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Considerations for Cloud-based Media Workflows

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Running media processing workflows in the cloud is a new disruptive trend. The explosion in the number of available distribution paths, each of which has its own technical requirements means that ever more processing is needed to supply all of these outlets with material customized to those requirements. The growing phenomenon of "pop-up" channels, especially in the streaming space, where channels are created for a specific event and then torn down after the event requires more scale and flexibility. In this environment, it is challenging to be agile using on-prem processing without incurring unnecessary risk and capital costs from building out to meet peak demand. Hence, using cloud-based media workflows offers the ability to strike a proper balance amongst agility, risk, and cost.

Business and finance managers often strive to achieve high levels of efficiency and productivity from their people and resources, and cloud-based services that align cost to revenue help them do just that. They're asking questions like, "how committed are we to our on-prem equipment?"; "Is this an extension of our existing workflows, or are these new?" and "How long will this new channel or service be operational?" Likewise, product managers and developers who create channels and services are asking the same questions about longevity, and they are concerned about controlling risk for a new launch as much as possible. They also need to build quickly, validate the solution, and be able to scale up or down as needed. Lastly, operations managers require simplicity and efficiency to be able to control costs.

COST CONSIDERATIONS

CapEx and OpEx are two different consumption models. Many financial managers prefer to pay operations expenses over a period of time instead of making large capital outlays for the same results. And, perhaps just as important, the "pay-as-you-go" models that are typical for cloud-based services better align expenses with revenue. This makes the business justification more straightforward and is a form of risk reduction where the agility offered by cloud-based workflows means they can be easily started, scaled up, or shut down based on the market success or failure of the channel or service; thus avoiding the high risk of a large, initial capital outlay.

CLOUD IMPLEMENTATIONS OFFER INCREASED AGILITY

There is no doubt that the inherent agility of cloud-based processing allows you to de-risk new workflows, keeping new and untested services away from your day-to-day operations.

In reality, this is not only a de-risk strategy: it's the fastest, most cost-effective way to put up a new service, with no direct capital outlay and no infrastructure purchase, installation, or commission. If the new service is successful, you can choose to keep it in the cloud and benefit from the "pay-as-you-go" fee structure, or you may choose to pull it back to on-prem for longer-term investment.

Cloud-based media storage and processing also bring redundancy. Cloud operations run on highly fault-tolerant storage systems, which automatically heal themselves in the event of a failure, with little-to-no risk of loss of data. This functionality extends to the processing platforms themselves – any failed compute engine is immediately taken out of service and replaced with another engine of the same capability. Cloud operations are built with strong error handling and failed jobs will be automatically restarted in case of a resource outage.

WORKFLOW MANAGEMENT

It is important to note that processing media in the cloud may not, at times, be just a matter of encoding and transcoding, be it a new program or a variant of an existing program. The key is to move all of the processing needed into the cloud or develop a system with a mix of on-prem and cloud-based capabilities. Graphics need to be added/removed/altered, the dialog may need to be replaced, legislative advisories must be added/removed/replaced, captions or subtitles added, branding snipes (animated graphic elements) added, etc. A workflow orchestration system is likely needed to move media smoothly through all of these processes.

In reality, the most challenging part of setting up a new channel or other media offering is not in provisioning the infrastructure—compute, storage, networking, etc.—the most significant effort resides in setting up the workflows from the raw material to the desired output. The ability to both have access to complete media processing services in the cloud for the sake of simplicity and to be able to orchestrate those services to build more complex workflows is critical to many media companies.

For many, a number of such workflows—well understood, "battle-tested" workflows are already in place in on-prem processors. Extending those workflows through a flexible and simple API may be the best answer for many use cases.

Doing so further reduces the risk and set-up time for cloud-based deployment. To maximize cost and performance, the workflow management software must also be able to reside on the same cloud platform(s) as the media and processing engines. Ideally, your workflow management system should be an integral part of the processing system, therefore requiring no extra supervision from the host.

PROCESS MEDIA WHERE IT LIVES

The fundamental rule to build a robust media processing platform is simple: Process media where the media lives.

If the source media is located in the cloud, then process it in the cloud (and on the cloud platform, cloud region, and data center where it's stored—there may be several cloud providers being used by any particular media company). Furthermore, if the media is to be delivered to the cloud, it is beneficial to process it in the cloud. Once you're committed to moving your content and operations into the cloud, it's best to keep media there to avoid egress charges that could be detrimental to the desired business outcomes. Your organization will then be in the best position to stay competitive and address your strategic imperatives moving forward.

Get a copy of the Telestream Cloud Flip Infographic and request more information on Cloud-based Media Workflow options at **pages.telestream.net/sm-cloudflip**.

ABOUT TELESTREAM

Telestream® specializes in products that make it possible to get video content to any audience regardless of how it is created, distributed or viewed. Throughout the entire digital media lifecycle, from capture to viewing, for consumers through high-end professionals, Telestream products range from desktop components and cross-platform applications to fully-automated, enterprise-class digital media transcoding and workflow systems. Telestream enables users in a broad range of business environments to leverage the value of their video content.

Telestream customers include the world's leading media and entertainment companies: content owners, creators and distributors. In addition, a growing number of companies supplying and servicing much larger markets such as ad agencies, corporations, healthcare providers, government and educational facilities, as well as video prosumers and consumers, are turning to Telestream to simplify the access, creation and exchange of digital media. Telestream corporate headquarters are located in Nevada City,CA and Westwood, MA. The company is privately held.