

A Forrester Consulting Thought Leadership Paper Commissioned By Cisco Systems

Harness The Explosion Of Campus Video

Universities Need Campuswide Vision And Strategy To Optimize Use Of Video Technologies

September 2011

FORRESTER

Headquarters | Forrester Research, Inc.
400 Technology Square, Cambridge, MA 02139 USA
Tel: +1 617.613.6000 | Fax: +1 617.613.5000 | www.forrester.com

Forrester Consulting
Making Leaders Successful Every Day

Table Of Contents

Executive Summary.....	2
Primary Findings.....	2
Perfect Storm Increases Education Demand, But Not For Business-As-Usual.....	3
Universities Embrace Video Across The Campus As An Enabler To Innovation	5
Campus Video Deployment Is Often Uncoordinated And Inefficient	7
Few Universities Have A Campuswide Vision, Strategy, Coordination, Or Integration.....	9
But Rising Costs Of Higher Education Bring Increased Public Scrutiny And Concern	10
Coordination Requires Leadership And Often A Little Help	10
Recommendations.....	12
Appendix A: Methodology.....	13
Appendix B: Endnotes	13

© 2011, Forrester Research, Inc. All rights reserved. Unauthorized reproduction is strictly prohibited. Information is based on best available resources. Opinions reflect judgment at the time and are subject to change. Forrester®, Technographics®, Forrester Wave, RoleView, TechRadar, and Total Economic Impact are trademarks of Forrester Research, Inc. All other trademarks are the property of their respective companies. For additional information, go to www.forrester.com. [1-ILTS21]

About Forrester Consulting

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. Ranging in scope from a short strategy session to custom projects, Forrester's Consulting services connect you directly with research analysts who apply expert insight to your specific business challenges. For more information, visit www.forrester.com/consulting.

Executive Summary

It is hard to imagine a campus these days where video isn't everywhere. Video use is now widespread on college campuses: from the classroom to the dorm room, from the athletic fields to the research labs, from administrative offices to the faculty lounge. Not only do students learn through video content, but video literacy — both the understanding of how to take full advantage of video as a communication tool and knowing how to use video technology itself — is considered a core competency when students leave the university.

Video use has exploded on college campuses, yet that video use and the subsequent network traffic could soon lead to an untenable situation of spiraling costs and at-risk deployments.

Universities increasingly embrace video as a means of extending their reach to new audiences, both locally and across geographies, through on-demand programs and remote campuses. Whether it is online classes to reach rural communities in Texas or telepresence classrooms to facilitate multicampus lectures between the Middle East and the US East Coast, distance learning and collaboration have become core to many university programs.

Video use also improves operational efficiency. With the perennial criticism of the rising cost of higher education, faculty, researchers, and administrators are increasingly relying on videoconferencing to teach, to collaborate, to recruit students, and to promote the institution.

But many universities find that the plethora of uses for video engenders a proliferation of video technologies. Do-it-yourself, while lauded for some purposes, has led to an inefficient use of video technology on campus.¹

Forrester conducted in-depth interviews with 15 US-based universities to investigate the coordination of video use across campuses and better understand the use of third-party services within higher education. Forrester found that very few of these universities actually did coordinate the use of video. Fewer still had crafted and executed a comprehensive IT strategy that extended across campus to include the various schools and departments, the athletic department, facilities and security, and the administration. Essentially, most universities were acting on a do-it-yourself model. However, most interviewees admitted that the explosion of video use and the subsequent network traffic had or would soon lead to an untenable situation of spiraling costs and at-risk deployments.

Primary Findings

Based on discussions with IT decision-makers, administrators, and faculty members at 15 universities across the US, we found that:

- **Video use is extensive but distributed.** Universities do embrace all types of video use — across administration, education, athletics, and facilities — but few view deployments holistically. Video deployments are typically undertaken within a specific school on campus or by the admissions office or athletic department.
- **Incremental funding, siloed IT organizations, and in-house expertise limit video coordination.** Grant funding and endowments often dictate the budget and timing of technology purchases and limit the capacity for coordination. Distributed IT departments and in-house technical expertise among faculty members or researchers lead to do-it-yourself and create further obstacles to coordination.

