COMMENTS ON TRAI CONSULTATION PAPER ON

TRAI'S AUDIT MANUAL FOR DIGITAL ADDRESSA BLE SYSTEMS

Lt Col VC Khare (Retd) Cable TV industry Observer

General

1.	This appears to be a formality, completing action on files in TRAI Office, since audit manual has been released and tenders for expression of interest for empanelment of auditors has been floated. A typical CART BEFORE THE HORSE syndrome.

2.	The spirit of the manual reflects the influence Broadcasters have on MIB and TRAI. It concerns mainly on gathering data on number of active subscribers and Set Top Boxes (STBs) to estimate the Broadcaster's revenue accrual and remittance besides taxes mopping for the revenue department.

3.	The paper reflects clear lack of understanding that faith in data reliability stems from quality of Headend, as built, wherefrom the computers will generate the data.

4.	Headends, as installed, have much to be desired. There are an estimated 1173 registrations for Headends issued by the MIB for CATV networks. These cover about a dozen national level Headend Service Providers (HSPs), a better connotation than MSOs since most of them provide only one service i.e. unidirectional multi RF channels, multi program digitally addressable program streams, delivered through STBs, into subscriber homes. Such National MSOs could be running replicated headends in about 200 locations each but under one registration each counted in MIB. These headends too , at best, are semi-professional grade hardware based. The rest of the Headends functioning are consumer grade.

5.	In DAS context, addressability simply means ' A facility to enable or disable viewing of any program by the viewer selectively and remotely from the Headend '. This implies integration of a robust SMS (Subscriber Management System) in the Headend. Typically it should have an application server with access control, matched with encryption server and required MIS generation built in. Further, Headend requires a proxy of subscriber data for managing customer care communications. Few persons are authorized to amend subscriber and business related details in the application server. Since Broadcasters always suspect remittance of PAY TV payments by HSPs to them, a good practice is to install a proxy of the application server and granting access to Broadcasters to view data concerning their programs only, if so included in the ICO.

6.	Performance of Headend depends upon its initial conceptualization, shrouded in the RFP(Request for Proposal) seeking hardware quotes, quality/grade of headend ordered, installiation testing and commissioning and finally an 'as built document' reflecting the profile of the Headend. In addition performance of installation reflects on the proficiency of the System Integrator appointed for installation. Paradoxially, CATV though conforming to the basic definition of broadcast (point to multipoint telecommunication in radio frequiencies over a medium, wireline in this case, or air in other cases) is NOT accorded the status of broadcast by the MIB (which is functioning without a Broadcasting Act). Broadcasting, in general, and wireline broadcasting in particular are not taught in

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India. Hence broadcast engineers in India are deemed professionals by learning on the job, but without formal acredition.

7.   Provision for audit of CATV Headends surfaced for the first time in TRAI Regulation No 4 of 2009 when some service providers wanted to introduce voluntary CAS in areas other than four metros notified by MIB in 2003. Therein BECIL was authorized to conduct such audits. The initial audit form and report were drafted there. Initial audit stress included counselling on headend architecture and network performance sampling, tutoring the Headend staff as to how to meet the infirmities and then certifying criterion in the Regulation. This was happening till Apr 2012. Thereafter, BECIL changed the goal post to only filling up the form. The counselling/tutoring was skipped.

8.   It must be understood that each headend is different in layout, grade of equipment installed, signal flow avenues, test points creation, instrumentation and redundancy. A good engineering practice is to incorporate HMS(Headend Management System) and NMS(Network Management System) to monitor proof of performance. Due to lack of organized training facilities in the country and reluctance of service providers to invest in training and upskilling of operational staff, the conformity of outgoing link budget to meet EoL(End of Line) parameters is most of the time suspect.

9.   The spirit of any audit is shrouded in the acronym AUDIT itself (A-Appraisal and Assessment, U- Understanding and underlining, D- Detecting documented inconsistencies for conformities to instructions, I- Inspection and inter-relation in supporting linked documents/records and T- Translation of policies in practices in vogue). It is different from ACCOUNTING which deals with transactions as conducted and their entries in the books of account (*for example in financial management it involves scrutiny of books of account, extraction of trial balance, preparation of profit and loss statement and a balance sheet*). It implies inspection for compliance, recording of deviations, and reasons thereof, to opine on likely effect on QoS.

