

## Streaming OTT TV Apps as Virtual Channels

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### *Abstract*

*Over the last few years we have seen the transition of TV from channels to content. There is no limit to the media content found on the internet, this content is either free or fee based depending on the content provider. All the Media OTT services are accessed via 3rd party platforms, such as Apple TV, Roku, Fire TV and the list goes on. These Media OTT apps also provide services to watch movies or TV shows or even Live TV. This App model is good when you have 1 or 2 apps to watch, but if the content which the subscriber enjoys is spread across multiple Apps than it becomes frustrating for him to switch between the Apps and is not at all user friendly. The content switching between the Apps needs to be as easy as switching Live TV channels. A new approach on how the OTT apps can be as user friendly as Live TV is needed across all 3<sup>rd</sup> party platforms.*

*The approach to resolve the issues is to get single sign in to all OTT Apps and bring the content across different Apps to the same screen. The idea would be to develop a common framework which interacts with different Apps and pass this information as live content and can be appended as Virtual channels to the existing framework of the Set Top Box (STB).*

*As more Apps are being used by customers, different login credentials across different Apps become tedious and time consuming. This issue also needs to be resolved by means of saving the customer profile and sharing it across different Apps.*

*This paper highlights some of the challenges for OTT TV Apps and also some ideas on the possible solutions. The OTT Apps have the content and now they need a*

*common frame work to make the App more user friendly across different platforms. Also the paper outlines on how the common framework approach can be utilized across different devices to get a more generic user interface and user friendly Live TV experience.*

### BACKGROUND

The TV industry is changing and the cable TV is no more limited to one screen. We have seen that the cable companies have their own TV Apps for live TV and On Demand content. This approach gives their customers Live TV experience on multiple screens. Also the MSO's are trying IP only Video services using 3<sup>rd</sup> party platforms which could work in the favor of developing a common framework to integrate the OTT Apps with Live TV MSO App.

A common framework strategy by an MSO can help them deliver new set of Apps branded exclusively for them. MSOs can deploy their own branded app store that complements their Live TV experience, On Demand TV, and other catalog of apps and widgets.

### CHALLENGES

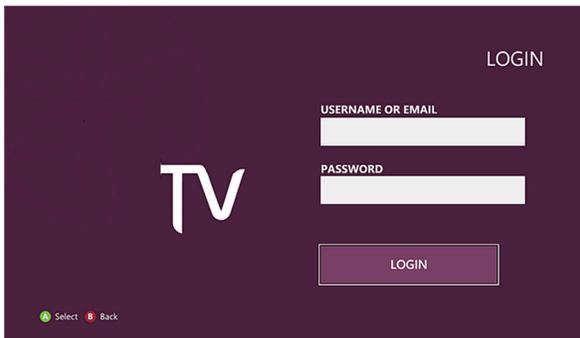
With so many media OTT Apps available, the consumer is challenged on which Media App should he watch and why should he invest in that App.



**Figure 1: Sample Customer challenge**

The following are the challenges the consumers face.

- Different login credentials for different apps.



**Figure 2: Sample TV App login page**

- Not flexible as changing TV channels.



**Figure 3: Sample TV App channels available on a platform**

- Incompatible ecosystems on different platforms

Key ecosystems are expanding across 4 screens



**Figure 4: Sample Ecosystems**

SOLUTION IDEAS

- MSO App can be an App aggregator. Content from various channels made available regardless of the origin. MSO App can be Master App. This App provides a common framework for all the other OTT TV Apps and add those TV Apps as virtual channels to the MSO Master App. The Master App can integrate content from Live TV, On Demand, App content and also Live free channels available online without copyright infringement.



**Figure 5: Sample Integration of Channels**

- Treat an App as Multiple channels. Populate the Media OTT App as a Virtual channel on the Set top Box

(STB) or on the MSO TV everywhere app. This would require change in the STB guide with the focus on moving to web-based technologies. From a technology point of view, HTML5 provides the best abstraction level. HTML5-based app platforms are attractive from a development perspective, but pose a host of complexities which needs to be overcome by the App developers.

- Create a common frame work for authentication

Create a profile on the device from where these multiple Media App's are accessed, so that the user does not have to authenticate always. Create a profile with MAC address of the device, so that the credentials are not shared and are not violated. This could be easily achieved by utilizing the same authentication done as in case of Wi-Fi services.

Also in case of a cable operator if a user is already a subscriber for a TV service then he should be able to use his profile to login to an App service of that same TV service. This would create a lot of simplicity for the user and also less user credential data for the App service.

- Provide better Remote experience  
Integrating all the channels in multiple app environments to one common App will provide better remote experience. One of the major drawback in the OTT TV App is that the remote are different and the interface is different for different platforms. Remote interface could be the simplified if the Apps are integrated in one common framework. Also the search across different Video Apps using the Voice commands would be easier, flexible and more efficient. We know Voice integration is Remote is now available in almost

all the platforms and the key to it is how it gets extended across multiple platforms.



**Figure 6: Sample Voice Remote**

## COMMON FRAMEWORK

Common framework can be achieved by creating a controlled environment, using a specific operating system and a platform where Video Apps can be developed in one unified way.

Developers also need to ensure that this common framework can handle integration of old style STBs UI and the new Video Apps UI. It should be also be scalable to support advanced features which would enhance the user experience.

### Advantages of Common Framework

The common framework offers a lot of advantages, some of which are listed below

- Common framework can be integrated in the cloud which could be used across different STB and browser based platforms.
- Apps need to be developed once across different platforms.
- The common framework will support Antenna channels, Live TV, On Demand and free web based channels all on the same TV screen.

## NEW FEATURES

The common framework would support content integration agnostic of the source of the content. Also it would allow the operators to support new features and enhance customer experience to both legacy STBs and new browser based platforms. Some of the examples of new features are listed below.

- One of the new feature is Voice search on Remote which could be enhanced to work across all Apps on common framework.

- Common framework will also allow the cable operators to integrate social media and live video experience with family and friends.
- Pairing of Mobile and other devices to common framework could simplify and content sharing would be easy.
- Digital tracking of content could be leveraged across devices.

## CONCLUSION

Common framework will provide the Cable Operators a mechanism to integrate live TV, app content and VOD seamlessly. This framework will also work with legacy STBs and will allow MSOs to deploy branded App store and Apps. It will also allow to integrate new features and improve user experience.