

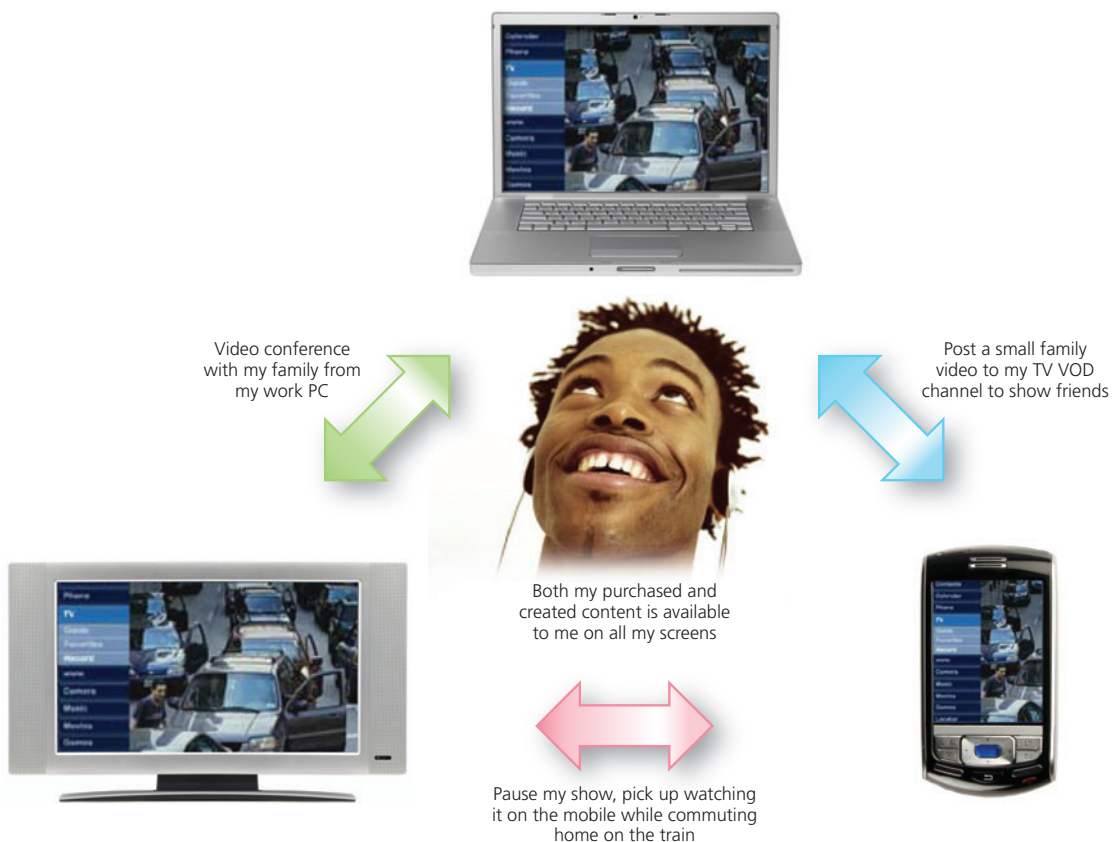
Enabling the Multi-screen Experience

By T. Fuerst, R. Fraser

Introduction

As consumers increasingly incorporate digital media into all aspects of their lives, they want to extend the consumption of these services on “any device, any time, any place.” As a result, the concept of the “multi-screen experience” – which describes a consumer’s ability to create and consume content across multiple devices in a seamless, transparent way – is increasingly attractive (Figure 1). No longer should a particular media asset be intrinsically tied to consumption on a particular device: Both professionally generated content (such as movies, television programs and news clips) and user-generated content (such as home movies or video captured on a cell phone) should be delivered across a range of devices.