10.   Thus auditing is a systematic examination of documents and procedures in order to ascertain, or verify, and report the observations on deviations/non-conformity to stated organizational objectives. Audit is therefore a process of evaluation, or analysis, of organizational performance, to determine the compliance/conformity to documented orders/instructions/regulations/statutes/practices including but NOT limited to identification of risks arising therefrom. Audit report contains results of such an analysis. Auditing without documented procedures is NOT possible. Hardly any HSPs have drafted a digest of system for the Headend. Hence it would be difficult for auditors to home onto deviations.

11.   The tender for expression of interest envisages a new business activity in the BUSINESS of audits with teams comprising of two or more commerce graduates or CAs and one graduate engineer (who, at present, cannot be academically accredited broadcast engineer). Audits can be initiated by broadcasters to satisfy themselves about content security and installation of CAS and SMS prior to

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issue of IRDs, or in case of suspected/alleged piracy (though professional piracy detection inspectors are hardly known in India). The other is being mandatory audit for HSPs for conformity to TRAI Regulations but with provision of submission of such reports to each Broadcaster whose programs are aggregated in the Headend. This requirement appears fantastic in the realm of type of most HSPs in the country.

12.   TRAI needs to conduct certification training schedules to train the envisaged graduate engineer in the team of empanelled auditors as stand-alones to be associated by accounting auditing firms.

13.   **REPLIES ON ISSUES FOR CONSULTATION IN THE PAPER**
Q1. Whether it should be mandatory for every DPO to notify the broadcasters (whose channels are being carried by the DPO) for every change made in the addressable system (CAS, SMS and other related systems)?
Program streams originate from one Headend, generally using one propritary CAS and one SMS. Due to costs involved in changing CAS with direct impact on requirement of changing STBs (with embedded CAS and prohibited CI slot as per BIS), this will be rare. Hence it should NOT be mandated.
Q2. Whether the Laptop is to be necessarily provided by the Auditee DPO or the Audit Agency may also provide the Laptop? Please provide reasons for your comment.
Laptops need not necessarily be provided by Auditee. Since this business is being professionalised now by TRAI, all data recorders, where required, should form part of the auditors kit. No data should be allowed to be carried by auditors outside the Headend. Auditee IT staff should provide hardcopies of data extracted from systems and authenticated by authorized signatory of the Auditee.
Q3. Whether the Configuration of Laptop vide Annexure 1 is suitable? If not, please provide alternate configuration with reasons thereof.
There is no requirement of auditee providing LAPTOP and hence its configuration. TRAI should lay down the MIS to be generated by the SMS at the headend and printouts or copies downloaded on recordable DVDs. However the table in annexure I can serve as a guide for Headend Installation aspirants to order the servers.
Q4. Do you agree with the provisions regarding seeking of TS recording and ground sample information from IBF/ NBA for verification/ checking by the Auditor?
No
Q5. Do you agree that Data Dump may be cross-checked with weekly data of sample weeks basis? If yes, do you agree with checking of random 20 % sample weeks? Please support your comments with justification and statistical information.
No
Q6. Do you agree with the proposed Data extraction methodology? If not, suggest alternates with reasoning thereof.
Yes

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Q7. Do you agree with verification and reporting of City-wise, State-wise and Head-end wise subscription report? Please provide supporting reasons/ information for your comment.
No. The content transmission train originates at the headend with routed HFC network terminating into subscriber premises. Broadcasters have no business relation with end viewers. All MIS should be confined to one Headend feeding the networked universe. Broadcasters can seek electronic data, besides hard copies, load the same in their data bases and compile reports headendwise, citiwise, state wise or nationwide.

Q8. Do you agree with the tests and procedure provided for checking covert and overt fingerprinting? Provide your comments with reasons thereof?

Yes

Q9. Any other suggestion/ comments on the provisions or methodology proposed in the Audit Manual.

DAS was to be implemented by the combo DPO of HSP and CO(Cable Operator). Due to various reasons, DAS implementation remained confined to seeding of STBs acting only as D2A converters, without addressability or compliance of SMS. It is believed that to avoid royalty payments, many HSPs encrypted only the PAY content while FTA was only digitized but Not encrypted. This malady is NOT difficult to detect provided it leads to revocation of registration.

TRAI should organize training of technical members in the audit teams to be associated as well as workers in Headends to establish similarity for identity in responses. Acredition for such certification too should be arranged through IETE, BES or SCTE.

The audit manual needs to be realistically re-drafted in the interest of over a thousand HSPs, other than National HSPs.

TRAI should consider associating experienced professionals from the field, informally, before publishing such documents.