

E C T E L
C O N S U L T A T I O N D O C U M E N T

**Recommendation of the Eastern Caribbean Telecommunications Authority
(ECTEL)
To the National Telecommunications Regulatory Commission to consult on
Development of a Policy on Convergence and related matters**

Consultation Document

/N0.

March 2007

1. The National Telecommunications Regulatory Commission is in receipt of a submission from ECTEL containing ECTEL's Consultative Document for the development of a Policy on Convergence and related matters in [Member State].
2. The Consultative Document is herein attached.
3. The initial comments period will run from 12th March 2007 to 11th April 2007.
4. Reply comments from 12th April 2007 to 26th April 2007.
5. Following the Reply Comments period, ECTEL will finalize and submit the draft Policy to the ECTEL Council of Ministers for its recommendation for adoption in the ECTEL Member States.
6. All responses to this Consultative Document should be written and sent by post, fax or email to: -

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All comments should be clearly marked “Comments on Draft Convergence Policy Document”.

Disclaimer

This consultative document does not constitute legal, commercial or technical advice. The consultation is without prejudice to the legal position of ECTEL to provide advice and recommendations to the Ministers with responsibility for telecommunications and the National Telecommunications Regulatory Commissions.

RATIONALE

ECTEL is conducting Public Consultation on Convergence keeping in mind the overall objective of identifying and examining the regulatory ramifications of telecommunications convergence and to formulate any consequential Policy Framework for regulation in a convergent paradigm.

A consultative process was conducted **on the Development of a Policy on Convergence and Related Matters** during the period 15th September 2006 to 15th October 2006. Based on the comments received a draft Policy was developed and this was subjected to a limited consultation with the NTRCs.

The Consultation highlighted the relevant issues and provided background and explanations on some key issues. In order to focus the discussions, questions were posed and the responses used in preparing the attached “Draft Policy on Convergence in Telecommunications Services”.

Key Issues

The Draft Policy document starts with a background and places the proposed Consultation in context and provides the context for consultations. Necessary definitions are included and it is stated that the shift in paradigm, from a circuit switched environment to a packet switched one, is occurring.

The scope of the Policy Paper is to identify the issues, outline options and provide policy positions. The regulatory implications of telecommunications convergence are examined and the Policy seeks to provide a framework for regulation in a converged environment.

The issue of content regulation is not addressed in detail having due regard to it being outside the mandate of the telecommunications regulators and requires a totally different skill set.

In reviewing the licensing regime in the context of telecommunications convergence, the recommended policy is to maintain a position of technology neutrality in the licensing process. The Director proposes that, if different categories of licences are maintained, similar rights and obligations should hold for the same type of licences. The option exists, however, for licensing with the use of a single generic type licence to be adopted or to consider differentiation based on whether the operator is facility based (FBO) or service based (SBO). The recommended policy would be to ensure that all providers of service of the same type have similar obligations.

Another option examined is whether licensing could be either facilities based or service based. The idea here is to have the operators of facilities and networks treated as the current Individual licences are done and the service-based operators will be like the class licences. The difference in approach would be that there would be some service neutrality and classification would be easier. If facilities and networks are owned and operated then a FBO licence is required and all others will be SBOs.

The provision of service by providers without physical presence in the countries has revenue implications. Companies may be providing service, in competition with licensed operators, without making a contribution to the national treasury or contributing to the Universal Service Fund. The Draft also examines the licensing of Virtual Network Operators with broad principles governing the allocation of scarce resources to these entities.

Number Portability and ENUM were deferred to a more detailed consultation process though it has agreed within the Directorate that the cost benefit analysis of implementation of the various forms of Number Portability should be the main determinant in any implementation.

The management of the Top-Level Country Domain Name by the NTRCs is a requirement under the Act. The policy implications of the increased demand on the human and physical resources of the NTRCs to carry out this mandate are briefly analysed.

The difficulty in determining automatically the location of persons using services based on Internet protocols raises concerns for ensuring access to emergency services.

