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EDUCAUSE
Power Higher Education with a Secure Modern IT Infrastructure
Tuesday, February 16, 2021
1:00PM – 2:00PM Eastern
Hello, welcome to today's industry and campus webinar. I am an online event producer at EDUCAUSE and I will be a moderator for today. We are pleased to welcome today's speakers, Andrew Miller and Mike Wiseman. I will introduce them in just a moment. Let me give you a brief orientation on our sessions learning environment. To open the chats, click on the chat icon at the bottom of the presentation window. You can use the chat to make comments, share resources or to pose questions to our presenters. Select a panelist attendees to engage with everyone. We will hold Q&A until the end of the presentation. We encourage you to type your questions into the chat throughout the webinar. If you have any technical issues, send a private message to panelists in the chat drop-down. The recordings and slides will be later today on the EDUCAUSE website. Let's turn our attention to today's presentation. The evolution and transformation of higher education has been accelerated by the events of 2020. The shift to virtual and hybrid learning along with associated revenue pressures is driving higher education IT departments to accelerate the digital transformation and modernization of their IT infrastructure. This move to a modern data experience is critical to all areas of higher education. [Talking fast] As well as IT security and student data privacy. Choosing the right partner to enable a new modern data experience will help unlock capabilities across these dimensions. Andrew Miller is a principal technology strategist for Pure, working with customers and partners along with being a liaison to the product management and engineering teams. He started his career in higher Ed, working in a university IT operations team for seven years, moving from admin to engineer, to architect. Mike Wiseman holds the position of Vice President for America's state, local and education at Pure storage. He has made state, local education a focus since joining Pure storage five years ago as a possible first lead customers across the U.S. developing a team capable of enabling our customers to transform how they serve constituents via technology. He's is also an executive sponsor. [Talking fast] With that, let's begin today's industry and campus webinar. Power higher education with a secure modern IT infrastructure.

>> Thank you, Jason. Andrew, can you transition to the next slide. I'm going to kick it off with a high level on Pure, specifically our higher education practice. Pure is up to $1.64 billion company with over 8000 customers globally. One of the key things I like to focus on is our net promoter score. We are rated in the top 1% in net promoter with companies across the world.
That is an audited net promoter score. Some news to share that you may have seen online, we just drink a leader in partners Gartner for seven years in a row. I know a lot of our higher Ed customers leverage as a resource when making technology decisions. Next slide, please. From a higher Ed perspective, Pure has over 200 happy higher education customers in the U.S. We have solutions that fit everyone from a two-year institution perspective, all the way from community colleges to research institutions. We also have a dedicated higher Ed focus with dedicated higher Ed resources focusing on this space. Next slide, please. I thought I would cover some of the trends we are seeing in a pre-COVID/post COVID era. There's a lot of things the higher Ed folks are focusing on. It really comes down to seven different topics of discussions that we find ourselves in. First topic of discussion is usually around enrollment. It's been an enrollment roller coaster. The institutions were already struggling with enrollment and enrollment challenges prior to COVID-19. In a post-COVID world we are seeing both current students and prospective students really rethinking when they should attend school so we will start to see more focus on the enrollment issues continuing. The next topic that we see is around in search and demand for online adoption. As we have seen in the pandemic world, a lot of focus around higher education, focusing on online learning. The switch to remote learning has really delivered a rapid shift in our education for both faculty and students alike. The technology and design needed for successful online learning will continue to see an evolution from a higher education perspective. And third, widespread financial instability. We are obviously going to see increased competition, debt, growing compliant costs are creating fiscal challenges for a lot of institutions. Really shifting to more of a blend of online learning versus in-person will continue to have focus areas around the financials of providing higher education experience. Number four, friction less and engaging student experience. Attracting student population. Today there is a lot more focus around engaging and retaining students. Digital world has a big impact on this. How do we retain students digitally versus in-person and through the online campus experience? Number five, IT is a critical mission partner. If there's one thing we have seen through the pandemic it's that IT has an opportunity to really step up and support digital marketing, customer relationship management with students as well as analytics on campus as we focus on attracting students and also providing the best student experience. And then number six, migrating to an elastic workforce. Again, we have seen a ton of topics around flexibility. As far as students being rushed off campus, faculty being rushed off campus in the pandemic, and then also a lot of focus around the staff that are left behind to run the campus. How do we really shift the culture to empower people to do their jobs remotely, but also to build the skills that they need for this new work environment? And then finally, a radical business transformation. There's always been a lot of pressure on tuition and rising operating costs which have fueled conversations about the business models overall. In a post COVID-19 environment, reducing operating costs while increasing efficiencies and performance has become more critical than ever. Next slide, please. To achieve successful outcomes at Pure we focus on what we refer to as a modern data experience. I'm going to hand it off to Andrew. But before I do, let's start off with our first polling question of the day. The first question, what cloud provider are you using on campus? You can check all that apply. [Talking fast]
>> Our bet was for a lot of the folks it was going to be a combination of all of the above.