Figure 1: The multi-screen experience



After reading this article, service providers will better understand Alcatel-Lucent’s vision for multi-screen services and some of the steps they can take to begin to prepare for this important new trend in consumer behavior and our industry. Decisions taken today to invest in common multi-screen enablers will significantly affect a service provider’s ability to deliver multi-screen services in the future, making it critical that service providers take a long-term view of their network and service

evolution. Of course, every market is different, and it is also important for service providers to understand the multi-screen applications that are likely to have the most impact in their market.

Multi-screen Comes of Age

Demand for the multi-screen experience is driven by a number of factors. The ubiquity of the Internet and its ability to deliver nearly any kind of video content have conditioned consumers' expectations to be able to find and watch what they want at nearly any given moment.

Service providers, for their part, have an opportunity to leverage growing demand for the multi-screen experience to extend fixed or mobile triple play offerings. This not only lays the foundation for tapping into new revenue streams, but also provides a way to establish competitive differentiation vis-à-vis other service providers, device vendors such as Apple or Nokia, and Internet application service providers (ASPs) such as Yahoo or Google.

Offering multi-screen services can help service providers retain existing customers through enhanced features. Respondents to one recent study commissioned by Alcatel-Lucent indicated that a multi-screen service offer would increase the subscriber's likelihood to remain with their service provider by up to 40%. It also seems that customers seeking a richer, multi-screen service experience have a more interactive relationship with the service provider, creating up-sell opportunities through advertising, e-commerce and sales fulfillment.

Implementing a multi-screen experience is not easy, however. One of the greatest challenges faced by service providers revolves around how to make these new services simple and compelling. Consumers are more likely to embrace the multi-screen experience when it is both seamless and transparent. It should not require a consumer to constantly log in and out of different devices, maintain multiple profiles or have to search tirelessly for relevant content.

Consequently, service providers should move away from today's approach of overlaying multiple service delivery platforms (SDPs) and organizational structures for each new service offered. Instead, the multiple SDPs must be transformed to support new business models that allow service providers to monetize relationships with consumers as well as content owners, brand managers and advertisers.

Finding Value through Common Service Enablers

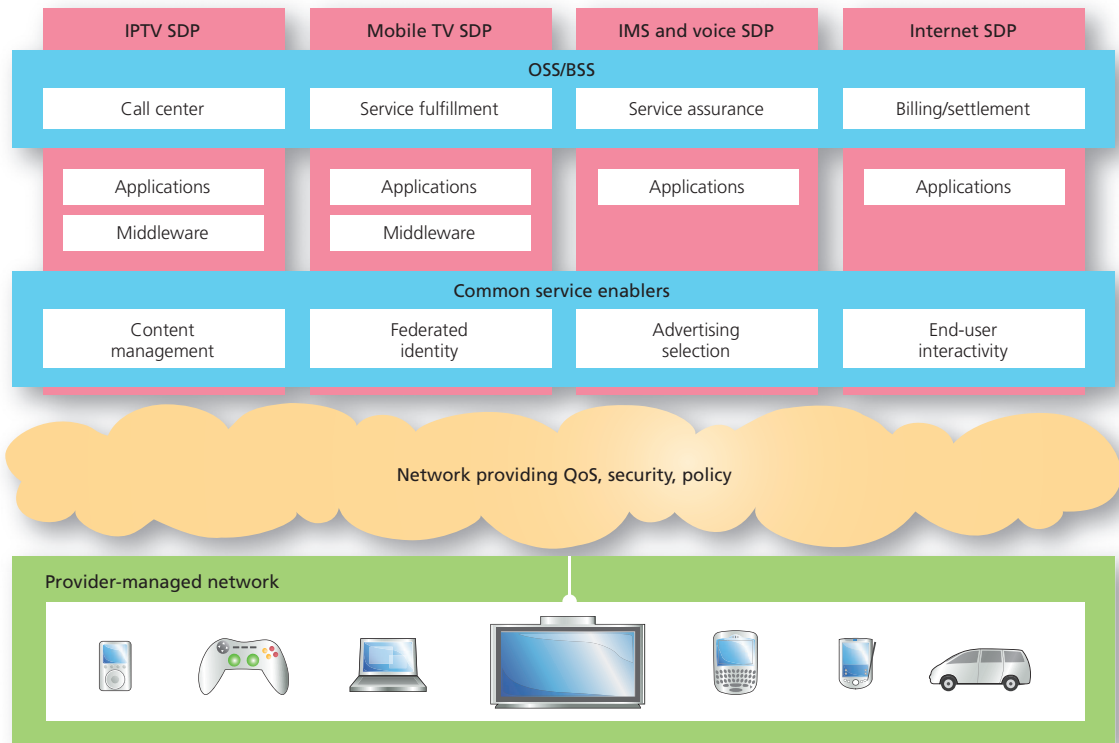
By offering both choice and control to end users so they can consume any content at any time and on any screen, service providers are giving consumers a new level of control over their entertainment experience that has not been offered before – even by the Internet or consumer electronic application developers.

