



**IP VIDEOS WILL
ACCOUNT FOR**

85%

**OF ALL IP TRAFFIC
BY 2022**

THERE WILL BE

8.2B

**CONNECTED
DEVICES BY 2022**

TOP FIVE GAPS IN MEDIA APPS AND SERVICE

BY LYNX TECHNOLOGY

**THERE ARE MANY OPPORTUNITIES –
AND POTENTIALLY SIGNIFICANT
REWARDS – FOR SUCCESSFUL MEDIA
APPLICATIONS AND SERVICES**

Top 5 Gaps in Media Apps and Service

Use of media applications and services has been exploding in recent years and shows no signs of slowing. Cisco predicts IP video will account for 82 percent of all IP traffic (both business and consumer) by 2022, up from 75 percent in 2017.

For mobile, video accounted for more than 48 percent of mobile data traffic in 2017 and will grow to 71 percent of all mobile data by 2022. It is not surprising there is so much expansion in the use of media—it helps increase engagement and tells the story much more efficiently. As is often said, a picture is worth 1000 words, and according to Dr. James McQuivey of Forrester Research, a minute of video is worth 1.8 million words.

End users are also producing media at an ever-increasing rate and not simply consuming media, all on a wide range of devices.

Facebook reports that more than 350 million photos are uploaded every day and on YouTube 300 hours of video are uploaded every minute as just two examples.

There is no longer a clear distinction between producers and consumers of media. Today end users are playing both roles at different times.

There is clearly a great appetite for media and opportunities to provide real value through services and applications, but there are a number of challenges—or gaps—to achieving success.

The five most important gaps are:

1. Seamless media support across devices
2. Secure access, delivery, and storage of media
3. Converged access to content contributed across many locations
4. Ease of use
5. Enriched media experiences through analytics

In this paper (updated in 2019), a summary is provided for each of these gaps, giving a description of the issues involved and previewing the information to be covered in more depth in upcoming white papers.

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Introduction

Media applications and services today are expected to provide rich user experiences which include various combinations of capturing, browsing, searching, sharing, and viewing of high quality audio, images, and video across a range of devices. Even for applications and services where audio, photos, and videos are not the primary focus, they often play an important supporting role since media can enhance the overall experience dramatically. Given the importance of media, companies are finding new and inventive ways to introduce media features in their products to increase the value to their customers. For example, leading manufacturers of wireless routers have been increasingly embedding media servers across product lines to allow their users to share media to devices throughout the home. In so doing, the router can become the media hub of the home and play a much more visible role for the customer.



People are also spending more and more time online using a wide range of services to access commercial content as well as view and share user-generated content with friends and family. It's easy for people to get involved in an increasing number of online services as the different social groups of which they are members may use different services. The growth in the avail-

ability of connected devices capable of high quality media experiences is also providing more outlets for end users to enjoy the content when and where they want. Companies have an opportunity to offer significant value to users of their products by providing integrations with the different complementary services people want to access. For example:

some media applications are allowing users to link multiple online service accounts so the application can present and display media from any of these services along with locally stored content in a seamless experience.

A confluence of factors such as more available and capable devices, better connectivity, and growth in online services is leading to the strong increase in the demand for and use of media. There are many opportunities—and potentially significant rewards—for successful media applications and services. However, it is a dynamic and fast-paced environment that is not simple and presents a set of challenges for deploying a successful solution.

The remainder of this paper goes into each of these gaps and sets the stage for follow-on white papers that explore each gap in more depth and provide key recommendations for addressing them.



**DO YOU KNOW
THE VALUE OF
VIDEO?**

Dr. James McQuivey of
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GAP #1 Seamless media support across devices

New devices are constantly becoming available and users are more and more likely to be accessing applications and services from multiple devices. Only considering mobile devices, there will be 12.3 billion mobile-connected devices by 2022, including M2M modules—exceeding the world’s projected population at that time (8 billion) by one and a half times. As the number and types of devices being connected in the home increase, it is creating an environment with products from a mix of manufacturers where there are more opportunities for device-to-device interaction. Given this trend, it is imperative that companies address the issue of seamless interoperability and support across devices in their products or risk being relegated to irrelevance.



