Case Study:

How Intraway's Symphonica Supports Android TV and Next-Generation Media Technology

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How OTT and VOD Have Disrupted Traditional Video Technologies

The TV business is going through substantial changes requiring creativity, adaptivity, and flexibility. Over-the-top (OTT) media services and Video-on-Demand (VOD) have disrupted traditional cable, satellite television, and broadcast platforms that acted as sole distributors or controllers of such content.

Media consumption has changed significantly over the past few years, with the rise of OTT as an established actor of mainstream media services. Video services presently make up over a third of the OTT market. Additionally, many growing video service providers are currently operating in the cloud, including Netflix, Amazon, Disney+, HBO Max, and Apple.

What's more, higher bandwidth 5G services will further enhance OTT platforms' popularity and use because it offers consumers convenience and innovative offerings like high definition video content and multiplayer cloud gaming experiences.

In response, traditional TV operators are looking for new ways to capture subscribers' interest and remain relevant in the industry. In this context, Android TV provides a renewing proposal because it's a superior, future-proof entertainment experience.

Smartphones are enablers of OTT utilization. Globally, the number of smartphone users has shot up to 6.37 billion users in 2021, according to Statista.
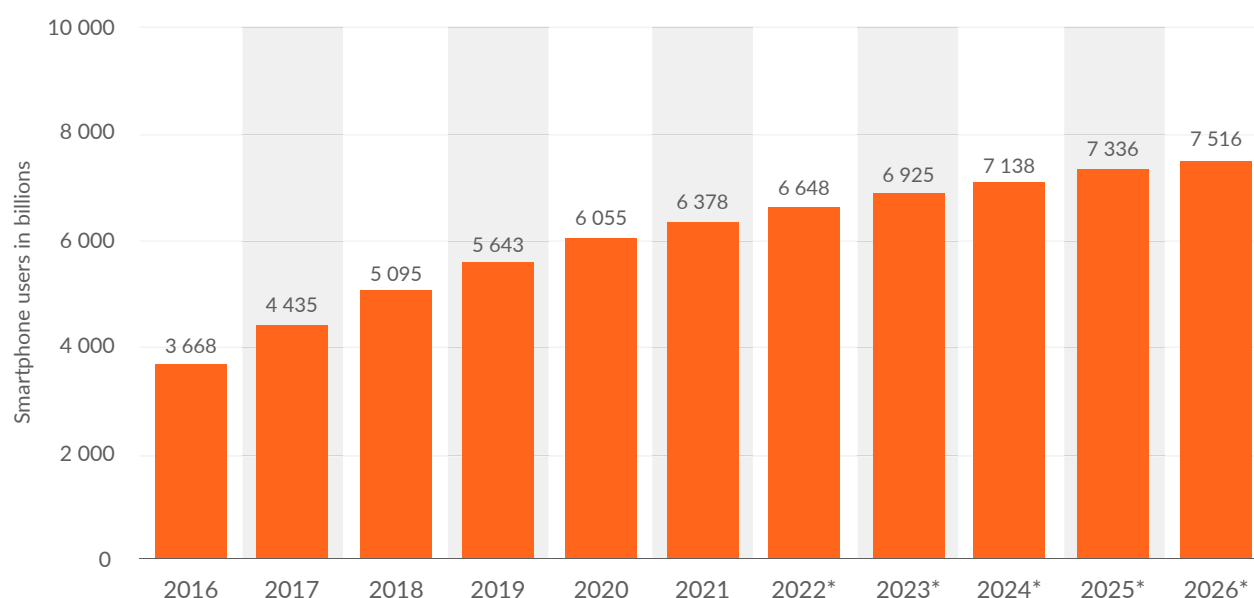
Number of smartphone subscriptions worldwide from 2016 to 2026 (in millions)- © Statista 2021
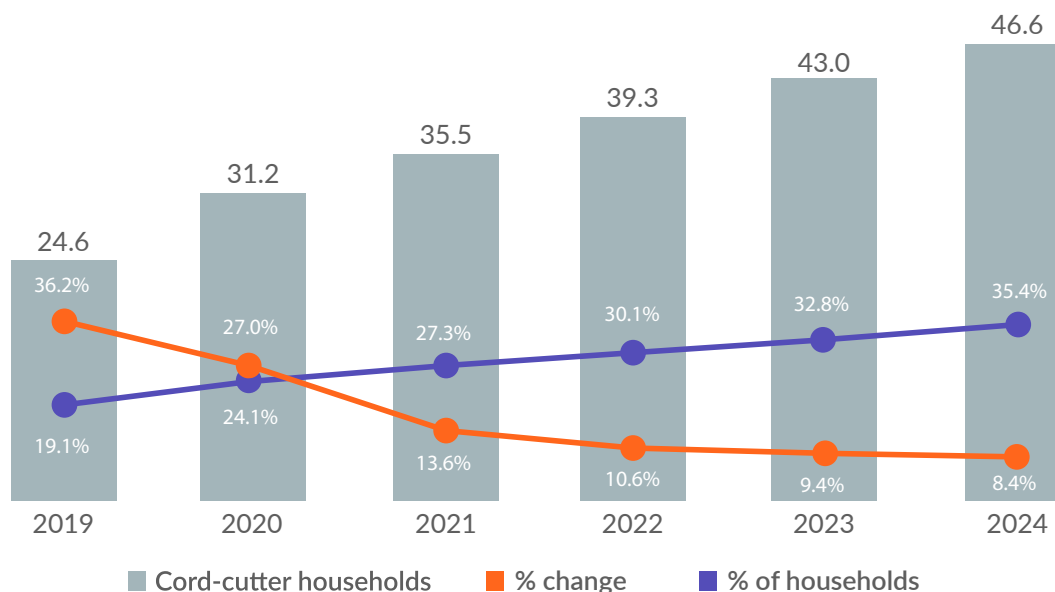
The OTT media industry is an inflection point in numerous critical economies worldwide. As such, media companies that adapt to the changes currently shaping the market and forge innovative partnerships (such as Android TV) will survive and maybe thrive.

