EDUCAUSE Moderator, Jamie Farrell: Welcome, everyone!  Today’s Industry & Campus Solutions webinar “Reinventing the Computer Lab: Case Studies with Emory, UC Irvine, and Ithaca” will begin at 1 p.m. eastern time.

  \_Technical Help, Jody Tracy: As we wait for today’s session to begin, feel free to introduce yourself or chat with attendees in this chat pod. Tweet your thoughts and reflections using this hashtag: #industryweb

UTHSC: Hello.  This is the University of TN Health Science Center

\_Technical Help, Jody Tracy: Welcome, UTHSC!

Jamie Rost: Hello

\_Technical Help, Jody Tracy: Hi Jamie!

Jamie Rost: Good afternoon

Evelyn Rosas: Greetings from the TWU Dallas campus!

Alison D: hi!

Alison: Hello from Traverse City, MI!

Trish Briere: Hello from University of Maryland Global Campus. (Formerly UMUC)

  Classroom Mgmt, Univ. of Minnesota:Hello from Minneapolis

Greg M. Smith: Good afternoon all from the DC metro area.

 Douglas: Hi from the Univ of North TX

Erin McDonagh, McGill University: Hi everyone, Erin from McGill University in Montreal,

Canada

 \_Technical Help, Jody Tracy: Welcome, everyone! We're glad you're joining us today!

 \_Technical Help, Jody Tracy: We'll start in a few minutes at the top of the hour.

Mendoza College of Business: Hello from South Bend, Indiana

Greg Hibbin: Good afternoon from Austin Texas!

Tyanna B.: hi from Northern Arizona University

Chris Poser - UW-Madison: Howdy from UW-Madison

 Sande Nissen, Carleton College: Hi--eeeeeeeeeeeeeee!

  Harry Partika: Aloha from University of Hawaii Manoa

  Jim Serafin Penn State Behrend: Greetings from Penn State Behrend.

  Nate See with NAU: Hello from sunny Northern Arizona!

  Jessica Levy - Pitzer College CA: Morning, from the Claremont Colleges in Southern California

  Rose Diaz UNC Charlotte: Hola from UNC Charlotte

  David Kirkland: Hello all from the UNC Greensboro!

  Tim Daniels:Hello from the North Georgia Mountains

  Mark Chropufka: Hello from NY

  T Larson: Greetings from California College of the Arts

  Jean Kilbride Connecticut College: Good afternoon from Connecticut College

  Floyd: Floyd S. Texas State

  Shawn: Hello from Washington State University

  Dari Ann Willis: Hello from New College of Florida

  Douglas Nevel: University of Central Florida checking in!

  LTG: Laura Garcia from Greenfield Community College in Massachusetts

  Larry Stoffel: Larry Stoffel, Franklin College of Indiana

  Jean Janecki: Hello from Mount Holyoke College

  DNeate: Hello from Fullerton College in California

  Tony Lovgren: Hello from Idaho State University

  Eryn Van Lear: Good afternoon from Elon University NC

  Marie Lippens: Hi from University of Waterloo, Canada

  Johanna Boutcher SUNY Suffolk Community College: Good Afternoon from SUNY Suffolk Community College

  Susan: Hello from the University of Minnesota

  Tyler Luedke: Good Morning from Pepperdine University

  Kartika Garg Seattle University: Hello from Seattle University.

  Cosmos: Hi from the University of Chicago

  Melinda Baumann: Good afternoon from University of Virginia

  Mayra: Greatings from Foothill College in California

  Don H: Don Hansen Colorado School of Mines

  HCampos: Greetings from City Colleges of Chicago

  John Navarro: Hello from Georgetown University

  David S: Will this session be recorded and available later?

