



## **COMMENTS ON TRAI CONSULTATION PAPER No 20/2016**

### **INFRASTRUCTURE SHARING IN BROADCAST TV DISTRIBUTION SECTOR**

#### **SOCIETY OF CABLE TELECOMMUNICATION ENGINEERS INDIA**

##### **Introduction SCTE**

SCTE India, have the honour to communicate the establishment of SCTE India chapter. A brief introduction about SCTE is as under:-

- **The Society of Cable Telecommunications Engineers or SCTE**, founded in 1945, is a non-profit professional association for the advancement of technology related to cable telecommunications engineering.
- SCTE is the premier membership organization for technical cable telecommunications professionals. SCTE member benefits, technical training courses, certifications, and information resources focus on providing professionals on every level of the industry with the tools needed to develop and advance their expertise. By connecting members from cable operators and vendors through a wide-range of programs and events, SCTE strengthens relationships and promotes technology-focused thought leadership.
- **Indian chapter** of SCTE intends to
  - (a) Promote professional and technical accomplishments of individuals working in cable telecommunications and related industries, and provide opportunities to recognize their accomplishments.
  - (b) Promote the communication on issues of technical and/or mutual concern between cable telecommunications and broadband communication industries and: (1) the state cable television associations within the local chapter or meeting group's geographical area; (2) radio, television, and similar broadcast industries; (3) the TV viewing public; (4) the users of cable telecommunications and broadband communications systems; and (5) various related agencies - both public and private.
  - (c) Hold meetings devoted to the discussion of technology related matters, the reading of papers, the interchange of ideas and other such activities that will advance the local chapter or meeting group and the Society's objectives; and promote the cable television and broadband industry.
  - (d) Promote, encourage and support SCTE meetings, seminars, and trade shows with the express purpose of training individuals working in the cable telecommunications and broadband communications industries.
  - (e) Actively participate in the promotion of and training and testing for SCTE Certification Programs.
  - (f) Promote and encourage membership and active participation in the Society of Cable Telecommunications Engineers India.
- SCTE India intends to serve as the technical leader by guiding through initiatives and standards aimed at improving the quality of work and advancing technologies as well as sustaining and diversifying the industry in the spirit of DIGITAL INDIA.

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- This new professional society can assist in audits of Networks performance too.

#### **Observations on Infrastructure sharing envisaged in the Consultation Paper.**

India, in DIGITAL INDIA context, has over 120 million TV homes in uni-directional wireline broadcast networks which, if made bi-directional, can catalyze broadband delivery into the residential segment at marginal investments and diluting the digital divide since Internet can also be viewed on domestic RV receivers.

Our studies have revealed that wireline broadcasting networks, largely uni-directional CATV networks, have been erected in the SOMEHOW CONNECT practice. They are NOT designed, engineered and commissioned professionally. The reason is that broadcast engineering in general, and wireline broadcasting in particular is NOT taught in India. The service having been established with total private investments has seriously lacked the desired technical management, including but NOT limited to training. While HSPs(Headend Service Providers) have somewhat corporatized commercially the Headend and Network Management lacks all that is desired.

The TV content delivery infra structure comprises of ONE Content Aggregation facility (turnaround, encoding, encryption, multiplexing, viewing entitlements, modulation, combining, frequency conversion where required, transmission over terrestrial HFC in CATV or uplink to satellite in DTH or HITS), TWO content transport on earth surface i.e HFC and THREE servicing subscriber who contributes for the business.

The aggregation facility has been a layered installation in case of CATV headends using many brands of hardware. In DTH and HITS these are in a better shape since erected in one go.

The surface transport segment (not applicable to DTH) is built on SOMEHOW connect philosophy without strand design and RoW. This is also attributable to lack of accredited training facilities in India. SCTE India intends to fill that void through training, help in standardization( UK Chapter is associated in drafting standards) and system audits because of experience gathered over 70 years .

For any infrastructure sharing **formal corporate agreements** will be required and assessment of network conformity to standards in lay-out and monitoring feasibility along entire route.

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This will be necessary for valuation of assets under agreement. Broadly, the following will require scrutiny :

- (a) Headend/Earth Station layout and conformity to good engineering practices, including but not limited to un-interrupted operations 24x365, and redundancy for all sub-systems.
- (b) As far as extending Aggregation facility of DTH operators is concerned it shall require amendment to guidelines to delete "without an intermediary like a Cable Operator". HITS will not be affected because that clause is NOT applicable to HITS Operator.
- (c) Strand examination for strand design, layout, supports, grounding/bonding and RoW. In this segment, with consolidation of Headends to save CAPEX and OPEX, long hauls fibre of TELCOs, GAIL, Railways etc and edge fibre of Cable Operators shall be clubbed. Engineering of entities other than Cable Operators would conform to good engineering practices but that cannot be vouched for cable operator segment.

### **ANSWERS TO ISSUES FOR CONSULTATION INFRASTRUCTURE SHARING CP 20/2016**

#### *Infrastructure sharing among Cable TV and HITS operators*

- (1) **Is there a need to enable infrastructure sharing among MSOs and HITS operators, or among MSOs? It is important to note that no mandate for such infrastructure sharing is being proposed.**

Provided MSOs and their Cable Operators are willing to improve the networks and technical documentation somewhat like TELCOs in India or DTH Operators.