Security and consumer protection is currently being addressed under the Telecommunications (Confidentiality in Networks and Services) Regulations. In the context of a converged environment there are particular technical challenges with respect to the interception of messages even when done in a legally correct manner.

The application of Universal Service Obligations is particularly problematic when dealing with “providers’ who have no presence and in the case of Quality of Service the “one size fits all” approach is severely tested in a converged environment.

Quality of Service (QoS) in a converged environment requires special consideration, not least of which is the need, to evaluate the capacity of the regulators to monitor and enforce the requirements of the regulations. The Policy should be that all providers are subject to QoS requirements but with a difference in terms of the criteria and parameters depending on whether the operator is the primary provider of the service or is dependent on another provider for the quality of his service.

Conclusion

The proposed draft policy seeks to provide the framework for the ongoing review of the legal framework and possible changes to the licensing framework. The Draft Policy focuses on changes that may be necessary to respond to the challenges of telecommunication convergence. It would be necessary to examine the available options for regulation in a converged environment and to finalize Policy. This Policy would then be used as the guide in the revisions and selection of available options.

Consultation Procedure

In order to carry out this consultation, ECTEL hereby requests the Commission to conduct a national consultation on the Development of a Policy on Convergence and Related Matters in accordance with the 'Consultation Procedure and Timetable' outlined above.

DRAFT

POLICY ON CONVERGENCE IN TELECOMMUNICATIONS SERVICES

1.0 BACKGROUND

This is a draft Policy document on Convergence in Telecommunications Services. It is in response to the recognition of the fact that telecommunications services are increasingly being provided over a converged network but still require multiple applications to the regulator for separate licences. There is the need to examine alternate approaches for licensing that may be more appropriate for a converged environment.

This initial draft document would form the basis for discussion and based on feedback will be modified for presentation to the Board of Directors prior to its circulation as a Public Consultation document. The purpose of the Policy is to define the principles to be applied in addressing the issues created by convergence with the present regulatory approach of ECTEL. The document contains the Background, Scope and the Convergence Policy Issues. It makes preliminary conclusions based on the material presented.

In order that there is commonality in understanding of the various terms being used the following definitions and interpretations will apply.

Convergence is the intentional use of technology to integrate the devices necessary to accomplish certain tasks. Broadly speaking there are three forms of convergence relevant to this paper. These are digital, technological and telecommunications convergence.

Digital Convergence is the process where all forms of information is being recorded, stored, manipulated and transmitted in digital formats.

Technological Convergence is the trend within the communications media where through the application of digitalization and other technologies, all forms of media are now being offered on single integrated platforms. We now have newspapers and radio on

the Internet, Personal Digital Assistants (PDAs) with in-depth reports from news houses and phones with regular update from media sources.

Telecommunications Convergence is the merger of the traditional legacy-based time division multiplexing (TDM) architecture with today's packet-switching technology and call-control intelligence, which allows commercial carriers and service providers to consolidate voice and data networks to provide integrated communications services. Telecommunications convergence has been fuelled by the use of the Internet Protocol standard and technologies such as Voice over Internet Protocol (VoIP).

The Telecommunications Act of the ECTEL Member States outlines as one of its principal objects the regulation the telecommunications sector. The Act also excludes the regulation of broadcast content¹ and this exclusion legally prevents the regulation of content by the telecommunications regulator in the ECTEL Member States.

Conceptually a structure for a regulatory authority that would be responsible for the regulation of telecommunications, radio spectrum and broadcast content would provide greater simplicity, flexibility and responsiveness in the regulation of a converging sector.

Also, as is noted above, the various telecommunications systems are converging yet the policies and laws in place are designed to treat the various media separately. Previously, different telecommunications services were provided on separate platforms, now all telecommunications services can be provided on a single platform enabling the provision of any type of digitized content: be it voice, data or video. This convergence is as a result of the emergence of New Generation Networks.

