FIVE REASONS WHY
EVERY CIO NEEDS
A VIDEO CONTENT MANAGEMENT SYSTEM

Panopto™

BRINGING EVERYTHING INTO VIEW

Large organizations increasingly depend on video for executive communications, event streaming, corporate training, knowledge sharing, marketing, sales readiness, and more.

For the IT executive, the explosive growth of enterprise video presents new challenges around data security, network administration, and content management. At the same time, enterprise video also opens new opportunities for IT organizations to advance their cloud and mobile computing strategies, reduce operational costs, and drive business value through improved employee collaboration and productivity.

In recent years, the video content management system (VCMS) has emerged as a new type of enterprise solution built to facilitate the management and delivery of video across a global organization. For CIOs and IT departments, the VCMS provides cost-effective infrastructure for overcoming the unique challenges of video, and for using video as an asset to drive business growth.

The VCMS provides CIOs and their teams with technology that can address the needs of the business while reducing IT costs and risk, including:

- Improving security of valuable data

- Expanding opportunities to drive enterprise growth

- Enabling a successful, video-ready mobile strategy

- Efficiently managing network bandwidth

- Reducing IT costs

Panopto

PANOPTO ON A PAGE

Panopto creates software that enables businesses and academic institutions to record and view searchable video presentations in minutes from any device. Businesses can use Panopto to record and live stream:

- Employee training and onboarding videos
- Sales and marketing presentations
- Executive communications
- All-hands meetings
- Events for customers, press, and investors
- Product demonstrations
- Review, recap, and summary communications
- Web conferences

Panopto also enables individual employees to record and share videos in a secure, centralized video library. This facilitates:

- Social and informal learning
- Capturing the knowledge of retiring employees
- Sharing knowledge across a global workforce

Panopto's video library includes unique search functionality that enables employees to search inside videos for any word mentioned or shown onscreen during a video.

Panopto is currently in use at Fortune 500 companies around the world and is the fastest-growing lecture capture solution at leading universities. Privately-held, Panopto was founded in 2007 by technology entrepreneurs and software design veterans at Carnegie Mellon University's School of Computer Science.

Panopto was recently recognized by Gartner Research as a **"Leader"** in its 2014 Enterprise Video Content Management Magic Quadrant. Learn more at http://panop.to/gartner-leader.

Want to try Panopto for yourself? Visit www.panopto.com today for a free 30-day trial or to schedule a demonstration of our software.

Panopto

5 REASONS WHY **EVERY CIO NEEDS** A VIDEO CONTENT MANAGEMENT SYSTEM

OVERVIEW

WHY IT ORGANIZATIONS NEED
A VIDEO MANAGEMENT STRATEGY

More than any other type of content moving across the corporate network, video sits at the intersection between IT and the lines of business.

Large organizations increasingly depend on video for executive communications, event streaming, corporate training, knowledge sharing, marketing, sales readiness, and more. In the next few years, this trend is expected to accelerate. Gartner estimates that by 2016, large businesses will stream *more than 16 hours* of video per worker per month.[1] And according to a research report from Palo Alto Networks, the amount of video streaming across corporate networks *more than tripled* in the first six months of 2012.[2]

For the IT executive, the explosive growth of enterprise video presents new challenges around data security, network administration, and content management. At the same time, enterprise video also opens new opportunities for IT organizations to advance their cloud and mobile computing strategies, reduce operational costs, and drive business value through improved employee collaboration and productivity.

As CIOs and IT organizations develop strategies for managing enterprise video, there are a number of questions to consider:

- How to **ensure the security of sensitive corporate information** that is increasingly stored in the form of video, particularly in the face of popular public video hosting sites like YouTube and Vimeo?

- How to **drive top-line growth** by partnering with line of business leaders in training, marketing, sales, and customer support?

- How to **deliver video to tablets and smartphones** given the rise of bring your own device (BYOD)?

- How to effectively **manage network storage and bandwidth capacity** consumed by video?

- How to **cost-effectively implement a video strategy** in the face of flat or modestly increasing IT budgets?

VIDEO CONTENT MANAGEMENT SYSTEMS:
AN OVERVIEW

In recent years, the video content management system (VCMS) has emerged as a new type of enterprise solution built to facilitate the management and delivery of video across a global organization. For CIOs and IT departments, the VCMS provides cost-effective infrastructure for overcoming the unique challenges of video, and for using video as an asset to drive business growth.