>> We will see.

>> I really like the themes as you were going through there, because my brother is actually on staff, he's a professor at a university. We talk periodically. Those themes you mentioned were part of our conversations periodically. There is cool stuff, there's concerns, and a little bit of scary things. Those are things we talk about on a regular basis.

>> Absolutely. It is unfortunate the way the pandemic struck. A lot of folks were caught off guard and transitioning on the fly. Obviously as I called out, culture is one of those things that followed as we accommodate our customer needs.

>> I think we can close on the poll. We can see, what you know for those that are possibly dialed in, AWS and Azure are neck and neck. Respectable showing by Google there. There is still some nun out there.

>> Good to know.

>> Appreciate the comments from Brad in the chat as well. With it, I'm going to dive in and we are going to continue on. Thank you for opening things up or you'd I wanted to take it down to another layer here. As Mike promised we are here to talk about modern day experience. Like there is real stuff there. The way I wanted to do this is actually really just by telling a story. It's the story of pure, but relating this into the higher education space. There's been some of where we have been. If you're coming here, the Gartner magic quadrant. Some of the history of how we've been successful is relevant. And then where we are going. There's going to be some product bonuses as we go along the way. The attention here, and I want to say this upfront is not for this to be a here is our products, this is what they do kind of thing. We're going to interleave some of that in. There's an awesome team of folks that report up to Mike that actually dive into tons of product details. We will do some of that today but that will not be the focus. I want to make sure you can still hear me all right?

>> All good.