Enabling this service experience is no trivial matter, however, and there are a number of key technology elements that must be in place in a service provider's infrastructure to support a multi-screen service proposition. As shown in Figure 2, the multi-screen architectural framework builds on investments already made in single service delivery platforms, linking them together with a set of common service enablers, such as:

- Converged content management
- Federated profile
- Advertising selection
- End-user interactivity

Each common enabler has a specific role in delivering the multi-screen experience across different users, different service delivery platforms and different devices.

Figure 2: Multi-screen architectural framework



Converged content management

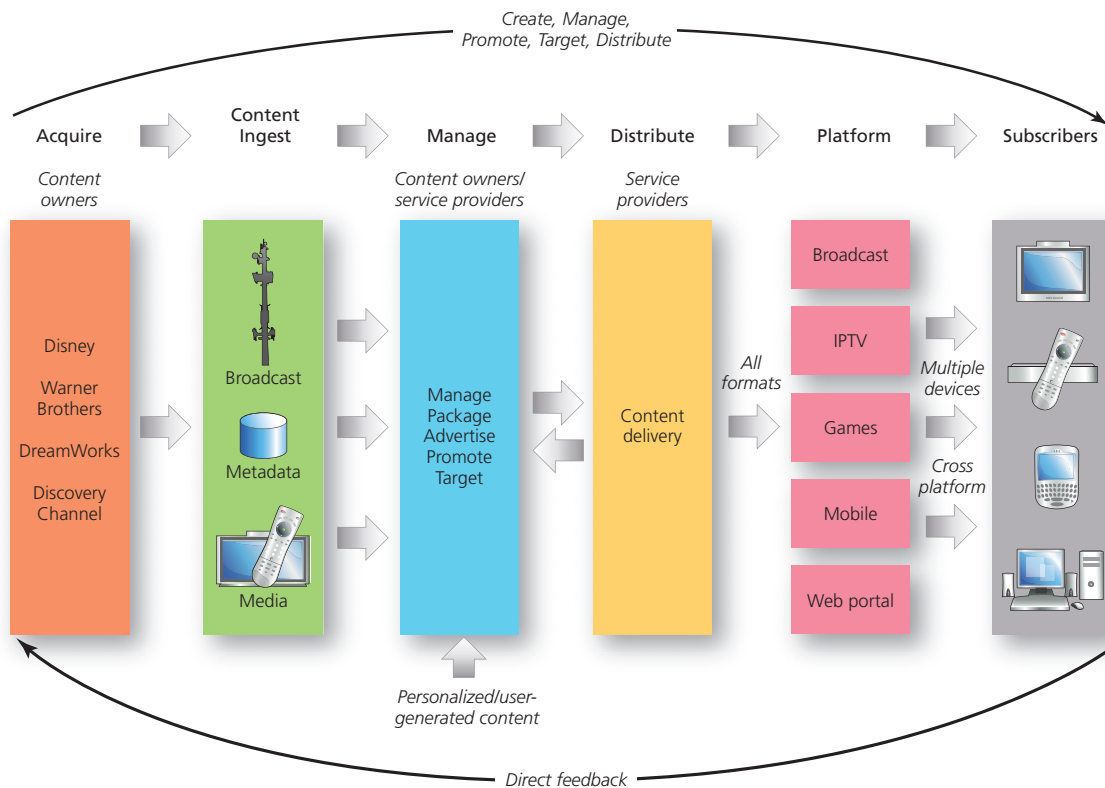
Considered one of the most critical pieces of a multi-screen service proposition, content management is responsible for ensuring the integrity of the content across multiple screens (Figure 3). This objective is challenging because, as the content market becomes more and more fragmented, the service provider will have to manage different content sources (such as where content originates “on deck,” meaning it comes directly from content producers who have a specific relationship with the service provider; and “off deck,” where the service provider is merely acting as a conduit for third-party content, applications and so forth) across all content delivery platforms.

