



The Third Wave of Media Production Productivity:
How Avid® Interplay® Saves Time and Money

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Introduction

Those responsible for producing and distributing media face mounting challenges – but also major opportunities – in a rapidly changing environment: a shift to HD for television and to high-resolution digital for cinema, a proliferation of new camera formats, and an explosion in outlets for delivering media. In many environments, team size is increasing and becoming geographically dispersed, the volume of content is increasing, and the challenges of managing and securing productions keep growing. And the pressure to produce more content with better production values under tighter deadlines and budgets never ends.

The purpose of this paper is to explore these and other issues facing media production today, and identify areas that have resisted improvement until now. This paper introduces the first nonlinear workflow engine, a new foundation on which to build the third wave of productivity gain.

The Third Wave

Media creators can realize bottom-line improvements as a result of the third major wave for productivity gain in digital television and film post production : nonlinear workflow.

Avid launched its first wave of digital productivity with the nonlinear editing system, which not only freed editors from linear process dependency, but consolidated what had been multiple VTRs, switchers, DVE and other gear into a single workstation. The benefits were easily understood, and NLEs were rapidly adopted. From 1991 through about 1998, each new release from Avid and other vendors brought new sets of features that delivered relatively significant incremental productivity benefits. Since about 1998, however, the incremental benefits from new features have tended to be smaller, simply because the scope of what an editor does has been fully addressed – and expanded – about as much as is possible.

The second wave came from real-time media networks. Most production environments involve multiple people needing access to media within a relatively short period of time. The Avid Unity™ media network introduced a big savings in speed and cost. The media network eliminated time consuming and cumbersome drive-swapping and other media exchange, file transfers, and serial process dependency. The benefits were not as easily understood at first, compared with NLEs, because they were almost purely in workflow gains, which can be harder to quantify, but are no less real. In fact, today the media network is for most facilities a given; they wouldn't think of working without one.

The third wave of productivity gain comes from re-engineering the entire content creation process. The fact is, NLEs and other applications were designed as standalone islands of creativity. They may be

linked with media networks, and may have the aid of interchange protocols like MXF and AAF, but significant workflow and capability limitations still exist, particularly noticeable when a full-capacity process is challenged to deliver more, deliver in less time, and to better extend and control media access – with minimal investment. Until now, no one has designed a system to optimize the multi-contributor creative process itself.

With its experience in helping enable the first two digital media production productivity waves, Avid is uniquely positioned to lead the third wave. Avid is among the industry's most fully-integrated companies, with strength in the essential elements: the NLE and other creative workstation technology, shared media network technology, and production asset management technology.

Workflow Improvement

Many of the elements in this paper focus on improving your processes. In media production, Avid has developed a new architecture designed to deliver process benefits that helps you to:

- save money
- save time
- eliminate waste
- streamline work flow
- automate routine tasks
- shift certain tasks to low-cost workstations allowing your team to focus on creativity, quality and adding value to your final product

These improvements are made possible by a new system called Avid Interplay.

The Avid Interplay system combines multiple technologies to deliver something that hasn't existed before: a nonlinear workflow engine. Benefits include removing remaining blocks to productivity, expanding the content creator's capability, providing new tools to allow non-editors to contribute to and speed the process, and increasing control and security in administration.

Avid Interplay lets post and broadcast facilities configure a project-wide multi-resolution workflow that extends beyond core production processes. Perhaps more importantly, it connects people. Producers, graphic artists, assistant editors, writers, storyboard artists, video and audio editors, directors, archivists, even legal and finance departments, have access to the most up-to-date project assets and information.

The Avid Interplay system is made up of a media backbone, content management tools, and centralized administration. Non–editors can efficiently and accurately log and mark material. Control and communication are embedded, with automatic revision tracking, conflict management, and integrated messaging. Archive tools improve access while saving online storage space. Background encoding, transcoding, and transfer tools automate tasks to reduce cost.

The Avid Interplay system lets media producers streamline workflow in many ways: eliminating some tasks altogether, automating other tasks, shifting tasks to lower–cost resources, simplifying search and management, and generally saving time and money across many processes. Some teams may simply improve existing workflows to save time and money; others may architect completely new ways of working; many will take a combination of approaches. The power and flexibility of the Avid Interplay system lets each organization decide how to best harness resources and achieve its full potential.