Gartner defines video content management systems (VCMS) as software, appliances or software as a service (SaaS) intended to manage and facilitate the delivery of one-to-any on-demand video across Internet protocols.[3]

Like traditional content management systems, VCMSs are repositories for storing information. However, unlike traditional content repositories, VCMSs are built for the specific needs of video assets. These include support for multi-gigabyte files and multi-terabyte video collections, transcoding of video into multiple formats for streaming to any device, and unstructured data search of video content.

In addition to providing a repository for video, most video content management systems offer the following capabilities:

Upload	Ingestion of pre-recorded videos with support for a broad range of codecs and file extensions. Bulk or API-based upload support simplifies the ingestion of large video libraries.
Capture	Client software that enables recording of videos and screencasts using a range of video capture devices (USB webcams, consumer and professional video cameras, HDMI capture sources, etc). Once recorded, videos are automatically uploaded into the VCMS.
Transcoding	Conversion of video files into a variety of formats to ensure compatibility with mobile devices (e.g. Conversion of Flash-based video to MP4 for playback on smart phones).
Streaming	Live and on-demand streaming of video with the ability to control network bandwidth of the content being streamed.
Search	The ability to search across massive libraries of video and inside individual videos for words mentioned by the speaker, keywords that appear on screen, and manually entered metadata.

Panopto

Editing	Trimming video content, combining and remixing videos, making changes to video transcripts, editing metadata, and synchronizing video with PowerPoint presentations. Non-destructive editing ensures that the original copy of the video is maintained as archival content.
Analytics	Reports that provide insight into bandwidth consumption, viewing behavior, video completion and drop-off rates, popular content, and system health.
Security	Authentication and authorization to content within the video content management system, encryption of communication between clients and the VCMS, and single sign on with identity providers.
Integration	API- or widget-based connectivity to corporate learning management systems (LMS), traditional content management systems like SharePoint, and customer relationship management systems (CRM)
Hosting	Options to install the VCMS behind your firewall on IT servers or host in the cloud on vendor-provided servers.
Playback	Interactive web-based video players that allow viewers to navigate within the video, take notes, search inside video content, and rate videos. Video podcasts should also be available for embedding in existing web pages.
Mobile	HTML5-compatible video podcasts for viewing on tablets and smart phones, as well as native mobile apps for recording and sharing mobile video from iOS and Android devices.

FIVE REASONS WHY:
EVERY CIO NEEDS A VCMS

IT's involvement in enterprise video has shifted from a nice-to-have to a necessity. Over 70% of business executives expect to increase their use of one-way video such as live webcasting in the coming years.[4] Incoming Gen Y employees expect to use video as a means to communicate and share information, with 62% uploading videos to share or store on Internet sites.[5] More and more corporate network bandwidth is being consumed by video content. And fragmented video strategies by different operating groups threaten to increase IT costs in the years ahead.

Panopto

The VCMS provides CIOs and their teams with technology that can address the needs of the business while reducing IT costs and risk. Below are five ways in which IT organizations can benefit from the use of a video content management system.

#1 : **IMPROVE SECURITY** OF VALUABLE DATA

Video is one of the most difficult content types to effectively share within the corporate network. Why?

First, **video files are big.** A simple 5-minute "how-to" screencast recorded on an employee's laptop at 1920x1080 resolution can exceed SharePoint's default maximum file size of 50MB. Thirty to sixty-minute video presentations, like those used when recording instructor-led training and company town hall events, can surpass SharePoint's maximum file size of 2GB.[6]

Second, **many video files aren't compatible with the devices employees use to watch them.** For example, GoToMeeting recordings are saved by default using a custom video codec provided by Citrix. Viewing these recordings requires an employee to download GoToMeeting or manually install the codec. Similarly, Adobe Connect recordings are saved by default as Flash video (.flv) which isn't viewable on popular mobile device platforms such as Apple's iOS.

What options are left for employees and teams who want to share video with co-workers? Too often, the answer becomes a publicly available file sharing service like Dropbox (which offers a maximum file size of 10GB[7]) or public video hosting services like YouTube and Vimeo. These services are all the more appealing to employees who have become accustomed to using them outside of work.

For CIOs, the sharing of sensitive or proprietary corporate information on publicly-accessible websites represents a nontrivial security threat.