In a converged world, a revision to the established regulatory categories may be required. This policy addresses the issues of convergence and related regulatory matters. The Policy will address specifically the issue of the change from a circuit switched

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Section 6 of the Telecommunications Act, 2000 Laws of the Commonwealth of Dominica

Section 3 (1) of the Telecommunications Act, 2000 Laws of Grenada

Long title of the Telecommunications Act, 2000 Laws of Saint Kitts and Nevis

Section 5 (1) of the Telecommunications Act, 2000 Laws of Saint Lucia

Section 3 (1) of the Telecommunications Act, 2001 Laws of Saint Vincent and The Grenadines

environment to a packet switched one, and the related issue of Voice over Internet Protocols (VoIP).

2.0 SCOPE

Regulation of Telecommunications Sector is being done within the framework of the existing Telecommunication Act and Regulations in the Member States.

This Policy Paper seeks to identify the issues, the options available to ECTEL as possible approaches and where appropriate to provide policy positions.

As an initial step the “merging” the regulation of telecommunications with broadcast content will not be contemplated as part of the policy though the issue will be ventilated and views aired included in this first draft, the Telecommunications Acts of the ECTEL Member States explicitly excludes broadcast content from its scope.

The Policy will identify and examine the regulatory ramifications of telecommunications convergence and to formulate a Framework for regulation in a convergent paradigm. The policy will be the result of the feedback from public consultation and is informed by current regulatory trends in addressing the issues of convergence.

3.0 CONVERGENCE POLICY ISSUES

The issues with policy implications that are being considered are:

- The regulation of Broadcast content being merged with the regulation of telecommunications;
- The need for a review of the existing regulatory framework, specifically the licensing regime;
- The separate licensing of Facilities Based Operators (FBOs) and Service Based Operators (SBOs);
- The provision of service by providers without physical presence in the countries;
- The licensing of Mobile Virtual Network Operators (MVNOs);
- Number Portability and Electronic Numbering (ENUM) in a converged environment;
- The management of the top-level country domain name by the NTRCs.
- Access to Emergency Services;
- Security and consumer protection;

- Application of Universal service obligations;
- Quality of Service.

3.1 Regulation of Broadcast Content

The digitalization of all content, (voice, data, video) and its delivery over increasingly converged networks makes it difficult to determine the nature of what is being transported. The regulation of content requires a determination of what is being transported and the reasons for its regulation are typically based on social and cultural considerations. These objectives are in contrast to the objectives of current telecommunications regulations that are more concerned with transitioning from a monopoly provision of telecommunications to a competitive provision of services and ensuring that technical standards are kept in accordance with established quality of service requirements.

It is easily discernible that these objectives and functions would have different responsibilities, require different skill sets and the direct stakeholders would not necessarily be the same. It is for these reasons and recognizing that the present capabilities and resources of the regulatory mechanism are already stretched that the merger with content regulation is not considered appropriate at this time.

3.2 Review of the Licensing Regime

The licensing policy will continue to be one of technology neutrality and there will be different classes of licences with differing rights and obligations. Licences within the same class/category will have similar rights and obligations. Consideration will be given to a general type authorization for licences that are currently individual licenses; these would be the Facilities Based Operators. These licences will have a menu of options that would indicate the various services that the operators will provide and some registration/approval mechanism for each service to be provided. This would address the issue of separate services on convergent networks being subject to regulation of the various services separately

There is need to ensure that all providers of service have the obligation of contributing to the maintenance of all networks they use either directly through

interconnection, wholesale service or indirectly through contributions to the Universal Service Fund.

The policy would be to review and revise the existing system of licensing taking into account that the present system is relatively new and has worked though with some drawbacks. There would therefore be no complete discarding of the present setup but changes to address deficiencies while retaining the tried and tested methods.

3.3 Licensing of FBO and SBO

The policy determination is to decide which option of competition is to be emphasized. There can be facilities based competition where the emphasis would be the promotion of the build out of new networks and facilities or the focus could be on the provision of services using existing infrastructure.

