' industry.²

1 http://en.wikipedia.org/wiki/Convergence#Computing_and_technology

2 same as above

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From the perspective of a Canadian broadcaster the focus is on content and audience: *technical convergence* is the merging of the delivery technologies through which content reaches the consumer: radio, conventional broadcasting, satellite, cable, fibre optics, wireless, internet...³

Similarly, he sees *content convergence* from a broadcasting perspective as the formatting and use of content, aided by the flexibility afforded by digitalisation, to present the same information, stories etc on different platforms and in different ways. The same information can be used for different purposes – audiences can use the platform most relevant to them.

Together technological and content convergence have led to changes in the production and marketing of information and communication products and services – telephone companies are providing internet services, content producers are merging with internet providers – in a form of *economic convergence*⁴ that has created a new information and communication technology (ICT) industry which combines the features of telecommunications, broadcasting, information technology and consumer electronics. The new ICT industry requires new approaches to regulation that recognise the changed functions of broadcasting and telecommunications in a digital era – so we have *institutional and regulatory convergence*.

Convergence therefore can be defined from a number of perspectives: technological, content, economic, regulatory and institutional.

1.2. Why does it matter?

...convergence can permeate many aspects of social and economic activity

Convergence is important because of the role it can play in national economic and social development and growth. It has the potential to impact on all

segments of society – it can shape the delivery of government services (education and health included), redefine the way businesses operate and provide individuals with as yet unimagined information and communication services.

...adapting to convergence will expand access to communications, reduce costs and stimulate economic growth

The merging of delivery platforms and content creates new opportunities for the development and delivery of services and products that can expand access to communications services in all parts of the world and better meet the needs of users. Unmet need for communications is huge in many developing countries in spite of rapid growth in access. For example, in Tanzania, communications users grew from 100,000 in 1993 to 2,100,000 by 2005 but relatively high costs, geographic distance and poverty mean that a large proportion of the population is still out of touch. There is a need for the innovations that will flow from adaptation to convergence to expand network coverage and provide appropriate services to meet constantly evolving user needs. But adaptation to convergence can only take place if appropriate policy and regulatory tools are in place – political leaders and policy-makers therefore need to pay attention to the requirements of convergence.

...adapting to convergence is a condition for full and effective participation in the global economy and information society

Convergence is part of the global information society scenario that has shaped and been shaped by changes in policy and regulation in the telecommunications sector – privatisation, creation of independent regulators, introduction of competition. Competition in an environment marked by convergence is assumed to lead to faster-paced innovation and improved products and services for consumers, at lower costs. The resulting networked economy will facilitate national economic growth and participation in the global information or knowledge society.

Addressing convergence through appropriate ICT policy and regulatory mechanisms is therefore important as part of a broader strategy to promote growth and position countries within regional and global information environments.

³ Convergence: Is it a big deal? Robert Rabinovitch, President, Canadian Broadcasting Corporation, Canadian Media Director's Annual Conference, Toronto, 2001

⁴ NetTel Africa, Global Trends in ICT/Telecoms Sector – Chapter 3, Module 2 (<http://cbbd.wsu.edu/kewlcontent/cdoutput/>)

...convergence is a process not an end point

But adaptation to convergence is not an end point. Changes will continue in technologies and in the uses to which they are put by human ingenuity. Convergence represents an unstoppable and irreversible dynamic. The question is not whether to address convergence – but how and when.

1.3. Challenges to addressing convergence issues in developing countries

The effects of convergence are pervasive, the response to it will be key to the capacity of societies to innovate and link effectively to the global information society. But dealing with convergence presents challenges.

Human and institutional capacity

In the first place, it is less than a decade since most countries in Africa began the reform of their telecommunications sectors leading to the establishment of independent regulators. The opening up of markets and the need to expand services into rural areas required new sets of regulatory skills which are often still in scarce supply. Addressing the needs of convergence will stretch scarce human resources and institutional capacities even further.

