

Annexure 1 to Airtel Letter dated 3rd June 2020

Bharti Telemedia Limited (“Airtel’s”) Response on TRAI’s Consultation Paper on the framework for technical compliance of CAS & SMS system dated 22nd April 2020.

Preamble:

The current Regulatory framework is customer-centric, transparent and applies uniformly to all the DPO’s and Broadcasters and to maintain this very essence, it is imperative that the CAS and SMS systems of all participants meet the minimum requirements. Having said that, we are of the view that the existing Regulations have already laid down comprehensive minimum requirements for CAS and SMS systems with a provision of audit as a check. Therefore, the focus should be to align the CAS and SMS systems of all DPO’s to meet these established requirements.

There is no merit in introducing a new framework as it will not add any value but will put more strain on the sector which is already struggling for last 2-3 years, with increasing consumer preference for other digital platforms and further plagued with Covid 19. The overhauling of the complete regulatory framework followed by recent introduction of more changes to the said framework have also impacted the health of the DTH industry. The reduction in NCF mandated by TRAI, by widening the threshold limit from 100 channels to 200 channels, has resulted in a sizable drop in the NCF realization. Therefore, we suggest that frequent changes without assessing the viability of the existing framework, is not only premature but will also affect the longevity of the already bleeding industry. We therefore, recommend that we should allow adequate time for the extant framework to operate and fructify.

Therefore, at this stage, it is critical that we identify drivers and introduce catalysts which propels the growth of the sector in India. Laying down a complete new framework for CAS and SMS systems will not only be financially onerous but will further widen the gap between the DPO’s. All DPO’s have undertaken massive investments in their CAS and SMS systems and it will not be practical to overlook this reality and create disruption with a new framework. The need of the hour is to encourage existing DPO’s working with sub-standard systems, to make their systems compliant to features outlined in Schedule III to bring homogeneity.

In line with the above preliminary submissions, we now proceed to express our views on the issues raised in the Consultation Paper.

Q1. List all the important features of CAS & SMS to adequately cover all the requirements for Digital Addressable Systems with a focus on the content protection and the factual reporting of subscriptions. Please provide exhaustive list, including the features specified in Schedule III of Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations, 2017?

Airtel's Response:

The minimum requirements for CAS and SMS have already been embraced and outlined in the Schedule III of the Interconnection Regulations dated 3rd March 2017 for ensuring content protection and factual reporting of subscribers. The contents of Schedule III are comprehensive and also caters to the critical standards prescribed by ITU-T, DVB and/or ETSI etc.

Therefore, the standards are already in place and they have definitely set the tone but the essence can only be met with implementation and administration of these standards across all DPO's. We feel that half the battle is already won by declaring Schedule III as the Minimum Standards for CAS and SMS and the other half will require TRAI to embark the journey of putting them into practice within a defined timeframe to bring all DPO's at par.

At present, globally almost all CAS vendors support the DVB-CSA, DVB Simulcrypt and other relevant DVB and ETSI standards. Airtel recommends TRAI to adapt and continue to with the same. New innovations in CAS technologies, content delivery, integration and security features are being added and enhanced according to CAS vendors' roadmap and the appropriate innovations can be built in the Schedule III at a later stage, with a consultative approach while also ensuring that the benefits of innovation are realized.

We suggest that the entire requirements enlisted in Schedule III of TRAI Regulation forms the starting point with periodic revisions as and when required. With the objective of content security and subscriber reporting, some of the important security features of Schedule III are reiterated below:

- i. Head-end interfaces - DVB SimulCrypt
- ii. Scrambling Method – DVB-CSA
- iii. Authorization to decrypt individual or group of services.
- iv. Individual /group smart card activation/ deactivation.
- v. Support PPV purchase & bill mechanism.
- vi. Support IFP (individual free preview) option.
- vii. Mechanism to send test message to individual or group of decoders.:BMAIL,OSD, Scroll Text messages
- viii. Secure & dedicated mechanism to exchange encryption key.
- ix. Secure mechanism for boot loader

- x. Secure installation and storage of Root of Trust in decoder.
- xi. Mechanism to control hacking
- xii. Secure SMS-CAS integration
- xiii. Mechanism to protect recorded content.
- xiv. Mechanism to offer VOD & NVOD services.
- xv. Mechanism to control view program or services as per content rating.
- xvi. Channel blocking & parent control
- xvii. Blackout option target basis.
- xviii. Control word encryption for security.
- xix. Multiple language offering :
- xx. Price info in EPG & EPG guide for each channel.
- xxi. Finger printing mechanism –Overt & covert.
- xxii. STB Smart card pairing secure mechanism.
- xxiii. Disable/enable unique service for a-la-carte channels and possible automatic renewal

Q2. As per audit procedure (in compliance with Schedule III), a certificate from CAS / SMS vendor suffices to confirm the compliance. Do you think that all the CAS & SMS comply with the requisite features as enumerated in question 1 above? If not, what additional checks or compliance measures are required to improve the compliance of CAS/SMS?