The policy should be determined after a review of: the status of infrastructure build out; level of saturation of service provision; capacity of existing infrastructure to carry available and projected traffic and the experience in infrastructure sharing.

The existence of accepted cost models provides for the evaluation of prices for retail and wholesale prices. A determination can then be reasonably made regarding the decision to build new infrastructure or lease existing ones. The policy will be to let the market decide where it has been determined that there is sufficient competition and to regulate prices for service where there is none.

It is being recommended that there be a general authorization for licences of the type use in the United Kingdom² for facilities based owners and operators.

3.4 Physical Presence

The current licensing policy is that once service is being provided a licence is required. The policy recognizes that some providers can and will provide service without presence or solicitation. The definition for service provision will be

² See the ITU Web site www.itu.int-ITU-D/Reg for more information

amended to reflect that once there is a paid subscription for the particular telecommunications service, service is being provided.

Recognizing further that several types of Internet Protocol based telecommunications services do exist, some requiring only a computer terminal and access to the Internet others requiring, in addition, specialized terminal equipment, the treatment under the regulations would be independent of the technology used and focused solely on five key issues. These issues are:

- Is it a telecommunications services as defined under the Telecommunication Act;
- Is it a paid subscription service;
- Is it a regulated service falling under any other relevant regulation;
- Is it an essential service; and
- Are there options available to the consumer for the provision of the particular service?

3.5 Mobile Virtual Network Operators

The ECTEL regulatory regime recognizes that there will be in the future applications for the licensing of MVNOs. The MVNOs will be allocated their own block of Central Office Codes rather than having to depend on the network facility provider to allocate numbers. The regulatory regime would allow for the allocation of numbers to providers who do not own or operate their own networks or facilities based on the following principles:

- The numbers are the property of the nation state and would be managed by the regulator;
- The operator is providing nationwide either voice, data or video and require at least 6000 numbers;
- There is no scarcity of available numbers;

3.6 Number Portability and ENUM

The issues of Number Portability and ENUM will be addressed in the context of other proposed consultations that will focus specifically on these issues. The consultations will determine the nature and applicability as well as the cost benefit analysis of the various types of portability and that of ENUM.

3.7 Top Level Country Domain Name Management

It is the responsibility of the NTRCs according to the Act to manage the Top Level Domain Name of their respective countries. There are considerations of organizational capacity and resources that will also have to be addressed and the mechanisms of how this is to be managed will be subject of other consultancies.

3.8 Access to Emergency Services

The principle to be applied here is that all licensed providers of telecommunications services will be required to provide access to the emergency services. In the case of specific services where this capability is limited or not available then the consumer must be made aware of the nature and extent of the limitation by way of educational campaigns and the use of recorded voice messages on the terminal device.

Specifically for licensed IP based services, clear indications must be given of the ability to make or not to make a call, once the access to the Internet is down and the nature of the customer's access to emergency services.

3.9 Security and Consumer Protection

The relevant sections of the Telecommunications Acts³ require that the subscriber's information must be protected. The current policy is that there should be maintenance of accurate and secure records of any interception of communication and interception can only be done through proper and legal authorization channels. The issues are addressed in the Telecommunications (Confidentiality in Networks and Services) Regulations.

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Sections 61, 62, 64 of the Telecommunications Act, 2000 Laws of the Commonwealth of Dominica

Sections 60, 61, 63 of the Telecommunications Act, 2000 Laws of Grenada

Sections ????? of the Telecommunications Act, 2000 Laws of Saint Kitts and Nevis

Sections 61, 62, 64 of the Telecommunications Act, 2000 Laws of Saint Lucia

Sections 58, 60, 62 of the Telecommunications Act, 2001 Laws of Saint Vincent and The Grenadines

3.10 Universal Service Obligations

Recognizing the complexity of the mechanisms for Universal Service funding and the need for developing principles for Universal Service Obligation that would include the converged provision of service the appropriate policies and principles would be developed after the ongoing consultation on Universal Service is completed.