>> There was a quick freeze from Mike's video. [Talking fast] In case we haven't had the pleasure of meeting, just because I'm going to be talking to for little while here. My name is Andrew Miller. Feels like a fancy title, but think probably most important leaf today, I started on the education side, my first job was actually while I was in school. I was on an IT helpdesk for about 2.5 years. And then I wandered over to the IT operation side. Everything from storage to networking to virtualization and there is NetWare in their Camino. You can guess I might be older than I look sometimes, or maybe not, given where the hairline is going. There's been this core for me, keeping in touch with the folks that I used to work with. Hopefully you will get a
feel for that as we go along the way. I was on the partner site for a while and a manager director, built a tech marketing team and now I'm here, really enjoying being here. There's really some interesting stuff here, the themes I have seen along the way. First section, looking back. If we look at where pure came from. There is the concept of, you know, hey, I want to do a little bit of a site called out here prefer those of you that are familiar with start with why. That is how I want to start here. Why did Pure start? If you haven't gone and watched that Ted talk, or read the book, it is good stuff. And then there's some stuff, when ever anything is boiled down that we come condensed down, there is some cool stuff about starting with the why of where we are. Let's start there. Pure started, I don't even joke about this, what did customers not like about storage? Or name is Pure storage. It was an inherently just the product, it was the whole lifecycle of supporting it. Everything from procurement, and the long quotes evolved, the complexity to get it set up and running to the support process. I have to set aside half of my day when I open a support ticket. I have to pay periodic technology taxes kind of thing. In that case, I got to go and say, you know, if I want to do -- new technology have to do forklift of days and that kind of thing, right. That turns into, of course you have production silos. Pure's goal was to flip that around kind of thing. And not just in the storage products, but the entire lifecycle. I used to get paid, time and have to do overnight upgrades. Whether it's from someone with the procurement process, the installation and hours, in some cases to the support being more proactive than reactive and you don't ever have to actually migrate data. You can if you want, upgrades are not disruptive. The whole idea of evergreen. This is interesting from an industry standpoint. If you go back about 10 years if you're familiar with pure at all, they started out with all flash. The origin here was not actually around flash as the be-all and end-all. But flash as a catalyst that would create an opportunity to create a new company. People would be willing to look at. [Talking fast] Pure is the last one standing from an independent company standpoint. There was this recognition that performance was not going to be a long-term differentiator. The long-term differentiator was going to be simplicity. That for me really resonates. There is a sense of we know we have these knobs and dials and things to do. We almost don't want to do them, if we don't have to. [Talking fast] There is so much to do every day. The more time we are spending doesn't impact the business. The less we have to do, especially things that link back to the themes that Mike started out with her there were some hard engineering here. This is where sometimes for customers, part of my role I do get to geek out technically. We're not going to do a dive on all the things you see here. There's a lot of part of an engineering here. Pure has done encryption since the very beginning. If you're going to use flash you need to randomize the data. They're really good at randomizing the data. It is encryption for free to help with flash, or thinks like the power off procedure. The idea that it shouldn't be a different process to do a planned power off. How often are you going to put practice your plan power off procedure until you're in an emergency? There's a bunch of pieces that relate through around controllers and how we handle. [INAUDIBLE] This idea of evergreen pretty will see this, it kind of evokes the image, right? Whether it is at a controller level, chassis or a flash level, this is a platform that improves over time. It gets better. That is where we start to get to the idea of a platform, not a product. We have had customers that have literally started back here with pure model numbers. Where they've actually been able to upgrade over time without taking downtime or performance impact. That is
notably unique. As well, this is a little bit of a fun math equation thing, to be honest you'd the average from a fleet wide standpoint is actually seven ninths. There is no one who actually has 3.5 seconds of downtime. If you have any downtime, it is more than 3.5 seconds. There enough customers that have 100% uptime that there are few enough that have downtime, actually drag it down from 100%. A lot of the customers we do there Pure reviews to see what they have, a lot of times it is 100% uptime. [Talking fast] There is a whole bunch of business programs built around those. Maintenance doesn't spike after every three years. As a love to love that as a customer. This is especially a flexibility thing. I lived this way had a previous array where I didn't have a protocol license that I needed and I figured that out about a year after the purchase kind of thing. There was a sales team that can help me out. Kudos to Steven and Jeff who were my sales team at the time, competitors, good folks. I had to think through the beginning. Do I know everything I'm going to be asked to do with it or not? You take some of that away and there is this flexibility of not being able to predict the future with this approach. It really leads to, the wrap up of the last 10 years. It leads to storage that works as software as a service. This is one of the themes that was actually in the introduction. Some kids are focusing on Pure here. There is discussion about the right platform and scalability and performance here. If you can actually scale a platform easily you can start with a smaller controller. Not having to migrate data. Even as you are doing that, you don't have to worry about performance and maintenance windows that we can approve overtime. Call it TCO, ROI, call it appreciation. You can actually get much more life out of this the new Canon with other platforms. That is some of where we have been. This is with they love about Pure, and what has made it so successful. There's more were going to get into, but that is the baseline. We're going to turn it back over to you for the next polling question as well as please don't hesitate to highlight anything that I left out there, and that turbo run through the last 10 years of Pure.

>> Sounds good. Let's jump into the next polling question. Which backup partner are using today?

>> There is not a wrong answer and that by the way. All of those are good options. [Talking fast] Is there anything he wanted to highlight from what I covered earlier?