Lack of regional integration

A further challenge in Africa is the lack of harmonization among national systems and the relatively small size of markets which limits opportunities for economies of scale and market integration. Convergence needs to be placed squarely on the agenda of discussions on regional integration.

Competing national priorities

In addition, establishing information society issues in general, and convergence in particular, as priority national projects is difficult, given the demands on scarce human and budgetary resources made by strong and competing pressures for development.

1.4. Strategies for addressing the challenges

A recent CIPACO (Centre for International ICT Policy in West and Central Africa) publication identifies a number of strategies that can help overcome the challenges mentioned above.⁵ Key among these is the development of regional approaches – to promote harmonisation of policy and regulatory regimes and build larger markets. Broad and continuing consultation is also important because of the pervasive nature of the changes brought about through convergence. Policy-makers, regulators, industry and civil society all have roles to play in moving the convergence agenda forward.

Policy-makers

- Develop regional and sub-regional approaches and harmonise regulatory frameworks and training programs
- Develop models that can be tailored to countries at different levels of information society development
- Build convergence into technical cooperation projects addressing information society issues
- Bring civil society into information society debates to ensure that the interests of society as a whole are adequately addressed

Regulators

- Encourage regulatory associations to deepen understanding of convergence issues
- Establish channels of communication between telecommunications and media regulators to develop rationale for addressing convergence through single regulatory framework
- Put convergence on the agenda of meetings and workshops

Industry

- Develop strategic partnerships between infrastructure and content providers
- Develop economies of scale

⁵ *Regulation des communications électroniques à l'heure de la convergence – Enjeux, état des lieux et perspectives en Afrique de l'Ouest et du Centre*
www.cipaco.org/sources/regulation_convergence_AOC.pdf

Civil Society

- Increase understanding of issues by civil society organisations
- Lobby public and private sector to ensure recognition of social interests

1.5 Approaches to convergence

There are three broad approaches to addressing convergence: legislation, regulation or self-regulation.⁶

Legislative approach

Legislative solutions define new laws or create new regulatory frameworks to respond to convergence and guide future policy direction. This can be done by developing and implementing a reform of the entire legal framework for telecommunications or by amendments to existing laws. Creating a new legal framework to deal with convergence avoids difficulties involved with trying to fit new services like VoIP into old categories (voice or data?).

Regulatory approach

The regulatory approach involves adapting existing regulations or developing new ones. It must be carefully managed to minimise inconsistencies among different regulatory instruments. It may be difficult

to achieve because different ministries and regulators may need to be involved. The regulatory approach is facilitated when common convergence policy is articulated by the highest level of government.

Self regulation

The self-regulation approach consists of developing and designing convergence policy through an ad hoc or existing consultative body. This body is normally composed of several government agencies, industry representatives, and other interested parties and makes recommendations to government when changes in legislation or regulation are required. Industry may draw on the substance of consultation for self regulation and industry guidelines.

More details on these different approaches and their pros and cons are given in the infoDev toolkit – in practice some combination of the three approaches is most common.

⁶ This section draws substantially on Chapter 4 of infoDev's new toolkit - www.ictregulationtoolkit.org

PART 2. EXPERIENCES

2.1 A Global Perspective: International Telecommunications Union

www.itu.int/ITU-D/treg/publications/Trends.html

The ITU produces “Trends in Telecommunication Reform”, an annual publication. The 1999 edition dealt specifically with convergence and is still a useful source; the 2006 edition deals with regulating in the broadband world and places the challenges of delivering broadband as the main platform for convergence squarely within a national development framework :

“... market and technological developments are exerting pressure on the current regulatory framework. How will regulation change? Broadband regulation means a new vision of reduced regulatory burdens, innovative incentives, and coordinated efforts by all links in the broadband value chain to unleash commercial deployment opportunities. Regulations can be carefully tailored to open the door to both large and small-scale broadband providers. Broadband-promoting regulators can aim to make local communities and non-governmental organizations aware of the technologies and broadband provisioning opportunities they could seize, and also coordinate with other government and public institutions, such as universities, to drive demand for broadband-enabled health, education and government services. At the same time, regulators will strive to revise outdated regulatory frameworks designed for an earlier era. The new regulatory framework could be described as a ‘less means more, old meets new’ approach. Less regulatory intervention means more business opportunities. Time-tested regulatory principles such as transparency and open competition will be applied to new technologies and the new regulatory issues they raise. And the promotion of wireless broadband technologies will require flexible and innovative spectrum management practices.”⁷

