



Vidyo™
Personal Telepresence

VIDYO
CASE STUDY

ARIZONA STATE
UNIVERSITY
SMITHSONIAN
INSTITUTE

Arizona State University – Smithsonian Institute

Vidyo connects ASU students and teachers with Smithsonian education and research facility in the jungles of Panama



CHALLENGE:

How to connect ASU students and faculty in Arizona with Smithsonian staff scientists and researchers in Washington, DC and the jungles of Panama via video conferencing without high costs, problems with interoperability and limited quality audio and video.



SOLUTION:

VidyoOne
VidyoLines
VidyoGateway
VidyoReplay



RESULTS:

Students at ASU's School of Life Sciences are using Vidyo on a regular basis – they love the natural quality video communications and collaboration without jitter, latency or blurry images by dynamically adapting to Internet inconsistencies. They can integrate Vidyo with legacy H.323 room systems and use VidyoReplay to record sessions for viewing and use at later dates. Vidyo allows ASU students and faculty to share desktop files during classes and meetings.



ARIZONA STATE UNIVERSITY

Vidyo Communications and Collaboration Platform Enables Low-Cost, High-Quality, Multi-Party Exchanges

Established in 2003, incorporating ASU's Biology, Plant Biology and Microbiology departments, the School of Life Sciences (SOLS) at Arizona State is committed to providing a wide range of experiences for undergraduate and graduate students that build on ASU's burgeoning role in biotechnical and biomedical research. In keeping with its goal of expanding opportunities for students and faculty, SOLS recently launched a virtual classroom program in which undergraduate and doctoral students at the ASU campus in Arizona see, speak and exchange information face-to-face and in "real time" with staff scientists and researchers at the Smithsonian's Institute for Tropical Research (STRI) in Panama, and experts at the Smithsonian in Washington, D.C.

STRI is one of the leading research institutions of the world. Its facilities are used extensively by more than 900 visiting scientists from academic and research institutions in the United States and around the world every year whose work focuses on understanding tropical habitats and biological diversity. The School of Life Sciences' "Current Topics in Tropical Biology" class features "virtual" lectures by STRI and ASU experts, and Smithsonian researchers who are also working with ASU colleagues to mentor students on site in Arizona and in Panama. One important goal of the ASU-STRI collaborative is to promote global educational research and discovery opportunities in the areas of biofuels, social structure, sustainability and species diversity.



Although ASU-SOLS evaluated a number of video communication and collaboration products to enable audio and video interactions between the different sites, ultimately only one solution successfully enabled students, teachers and scientists to engage in high-quality face-to-face exchanges from remote jungle locations. That was Vidyo.

Breaking the Physical Boundaries of Education

Though virtual education is fast becoming a regular part of higher education curricula, most methods of delivery present troublesome limitations to the academic world. Until now, achieving the level of video and audio fidelity that is desired for teaching, demonstrating, and exchanging ideas and information has not been possible without purchasing expensive, high-maintenance equipment requiring costly high QoS networks, neither of which are financially or logistically feasible.



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“Vidyo hits the mark in so many ways. It allows users to video conference using standard PC and Macintosh desktop/laptop systems; giving us ubiquitous access along with the ability to conduct planned and ad hoc meetings.”

– Charles Kazilek,
Director of Technology
Integration and Outreach

Other video communication products that allow point-to-point conferences to be accessed via the Internet were found to be unsuitable because of their low-quality and inability to support multi-party video calls. What sets the Vidyo communications and collaboration platform apart from the rest is its low-cost, high-quality mobility and performance in remote field settings; its ease-of-use - a simple desktop interface; and the number and quality of multiple simultaneous connections.