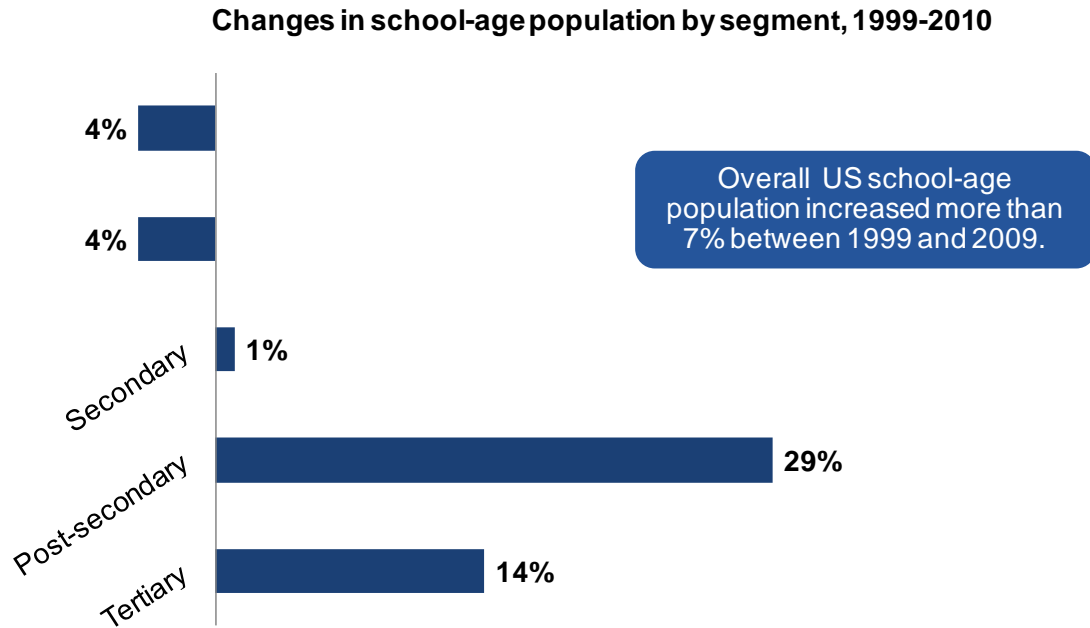
- **Universities recognize the benefit of cross-campus IT and video coordination and strategy.** Research results indicate that few universities do have centralized IT strategies and purchasing, while most wistfully hope to have them some day.

Perfect Storm Increases Education Demand, But Not For Business-As-Usual

Population growth, increasing economic competitiveness, ample federal loan funding, and current economic uncertainty create the perfect storm for educational demand in the US.

- **Shifts in school-age population increase demand for education.** Overall US school-age population has increased by 7% globally; however, the population in tertiary — or higher education — has increased by 15% (see Figure 1).²
- **Unemployment and the economic downturn further increased demand for education.** The ranks of students expands during economic crises as students delay entering the workforce or come back to education from the workforce. In the US, unemployment — now around 9% — is at its highest since 1982, when it rose above 10%.³ Reflecting the current economic downturn, student enrollment in community colleges increased 16.9% to 8 million per term over the past two years; noncredit enrollment in basic skills, short-term workforce, or vocational courses conservatively is estimated at an additional 5 million students.⁴
- **But demand is not for business-as-usual: Students, parents, and the government want real-world training.** Global competitiveness for jobs drives the demand for practical education with an eye toward entering the workforce. Students seek a return on their investment, particularly as they are increasingly paying or incurring debt to fund the costs; the marketing director of one business school observed that self-funded students increased from about 20% to 70% of their incoming classes. More broadly, the debate about increased transparency into a university's job placement and the employability and potential income of particular majors rages.⁵ The federal government has gone so far as to draft a "gainful-employment rule" requiring for-profit educational institutions to publish placement and income data.⁶
- **Universities respond to that pressure in order to compete for students.** When asked about their business priorities, 58% of business decision-makers in higher education ranked "Provide students with experiences that prepare them for their professional lives" as their No. 1 priority. Fifty-six percent of business decision-makers prioritize attracting and retaining students who meet their academic standards (see Figure 2).