  Don: Don Carter (NAU Academic & Research Technology)

  \_Technical Help, Jody Tracy: The event recording, slides, and resources will be available later today:  <https://events.educause.edu/webinar/industry-and-campus/2019/reinventing-the-computer-lab-case-studies-with-emory-uc-irvine-and-ithaca>

  \_Technical Help, Jody Tracy: To open captioning in a separate, adjustable browser: <https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.streamtext.net%2Fplayer%3Fevent%3DIC1906&amp;data=02%7C01%7C%7Cbfcea1df02f74f7d0ebf08d721aaf4a4%7Cdd4b037fe626495db0170cc0f7dddb37%7C0%7C0%7C637014890454324111&amp;sdata=TAtK9siWObsyiSYSk3M7LtKGqbub4AzJ3SOr4PDdw%2Bg%3D&amp;reserved=0>

  David S: Thanks Jody!

  Erin McDonagh, McGill University: We're seeing more and more of this type of model requested at McGill. We just don't necessarily call them computer labs.

  Classroom Mgmt, Univ. of Minnesota: @Erin: What do you call them?

  Eric Rzeszut, University of Virginia: It's certainly not underutilization.  They get used, we just don't have enough of them.

  Erin McDonagh, McGill University: That model looks like a couple of teaching labs/ALCs that we've designed.

  Josie Weishaar: staffing

  Meg Young: Adobe

  Tony Frisby, TJU: Demand for use hasn't gone done at all, and all of our students do have their own devices.

  Tyanna B.: How to balance under utilization with some labs and very high utilization in others

  Harry Partika: standard labs do not scale to class size

  DNeate: We have increasing requests from students for collaborative work spaces.

  Mark Chropufka: We are facing just about all of these issues

  Tyler Luedke: All of the above

  Edge Quintanilla: We're in need of a hardware refresh - our laptops can't run the apps we need them to.

  Paul Morin - Mount Royal University: Lack of mobility (seeing more request for mobile 'labs')

  Erin McDonagh, McGill University: Software licenses

  Meg Young: license management differs from software package to software

  teeje jamison: Staffing and software not compatible with lockdown/fdeepreezing

  Mark Chropufka: Remote management capability

  Susan:2nd software incompatibility

  Sharon: I see so many issues here that people list, which really resonate on my campus.

  Macalester College: Software licensing also a concern for us

  Rose Diaz UNC Charlotte: software licenses are challenges for us as well accessing software from student owned devices vs on campus licenses

  Adan G.: WIFI printer for students who bring laptops to campus

  Eric Rzeszut, University of Virginia: Here's the issue for a business school (like us).  Students are almost 100% using Macs; a lot of business-oriented software is still Windows only.

  Evelyn Rosas: I put lots of open collaboration spaces (literally just large tables) near our printers in the computer lab with charging pods on each and we have had an increase in utilization in our lab  TWU Dallas

  Douglas: Keeping software uptodate

  Eric Rzeszut, University of Virginia: Without a Windows computer lab, students are stuck.

  Susan: Agreed, Macalester - licensing is a huge challenge

  Chris Poser - UW-Madison: One of the primary drivers for students to use our general lab spaces is actually printing

  DNeate: Software licensing is a huge problem. Ho do we plan for that when it keeps changing?

  Mendoza College of Business: We offer some software packages that cannot be offered to students to run on their own laptops. Students want to use their own devices, but don't always have the option.

  Joe: licensing is a HUGE issue

Meg Young: Trying to stay current on everything - Software & OS

  Robert: labs are under utilized during semester until finals week. During finals week, we get lots of traffic.

  Evelyn Rosas: Chris Poser is printing free on your campus?

  Erin McDonagh, McGill University: Consistency of utilization. Granting access to spaces (we have card locked labs in most instances)

  Mark Chropufka: We are on a six year refresh cycle

  Tyanna B.: We have gone to a 5yr for standard and a 3 yr for high performance labs like STEM

  Mark Chropufka: Have you looked at Veralab for lab monitoring and utlization

  Mendoza College of Business: We try to stick to a four year cycle, but sometimes stretch to five to save costs and to better sequence our refresh project resources.

  Chris Poser - UW-Madison: @ Evelyn Rosas - no, we have a pay-for-print service attached to the lab printers

  Evelyn Rosas: we use Spiceworks to monitor utilization

  Mark Chropufka: We used to be on a 4 year, shifted to a 5 and now are on a 6.

