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Subject: Response to counter comment on consulation paper on Technical interoperability of DTH set top boxes dated 20th august 2010.

Dear Sir,

We welcome the opportunity to respond to the telecom regulatory authority of India (TRAI) in the form of a counter comment on consulation paper “Technical Interoperability of DTH Set Top Boxes”.

Please find our response to the consulation paper.

We would definitely like to participate if any further opportunity provided to us to discuss on this issue and looking forward to the new consulation papers in future.

Yours Sincerely

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Please note that the views presented below are solely of the student and not of Institute

1) Is it possible to have open architecture based Set Top Box (STB) for DTH services that could ensure technical interoperability i.e. technical compatibility and effective interoperability among different DTH operators who have adopted same or different standards?

Ans: It is possible to have interoperability between different DTH operators with different architecture based Set Top Box (STB) but this does not hold good for long term scenario and neither it is financially feasible for the customers and that question the implementation of technical operability in its first place. We can support this with the help of following points.

1. To achieve technical interoperability a common interface (CI), unit was proposed in STB which can support different conditional access module (CAM) for different operators. But CAM's cost in market is high and almost equal to the cost of STB therefore it is not beneficial for the customers when they can buy the STB with almost the same price as that of CAM. We can support this with the help of following facts taken from the respective vendor's website.

DTH operator	Cost of CPE	Additional Benefits
Tata Sky	1599	Free installation
Airtel Digital TV	1490	2 months new value pack and free installation
Sun TV	1250	Including activation and installation(Rest of India)
Reliance Big TV	1390	2 months silver pack and free installation
Dish TV	1590	Three months silver pack

Whereas the market price of CAM is close to Rs900 so customer would still prefer to buy a STB rather than buying a CAM.

2. Through Technical Interoperability subscriber can only use the service of other operators by changing the CAM but the other modules of STB like Electronic Program Guide (EPG), the basic text that help to navigate the labyrinth of channel on offer, will remain the same which restrain customers from using several other facilities provided by the new operator.

3. On the other hand if a single STB is made to compete with all different versions of technologies like MPEG2, MPEG4, DVB-S, DVB-S2 etc then the cost of the STB is definitely bound to be high which negate the advantage of Technical interoperability.
4. If all operators start using STB's of same architecture that may leads to production of STB by third vendors due to this the technology will be available in the open market and this may leads to the piracy of STB and the whole system become vulnerable to hacking.
5. As we know from technological point of view only backward compatibility is possible and not the forward compatibility hence STB's with technology like DVB-S2, MPEG4 can support DVB-S, MPEG2 and not vice versa So in future MPEG4 or DVB-S2 may not be able to support the future technology which is still not known.

2) If yes, how can the interoperability be implemented and what would be the implication to the stakeholders?

Ans: As we have stated earlier though technical interoperability is possible but neither it will benefit the customers nor the operators. It will not reduce the cost for customers and will only increase the complexity from operator's point of view.

3) Is there a need to mandate any particular standards so that the objectives of technical interoperability can be achieved? If so, which standard?

Ans: There is no need to mandate any particular standard to achieve technical interoperability because of the following reasons

1. In order to improve the flexibility of STB cost of the same will increase and operators will be bound to charge more from customers.
2. If we follow a particular standard for manufacturing all STB then we need to change our whole system even for the minute change in the technology.
3. Following a mandated technology will hinder further adoption of new technology.
4. Original cost of the Set Top Box is more than what is offered to the customer hence operators now days charge this difference in the form of monthly rental in coming months but if any technology is mandated then all the operators will use same STB architecture that will lead to increase the churn rate and

operator may have to suffer loss So in order to compensate the losses they will charge higher amount initially.

4) If technical interoperability for STB is not possible, is there any other mechanism to safeguard the interests of the subscriber.

Ans: Since Technical interoperability is not a viable option for the subscriber as well as operator. The Operator may go for the Commercial interoperability. In this case if the subscriber wants to move from one operator to another then he can return the STB to the previous operator and get back the money which was agreed upon initially. Commercial interoperability will also benefit the customer if he wants to move to cable TV or IPTV in future. For this purpose there should be a mandate law which ensure that customer get a fixed portion of amount back which was incurred in buying the CPE earlier.

5) Any other relevant issue that you may like to mention or comment upon.

Ans: NA