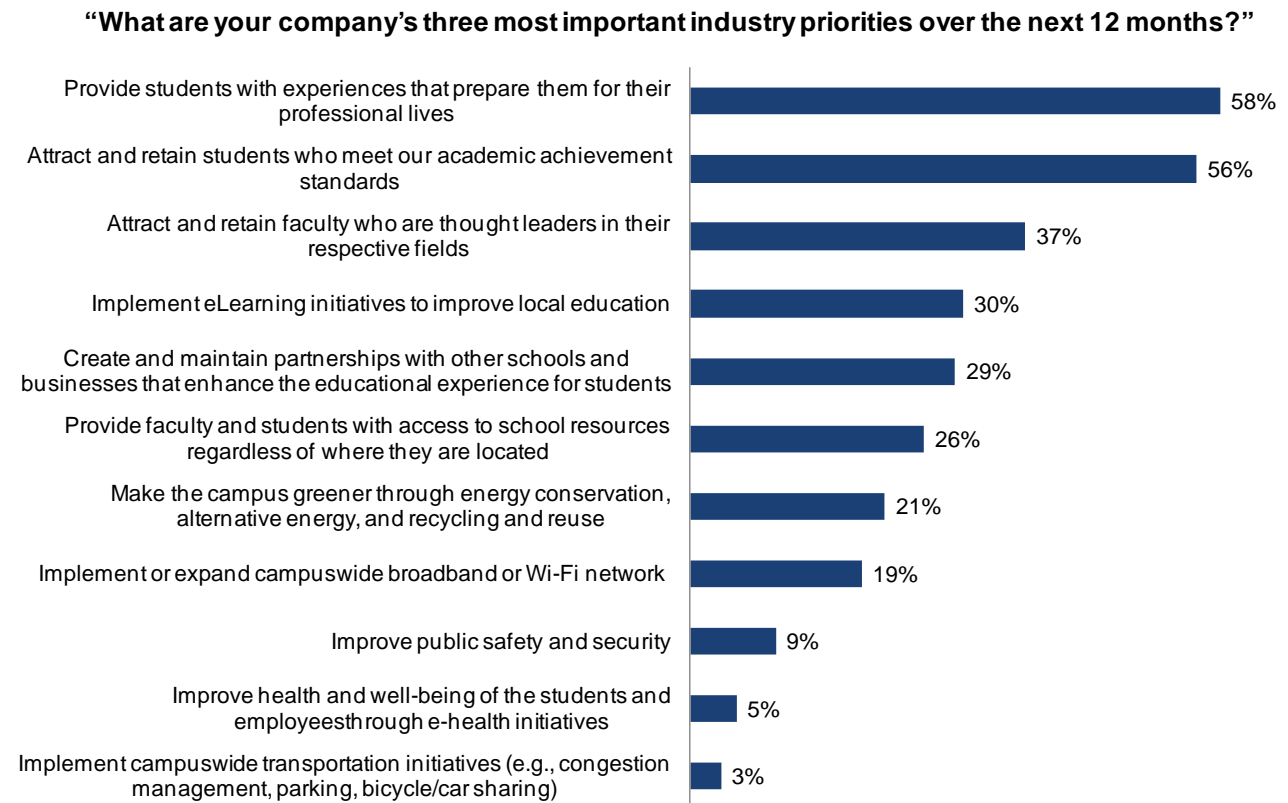
Figure 1
Growth In School-Age Population Highest In Higher Education; Universities See Increasing Demand



Source: "Table 2: Demographic and economic data," UNESCO Institute for Statistics, 2010
(<http://stats.uis.unesco.org/unesco/TableViewer/tableView.aspx?ReportId=173>)

Figure 2

Decision-Makers In Education Prioritize Recruiting Students And Preparing Them For Their Professional Lives



Base: 117 business decision-makers and budget holders from Australia/New Zealand, Brazil, Canada, China/Hong Kong, France, Germany, India, Japan, Mexico, Russia, the UK, and the US from organizations with 100 or more employees in the education sector.
(multiple responses accepted)

Source: Forrester Business Decision-Makers Survey, Q4 2010

Universities Embrace Video Across The Campus As An Enabler To Innovation

Facing a media-savvy and evermore exigent student body (as well as increasing public scrutiny and competition), universities take full advantage of video technologies campuswide: 42% of education decision-makers report that they have adopted in-room videoconferencing, with another 19% planning to adopt. Thirty-five percent of education decision-makers report adoption of desktop videoconferencing, with another 20% planning to implement. Another 33% of respondents reported interest in desktop conferencing but had not yet made plans to adopt. Immersive video has also seen significant interest, but only 15% have already adopted the technology, and 13% have concrete plans to adopt.