  Rose Diaz UNC Charlotte: in our College of Arts + Architecture students typically only care for printing solutions since we provide specialty paper types and sizes

  Rose Diaz UNC Charlotte: we have a BYOD in our college not at the university level driven by the specialty software used to render projects

Evelyn Rosas: Thanks @Chris Poser. We are fortunate that we have a tech fee which provides students with FREE B&W printing and they pay for color printing

  Mark Chropufka: Evelyn we have the same

  Meg Young: Apporto isn't an option for us.  Adobe does not support VR

  Mark Chropufka: Though students are provided a free quota of 300 pages and then pay thereafter regardless of b/w or color

  Montgomery County Community College: Is there a cost associated with the laptop Kiosk?

  Hector Revollo, Isha Haider, Monique Clark, NVCC: We have a laptop kiosk as well.

  Antony: @meg we have delivered Adobe on virtual desktops

  Tyanna B.: meg young, we are able to run Adobe with our virtual site

  Nate See with NAU: Adobe does support virtualization... perhaps should be a conversation with your rep during the next license renewal.

Rose Diaz UNC Charlotte: @Antony I'd love to know more on how you provide this in a virtual environment, is it the whole suite or certain apps?

Mark Yowan: the laptop kiosk is from laptopsanytime.com and then we made apporto the default home page in the browser

Evelyn Rosas: our Library department actualyl ownss some laptops that are avaiable for students to use on a hourly loan-system. It is very popular on our larger campus

 Tyanna B.: @Rose, we provide the suite

Antony: I agree Adobe does support virtualization - provided the users are licensed

  George Assard: anybody using Symantec Ghost?

  Montgomery County Community College: @Mark- Thank you for the information.

  Joe: So are you buyign for a site, campus wide, license for Adobe?

  Nicholi Fernandez Buffalo State: "No. Shared device license packages cannot be installed on virtual machines." - Adobe

  Joe: sorry, Paying\*

  Nicholi Fernandez Buffalo State: What am I missing?

  Meg Young: To clarify, Adobe may work but Adobe does not officially support VR

  Pete: Does Emory use VDI because they accidently SCCM'ed their entire domain?

  Nate See with NAU: @George. We were using Ghost 5+ years ago across campus, but switched to SCCM. It's been MUCH better overall.

  Antony: shared devices licenses will not work

  Antony: user based licensing will work

  Meg Young: Also I am sceptical as to how well a VR environment would support art students working with very large, multi-layered files

  Josie Weishaar: is anyoone having issues finding student workers to staff their computer labs?

  Kevin Strite - Notre Dame: Sassafras - KeyServer product is great for lab maps and both software/hardware utilization

  George Assard: Nate .. We School of Engineering use it still .. have 400 desktops with 320gb image and it works nicely.. we can push 60 pc's at a time and do it in 3 hours.

  Sande Nissen, Carleton College: Is anyone looking at the new Windows Virtual Desktop (uses Microsoft Azure) instead of traditional VDI?

  T Larson: @Meg Young I agree

  Eric Rzeszut, University of Virginia: That's been our issue with Adobe as well.  Say we have 1000 users and want to provide 100 simultaneous virtual machines.  We don't want to pay for 1000 licensed users, and Adobe doesn't allow us to pay for only 100 shared device licenses in a virtual environment.

Evelyn Rosas: @Josie Weisharr I have hired students by walking up to them and offering. I remind them that we essentially pay them to study as I myself started as a lab student assistant

  David Burns, UT Austin: Intersted in Windows Virutal Desktop, but cost and Azure admin challenges at the University level are a major concern.

Jean Kilbride Connecticut College: highest priority is  access to campus licensed software

Josie Weishaar: @Evelyn Rosas. i have done the same thing but that doesn't always work out. I have lots of hours to fill for the fall semester and no prospects.

Evelyn Rosas: @Josie W-Do you have to advertise your open positions yourself or is there a general website students can use to find jobs?

  Cosmos: Essentially this is a cloud based terminal server

Evelyn Rosas: agreed @Mark

Meg Young: We have started using Handshake in Career Resources to recruit student workers

  Leah Kraus: What is different with this and VMWare solutions? What is the bandwidth required for this?

Josie Weishaar: @Evelyn Rosas.  we advertise all campus jobs on our college's website.