In a sense broadband is the new convergence – it is illustrative of the way perceptions of the information society shift and place new demands on regulatory systems. In this environment the ITU argues for a light approach – less regulation gives more benefit – while maintaining the essential features of ‘good’ regulation: independence and transparency of decision-making processes.

2.2 North America and Europe

Many countries in the north have adopted a primarily regulatory approach to convergence although legislation and self regulation also feature.

UNITED KINGDOM. OFCOM www.ofcom.org.uk

- Ofcom was created in 2003 from the Broadcasting Standards Commission, Independent Television Commission, Office of Telecommunications, Radio Authority and the Radiocommunications Agency
- Ofcom is the regulator for the UK communications industries, with responsibilities across television, radio, telecommunications and wireless communications services.

CANADA. Canadian Radio-television and Telecommunications Commission (CRTC) www.crtc.gc.ca

- Canada took a more evolutionary approach following series of studies, commissions, public hearings and legislation
- CRTC regulates and supervises telecommunications and broadcasting on basis of 1991 Broadcasting Act and 1993 Telecommunications Act
- Its role is to maintain a delicate balance-in the public interest-between the cultural, social and economic goals of the legislation on broadcasting and telecommunications

US. Federal Communications Commission (FCC) www.fcc.gov

- Convergence was addressed in the Telecommunications Act of 1996
- This was the first overhaul of telecom law in over 60 years

⁷ Trends in Telecommunications Reform 2006, Regulating in the broadband world, ITU, Geneva, February 2006

- Its goal: to let anyone enter any communications business – to let any communications business compete in any market against any other

EUROPEAN UNION

www.europa.eu/pol/infso/

- Green Paper on Convergence 1997
- Public consultation followed, with results published in 1999
- 1999 Communications Review launched to review telecommunications framework followed by public hearings in 2000
- The review resulted in the New Regulatory Framework which extends and adapts liberalisation to electronic communications networks and services
- The Commission has instructed countries to replace the term “telecommunications” with “electronic communications” in national legislation and regulation
- i2010 – European Information Society 2010 – is a comprehensive strategy for modernising EU policy on the digital economy including regulatory instruments, research and industry partnerships
- Work in progress: July 2006 – workshop on interactive content and convergence – implications for the information society (http://europa.eu.int/information_society/eeurope/i2010/index_en.htm)

2.3 African experience at regional level

Convergence is emerging as an issue for discussion in some of the regional integration organisations and within regional regulatory associations. COMESA appears to be playing the most active role.

COMESA

www.comesa.int/ict/policy/doc/view

- In 2003 Information and Communication Technology Policies for COMESA was developed as an information society policy model for the region
- It recognised that information technologies, broadcasting and telecommunications formed part of a single, integrated, network, needing close coordination at policy level and close to full integration at level of regulation.
- The model applied to communications services in the context of broadcasting, postal services, telcom and the internet.

- Further guidelines would be required for broadcasting, post and internet, as well as for e-applications.
- COMESA advises its members to develop a single regulator for telcom, broadcasting and postal services to pave the way for convergence

ARICEA. Association of Regulators for Information and Communication for Eastern and Southern Africa

www.aricea-comesa.org

- ARICEA is a new organisation that will look at developing policy and regulatory guidelines, human resource development, regional and international issues and advocacy.
- It brings together telecommunications and broadcasting regulators.
- It is hosted by COMESA.

CRASA

- The Telecommunications Regulators Association of Southern Africa has recently been renamed the Communication Regulators Association in preparation for taking in a bigger role with respect to convergence but the TRASA website has not yet been updated to reflect this change.