Campus video uses include:

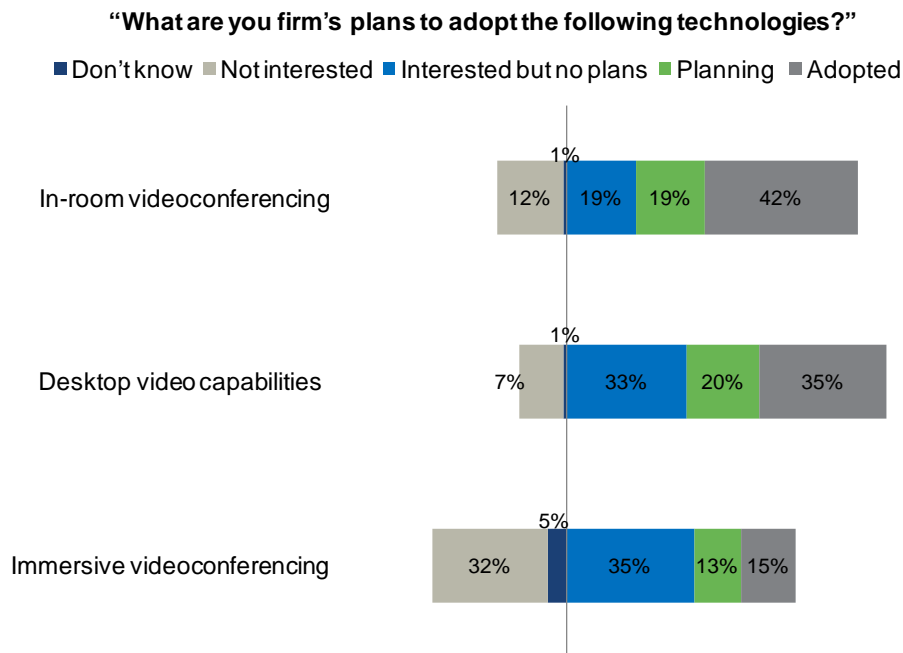
- major event streaming,
- lecture capture,
- promotion and recruitment,
- distance learning,
- video content sharing,
- cable TV,
- public safety surveillance,
- video as a discipline.

However, as a director of academic technologies for a North Atlantic private university noted, video is not itself a differentiator; it is an enabler. Video helps enable innovation across a wide range of universities to enhance educational programs, improve operational efficiency, increase on-campus security, promote the university, and generate revenues through athletics and distance learning.

- **Students — digital natives — expect video as an integral part of teaching and campus life.** Lecture capture, video content sharing, and cable TV with global content all contribute to creating a richer, more productive learning environment. In fact, technology has transformed the learning experience. Lecture capture, for example, helps enable professors to distribute the lecture to students prior to the class and allows class time to be a more interactive session for a more dynamic exchange of ideas.
- **Students expect video training as practical workforce preparation.** The 21st-century workforce is a global team, working in groups to solve complex business challenges. Universities use video to teach and replicate that experience and provide both process and technical training for students to be video-ready upon entering the workforce. Video is both a learning tool and an academic discipline on campuses.
- **Universities use video to enhance distance learning and geographical expansion.** Distance learning programs target professional, part-time, and often remote students, making courses more available for those challenged by schedules and geography. And distances are increasing. Many universities offer courses and even full degree programs in satellite campuses often in emerging or high-growth markets such as the Middle East and Asia. Through video, schools use global resources and integrate far-flung campuses into a global community.
- **Police and facilities use video to improve security on campus.** Safety on campus is a perennial concern, and video cameras are increasingly common across campuses. Recent interviews confirmed that campus police are building out a video infrastructure and hanging video cameras on buildings to capture high-traffic areas, particularly during the evening hours. Another large public university in Mexico City has deployed video cameras across campus, installed a war room to monitor video feeds, and developed a set of rules to help enable faster response times.
- **Prospective students and parents expect virtual tours of campus.** Students and parents have traditionally gone on tour to see college campuses. However, with the economic downturn and the high cost of gas, the road trip of yesteryear has morphed into a virtual tour of college campuses. Universities produce online promotional videos, stream major events, and create virtual tours to merchandise their brand.
- **Athletic departments broadcast sporting events.** Everyone expects to see college football, basketball, and other sporting events online and on TV. Athletic departments are some of the largest users of video services — with televised games, video streaming in the stadiums, and replays available on websites. However, the athletics department is also the most isolated. When asked about which groups were using video on campus, respondents often failed to mention athletics until questioned.
- **Professors and staff engage in professional development through video.** Institutions increasingly compete to hire and retain exceptional faculty and staff: 37% of decision-makers in education report that faculty recruitment and retention is a top priority (see Figure 2 above). And faculty recruits consider opportunities for professional development and collaboration a requirement. With travel budgets tight, however, specialized academic events