Further, given the wide range of mobile operating systems and display sizes, any real-time content manipulation – such as transcoding from a format applicable to the TV screen to one more suited to the mobile screen – is that much more challenging.

The converged content manager must manage the reformatting, re-encoding, ingestion and correlation of content for the various service delivery networks, including packaging of the content asset with the appropriate meta data – such as genre, rating and production info – for applications to present to the user or other OSS/BSS systems.

Once the asset is ingested, the content management system is responsible for its marketing, distribution and activation according to the workflow and asset lifecycle. Throughout the entire process, the content management platform provides reconciliation and reporting of real-time information on consumption, billing, financial accounting and auditing.

Figure 3: Role of content management in delivering multi-screen



Federated profile

Central to the idea that multi-screen provides a more personalized experience is the need to leverage consumer-specific profiles across multiple SDPs. This is, in fact, one of the key advantages that the traditional service provider has over and above the device manufacturer or Internet ASP – that is the ability to “know” the consumer across each of the SDPs simultaneously. Combining this knowledge with capabilities like EPG and VOD synchronization will allow the service provider to offer end-user-centric services such as enabling the end user to pay just once but watch his content on multiple devices, as well as providing intelligent and appropriate content recommendations.

Additionally, the service provider has to consider the wide variety of mobile devices that could be used to consume multi-screen video. For instance, it is important that the subscriber profile includes attributes beyond just the subscriber account record. To ensure that the content management platform can appropriately deliver the content, other attributes such as the user’s device, screen size and operating system must be understood.

Advertising selection

As service providers build stronger relationships with consumers across multiple screens and deliver more and more content to a variety of screens, the opportunities that arise to address these consumers with relevant advertising cannot be ignored. Assuming the service provider adheres to the principles of the local market’s privacy laws – generally through an end-user opt-in model – the service provider can improve the ROI of any advertising spend through highly targeted advertising, which has great appeal to advertisers and is more likely to be acceptable to and impactful for end users. For this reason, service providers will need to leverage the federated profile and end-user behavior information to select and deliver relevant advertising across all screens.

End-user interactivity

Brand advertisers are looking for new ways to reach consumers who, through their online experience, understand the value of targeted, interactive advertising. Giving consumers the ability to interact with the brands they care about helps service providers, media companies and advertising agencies create a differentiated and compelling TV experience while driving new revenue streams. A multi-screen service extends the opportunities for brands to connect with consumers, and doing so in an interactive manner makes the experience that much more enjoyable and compelling.

Navigating the Complexity

Before any real movement toward multi-screen service delivery can be achieved, service providers should take an objective look at their current network situations, obtain a clear understanding of their present mode of operations (PMO) and assess their strategic needs and technology options. This can be considered a consultation and design phase, with the objective of charting a path from today's multi-SDP, siloed network to the multi-screen network of the future.

As service providers begin to link together multiple SDPs into a broader service delivery environment where certain functionalities are shared across multiple SDPs, they must nurture a very good understanding of what is immediately relevant. As part of the transformation from their PMO to a full multi-screen delivery environment, there will be many intermediate steps, each one representing a key business milestone on the multi-screen delivery path.