>> I think a lot of things that you covered on the transition or evolution of the company early on and our model around Evergreen is one of the things that does attract our higher education customers not having to have the forklift upgrades every 3-4 years. As a transition to newer technology is definitely having a positive impact. [INAUDIBLE]

>> I think we lost you for a second there. I'm sure the next thought was amazing. [LAUGHTER] If Mike had thoughts, I'm sure he will not be shy about putting them in the second session. Part two, this is going to be the shortest part. I almost like to be cautious when I say this. These are proof points. I just told you bunch of stuff that potentially feels, especially if you have a technical background, even if not, either way, there is stuff that is neat here. How much does it really matter? This is where I like to hit on what we have done from an outside validation
perspective. I've been with Pure two years, I used to compete with Pure, I used to be a customer, that's all in the past. There's a couple of stories that I want to tell. This is not by the way that you must receive everything that Gartner says. [Talking fast] The story here is, for a while, Gartner has a specific quadrant. Pure was easily the leader in this for five years in a row. And then actually about a year and a half ago, they said were going to merge these two quadrants together and were going to make a general primary storage quadrant. When they came out, we were a little bit nervous. This is the current quadrant. This is a year ago. At that point, were not getting grouped together with companies that are way bigger than we are. We were stoked last year when we looked at this on the completeness of vision, we were actually furthest out. Still a bit hard to tell but that thought is a little bit further there. We were right in the running with companies that are frankly much bigger than we are from an ability to execute standpoint. And now, this year, from what I have heard, there's a little bit of drama around this one from some industry scuttlebutt. That is because of what you see here. It is unusual. [Talking fast] It is unusual to have one company where there is a good bit of space here. It's actually kind of hard and some of these, always little clusters. But there is a clear leader out here. The other piece here, as we have been pushing further, actually our third acquisition with a company called port works. The comment here is whether you are on pram and wanting to make things feel as cloudy as possible if you will, or you are in the cloud and existing traditional data services, or starting from the standpoint of Kubernetes and micro service driven applications. The reason that you actually see that continuing leadership from a Gartner standpoint is this. I've sat on a lot of personal technical advisory boards, you can see the roadmaps come up. Here's what we were going to do next year and the year after. You got used to the change of pace there. [Talking fast] I'm not calling anyone out, this is my background. The change of pace and product development for Pure has been dramatically faster. When you go back to the analyst they know that. The reason for that is not just stuff on the slide. The reason is this. It comes down to investment. Not treating this space, especially the stores space where we need to extract revenue to pay our massive debt loads, and interest payments. We are going to invest into r and d. That is where this comes from. There's good people in a lot of different places. The core differentiator here is corporate priority around investments. [Talking fast] I have five patents submitted in two years. This is across the whole pre-sa sales and organization which is cool. There is various metrics there. This is where really starts to go down to numbers. Just suffice it to say no matter which one you look at there's outsize growth from a competitive standpoint. The last thing I want to put in here, then we will move into where we are going. Is this customer satisfaction? I try not to forget what real life is like. I noticed, [Talking fast] As companies get bigger, it is easier to lose touch with what matters for customers. You have Wall Street, you got investors, yellow boards, [Talking fast] This is actually a tool that Pure leads into to make sure we stay aligned to what our customers care about. If you are not familiar, it's the idea that when you recommend it to your friends, or to the people who are not your friends, you don't like them may be. We can go from zero to 100 and even negative 100. Pure -- actually the company that invented this measure will certify this independently. It's not just take, let's go and talk to the customers that are happy with us, because there's some fun stories out there in the industry about high MPS where you select to that like you. That usually works out pretty well. This is not the case. This is higher than about all of the
industry. And frankly higher than some notable products out there that we know, like I have an iPhone on my desk right now. I'm not saying I don't like the iPhone. Just to illustrate how remarkable this is. I appreciate this because this is tracked on a company level. It's easy to lose sight of that. That is where you saw this originally from Mike adding a little bit more color into that. We're going to move next into where we are going for a modern day standpoint. It's going to be about themes even before we get to products. We are into the next pulling question. I will turn it back over to you might, if Internet is cooperating.

>> I guess this is our Monday after the holiday yesterday. My Internet is acting appropriately. My apologies. Pulling question number three. Do you feel that your institution is prepared for a rant somewhere attack?