often draw limited audiences. Online events and videoconferencing complement conference travel. For example, Chapin Hall, an applied research center at the University of Chicago, now uses Cisco WebEx Event Center to deliver three to four webinars per year on a wide range of topics, with an average of 300 attendees per webinar.

Figure 3
Desktop And In-Room Conferencing Adoption Is Widespread, With Significant Interest In Immersive Video



Base: 137 IT executives and technology budget decision-makers from Australia/New Zealand, Brazil, Canada, China/Hong Kong, France, Germany, India, Japan, Mexico, Russia, the UK, and the US in educational institutions with 100 or more employees

Source: Forrsights Budgets And Priorities Tracker Survey, Q4 2010

Campus Video Deployment Is Often Uncoordinated And Inefficient

Higher-education institutions increasingly turn to technology as an enabler. In fact, IT decision-makers in education (surveyed in the second quarter of 2011) reported spending a greater percentage of revenue on technology than many other industries — 6.1% compared with 5.2% average across all industries, and only less than the financial services industry at 7.3% of revenue (see Figure 4). That spending indicates significant investment in technology. However, those investments are not always made efficiently. Here’s why:

- **Coordination of IT adoption and use is constrained by organizational silos and incrementalism.** Universities are organized by colleges or schools — such as the school of arts and sciences, medical schools, business schools,

engineering schools — then by departments. More often than not, these schools purchase and deploy video technology independently, creating a proliferation of technologies across campus. For example, the IT director of a college within a larger university in the Midwest reported purchasing streaming technology on his own despite a university site license for the same product. The university’s deployment lags the current version, and as he put it, “Coordination is above my pay grade . . . university politics.” In other words, college- or school-level IT does not report to a universitywide CIO; they report into the college dean. College-level IT organizations operate in isolation, and any potential coordination must be influenced at the administration level outside of those organizations. Coordination efforts are, therefore, complex and challenging.

As one university decision-maker noted:

“Coordinated’ can mean a range of things — identifying and promoting standards, using common products, etc. We’ve always had a desire to standardize and realize efficiencies, but that has been difficult. Uniqueness or individuality is a feature; it’s cultural in universities.” (Director, academic technologies, North Atlantic private college)

