



**Bringing Sanity to the Content
Everywhere Conundrum:**
*The need for a pervasive and unified media
workflow and Communication Utopia*

F R O S T  S U L L I V A N

A Frost & Sullivan White Paper

Mukul Krishna, Senior Global Director, Digital Media

Vidya Nath, Global Manager, Digital Media

Anisha Vinny, Industry Analyst, Digital Media

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CONTENT CHAOS: THE NEW NORMAL?

Ubiquitous networks and hyper-connected devices have thrown media companies into a tizzy. Consumers today have access to content as never before and on their terms. This seismic shift from protected and easily monetizable business models to trying to cope with competition from over-the-top (OTT) services and media consumption in an unmanaged device environment is the biggest challenge media organizations have faced in a long time.

To meet the rising consumer appetite for time, space and device-shifted on-demand content, media companies are struggling to understand and deploy technologies that will help them meet this demand. Success depends on the ability of media companies to have extensive and well-connected workflows spanning the content lifecycle: creation, management, transformation, delivery and monitoring. Added to this is the dire need to tie the content to sound business models that will help generate increasingly more revenue in line with changing content consumption habits.

For the most part, media companies have had a very tactical knee-jerk reaction to the changing marketplace. Instead of looking at the larger picture, most have tried to cope by throwing money at point solutions and/or homegrown technologies. Though a few have succeeded to some degree at meeting consumer demand, the cost has been high. The media industry is a business and for it to thrive, technology should be an ally to lower process pain while delivering profits – not a cost center.

The consumer market is fast-changing and media companies need to be agile and change with their customers. They need to make strategic technology acquisitions that address the continuous value chain of digital media and not just pain points as they arise. This paper is a call to action for media companies to make the leap and embrace technologies that, when deployed in conjunction with sound business processes, position them for sustainable growth and profitability. Through this paper we will discuss key pitfalls for media companies to avoid, while also exploring best practices to benchmark against.



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THE NEED FOR A “SMART” CONTENT ECOSYSTEM

For decades, media companies have pushed content across very limited channels to consumers. With almost no interactivity, differentiation was largely based on pricing. Business models were based on subscription or ad-supported models spawned from outbound marketing campaigns. The entire industry essentially stagnated; then came the Internet and, more recently, the Internet of Things (IoT).



Today's content consumption patterns are not linear, but unfortunately most of the processes that bring content to consumers still are.



IP-based networks and the Internet have essentially disrupted the entire media ecosystem. TV by appointment is fast becoming a thing of the past as consumers today want to, can and do access content across myriad devices. Today's content consumption patterns are not linear, but unfortunately most of the processes that bring content to consumers still are.

Frost & Sullivan's conversations with CXOs of some of the top global media companies have yielded the following top four areas of investment that they have prioritized:

1. Managing content across its lifecycle: Media Asset Management with robust metadata schemas and tight integration with business and creative workflows
2. Transforming content for multi-platform distribution: Nonlinear editing, encoding and transcoding
3. Protecting revenue streams: Conditional access, DRM and digital forensics
4. Monetizing TVE: Deep analytics, personalization and targeted user experiences

The next part of this paper will discuss these issues in context of real-world challenges, highlighting pitfalls to avoid and best practices to embrace.

CREATE ONCE AND DELIVER EVERYWHERE: BUILDING A FUTURE-PROOF MEDIA WORKFLOW

A regional network broadcasting four channels primarily in South Asia and also across the US, Singapore, Malaysia and the U.A.E., has content archived in very high resolution. Distribution of this content to new media requires the use of multiple formats. Without a centralized content management platform, every piece of content requires four to five steps individually for content transformation, such as manually transcoding in separate formats, saving as different files and distribution of every piece of content to different platforms – all of which currently requires manual intervention with the system.

With an efficient and pervasive management system that integrates these siloed and disparate pieces together, ingest and proxy creation using transcoding for additional production value-addition can be done in real time, while allowing access to all relevant departments. Retrieval of relevant content through efficient meta-tagging, and then automated transcoding in multiple formats and distribution, can be made seamless, reducing the time significantly.