- (2) **Which model is preferred for sharing of infrastructure among MSOs and HITS operators, or among MSOs? Kindly elucidate with justification.**

Model 1

#### *Infrastructure sharing among DTH operators*

- (3) **Is there a need to enable infrastructure sharing among DTH operators?**

No

#### *Relevant issues in sharing of infrastructure*

- (4) **What specific amendments are required in the cable TV Act and the Rules made there under to enable sharing of infrastructure among MSOs themselves? Kindly elucidate with justification.**

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First this term MSO shall have to be scrapped. They should be called Headend Service Providers because they are NOT providing Multi-Services (only multi program, multi RF channels uni-directional transport streams). Next connotation of channels ( RF channel 7 or 8 MHz wide in spectrum 47-862 MHz) shall have to be reinforced with new definition Program (which in analog was synonymous with channel since each program occupied one RF channel and is no more the case in digital compression)

- (5) What specific amendments are required in the MSO registration conditions and HITS licensing guidelines in order to enable sharing of infrastructure among MSOs and HITS operators? Kindly elucidate with justification.**

At present Cable TV networks Regulation Act 1995 Amendment 2011 does not encompass HITS (Operating under MIB Guidelines and NOT a legislated statute). This will have to be brought under Cable TV Act with provision for providing digitised content to Cable TV Headend Service Providers without content encryption and facilitating encryption at HSP Location with SMS.

- (6) What specific amendments are required in the guidelines for obtaining license for providing DTH broadcasting service to enable sharing of infrastructure among DTH operators? Kindly elucidate with justification.**

Delete words 'without an intermediary' like a cable operator and say inclusive of an intermediary like an HSP..

- (7) Do you envisage any requirement for amendment in the policy framework for satellite communication in India to enable sharing of infrastructure among MSOs and HITS operators, and among DTH operators? If yes, then what specific amendments would be required? Kindly elucidate with justification.**

No

- (8) Do you envisage any requirement for amendments in the NOCC guidelines and WPC license conditions relating to satellite communications to enable sharing of infrastructure among MSOs and HITS operators, and among DTH operators? If yes, then what specific amendments would be required? Kindly elucidate with justification.**

Infra structure sharing envisages savings in CAPEX and OPEX for content aggregation. NOCC and WPC deal with wireless communication segment of HIS and DTH. Cable TV networks being wireline, non-radiating, do NOT attract any such change.

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- (9) What mechanisms could be put in place for disconnection of signals of TV channels of defaulting operator without affecting the operations of the other associated operators with that network after implementation of sharing of infrastructure among MSOs and HITS operators, among MSOs, and among DTH operators? Kindly elucidate.**

Every IRD is addressable. For HSPs, Broadcaster can disable reception by those IRDs. For HITS, if receiving earth consoles can be made addressable like an STB in Cable TV network.

- (10) Is there any requirement for tripartite agreement to enable sharing of infrastructure among MSOs and HITS operators, among MSOs, and among DTH operators? Kindly elucidate with justification.**

No.

- (11) What techniques could be put in place for identification of pirates after implementation of sharing of infrastructure among MSOs and HITS operators, among MSOs, and among DTH operators? Kindly elucidate.**

Anti-piracy prosecution procedures have to be standardized to make them authentic technically. Modes in practice abroad by professional piracy detection can be adopted.

- (12) Is there any need for further strengthening of anti-piracy measures already in place to enable sharing of infrastructure among MSOs and HITS operators, among MSOs, and among DTH operators? Kindly elucidate with justification.**

End users i.e. subscribers are NOT hackers in India. Generally piracy is indulged by cable operators when addressability is NOT implemented in the letter and spirit of the statute. Small Headend Operators who were running FTA services, or new entrant operators in remote take 15 or 20 DTH connections, use cheap modulators and distribute popular programs over small networks(say 200 to 500). Such piracy is generally reported by observers or rivals to broadcasters who employ locals to verify and collect screen snap shots with finger prints for prosecution. There are enough measures to guard against this. Hence no need.

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**(13) Is there a requirement to ensure geographically targeted advertisements in the distribution networks? If yes, then what could be the possible methods for enabling geographically targeted advertisements in shared infrastructure set up?**

No !. In uni-directional service where DAS is not correctly implemented, neither impulse buying cannot be expected nor is viewing log prepared at headend due to absence of return path. Hence this would serve no purpose..

**(14) Whether it is possible for the network operator to run the scrolls and logo on the specific STBs population on request of either the broadcaster or the service delivery operator after implementation of sharing of infrastructure among MSOs and HITS operators, among MSOs, and among DTH operators? If yes, kindly elucidate the techniques.**

Yes CAS and SMS if correctly ordered and installed have the feature of global or individual messaging. Hence such scrolls are feasible.

**(15) Whether implementation of infrastructure sharing affects the differentiation and personalization of the TV broadcasting services and EPG? If yes, then how those constraints can be addressed? Kindly elucidate with justification.**

It would. Imagine an HSP in TAMIL NADU extending services in West Bengal with EPG in Tamil. Perhaps constituting EPG in ENGLISH only may partially address the issue. But that would have to be mandated. The practical solution is share infra structure for digitization without encryption in core network, encryption and SMS at edge network.

**(16) Whether, in your opinion, satellite capacity is a limiting factor for sharing of infrastructure? If yes, then what could be the solutions to address the issue?**

For DTH and HITS yes. For CATV – NOT APPLICABLE

#### *Sharing of CAS and SMS*

**(17) Is there a need to permit sharing of SMS and CAS?**

No !

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- (18) If yes, then what additional measures need to be taken to ensure that SMS data remain accessible to the tax assessment authorities and Authorized officers as defined in the Cable TV Act for the purpose of monitoring the compliance with relevant the Rules and the Regulations?**

NA since reply above is NO!

- (19) Whether sharing of CAS can in any way compromise the requirement of encryption as envisaged in the Cable TV Act and The rules and the regulations.**

All encryption algorithm can be hacked in time and effort. Once hacked by a partner, nothing prevents its piracy elsewhere.