WATRA. West African Telecommunications Regulators Association

www.watra.org

- Its draft strategic action plan for 2005 to 2008 recognises that convergence presents challenges to regulatory systems
- It will strive to keep its members informed on key convergence issues and support efforts to develop a harmonised approach within the framework of an IT master plan for the region.

2.4 African experience at country level

The decade since the mid-90s saw a series of changes in the communications environment as African governments moved away from monopoly ownership of national telcom operators to competition among a variety of players offering communications services. Open markets and independent and transparent regulators were increasingly seen as necessary conditions for investment. Now regulatory responses to convergence – which keep regulatory burdens to the

minimum and allow all communications businesses to compete in all communications markets (as the FCC puts it) – are also seen as important to creating an investment friendly and innovative information society environment.

Annex 2 includes a chronology of the changes in information society regulatory environment in response to convergence in four countries – Kenya, South Africa, Mauritius and Tanzania.

The Kenya example is interesting because of the number of initiatives under way in parallel – a new Information and Communications Bill, a new Media Bill and an ICT policy are competing for public attention. The Information and Communications Bill calls for the creation of a Content Advisory Council and a Universal Access Advisory Council – the Universal Access Fund will work on a loan rather than a grant basis. The Media Bill focuses on regulation of the media (promotion and protection of a free press but also conduct and discipline of journalists). Media includes both print and electronic media – it is possible that the two new Bills occupy overlapping territory.

In the first post-apartheid years South Africa gave priority to reform of the broadcasting sector in order to increase the chances for fair media coverage of the events leading up to the elections in 1994. Following the first telecommunications reform bill in 1996 the sectors were regulated separately by the Independent Broadcasting Authority and the South African Telecommunications Regulatory Authority. In 2000 these two bodies were merged into ICASA – the Independent Communications Authority of South Africa – but with separate licensing tracks. Merged licence types were implemented following the passage of the Electronic Communications Act in 2005. South Africa has not seen the need to develop a national ICT or information society policy.

Mauritius recognised early the importance of the ICT sector as a key pillar of the national economy. Its 2004 National Telecommunications Policy was intended, inter alia, to pave the way for the adoption of the concept of convergence of IT, media, telecommunications and consumer electronics. It foresaw but did not implement a single regulator – the Information and Communications Technologies Authority and the Independent Broadcasting Authority are separate organisations although led by the same president. A recent RFP has been issued for the development of a National ICT Strategic Plan which will make proposals – among other things – on a policy, regulatory and institutional framework for the whole ICT sector.

While Mauritius appeared in the early 2000s to be leading the way in modernising its regulatory approaches to take account of convergence it has been passed on the implementation side by Tanzania which in 2003 merged the Tanzania Communications Commission and the Tanzania Broadcasting Commission into the Tanzania Communications Regulatory Authority. In 2005 following the end of the exclusivity period for the national operator it introduced a single licensing framework to promote the development of infrastructure and services and enable the country to act as a regional hub for communication traffic and services.

Some common points emerge from the experiences outlined above:

- all countries recognise the strategic importance of responding to the challenge of convergence – from the point of view of national development and their positioning within their regions;
- responding to convergence is part of an ongoing process or a chain of regulatory reform which contains its own preconditions – for example ending the monopoly of the national operator is necessary before addressing convergence.

2.5 West Africa

The recent CIPACO publication cited above gives an overview of electronic communications regulation in West Africa with particular attention to Cameroon, Ghana, Nigeria and Senegal. Nigeria appeared to be the most advanced with a proposal for the creation of a single regulator (National Broadcasting and Communication Authority) developed in the context of a review of national communication policy in 2004. In Ghana the national ICT policy adopted in 2003 identified convergence as a new challenge for the sector. In Cameroon and Senegal the research did not identify moves towards a single regulatory structure. In general there appear to be fewer initiatives to address convergence in West and Central Africa than in the South and the East.

