

**TIMES NETWORK'S COMMENTS ON  
CONSULTATION PAPER  
ON  
INTEROPERABILITY OF SET TOP BOX  
ISSUED BY TELECOM REGULATORY AUTHORITY OF INDIA ON  
NOVEMBER 11, 2019**



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## **( Without Prejudice )**

### **Introduction :**

It is desirable that the STBs being used by TV viewers are interoperable so that a viewer can freely move from one service provider to another without worrying about the change of equipment. The consultation process initiated by the Authority is a welcome step in this direction. The Authority has rightly pointed out that though there is a de-jure technical interoperability but there is de-facto technical non-interoperability. Despite presence of provisions relating to interoperability in the existing DTH Guidelines, the concept has not yet found a firm ground in practice. There could be various reasons for the same. The encryption of the TV signals which is done by the broadcasters are unencrypted by the Distribution Platform Operators (DPOs) and then they are re-encrypted and re-transmitted so as to ensure that the signal is encrypted till the time it reaches the customer and is only decoded by the STB. The CAS system and SMS systems are paired with the STBs so that there are minimum chances of unauthorized access or piracy of the content. Such pairing / embedment is primarily resulting into the STBs being unique to the service provider.

With the new regulatory framework in place, the cost of TV services is generally platform agnostic and the consumer is offered the similar kind of costs for TV services. Hence the migration by the consumer from one service provider to another only from cost perspective may be limited. There may be other factors like higher channel carrying capacity, carriage of some favourite channels, differentiating platform services, advanced technology, good service support etc. which the customer may consider for changing his service provider.

It may be noted that the cost of the STB in the CPE is not very high. Still, the consumer may not like to spend this money again and this may become a hindrance in the effective migration of service provider.

Having said that, however the STB portability should not be compared with the Mobile Number Portability (MNP) as in MNP, a consumer is actually concerned about retaining his existing contact number whereas no such concern is there in case of STB portability. Here it is only the cost which is mainly the matter of concern apart from the hassles of re-installation.

The introduction of STB interoperability would require a number of technological as well as operational changes thereby fostering the need to further introduce content security provisions and anti-piracy mechanisms. At the same time, it would need to be seen that the expenditure incurred in acquainting the STBs with interoperability features, does not gets irrationally passed on to the consumers and that they are not burdened with the increased costs incurred on the above or the cost of STBs goes up substantially.

The regulatory provisions would also need to ensure that the security of the CAS, SMS and other related addressable systems of the Distribution Platform Operators is not compromised and is not susceptible to piracy. The security of the Broadcaster's content also needs to be ensured thoroughly in the entire distribution chain.

As regards the availability of interoperable STBs through the open market, it may not provide the benefits of commoditization as the manufacturing plants of STBs set up in countries like China, Vietnam, Thailand over the last decade have already amortised the cost of the plant and due to intense competition, the STBs are being sold at quite competitive prices. Even otherwise, the DTH operators/large MSOs are the bulk purchasers and enjoy high bargaining power and are able to purchase the quantity in bulk at competitive rate. For e.g. the present price import price of HD STB is USD 15 which may not have much room for further reduction. However efforts can be made to deploy technology in the current manufacturing processes which allows interoperability of the STBs.

With the above premise, we feel that there should be interoperability of the STBs which are being deployed after a cut-off date after giving sufficient time for the back end alignment of manufacturing and procurement processes to the new technical standards so that there are no avoidable wastages in the entire ecosystem. We hereby submit our question wise response to the CP as below:

**Q1. In view of the implications of non-interoperability, is it desirable to have interoperability of STBs? Please provide reasoning for your comment.**

**Comments:**

The consumer should, without worrying about the cost of STB already spent, be free to choose his service provider without any barriers. In view of the consumer interest, there should be a planned approach to move towards interoperability of the STB. A detailed roadmap should be prepared with clear cut timelines so that all the manufacturing and procurements aspects by different players are taken into account and no unnecessary wastages are caused in the system. The present STBs which are already seeded into the market should not be considered for making them compatible for interoperability due to various practical issues and they should continue till their end of life. Only the future STBs which will be manufactured and procured after a clear cut implementation schedule shall be considered for making them interoperable. In other words, any STBs whether required for new connection or for replacement of an existing connection after the implementation date shall be interoperable.