Often the company has considered creating its own in-house solution for managing the content lifecycle or buying a product and installing it. However, constant change in content workflows due to multiple new channels to distribute to, new technology updates, and the need to distribute video to different geographies and service providers complicates the requirements. This has created frustration for the organization, as it does not have the much-needed flexibility through disparate point solutions. In addition, maintenance of such a deployment is perceived as a "headache."



Many media organizations today, when pressed to implement a platform that spans the content lifecycle, have either pieced together various point solutions available in the market or have developed homegrown solutions. This ad-hoc, customized approach has created a drain on IT resources.



Content creation is now fluid and not an isolated function. Whether it's broadcast news or a Hollywood studio creating various versions of a feature spanning languages and 3D versus 2D versions, the creation process is complex, disparate and nonlinear. Media workflows, however, are not optimized for this, as they have traditionally been siloed with specific hand-off points between pre-production, production, post-production and distribution.

Today's consumers are not married to a single device either. Content needs to be pervasive, as do business models. Most media companies in the current environment are simply pushing content over the top without a clear business strategy, just because they have to, as that's where their customers are.

For a media company to be successful, it needs to ensure its workflow is optimized to manage the content lifecycle from creation through consumption across multiple screens.

Many media organizations today, when pressed to implement a platform that spans the content lifecycle, have either pieced together various point solutions available in the market or have developed homegrown solutions. This ad-hoc, customized approach has created a drain on IT resources:

This drain on resources is due to many factors, including:

- The time and money required to develop and integrate the solutions
- The requirement to maintain and upgrade these solutions over time
- Collaboration and portability issues associated with the lack of industry standards and best practices
- Business users are forced to rely on IT resources rather than work autonomously

Integrating and streamlining the various point solutions into a seamless “video value chain” is therefore a core requirement for companies embarking on a media workflow initiative.

SHOW ME THE MONEY! USING UNIFIED MEDIA WORKFLOWS FOR MULTISCREEN MONETIZATION

No matter how great the content is, its value today depends on the intelligence that can be extracted from it and tied to business models. Today the consumer is king and media companies need to understand that. Personalization and targeting content to the preferences of the consumer are necessary for market success. The vehicle to achieve this utopia is metadata and, in most cases analyzed by Frost & Sullivan, metadata was either too sparse or did not fully carry along with the content through distribution. In today's market, media companies need to ensure that their content is pervasive and viewership is measurable.

Collecting data, measuring usage and creating a constant feedback loop enables media companies to make their content highly personalized down to the consumer, and therefore very sticky. Further, advertising revenue is highly dependent on how well the viewer can be measured and relevant advertising can be inserted pre-, mid- or

end-roll. It is critical to ensure that metadata associated with content is rich and carries through to consumption. Without that, any analytics at the front end will only provide the ecosystem with usage statistics and not enough intelligence to truly personalize that experience in real time – a key competitive differentiator.

The Asian division of one of the largest broadcast networks and Pay TV operators has a network of 40 channels (including eight HD) in seven languages, reaching 600 million viewers in over 100 countries. It has an exhaustive list of service offerings that span genres, HD channels, video-on-demand, catch-up TV and pay-per-view content on Internet and mobile networks. For multimedia distribution, the organization has been using a content management system that allows ingest, logging metadata, basic retrieval and archival. However, the demands of the organization have expanded beyond general transcoding and streaming needs.

The multimedia division requires content retrieval from disparate sources, both internal to the network as well as external, to transform the content, add advertising, and include rights management as the content gets distributed under different types of services to multiple regions. The company also needs to integrate translation and closed captioning, while also looking at transrating since network speeds might vary across countries. The operator also needs insights about viewership on unmanaged devices to create and modify business models for its OTT initiatives. All these actions today are worked on as isolated functions with a high degree of manual intervention. Ensuring high-quality delivery across many channels with optimal use of resources is a critical challenge that the organization is trying to overcome today.