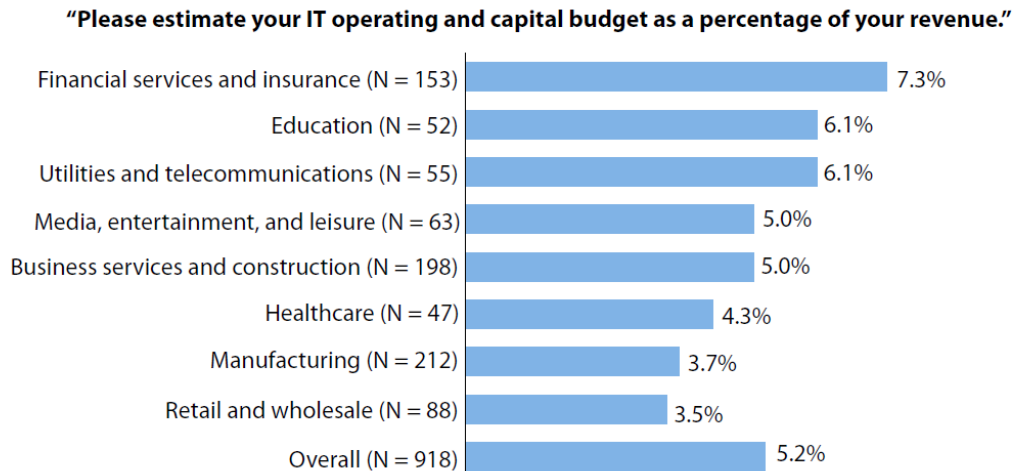
- **Limited budgets and grant funding contribute to incrementalism.** Budget concerns are a common theme across universities. Even private institutions report “shoestring budgets” for certain projects and wistfully reflect, “if only I had the budget.” As a result, big-ticket items are often harder to get approved, and smaller projects proliferate at the behest of a single innovative faculty member or administrator. IT departments aren’t always even the first to know.

“Budgets are so tight in state universities; we are just trying to keep our heads above water. Staffing is short, too.” (Educational technology multimedia specialist, North Atlantic public university)

And the grant structure contributes to that proliferation of technologies and the incrementalism of budgets and projects. When asked if the purchase of a video collaboration product was coordinated or independent, the multimedia specialist at a large university immediately responded “independent.” The purchase was not only independent but also was an outlier project.

“Somebody got a grant and thought this would be wonderful, and the purchase order got cut. That happens a lot. Someone gets a grant, and technology is purchased shotgun.” (Educational technology multimedia specialist, North Atlantic, public college)

Figure 4
Education Spends More On Technology As A Percent Of Revenue Than Most Other Industries



Base: IT executives and technology budget decision-makers with 100 or more employees in the US

Source: Forrsights Budgets And Priorities Tracker Survey, Q4 2010

Few Universities Have A Campuswide Vision, Strategy, Coordination, Or Integration

As a result of budgetary and organizational constraints, few universities have a holistic view of IT across the campus. They do not coordinate IT purchases and use. And fewer still have an integrated campuswide strategy — although there are certainly those with strong leadership who have or are moving to a more integrated, strategic approach to IT. By and large, interviewees acknowledge in-house expertise as a resource for campus video deployments. In-house expertise has advantages but can inhibit coordination and comprehensive approaches, as everyone wants a voice or wants to implement their own ideas. As one university video production manager put it:

“We have a do-it-yourself culture.” (Video production manager for academic media production services, North Atlantic private university)

The result of that do-it-yourself culture is a reluctance to seek outside guidance.

“Because we teach IT, we have a lot of in-house expertise. We have a lot of people who have had a lot of experience in video deployments. We haven’t had to go outside. We can draw from our own faculty and staff.”
(Director, information technology, Midwestern technical university)

However, not all of the experts have experience in coordination and university politics, which is “above pay grade” for many.

But Rising Costs Of Higher Education Bring Increased Public Scrutiny And Concern

Higher education faces perennial criticism for rising costs. However, in recent years, prices have risen faster than incomes, even for community colleges originally conceived as more affordable alternatives to four-year colleges. From 1999 to 2009, tuition at public, two-year colleges increased 71%, while the median family income declined 4.9%, adjusted for inflation, according to a study by the National Center for Public Policy and Higher Education. While increasingly recognized as necessary for success, higher education is also increasingly perceived as out of reach to many.⁷ Efforts to combat those price hikes — or at least help ensure transparency in pricing — persist. The US Department of Education recently launched a website that publishes a “college transparency and affordability” list for information on tuition and net prices at post-secondary institutions.⁸

The spotlight on college costs will bring increased accountability and scrutiny of expenditure. And that will, in turn, affect the adoption and deployment of technology, as universities are increasingly addressing the proliferation of technologies and lack of coordination across the campus.

