Comments - Consultation Paper On Interoperability of Set Top Box

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INTRODUCTION

At the Outset we would like to thank the authority for publishing Consultation Paper on Interoperability of Set Top Box and giving us an opportunity to furnish our comments. We are of the firm opinion that Set Top Box (STB) interoperability would go a long way in easing the burden on the subscriber and enhancing the subscriber experience even when the subscriber migrates from one service provider to another service provider. It is also pertinent to mention here that with evolution of new technologies like OTT and connected devices, the STB interoperability can be easily achieved with the DRM security technologies. So while addressing the issue of STB interoperability, the same has to be addressed in a comprehensive manner covering all aspects.

Q1. IN VIEW OF THE IMPLICATIONS OF NON-INTEROPERABILITY, IS IT DESIRABLE TO HAVE INTEROPERABILITY OF STBS? PLEASE PROVIDE REASONING FOR YOUR COMMENT.

Ans: We in principle agree with the authority on interoperability of STB, there are however a few technical challenges in the execution of STB interoperability. Many subscribers are currently stuck with their existing service providers simply because they have invested in buying expensive set-top boxes and do not wish to re-invest in buying new ones with the new service provider.

Q2. LOOKING AT THE SIMILAR STRUCTURE OF STB IN CABLE AND DTH SEGMENT, WITH DIFFERENCE ONLY IN THE CHANNEL MODULATION AND FREQUENCY RANGE, WOULD IT BE DESIRABLE TO HAVE UNIVERSAL INTEROPERABILITY I.E. SAME STB TO BE USABLE ON BOTH DTH OR CABLE PLATFORM? OR SHOULD THERE BE A POLICY/REGULATION TO IMPLEMENT INTEROPERABILITY ONLY WITHIN A PLATFORM, I.E. WITHIN THE DTH NETWORK AND WITHIN THE CABLE TV SEGMENT? PLEASE PROVIDE YOUR COMMENT WITH DETAILED JUSTIFICATIONS.

Ans: The MSO's use DVB-C modulation whereas the DTH operators has to use DVB-S / S2 modulation technique. The tuner component in the STB will be different for respective type of modulation. The STB manufacturer should be mandated to supply the STB having capability of both types of tuners so that same box can be used for either type of modulation. This will result in increase in the cost of the STB.

Q3. SHOULD INTEROPERABLE STBS BE MADE AVAILABLE THROUGH OPEN MARKET ONLY TO EXPLOIT BENEFITS OF COMMODITIZATION OF THE DEVICE? PLEASE ELABORATE.

Ans: We are of the opinion that white labeled STB's being interoperable made available in open market will induce lot of competition across operators. The LCO's may tend to change their MSO without following due procedure laid down in regulations or clearing outstanding dues to the MSO. There should be a provision against misuse of STB interoperability by LCOs. There should be legal provision to protect the MSO area of operation.

Q4. DO YOU THINK THAT INTRODUCING STB INTEROPERABILITY IS ABSOLUTELY NECESSARY WITH A VIEW TO REDUCE ENVIRONMENTAL IMPACT CAUSED BY E-WASTE GENERATED BY NON-INTEROPERABILITY OF STBS?

Ans: We agree that that introducing STB interoperability is necessary and will go a long way in reducing the environmental impact caused by e-waste.

Q5. IS NON-INTEROPERABILITY OF STBS PROVING TO BE A HINDRANCE IN PERFECT COMPETITION IN DISTRIBUTION OF BROADCASTING SERVICES? GIVE YOUR COMMENTS WITH JUSTIFICATION.

Ans: We would like to submit that Digital STB technology was introduced two decades earlier, the existing CAS and subsequent systems are still being used with the traditional way of content encryption. Non-interoperable of STB's are indirectly making a customer stick to the same service provider for long duration. The customer has to spend additional money in buying a new STB if he has to change the service provider.

Q6. HOW INTEROPERABILITY OF STBS CAN BE IMPLEMENTED IN INDIAN MARKETS IN VIEW OF THE DISCUSSION IN CHAPTER III? ARE THERE ANY SOFTWARE-BASED SOLUTION(S) THAT CAN ENABLE INTEROPERABILITY WITHOUT COMPROMISING CONTENT SECURITY? IF YES, PLEASE PROVIDE DETAILS.

Ans: The Trust Agency (C-DOT) being a nodal to the functioning and single point of success or failure of the ecosystem, any glitch or bug in the security system might impact all the boxes in the country and is potential threat to the content security.

Since all the conventional STB are of one-way communication and do not support the two-way communication, it is difficult to implement software-based security. It is suggested to offer STB's

with two-way communication systems (over WiFi or dongle), it will enable the operators to deploy the software-based security systems like DRM.

In our view, instead of forcing the existing one-way communication Cable/DTH STB technology, there should be new regulations framed for emerging technology for distributing the content over the air, on new technology like OTT box. These boxes being internet connected works on two-way communication and uses standard / popular operating Systems hence, there is no dependency on the specific MSO provided STBs. The content can be made available on this boxes just by installing a specific operator APP.

Q7. PLEASE COMMENT ON THE TIMELINES FOR THE DEVELOPMENT OF ECO-SYSTEM TO DEPLOY INTEROPERABLE STBS FOR YOUR RECOMMENDED/ SUGGESTED SOLUTION.