PART 3. INFORMATION SOURCES

The International Telecommunications Union

- www.itu.int
- Trends in Telecommunications Reform – an annual publication of the ITU which identifies new issues facing the communications sector and interesting national approaches

African Regulators Associations

- Communications Regulatory Association of Southern Africa (CRASA) rechristened from Telecommunications Regulatory Association
www.trasa.org.bw
- West African Telecommunications Regulatory Association (WATRA)
www.watra.org
- Association of Regulators of Information and Communication for Eastern and Southern Africa (ARICEA)
www.aricea-comesa.org

African ICT Policy

- Centre for ICT Policy in West and Central Africa (CIPACO)
www.cipaco.org
- CIPESA. www.cipesa.org

Asian Regulators Associations

- ASEAN Telecommunications Regulators' Council
www.aseanconnect.gov.my/ATRC/MRA

European Union

- Information Society Initiatives
http://europa.eu.int/information_society/policy/accessibility/index_en.htm

Learning Materials

- NetTel Africa www.nettelafrica.org/index.php?module=splashscreen – ICT policy and regulatory capacity building programs – on-line learning materials
- MIT (Communications Futures Program)
<http://cfp.mit.edu>
- infoDev
www.ictregulationtoolkit.org/section/legal_regulation/impact_of_convergence/

ANNEX 1. CHECKLIST OF ISSUES FOR REGULATORS TO CONSIDER WITH REGARD TO CONVERGENCE⁸

1. Does the regulatory framework facilitate the provision of different services over different platforms (e.g., technology neutrality)?
2. Does the regulatory framework support full competition?
3. Does the regulatory framework allow service providers to offer multiple services?
4. What are the regulatory policies for these new technologies and services with regard to numbering, spectrum, universal service, and interconnection?
5. Does the country's legal framework contain the necessary legislation to support an ICT environment (e.g., intellectual property laws, computer crime, electronic transactions, data privacy and security)?
6. How much turn-around time and process is required for the country's legal framework to respond to future changes in the sector?

⁸ Taken from the infoDev toolkit Chapter 4 - www.ictregulationtoolkit.org

ANNEX 2. COUNTRY CHRONOLOGIES

Kenya

www.cck.go.ke

www.information.go.ke/Bills/

1998. Kenya Telecommunications Act

- Established Communications Commission of Kenya as telecom, radio and postal regulator
- Paved the way for first steps towards liberalisation

2004. Communications Commission of Kenya announced its intention to adopt unified and technologically neutral licensing framework to permit any type of communications infrastructure to provide any type of communications service; it proposed licensing:

- Network Facilities Providers – owners and operators of any type of communication infrastructure – satellite, terrestrial, mobile or fixed;
- Applications Service Providers – providers of services to end users over network services of a facilities provider;
- Content Services Providers – TV and radio content, information services, data processing;
- Implementation to be dependent upon comprehensive study and implementation of appropriate policy, legal and regulatory framework.

2005. Draft ICT Bill – Public Consultation on intention to merge licence – examples of issues

- criticised by Media Council as too technology-focused (04/07/2005 (Daily Nation))
- issues around selection, appointment and powers of Commissioners
- not sufficient focus on human resource development
- Universal Service Fund – loans or grant?
- firm foundation for national development? No special measures for education, cultural diversity, national heritage, local content, local knowledge? Not sufficiently innovative

2006. Guide to the Information and Communications Bill February 2006 – key components

- transformation of Communications Commission of Kenya into Multimedia Commission for Kenya – an ICT sector regulator
- creation of Content Advisory Council to protect public interest with respect to content broadcast on TV and radio and advise on regulatory issues;
- creation of Universal Access Advisory Council to represent public and service providers interest in access to and quality of ICT services and to advise on priorities and projects funded through loans from the Universal Access Fund;

- end of separate licences for telecommunications, broadcasting and local media and introduction of a single framework for electronic networks and services and associated infrastructure.

2006. Information and Communications Bill

- dropped Multimedia – Communications Commission of Kenya
- to licence and regulate information and communication services
- separate licensing tracks?