MEDIA ASSET MANAGEMENT AND BEYOND: UNLEASHING THE TRUE VALUE PROPOSITION OF AN END-TO-END MAM

Many times companies have deployed a media asset management (MAM) as a point solution and expected it to solve all problems. As detailed in Frost & Sullivan’s paper, “*Going Beyond Media Asset Management: The Value Proposition of Production Asset Management*,” a MAM is arguably the most important part of the equation. It empowers media companies to significantly reduce costs associated with siloed work, accelerates cycle time, and optimizes workflows through enhanced collaboration and automation, while generating greater productivity and revenue through repurposing resources and content. As great as all that is, today’s needs require a MAM to go well beyond that and integrate business processes throughout the content lifecycle and all the way downstream to the consumer.

Having a MAM that just helps with the production or post-production process simply does not cut it anymore. Content, in all its lifecycle stages, needs to be accessed and collaborated on by relevant stakeholders across devices, applications and locations. Considering talent could be external to the media company and use a diverse array of creative tools, this becomes a critical factor to ensure high-quality content in a timely manner. Such a platform would not only integrate with all the traditionally disparate and siloed production tools and processes, but also with business processes, making the workflow flexible, scalable, protected and measurable while leveraging the cloud.

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Considering the nonlinear nature of content creation and consumption, a MAM needs to be the nerve center through which the entire content lifecycle and value chain of media services can be orchestrated.

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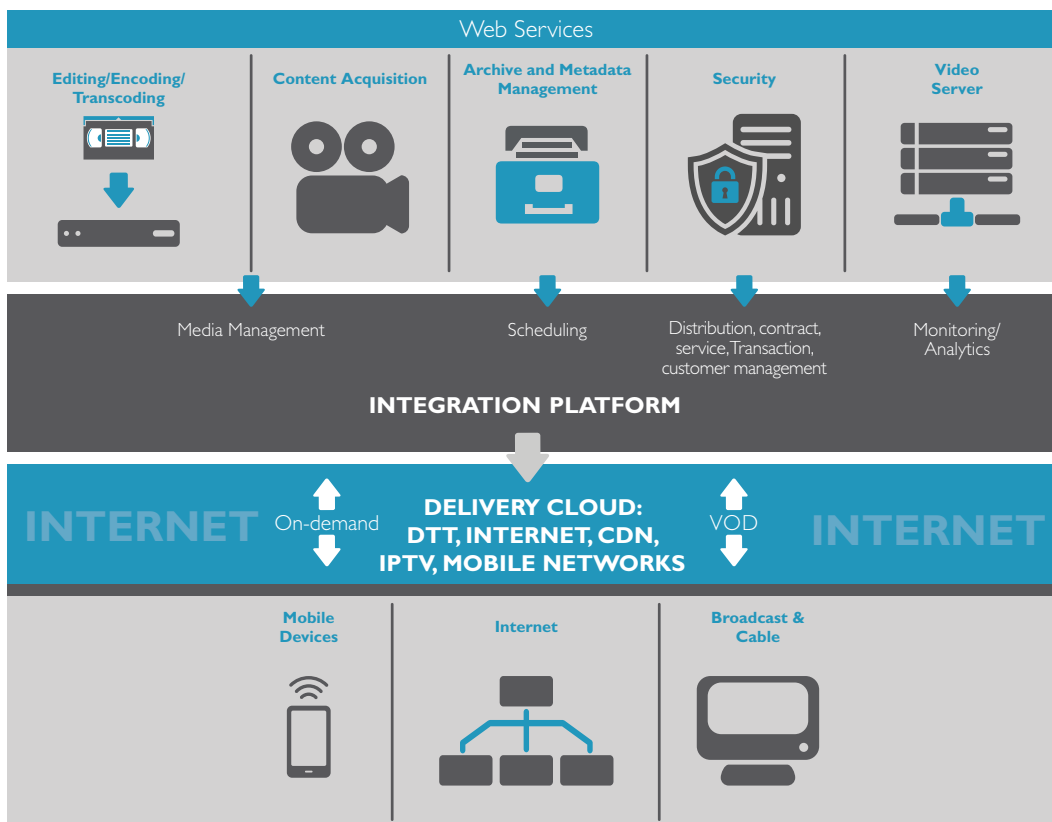
A Pay TV network in the Middle East and North Africa offers nearly 140 channels across different genres. The network is actively digitizing all its legacy content, and considers distributing content in digital formats to TV as well as Internet and mobile networks as its current imperative. However, the network has not been fully successful in creating its own digital distribution platform. Hence, the network creates short form (5-10 minute clips) of its popular content to be distributed through user-generated portals.