Ans: We are of the opinion that this would need active participation from all the stakeholders in the entire eco system to pilot the project. Since there are multiple industry contributors or stakeholders, the timelines would have to be worked out in a joint sitting.

Q8. DO YOU AGREE THAT SOFTWARE-BASED SOLUTIONS TO PROVIDE INTEROPERABILITY OF STBS WOULD BE MORE EFFICIENT, REDUCE COST OF STB, ADAPTABLE AND EASY TO IMPLEMENT THAN THE HARDWARE-BASED SOLUTIONS? IF SO, DO YOU AGREE ETSI GS ECI 001 (01-06) STANDARDS CAN BE ADOPTED AS AN OPTION FOR STB INTEROPERABILITY? GIVE YOUR COMMENTS WITH REASONS AND JUSTIFICATIONS.

Ans: We in principle do agree with the authority proposing software-based solutions to provide interoperability of STBs over Hardware based solutions. We also agree that ETSI GS ECI 001 (01-06) standards can be adopted as an option for STB interoperability. Since ECI specifications provide significant freedom for making technical implementations, enables the ecosystems to make their own choices on how to implement certain features, it is a better choice.

However, we feel that the cost of the STB, with the proposed software based solutions might be higher in the shorter term. But with increased adoption, the cost might decrease in the longer term.

 Some Security Solutions like DRM can help in

   a) ensuring viewing rights are tracked.
   b) Access is controlled and secured during production processes.
   c) Protection for the content extends throughout product lifecycles.
   d) The technologies like watermarking will provide additional security to trace the source of piracy.
   e) The SW based solution can be integrated and made available in an app which can be installed in compatible STBs.
   f) Instead of traditional CAS which works on one-way communication, software-based DRM security systems are more flexible.

Q9. GIVEN THAT MOST OF THE STB INTEROPERABILITY SOLUTIONS BECOME FEASIBLE THROUGH A COMMON AGENCY DEFINED AS TRUSTED AUTHORITY, PLEASE SUGGEST THE STRUCTURE OF THE TRUSTED AUTHORITY. SHOULD THE TRUSTED 65 AUTHORITY BE AN INDUSTRY LED BODY OR A STATUTORY AGENCY TO CARRY OUT THE MANDATE?

PROVIDE DETAILED COMMENTS/ SUGGESTION ON THE CERTIFICATION PROCEDURE?

Ans: We feel that the Trusted Authority (TA) should have both statutory agencies and the industry leaders as its members, as this would help in evenly balancing the business and statutory requirements.

Authority should ensure that industry leaders and other players who are part of TA should go through a mandatory certification program to become a member of TA, minimum qualification criteria should be fixed by the Authority.

Q10. WHAT PRECAUTION SHOULD BE TAKEN AT PLANNING STAGE TO SMOOTHLY ADOPT SOLUTION FOR INTEROPERABILITY OF STBS IN INDIAN MARKET? DO YOU ENVISAGE A NEED FOR TRIAL RUN/PILOT DEPLOYMENT? IF SO, KINDLY PROVIDE DETAILED COMMENTS.

Ans: The concept must be tested in a POC environment with a few industry leading MSOs and operators. We feel that such a testing would give confidence to all the stakeholders concerned. There are hundreds of MSO's who have invested and running their operations with the traditional eco system. The new methodology of interoperability will need additional capex investment by the MSOs. If the TA is going to issue the keys and licenses for the STB, the operational expenses for the operator needs to be taken into consideration..

Q11. INTEROPERABILITY IS EXPECTED TO COMMODITIZE STBS. DO YOU AGREE THAT INTRODUCING WHITE LABEL STB WILL CREATE MORE COMPETITIONS AND ENHANCE SERVICE OFFERINGS FROM OPERATOR? AS SUCH, IN YOUR OPINION WHAT COST REDUCTIONS DO YOU FORESEE BY IMPLEMENTATION OF INTEROPERABILITY OF STBS?

Ans: The white labeled STB's being interoperable will induce lot of competition across operators and as it can be provided by multiple STB vendors the prices of boxes will be competitive and is likely to come down.

Q.12 IS THERE ANY WAY BY WHICH INTEROPERABILITY OF SET-TOP BOX CAN BE IMPLEMENTED FOR EXISTING SET TOP BOXES ALSO? GIVE YOUR SUGGESTIONS WITH JUSTIFICATION INCLUDING TECHNICAL AND COMMERCIAL METHODOLOGY?

Ans: We are of the firm opinion that it is not practically possible to make the existing STB interoperable due to all the technical parameters and constraints as mentioned in the consultation paper.

The STB are manufactured with specific Chipset (SOC) / RAM and associated hardware configurations. Since the STB have longer life of operations, during this period these chipset support has become obsolete. It will be practically difficult to upgrade the boxes already in the market.

Q13. ANY OTHER ISSUES WHICH YOU MAY LIKE TO RAISE RELATED TO INTEROPERABILITY OF STBS

Ans: Currently there are quite a few Value-Added Services (VAS) provided by the operators are becoming their USP. The features such as Video on Demand, Hybrid STB for internet and data browsing, OTT content delivery, TV everywhere feature support developed specifically by the operator will work only on their own STB hardware and software.

The point to be noted here that when a customer wish to change the operator, he/she will not be able to access / use these Value added services after migrating to a new operator.

It is very important to keep in mind that there are currently approx. 85 Million STB's deployed across operators pan India. Any recommendations or regulations would impact these STBs.

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