

End-to-End Advertising Management

Streamline the ad management workflow, maximize revenue and speed delivery – from anywhere

White Paper

Industry Parallels

Today's broadcast and media companies rely upon a number of standards that were developed over the last few decades to ensure that video could be delivered with relative ease to a wide variety of television sets and other devices. These standards have been most commonly developed and utilized at the lower layers of video connectivity and transport. The industry has few frameworks, however, that apply to higher levels of functionality, such as those required to ensure interoperability among different types and manufacturers of equipment, or to support manageability and general ease-of-use. While true of the industry in general, this dearth of frameworks is particularly evident when it comes to the way in which the broadcast business is transacted and how content is managed, stored, and manipulated.

In contrast to the media and broadcast industry, the close, parallel telecommunications industry has grown and flourished almost exclusively in the context of accepted standards and architectural frameworks. For example, in the late 1990s, the GSMA and 3GPP organizations developed a number of interoperability standards and functional frameworks for ensuring that mobile communications systems could interoperate seamlessly with each other, irrespective of vendor or service provider. These frameworks, such as 3G, 4G and LTE, have now become part of the technical lexicon of nearly every end user.

It is within the context of these frameworks that the telecommunications "pie" has substantially grown in the last decade. Indeed, with nearly 7 billion mobile subscribers on the planet today, the subscription rate has grown seven-fold since the late 1990s. The telecommunications industry did something very right in designing their networks and making them ubiquitously accessible, which is largely due to the establishment of frameworks in which to operate and interoperate.

Of course, these frameworks are not the sole catalysts for this amazing rate of growth. They were formed on the assumption that the network would be substantially IP-based from the start, and ultimately entirely IP-based. Indeed, LTE networks are typically an all-IP infrastructure from end to end.

How has IP advanced mobile communications? It allowed for the network to be "flattened." In other words, the effective business workflow is substantially less oriented to the hierarchical construct and operations that plagued it in the pre-IP days. Today, far fewer functional elements are required to get the same amount of work accomplished. The centralization of processing hardware and application software into data centers allows for fewer centers of intelligence and workflow – saving on CapEx, OpEx and maintenance. Since the flattened, centralized components can now operate at significant distance from the end user, networks are freer to expand across geographies. In addition, both IP and the IP-based frameworks offer greater flexibility when it comes to creating, testing and deploying new service offerings.

Although the introduction of IP into the broadcast workflow should provide the opportunity for these same advantages to be realized in the media and broadcast industry, IP alone cannot be expected to pull all of the weight. Moving to an all-IP path without implementing functional frameworks would prevent the industry from realizing the full benefits of IP; therefore, new IP capabilities should always be implemented in the context of frameworks for common workflow functions. These new frameworks should allow the broadcast industry to enjoy the same advantages of IP that telecommunications has enjoyed over the last decade, including more subscribers, improved service velocity, greater geographic flexibility, lower costs and improved workflows.



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Advertising Management Applications and Playout Systems

Initiating a new industry framework is particularly beneficial within the Advertising Management software segment of the business. This includes business applications like ad sales, traffic and scheduling, and billing, which enable management of the advertising and monetization components of the operation. It also includes the playout functions of the broadcast workflow, which comprises the actual playing-out of the video content as it is rendered from live and file-based sources for linear television or over-the-top and TV Everywhere needs. Although business applications are not traditionally considered a part of the broadcast plant workflow, they are now much more closely aligned with playout due to the fact that both parts of the business interact closely with each other, and both are increasingly IP and cloud-centric.

Today's media software applications perform three fundamental tasks related to business monetization: 1) ad sales, 2) program rights and 3) channel scheduling. Typically, a day's playout schedule – the schedule that determines what content will be played out, and in what order – is imported from the applications into the automation system. This schedule is then converted into a frame-accurate playlist of primary events, programs, promotions and commercials, as well as secondary events, branding, graphics and subtitles, which are played out linearly through the network and on to content viewers and subscribers.

A key problem with these business applications and playout systems is that they are often built on massive, independent systems that require substantial interexchange of information and considerable manual intervention. As well, these two interdependent systems typically reside separately on the media organization's premises – each requiring duplicate information stores, customer data and overall management. The equipment used for business application and playout functions may be some combination of proprietary and off-the-shelf hardware, as well as discrete applications software. Most of these functions are currently based in IP technologies, but they do not utilize a standard industry framework to enable vendor interoperability and the other advantages previously outlined. In addition, media organizations often use business applications and playout systems from multiple vendors, creating operational and interoperability challenges since every vendor pursues its own course for the functions, features, and interfaces that are resident in these systems.

Historically, the advertising and traffic parts of the business have been managed separately from the actual playout and network operations of the media organization. The primary relationship between the two departments is based on business needs. Advertisements that are to be played out per contract requirements are placed in schedules based upon expected ratings or impressions, time of day, and multiple other parameters. This traffic and scheduling information is then played out in the automation system, dependent upon the system's ability to accommodate and manage the particular parameters.

The common language between these two systems is the metadata that is coupled with the video content. This metadata provides all of the necessary information to pass the required parameters between systems. For example, the traffic and scheduling system defines parameters for an advertisement to be played out, and that data is shared with the automation system. Once the ad is played, metadata information must pass back to the media system to ensure that the advertiser receives verification of the ad placement and is billed appropriately.