Airtel's Response

Currently, the Schedule III requirements are assessed basis the self-certification from the CAS and VAS vendors. We suggest that while we continue with this approach, we should also perform certain checks to test the authenticity of such self-certification. These checks will bring the required sanity and are important since, many CAS/SMS solutions currently, deployed do not comply with the required features of Schedule III, as is also acknowledged by TRAI in the Consultation Paper. Many features are highly dependent on eco-system partners for compliance, including on-screen display (OSD), broadcast mail (B-Mail) and fingerprinting. The CAS needs to be very tightly integrated with Middleware (MW) for secure and reliable implementation of such features. In many cases, there is no third-party Middleware(MW) in the STB and many basic features are fulfilled with STB native software of widely varying quality and security. As a result, such solutions may not comply with all the features mentioned in the Schedule III.

To check such compliance, every CAS and SMS vendor /OEM should seek certification of its systems from the international third-party content security expert body like Cartesian, Fancombe, NIST USA, Rambus, Riscure, Atsec etc. These certifications should be renewed whenever any significant changes in the technology are introduced. Only such certified CAS should be allowed to operate in the Indian market.

Technical Audits must be carried out at each operator's site by competent, qualified Technical personnel with specific CAS integration or operation experience. Only such real-

world audits will enable thorough end-to-end system compliance verification of all the features deployed by each operator on the ground.

Therefore, we propose a dual pronged approach of certification followed by audit of some critical features to assess if the requirements of Schedule III are met in letter and spirit.

Q3. Do you consider that there is a need to define a framework for CAS/ SMS systems to benchmark the minimum requirements of the system before these can be deployed by any DPO in India?

Airtel's Response

We state that the basic and minimum requirements of CAS/SMS are well captured in Schedule III of TRAI regulation. CAS /SMS being a globally deployed technology, innovations are a constant feature. To start with, Airtel believes that TRAI can continue to use Schedule III requirements for the CAS /SMS while adding more features to it at regular intervals to make it more robust and to accommodate new innovations in the technology. Hence, there is no need for defining or introducing a new CAS /SMS framework.

The requirements listed in Schedule III should be benchmarked as the minimum qualifying requirements for all CAS /SMS solutions operating in India as well as for all future deployment of CAS/SMS by a new DPO.

Q4. What safeguards are necessary so that consumers as well as other stakeholders do not suffer for want of regular upgrade/ configuration by CAS/ SMS vendors?

Airtel's Response

The existing CAS/SMS systems must be evaluated for the upgrades or configurations required to make them compliant to Standardized requirements of Schedule III. The Distributors should also submit a plan for undertaking necessary upgrades in a time bound manner. Running business on a non-compliant systems not only put the subscribers at a disadvantage but also disturbs the level playing field between the Distributors. Any failure on the part of a Distributor to meet the standard requirements should be viewed seriously as the content is the lifeline of the Broadcasting sector and hence its protection is non-negotiable.

Therefore, we submit that all CAS/SMS systems falling short of Schedule III features should have a roadmap viz;

- A well-defined implementation schedule delineating specific timelines and actions with role/responsibility should be put in place.

- Provision of action for non-compliance so that customers do not suffer for such inaction.

Q5. a) Who should be entrusted with the task of defining the framework for CAS & SMS in India? Justify your choice with reasons thereof. Describe the structure and functioning procedure of such entrusted entity.

b) What should be the mechanism/ structure, so as to ensure that stakeholders engage actively in the decision making process for making test specifications / procedures? Support your response with any existing model adapted in India or globally.

Airtel's Response

TRAI has already captured the relevant framework for CAS and SMS in Schedule III and it is a good starting point to actuate standardization of currently deployed CAS /SMS systems to make them more robust and hack-proof.

Consortium under TRAI can be constituted with representations from all stakeholders viz; Broadcasters, DPO's, CAS, SMS partners etc. The consortium can undertake the process of formulating test specifications /procedures with inputs from all concerned. The draft specifications can be circulated for further discussions with defined actions & timelines and the final agreed specifications can be released for the effective implementations.

Q6. Once the technical framework for CAS & SMS is developed, please suggest a suitable model for compliance mechanism.

a) Should there be a designated agency to carry out the testing and certification to ensure compliance to such framework? Or alternatively should the work of testing and certification be entrusted with accredited testing labs empanelled by the standards making agency/ government? Please provide detailed suggestion including the benefits and limitations (if any) of the suggested model.

(b) What precaution should be taken at the planning stage for smooth implementation of standardization and certification of CAS and SMS in Indian market? Do you foresee any challenges in implementation? (c) What should be the oversight mechanism to ensure continued compliance? Please provide your comments with reasoning sharing the national/ international best practices.