Charles Kazilek, Director of Technology Integration and Outreach, with ASU's School of Life Sciences, was responsible for reviewing and selecting the technology for the ASU-STRI program and continues to be the point person for the technology development of this global classroom effort. He works closely with the Smithsonian and STRI to establish and develop a network that extends far beyond the bounds of the university. According to Kazilek, "In choosing the video collaboration solution for the ASU-STRI program, we needed to get the Arizona State University Technology Office (UTO) involved. UTO is the central hub of all technology that is used by the entire university, and they are extremely diligent about the selection of all technology that is used at ASU. I needed to demonstrate to them and to our team at SOLS that our solution could be taken to extreme limits and still work to the standards that we required. We needed to link telepresence to scientists in remote areas ... environments that required something very flexible, very portable ... something that actually works. We wanted to see how far we could penetrate literally into the jungle and bring back that experience to our students. We wanted to see how far we could push Vidyo. Could we run it on 3G? Can we get it into the jungle? Can we get it into the middle of an island in the middle of the Panama Canal? What we found is – YES we can!"

The Vidyo platform is uniquely suited for applications such as the educational partnership between ASU and the Smithsonian. According to Kazilek, "Vidyo hits the mark in so many ways. It allows users to video conference using standard PC and Macintosh desktop/laptop systems; giving us ubiquitous access along with the ability to conduct planned and ad hoc meetings. It offers affordable options for classrooms, laboratories, office and field locations. In all of those environments the quality is exceptional because Vidyo's technology automatically adjusts to allow the highest level of audio and video fidelity based on endpoint equipment and Internet connection speed. With VidyoReplay we can record sessions for viewing and extended use. Vidyo lets you share your desktop during a meeting for collaboration purposes -- live video windows as well as prerecorded video can be played in the Vidyo environment. Another plus is that Vidyo integrates with our existing legacy H.323 room systems."

Robert E. Page, Dean of the School of Life Sciences, is also a champion of Vidyo's system. He states; "Vidyo's groundbreaking technology and video conferencing system is transforming mediated classrooms on campus into real time, research and learning environments. It's exactly what we were looking for. I wanted the technology to be invisible. I didn't want the users to have to be constantly aware of the technology. I didn't want our tech people to have to be spending all of their time working on it and adapting it. Plus, with Vidyo, every personal computer can be, itself, a conferencing center. The other technologies that we've invested in have been static and every place you hold a conference requires an equal investment of time and money; it was very expensive to link multiple video points into a conferencing classroom. Vidyo is universally available on off-the-shelf devices and everyday IP networks. It greatly reduces the costs of video conferencing and collaboration."



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ASU Assessment of How Vidyo Compares with Other Solutions:

System/ Attribute	Cost	Call Quality	Latency*	Integration**	Portability/ Ad Hoc
Polycom / Tandberg (legacy H.263 systems)	High	Varies-good on expensive lines	Medium-High	Low	Low. Expensive fixed-room equipment
Skype	Free	Low-Medium	High	None	High
MOVI (Cisco/ Tandberg product)	Low	Medium	Medium-High	Low	Medium. \$120/per license
Vidyo	Low	High- Medium***	Low	Full	High. \$5/per license

* Lip-to-voice synchronization vital for natural communication.

** Integration: Desktop-to-legacy system calling; Adobe Connect integration.

*** Adapts to any quality line, from gigabit Ethernet to 3G phone. Each device gets best quality.

The Next Steps: Sharing the Vision

In an effort to extend the reach of the ASU-STRI program so that it can benefit students who would otherwise not have access to such a great resource, the educational experiences that are being created by the ASU-Smithsonian virtual learning sessions are expected to be made available to other schools and learning facilities worldwide. Currently Kazilek, who is also the creator of an ASU online science education website called *Ask a Biologist*, is working to expand the lessons developed by the School of Life Sciences into K-12 classrooms. He says, "With the ASU-Vidyo virtual classroom system in place, we can now offer a very affordable program to public schools – and by using the Vidyo system, the only thing that's needed is an Internet connection. Vidyo is a fraction of the cost of alternatives and is the only platform that allows us to do this."

The way Kazilek sums it up: "When we work with Vidyo, I always think about the person who once said 'you can afford to buy a sailboat, but you can't afford to own one.' Well ... with Vidyo you can afford to buy that sailboat AND sail it around the world! It's an inexpensive client that works with any endpoint, virtually anywhere, so whether you have a Mac or a PC ... no problem. Exceptional quality, without network, geographical or scalability limitations, for a fraction of the cost. That's Vidyo."

MORE INFO:

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