>> In case you didn't guess, were going to have a little segment on rant somewhere. I appreciate Brad, and the last pulling question, started with backup exec and then went to Tivoli. It makes me smile to see that listed there. He still has a soft spot in my heart. Might, please add any thoughts. You were partway through section one, maybe section two. Anything you want to highlight?

>> The thing I would highlight is based on your comments around the MPS score. We really truly do see that with a lot of customers, and generally speaking it's really this whole notion of obviously upgrading to an all flash platform. I have a lot of discussions with CIOs were asked, you know, you obviously trusted Pure with a solution, we see you are expanding and what is driving that expansion? A lot of customers are looking and saying, you know, we put a database or some other work load the platform and we got calls from users who are not technical in nature, asking us, you know, what we did to the platform or their systems or did we upgrading them? For getting such a better end user experience. Again when you have non-technical users that can see the difference and feel the difference in their every day interaction that is critically important. I think that also drives our MPS score the right direction. We have users that are seeing the difference and seen the benefit.

>> I think we will see the polling results here in just a second. There we go. That actually makes a lot of sense. This is actually a side note. I present a good bit on this topic on rant somewhere. Usually spend the first 20 minutes not talking about Pure at all. It's about the space in the background. Let's see, 13% of said, we are fully prepared, awesome. That is a hard topic area there is no silver bullet. Though somewhat prepared, that makes a lot of sense. I don't know how anybody hasn't started preparing for rant somewhere at this point. Without time I think we will launch into the last section here. Which is really looking forward and where we are going. This is a long way around the modern to experience and what that really means. [Talking fast] Any time that you boil things down, I feel little mushy, I work for Pure and I like this one. It is focused around data and is focused around experience. There's a little bit here and I'm always cautious about putting up a slide that says digital transformation. Depending on who you are, these can be real initiatives for you, or you may be like I'm going to throw something at the camera. There
can't be real projects there. There's agreement from an analyst standpoint as well. The key is no matter what digital transformation is, or not, the concept that data is critical to it, all the stuff you see there with the cyber, application. Leverages and stresses data in new ways kind of thing. That is why. We look at this from a modern data experience standpoint. The other thing I like about this is this is the way to walk through what our priorities are as Pure where we see we can help without just saying, here is our product flash plates, those are there, if we don't have them we can't actually help you really do stuff. It's more about the themes and how those align your business initiatives that we bring technical depth and capabilities. Theme number one. This is about performance. For each one of these themes, by the way, I'm not going to read the customer quotes here. This is here though. I like that it is here, because it's not made up as a theme, there are customers that are relevant, the Petronas racing. When we think about fast matters for this has been a historical thing for. . right? And just because you think about flash, and storage is fast, or you want storage to be fast and that kind of thing. The core here is, this is where I like to kind of peel back the layers a little bit from an architectural perspective. It's not about performance, it is the most technically honest, it's about do I need latency from applications? Do I need high-bandwidth? Or do I need high density kind of thing. I'm always careful about tier to. We think about this, different things to different people. As well, if we're going to have this, if we're going to actually continue to focus on performance, we have to be able to handle this for multiple protocol, storage and kind of thing. Avoiding noisy neighbors on that kind of thing. This can dramatically help with application developments. It should, right, because that is what matters. One of our customers, a cloud customer dramatically accelerated their own pram development pipelines by testing on environments for application development. [Talking fast] They can do that with cloud storage as well. There's one side note I want to put great it's interesting when we get into the capabilities here and here, it turns out that they actually help really well with mitigating the impact of this, right? I'm always careful here about not ambulance chasing. This is a painful topic right now and I recognize that. But there is the concept, if we are in a high impact low probability scenario you're getting hit by people trying to attack from a rant ransomware attack where there are principles that matter. Even the culmination of them is this unique trifecta. We can help you with protections when you're in a recovery mode. Eventually it's going to happen. You should be doing stuff before that. When were mitigating the attack we are recovering these need to be defenses that are maintained. They won't be there when you need them. Even if an attacker starts with data, you don't up modify either primary storage, or even backups. Even to the point if there has been admin compromise this is actually a really hard problem to solve. And then, if you have done all of the stuff and you're in good shape, if you can't restore quickly enough to avoid organizational, financial impact it doesn't matter. We had a customer where they were using some alternate products. I'm not going to call them out on not here to take competitive pot. [Talking fast] Uniquely means that your disaster capabilities are taken out of the picture and that you actually have to go and recover a large amount of your environment from systems that are not designed for it. So they actually started to restore and it was kind of like Windows progress at the point where it got to 60 days and they canceled it. At that point, it's more like an RTO equals No done in RPO equals a day, an hour or weaker that kind of thing. That is -- and there are some things we could help with forensics and analytics.
