



Lecture Capture and Distribution

Why Use Lecture Capture Technology...

Students and trainees of all stripes – whether in secondary or higher education, or professional development – are increasingly demanding that academic content be offered on-demand via online video. In a study of over 29,000 in-class students at the University of Wisconsin–Madison,* which used lecture capture to augment their classroom experience, 82% of the students reported they preferred courses in which lecture content is recorded. Some 60% said they would pay extra to have this technology available to them.

Among the benefits that students cited were:

- Making up for a missed class
- Improving retention of class materials
- Improving test scores
- Reviewing material as a complement to in-class interactions

* Insights Regarding Undergraduate Preference for Lecture Capture, University of Wisconsin–Madison E-Business Institute (September 23, 2008).

VBrick Systems lets instructors focus on instructing, while providing students with access to live and on-demand lecture content that lets them learn at their own pace. Our Rich Media Studio makes it easy to capture video of your lecture and synchronize it with presentation materials from a computer and other video sources such as a DVD player, overhead camera, or student camera. Combined with our award-winning content management and distribution solution, classes can be delivered to student's computers, hand-held devices, and even to students who are connected via the Internet.

VBrick takes the time and complexity out of lecture capture to enable your institution to:

- Expand higher education and professional training classes beyond the limits of your physical facility
- Extend course offerings to online students anywhere, anytime through distance learning programs
- Provide opportunities for students to enhance their retention of lessons

This guide focuses on broadcasting of live lectures, recording those lectures, and how those live and recorded classes can be distributed to viewers virtually anywhere.

FIVE QUESTIONS TO ASK BEFORE GETTING STARTED

Question 1: Do you want to broadcast your lectures live?

VBrick's lecture capture solution allows you to broadcast your class live within your campus, to remote locations, and even over the Internet. This enables students who are not able to be in front of the teacher to have the ability to watch in real-time and even ask questions.

Question 2: Do you want to record your lectures?

Record any class and make it available for later viewing using VBrick's lecture capture solution. The result is increased student retention by providing a repeatable classroom experience that allows for self-paced learning. This frees up the teacher to focus on the subject matter without having to adjust the class for students that might need a little more time. Students are also able to focus more on the Teacher's lessons and update their notes after the class is over.

Question 3: Do you want to include the output of a computer, DVD player, and other types of video sources into your lectures?

VBrick's Rich Media Studio (RMS), an integral part of VBrick's lecture capture solution, provides a full production studio in a simple to use appliance. Easily capture all of the audio and video elements in a classroom including the teacher's camera, a DVD player, a document camera, as well as the

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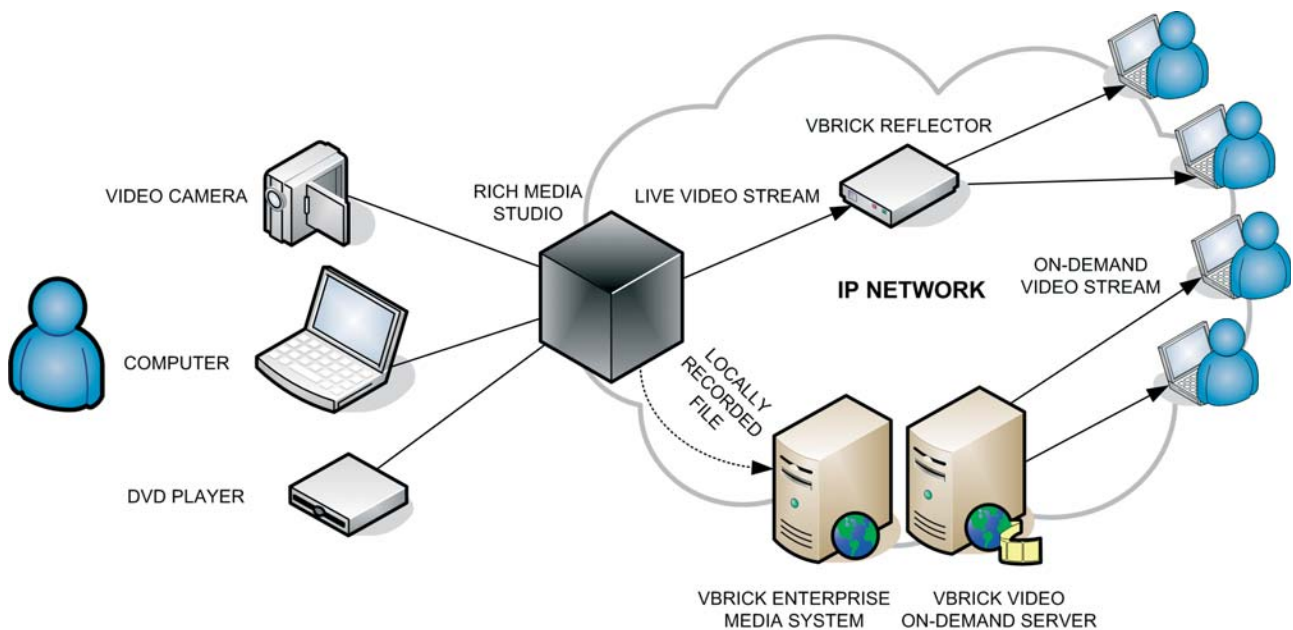
output of a computer. All of the inputs are mixed together using user-definable templates, resulting in a single video source that can be delivered live over the network and recorded for future playback. The RMS also integrates seamlessly into an interactive classroom that uses overhead projectors to display content from a computer or other video sources.

