



UPCYCLE

**REVITALIZE YOUR
LEGACY DEVICES**



Delivering a modern user experience is the goal for many pay-TV providers, yet many are constrained by the expenses related to updating their video services. While the set-top box is the in-home enabler of a user interface, channel line-up, and desired video programming to the subscribers' TV, it is more than a box. It is a combination of hardware and software technologies that can truly differentiate an operator's video service offering – and the subscriber experience.

EXTEND LIFETIME VALUE

In today's hyper-competitive market, the set-top box platform must balance the demands and expectations of the subscriber with the technical requirements and life time cost of the product. The modern user experience, a basic requirement for most video service providers, includes an updated user interface, multiscreen delivery, blended linear and OTT services on HDMI 1, voice-based content discovery and an agile platform capable of adapting to changing consumer expectations.

This often represents a dilemma for operators facing persistently increasing content costs and tighter CAPEX budgets. The options for updating legacy devices and adding value to existing services have been cumbersome, time consuming and costly. Whether pursuing a lift and replace or cap and grow strategy, the operator typically experiences a spike in both CAPEX and OPEX due to the management of two platforms simultaneously.



THE CFO WANTS A RETURN ON INVESTED CAPITAL



THE COMPETITIVE LANDSCAPE HAS CHANGED ENTIRELY



CONSUMERS EXPECT ENHANCED SERVICES



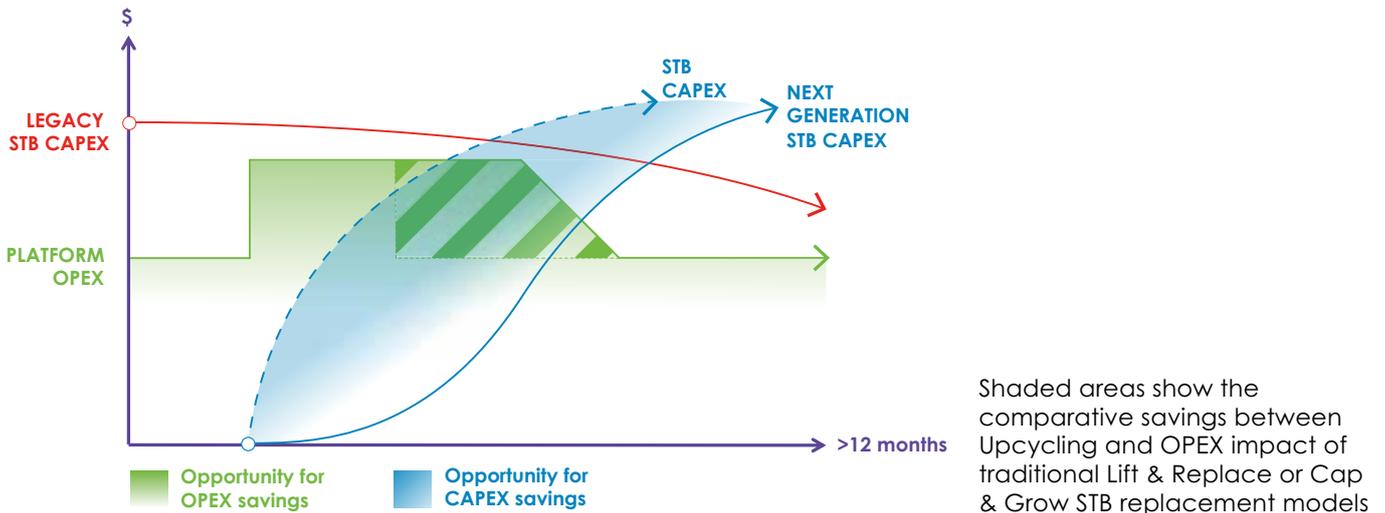
CONTENT PROVIDERS WANT HIGHER FEES



UPDATE SERVICE CAPABILITIES WITHOUT A TRUCK ROLL

Amino offers an alternative for replacing legacy set-top boxes. We call it “upcycling”.