The principle that all licensed providers of telecommunication services should contribute to the Universal Service fund will apply.

3.11 Quality of Service

Quality of Service requirements will be placed on all providers of service though a distinction will be made regarding the nature of the service being provided and the type of quality of service parameter to be applied may vary.

Primary and wholesale providers and facilities operators who have direct control over the quality to be provided will have more stringent parameters regarding quality compared to those reselling service.

Consideration may also be given to the level of competition and real choice available in a given sector that would determine which are to be the parameters.

The policy however would be that all providers will have obligations that will be in keeping with their rights and privileges.

4.0 OPTIONS

{This section on options, is largely a reproduction of information presented in the ITU's Trends in Telecommunications Reform 2004/5 – Licensing in an era of Convergence and additional information can be found at <http://www.itu.int/ITU-D/treg/> }

In going forward several options are available and can be considered in licensing for the converged environment.

The options include:

- General authorizations replacing individual licensing;
- Generic licences instead of service specific;
- Unified licensing

4.1 General Authorizations

General authorizations are being used in a number of countries to replace lengthy application procedures. The Member States of the European Union (EU) use this procedure where there is to be a single licensing classification for all electronic communications. The EU has replaced individual licences, except for frequency authorization and number assignment, with a general authorization to provide all electronic communication networks and services under a new regulatory framework for electronic communications. This new regulatory framework that entered into force in July 2003 is also technology neutral, and aims to be sufficiently flexible to deal with converging markets. The authorization rules lay down an administratively simple, “light-touch” procedure allowing companies to enter markets quickly. (ITU - Regulatory Trends, 2004).

4.2 Generic Licences

In 1999, Malaysia’s Communications and Multimedia Act (CMA) established a regulatory framework designed explicitly to reflect and accommodate convergence. In particular, the CMA introduced a technology- and service-neutral licensing regime for telecommunications and broadcasting that reduced that country’s thirty-one service-specific licences to four generic categories of licences as follows:

- **Network facility providers:** Infrastructure including satellite earth stations, fibre-optic cables, communication lines and exchanges, radio communication and transmission equipment, mobile communication base stations and broadcasting towers and equipment.

- **Network service providers:** Basic connectivity and bandwidth to support a variety of applications and connect different networks. This includes cellular, broadcasting distribution and mobile satellite services.
- **Application service providers:** This category is for licensees that provide specific functions such as voice, data and electronic commerce services. It also includes Internet access, IP telephony, radio paging and audiotext.
- **Content applications service providers:** This classification covers a special subset of applications and includes traditional broadcast services, online publishing and information services.

The International Telecommunications Union commenting in its Regulatory Trends Report for 2004 advises that the Malaysian experience provides valuable lessons for licensing in a converged environment.

4.3 Unified Licensing Framework

The ITU Regulatory Report indicates that some countries have introduced measures to create a unified licensing model. India's move towards a unified licensing regime provides some insights into this trend. In a consultation paper issued in March 2004, the Telecom Regulatory Authority of India (TRAI) proposed several unified licensing models. Already, in October 2003, TRAI had recommended implementing a unified licensing regime in a two-stage process. And as a first step, a unified access regime for basic (fixed) and cellular services was established in November 2003. Under the unified access licensing regime, both fixed and mobile service providers are free to offer their services using any technology. The next stage was to define guidelines and rules for a comprehensive, fully unified licensing regime for all services. On 6 August 2004, TRAI issued detailed draft recommendations on this new regime (www.trai.gov.in), following a consultation process.

The creation of a simplified, single licensing classification has been touted as ideal in terms of simplicity and neutrality. However, it is important to note that there are limits to such an approach. Spectrum management, in particular, presents a challenge to the implementation of a single licensing classification. Under the present approach to spectrum management, frequencies are divided into bands and then allocated to specific services on a global and national level. The aims of this process are to minimize interference and promote harmonization and economies of scale in

equipment manufacturing. Consequently, most countries assign spectrum usage rights on a technology- or service-specific basis. Notable exceptions include Australia, Guatemala and New Zealand, where flexibility of spectrum use is allowed.

