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EDUCAUSE
Charting the Path Ahead for the EDUCAUSE Core Data Service and Analytics Services
Tuesday, August 11, 2020
1:00PM – 2:00PM Eastern
Hello, everyone. I hope you enjoyed that music and introduction welcome everyone to today's webinar charting a path ahead just one moment welcome again, everyone to our webinar charting the path ahead for edge. This is the production manager and I will be your moderator for today's event you are familiar with this interface for our webinar but these are the reminders we hope you will enjoy us in making this interactive use the chat window on the left side of the screen to share resources and comments. We have Q and A at the end of the presentation but we also encourage you to type your questions into the chat throughout the webinar if you are tweeting please use the #EDUCAUSEwebinar. Or private message by clicking in the top right-hand corner or drop-down menu will appear and you could select that. This session recording will be archived later today on the site. Let's now turn to today's presentation perhaps more now than ever the members need access to timely reliable data for making strategic business decisions for comparing and connecting with the institution with a focus on agility quality and ease of use the analytics service team is evolving the core data service to more directly meet your needs as we adopt a new vision for the service, members begin to see important changes to CDS in the months I have thank you for joining us we are joined by Leah Lang and Brian Basgen. Leah Lang leads the analytics services a suite of data services products and tools to inform decision-making about IT in higher education. There are corporate data services student studies and analytics. With our products manager she continuously improves existing offerings while the services to provide Brian Basgen is at Emerson College. He is chair for the group thank you for joining us I am excited to share with you some changes we are making in the Educause core data service and what to expect to see from the analytics services over the coming years. You may have read our post describing some of these changes in today's webinar is an opportunity to expand on those opportunities and give you an opportunity to ask what you can expect he has been a key collaborator in the evolution so he is with me today to share our journey with you. I put a connection to this post which I just referenced. What we have announced there. And we could take a look at what we have described. So to get us started, I am curious about how familiar you are with the core data service so if you could pull over the poll which we have to kick us off, we are curious about your familiarity some of you could be in power users came while others may be hearing this for the first time today, I myself have been on all ends of the spectrum and I remember when I was responsible for that completion and form it is working at the Census Bureau I was familiar with the project management task of having to complete a survey about an institution. But it wasn't easy to interpret those questions. Obviously I have become familiar with the power of data and how to get the most out of it I feel like I am a power user. Because, having used this and dug deep into it, that is what made me want to figure out how to change it. But part of me says the truth is there are a bunch of parts I have not fully
explored because the tool was there. That is the common experience and I am interested to see that we do have some brand-new people who are learning about this so that will help set some context for me around what we are describing and I will try not to move too fast for everyone and just assume that everyone knows exactly what we are talking about right here. Okay. So I will move on too, again thank you to the response for your pole it helps to set some context for who is here and participating in our webinar I think that we had over 100 we just have 60 logged in today so we will pick up a few participants over the next few minutes before we dive too deeply into the content. Before we jump into where we are going with the analytics services, it may be helpful to review where we have been in so what you see on the side is the analytics services portal with each track in one place and I will explain what I mean by those two things, if you are a power user or in that intermediate group you are probably familiar with our journey so far we spent a lot of time over the past few years transitioning from one portal and visual tool to a new web environment and data visualization tool and the leverage integrated data and highly interactive visuals and this is definitely part of our evolution in journey and signifies where we want to go in the future. And in addition to maturing our data tools and our data infrastructure, we set out to provide you with all of our data services in one easy location, so if you are not familiar with the edger because research in technology community, also known as the student and faculty studies I will let you know that this is housed alongside of core data service or CDS it provides ways to gather information about their students and faculty experiences with technology and that the data collection supports the production of edger cause student and faculty study research which may be familiar with which you may be familiar and I will post a link to that research in the chat. So now that we have achieved our vision of giving you all of these data services in one place, with a streamlined data and integrated tools and we definitely have matured our processing of data and how to provide you with quick and timely information, we want to turn our attention to the future and where you need us to go now. To represent that, the picture I have chosen for this light is a woman looking at manipulating data in a hologram and I'm not sure we will quite be there in the next few years but it is interesting to think about where we could go with our data tools and the cool new things we could provide you with. So in the summer of 2019 a trusted member of our community, some of you may know, who was CIO at Notre Dame, a lot of projects to cast a new vision and roadmap for analytic services, with this project we interviewed over 40 institutional and corporate members influencers, you track users, edger calls staff and without research, we found that our users love our services, but they also want us to keep going and to improve them. So, they also are sometimes confused and unsure about how to use the services so we need to continue to communicate their value and teach users how to get the most out of our data tools. And we also found that high quality data and ease of use are critically important to anything that we provide. So with that.