We extend the life of deployed set-top box assets, improving the return on investment. We do this by replacing the firmware, which typically has not been updated. It is replaced by Amino OS, a device platform software layer, and firmware that is that is continuously updated to support the latest standards and protocols being introduced to the TV business. This gives operators the flexibility to update their back-end applications and enhance exiting service capabilities without having to replace legacy STBs.



The diagram above lays out the two traditional models for updating video platforms. It lays out the commercial and operational issues relating to those two models and indicates the advantages of upcycling. The two models are explained in a bit more detail below:

- **Lift and Replace** – is the model whereby all legacy CPE and STB hardware are replaced with a current generation equivalent, and at a first glance this looks like utopia: rapid transition, with no legacy boxes to deal with.

However, this is clearly an extremely expensive approach, requiring concentrated near-term investment for a complete swap out of legacy hardware, which in turn creates the risk of generating a significant and potentially irreversible churn point: which in turn could threaten the ability to maximise ROI within reasonable timescales.

- **Cap and grow** – This model maintains existing customers on the current service, while building a second strand of subscribers with a new, more advanced offering that employs the latest hardware with more advanced functions and services. This approach is simple since it ignores the legacy hardware problem and enables the rapid roll out of new services. Until recently, this has been the most common solution for platform operators.

The main disadvantage to this approach is the duration – perhaps up to 5 years or more. It relies on the natural decline of legacy hardware, with a requirement to commit to operating on two platforms for an extended but undefinable period.

As well as the complexity of managing two sets of eco-systems and suppliers – with the ubiquitous support and maintenance issues – there is a significant risk that existing – and most valuable - subscribers will become unhappy with the “old” service, and will churn out to a competitor.

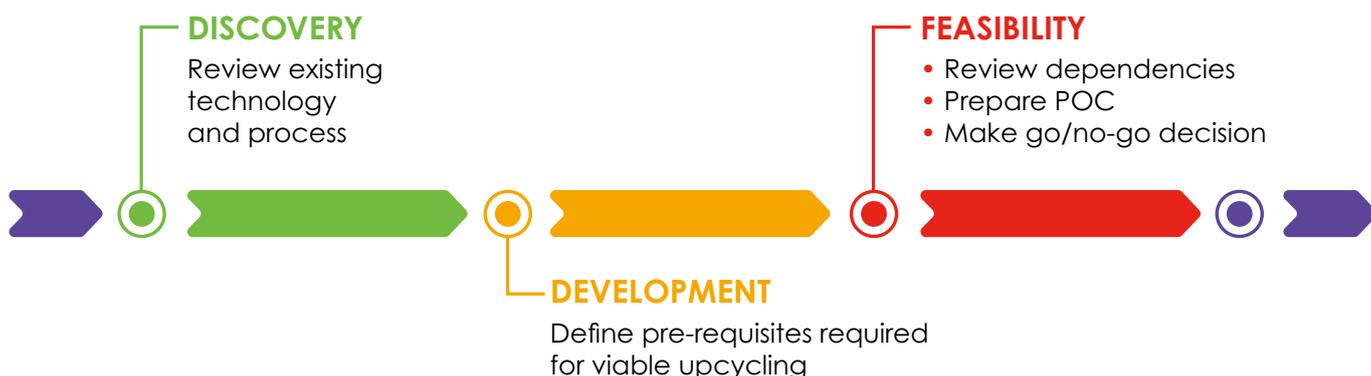
Amino leverages its decades of experience in the set-top box market with keen attention to the importance of the software stack (AminoOS). For example, AminoOS includes a native DASH player that allows operators to deliver OTT services via set-top boxes that were not previously able to enable streaming. AminoOS also supports streaming security platform such as Widevine DRM in addition to traditional conditional access systems.