To learn more about Avid Interplay, go to www.avid.com/interplay.

Financial Benefit

Can the Avid Interplay system save costs, or allow more to be done without significant further investment in human and technical resources? Yes. While every workflow is unique, there are common challenges and common approaches that many share. Below, tasks and capabilities addressed in the Avid Interplay architecture are called out, showing how tangible benefits can accrue over time.

Media Selection

Logging media is a key part of the editorial process. Wasted time and wasted money can result from a number of areas in the process, and over time the costs can be enormous. Financial benefit comes from making the process of logging as efficient as possible, and making the process of using log information during editorial as efficient as possible. The following table highlights some areas to explore in improving your efficiency.

Category or task	Current process	Avid Interplay
Logging footage	How is footage currently logged? Cost of system? Is an edit bay used? Cost of talent? Training time? How are issues identified and tracked?	<p>Process streamlined.</p> <p>The low-cost Interplay Assist application is built for logging, review, comment and shot selection. It connects directly to the central database.</p>
Process flow from log to editorial	<p>Does the use of logs require indirect translation, especially human-read? Do comments, ratings and other information need to be tracked by hand to timecode from an EDL?</p> <p>Can log information be searched and sorted within the editing application?</p>	<p>Process eliminated.</p> <p>All log information appears directly in editorial* automatically. The logging step yields fully editor-compatible clips and even sequences.</p> <p><small>* "Editorial" refers to Interplay compatible Media Composer®, NewsCutter® and Symphony™ Nitris® systems.</small></p>
Logging time vs. Editorial time	How many tasks currently being done in editorial could also be done in a logging stage? How much editorial time can be saved by upstream logging activities?	<p>Cost savings.</p> <p>Logging time is a lower-cost process. Any time and parts of the process that are shifted to a low-cost logging station reduces cost.</p>

Review, Revision and Approval

Directors, producers, clients, and studios are some of the players that need to review, comment and approve cuts. In many workflows, there are multiple steps from preparing review copies, to distributing, to providing a mechanism for feedback, to integrating the feedback back to the creative team. The process is necessary, but the cost and steps can be streamlined.

Category or task	Current process	Avid Interplay
Preparing and delivering review materials	Are materials encoded to QuickTime / Windows Media, or dubbed to tape? Who does this work and what is the hourly rate (personnel and room / station rate)? How often do review copies need to be prepared? What are duplication costs?	<p>Process eliminated.</p> <p>Reviews are possible any time with no preparation. Producers on the network log directly into the project from the low-cost Interplay Assist application.</p>
Production management	What percentage of the team's time is spent on basic information exchange such as revisions, next steps, and file names and locations.	<p>Process streamlined.</p> <p>Avid Interplay connects everyone directly to a central database, embedding information and communication directly in the process.</p>
Revision control	How much of an average employee's time is spent checking proper version and revision of elements? What is the process for combining revisions? How much effort is manual? How often do revision control errors waste time and resources, and what is the cost?	<p>Process automated.</p> <p>Revision control is built into basic file access. Instead of each revision being a separate file, revisions are seen as a single file with history, compare and rollback features.</p>
Communication	How much time is wasted in poor, untimely or inefficient communication?	<p>Process streamlined.</p> <p>The Avid Interplay integrated messaging system provides instant exchange with links directly to the media or file.</p>

Media Format Transcoding and Management

In the digital realm, the same media essence can require multiple formats depending on the situation. For example, a given shot might need to be encoded at different resolutions or data rates for desktop or laptop proxy review, offline editing, HD mastering, SD mastering, distribution, and archive. Significant time and money can be spent transcoding the media, managing the various versions, re-synching, and tracking changes. Many of these costly steps can be completely eliminated with unique innovations found in the Avid Interplay environment.