Multi-screen service delivery is an evolution, and as service providers transform their networks to deliver the multi-screen experience, they will need a strategy for how to simultaneously maintain and operate their current network. In many ways, it's akin to redesigning and rebuilding an airplane while in flight – not an easy task on any level. Mitigating complexity will require a tight strategy and transformation plan which is fully aligned to the service provider organization's internal capabilities.

In any serious transformation – and multi-screen is no different – the required steps may lead to higher operational costs in the near-term, causing a transformation “bubble” that will have to be well understood and controlled. With adequate planning and deployment tools and expertise, the size of the bubble may be reduced in terms of both costs and time. As the intermediate steps are executed and the future mode of operation (FMO) is approached, the goal is to reduce the cost of managing the business. Service providers must challenge themselves and set clear performance indicators that they are able to track to ensure they are making positive progress toward the transformation goal.

One benefit of this approach to delivering multi-screen is that service providers can begin to realize a return on their investments by launching new, multi-screen services that are enabled by the transformed network. By adopting a strategy that allows new multi-screen services to be integrated, tested and launched as quickly as possible, service providers will not only improve their competitive positioning in the marketplace and attract new subscribers, but also increase the loyalty of existing subscribers.

Critical Multi-screen Enablers

Alcatel-Lucent has vast experience in delivering multimedia services to TV, mobile and Internet screens, and has extended that expertise to delivering the new multi-screen service experience.

We have identified a set of common enablers that are essential for service providers to create compelling multi-screen end-user services, orchestrating the delivery of services and content according to an individual's preferences, regardless of the screen. These key enablers include:

- **Multi-platform content management.** Transferring the content experience in a tailored way to different delivery platforms in an integrated manner will be critical. Service providers must use tools that simplify the delivery of interactive video services across any platform – including IPTV, digital satellite, digital cable, digital terrestrial, PC and mobile. This was evident when Alcatel-Lucent worked with a leading mobile service provider to centralize all content management for multiple screens and enforce the same business flows to all content services. With a single platform, Alcatel-Lucent consolidated all major SDP functionalities, including Content Management, Content Catalog, Service Orchestration, Customer Care, Rating Engine, DRM Server, Subscriber portals and Content Provider portals. By having all of those components integrated and delivered as a single platform, the mobile operator was able to avoid complexity and dramatically reduce project risks and integration costs.
- **Federated Profile Management.** Managing subscriber profile data, including presence and location, will be a key success factor in bringing multi-screen offerings to market. Service providers must be able to track user behavior on different screens in an integrated manner. Thus, the concept of federated profile will be an important enabler, because it offers a universal view of customer activities. Application Program Interfaces (APIs) will be necessary to consolidate, centralize and access information about how specific users utilize new applications.
- **Advertising Selection and End-user Interactivity.** Advertising business models will play an important role in monetizing the multi-screen experience. Service providers will need tools that meet the requirements of the new media environment, such as the ability to quickly select ads, manage ad space, ingest consumer profile information, capture and manage opt-in/out data, flexibly manage campaigns and target specific audiences in a highly focused manner.

At the back end, it will be important to generate detailed operational and financial reports. These were critical success factors when Alcatel-Lucent worked with UK's SKY (the entity that resulted from the merger between Sky Television and British Satellite Broadcasting) to roll out complex interactive TV services. Today, the Sky Active portal is one of the biggest interactive TV applications in the world.

Every multi-screen deployment will be slightly different. Alcatel-Lucent believes that it is important to design solutions that are tailored to meet specific competitive market situations and customer demographics. Once a solution is defined, we also advise that proof-of-concept initiatives should be executed in a lab environment to test and validate new services fully before anything reaches the production network.

The conditions are now ripe for developing and fielding multi-screen offerings. The end-user demand is here, the technology is capable and the time is right to engage. Alcatel-Lucent is working with a growing number of service providers around the world to move the multi-screen concept from vision to reality. Executing on the vision is challenging. Join us on any screen. ❄

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