To put things in perspective, eMarketer reports that a record **6.6 million** US households canceled their pay-tv subscription in 2020 – a 7.5% drop.

US Cord-Cutter Households, 2019-2024
millions, % change and % of households

	2019	2020	2021	2022	2023	2024
Cord-cutter households	24.6	31.2	35.5	39.3	43.0	46.6
% change	36.2%	27.0%	13.6%	10.6%	9.4%	8.4%
% of households	19.1%	24.1%	27.3%	30.1%	32.8%	35.4%

■ Cord-cutter households   ■ % change   ■ % of households

Note: pay TV households are those with a subscription to traditional pay TV services: excludes IPTV and pure-play online video services (e.g. Hulu, Netflix, YouTube, Sling TV, etc.); non-pay-TV households are those that have cancelled their subscription or have never had traditional pay TV services. Source: eMarketer, Sep 2020

The variety of OTT/web-based content available to consumers affects their perception of innovation, raising the bar for all players in the industry. They don't only expect their pay-TV service to provide a channel guide and the ability to search for their favorite shows. They also expect greater personalization and discovery. Therefore, pay-TV service providers should consider their preferences and continuously provide innovative new features and next-generation discovery options so that viewers can access the content they like quickly.

Traditional pay-TV providers need to respond to keep existing customers, decrease churn, and attract new ones. Operators can simplify consumers' increasingly chaotic entertainment experience by leveraging their strengths in live and recorded/VOD content, integrating pay-TV and OTT offerings, and upgrading to next-generation cloud-based consumer solutions.

Today, Android TV is attractive to operators for several reasons. In addition to addressing a wide range of devices that consumers can access content on, the OTT ecosystem available through Google Play brings together thousands of apps that operators can instantly tie into. However, as the content grows, so does the need for a superior, differentiated and consistent user experience flowing across all client platforms and backed by a robust cloud service that's flexible, agile and scalable.

What is Android TV?

- It brings a suite of IPTV services, including IP Linear, Restart, IPVOD, Network DVR (nDVR), and Catch-Up.

- In terms of functionality, it integrates the Android interface specially optimized for TV to increase functionality. Users can access Google's Play Store and operate apps and games directly from their TV screens. For example, they can play games using a joystick connected via Bluetooth or cast their favorite YouTube channels.

- It incorporates voice control via Google Assistant to send voice commands such as asking for particular movies or using "louder/softer" commands to control volume.

- Users can use the nDVR feature to record content in the cloud, allowing them the flexibility to view content at will.

- BYOD allows subscribers to purchase their STB (non-managed STB). Additionally, it enables users to view content using multiple screens (MSO's App, MSO's website, tablets), which solves returning devices and gives users the flexibility to purchase their equipment.