What the network envisions is being able to create its own online portal where viewers can have a log-in to view the content fully, regardless of the device, but the challenges are numerous. Though the organization has seen some benefits in production thanks to its MAM, currently the MAM used is not fully integrated with all aspects of the workflow. In addition, the organization has an integrated broadcast management system that is also not fully tied in with the MAM. Finally, the rights management system is also used independently of the MAM.

What the organization needs is integration of all these systems, ultimately also tying into an analytics engine. Today, the disparate nature of the workflow has not let the company benefit from its TVE initiatives, as it bleeds cash trying to orchestrate an end-to-end workflow using disparate point solutions.

BUILDING A BETTER MOUSE TRAP: USING TECHNOLOGY TO CREATE THE MEDIA WORKFLOW YOU WANT

From all the conversations Frost & Sullivan has had with media executives, one common theme that has constantly stuck out is the need for a single platform that integrates and streamlines a media company's end-to-end workflow. This workflow, as represented below, needs to account for ever-changing video consumption habits and help media companies be more agile in executing their fast-evolving business models.



We have so far discussed the key challenges facing media companies, analyzed their requirements and highlighted the strategic imperative of a unified media workflow. Such workflows are not pipe dreams, and as described earlier, are urgently required by the industry. To further exemplify how technology available today helps meet these challenges, this section will use the example of Avid and its Avid Everywhere™ strategic vision to illustrate how the vendor community is actively addressing these challenges.

SOLUTION BRIEF: AVID EVERYWHERE

The Avid MediaCentral Platform is the foundation that ties together all compatible Avid and third-party products, tools, and services that run on top of it. The platform doesn't require any additional software purchase or installation to access or use, as it is built into the framework of all compatible products and services owned by a media company and provides the following shared services:

Media services provide access and interaction with media stored and/or managed by products connected to the platform in a variety of ways. For example, with centralized media playback services, a media company can stream audio and video content housed on an ISIS system from within their application. With the new MediaCentral | Index option for the platform, a media company can search multiple Interplay databases to find files fast—no matter where they are stored.

The Connectivity toolkit enables robust customization of workflows by adding the tools and services a media company would need to the Avid MediaCentral Platform. The platform currently provides APIs and SDKs for Pro Tools and Media Composer plug-ins, Interplay | Production and iNEWS, enabling its more than 600 third-party technology partners to integrate their tools and services into these product workflows.

Workflow orchestration within the platform creates an underlying engine that will enable media companies to automate processes, optimize workflows, and analyze data across the Avid MediaCentral Platform. These orchestration services take care of a multitude of tasks to boost performance and efficiency, as well as help make data-driven decisions.

Unified user administration and configuration further enables access to all user authentications, permissions control, and platform settings from a single, centralized management system, providing a very agile and fast way to control access to the platform. For individual users, a simple sign-on enables free movement around the platform.

Accessing the platform is highly simplified, as MediaCentral | UX—the front-end user interface to the Avid MediaCentral Platform – provides a unified experience, whether a user is using a software application or Web browser to interact, or working on a laptop, desktop computer, or mobile device.

Additionally, to help you create, manage, and distribute media, the Avid MediaCentral Platform supports a wide variety of products and services organized into the following three collections:

Artist Suite: This encompasses all of the products and tools typically used to create content, including digital audio workstations (DAW), music notation software, control surfaces, video editing solutions, and graphics creation systems.

Media Suite: This includes all of the tools and services typically used to manage, protect, distribute, and monetize content, including solutions for newsroom management, asset management, remote collaboration, multiplatform distribution, metadata tagging, protection and encryption, and analytics.

Storage Suite: This part refers to all of the products and tools typically used to capture, store and deliver media, including online storage, nearline storage, archive storage, and ingest/payout servers.

The Avid Everywhere vision also seeks to empower content creators to connect and collaborate with other media professionals, as well as connect with consumers, through the development of a public marketplace. This takes the pain out of sharing and monetizing media, while ensuring rights are managed and content is protected across the environment.