That is a little bit of a teaser there. There's more we can do. With Diane we did a previous webinar in their stuff of coming. We wanted to keep this higher-level and not go away to down the rabbit hole. From a cloud standpoint. What is cloud? That's a fascinating question, right? Is it a consumption model is a technology capability? There's even the concept sometimes, I literally had this in a meeting last week where the customers like, you know, are you just cloud watching what you do. It's kind of a fun way to think about it. What we have done is we have looked at the space and said how can we do something that is truly legitimate and not here. Not just putting things on the PowerPoint. I used to say this when I was on the partner site. A bunch of stuff listed on a PowerPoint and you know the vendor is hoping you will not buy any of a kind of thing. I'm not saying any names here. I know they don't really want you to buy that stuff, but they need to look relevant. We lead into this, first there was some stuff from a pure capability where they have always been an API defined platform. We think of cloud we don't think of automation and script and kind of thing. We also leaned in and said were going to take our core intellectual property. Instead of picking it up and running it in the cloud, we are going to create almost a virtual storage array but with some really hard engineering with the same level of resiliency, snapshots kind of thing. Efficient replication for compression standpoints. This is where we partner with AWS, or we partner with Azure. Both of those companies are bigger than we are. It goes to some of those architectural decisions of 10 years ago. One of those was around data reduction. How do you do compression on cloud storage? You don't. It's not what it is designed for. There are some capabilities that we have had for a long time that we can implement there to bring a lot of value and even partnering with AWS and Azure now. There's also a piece as we get into consumption models. [Talking fast] You can actually leverage that to consume Pure products and leverage your EDP. Simple is smart. I have to be careful here. I think about the idea of a complexity landscape. Sometimes if you are in certain arenas they are complex period. We can make them simpler. Like synchronous replications as an example of that. You need to understand how to do network and avoid network promoting. [INAUDIBLE] Whether this is from a management standpoint. Dramatically reducing the amount of time needed from a day-to-day management perspective. This is about flexibility, Pure one is a whole business units and focus within pure. Actually looking at it fleet wide to productively look out and see where could there be issues even things that are around how soon am I going to run out of storage? Let me model out new workloads. Let me have insight all the way into the VM level. [Talking fast] One of the best examples I know this, I know there is always sometimes the sense of is my job going to go away? I want to almost take that head-on. I used to live and think about that. The example that I want to give and I'm going to pull it back from a career standpoint if you're listening to this. It's a global bank. Half of it is Pure, half of it is not. Let's be real. For that, out of the five people they have, for manage half of the environment. One person manages Pure environment and spends half his time doing the normal day-to-day management stuff. And the other he spends automating and integrating. My thought there is the closer that we stay as IT practitioners to things that matter to the business, the more relevant we are, the more future proofed our jobs are. The more that we are spending time doing things, businesses almost want to go away, the more risk we are. We've seen this with the cloud. I'm always careful here. I have sat in the CYC products, and I'm a little concerned that a personal level. I encourage you and say
to lean into this from a professional level. Subscription to innovation. This is the idea come as you have heard of Evergreen, can modernize that downtime. And that things get better over time via what is included. I'm not going to repeat some of the stuff you saw before there. This is taking that core value. It's also moving into expanding from technical flexibility that you don't necessarily have to plan ahead. It's not as painful to change controllers, but also into financial flexibility. This is the concept that while you can continue traditional purchases, you can use leases on other things. If you want to move to a pure model on pram you can. Depending on the organization, you may be pushing sooner out of financial level then you can actually push to cloud at a technical level. Actually separating those giving a platform that feels more like storage as a service. Just predicting the future. I don't know what I'm going to need in a year. I can do a short contract to stand things up in the kind of thing. I have a little bit more that I was going to wander through. Is there anything you want to add and before I bring it home with a little bit of a product focus?