- Native Chromecast functionality makes the video casting experience easy because users don't need to connect their TVs to other devices.

Intraway has integrated Next-Gen services, which provide several innovative advantages to manage Android TV devices.

What drives Android TV adoption

Some of the benefits regarding Android TV adoption have to do with:

- Reducing the cord cut.

- Reducing Churn by expanding included services.

- User experience streamlining vs differentiation.

- Providing new functions on the devices they lease, such as application stores and access to OTT Internet content.

- Reducing the complexity of modeling products and services.

- Optimizing time-to-market and ease of deployment without complex integrations.

- Achieving cost-effectiveness by launching a sophisticated service without a huge upfront investment.

- Guaranteeing platform security: secure content and revenues effectively.

- Reducing device rotation and OS Diversity.

- Being able to manage multiple Digital TV services.

How Symphonica Supports Android TV

Symphonica is completely aligned with all CSPs' footprint and strategy of expanding services to their installed base through a centralized platform that provides the flexibility required to achieve their goals: go digital, drive convergence and provide the best customer experience. It enables the operation of Android TV and sets the basis to operate regionally. The implementation can be carried out with multitenant support including a shared network to simplify integrations, consolidate operations, and reuse business workflows in different countries.

The cloud deployment allows CSPs to focus on their

business without worrying about unnecessary investments in infrastructure and, at the same time, knowing that the infrastructure will automatically scale based on their usage. Symphonica's agility allows deployed use cases to be replicated in each operation, reducing implementation times considerably, ensuring high levels of quality and the ability to adapt to changes from other providers.

Intraway's Symphonica provides a comprehensive suite of service activation packages that help service providers quickly launch new services or roll out new network technologies. Symphonica quick-launch packages include pre-configured activation flows and network connectors that are designed based on industry best practices.

Symphonica is designed to comply with TM Forum standards. It has several modules or "services," which communicate with each other by using exposed APIs or events based on TM Forum Open APIs. In addition, this architecture is cloud-ready, meaning that it could be deployed in clouds such as AWS and on-premise installations.

Symphonica provides benefits for everyone: existing customers as well as new customers or prospects. Both can take advantage of Symphonica from their specific perspective:

Symphonica - Main benefits for Android TV

New customers	Existing customers	Both
Enable new IPTV offering off-the-shelf in a standars-based, no-code, cloud-native solution.	Add new IPTV offering off-the-shelf as a extension of the existing Symphonica deployment.	Reuse the well-known integrations avoiding complex and custom integration requirements
Support regional deployments or share the platform in a multi-tenant instance	Rouse of operational tools already available with Symphonica (Design Studio - Connector Design)	Take advantage of the existing IPTV platforms integrations (TiVO, Kaltura, etc)
Low entry barrier to minimize investment in a SaaS commercial model	Reuse existing integrations wiht Service Platforms to avoid services integrations silos	Ability to modify workflows to adapt use cases and business requirements
		Accelerate time-to-market and revenue streams with a Carrier-class, cloud-native solution

:**It supports not only multiple commercial models but also multiple end-user devices such as:**

- **TVE (TVEverywhere):** the user can consume content from any browser directly from the Content provider Web Page just by authenticating with the MSO account.
- **BYOD (Bring your own device)** model allows the user to use a generic Android TV Set-top-box and contract service from the CSP to access the IPTV offering.

- **Second Screen devices** that allow the user to have access to the acquired services from any device such as a tablet or mobile phone.
- **Managed STB:** that allows the CSP selling the service including the device as part of the offering (which is the traditional way).

Symphonica's Architecture (TiVO ecosystem)