  Eryn Van Lear: Can Apporto work with a Mac desktop?

Evelyn Rosas: @Meg Young thats great! I went from 3 apps to 30 by switching to Handshake

  \_Technical Help, Jody Tracy: The event recording, slides, and resources, including chat transcript, will be available later today:  <https://events.educause.edu/webinar/industry-and-campus/2019/reinventing-the-computer-lab-case-studies-with-emory-uc-irvine-and-ithaca>

Mark Chropufka: What is the cost of Appoto

  Eric Rzeszut, University of Virginia: Just as another perspective: we're starting to explore AWS options in this space, using both WorkSpaces and AppStream.

 Meg Young: Yes!

 Evelyn Rosas: I have some nice photos I'd like to share.. if I can find them. BUt our open layout design has greatly increased our lab use. NOw we have some professors who bring their entire class to collaborate in our lab

Mark Chropufka: We can do this with VMWare

  Bob N.: @Mark: same here

 Jim Serafin Penn State Behrend: Evelyn Rosas:  would love to see your design\photos

Eric Rzeszut, University of Virginia: For what it's worth, my boss and I wrote up this article for EDUCAUSE Review on our WorkSpaces experience: <https://er.educause.edu/articles/2019/2/using-amazon-workspaces-to-support-compute-intensive-curricula-at-a-distance>

  DNeate: Thanks Eric

  Rose Diaz UNC Charlotte: @Evelyn Rosas I'd love to see those photos

 Guest 4: A good resource for design / photos is FLEXSpace flexspace.org

  Derrek Gabagat: Thanks Eric for the article

  Meg Young: What happens when a student wants to set up a render?

  Rose Diaz UNC Charlotte: @DNeate agree!

  LTG: Thanks Eric! That looks like a good article

  Mayra: Apporto seems nice, but honestly, it would only add more to my plate. Having to train students and staff on how to use this.

  George Assard: We have both virtual and physical labs at UConn .. jusing ghost and labstats our engineering labs work great.  But the up front work to minimize emergency changes is too much.    We have 2 or 3 in first 30 days and have been able to keep physical labs working.    The VM world is not fully utilized because of cost for GPU VM's.    So we are lookng at APP-V.     Any one using App-V??

Ben Geers: Does that work with Box and other services?

  Evelyn Rosas: very good point Mayra. Especially if your staff happen to be students and we cannot count on them to stay forever

  Ben Geers: the mounting of drives

  Sande Nissen, Carleton College: Does Apporto run only Windows applications, or macOS applications too?

  Jimmy Young: Question for presenters: Does your SSO integration allow you to pass attributes so the different groups (and their special access) could be housed in Active Directory

  LTG: will the recorded version include this chat? or just the demo?

  Susan: You can only run Mac applications on the Mac OS.  You'd need a remote desktop setup with Mac Pros in your data center.  It's really not feasible at this time since Apple doesn't allow the Mac OS to be virtualized.

  \_Technical Help, Jody Tracy: Chat will be included in the recording and we'll also post it separately in the resources.

  Guest: If I'm understanding correctly, costs will be associated with either Azure or AWS for hosting and the cost of Appporto?

  Mark Chropufka: What is the cost of Apporto per machine?

  Lincoln Slade (ASU): what kind of hardware is required on the backend to support the environment that you demoed?

  Rogelio: will this be offered as a video once it is done?

  Mendoza College of Business: What version of Windows is the software running on? If I have a package that needs to run on Windows 10 specifically for license reasons, can the system virtualize Windows 10, or does it need to be Server 2016?

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Jason Huitt, Colorado State Univ: For the other presenters: As you have deployed cloud-based virtual desktops, how has your approach to providing physical computer labs changed?

  Chris Poser - UW-Madison: @Jason Huitt +1

 Skagit Valley college: How many and what type of skill level is required for IT staff  to support the demo environment?

Meg Young: What is the recommended bandwidth?

  Andrew Haggert: Packaging software like SPSS and Adobe Creative Suites -- is this  all done by you, or can other less common software be packaged by us?