>> My comments it would really be dovetailing off of yours around the as a service and cloud relationships that we have. Were having a lot more discussions with higher Ed institutions around the op ex model and what they can be doing with Pure as a service. As it relates to their AWS contract. That is really big. As a reference earlier, there is a lot of focus right now on budgets, and financial models and higher education. How do we make that shift? Our ability and relationships with AWS around the public sector market as an example really helps to facilitate as a streamline process. Through their existing relationships with AWS. We are seeing some customers that are also kicking the tires on Kubernetes in their environment. Again, a lot of existing customers know the pure experience that they have had before. They want to include us in there longer-term plans. This is another area where we will be seeing some focus.

>> Awesome. Thank you.

>> There has to be stuff you can put on the floor of the cloud, et cetera. There is a range of capabilities from tier one and optimized storage. [Talking fast] A couple of things I wanted to dive in on. First, looking at/array. It is focused on low latency. Flash array C, based off capacity. A lot of workloads that are file shares on et cetera, makes sense that the price. Our traditional flash arrays and that kind of thing. This is pushed into this not just being a strong platform, but also being a strong unified platform. Some even Joe given a little history that this may be the first unified file platform. We chose to implement file at the same level of lock. There is some historical storage there. The other platform that I like to highlight is flash blade. This is called unstructured flash file object. In this case, the way I like to talk about is this is where, and I have seen this from a higher education standpoint. Often there is workloads being stood up whether it is genomics, analytics, all of these require separate silos of storage. They are very different workloads. There's even science projects that people need to maintain. It's a lot of work and it so unique to what that department needs kind of thing. It is not built as a storage platform, but a next-generation application platform. Because of the underlying characteristics, [Talking fast] You can handle very different workloads are technically from mix, block size et cetera. You can
have workloads that are very different and put on the same platform. Sometimes we will see compartmental level. I want to be careful there. [INAUDIBLE] The key is when people are standing up storage for these kinds of products they don't want to focus on the storage they wanted to work. They felt like they didn't have a choice because it was so unique of what they needed there in that kind of thing. Anything you wanted to add, Mike?

>> I'm getting ready for any Q&A we might be having.

>> The last thing I will put in here, this takes me back. [Talking fast] However, from a Pure standpoint, it's an API driven architecture. [Talking fast] This is an overall rest API driven approach. So you know there is a huge amount of integrations out there. There is code on purestorage.com. Folks that had skill, the time and ability to do script, automation and integration type of thing. You can actually go download it. [Talking fast] I don't know what is coming out in a couple of years. There's an interesting story there. If you are familiar with terror form, which is one of the cooler automation platforms out there today kind of thing. The first provider was actually written by a Pure customer. You can look at that two ways. Actually flip it around and say a customer who wanted it, sooner than we did it, was able to do it themselves and didn't have to wait for it. We put a lot of energy and effort in pushing forward to this space. Also, the keys are in your hands. That is why, you know, I pulled background. This is how we keep it customer centric. I put this in the middle. It is about staying aligned to what matters for you as a customer. In so many different ways. A lot of them we hit on today. Please feel free to visit -- there so much more great content from EDUCAUSE as well as Pure. I think I am into the sink you slide. Thank you for staying around. Thank you to those in the future he may be listening kind of thing. I think I want to turn it back over to you, Mike, for Q&A.

>> We do have a few questions. That may jump right in. So you mentioned ransomware protections. How does Pure help if I have to restore my data center from a ransomware attack?

