Lecture capture and streaming technologies are increasing in popularity and deployments sit comfortably within most integrators skill sets. Anna Mitchell explores available technologies and how integrators can enter the market.

## Capturing the market



s video streaming technologies gain traction in education and corporate spaces, lecture and meeting capture solutions are in increasing demand.

Systems companies have to consider the integration of AV components and these platforms more and more.

However, those who take control of lecture and meeting capture, driving adoption and deployment can open up further revenue streams with the right solutions. So what are the available approaches and which technologies are best for your projects?

Lecture capture is a term that covers the recording, storage and dissemination of video content captured during a class, meeting or lecture. Individual solutions vary with hardware and software options, end-to-end packages and numerous levels of complexity such as tools that allow dynamic presentation of both captured video content and presentation sources.

"Knowledge shared in training rooms, classrooms or at events is important and the use of video communication and user generated content is rising at an astronomical rate," confirms Ray Hassell, vice president of Sonic Foundry.

Sonic Foundry sells the Mediasite Enterprise Video Platform, a webcasting and video content management 66 The appetite for online education seems to be only increasing and I think the interest in lecture capture will continue with this trend.

- Andreas Wienold, Lifesize

system that automatically processes video and associated metadata through search and analytics.

Hassell says: "Mediasite works with standard AV equipment such as camera and a microphone, which can be built in to a laptop or professional grade, and automatically syncs with visual aids such as document cameras or PowerPoint slides."

Most organisations have the infrastructure in place to implement solutions so it makes sense when rolling out a wider AV installation to consider lecture capture even if it's just to ensure it can be easily added at a later date.

Fred Singer, CEO of Echo360, an active learning and lecture capture solutions provider, says: "Most institutions have the networks needed to operate lecture capture. The top requirements for our solution are a reliable internet connection and adequate storage

if they plan on retaining recorded material."

Sony's system runs within an organisation's existing network infrastructure. Garry Cox, education solutions, Sony Professional Solutions Europe, says: "To place less impact on even narrow band networks the [Sony lecture capture] platform can even assist with network management by 'chunking' files that are delivered to the web portals and caches files at the localised edge portals."

Crestron, which is present in the market with a hardware solution in the form of its Capture-HD recorder, says there are no particular requirements for connection to a network in "stand-alone" mode.

"For streaming and uploading to an FTP site, any existing network will cope with the solution," adds Marc Poffley, business development at Crestron UK.

He continues to argue that universities are currently



the biggest market for lecture capture although
Crestron targets corporate establishments as well.

"The appetite for online education seems to be only increasing and 1 think the interest in lecture capture will continue with this trend," says Andreas Wienold, VP EMEA, Lifesize.

"Higher education is, of course, a big focus for this type of technology but there are also many other applications. For example there are many health and safety companies and manufacturing companies that are using lecture capture more and more. A company that needs to get out a personal message, training or important information could take advantage of it."

Sony's Cox, agrees: "Education is the biggest user, they need the flexibility of easily capturing recordings and many users also need to access the material.

"However, any customer that requires the ability to record meetings or capture learning sessions can utilise this solution and we have successes within many fields such as medical and corporate.

"The biggest challenge is to provide flexibility and also make the solution as simple to use as possible so anyone can manage and create their own recordings. For the general user they need to be able to very easily access and find relevant material."

At the heart of Sony's offering is Opsigate software, which provides recording and tagging functions then delivers the content via a web based platform.

"The Sony lecture capture system gives users flexibility for utilising many different camera types or audio sources to create the captured recording," says Cox.

"Software enables the application to be controlled by different users and provides a simple access to create recordings. Software developments provide the flexibility that is required which will assist with market growth.

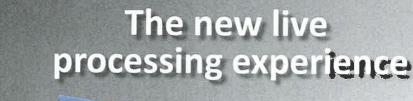
"The constraint of this system is that the lecture capture solution requires a fixed installation, however, from our experience customers that require this solution typically always have a dedicated space where they want or need to capture lectures. To minimise the constraint if a customer sees this as an issue Sony have also a simplified version for class capture that utilises IP cameras to enable flexible recording."

"[Hardware solutions] are not dependent on continual firmware or OS updates, unlike a software solution," argues Poffley.

