

### **Specifications for Set-Top-Boxes (STBs), Conditional Access System (CAS) & Subscribers Management System (SMS) for implementation of Digital Addressable Systems**

#### **STB Requirements:**

- All the STBs should have embedded Conditional Access.
- The STB should be capable of decrypting the Conditional Access inserted by the Headend.
- The STB should be capable of doing the Overt and Covert Finger printing. The box should support both Entitlement Control Message (ECM) & Entitlement Management Message based fingerprinting.
- The box should be individually addressable from the Headend.
- The box should be able to take the messaging from the Headend.
- The messaging character length should be minimal 120 characters.
- There should be provision for the global messaging, group messaging and the individual box messaging.
- The box should have forced messaging capability.
- The box must be BIS compliant.
- There should be a system in place to secure content between decryption & decompression within the STB.
- The boxes should be addressable over the air to facilitate Over The Air (OTA) software upgrade.

#### **Fingerprinting Requirements:**

- The finger printing should not be removable by pressing any key on the remote.
- The Finger printing should be on the top most layer of the video.
- The Finger printing should be such that it can identify the STB or the Viewing Card (VC).
- The Finger printing should appear on all the screens of the STB, such as Menu, EPG etc.
- The location of the Finger printing should be changeable from the Headend and should be random on the viewing device.
- The Finger printing should be able to give the numbers of characters as to identify the unique STB and/ or the VC.
- The Finger printing should be possible on global as well as on the individual STB basis.

- The Overt finger printing and On screen display (OSD) messages of the respective broadcasters should be displayed by the MSO/LCO without any alteration with regard to the time, location, duration and frequency.
- No common interface Customer Premises Equipment (CPE) to be used.
- The box should have a provision that OSD is never disabled.

### **CAS & SMS Requirements:**

- The current version of the conditional access system should not have any history of the hacking.
- The fingerprinting should not get invalidated by use of any device or software.
- The STB & VC should be paired from head-end to ensure security.
- The SMS and CA should be integrated for activation and deactivation process from SMS to be simultaneously done through both the systems. Further, the CA system should be independently capable of generating log of all activations and deactivations.
- The CA company should be known to have capability of upgrading the CA in case of a known incidence of the hacking.
- The SMS & CAS should be capable of individually addressing subscribers, on a channel by channel and STB by STB basis.
- The SMS should be computerized and capable to record the vital information and data concerning the subscribers such as:
  - Unique Customer Id
  - Subscription Contract no
  - Name of the subscriber
  - Billing Address
  - Installation Address
  - Landline no
  - Mobile No
  - Email id
  - Service /Package subscribed to
  - Unique STB No
  - Unique VC No
- The SMS should be able to undertake the:

- Viewing and printing historical data in terms of the activations, deactivations etc
  - Location of each and every STB/VC unit
  - The SMS should be capable of giving the reporting at any desired time about:
    - ❖ The total no subscribers authorized
    - ❖ The total no of subscribers on the network
    - ❖ The total no of subscribers subscribing to a particular service at any particular date.
    - ❖ The details of channels opted by subscriber on a-la carte basis.
    - ❖ The package wise details of the channels in the package.
    - ❖ The package wise subscriber numbers.
    - ❖ The ageing of the subscriber on the particular channel or package
    - ❖ The history of all the above mentioned data for the period of the last 2 years
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- The SMS and CAS should be able to handle at least one million concurrent subscribers on the system.
  - Both CA & SMS systems should be of reputed organization and should have been currently in use by other pay television services that have an aggregate of at least one million subscribers in the global pay TV market.
  - The CAS system provider should be able to provide monthly log of the activations on a particular channel or on the particular package.
  - The SMS should be able to generate itemized billing such as content cost, rental of the equipments, taxes etc.
  - The CA & SMS system suppliers should have the technical capability in India to be able to maintain the system on 24x7 basis throughout the year.