GAP #2 Secure access, delivery, and storage of media

Security concerns are a key aspect of many applications and services. They can relate to transport security for information flowing over the network, security for maintaining proper access controls to media (i.e., authorization), or maintaining confidentiality for data stored on devices to reduce the chance that information is leaked if the device is lost. With media, and especially premium content, security is often an important part of enabling access to the content through Digital Rights Management (DRM). Ideally, security should operate behind the scenes without the end user needing to be aware of it, but DRM by its nature enforces limits on usage, so a user may regularly encounter limits (e.g., hitting the limits on how many copies of a media file can be made). Getting security right is not easy, especially since it is often invisible until a problem occurs—which is often quite costly. Therefore, companies need to be careful to put the appropriate level of attention on this important area from the beginning.



GAP #3 Converged Access to Content Distributed Across Many Locations

A consequence of the abundance of media services, choices, and activities is that content is becoming highly distributed across a large number of locations. It is important for the end users to be able to find and access the content they require, or simply desire, without undue effort. The idea is to reduce the friction in content discovery and delivery so the end user stays engaged. Without this mechanism in place, the end user may be forced to exit the application and use another application or service to find what they need. Allowing users to centrally manage and authorize access to multiple online services as well as access content on personal storage in the home is one key way of breaking down content silos. The good news is that this is an area that is highly visible and valuable to end users, so there is a potential for significant value for companies that are able to provide good solutions.



GAP #4 Ease of use

Although many of the points already made could be seen as falling under the umbrella "ease of use," this gap is specifically meant to cover the handling of the complexities of operating in a diverse environment of devices, network configurations, and services.

Certain devices may have difficulties with some media formats, data rates, or protocols and those limitations need to be handled gracefully. In some cases, the network may have bandwidth limitations or have variable throughput that may require adapting the video bit-rate for good performance. Firewalls and network address translators (NATs) can also cause problems in establishing connectivity.

The challenge is to hide all of these complexities from the user and have the solution transparently adapt to the operating conditions and optimize the experience without user intervention. At the same time, it is also important to make administration of the application or service easily manageable for the companies offering them.



GAP #5 Enriched media experiences through analytics

Reporting and analytics provide an opportunity to understand how applications and services are actually being used in practice. In order to improve or optimize anything, it must be measured, so having some data collection as part of the application or service is an important ingredient. Usage data collected with adherence to appropriate privacy policies can result in significant insights that would be difficult to predict, while still protecting the privacy of individuals.

This type of anonymous data can help identify which devices are popular, which use-cases are popular, how many devices a typical user has, and which features users are not using, to mention just a few. The data can also help companies better understand the environments in which their products and services operate. In order to keep their products competitive and grow in new areas, companies need to take advantage of the insights that reporting and analytics can offer.



CONCLUSION

This paper has identified five important gaps in the deployment of media applications and services. A brief summary was provided for each area as a preview for follow-on white papers that will dive into the topics and provide more details along with key recommendations for addressing the gaps.

The key takeaway here is that companies with media applications and services, or those considering deploying them, are certainly targeting an important area with many opportunities to add value. By identifying the important gaps and developing plans to address them, the path can be mapped out to deploy a successful solution.

Lynx Technology and its Twonky family of products helps customers fill these gaps every day by enabling rich media experiences.

Contact us today for a free review of your needs to see if Lynx would be a good addition to your products. Devices shipping with embedded Lynx technology add value to end-users and offer a competitive advantage in the market.



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About LYNX TECHNOLOGY

For Consumer Electronics companies, Service Providers and Content Providers who want to enable their devices to deliver media and smart home uses cases for consumers in the home, Lynx provides device connectivity software that allows consumers to quickly and securely discover and enjoy their media libraries and smart home devices, while coordinating and controlling them from any mobile device.

Lynx Technology is based in San Diego, California.

About TWONKY

Twonky Server is the industry-leading DLNA/UPnP Media Server from Lynx Technology that enables sharing of media content between connected devices.

Twonky Server is used worldwide and is available as a standalone server (end user installable, e.g. for PCs/Macs) or an embedded server for devices such as NAS, routers/gateways and STBs. Mobile SDK is also available.

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