**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.**

**Comments:**

When the alternative technologies are being thought of and considered, such technology should be future ready and should not be restrictive. If there is STB interoperability only within a particular platform, then the same may address the issue of interoperability only

partially and will not meet the desired objectives. The issue needs to be addressed holistically and at once. If there has to be interoperability of the STB, it has to be across platforms and the viewers should be able to switch from one platform to another to have effective migration. To illustrate, a consumer being served by a cable network will not have many options and even if the STB allows interoperability, however the consumer will still be not able to effectively migrate due to availability of lesser alternatives in cable. Hence the real objectives of migration can only be achieved by having STBs which can migrate across platforms.

**Q3. Should interoperable STBs be made available through open market only to exploit benefits of commoditization of the device? Please elaborate.**

**Comments:**

As regards the availability of interoperable STBs through the open market, it may not provide the benefits of commoditization as the manufacturing plants of STBs set up in the countries like China, Vietnam, Thailand etc. over the last decade have already amortised the cost of the plant and due to intense competition, the STBs are being sold at quite competitive prices. Even otherwise, the DTH operators/large MSOs are the bulk purchasers and enjoy high bargaining power and are able to purchase the quantity in bulk at highly competitive rate. Hence there cannot be any additional gains foreseen arising out of commoditization.

**Q4. Do you think that introducing STB interoperability is necessary with a view to reduce environmental impact caused by e-waste generated by non-interoperability of STBs?**

**Comments:**

The argument that e-waste is generated because of non-interoperability of the STBs may not be fully true. The STBs have a short span of life of about 3-4 years. Further there are newer STB with enhanced features which are introduced by the service providers along with latest technology. For example – from standard definition STB to the STB with USB recording feature to high definition STB, the STBs are now moving towards internet enabled STB like the Android STBs. There are certain STBs which offer RPD and deployed by service providers to collect TV viewing data.

The STBs are keeping pace with development of technology to enhance user experience. Hence the user himself may not be very keen to retain his old STB after a period of time as the service cost will be comparatively higher. More so at the time of migration to a new service provider, a user likes to go for an upgraded STBs to avail the latest features.

Hence it cannot be said that non-interoperability of the STBs is generating e-waste. The e-waste is the outcome of the short lifespan of STB and more so due to technological advancements and the consumer aspirations to align himself with latest technology. This is a phenomenon with the all the consumer electronic goods and there should be an e-waste policy to deal with this.

**Q5. Is non-interoperability of STBs proving to be a hindrance in perfect competition in distribution of broadcasting services? Give your comments with justification.**

**Comments:**

In our view, this assumption is not correct. With the new regulatory framework in place, the cost of TV services is platform agnostic and the consumer is generally offered the similar kind of costs for TV services. Hence the migration from one service provider to another by a consumer only for cost considerations may be limited. There may be other factors like higher channel carrying capacity, carriage of some favourite channels, differentiating platform services, advanced technology, good service support etc. which may be the factors which the customer may consider for changing his service provider. The interoperability of STBs will have a limited role in deciding the migration of consumer from one service provider to another. One more point to be noted is that the DPOs are generally subsidizing the cost of STB and other CPE for customer acquisition. Hence the entire cost of STB is not recovered from the consumer at the time of installation and it is recovered over a period of time from the service cost. Hence there is no significant cost for switching and sometimes it is absorbed by the DPOs fully if a subscriber chooses a long term plan say of over one year. Another option could be considered is a compulsory buy-back option for up to a certain period of time by DPOs in case of discontinuation of the service by consumer which will protect the consumer interest.

**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.**

**Comments:**

The experience of STB interoperability in overseas markets has been not fully satisfactory. The same should be endeavoured to be done in the Indian market with caution. The security of the broadcaster's content should be given paramount importance. The broadcasting industry is plagued by the incessant piracy issue and any attempt to make the STB interoperable should not result into increased piracy. Hence the security standards to be implemented for interoperable STBs should be developed accordingly.