>> That goes into that speed, restore trifecta. I think I can cheat for a minute and get back here. The core there, this is from having run backup exec, TSM and other competitive products. A lot of times, backup infrastructures are built to restore large amounts of the data center for backup. Often, those get taken out to buy rant somewhere attack. When we look at whether it is snapshots that are pointer based. Or flash blade. There are some unique capabilities around recovery speed. Not just the recovery speed, but actually knowing that I know I have my data, the reliability of my data, both the snapshots and protection is immutable even if there has been a compromise. It doesn't matter if it's not good. Also making sure that I can go back before the point of encryption. He noticed that quickly within a couple of days kind of thing. Pure is targeted at the fast restore. Even to the point of being compromised so it is there when you need it. Hopefully I didn't eat that question to death.

>> All good. We have another question. What applications does flash blade help with?
>> I love the question and that it is the applications. Flash blade is not built as a storage platform. It really has application platform. If you dig around how the protocols are implemented. And the sub-features of the protocol to be implemented. We implemented them around with the applications. [Talking fast] Originally flash blade started out with focusing on next GEN applications. Focusing on AI, streaming analytics, data warehouse. The other one I do like to highlight, this is an interesting one. It says backup, should be more about recovery, right? I have a coworker who said he used to be a backup -- he never got asked how long the backups are going to take. [Talking fast] Flash blade uniquely can restore dramatically fast. Ironically, all of these are healthy segments for Pure. [Talking fast] The actual single largest item that we see people actually using flash blade for is backup and more precisely recovery. That goes into data reuse, clones and all of that stuff you get we expect to get more out of our backups and we used to 5-10 years ago. Back over to you.

>> Let's see. We have another one, based on your background, where does Pure fit the best for higher education? I will go ahead and start with this one. If you have anything to add, please feel free. As I mentioned, in the beginning, the whole spectrum from community colleges all the way up to institution research institutions, the general use cases that we see beyond a lot of the great things that Andrew has been talking about today are really around virtual desktops, virtual Sands, and then also around databases. They tend to be our lead in, go twos. It is usually an application based requirement that we generally see. Or, a lot of customers as we pointed out with the MPI scores -- or the MPS score rather. We see a lot of customers that are really sick of transitioning to a new platform. From a customer perspective we are seeing a lot of shift from a side load infrastructure. We have a lot of silos being built around individual use cases. Really having the infrastructure to enable requirements or applications that may leverage flash array, flash blade, and other solutions that are offered and trying to be the utility model for the University. [Talking fast]

>> There is this continuing compression of the stack, if you will? We have had all of these layers of services and capabilities we keep adding more and more on top of it. And unless its lower levels start to collapse together a little bit, collapse and a good way hopefully kind of thing. Where they don't take as much time. You can't keep up with all of the new stuff that is being requested. Maybe you're being a broker of services, some that are internal, some going to the cloud. I've seen this theme, especially for higher Ed. How can I stabilize my on prem environment so I free up time? Maybe I need traditional storage capabilities in the cloud. Maybe I need to go into next GEN applications. There's this mix of what is cloud to every organization but a core piece of it often is simplifying and stabilizing existing things they have services they need to continue to offer is key to that being successful. We are right about a time, I think I will limit myself there. That's almost a question that I want to keep going on. If anyone has questions, Mike has his contact information there, my twitter is in the bottom kind of thing. Please don't hesitate to reach out if you would like to chat and discuss this. This is stuff we think about quite a bit. Back over to you might, for final words.
>> Thank you to the EDUCAUSE folks that have joined us today. We really appreciate the time. Feel free to follow-up as Andrew had mentioned. Our contact information is in the titles here. We thank you for your time today.

>> Thank you guys. On behalf of EDUCAUSE, thank you for joining us for two engaging session and conversation. Before you sign off today, please click on the session evaluation link. You will find the chat window. Your comments are very important to us. The session's recording and presentation slides will be posted to the website later today. Lee's feel free to share it with you. Finally, please join us for the next industry and campus webinar on February 18 at 1:00 p.m. Eastern to hear about how Elon University took a student centric approach toward innovation. On behalf of EDUCAUSE, I am Jason Martin. Thank you for joining us today.