Video content management systems alleviate this risk by providing:

- A repository capable of storing multi-gigabyte video files

- Transcoders that automatically convert videos into formats that can be viewed on any device

- A familiar interface that feels to employees like an internal version of YouTube

- A choice of behind-the-firewall deployment or cloud hosting that integrates with your corporate authentication and authorization systems

#2: **DRIVE GROWTH** AT THE BOTTOM LINE

Video content spans many use cases across teams within a corporation. Marketing uses video for product demos on the corporate website and for live streaming customer-facing events. Learning and development teams use video for pre-recorded and live training events. Human Resources uses it as recruiting tool and to deliver annual compliance training. Corporate Communications uses video for executive all-hands meetings as well as investor and analyst events. Sales uses it for readiness training. And Customer Service increasingly uses pre-recorded videos to provide web-based "how to" information and troubleshooting support.

While many teams will look to video as a tool to drive their business goals, most are unequipped with the technical knowledge to deploy and manage a video solution. For IT organizations, this creates opportunities to contribute to enterprise growth.

By deploying a video content management system, IT can provide its line of business partners with an enterprise-wide solution for:

- **Reducing training costs.** VCMSs simplify the recording and distribution of training videos which can lead to substantial cost savings. For example, Caterpillar University found that e-learning yielded a cost reduction of between 40 and 78 percent based on the size of the audience[9].

- **Driving engagement and productivity of a global workforce.** Employees located in remote offices can use a VCMS to access live-streamed or on-demand company meetings and events in order to get "virtual face time" with co-workers and executives.

- **Finding valuable information locked away in videos.** A number of VCMSs automatically add metadata to videos, making it possible to find videos within a massive library, and to search inside videos for words mentioned by speakers or shown on screen.

- **Analyzing video viewing trends.** This is critical for marketing teams looking to measure the performance of their video-related campaigns. The same reporting can be used by Human Resources to ensure completion of mandatory compliance videos.

- **Retaining important organizational knowledge.** Video can be one of the most efficient ways to capture the knowledge of subject matter experts and exiting employees[10]. The VCMS provides a central location for storing and sharing this knowledge across the company.

#3: ENHANCE YOUR **MOBILE STRATEGY**

Video and mobile are converging imperatives for IT departments. According to Gartner, mobile ranks as the #2 technology priority for CIOs in 2013.[8] Gartner also writes that the use of mobile devices to view, interact with and capture video is increasing dramatically worldwide, including at work, with video consumption happening on mobile devices as much as 10% of the time.[11]

For the CIO, business video introduces two new considerations to your mobile strategy:
1. Making it simple and secure to share video captured on smartphones and tablets
2. Ensuring that videos can be viewed on the mobile devices employees bring to work

How can a video content management system help?

First, VCMS providers often include native mobile clients for iOS and Android devices. These client apps use the device's camera to capture video and compress it for efficient transfer over the wire. Then, using single-sign on with the company's login provider, the apps authenticate the user and upload the video to a secure folder. The apps typically also allow for the upload of pre-recorded mobile videos from the mobile device (i.e. videos that were recorded using another app).

Second, video content management systems include transcoding solutions that accept a range of video and audio file types and automatically convert them to formats that can be viewed on mobile devices (see figure 1).
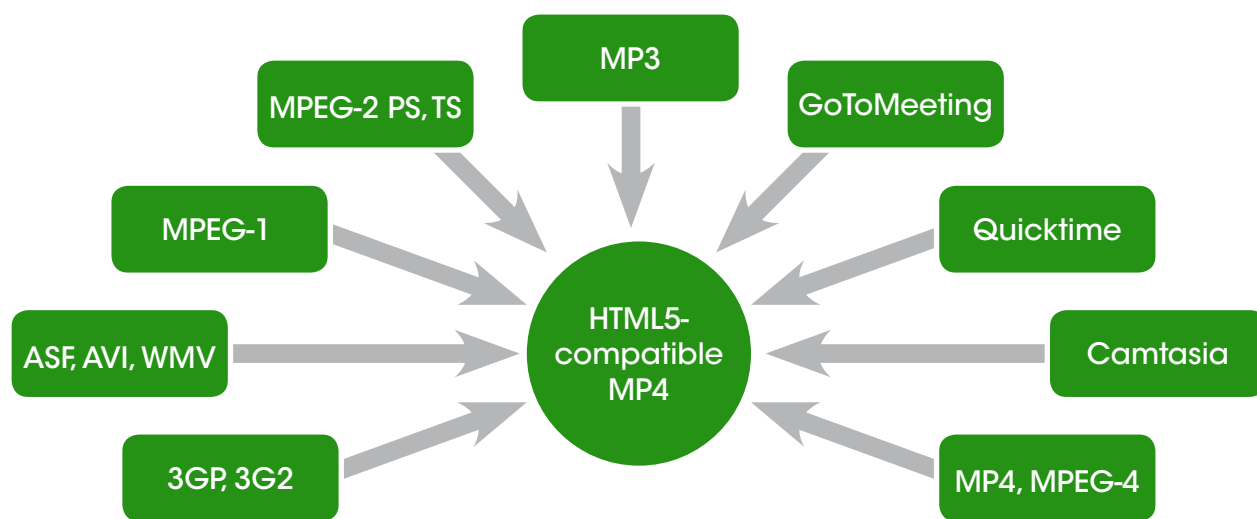