**Q7. Please comment on the timelines for the development of eco-system to deploy interoperable STBs for your recommended/ suggested solution.**

**Comments:**

We suggest that the deployment of interoperable STBs should be first made on pilot basis. After successful ground testing during the pilot phase, the same should be considered for implementation in future STBs. Further sufficient time for implementation should be given so that all the players are aligned to the same. Since the entire STB manufacturing depends on long term orders by DPOs, the same needs to be taken care while implementing the same and there should be no abrupt implementation of the new standards which may result

into wastages of existing inventories at any stage whether at manufacturing level or with the service provider.

**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.**

**Comments:**

We are of the opinion that though the software-based solutions to provide interoperability of STBs may prove to be more effective, cost efficient, adaptable and easy to implement than the hardware-based solutions but we feel that the same could be more prone to piracy and wish to re-iterate the importance of the uncompromised security of the CAS, SMS and the entire related addressable system and its insusceptibility to piracy. Further, we re-iterate that the security of the content should be sacrosanct. Any such software based solution should be fool-proof and thoroughly tested prior to implementation.

**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 authority be an Industry led body or a statutory agency to carry out the mandate? Provide detailed comments/ suggestion on the certification procedure?**

**Comments:**

In case the requirement exists for a common agency in form of Trusted Authority (TA)/ Industry Licensing Authority (ILA) it may be considered. However any such Authority should under the aegis of the industry.

**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.**

**Comments:**

The following precautions are suggested :

- There should be no compromise of the CAS, SMS and other related security system in the entire chain of delivery of signal from broadcaster to the end consumer.
- The software based system if envisaged should be fool-proof and should not be subject to manipulation or manoeuvring.
- Only the future STBs should be considered for interoperability.
- The detailed cost benefit analysis may be undertaken.

Further a trial run/ project deployment is suggested before actual roll-out.

**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?**

**Comments:**

As stated above, the availability of interoperable STBs through the open market may not provide the benefits of commoditization as the manufacturing plants of STBs set up in overseas countries over the last decade have amortised the cost of the plant and due to intense competition, the STBs are sold at quite competitive prices. Even otherwise, the DTH operators/large MSOs are the bulk purchasers and enjoy high bargaining power and purchase the quantity in bulk at highly competitive rate and due to the sheer scale of manufacturing, procurement process, the per unit cost is not very high. Further, sometimes the service providers subsidize the cost of CPE including STB for customer acquisition. Hence there cannot be any additional gains foreseen arising out of commoditization. Infact, there may be a situation wherein the service offering from distributors is compromised as there will be another layer of trader who will come into picture and in case of service issues, there can be passing of the buck between one and another, which may put consumer into hassles of co-ordinating with multiple parties for rectification of fault/service and may result in deterioration of services.

In view of the above, we don't foresee any cost reduction by implementation of interoperability of STBs.

**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?**

**Comments:**

The interoperability of existing set top boxes may be technically difficult but even if the same is possible technically, it will involve incurring of additional cost and hassles of re-aligning/re-installation of the installed STBs putting customers to inconvenience. Further there will be a question as to who will bear such costs? Hence we don't foresee any gains arising from such move to any stakeholder rather it will bring in chaos and mismanagement and additional costs without any resultant benefit. Due to technological advancement and short span of life, the rational does not exist for making the existing/deployed STBs as interoperable. Hence the interoperability for existing STBs ( and even those STBs which are available as stock/in manufacturing line on orders of the DPOs ) should not considered.

**Q13. Any other issues which you may like to raise related to interoperability of STBs.**

**Comments:**

The Authority should take a practical view on the subject and should not compare the interoperability of the STBs with the MNP or portability in the telecom sector as the two scenarios are not comparable. Only if it makes economic sense for all the stakeholder and consumer, then the interoperability should be considered for future STBs. It should also be noted that the incremental cost of making the STB interoperable should be minimum so that the cost of STB does not go up substantially thereby defeating the entire purpose.

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