Question 4: Do you want to control who has access to your lecture content?

VBrick's Enterprise Media System (VEMS) Is a complete end-user management system that provides an easy to use web-based viewing portal for both live and on-demand content. Using conditional access tools, only the appropriate students have access to the content. And because VEMS integrates seamlessly into LDAP and Active Directory, administering access to classes that have lot of students in rotation is a snap.

Question 5: Do you want to allow people view content in remote locations?

If you are interesting in establishing or extending your distance learning initiative, VBrick provides you with all of the tools you need to get your content around campus, to remote campuses, and to e-learners on the Internet. VEMS provides a powerful Video-Networking Engine that allows content to be distributed and delivered to remote locations, such as satellite campuses. This intelligent Video-Networking Engine recognizes where a student is located and automatically directs them to the most appropriate source of content -- usually a local VBrick Reflector Appliance to view a live class, or a local Video On-Demand server, to view a recorded class. Schools wishing to reach e-learners can combine VBrick's lecture capture and distribution system with VBrick's Online Streaming Service (VBoss). VBoss provides is a hosted and managed service that allows schools to easily distribute live and on-demand video over the Internet to students anywhere. .





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VBRICK PRODUCTS YOU WILL NEED TO BEGIN CAPTURING LECTURES AND DISTRIBUTING THEM OVER YOUR IP NETWORK

VBrick's Lecture Capture Solution Allows...

- Teachers to capture their classes
- Students to view their classes on-demand and learn at their own pace
- Teachers to integrate content from previously recorded classes into future curriculum
- Students to be able to grab "snippets" of their classes and build playlists that they can share.

VBrick's Lecture Capture solution can be categorized in five areas: Capture, Management, Record & Store, Transport and Playback.

Capture

VBrick's Rich Media Studio (RMS)

VBrick's Rich Media Studio (RMS) is a powerful video and desktop capture device that enables you to capture and deliver more engaging classroom content -- live video, desktop sharing, animations, PowerPoint presentations and more. This "all in one" desktop studio captures and delivers live presentations and records them for on-demand playback over IP networks. The RMS combines multiple inputs, including the contents of your desktop, into one video stream and delivers them live or on-demand with campus-wide distribution. Switch between different viewing options such as full-screen, side-by-side video and presentation material, or having one window more pronounced than the other. With touch screen commands and pre-configured templates, presentations can be run by virtually anyone.

Management

VBrick Enterprise Media System (VEMS)

The VBrick Enterprise Media System (VEMS) is the brains and nervous system behind the VBrick video-streaming ecosystem. It provides a viewing portal, scheduling and administrative control, as well as a powerful "behind the scenes" media management engine that provides comprehensive measures to guard against prying eyes. Viewers securely log into the system, and the viewing portal displays a dynamic list of videos the visitor is invited to view, based on their unique permission parameters.

