



COMMENTS BY

DEN NETWORKS LIMITED

ON THE PRE CONSULTATION

PAPER ON -

“SET TOP BOX

INTEROPERABILITY”

1. Preamble

We at **DEN Networks Limited** thank the Telecom Regulatory Authority of India (the Authority) for providing us an opportunity to submit our comments/ response on the Pre Consultation Paper on “Set Top Box Interoperability” dated 4th April, 2016 as issued by the Authority.

2. Response

As being noted by the Authority in its Paper, it is agreed that the interoperability of equipments meant for consumers plays an important role for the growth of any sector and the consumers of today's era have tasted the freedom due to interoperability of Mobiles and Personal Computers. But the same is not the case with Set Top Boxes (STBs) in the Broadcasting & Cable TV sector. The same STB cannot be used interchangeably across the different service providers. Although all STBs used for Pay- TV services perform essentially the same functions – they remain distinct from each other, as if they were different equipment. The non- interoperability of STBs between different service providers has not only compromised the competition in the Pay - TV market but also a major hindrance to technological innovation, improvement in service quality and sector growth. Besides this, since service providers are giving huge subsidy to the consumers for providing STBs, the interoperability of STBs in such a scenario would reduce the burden of subsidy to great extent.

However, on the contrary, it should be kept in mind that interoperability of STBs may pose certain benefits which are visible today but the same is also coupled with various challenges & limitations on which the entire sector needs to work out.

As already known, the Cable TV service providers, especially the Multi System Operators (MSOs) have already invested thousands of crores of rupees on procurement of STBs for seeding in Phase III & IV markets and have already deployed substantial boxes in Phase I & II markets, which if requires any change in terms of technology will badly affect the financial state of affairs of MSOs as it would be very much difficult for the MSOs to replace the existing STBs with new interoperable boxes and will be a mammoth exercise involving huge deployment of manpower and funds at large level. Accordingly, if any attempt is made to make the STBs interoperable, that should be tried & tested on new boxes post completion of Digitization in India. The existing boxes and the ones which are already in



pipeline need not be brought under the ambit of proposed regulatory regime till the time Digitization gets completed in India.

We would further like to invite the attention of the Authority towards an Order passed by Hon'ble Telecom Disputes Settlement & Appellate Tribunal dated 3rd June, 2011 in Petition No. 60 (C) of 2010 in the matter of Tamilnadu Progressive Consumer Center Vs. Ministry of Information & Broadcasting & Ors., taking into the account the compliance of the directions made therein with respect to amendment of law and various legal provisions as required, which has been duly observed in the said Order.

Thus, in view of the above, our response on the issues raised in the Paper is given below:

- i. What are the concerns that should be taken care of at the time of development of framework of interoperable of STBs?**
 - a. We would like to state to the Authority that at present, different types of Condition Access System (CAS) are available in the market which should be taken into consideration as different CAS have diverse features/ working in terms of Value Added Services, Video On Demand, Hybrid Functionality, Over The Top services etc.
 - b. Different compression standards, transmission, CAS and middleware have proprietary technologies that are the major hindrance in interoperability. All Middleware(s) works in different ways and they have different features set for the consumer. Further, the operators have different compression technique and hence, it is not possible to use a MPEG 2 STB on a signal which has the MPEG 4 compression technique. Currently, the MSOs have dissimilar CAS systems and hence, the interoperability of the current deployed base is also not feasible and the same also applies on the STBs which have already been manufactured by the manufacturers/ vendors.
 - c. Chipset Keys are operator specific and it will be hard to manage the Chipset Keys of number of operators by a CAS vendor. In addition to this, the STB Keys responsible for activation of the box will also have to be imported from one CAS to another CAS which should be monitored by any government organization to avoid inconsistencies.
 - d. Common Interface (CI) slot in Direct-to-home (DTH) sector in India and other solutions world-wise have not been successful, while all the STBs deployed in DTH market are having Conditional Access Module



(CAM) slot but still the consumer does not use this feature as the cost of CAM is nearly equivalent to the cost of a STB.

ii. What are the techno-commercial reasons for non-interoperability of STBs other than those mentioned by TRAI?

- a. In this regard, it is necessitated to ensure that the overall cost of making STBs interoperable should be commercially viable. For an e.g., if an example of DTH is taken, then the cost of procuring a new STB & the cost of using a CAM module for making the existing STB interoperable is same, hence instead of using old STB on new operator with new CAM the consumer will either remain with the existing operator or will go with new the STB of another operator.
- b. It has been observed in the past that CI slot in DTH in India has not remained successful due to high cost of CAM module & hence, instead of the CAM solution, the CAS vendors should provide a low cost feasible solution to the service providers.
- c. Every CAS vendor has unique methods of Entitled Management Message (EMM) and Entitled Control Message (ECM) encryption. ECM and EMM messages are carried in an encrypted form by all the vendors. It will be difficult to expose the EMM of one CAS to another CAS as the EMM/ ECM is being used for unauthorized access of content. It will increase the possibility of hacking of STBs by any CAS vendor.
- d. For interoperability of the STBs, symulcript of the CAS available in India must be done by all the MSOs, since a lot of bandwidth is required for carouseling the EMM & ECM and hence the cost of the link, devices used for compression and transmission of the signal will get increased.
- e. Currently, an MSO is able to choose a CAS vendor and negotiate with it on the basis of the features and level of security such vendor provides to an MSO. However, if all the CAS vendors will have common features & security levels, there will be no such options to choose from and every MSO may partner with a single CAS vendor which may lead to monopolistic situation being enjoyable in the hands of such CAS vendor.

iii. What are the plausible solutions for technical interoperability of STBs and their impact on the sector growth?

- a. We would like to suggest that in order to make the STBs interoperable, all the MSOs will have to come together and adopt a common technology to take this concept forward in terms of compression, CAS and signaling.
- b. Further, the majority of the Cable business at present is Business to Business i.e., B2B and an MSO provides the signal to a distributor or a cable operator. Hence, the interoperability at ground can be derived only by a cable operator/ distributor. Therefore, if any consumer wants to interoperate his STB, then the concerned cable operator must have the signal of another MSO on which the consumer wants to migrate. However, again maintaining the signal of all the MSOs in a particular region by a cable operator is also unrealistic.

iv. Any other issue which may be felt relevant for development of technical interoperability of STBs.

- a. While making efforts to make the STBs interoperable, it should also be considered that how an MSO/ DTH operator would be able to differentiate its product from the competitors in an era of interoperability or standard CAS and Middleware. If all the MSOs will have the same features and the security level, then the competition in the Cable market for giving the best services may get diminished. It may further create the hurdles for some CAS vendors to come up with future roadmap in the form of feature development and the services to the consumers.

We hope that the Authority will surely consider the afore-mentioned comments made by us and will accommodate the same while implementing the new regulatory regime in this regard.

Additionally, in case of any queries or clarification required by the Authority, we further request the Authority to contact Mr. Rajkumar Varier – Group General Counsel @ Rajkumar.varier@denonline.in or Mr. Lalit Taneja – Assistant Manager – Legal @ Lalit.taneja@denonline.in.