Figure 1. VCMS transcoding of video formats into a mobile-friendly HTML5 MP4

Panopto

#4: OPTIMIZE YOUR **NETWORK BANDWIDTH**

As video use continues to skyrocket in the enterprise, IT departments need to effectively manage its load on the network. Considerations include:

- Optimization of video delivery across corporate WANs
- Dynamically throttling video quality during playback based on available bandwidth
- Managing spikes in traffic for simultaneously viewed live or on-demand events
- Offloading bandwidth for external-facing video
- Ensuring high availability through the use of CDNs
- Optimization of videos for higher-latency networks

Video content management systems can help address these issues.

First, VCMSs often stream videos using **chunked (stateless) delivery.** This enables video content to work well with caching proxies that many organizations deploy across their WANs. For frequently accessed videos and simultaneously accessed live events, the ability to use a WAN's caching framework can substantially reduce overall bandwidth consumption.

Second, video content management systems typically use **adaptive bitrate streaming** to serve live and on-demand content. With adaptive bitrate streaming, the VCMS detects a viewer's bandwidth in real time and adjusts the video quality accordingly (see figure 2). To do this, the VCMS uses an encoder (typically installed on the server) to take a single-bitrate video as input, and encode it to multiple bit rates. For viewers, this results in minimal buffering during playback, faster start time, and a good experience for high- and low-bandwidth connections.
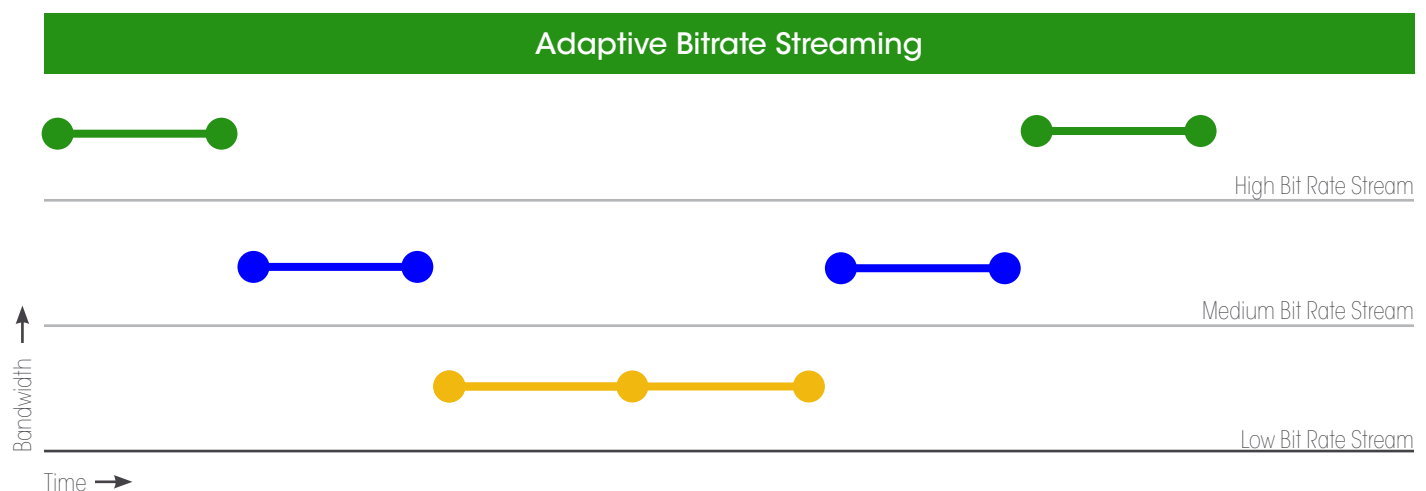

Figure 2: Adaptive bitrate streaming dynamically switches between video streams of different quality during playback based on available bandwidth.