UPCYCLING BREATHES NEW LIFE INTO AGING VIDEO SERVICES

BENEFIT FROM A PROVEN METHODOLOGY

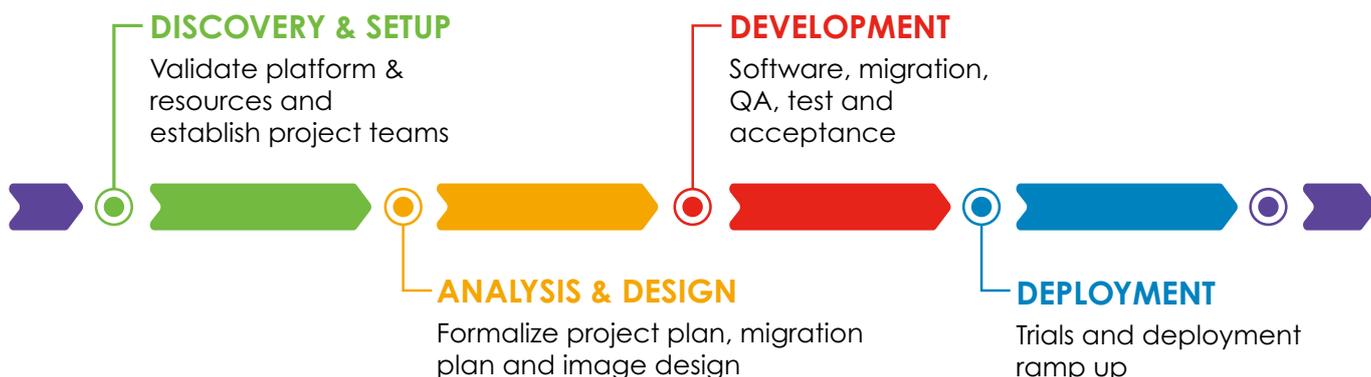
The key to a successful upcycling project lies in Amino’s professional services capabilities. We provide the technical expertise required to manage a legacy migration project. Amino has defined a 2-phase program using a proven methodology.

In **Phase 1** Amino gains an understanding of an operator’s video service environment and defines a Proof-of-Concept (PoC) to determine the feasibility of upcycling the defined platforms.



During this phase Amino identifies reviews existing technology, identifies various dependencies and defines a relevant set of AminoOS capabilities that could be supported on the legacy devices to be migrated. Amino provides a detailed report detailing findings, feasibility and proposed migration process. It is not until Amino and customer review and agree that upcycling is feasible that Amino will initiate the effort to upcycle devices.

Phase 2 represents the preparation and migration of legacy devices to an updated version of AminoOS. Amino collaborates with its operator customers to assemble the relevant internal, operator and partner resources to ensure a smooth migration process.



REFRESH THE USER INTERFACE

In addition to updating the software powering set-top boxes, Amino's sister company 24i, provides a turn-key video app development platform that provides an intuitive and consistent user interface on any and all devices. The updated UI merges the EGP requirements of legacy pay TV with the layout and imagery of OTT streaming services. Operators gain new flexibility to promote their brand and curate content based on subscriber trends, while providing subscribers with the improved convenience of navigating all available content via one UI.



We're delighted to present our subscriber base with a fresh user interface and new media choices without the time-consuming logistics associated with a complete hardware replacement. With Amino's long history of successful deployments powered by Enable TV software, we were confident that Enable was the right choice for our customers

Tom Simpson,
Chief Technology Officer
at Cincinnati Bell



Amino's Enable TV and its professional development team provide strong support to PCCW Media, creating a unique and powerful platform for today and future service innovations. For instance, on top of Enable TV software, PCCW Media is integrating our next generation user interface (UX3) empowering customers to access rich content offerings with greater ease.

Belinda Chan,
SVP of Technology & Operations
at PCCW Media

MAXIMIZE EXISTING ASSETS

Upcycling gives legacy devices new life. Concerns about outdated software and firmware disappear as upcycled devices are easily managed from our cloud-hosted service management platform - AminoSM Engage.

Amino's upcycling program has been proven at diverse customers such as Cincinnati Bell, PCCW, GTD and others. Whether it is migrating from legacy platforms, consolidating multiple device platforms or seeking future facing video devices, upcycling provides a cost-effective alternative for updating aging devices and builds the foundation for keeping them current.

Upcycling allows operators to benefit from extending the life cycle of existing devices and delivering a modern user experience to subscribers.