>> We started to form a new image for what these services could be for our community. And right here you look at this landing page for Google, money aside story was when I was first getting to new me my husband I was new to IT and he is one of those people that just knew everything always and as a survey researchers I ask a lot of questions all the time if you know
me well, you know this and so I think he got overwhelmed with me when they because he blurted out cap asking me questions which Google could answer for you and it is true that Google could pretty much answer everything for you, so when you have a question and that you do know the answer the first place you turn to is Google in that is what we hope to provide for you in a sense right here is that the goal is for members to see the analytics service portal as the first resource that they go to when they need information about peer and industry trends and practices. The CI old list as many of you know of this or use it it is a good go to. But we hope that you could start to think of that portal as a rich go to resource for finding people to go to and to help you answer questions about what people are doing. So to get to this, we are focusing on four key capabilities in the first is giving you tools to help you to answer those key questions about who are my Technology peers and you focus on that a lot in 2020. The second is what we are calling key metrics benchmark and help you answer the question of how do my resources compare and this will be the role of the newly redesigned CDS survey and we will focus on assessing your users needs and helping you your IT organization and plan for the future. So, with those four key capabilities which I just described I am curious about which ones you are most interested in us focusing on and learning about world which kisses you find yourself needing the answers to most often and I am actually curious about your answer to this question, Brian. No pressure.

>> Well the results come in life also. So, I think my answer it looks like is in the minority position. One of the things that I find super helpful is who my peers are. Because, if I know my peers accurately, then I could pick up the telephone and call and talk to those folks and get some real nuance behind whatever data may be right there. But certainly, these questions are ultimately the questions that I want to be able to answer.

>> Sure. And that is exactly what we will describe today is giving you the ability to find those so that you have the proper context to answer all of those other questions that you have. And I see that those participants in our call are interested in comparing resources and you will talk about that a little bit later around what are really specific vision is forgiving those tools to you in this year. So why don't you go ahead and take some time to describe how we got to where we are now and the process which we have used over the summer to redesign our services.

>> So, this was a really exciting process and an exciting time for all of us, the last four or five months. But we decided to go forward and take on those big challenges of redoing this, and, the starting point as always with anything good is figuring out who that team is and who could help us along this journey, so, we have created two different groups because we wanted to different types of input. This first group we created was a community group which was comprised of a bunch of people whom have had a lot of interest over the years and had lots of views and desires to change it, and so these folks are not just CIO and things like that, but we sort of pulled people from different levels whom are conversant and you will see that there is a pretty good diversity in a variety of schools represented in that group which is very important so that we could get
different perspectives from very different types of users. And then we created a consultant group and part of that I deal with that group is that some of these folks are well-known partners and have worked with a whole bunch of institutions and so they could bring to the table really a broad portfolio of experience which we would think would be really helpful to give their views on some of these issues. So those were two different groups and then we had a cross functional teamwork with both groups and then did that team was really there for support and to keep those meetings going and so on and so forth. So with this I think that we could go to that next slide. Thank you. So when we started this effort, we have three really important goals that we wanted to achieve and the first is to create a dramatic reduction in the number of questions and data elements within the CDS and the reason that we did that was that we really wanted to focus on the highest quality data that has the biggest strategic impact. So, we don't want a situation where we are a mile wide and 1 inch deep and in this redesign effort when you're focusing on quality we still recognize there is a variety of interesting bits of data that we may someday want to get to. But first we felt like it was really important to create a rigorous practice of quality. For the data elements which was the first goal. The second was what we found was the data is sometimes misinterpreted or used inconsistently so one institution may use that one way and another and use it in another. And they are always defined that data elements which is essential and important. But we wanted to go one step further and really explain what we what that data meant in context as best as possible. The service can't really ever do this perfectly and explain what that data means. There is always so much behind a number. But what we wanted to do was to make that effort explained that data is better to provide scaffolding for future works like any one where we say this is what we found in our research. And we want to make that handoff just a little bit more clear and that third goal is that any given important data element that doesn't exist in isolation is always supported by several points of context that necessarily explained how that data element six fits into our ecosystem so the goal right here is to develop layers of sufficient context that help understand that data better and make it more assessable and accurate. Those were our three goals at the outset. And I think that with the first version which we are going to roll out with it will not be perfect or complete. And what we really want is the community to provide.