Third, most VCMSs offer **deployment options** that can offload a portion of video content from the corporate network. For internal-facing video such as all hands events, training, and employee-generated video, an on-premises instance of the VCMS would be deployed to corporate servers. For external-facing content such as marketing and customer support videos, a cloud-based instance of the VCMS would be hosted by the VCMS vendor. This hybrid option would reduce the load on the internal network for external content and ensure high global availability through integration with content delivery networks (CDNs) such as Akamai or Limelight.

Finally, video content management systems can **help existing corporate web conferences achieve greater scale while reducing the load on the network.** Popular web conferencing solutions such as GoToWebinar and Adobe Connect reach scalability limits between 500 and 1500 participants.[12] By contrast, live streams delivered through a VCMS can be viewed by tens of thousands of viewers simultaneously. Because most of web conferencing participants are passive viewers, the web conferencing stream could be routed through a VCMS to reach the desired scale while taking advantage of adaptive bitrate streaming and other bandwidth management capabilities of the VCMS.

5: **REDUCE** IT COSTS

Several years ago, most organizations looking to deploy a centralized video portal did so by building a solution in house. These systems were costly to develop and could require initial investment in the hundreds of thousands or millions of dollars depending on company size. Microsoft, for example, built an internal video podcasting portal in 2008 at an upfront cost of $1.4 million.[13] Once deployed, ongoing maintenance of in-house systems can be difficult based on the scalability needs of an increasingly popular solution, and due to the evolving industry standards that govern how video content is packaged and delivered.

With the emergence of the VCMS, IT organizations can acquire "off the shelf" video management solutions whose up-front deployment and ongoing maintenance costs are a fraction of in-house systems, and whose functionality far exceeds that of in-house solutions.

VCMSs also reduce IT costs associated with video strategies that are fragmented across lines of business. Forrester research notes the prevalence of this fragmented approach in a 2012 research note:

> *In one large software company, individual business units request servers from IT to stand up their own video solutions. And a US government agency had four separate applications in use by its operating divisions to publish training videos. These fragmented approaches to video increase IT costs and limit the potential value video can have enterprise-wide.[14]*

A video content management system provides CIOs and their teams with the cornerstone to a converged video strategy that could save IT costs while improving the ability to share videos across the enterprise.

IN 130 WORDS:
WHY PANOPTO SHOULD BE **YOUR NEXT VCMS**

Panopto makes it easy for organizations to record, share, and search video—in an integrated solution that doesn't require specialized hardware or professional AV services.

Panopto's VCMS is in use at Fortune 500 companies like the New York Stock Exchange and Siemens, and was recognized as a **"Leader"** in Gartner's Magic Quadrant for Enterprise Video Content Management.

For IT organizations looking to manage the increasing quantity of video streaming across your corporate networks, Panopto provides a proven solution that is easy to deploy, easy to manage, and cost-effective for mid-sized and large enterprises. Panopto is the only all-in-one video platform that gives businesses the tools they need to communicate effectively using video, and IT organizations the infrastructure to drive business growth.

For more, visit **www.panopto.com** or call **855.PANOPTO**.

KEY TAKEAWAYS

The expanding use of video within large organizations and the increasing network bandwidth consumed by video places new responsibility on IT executives to manage video as an enterprise-wide asset.

Video content management systems provide the infrastructure for overcoming many of the challenges of video faced by businesses today, while at the same time opening opportunities for IT to reduce operational costs, advance their mobile strategies, and drive business growth.

CITATIONS

1. *Gartner.* Metadata Will Improve the Return on Your Video Investments, 13 April 2012
2. *Palo Alto Networks.* Application Usage and Risk Report, June 2012.
3. *Gartner.* MarketScope for Video Content Management and Delivery, April 2012
4. *Cisco.* IBSG Horizons Study, 2011
5. *Cisco.* Global Technology Report: Gen Y and Technology, August 2012
6. *Microsoft.* Software boundaries and limits of SharePoint 2013, November 2013
7. *Dropbox.* Is there a limit or maximum to how big my files can be?
8. *Gartner.* Top 10 CIO Business and Technology Priorities, January 2013
9. *Paul Walliker, Caterpillar University.* Cost Comparison: Instructor-Led vs. E-Learning
10. *Panopto.* Social Learning at Panopto – How We Share Knowledge, March 2012
11. *Gartner.* How to Take Video Mobile with Enterprise Video content management, June 2013
12. *Adobe:* Connect 9 Event Migration Guide. Citrix: GoToWebinar Q&A.
13. *Microsoft.* ROI of Building a Company-wide, Video Podcasting Portal, July 2010
14. *Forrester.* Best Practices for Leveraging Video in the Enterprise.