Android TV with Symphonica
A TiVO Ecosystem View
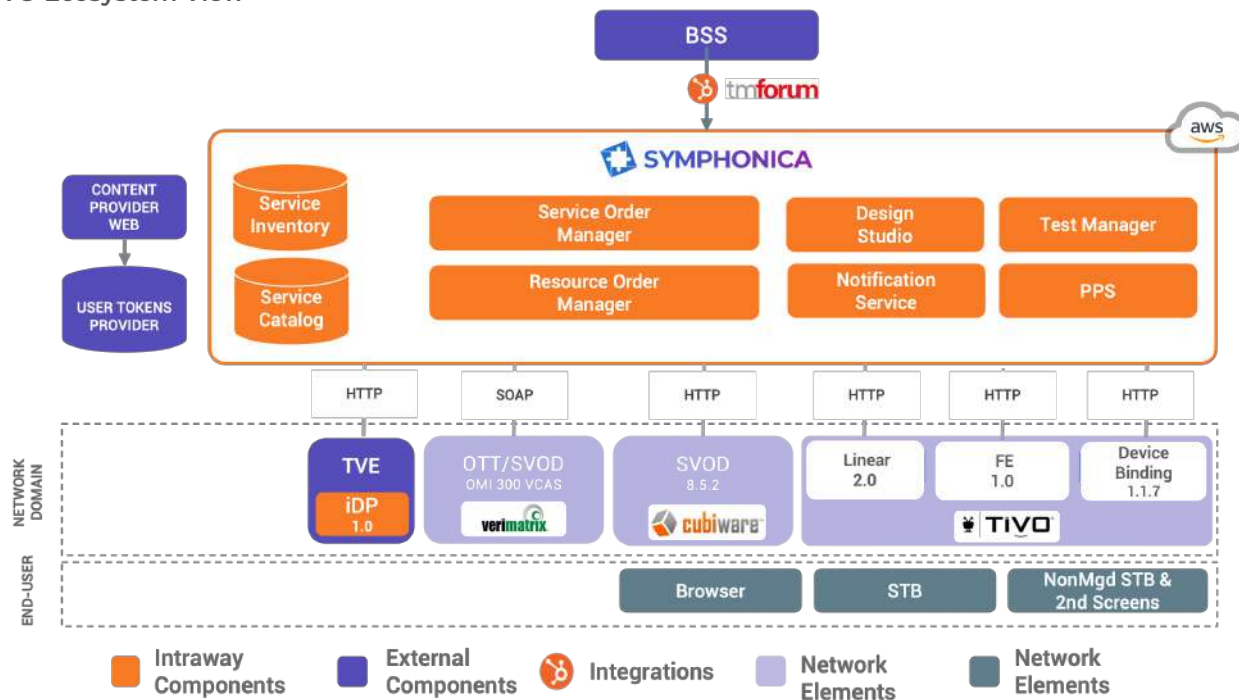
Symphonica allows users to easily integrate their BSS (Business Support Systems) or any network access technology. It also allows them to design custom automated provisioning workflows without any coding required.

The Symphonica architecture starts with the BSS consuming Intraway's cloud-hosted Symphonica API (TMF-641). The solution orchestrates the following services:

- **Content providers (CSP):** Refers to the producers, visual content providers, and value-added services (VAS), such as HBO, Fox, etc.

- **User tokens DB:** It could be a local database of user tokens given to CSPs by an integrator (for example, Toolbox) to prevent their content from carrying MSO user data (Cable Company).

- **TVE:** It refers to the MSO service allowing communication with CSPs to enable TV Everywhere. The MSO client can log into the CSP pages and apps using a username and password to au-

thenticate. They can also reproduce the content directly as opposed to playing it from the STB.

- **Identity Provider:** It's a component that validates the credentials of subscribers with active Android TV contracts, and it authorizes access to a second screen device.

- **OTT (Over-the-top):** allows users to view OTT content via the integration with a CAS..

- **Linear:** allows the activation of the linear content service that "TiVo Linear" provides via the integration to the south.

- **TiVo Feature Enablement:** enables the nDVR function by adding a profile of video recordings stored in the cloud. The subscriber's plan of choice determines the number of hours given.

- **STB:** It refers to the set-top-box device the user installs on their premises.

- **Partner Provisioning Component (PPS):** It's responsible for authorizing services to STB Android TVs with active accounts.

- **BYOD (bring your own device):** allows subscribers to purchase a decoder in a particular form, visualize the content, and view it on second screens (MSO app, MSO website, tablets, etc.).

The Bottom Line

Telecommunications companies need to be more agile to keep their competitive position. They need to offer new services quickly to generate new revenue streams.

In addition, they must consolidate their B/OSS systems to more scalable and modern architectures, reduce network and product maintenance expenses, and deliver an excellent customer experience.