Assisting in the exchange of metadata are proprietary and nonproprietary messaging schemes that attempt to synchronize the various applications of the system. However, this leads to inefficiency and errors. Metadata is passed manually between systems, causing delays and missed opportunities for placement. Information is not passed real-time, and ample opportunity exists for missed billing or incorrect placement. Visibility to this process is restricted, and the ability to analyze and understand the entire value chain is limited. To resolve these issues, SMPTE introduced the Broadcast Exchange Format (BXF), defining a standard for exchanging data between business applications and playout functions. While certainly improving business and technical efficiencies across the media workflow, BXF does not address the need for a framework of functional interworking and interoperability between these components.

Add to this the complexity of integrating the nonlinear world, with links to internet ad serving platforms and the instant decision-making required by dynamic ad insertion into streaming video, and the need to remove complexity while improving communication escalates even faster.

To address the challenge of effectively integrating business applications and playout functions of the business, the industry requires an IP-centric framework that will unshackle media companies from today's premises-based, proprietary models and the limitations inherent within them. This framework should give customers elastic scalability to allow them to manage more video channels, stations, and distribution channels more efficiently, while improving the underlying workflow processes.



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End-to-End Advertising Management

Imagine Communications has introduced an End-to-End software- and IP-based industry framework for enabling customers to migrate media and playout functionality to the cloud. The framework creates an underlying architecture of modular, IP-based services, fundamentally improving the way media companies manage their workflows and monetize their media assets.

The Imagine framework combines media and playout software modules in a standards-based environment that utilizes the cloud and virtualized computing capabilities, allowing media companies to efficiently manage their businesses across formats, delivery platforms and multiple locations. This service-oriented framework can optimize the infrastructure that media companies already have, providing a seamless migration path to cloud-based, next-generation media and playout.

With the End-to-End platform, broadcast and media companies are able to deliver a tightly integrated workflow, from program acquisition and sales to media delivery. For existing customers, this framework can encompass core Imagine Communications products, including sales, rights, scheduling and analytics, as well as automation, servers, integrated channel playout, dynamic ad insertion, branding and media asset management, enabling a simplified, step-function migration to the framework.

The End-to-End Advertising Management framework allows media companies to launch powerful, new applications that drive and extend their businesses, while leveraging the investments and workflows that are presently being utilized. Because it is a standard framework, media companies can utilize the capabilities from multiple vendors. As well, they can enjoy all of the benefits that a centralized, standard architecture can provide, including a flattened network with simplified workflows, reduced CapEx and OpEx, geographic flexibility and improved service velocity.

The Architecture and Business Logic

The framework architecture — shown in the graphic below — features a layer of reusable services to access common data repositories, and a top layer of applications that share and interact with the services. The applications can include campaign management, traffic, scheduling, and linear and nonlinear playout and delivery. Regardless of the number of applications, they can all share the services layer and data repositories, thereby delivering an integrated, end-to-end solution. As multiplatform and multiscreen become increasingly important, the framework can simplify the task of developing new supporting applications. This, in turn, helps broadcast and media companies monetize their content as they launch new delivery platforms.

The business logic underlying the framework services layer is evident in the proven and field-tested products in the Imagine Communications portfolio. Users benefit from the stability of the existing core modules, as well as from a modern, message-based, service-oriented architecture where integration becomes easier, faster and cheaper, and scalability and elasticity become more inherent.



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The Advantages of an Imagine Communications Solution

- Drive efficiency with heightened metadata and content availability for all users.
 - Master control operators are able to make informed decisions about the best ways to adjust or add to the transmission playlist. Visibility of underperforming campaigns allows operators to decide upon the most appropriate commercials for unused inventory, and to change the order of ad-breaks to reflect a predicted shift in program ratings.
 - Schedulers can access a time-accurate schedule, ensuring that all available air time is monetized. The generation of a frame-accurate playlist is shifted upstream, increasing the efficiency of the master control operation, reducing the need for operator intervention and helping to increase operator to channel viewing ratios.
- Gain access to program rights for live web streaming.
 - As more consumers watch video online, broadcasters and service providers are offering online video streaming to accompany their traditional TV services, and effectively launching new linear channels onto new platforms. In this emerging environment, the rights for airing content can be different across platforms. Framework services enable payout systems to be "rights-aware" and avoid infringement of contracts with content suppliers.
- Deliver multimodal content.
 - The automatic triggering of work orders or file-based workflows via a common services layer improves the efficiency of creating multiple versions of media required for multiplatform distribution.
- Simplify and enhance integration capabilities.
 - APIs will offer greater integration opportunities for third-party solutions such as integration into CRM systems.

Leading Industry Innovations

The Imagine Communications End-to-End Advertising Management solution is a software-based industry framework in which the services and data repositories provide the core, standard working system. This framework can substantially advance the industry by providing all of the advantages of a flexible virtual framework, enabling media companies to adapt to market dynamics much more quickly. With this service-oriented architecture and cloud deployment model, media companies will also be able to launch powerful, new applications that drive and extend their businesses, while leveraging the investments and workflows that are presently being utilized. Imagine Communications has all the components required for this service-oriented framework that includes sales and scheduling, automation and playout, and the company is actively developing and deploying solutions that utilize this framework.