

COMMENTS ON TRAI CONSULTATION PAPER No 7/2016

Infrastructure sharing in Broadcasting TV Distribution Sector

Lt Col VC Khare (Retd) Cable TV Industry Observer)

Another Layer on Consultation Paper Contents

1. As far as Cable TV is concerned, Headends 47-862 MHz spectrum netcasts only 106 RF channels whether in analog or digital content distribution and NOT 350. All carriers are analog. In analog content transmission each PROGRAM occupied one RF channel(7 or 8 MHz) wide totalling up to 106 numbers.(*In DAS vocabulary also term program is used for description of content NOT channel*)
2. Last mile medium for delivery of TV content, by Cable Operators, DTH or IPTV, prior to TV set is copper (Coaxial Cable or Cat5).
3. Cable TV is NOT treated as BROADCAST TV by the MIB.
4. Broadcast Engineering, in general, and wireline broadcast engineering, in particular, is NOT in schedule of any engineering college. Hence deemed NOT taught in India.
5. Out of 6000 Headends in CATV business, unlike DTH, HITS or IPTV, the installation has been gradual from 550 MHz to 750 MHz or 862 MHz population. Hardly any thought has been given to cable routing considerations, rack layouts, grounding, isolation, operating conditions, captive power, servers configuration etc. etc. Most headends therefore present a layered/squeezed layout, often not conducive to rational signal flow. The reason being that vendors have negotiated bill of materials and installed the set up with operating technicians notionally involved in installations. That manpower too has changed jobs and drifted away.
6. As against this, DTH and HITS operators issued a BRS (Business Requirement Statement) based RFP(Request for Proposal) and orders were placed after detailed discussions/negotiations.
7. IPTV, so far, has remained largely confined to TELCOS, using ADSL distribution terminating fibre into DLCs(Digital Loop Carriers) with 240 ports MDF feeding CAT5 to IDFs and into dwelling units. IPTV has NOT appealed to land line telephone subscribers due to (a) heavy radius of operation reduction when more than one TV is switched on (b) latency in program surfing in UNICASTS more than MULTICASTS.
8. EoC(Ethernet over Coax) has not picked up because of difference in business attitudes of Corporatized TELCOs and un-organized CATV service providers.
9. TELCO's wireline has licensed RoW both for overhead and underground layouts with proper anchorage, closets and grounding.
10. Uni-directional CATV networks followed SOMEHOW connect philosophy without authorized RoW and hence are defacto encroachments with all strand engineering norms flouted.

COMMENTS ON TRAI CONSULTATION PAPER No 7/2016

11. It is therefore necessary to keep these variations in mind while commenting on this paper.
12. Essentially, therefore, elements of TV content distribution in wireline medium are HSP(Headend Service Provider)/DPO/MSO, the physical wireline (fiber with copper inclusive) and the subscriber(as viewer and source of revenue)
13. In CATV segment, DTH and HITS inclusive, Headend/Earth Station is registered with MIB to perform technical functions of turnround, encoding, encryption, multiplexing, modulation, combining, subscriber management and transmission of aggregated program transport stream to subscribers.
14. The Network operators in CATV are registered with Deptt of Posts. In TELCOs this is NOT a separate category. What is common is that program transport stream can not be tampered with once it leaves Headend/Central Office.
15. Longhaul optical fiber layouts are largely owned by TELCOs with restrictions on leasing dark fibre.
16. Hence the discussion in this paper would get confined to sharing of turnround of TV content and the distribution (HFC i.e. Hybrid Fibre Copper).

The Turn Round Aggregation

17. The Headend/Central Office should be professionally constructed with scope for expansion/upgradation. Each such facility should be able to drive core and edge networks terminating into subscriber premises. Such facilities should be capable of running entire country from one such facility only. Such a facility could also up link the content to satellites for HITS and DTH too. In fact such a facility can free up transponder space on the satellites being used by DTH and HITS operators.
18. Such facility should also include stout CAS and SMS supported by empathetic customer care.
19. 4 to 6 such facilities could be got constructed and integrated.
20. The sharing suggestion would tantamount to closing a number of Headends on understanding that CAPEX and OPEX for 'state of the art' headend shall be shared, content shall be transported by QAM to IP conversion at Central Headend , long haul fiber bringing program stream shall terminate at location of closing down headend, IP to QAM conversion will take place, including but NOT limited to change in program mapping and sent on HFC to existing Cable Operators by from the HSP.

Distribution Networks

21. These would comprise of National Trunks and terrestrial Edge Networks properly engineered and maintained at National Level as central networks and comprise of fibre long hauls only..

COMMENTS ON TRAI CONSULTATION PAPER No 7/2016

- 22 The fibre from Edge Network could terminate into a Cable Operator's proximity node or on to a DLC. Both feeding FTTP, FTTB or FTTF.
- 23 Strict engineering compliance norms could be laid down for such fibre terminations.
- 24 Nationalising such networks and franchising the same to existing cable operators may also warrant consideration.

25. Answers to Issues For Consultation

(a)4.1 In addition to infrastructure sharing possibilities discussed in pre-consultation paper what more can be shared by the DPOs (MSOs, HITS, DTH) for better utilization of infrastructure?

A national level 'state of the art', 7 or 8 Not Out redundancy assured professional fibre distribution network, particularly in the context of DIGITAL INDIA, SMS and MIS concerning the TV content distribution.

(b)4.2 What could be the operational, commercial, technical and regulatory issues which require to be addressed at the time of developing policy and regulatory framework for enabling infrastructure sharing in the broadcasting TV distribution space?

Enactment of Broadcasting Law with its rules and regulations, overhaul of entities in distribution as they exist with strings attached, nationalization of last mile, establishment of Inspectorates and Authorities, including the entire set of distribution activities as BROADCAST, a Central Govt Subject, and empathetic attitude in bureaucracy.

MIB and Communications Ministries could be merged into Ministry of Telematics with Deptt of Broadcasting and Deptt of Telecommunications to usher in CONVERGENCE. This requires convergence of minds before convergence of technologies

(c)4.3 Do you envisage any requirement for change in the existing licensing / registration framework laid for DTH, DAS and HITS broadcasting services? If yes, please specify those changes clearly for each platform?

If QAM2IP at Headend and IP2QAM conversion at edge is undertaken through national Fiber Trunk highway, satellite transmission for DTH and HITS may NOT be required.

(d)4.4 What could be the implications of allowing separation of network and service provider functions at distribution level? How the responsibilities can be divided between the network and service providers?

Such integrations imply a Program Aggregation Service Provider managing Headend/Central Office, Core Fibre Network Managing Agency, Edge

COMMENTS ON TRAI CONSULTATION PAPER No 7/2016

Network Management Agency and Last Mile Operators. The ownership of Subscriber and related issues shall have to be addressed by the agency housing the SMS since tax remittance liability shall rest there.

(e)4.5 Any other issue which you feel will be relevant for enabling the infrastructures sharing and separation of network and service provider functions in TV distribution sector?

Using right connotations for CHANNEL and PROGRAMS, upskilling of 60000 Cable Operators (registered with Deptt Posts but NOT indulging and functions of Headend for which registration with MIB is mandated) Empanelling people with experience in networking and drafting standards for assisting TRAI on asw required basis.

Conclusion

26. The issue is interesting but does not seem practical in Indian Governance mindset.