Symphonica, our no-code provisioning platform, can help CSPs during their journey with a standards-driven, layered architecture aligned with TM Forum Open APIs and entities providing fast integration with existing systems.
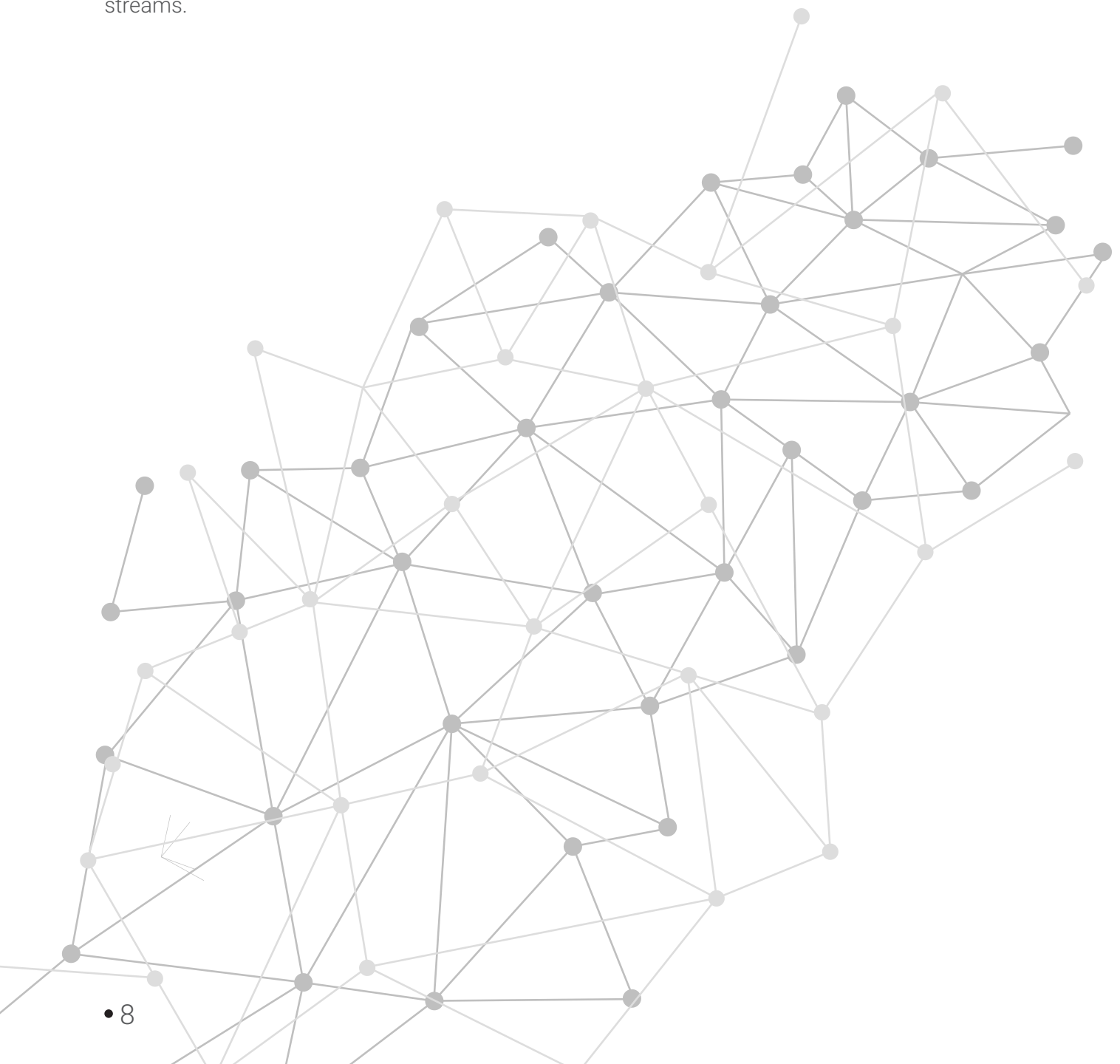
Intelligent Automation for the Autonomous Network

Supporting the service of over 40 million subscribers in more than 20 countries over three continents, Intraway's mission-critical solutions help global telecommunications operators create the network of the future, today. By unleashing the full potential of networks, Intraway's no-code provisioning automation solutions add the latest, cutting-edge functionalities to speed up time-to-market, reduce operational costs, and advance customer-centricity.

Not only do we empower leading communications service providers with innovative, highly configurable, and ready-to-deploy cloud-native solutions that enable seamless provisioning, orchestration, and first-rate service assurance, we do it while guaranteeing Amazing Delivery. This means that from our first handshake through deployment and beyond – we are a trusted partner for the complete service life cycle that is working side-by-side with leading operators towards their success.

Join us and secure your position as a key player in the global digital transformation.

www.intraway.com