Additionally, studios and media companies will be able to set up private marketplaces that enable collaboration to streamline production. This will open new opportunities and change the dynamic of what production companies can do when faced with increasingly shorter timeframes and smaller budgets.

Further, to ensure that a media company's assets are fully protected, Avid will be introducing a new open metadata schema that will enable a user to manage, protect, and track every single media asset created and edited using these tools across the entire production and media value chain – throughout its lifecycle.

Using an open approach, the Avid MediaCentral Platform core of the Avid Everywhere vision is a big step forward that will help media companies eliminate workflow silos currently prevalent throughout the ecosystem, making it a true value chain. It will provide a standardized foundation that connects media creators and distributors, regardless of who makes the products a media company chooses to use. This ultimately revolutionizes how a media company operates and minimizes the pain by providing greater flexibility in choice of tools and the ability to customize and scale complete end-to-end workflows.

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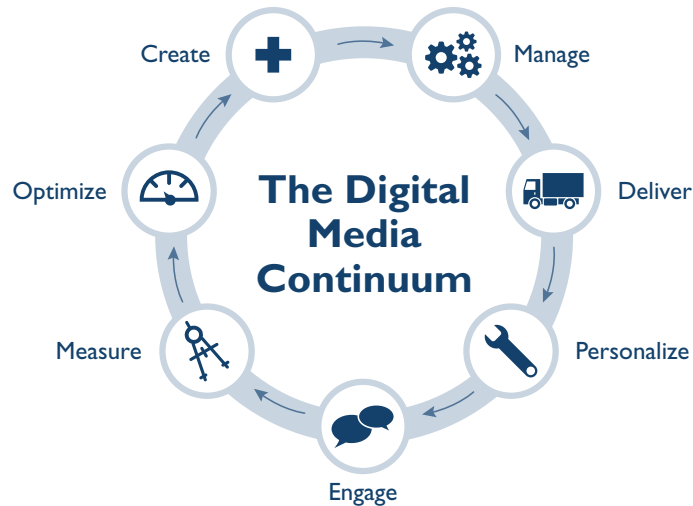
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THE BOTTOM LINE

REVISITING METADATA

Metadata is arguably the most important piece of the puzzle after the content itself. Content devoid of metadata has no context and, in essence, becomes useless. For a media company to be successful, it needs to marry its business processes with its content ecosystem. Metadata is that essential glue that brings context to content as well as business processes. It not only helps media companies understand and optimize the production process, but also enables media companies to gain intelligence about content usage – intelligence that is critical to compete in today's content everywhere environment.



Through this paper we have discussed the critical need of unified media workflows that foster contextually-aware business processes and process-aware content. Though numerous point solutions exist that take care of tactical needs, to remain relevant, media companies need to think more holistically. The use cases discussed in this paper highlight the critical need of a unified workflow and the pain points faced by companies with ad-hoc, underutilized technology pieces. In a fiercely competitive media business environment, there is a limit to the amount of money a company can throw at different point solutions or homegrown initiatives. The total cost of ownership soon overwhelms companies as they start hemorrhaging at the bottom line.

CALL TO ACTION

The great news is that there is technology available today that helps us address these challenges, as seen through the example of the Avid Everywhere brief. As a media executive, the onus is on you to explore the vibrant vendor community and ask yourself the following questions:

MEDIA WORKFLOW NEEDS ASSESSMENT MATRIX

	Yes	No
Business applications required to create and publish video content		
<ul style="list-style-type: none"> • Live event streaming, including cloud-based queuing and scheduling for live, linear OTT broadcasts 		
<ul style="list-style-type: none"> • Video On-Demand, including tools to edit, assign metadata and categorize video content, as well as workflow to publish events to portals and/or other access devices 		
<ul style="list-style-type: none"> • Digital signage for delivery of video events to defined signage end points; configurable playlist to define “what to play where at what time” 		
<ul style="list-style-type: none"> • Video sourcing for ingestion of pre-existing or externally produced events, as well as live event streaming through publishing system 		
<ul style="list-style-type: none"> • Monitoring and reporting, including reports that indicate “who viewed what for how long,” event relevance, and media workflow monitoring 		
Management of network components required to stream and distribute video content		
<ul style="list-style-type: none"> • Integration with multiple third-party Content Delivery Networks to automate content distribution 		
<ul style="list-style-type: none"> • LDAP integration for authentication of users, or integration to other third-party or in-house developed authentication systems 		
<ul style="list-style-type: none"> • Multiple levels of failover across the entire length of the distribution chain: encoder, streaming server, and distribution path 		
<ul style="list-style-type: none"> • Proximity services that automatically determine the mapping of end users to geographic end points 		
<ul style="list-style-type: none"> • Dynamic URL generation created automatically for each video event to avoid unauthorized access 		
<ul style="list-style-type: none"> • Automated publishing point setup and teardown, in the form of video publishing/distribution templates, to minimize manual IT per-event configuration 		
<ul style="list-style-type: none"> • Clustered server environment for video streaming and end-user interactivity to support large concurrent audiences 		
<ul style="list-style-type: none"> • Live to video on-demand (VOD) transition to seamlessly archive live-event to VOD for future playback 		
<ul style="list-style-type: none"> • VOD scalable distribution, including pre-positioning to edge servers and deletion from the edge upon asset expiration 		
<ul style="list-style-type: none"> • Extensible platform that integrates with and readily adapts to other technologies added to the video infrastructure: encoders, CDNs, authoring tools, search tools, etc. 		

	Yes	No
Asset management for the storage, categorization, and retrieval of video programs		
<ul style="list-style-type: none"> • Unified storage system that allows the creation, ingestion and storage of all video assets across the workflow 		
<ul style="list-style-type: none"> • Video asset management, including creation of program bundles that include video stream and downloadable files 		
<ul style="list-style-type: none"> • Video metatagging, including automated metatag attribution at creation and ingest, and manual override/addition capabilities 		
<ul style="list-style-type: none"> • Asset categorization and search, including publishing video to pre-defined “channels” and calendars, to provide multiple means to locate and view programs 		
<ul style="list-style-type: none"> • Video content expiration, scheduling content for expiration and automated deletion from user interfaces and network edge locations 		
<ul style="list-style-type: none"> • Digital Rights Management for integration with third-party DRM systems to ensure content protection in distributed environments 		
Program viewing across multiple viewer formats		
<ul style="list-style-type: none"> • Customized user experiences for administrators, publishers, and viewers 		
<ul style="list-style-type: none"> • Dynamically-generated end user portal that displays only the content for which an end user has access rights 		
<ul style="list-style-type: none"> • Integration with third-party portal technologies to expose video content and services for TVE 		
<ul style="list-style-type: none"> • Integration with single sign-on technologies 		
<ul style="list-style-type: none"> • Video content syndication to multiple Web properties, mobile devices and digital signage displays 		
<ul style="list-style-type: none"> • Program search and retrieval, via user search, categorization, and calendar updates 		
<ul style="list-style-type: none"> • Content subscription services to enable push of content to end users based on topics of interest and live events 		
Centralized management system with remote access capabilities		
<ul style="list-style-type: none"> • Centralized administration console, available through Web interface to distributed personnel 		
<ul style="list-style-type: none"> • Remote location management, supporting multiple encoders, encoding formats, and distribution paradigms at multiple distributed locations 		

If you answered “yes” to any of these questions, you owe it to yourself and your organization to start exploring the market for solutions that best meet your needs. The marketplace is changing rapidly, and your ability to survive and thrive depends on it.

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331 E. Evelyn Ave., Suite 100
Mountain View, CA 94041
Tel 650.475.4500
Fax 650.475.1570

San Antonio

7550 West Interstate 10,
Suite 400
San Antonio, TX 78229
Tel 210.348.1000
Fax 210.348.1003

London

4 Grosvenor Gardens
London SW1W 0DH
Tel +44 (0)20 7343 8383
Fax +44 (0)20 7730 3343

877.GoFrost
myfrost@frost.com
www.frost.com

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Frost & Sullivan
331 E. Evelyn Ave., Suite 100
Mountain View, CA 94041