4.4 Technology and Service Neutrality

One of the key goals in moving to a converged licensing framework is to achieve technology neutrality. This term is intended to convey the meaning that a licensee retains the ability to choose the technology and equipment he or she will use to provide the licensed service. So, for example, a rural universal access project that subsidizes a payphone service can be considered technology neutral if the operator is left to choose which technology or architecture is economically optimal to deliver the service. That choice could be a VSAT (very small aperture terminal) system, use of a mobile cellular architecture or spectrum, or a fibre network – or, in fact, a combination of all those approaches.

Yet technology-neutral licensing is not necessarily synonymous with a single, umbrella licence that covers all ICT services. Perhaps the best example of technology neutrality without service neutrality is when a government issues mobile service licences but allows the operators to choose whether to employ GSM or CDMA technology.

A technology-neutral licensing regime provides a fair and predictable regulatory regime flexible enough to embrace technological and market developments.

In addition to experimenting with technology neutrality, governments are increasingly moving to service-neutral licensing. This allows licence holders to take cues from the market as to which services are most in demand or most cost-effective. A generic licence then empowers operators to offer a variety of different services and applications, tailored to fluctuations in market demand. Converged licensing frameworks that incorporate technology and service neutrality increase the scope of applications and services that any operator can provide, using its choice of technologies. Many countries such as Australia, the EU Member States and Malaysia have adopted converged licensing regimes.

5.0 CONCLUSIONS

This paper is a draft Policy document that identifies the issues and proposes policy to address the issues identified. It is by no means intended to be a final paper or to be complete in the treatment of all the issues, or even to have identified all relevant issues. It is the result of the initial consultation on Convergence and is prepared for further discussion and to assist in formulating the overarching policy for the treatment of convergence issues. Several issues have been identified that are themselves subject to detailed and comprehensive consultation.

There are several options mentioned in the document that solicits feedback on available options. The use of a general authorization with a menu of option for licensing is one such option and the approach of FBOs and SBOs another that solicits further discussion.

The introduction of more flexible and straightforward licensing regimes is clearly the trend today. There are challenges in applying these models to the ECTEL situation that include:

- The adoption of a converged licensing model;
- Spectrum management;
- Setting of licence fees;
- Ensuring a level playing field; and
- The pursuit of public policy goals, including universal access.

The treatment of IP based operators who have neither presence nor do they actively solicit service raises fundamental issues of sovereignty and jurisdiction that have been highlighted here but the implementation of determined policy may prove the old adage that the devil is in the details. The differentiation for regulation to apply to only paid subscription is a first step in addressing this issue but it is recognized that even this may not be foolproof.

The approach of other countries in the VoIP issue could be found at the website www.ipall.org/matrix. A review of these positions would facilitate feedback on this first policy draft.

References

The Commonwealth of Dominica Telecommunications Act No. 8 of 2000 accessed January 17th 2007 from the website www.ectel.int/ntrcdom.

Grenada Telecommunications Act No 31 of 2000 accessed January 17th 2007 from the web site www.ectel.int/grd

Saint Lucia Telecommunications Act No 27 of 2000 accessed January 18, 2007 from the website www.ntrc.org.lc

St. Vincent and the Grenadines Telecommunications Act No 1 of 2001 accessed January 18, 2007 from the website www.ntrc.vc

VoIP Policy Matrix accessed from the Global IP Alliance website on January 17th 2007 at www.ipall.org/matrix

Trends in Telecommunications Reform 2004/05 – Licensing in an era of convergence accessed on January 18, 2007 from the International Telecommunications Website www.itu.int/dms_pub/itu=d/opb/reg/D-REG-TIR.7-2004-Sum-MSW-E.doc