



**STAR INDIA PVT. LTD. RESPONSE TO TRAI CONSULTATION PAPER ON
THE TELECOMMUNICATION (BROADCASTING AND CABLE) SERVICES DIGITAL
ADDRESSABLE SYSTEMS AUDIT MANUAL (Dated 29th Mar 2019)**

We thank the Authority for the opportunity to participate on this consultation process on empanelment of auditors for digital addressable systems (DAS). We hope that the inputs given by us shall be of help and assistance to the Authority to create an enabling regulatory digital addressable system audit framework for the broadcast sector.

Below are our responses to the questions raised in the consultation paper on the Audit Manual.

Q.1. 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 systems¹)?

A.1. It should be mandatory for every DPO to report to the broadcasters all changes made to their addressable systems as these may have commercial implications and to confirm continued technical compliance with the requirements of schedule III of interconnection regulations, 2017. In addition, in the event of technical changes made to the systems all such changes should also be notified to TRAI and MIB.

Mentioned below is an illustrative, but non-exhaustive, list of changes in the addressable system:

- a. Addition, deletion, migration, upgrade, scheduled maintenance (having implications on channel(s) encryption), down time of systems, upgrade of IP address, change in configuration of SMS / CAS / other relevant systems, etc., as reported in interconnect agreement
- b. Changes in package master in CAS and SMS
- c. Location of CAS and SMS servers
- d. Addition or deletion of headends, mini headends, stand-by headends, etc.
- e. Addition or deletion of STB makes and models, including any built-in modules in display devices such as, TVs, laptops, hybrid STBs, etc.
- f. Any other change with a potential for having commercial implication(s) or which may affect technical compliance of the DAS system

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Q.2. 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.

A.2. It is preferred that auditors be allowed to use their own laptops for audit purposes. This will ensure that the auditors have end-to-end accountability for the hardware, software and related analysis. In addition, this will enable the auditors to use requisite software packages, including their proprietary applications and analytical tools, to conduct the audit. This is critical for effective analysis of data and logs. Furthermore, data analytics softwares typically are expensive and installing them on DPO provided laptops will entail additional license fee resulting in avoidable increase in audit cost. In addition, such softwares may be proprietary to the audit firm and as per their firm's policy may not be possible to install it on DPO provided Laptops.

In case the DPOs provide laptop(s), these should meet requirements as specified in Annexure 1 of the Audit Manual. The provided laptop(s) should only have the auditor specified operating system and the software packages required by the auditor should be installed by the DPO. Auditors must verify that laptops provided by DPO do not contain any malware, virus, etc., that may interfere with the audit work. The laptop(s) should not allow copying through backup utilities or through backdoor access to the system. The access to auditors' workings, work-product and audit reports should be strictly limited only to the personnel authorized by the auditors.

Q.3. Whether the Configuration of Laptop vide Annexure 1 is suitable? If not, please provide alternate configuration with reasons thereof.

A.3. Configuration specified in Annexure 1 is adequate currently. Due to continued advancement of computing hardware and software technologies, a periodic review of specifications should be conducted atleast on an annual basis to ensure that data analysis is taking advantage of latest in data analytics science. Due to the need for analysing large volumes of transaction data and logs, in addition to Microsoft Office software, packages such as, SAS, SPSS, ACL, IDEA, Arbutus, etc., may be required for data analysis. Furthermore, the system should have the capability to run R, Python, SQL, etc., to facilitate data extraction and analysis.

Q.4. Do you agree with the provisions regarding seeking of TS recording and ground sample information from IBF/ NBA for verification/ checking by the Auditor?

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A.4. The objective of the audit is to verify that the subscriber information is properly reported by the DPO as it is the main driver of the broadcasters' revenues. Since all channels signals need to be addressable, the deployed CAS systems ensure that no subscriber receives unauthorized signals. Moreover, to be in compliance with the extant interconnection regulations, it is mandatory for all the signals to be encrypted.

The accuracy of subscriber count is directly related to all instances and types of deployed CAS and on the encryption status of the channels.

The TS recorder captures technical parameters of digital streams distributed by the DPOs. This information provides insights into number of CAS deployed & encryption status of channels. The CAS system controls availability of channels at subscribers' level. Since the broadcasters' revenue is derived from number of subscribers and number of channels availed by such subscribers, it is imperative to have complete view of every instances of CAS deployed by the DPO.

Since TS recordings provide a mechanism to compare CAS systems declared by the DPO against actual CAS systems detected in the network, such comparison will ensure complete inventory of CAS systems deployed by the DPO is duly verified.

The ground samples, when collected on a random basis and in statistically adequate numbers, provide mechanism for statistical assessment of channels availed by the subscribers. All audits rely on sample verification to get comfort about accuracy of systems, databases, logs, reports, etc.

The ground samples so collected when tested by the auditors against the DPO system logs and databases extracted during audit provides confirmation that all samples are present in DPOs SMS, CAS and other related systems. Matching of samples with the system logs help validate completeness of subscribers' data.

Because of aforesaid reasons it is imperative both TS recordings and ground samples are made part of any audit for it to have credibility.

Q.5. 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

A.5. With the advent of NTO, the subscribers may change the selected channels based on their prevailing needs. The choice of selected channels may also get impacted by seasonal preferences (e.g., exam season, harvest season, festivals, etc.). The use of "sample weeks"

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