Coordination Requires Leadership And Often A Little Help

Universities struggle with disparate deployments of video services. With costs rising and IT complexity increasing, universities can benefit from a comprehensive approach, including a strategic vision of how video fits into that campuswide IT architecture. A comprehensive video strategy can alleviate the effects of incrementalism; preemptive network assessments can mitigate the risks of the increased traffic arising from video deployments. However, none of these solutions can be achieved without the benefit of campuswide coordination across stakeholders. With the individualism that reigns within higher education, stakeholders’ compliance with a comprehensive strategy and architecture can only be achieved through agreement.

“We’re trying to implement a systemwide technology area where all of the different IT shops on different campuses report to the system level. We are moving toward that — will be able to better leverage purchases and projects in the future where we are coordinating different areas. Right now, every campus has their separate projects, implementing different video classrooms, but we want it to be more integrated.” (Assistant director of information technology, Southern public university)

- **Third-party services help educate and coordinate constituents.** Isolated video deployments create a patchwork of technologies across a university campus; lack of coordination clouds visibility into the resources on campus and possible use cases for them. External consultants act as neutral, unbiased arbiters across video stakeholders to help coordinate and rationalize the use of video technology. A vice chancellor and chief information officer of a large public university in the South asserted that they “welcome third parties because they lend credibility to a strategy and verify the importance of a larger purchase.”

Third parties also help identify gaps in video architecture and additional uses of existing technologies. A university marketing professional lamented not doing more with video and not knowing how.

“We’ve only scratched the surface of what we think we could do. We barely use even that much. There is definitely room for better understanding of what we could do and how to maximize what we have.” (Assistant director, graduate marketing and admissions, mid-Atlantic public university)

Other industries have successfully leveraged advanced technology services to great benefit. A Chicago-area healthcare provider that engaged third-party services to help evangelize and train potential stakeholders on the use of new video technology observed:

“We continue to see an increase in the adoption of the technology, which, in turn, means a faster ROI [return on investment].” (Chicago-area healthcare provider)

- **Network assessments — particularly wireless — mitigate risks of video deployment.** The complexity of networking requirements today and the increasing traffic make network management more of a challenge. While many universities have in-house networking expertise, they do recognize the extreme demands they are up against and acknowledge the benefits of outside help.

“Only recently, we have looked at network assessment with an eye toward video because we see that so much of what we need to deliver needs to go over wireless rather than wireline networking. This has brought on a level of complexity we didn’t have before. For example, we have 4,000 residential students who want to watch Desperate Housewives in the Quad on their PCs.” (Campus CIO, mid-Atlantic private university)

Another example from the healthcare industry illustrates the value of performing a network assessment. Having used third-party services to assess network requirements and consolidate infrastructure, a large US West Coast-based healthcare provider was able to dramatically simplify management and improve security.

- **Compliance and regulatory guidance allay concerns about privacy and digital rights.** As the use of video explodes, with new content created and published and existing content repurposed, universities are rightly concerned about any legal implications for privacy and digital rights. Is the intellectual property of the university and others protected? What, if any, measures should be taken to limit the liability of the university and protect the privacy of the university community?

“Video is an area which is growing in demand and complexity and legal entanglements. Assistance is going to be welcome. Finding the right partner is going to make the difference.” (Campus CIO, Mid-Atlantic private university)

“The whole copyright, permissions world of video is not clear. Institutions are mobilizing around risk mitigation.” (Director, academic computing, Southern private university)

Clear conception and execution of a comprehensive video strategy will dissuade renegade or incremental (grant-driven) purchases, encourage coordination, reduce uncertainty and risk, and ultimately rationalize and optimize technology purchase and use.

RECOMMENDATIONS

Video is clearly a permanent fixture on university and college campuses. With the explosion of use cases and the subsequent network traffic, academic and IT leaders must help ensure the availability of this indispensable tool. The current state, however, of decentralized IT decision-making, a lack of campuswide IT strategy at many institutions, and the resulting proliferation of video technologies is untenable. Forrester's in-depth interviews with academic and IT leaders from higher education yielded several important recommendations:

- **Understand the implications of an explosion of uncoordinated campus video use.** Video is here to stay. New generations of students reared on YouTube will increasingly use video for academic and social purposes, accelerating the growth of network traffic. The availability of tablets and smartphones means that video will be accessed over wireless networks as well as wireline networks, increasing the complexity of IT support. Once video proliferates, IT leaders need to consider how the campus will store, tag, and retrieve videos. Consider search and translations, languages and speech-to-text, along with captioning. Then there is the impact on network infrastructure, data center, and security.
- **Inventory current use cases, business influencers, and video technologies.** In order to better understand future needs, universities and colleges must first identify their current uses of video. What are the influencers for these use cases based on the learning, research, and administrative needs? What are the existing curriculum or campus requirements, and which technologies are in use across the campus? On many campuses, there is no centralized coordinator (meaning no one owns the video implementation responsibility) of video technology — or of IT in general in most cases.
- **Identify the additional outcomes and potential video use cases to optimize existing technologies.** Once the current state is established, stakeholders can begin to identify additional needs and ways in which video can be used. In this way, the university can optimize the use of existing video technologies across multiple use cases and increase the impact on teaching and learning, as well as return from a video technology deployment.
- **Identify crucial technology areas for coordination and potential consolidation.** Extending the use of existing technology might seem easy. But coordinating and consolidating video technologies requires compromise across current users and future stakeholders. Third-party services can help in this coordination and potential negotiation. They can build a video services plan based on long-term outlook, assessment, and impact.
- **Incorporate a video component into a campuswide IT strategy.** Finally, we observed a surprising lack of campuswide IT vision and strategy — not to mention a strategy component specific to video. Both IT as a whole and video specifically need to be mapped out in a long-term strategy in order to optimize current use and prepare for future use efficiently and cost-effectively.

To summarize, video on campus is here to stay. Soon, the campus will merchandise its brand globally through use cases of how a university has invested in video to influence 21st-century learning, prepare the workforce of the future, and globalize leading universities around the world.

Understanding how to build a long-term plan for the effective road mapping of the video investment, integrated both into the campus curriculum and the IT plan, will be an essential element for all future leading schools. Today we are only seeing the first wave of video explosion on campus; the university of tomorrow will build an integrated, student-driven video services plan that will optimize that investment and the future as well.

Appendix A: Methodology

In this study, Forrester interviewed 15 higher-educational institutions in the US to evaluate their level of interest in video (surveillance and security, classroom lecture capture, remote learning, collaboration, stadiums and sports facilities, etc.) and video services. Survey participants included decision-makers in IT who have used video-enabled learning to conduct or supplement courses. Questions provided to the participants asked how educational institutions think of video and whether they value consulting services to assist with strategy and architecture. The study ran from May to July 2011.

Appendix B: Endnotes

¹ In March 2011, Cisco Systems commissioned Forrester Research to evaluate the use of video technologies and video services within higher education.

² Source: “Table 2: Demographic and economic data,” UNESCO Institute for Statistics, 2010 (<http://stats.uis.unesco.org/unesco/TableViewer/tableView.aspx?ReportId=173>).

³ Source: US Bureau of Labor Statistics. (<http://www.bls.gov/>).

⁴ Source: George R. Boggs, “Democracy’s Colleges: The Evolution of the Community College in America,” American Association of Community Colleges, 2010 (<http://www2.ed.gov/PDFDocs/college-completion/01-democracys-colleges.pdf>).

⁵ Source: “Do colleges adequately prepare students for the job market?” Minnesota Public Radio, July 26, 2011 (<http://minnesota.publicradio.org/display/web/2011/07/26/midmorning1/>).

⁶ For-profit schools are required to publish placement rates, student debt-to-income ratios of their graduates, and loan repayment rates. The idea is that publishing these statistics allows prospective students to better assess employability upon graduation. Source: Daniel de Vise, “Federal ‘gainful employment’ rule tightens oversight of for-profit colleges,” *The Washington Post*, June 2, 2011 (http://www.washingtonpost.com/local/education/federal-gainful-employment-rule-tightens-oversight-of-for-profit-colleges/2011/06/01/AGSiAqGH_story.html).

⁷ Source: The National Center for Public Policy and Higher Education (http://www.highereducation.org/reports/squeeze_play_09/report.shtml).

⁸ Source: Higher Education Opportunity Act Information on College Costs, US Department of Education (<http://www.collegecost.ed.gov/>).