>> Which aligns with these goals so we build this out better and more fully. Now I think it is back to you.

>> Brian: Are you with us on audio?

>> We will get her back on audio but feel free to ask any questions so far that you have in check. We are happy to answer any questions while she reconnects with us. Now, when will this launch. We will cover this a little bit later and I believe it is in September are you with us.

>> Leah: Are you able to hear me? My computer, of course is deciding to do a backup at this moment which is not optimal when you're trying to present. So yes, thank you for sharing that
with us I had of course irrelevant thing that I was going to mention when my computer died and I lost my train of thought so let's keep going with this, where we are going out with this information. Part of the work over the summer which we have identified is, that it is really important for people to understand who their peers are. And, so, we really listen to the working groups and took part on what they're saying on a daily basis and what is more useful than the most common thing we kept hearing before they needed to connect with those using similar technologies and have similar structures. So we have seen this play out on a weekly basis, trying to find schools who are recently implementing a technology or looking to implement a technology solution and trying to find other institutions in the same boat. So, this is great but it only get you so far, sometimes, you are subject to any number of responses from institutions and sometimes you run into the risk of knowing responding to your questions or not really understanding what you're talking about. But, finding institutions which face the same challenges is important because you form those relationships and you are talking about earlier, with people who you know are in situations like your own and when you look to compare those benchmarks, you already know that that data which they are submitting is relevant and comparable. So when it comes to finding peers, most people are looking for other institutional peers, the types of institutions which are structured similarly to yours, serve similar populations or are under the same constraints at an institutional level, or they are looking for IT peers in organizations which are facing similar challenges to yours, this serve similar populations or, these institutions may or may not be constrained at the institutional levels in the same way your IT organization has been. This was pretty surprising when we are booked looking we expected this to be a subset of institutional peers. But, just because your institution isn't structured in the same way doesn't necessarily mean that it doesn't make sense to compare and IT and one thing that we found were two schools being compared because they run similarly and have similar ops -- operations or who they serve, but these were three times larger and more distributed than the pure school, but because based shared similar visions and goals they found a lot in learning from each other in the smaller schools decided that they are doing things we want to do but we need to figure out how to scale down and vice versa from the larger schools we need to figure out how to provide these for larger student population. So with the help of our working groups in data modeling, we have looked to identify key institutional and IT characteristics which define similar institutions, and we have identified a set of characteristics which could make or break a peer comparison in our interviews and exercises, we determined they are identifying whether an institution has the same characteristics as your own and where they are located and whether or not they have residential population or not. Whether or not they provide similar degrees offering or mix engineering school or teaching school whether they have financial situation similar to your own, large endowment for example or if they serve similar's good and populations in all of these things are important in identifying institutional funds and having an additional information of IT and IT service delivery and certain technologies, those things help you to find IT peers. So with this data which we have been collecting and data we are about to pull into our system from iPads which we have already pulled into our system from iPads, you can pretty far informs of forming our peer groups, and I would just like to give you a quick instruction for how to do that for those of
you who don't already know.

>> Leah: Thank you for bearing with us. Feel free to ask any questions and chat until we get her back.

>> Brian: It looks like her audio has disconnected but she is able to screen share, but I imagine she will walk us through once she is back on audio. To the questions, I do not know that answer in terms of peer groups, with this tool it certainly is possible to easily select and create your own peer groups, but it is a bear or a good idea to maybe just establish some regular groups and have those pre-populated. In terms of the health centers we will talk about that a little bit in terms of the institutional profile which will be an option folks could select and then you could cross chat via that selection. So, every school which indicates they have this for example you could pull that data. And in our process, we try to think about those types of elements as she was talking about which would really help people to figure out who the most appropriate peers would be. Any other questions while she comes back to us?

>> Would you like to move ahead to another part of the presentation and then we can circle back to that a little bit later?