  Classroom Mgmt, Univ. of Minnesota: What trade-off is there for the student who attempts to use Apporto from a lower powered device such as a Chromebook with minimal RAM/processing power?

    Mark Chropufka: What is the cost model for Apporto

  Mark Chropufka: @Christian T I agree so you need a device to access the servie

  Josie Weishaar: @Meg Young we are using the same thing.

  George Assard: What about 3D rendering?

Meg Young: or rendering video?

  Lincoln Slade (ASU): is  there information on ther average cost per student?

  Heather Wasserlein: @George  We have customers running 3D gaming software with good success

  Evelyn Rosas: If you would like to have a look at a few photos from TWU's Dallas computer lab, they are located in my Google Drive: <https://drive.google.com/drive/folders/1l4Whbkhw4nn-1ORNfOZ2bLtgdcoSYoeh?usp=sharing>

 David Burns, UT Austin: How is the issue of persistent desktops addressed?

  DNeate: Thank you Evelyn.

  Evelyn Rosas: It was nice chatting with everyone! I have another meeting I must attend. Please add me on LinkedIn if you would like to chat more design! [erosas3@twu.edu](mailto:erosas3@twu.edu)

 Evelyn Rosas: Thank you Presenters!

Heather Wasserlein: @Meg  Video runs in Apporto.  We are working on improved performance for video - this is a top priority for our Fall release - particularly to improve video editing performance.

  \_Technical Help, Jody Tracy: We appreciate your feedback! As we near the end of the session, please take note of our brief session evaluation and fill it out before leaving the online room today: <https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.surveygizmo.com%2Fs3%2F5131439%2FIC1906&amp;data=02%7C01%7C%7Cbfcea1df02f74f7d0ebf08d721aaf4a4%7Cdd4b037fe626495db0170cc0f7dddb37%7C0%7C0%7C637014890454324111&amp;sdata=dXptZPSCHgib3N8HpRPaSEO6mGWpJPByga8WBF61Qfo%3D&amp;reserved=0>

Ron Hughes: How do you handle a student who becomes unhappy with their persistent profile or has issues due to something they've done over time?

 Heather Wasserlein: @Mark Apporto pricing is on a concurrent user basis.  We are unique here as most virtualization services are priced per user.

  Harry Partika: Re putting software into student hands, seems with Apporto the software is still an instituional resource.  What about options for students to purchase their own software or personal student paid Apporto licenses?  For example, how would Adobe Creative Cloud 'Named' share device license work in cost compared to student outright purchase of Adobe CC?

  Heather Wasserlein: @Ron Students can take "snapshots" to backup any important work.  If they run into any issues, they can easily roll back with a few clicks.

  Floyd: is anyone using it in classrooms

  George Assard: @Heather .. Thank you

  Ron Hughes: Thanks Heather.

  Mark Yowan: yes, some professors are using it in their classroom

  Heather Wasserlein: @floyd  We have customers using Apporto in classrooms.  The instructor often uses two monitors.  One for their slides and another to demo software , etc.

  Mark Yowan: so students bring their own pc's

  Dave: When using Adobe software, would the virtual desktop show the users AdobeID cloud services?

  Derrek Gabagat: Thank you Evelyn!

  Greet Van Belle: How can this replace a specialized lab, let's say a language lab, to run a class synchronously?

 Meg Young: Are any other AICAD (Independent Art Schools) schools using Apporto

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  \_Technical Help, Jody Tracy: Thank you for your participation! Before leaving, please don’t forget to fill out our evaluation: <https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.surveygizmo.com%2Fs3%2F5131439%2FIC1906&amp;data=02%7C01%7C%7Cbfcea1df02f74f7d0ebf08d721aaf4a4%7Cdd4b037fe626495db0170cc0f7dddb37%7C0%7C0%7C637014890454324111&amp;sdata=dXptZPSCHgib3N8HpRPaSEO6mGWpJPByga8WBF61Qfo%3D&amp;reserved=0>

Harry Partika: Thank you, much appreciaed.

 Nate See with NAU: Thank you!

 DNeate: Bye everyone! Thanks for the great chat info

  Jake Anderson: Thank you!

  KH: Thank you!

  Meg Young: Thanks.