

KEY OBSERVATIONS

- (a) The need for pairing by content service providers to ensure high level of security of their premium content is acknowledged. However, it does not need multicrypt mode for its realisation. It can be achieved in simulcrypt, even when using a single conditional access system
- (b) Simulcrypt and single CAS can also enable different CSPs to operate their own Subscriber Management system and control their customers.
- (c) The need for each operator (CSP and in our case MUX cum CSP) to have own CAS in as a means of ensuring security is more of an excuse, hangover of cable and satellite business models and protection of perceived customer base and superiority in the market than being a security issue. CAS technology has advanced enough to ensure security of contents even in simulcrypt.
- (d) Use of market forces to foster interoperability in CAS was not successful in the cable and satellite scrambled content delivery since there were a lot of factors including protection of boundaries, business models and interests and that of different vendors. Regulator, legislation and regulation intervention has been identified as a necessary way forward since willingness is not there and change of mindset can take long.
- (e) Technology to facilitate interoperability is there only business issues and interests have been the biggest hurdle.
- (f) There are a number of countries that have adopted a single CAS for digital terrestrial broadcasting implementation. Also, a firm in Latin America that broadcasting to a number of countries through satellite is doing the same while the agent in each country customized its offering and control of its subscribers.
- (g) The costs of setting up own infrastructure and set-top boxes is prohibitive for new entrants in the content subscription services offerings, hence competition and inhibiting factor for viewers' flexibility and choice.
- (h) Unbundling CAS services and MUX is useful where the operator of the CAS is neither a CSP if fair, reasonable and non-discriminatory to all players in the terrestrial digital broadcasting chain is to be a reality. The coupling of MUX and CSP has demonstrated the intrigues of being fair while having own interest.
- (i) Interoperability encompassing all content delivery media and CAS is desirable, but may not be the most appropriate for entry level interoperable STB for the interest of costs to majority of prospective viewers.
- (j) The European countries adopted the common interface module as a way forward for enabling interoperability of iDTV across Europe. This approach is justified EU considering the jurisdiction that each country has over its territorial matters and diversity of opinion and options. However, some countries still chose to implement single CAS for terrestrial digital broadcasting. The major shortcoming is shifting the costs of interoperability to viewers by requiring them to each have a CI module for each CAS used by CSPs while its costs are significant for ordinary Tanzanians.
- (k) Tanzania chose the DVB-T family as its technology for offering terrestrial digital broadcasting. DVB-T2 is a follow up of DVB-T technology. It has been implemented in a number of countries. The DVB-T2 technology offers higher spectral efficiency and other features. However, it is still under development making receivers more expensive. It has not thus been possible to date to take advantage of volume production since it has not happened. It has primarily been adopted to accommodate HDTV and its adoption is very limited, so is the take up. There is need therefore to be cautious, particularly because of the economical status of common Tanzanians. It may be appropriate to continue with DVB-T and migrate to the appropriate technology at the right time.

- (l) Fair, reasonable and non-discriminatory operation of CAS implies: technical support, technical information, information sharing, CAS services, terms, conditions and service costs.
- (m) The bundling of CAS, CSP and MUX is not in the interest of growth of competition in the digital terrestrial broadcasting business, and healthy, flexible and wide viewers' choice which are the strong points for going digital.
- (n) The price and costs related to set-top boxes is of great interest since the expenditure on receivers can far exceed expenditure on transmitter networks. The receiver cost is very important parameter particularly for developing countries like Tanzania where income of the majority is regarded as being low. Receivers must be affordable otherwise, digital transition will fail. Low cost receivers mean higher early penetration and rapid transition since the government is not providing free STBs. Note that many of the early prospective viewers of digital broadcasting services are owners of analogue television sets that have a typical replacement cycle 10 years or more.
- (o) The discussion of Free-to-Air, free-access or free-of-charge should not confuse the intended objective of the FTA in the regulation that aimed to provide the current viewers of terrestrial TV analogue broadcast free access under digital broadcasting at the discretion of the CSP. This spirit need be maintained irrespective of the terminologies. Hence, means to achieve this has to be considered.