2006. Media Bill

- to establish Media Council
- promote and protect free media
- conduct and discipline of journalists – self regulation
- media means print and electronic

2006. ICT Policy

- vision: a prosperous ICT-driven Kenyan society
- mission: to improve the livelihood of Kenyans by ensuring the availability of accessible, efficient, reliable and affordable ICT services.
- based on four guiding principles: infrastructure development (including software development, local manufacture and assembly); human resource development (including ICT education and e-learning); stakeholder participation; appropriate policy and regulatory framework (universal access)

South Africa

www.icasa.org.za

1996. First post-Apartheid Telecommunications Act

- set in place processes towards liberalisation and competition
- seen as a totally separate process to reform of broadcasting sector which had been undertaken earlier in order to create a level playing field for media coverage in the period preceding the elections (Independent Broadcasting Act, 1993)

2000. Establishment of ICASA – Independent Communications Authority of South Africa

- took over responsibilities of the South African Telecommunications Regulatory Authority and Independent Broadcasting Authority
- to facilitate effective regulation of the telecom and broadcasting sectors and accommodate technological convergence
- separate licensing tracks

2004. Draft Convergence Bill – for public discussion

- communications services – including content

2005. Electronic Communications Act⁹

- merged licence types: infrastructure service licence; communication network services; communications application services;
- promotes convergence and interconnection, investment, competition and efficiency
- but also: universal provision of networks and services and connectivity for all; empowerment of historically disadvantaged persons including women and youth;
- and: promote the development of public, commercial and community broadcasting – for all language and cultural groups and news as well as entertainment.

Mauritius

www.gov.mu/portal/site/iba, www.icta.mu/icta/home/
www.gov.mu/portal/goc/ncbnew/file/RFPFinalNICTSPWAnnexes.pdf

2004. National Telecommunications Policy:

- revised 2001 policies to foster competition in the telecommunications market and pave the way for the adoption of the concept of convergence of IT, media, telecommunications and consumer electronics;
- called for a new IT strategy to support innovative and coordinated implementation of government and other IT initiatives;

⁹ Republic of South Africa, Government Gazette, Volume 490, No 28743, Cape Town, 18 April 2006

- foresaw the creation of a single regulator for info-communications.

Information and Communications Technologies Authority and Independent Broadcasting Authority are separate organisations but under the direction of a single president. ICTA regulates ICT services and the postal sector; IBA regulates the broadcasting sector inter alia with a view to ensuring local content and production.

2006. RFP for National ICT Strategic Plan – exploiting ICTs in all sectors; e-government; labour and skills development; social development; infrastructure and telecommunications; information security; and policy, regulatory and institutional framework for the whole ICT sector.

Tanzania

The implementation of the new converged licensing framework in the ICT sector in Tanzania - www.tcra.go.tz

2003. Tanzania Communications Regulatory Authority Act – merged the Tanzania Communications Commission and the Tanzania Broadcasting Commission into the Tanzania Communications Regulatory Authority.

2005. The implementation of a converged licensing framework based on the principle of technology and service neutrality was approved following the end of the exclusivity period for the national operator; it is a key part of the strategy to liberalise the sector.

The single framework is intended to:

- promote the development of state of the art communications infrastructure;
- further liberalise the sector and encourage it to be more responsive to end users;
- provide citizens with a choice of high quality, high functionality and affordable services;
- attract investment;
- to enable Tanzania to act as a hub for regional communications traffic and services.

Licence types

- Network facilities – construction and ownership of electronic communication infrastructure eg earth stations; fixed links and cables; payphones; radio transmitters
- Network services – operation of electronic communications networks in order to deliver services eg bandwidth services, broadcasting, access to applications
- Application services – authorises reselling or procurement of services from Network Service Operators eg internet providers, VoIP, virtual mobile provider
- Content services – provision of public content eg satellite broadcasting, free to air TV, radio broadcasting



ASSOCIATION FOR PROGRESSIVE COMMUNICATIONS

Internet and ICTs for Social Justice and Sustainable Development

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We work to build a world in which all people have easy, equal and affordable access to the creative potential of ICTs to improve their lives and create more democratic and egalitarian societies.

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