>> Sure. So this is what we were going to do for the screen share. This is just a sample view of what the technology profile might look like. This is not actually a real one but a demo which the team is working on developing. But the idea is that in the institutional profile, everybody would get to select from any sort of manual sort of primary technologies in suit certain areas, and for the purpose as she said earlier, where you often hear questions about who is using such and such or these sorts of questions, the purpose here is for institutions to fill that out and identify that in advance so that everybody else could query that data and hopefully get more accurate landscape and also, we are looking to layer information on top of those technology choices so that it is not just I don't know show me all schools with banner but it would be okay show me at the mall with banner and tell me a little bit about how long they have been on banner for example. So that is a quick view of the technology portal and then, I think the intention here is just to show an example like LinkedIn is that static profile so that you could fill it in and then you are done? The role of the institutional profile is to serve like that. So, the idea is with these systems and the element systems in all these others in our institutional characteristics, these things tend not to change it so we talk about pulling up from iPads and pre-populating some of it and other bits of that we would ask them to fill out but once you fill it out, by and large it remained static like your profile does, but it is super helpful because it puts all in one place all of these core characteristics about your data. So now I will pause that and see if I could catch up with a couple of questions, I do see this is continuing to be central. So I think that the answer is not so much with respect to the domains, where we have slightly different approach which I will talk about momentarily. In terms of how we are dividing up this data area. Mark asks, are there resources at edge because we you could understand how to go through this process in I am sorry I do not
know the process to that but I suspect that there will be. So could you help me better understand this question that you have asked. Yes so they will be prompting to say brief brush your institutional profile. Are you back with us.

>> Leah: I am could you catch me up with this.

>> I just tried to walk through the last couple of slides, we skipped over the demo. But I tried to give a high-level overview of the technology profile aspect and then the idea of the LinkedIn profile.

>> Leah: So I can let me take me back let me see if I can share my screen again. I think that that will be helpful I will turn off my web camera. I think my computer is overwhelmed with all that I am asking it to do. Great are you still able to hear me.

>> Brian: Yes you are still there.

>> Leah: Perfect so I want to take you through this portal right now and show you how you could create these peer groups, you could follow along you can look this up. And then you could click on this if you want to follow along you could. Under this, you could go to explore peer groups and everyone starts out with a set of pre-built. It is the summary of institutions based on that information and to start, you have all of the institutions that we offer with the ability to answer that survey as a peer group and if you basic understanding of those institutions we offer a map and data on expenditures to help you understand more about a peer group and for example if I want to look at community colleges, that have less than 2,000, I could filter this base off of those characteristics and look at a map and understand where those characteristics are. And now I could see where they have student populations being distributed. And, I could further drill down if I just want to.

>> Brian: I think that we lost you again. So I think what she is showing here is again like she said, this is an early mock up of the tool. But the general idea is to have a geographic distribution or map of where your peers are and then as you drill down you may have more layers of data on top of that. On that presentation where you are showing things like that and so on. all right, I think that we will keep moving forward so, so to the question of what does this look like, we have a couple of examples, dashboards to show you. And, the first thing about this is the fact that we have split institutional profile and the CDS helps us to achieve a few different goals. The first is that the split is a recognition of data elements tend to be discreet data elements. Where given an element or given a fact or piece of information isn't really as important as the sum. So the profile really helps you to look at the broader higher Ed landscape in the feet feeds into creating a picture of what the whole higher Ed looks like through all of those discrete elements. But, we do not anticipate they would browse through all of these profiles per se, that is where the CDS comes in because when we hone in on more specific questions of things that people really want
to know, and we have sort of a peer group being there, you could dig into the institutional profiles of your peers to see whether landscape is. Are you back with us now maybe? Working on it. Okay.

>> I do have her calling into the phone line thank you for bearing with us. So she is going to join us on the telephone if you could just give us a second to connect to that, we do have a few other questions in the pending questions box in the chat if you would like to look at those.

>> Brian: Sure. So, not who is inputting the data but the data itself sounds like just the institution. So the idea of the institutional profile is to be data representative to the institution, is one of your concerns about schools within an institution which they may have different answers? I see. So the institutional profile, if I think I understand your question is not going to have anybody's individual names in it. So it is just meant to be high-level information what technology they use with the staff count looks like with the student count looks like and that is just pulling it. But it would not list out individual names saying such and such is good at whatever. That is an idea we could explore in the future. Thank you.

>> Where should we go from here? Other some questions that I could answer that you can get to?

>> Brian: There was one about the codes and that data and whether or not that could correlate.