"Without requiring any special training or extra effort from the presenter, [Crestron's] Capture-HD records the complete presentation in full-motion HD 1080p or 720p and uploads it to a network server for publishing. The main benefit is that Capture-HD may be used in a portable application and, therefore, not tied to a single room.

"Schools and businesses may implement a facility-wide media capture solution by equipping every room with Capture-HD recorders, all centrally managed by Crestron Fusion RV Remote Asset Management Solution. Any number of content inputs and camera inout can be fed in to the unit via an off board switcher.

"There are four main advantages: one, it does not require a yearly licence; two, it offers very simple integration into larger control systems; three, it provides high definition inputs and outputs for both





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[L-R] Sony's Opsigate Media Center: Capture HD from Crestron and Panonto's video viewer

camera and content; and four, the file format in high quality at low bandwidth."

"We use hardware and software," says lifesize's Wienold. "The hardware element means we can stream content live, however hardware on its own can create challenges when it comes to distribution.

"Our software interface through UVC video centre allows us to stream the lecture and record it simultaneously. This is accessible through Flash and HTML 5 so if a user has an internet connection he can access that content.

"The software also brings an incredible amount of analysis which is very valuable for any organisation wanting to know about how its lectures are being received.

"For us a major selling point is the UVC platform's per CEP and per recording licence model. Many organisations are just toying with the idea of lecture capture it's impossible to predict how much interest they will get. Allowing a flexible licence system means they take a much smaller risk at the initial stages."

Cattura Video offers a hardware-based appliance, a cloud-based on-demand capture and live streaming app and an offline app to use locally.

Justin McCutcheon, CEO of the company, says: "Hardware is hands down a speciality install for high-tech classrooms. The hardware offers a more robust, secure, mission critical approach to capturing on frequent basis in rooms equipped with high-end AV equipment."

"Our view is that schools need a hybrid of [hardware and software]. If the lecture is critical and the room

uses advanced HD equipment then we see hardware as the best fit.

"The software is geared to be the catch all for the 'non-tech' classrooms as well as a tool for teachers and students to drive more content into the destination platform

"Our hardware can be accessed via browser over our HTML interface so once it's set up it sits in a rack or a podium. Everything is then 'routed' into our hardware, which can virtually take in any type of input ranging from HDMI, VGA, DVI, HD component, composite and for RCA and XLR."

Echo360 also takes a combined approach with four different options. Software can be deployed on classroom computers and laptops. Universities also have the option to add EchoSystem SafeCapture HD appliance to classrooms to improve quality and add live webcasting.

"Most HED and FE institutions start with a pilot and grow over time," says Singer. "Echo360 is designed and priced to start in a pilot mode and grow at a rate that fits the need of the institution.

"Scaling is handled by bringing more classrooms online with software or SafeCapture HD appliances while providing the institutions guidance on associated infrastructure needed to support the addition of more video on their network.

"The next few years will see more integration of lecture capture with other tools, like LectureTools, to amplify the impact beyond simple class review. Analytics will play a major role, as lecture recordings and student engagement systems generate metrics that

can be integrated into big data initiatives."

"Mediasite scales to meet anyone's webcasting needs, whether they start departmentally with a couple of rooms or implementing campus- or company-wide capture," says Hassell.

Panopto is a software-based lecture capture solution that consists of client software that runs on Windows or Mac, a video content management system (VCMS) and a mobile app that runs on iPhones and iPads.

Ari Brixhorn, vice president of marketing at Panopto, says: "[The] client application enables faculty, employees and students to record video as well as the contents of their screen. It also enables them to record video and screen content from their laptop to audiences of several thousand people. After a recording or live broadcast ends, Panopto automatically uploads it to its integrated video content management system.

"Panopto's VCMS is a video library that can either be hosted in the cloud, or deployed on premises behind an institution's firewall."

Integrators will find an increasing demand for these technologies and should ensure that they take responsibility for deployments.

Cattura's McCutcheon says: "We have been approached by manufacturers to OEM our hardware and we have many integrators wanting to resell it. It's possible; we just have to strategize about it this year."

"An integrator could host a centralised system and manage content for many different customer needs, providing an on-going revenue stream through provision of edge servers at each customer site," adds Sony's Cox. (N)

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