Airtel's Response

i. At this stage, we do not recommend any new framework and propose continuity of Schedule III, as any change will lead to many complexities like:

- a. With digitalization completed across India and all the operators having selected and deployed their CAS solutions catering to more than 160M STB's/consumers, Airtel believes that it is not appropriate time to (re-)define the CAS Framework. It is not viable for them to re-invest in these soon and rather efforts should be focused on adaptation of Schedule III features across all DPO's.
 - b. Any new framework will disturb the complete ecosystem as it will call for changes which will translate into huge cost implications. The industry is gearing to stabilize after the recent introduction of new regulatory framework and enforcing more changes at this stage, will be taxing.
 - c. There is no need to develop India-specific separate standards, as now there is no large volume left that would justify for vendors' efforts to develop Indian-specific CAS products. India should ride the global wave if it wants Indian subscribers to take the advantages of global technological developments.
- ii. The application of Schedule III requirements will help to achieve standardization and certification of CAS and SMS in Indian market. The Schedule III is already part of the Audit framework specified by TRAI and the same can continue to act as a mechanism to ensure continued compliance.
 - iii. Existing DPO's must first assess and evaluate whether their prevailing CAS /SMS solution(s) comply with TRAI's currently mandated technical requirements (Schedule III) and submit a self-certification on the same. For all parameters which remain non-compliant, they must submit an action plan along with the defined timelines.
 - iv. Each CAS should thereafter be tested and audited wherever deployed, as explained in the answer to Q2 above. Furthermore, where the CAS have been proven to meet all the mandated minimum requirements, a separate type approval should be granted to the relevant Operator. This process can be used for all CAS— whether it's for replacement of non-qualifying systems or for new operator installations. TRAI is best placed to control the audit process by approving the auditors and then periodically assessing the capabilities of the relevant auditing bodies from time to time.
 - v. Similarly, Compliance to minimum standard requirements should be one of the pre-qualifying criteria before the relevant Authority issues any license/registration to a new Distributor.
 - vi. Any new Distributor should only be allowed to receive signals from the Broadcasters when its CAS and SMS are meeting the standard requirements which can be assessed basis the audit.
 - vii. To reiterate, technical Auditors duly empanelled by TRAI should perform the relevant audits only at Distributors sites. Since the standards are already incorporated in the

extant Schedule III of Interconnection by TRAI, the audit of the same can also stay within the purview of the Sectoral Regulator else involvement of any other agency will merely increase the complexities without any value addition. Some of the key criteria for audits may include:

- a. Sufficiently qualified and resourced Technical Audit teams
- b. Clear, fair, open, non-discriminatory and transparent criteria and process determination, preferably based on market-proven regimes
- c. Major deviations or non-compliances should be dealt with a time bound corrective action
- d. Reasonable remediation within agreed timescales for insignificant observations / non-compliances – which may be caused by misunderstandings, differing interpretations, minor misconfigurations at time of tests etc.
- e. Emphasis on increasing quality of service experience for subscribers, including minimizing any service disruptions, as well as on improving content security.

Q7. Once a new framework is established, what should be the mechanism to ensure that all CAS/ SMS comply with the specifications? Should existing and deployed CAS/ SMS systems be mandated to conform to the framework? If yes please suggest the timelines. If no, how will the level playing field and assurance of common minimum framework be achieved?

Airtel's Response

While the significance of all CAS/SMS system to be compliant with mandatory features offering content security at highest level, cannot be undermined but it is too late to discuss a new framework for CAS /SMS as almost all the Distributor /Operators have already selected the CAS partners and have deployed and servicing more than 160 million set top boxes.

To ensure the level playing field by implementing the common minimum specifications of Schedule III, it is required that:

- i. TRAI should give operators the opportunity to rectify the deficiencies in the systems arising out of the mistakes (if any) made earlier while selecting the partners. TRAI would thus need to discern and publish a phased manner approach for such operators to upgrade or replace the CAS systems so that their CAS/SMS comply with regulatory requirements.

- ii. The existing Distributors should be mandated to ensure that their selected CAS/SMS partners offer features/upgrade to make the systems compliant to all the standard and mandatory requirements of CAS/SMS of Schedule III. This activity must be completed within a stipulated time.
- iii. Any new DPO should chose systems of such partners which are certified to offer content protection and security and can also demonstrate with a proven track record both the ability to provide and actual timely provision of, technical upgrades, as well as credible roadmaps showing what they are already planning to offer in future updates or upgrades to the CAS.

Q8. Do you think standardization and certification of CAS and SMS will bring economic efficiency, improve quality of service and improve end- consumer experience? Kindly provide detailed comments.

Airtel's Response:

There is no denying that the standardization and certification of CAS will definitely bring about economic efficiency, improve quality of services and will ensure that all the stakeholders reap benefits of the same while also improving the content security levels. With the enforcement of minimum features and functionality specified by TRAI in Schedule III, the required uniformity and consistency among the different iterations of a CAS and SMS systems which currently prevail, will be ensured.

If ONLY CAS which comply to TRAI requirements mentioned above are used along with the process of audited SMS – CAS throughout the Indian pay TV ecosystem, piracy and underreporting ought to be reduced and most of the legitimate operators would generate more revenue, increased cost efficiency while also enabling broadcaster/s to invest more and provide further high quality content. Subscribers too would benefit from the improved content and uniform user experience across all DTH and MSO systems. Government would benefit from increased tax revenues. Of course, some current subscribers that benefit from sub-standard SMS – CAS arrangements today by receiving pay TV channels at lower than the market tariffs, will need to pay more for legitimately distributed and priced content.

Q9. Any other issue relevant to the present consultation.

Airtel's Response:

Nil