Category or task	Current process	Avid Interplay
Media transcoding using editing system	How often do you tie up a valuable edit bay, and its operator, performing transcode tasks?	Process eliminated. Automated network transcoding eliminates the need to tie up an editorial system for transcoding.
Production management	What percentage of the team's time is spent on basic information exchange such as revisions, next steps, and file names and locations.	Process automated. Automated network transcoding. A quick fire-and-forget process triggers a network service while staff focus on value-add work.
Resolution management	What steps are involved in managing proxy resolution, offline, finish, archive, and distribution?	Process eliminated or streamlined. Multiple resolutions are represented as a single asset, and supported natively in project and clip. Switch resolutions in seconds.

Media Delivery

At any stage in the production process, you may need to move media outside the local facility.

Distribution is increasingly an encode-and-deliver process, often never going back to tape.

Category or task	Current process	Avid Interplay
Media delivery to remote locations	How much time is spent on FTP site management (posting, communicating with recipients, checking receipt with multiple recipients, deleting)? What are the security issues? What are the costs of overnight delivery and courier services?	<p>Process automated.</p> <p>The DigiDelivery system makes secure, automated file delivery to anyone in the world with an internet connection as easy as email – both to send and to receive.</p>
Transferring media in multi-site or multi-Avid Unity organizations	How is media moved from one site to another in the organization? In an organization with multiple Avid Unity systems, how is media moved?	<p>Process automated.</p> <p>Avid Interplay Transfer easily moves media site to site as a background task, extending the reach of the Interplay environment throughout the organization.</p>
Media transcoding	Do you transcode media for laptop editing, proxy review, archive, or other purposes? Who does this work and on what type of system? What's the time and cost of this work?	<p>Process streamlined.</p> <p>Avid Interplay works directly with playout servers, as well as popular third-party systems to encode your media.</p>

Security

Executive management is often most concerned about security. The Avid Interplay system offers strong security, with an architecture built for further improvements over time.

Category or task	Current process	Avid Interplay
Access control	What is the risk of damaged, lost or even stolen media due to error, accident or maliciousness by unauthorized or poorly trained users?	<p>Process automated.</p> <p>Avid Interplay offers access control at multiple levels: by user, by project, by folder, by individual asset, by resolution.</p>
FTP server security	What are potential security risks of FTP sites, e.g., multiple users accessing multiple folders and files, no way of knowing who is accessing what files, files must be manually deleted?	<p>Risk eliminated.</p> <p>The DigiDelivery system is secure, automatically deletes the file when sent, and is as easy as email even to multiple recipients.</p>

Talent and Resources

People and equipment are among the largest line items in many production environments.

Category or task	Current process	Avid Interplay
Training	What is the cost to train interns and assistants to use full editing systems simply to log media?	<p>Process simplified.</p> <p>Avid Interplay Assist is a simple application requiring modest training.</p>
Talent allocation	What low-value tasks are performed by high-value employees, preventing them from doing high-value work?	<p>Resources optimized.</p> <p>Simple, powerful tools for logging, transcoding, review put the work on assistants and on the network. Editors are freed up to edit.</p>
Edit bay maximization	How often are editorial seats, especially editorial bays with expensive monitor and hardware configurations and even walls, used for non-editorial tasks like logging, transcoding, etc.?	<p>Increased revenue from editorial hours.</p> <p>As time spent on other tasks is offloaded, edit bays become available for revenue generation</p>

Process Management

All the benefits in this document qualify as process improvements. At a general high level the following are worth calling out.

Category or task	Current process	Avid Interplay
Multi-vendor and multi-task solutions	How many different processes are involved in production? How many different companies' products are involved? What are the compatibility issues?	<p>Open Platform.</p> <p>Avid Interplay is a tightly integrated solution that also offers integration to other applications and systems in your production workflow. The Avid product line supports a vast range of industry standards, open standards and APIs.</p>
Serial vs. parallel workflow	How often are people unnecessarily waiting for a step-by-step process flow?	<p>Process streamlined.</p> <p>Simultaneous access dramatically increases speed.</p>
Bandwidth control	How do you extend access to media files without placing undue strain on your media network or IT network?	<p>Process managed.</p> <p>The ability to limit users to certain resolutions allows more people to access media and add value while minimizing network cost and strain.</p>
Versioning for different deliverables	What is the process for creating versions for HD, SD, web, airline, DVD, mobile device, etc.? What is the cost in efficiency and creative control of viewing this as an after-the-fact process rather than an integrated process?	<p>Simultaneous process.</p> <p>Avid Interplay allows versioning that's customized to suit the deliverable. Multiple editors can work simultaneously during primary post.</p>

Storage and Archive

As media volumes increase, and as the cost of storage drops, opportunities and challenges emerge. and it is also possible to set user metadata for the sub-clip.