>> Leah: We actually discussed that in the working group. So one thing that you will see him walk us through in these two slides, our visions of what dashboards look like coming out of the survey. For the first year we are hoping to just really get some dashboards set up which is at a high-level, total spending may be a couple of categories. They have institution's ability to provide us with something more specific I think I heard something about definitions earlier in the question as to whether or not we would stick to those. With this we are trying to keep-take a step back into what we know institutions could definitely provide us, like is this a thing that could provide us with. And then from there we will look to align with other standards like other ways of breaking down expenditures in a way that just gets us more to the data quality. I know some of you have done a great job of aligning efforts with the IT domains which we had to find. However some are unable to do that or they still question the validity of the data and other institutions are putting in there. So we have something that is more rigorous or standards-based, we are hesitant to bring that into the mix. But with everyone dealing with what they are dealing we don't want them to do with data which is questionable but we want them to ask things which are really solid and they have high confidence in.

>> Brian: So they asked about maybe it would be good to repopulate some stuff are you still with us on audio? Okay. I think that we can continue with where we were on the presentation perhaps. So I talked about this first goal of how we are going to implement this and the second,
the difference between institutional profile and the CDS is self as we are splitting those two, so the second thing that it gives us is a whole lot of depth and nuance because, when we find a group of peers, and we see the institutional data and where they have been historically, that will help to understand what those particular elements are better than just sort of showing somebody a number, and finally, one of the big goals here in split in the bucket is reduced the time and effort to complete that survey. So, by creating this profile that you fill out once along with the survey which is more regular the process to do the survey itself will be a lot quicker and in being quicker we hope that the rigor and quality of the data that they put in is going to be considerably higher. And then, finally, what this all leads to, so to the domain question is that we really focus in on three areas of focus which we want to put questions round, three general areas, that the community group all have identified as being the topic areas to dig into, first to host the question around spending data in the second is a variety of questions around staffing and finally, around services how to provide services in one of the things that they recognize with services is probably one of the trickier things to do so, we will have more of that and for now we are focused on those first two and I will show you two examples of what sort of a -4 looks like at this time. You have the staff continuing so the first one is what area would look like, and so this previous version is a bunch of data and it is still pretty good. In this iteration what we're doing is we're contextualizing it in a variety of different ways so we are first presented sorter of an overall chart to show where we are generally with respect to the peers, you see how below this course issue is says spending data nine out of nine so it is showing a relative position on any of this, we see data which is two different slices of data for the same question so we are coming, the core question we are asking is about what does this look like, but we are offering different data points to flush out that question a little bit more, so one of these on the table is spending as a function of student account which is sort of another way to look at the same question and the second one is how is being distributed within the IT organization and specifically on the administrative functions of IT and on the right, we see a scattered chart which is taking that last one in plotting that out how this breaks out and that you see where your peers line up and right here, what we are showing is that as a little bit more layers of information to that data, so this color coding is where they have indicated this is where my data.is right now, but I plan to increase the spending moving forward and folks say I have decreases coming, and, the intent behind that layer of information is sometimes they will have instances where they will have a big bump because they have a big project or something like this and there spending data goes way up and sums sequence of years it falls back down, so what we have wanted to do is have ways to identify those discrepancies so when someone looks at you as a peer and somewhere on the chart is either high or low they have a way of understanding on a very simple sort of superficial level and another thing that you will see here at the bottom right of the -4 is a variety of checkboxes where we are asking is this data, this is filled out by the folks who submit the data is it extremely accurate or somewhat accurate so the idea is some people fill out the survey they do not have a ton of confidence about the quality of the data so they may check the box which says this is a little bit accurate or not at all accurate so when you do the -4 you filter and you say I do not want the data from those folks who are sort of taking a bit of a guess. That is the intent right there and I will
show you one more -4 which is the -4 or a mock of the -4 for central IT staff. And so right here, you see there is a data table at the start we are looking at how do we look at IT staffing at all employees and a second element is second staffing as a percentage of all students as opposed to employees. So that is two different ways to look at the data which is helpful and then there is also data that says let's look at student workers as a function of the IT account and here we have a chart which is an example of where if an institution is on the higher end with higher respect there is an! This is you may want to check this out and figure out why you are a little bit high. Does that mean you're data, you may have misinterpreted the data or does that just means that you are on the higher end of the spectrum which is certainly possible as well. But it is just a flag to let you know that this is a little bit out and all that information on the right, the value of this narrative form is a couple filled. They are introducing more elements so it is not just reinterpreting the chart or this graph data but looking at the data from a few different perspectives all related to the question of how does my staff stack up. But it is looking at it from a couple different perspectives and by putting it in this form and gives us the advantage of creating that clarity of context and giving a little bit more perimeter beyond the definition as I mentioned earlier of saying this is how to think about this particular data with respect to your peers. So it is hopefully giving you contacts for what the data means. Are you back with us #.