VEMS offers users the ability to publish and record videos, making them available on the Video-On-Demand servers for later playback. Users can easily bookmark sections of video, and combine multiple bookmarks to form VOD playlists. This is great if you need to review important points or events without having to search through hours of video. You can also share your playlists with others, making it easy for them to zero in on just what they need to see. A powerful search engine also makes it easy to locate content.

VEMS tightly integrates into your existing network conditional access scheme by supporting LDAP, Active Directory, and single sign-on -- allowing you to easily manage the content and resources that your viewers will have access to. VEMS also enables you to record two video streams simultaneously, and distribute them to video on-demand servers for later viewing.



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Record & Store

VBrick Video On-Demand Server (VOD)

With the addition of Video On-Demand (VOD) servers, VEMS provides controlled access to all your stored video. Your recorded content is stored and transferred from the RMS to a single or multiple VOD server throughout your network. People access and view the content seamlessly through the VEMS Viewing Portal. VBrick's VOD servers come in multiple configurations to best meet your unique viewer and storage requirements.

VBrick Network Video Recorder (NVR)

Our NVR allows you to simultaneously record up to 40 simultaneous streams per server, which you'll find useful if you want to record more than two classes at the same time.

Transport

Your Network

For distributing classroom content on your local area network you shouldn't need any additional network resources besides the VBrick components described. However, depending on your needs, you may wish to consider some of these options:

VBrick Reflector Appliance

If you're broadcasting live to an audience located at a remote campus, then you will want to consider ways to conserve bandwidth across your wide area network. Usually placed at the edge of the network closest to the audience, our Reflector locally redistributes a single video stream as a multicast or unicast transmission. This minimizes impact on network bandwidth and maximizes audience reach.

VBrick Online Streaming Service (VBoss)

Discover how easy it is to deliver content-rich classes and interactive webinars to an audience anywhere. VBrick's Online Streaming Service (VBoss) provides a one-of-a-kind managed solution that gives you all of the tools you need to deliver, and administer live and on-demand video over the Internet.

Playback

On the Desktop - VBrick Enterprise Media System

VEMS provides an intuitive point-and-click viewing portal that enables your audience to easily find and watch live and on-demand video right from a web browser.



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On a Display - VBrick's IP Receiver

Our IP receiver provides access to all of the live and on-demand content on the network directly through a television, LCD display, or plasma screen.

BEGIN CAPTURING AND DISTRIBUTING YOUR CLASSES!

VBrick has designed its lecture capture solution to be remarkably easy to set up, configure and use. Here are five simple steps that describe the workflow:

Step 1: The teacher pushes the RECORD button on VBrick's Rich Media Studio (RMS). Integrated templates allow the teacher to change the focus of their presentation between themselves and their presentation materials-- providing a rich viewing experience.

Step 2 : Students watching live can log into the VEMS viewing portal, which checks to see what classes they have permission to views. The student clicks on the class and is able to watch it directly from their web browser.

Step 3: When the lecture is finished the teacher hits the RECORD button again to stop recording and/or go off the air.

Step 4: Now that the recording is complete the file can be added to VEMS and the recorded file is distributed automatically to all of the Video On-Demand servers within the system. Teachers can add metadata such as title, description, keywords, and custom fields such as course, teacher, or date. If viewing restrictions are required, such as an expiration date, they can also add it at that time.

Step 5: Students log in after the class has been added and are now able to watch it on-demand. They can review sections as needed, even create "snippets" of classes that they can assemble into a playlist -- great for tracking topics that span across multiple classes. Teacher and students can share their playlists for later discussion and review in class..

ABOUT VBRICK SYTEMS, INC.

VBrick is the leader in Enterprise IP Video, with over 6,000 corporate, education and government customers and 60,000 installations worldwide. VBrick solutions work over standard IP networks and the Internet to enable the creation, publishing and distribution of rich media content. Our comprehensive streaming solutions are used in a wide range of live and on-demand applications including meeting and event broadcasts, employee video-sharing, distributed learning, digital signage, TV distribution and video surveillance. Headquartered in Wallingford, CT, VBrick's products and services are available through industry-leading value-added resellers.