Category or task	Current process	Avid Interplay
Storage management including archive storage	Media is only valuable to the extent that it can be quickly found and/or repurposed. Can you find all media in you facility? How long does it take?	<p>Less frequently accessed media is easily stored on and retrieved from lower-cost storage systems.</p> <p>Projects can dynamically access all Avid storage systems and all resolutions.</p>
Archive management	What manual processes are in place to transfer and track media?	<p>Process automated.</p> <p>Archive storage can be searched just as easily as online storage. Media can be easily archived and restored as require</p>
Storage efficiency and cleanup	How much storage is being consumed by old media? How much time and effort is involved in keeping storage current? What is the cost of restoring deleted footage that was still in use elsewhere?	<p>Process automated.</p> <p>Avid Interplay helps identify unused footage that is available for deletion, allowing you to easily delete or move unwanted media without accidentally deleting media that is still in use.</p>

Running the Business

Creative and technical issues aside, the bottom line impact may be most enticing. The ultimate goal of Avid Interplay is to allow media producers to deliver more and pay out less.

Category or task	Current process	Avid Interplay
Project timetable	How does your turnaround time compare to your competition? If you could get faster turnaround, how would that benefit your ability to increase capacity and margins?	<p>Increase capacity and billing potential.</p> <p>Faster turnaround lets you do more business and bill more revenue. Faster turnaround comes from the improved teamwork, compressed handoff and decision times, automation, and simultaneous work made possible by Avid Interplay.</p>
Project timetable	Where is waste driving margins downward (e.g., recurring and persistent non-billable and low-value costs)?	<p>Higher margins.</p> <p>By eliminating or reducing wasted time and effort, revenue either returns customer value or goes to your bottom line.</p>
Customer satisfaction	How do you deliver the project on schedule while keeping a rein on costs?	<p>Higher reliability vs. budget and timetable.</p> <p>By shifting processes to low-cost personnel or automation and by eliminating entire steps, do better work faster and on budget. That's what wins clients.</p>
Quality	What percentage of the budget is wasted on routine tasks, internal communication of revision and control, and other low-value tasks?	<p>Better quality results for the budget.</p> <p>Max out the percentage of the budget that ends up on the screen. The key is minimizing time and effort wasted on low-value tasks.</p>

Running the Business (continued)

Category or task	Current process	Avid Interplay
Monetizing assets	How easy is it to browse the asset archives? What's the process for locating mastering-quality versions of media for re-purposing? How easy is it to recover not just proxies or masters but compositions that can be modified?	<p>Higher revenue potential.</p> <p>Because assets are easy to browse and find, because high-resolution archives can be linked to editable proxies for fast recovery, because sequences and compositions can be recovered quickly, re-use of material for new revenue streams is easier and less costly.</p>
Bottom line impact	How much are manual processes, inefficient systems and outdated methodologies increasing your costs and project timetables?	<p>Faster project turnaround equals higher revenue opportunity.</p> <p>The quicker you finish a project, the quicker those resources can be generating additional revenue.</p>

Conclusion

There are many benefits from a third-wave improvement to the overall process of digital media production and distribution. Benefits can include reduced costs, faster turnaround, improved creativity, improved security, elimination of time-wasting and money-wasting steps, and better use of high-value resources. The Avid Interplay system not only provides a flexible architecture designed to deliver positive initial value, but also offers a solid platform for even more improvements in the future. Please check with Avid for updates, and we welcome your feedback.

Corporate Headquarters 800 949 AVID (2843)
Asian Headquarters + 65 6476 7666
European Headquarters + 44 1753 655999

To find your regional Avid office, visit www.avid.com/contact

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