>> Leah: I am just right here I apologize for my technical difficulties I know this is complicated and we are introducing a lot of new ideas and trying to answer questions in the chat. I envision over the next you months or a couple of months as we see these things you may see Educause offering quick talks or numbers to come together and discuss topics on the fly and in zoom meetings and maybe that technology will be more friendly to me so I imagine hosting several events over the next few months so we can introduce this technology some of this is really conceptual right now and we are working with developers to develop it. But currently I do not have anything tangible. Anything to explain what we are trying to accomplish here but there will be plenty of time for everyone to introduce these a respond to these for benefit of the profile at least for the institutions is that the data elements which we are collecting are specifically designed to support peer grouping or understanding who your peers are, and because of that, many many of those elements already are with the iPad so we will pre- populate them with anything from iPads and the former survey. So I am envisioning if you are one from Lasher, you may only need to answer one or two questions through this profile so I think it will be a lot easier for everyone. And I appreciate you going through the -4 and teaches how to use this data and like I said earlier the survey is going to be focused on what do we think institutions could easily answer with high quality and so you start to see us pulled way back and we're kind of unsure about everyone's ability to provide this data and we will be doing more work towards determining how to collect that data in a better way over the next year or so, and so part of this is experimenting with this idea that this year you have short high-level question but then the test modules that we understand the ability to provide us with more detailed information and whether or not they are able to provide us more details. There are a few minutes left and I want to run through a couple of other things they get at these other two key initiatives which there are four
cases as part of the vision in the last two are with are the users experiencing and for anyone with student and faculty studies I want to also announce that we are planning to do fall 2020 study and this will replace the traditional spring 2021 faculty study and we will move these out so that we could ask and launch a survey that they understand or faculty experiences during the pandemic first semester back or first full one and it will be focused mostly on online learning and those associated with that and we will launch sign-ups in October for student and faculty study and then deploying links in November and then if your traditional user, this will be your opportunity we will not be running the normal survey in the spring. And we will also take another look at what you need in order to understand what you experience in terms of what they provide. So when doing a little bit of research now, they understand, do you need on-demand tools they give you the ability to pull service whenever you need it so that you could understand your students and faculty impressions of technology or the experiences on your campus or, a lot of members find so much value in just reading student and faculty research so we are trying to understand, is there also in need in the community to understand generally what students and faculty think about the direction of technology and higher education. So we need both of those things or do we, are the users participating just to understand their own needs. So we will be doing some research on that.

And then, the last. I mentioned earlier was, helping you to understand should you improve in identifying your maturity and so, we are creating a digital transformation of assessment and used to see transitioning that has been a part of this into a more self-assessment tool so that you could understand your initiative and where you can start to improve and where the cap areas are but not necessarily as self-reflection exercise that you would do on your own. I wanted to leave you with a couple of key dates to pay attention to over the next few months so that you could prepare for what is going to happen in the fall and so now, you are an and you cause member, all of these tools and opportunities are going to be available and so there will be options to purchase them if you are not a member but we obviously highly recommend that this gives you so many more tools and opportunities beyond participating in this. I went to read through the last couple of questions that I see. Sandbox, anyone who is interested in designing this tool, we have a design panel that helps us with the user experience and understand what element are and what the data tools should be in a relate and how they expect to use these systems so if you e-mail me, anyone could design this and when we have an opportunity for you to test the system or a tool we reach out for the members to test what we have going on in our environment and then we will walk through what we test maybe share a screen and we do this as we as we go through these experiences I really appreciate you all being so patient to me, and I appreciate your partnership I didn't expect you to do so much heavy lifting today I apologize for that and as always e-mail me directly give us your.

About our services and I will turn it back over to you.

Thank you for getting through these outages. We appreciate you sticking with us and on
behalf of all of our speakers thank you all for joining us today for an engaging session and conversation. Thank you for all of those questions, we really appreciate you engaging with us. Before you sign off please click on the evaluation in the chat room your comments are very important. This presentation will be on the event site so feel free to share this with your colleagues and we hope you will join us for any number of webinars coming up in the next few weeks and we are excited to announce that registration is now open for the 2020 conference online. Find our calendar online. On behalf of EDUCAUSE, thank you for joining us today for our EDUCAUSE webinar. [Captions provided by VZPDigital].

End of Webinar