



panzura[®]
Cloud Storage Made Seamless

C&S WEBINAR Q&A



Customer Presenter: Eric Quinn, IT Manager, C&S Companies

Panzura Presenter: Brian Wink, Senior Architect

Moderator: Dan Boggs, Director, PM

1. Does Panzura incorporate Active Directory Security and ACL (Access Controls)?
2. Do you use this for your standard AutoCAD resource files as well?
3. How much bandwidth did you start with and what do you have now?
4. Historical backups, i.e. snapshots. Are users able to perform a point-in-time restore?
5. Definition of Hot vs. Cold transfers?
6. Will this webinar recording be available for download?
7. How does it do with data shortcuts in Civil 3D and also with sheet sets?
8. Do you think Panzura is a good solution for a single office company that already has data storage and infrastructure similar to your 2005 model, minus the Riverbeds?
9. Do you have to have a centralized location or can you use the different servers located in different offices and throughout the company?
10. I have a few guys who work from home from time to time. Do I need a Panzura box at their house? Is there software they run? Or am I in the wrong webinar for my office?
11. So to use Panzura, do you need to redo your entire company WAN structure?
12. Are we going to talk about Revit?
13. How does Panzura perform on Revit projects with central files, 50MB and up. Accessed by more than 5 users?
14. Can you use Panzura with internal centralized storage? We have a global data center with users connecting via internet and/or MPLS?
15. Is there a more technical explanation of the solution architecture?
16. Has Panzura been tested with Tekla structures?
17. What is the cost of Panzura?
18. How does this differ from Globalscape and Peer Solutions? It looks like the same type of local cache solution?
19. The example was a very small file or an AutoCAD project. How about a 500mb file?
20. Is there a soft client for remote VPN users? Does it support virtual machine or remote access?
21. What is the typical installation cost?
22. We access a number of large GIS databases and SID image files for both AutoCAD and MicroStation applications. We also have standards accessed read-only on our server. The White Paper has information on XREF improvements but not any of these that I have mentioned. Do you have any information on how Panzura improved access to these sources?
23. We are currently using Steelheads, how does this solution differ? Sounds like both cache data at the remote office location to provide a LAN type environment?
24. How long did it take C&S to transition over to Amazon S3 environment and implement Panzura?



1. Does Panzura incorporate Active Directory Security and ACL (Access Controls)?

Eric Quinn, IT Manager, C&S Companies

Because it's just a file storage system, everything works with the same security settings as you would if you were working on a Windows server. So yes, Active Directory is a part of it.

Brian Wink, Senior Architect, Panzura

The paradigm that we put out as a single Windows server that is what the end user experience is, of course it happens to be multiple locations that we are doing that. From a management and usability standpoint it's a single Windows server with all its benefits, including Active Directory and the security information that it provides.

2. Do you use this for your standard AutoCAD resource files as well?

Eric Quinn, IT Manager, C&S Companies

We do. Again, it's a file system that brings the storage local to all your users. You can store (any of) your files, and we do ours, our standard (AutoCAD) fonts and line types, and all that other fun stuff that AutoCAD digs up at the beginning, and when you saw the numbers, when it talked about wanting to touch 4500 reads as its opening a file, that includes the fonts and the line types, and all that good stuff - The CTBs and the STBs, anybody that's familiar with AutoCAD will know what I'm talking about. We put those in the central data store on the Panzura (in the cloud) and everybody (still) sees it as local because it gets cached locally.

3. How much bandwidth did you start with and what do you have now?

Eric Quinn, IT Manager, C&S Companies

It depends a little bit on the size of the office that we are dealing with - for our larger offices and our main office we have about 200-250 people using the system - we do have 100mb connection to the internet, this does not have to be an MPLS connection instead. You can use just a straight internet connection for Panzura because it's going to your cloud service provider; it's not going to anywhere else. The Panzura boxes do talk to each other, but its not that important to have a whole lot of bandwidth, because it's just meta data that is traveling back and forth between those. We started with 30mb in our main office; we are now at 100 mbps. In the regional offices years ago, in some cases we had 1.5 - 3 mbps. With this particular rollout and what we have are smaller offices, and suggest I wouldn't go below 10 mbps. There still has to be some snapshotting happening around the country to get the meta-data between the controllers. So 10 mbps would be a minimum for me, I'm looking at probably 30mbps



for our mid-sized offices. I know we have 30mbps in several of them and that is working pretty well for us.

Brian Wink, Senior Architect, Panzura

This goes back to how we (synchronize), Eric touched on the key point. The synchronization of meta-data. We do have to move a certain amount of data to keep our signaling in check. Certainly the more bandwidth and the way the bandwidth is optimized it can't hurt (but) it's not a problem. We have also put a lot of work into this solution in order to squeeze down the amount of bandwidth we can use. We actually have users as low as (actually) under 5mbps at this point in time - deploying it. Certainly more bandwidth is our friend as well; (however) it's very effective in pretty much all bandwidth situations is what we have found at this point.

Dan

Absolutely, and we do have the ability to go below 5mbps all the way down to 1.5mbps. That is something, (if) somebody has those kind of requirements, we can talk with them more about.

4. Historical backups, i.e. snapshots. Are users able to perform a point-in-time restore?

Brian Wink, Senior Architect, Panzura

The solution does employ snapshots, we do have point in time read-only copies. Those actually manifest themselves in two ways. Most common way is what users would see, in that case we can support up to 10,000 snapshots. Which, if you do some math on that is approximately a snapshot every hour for an entire year or once a day for 24 years if you want, a lot of points in time, the user can get back to. They can manage that themselves to restore their data back to those points. In addition to that, from an administration or IT manager's standpoint, what we are writing down to, is our authoritative storage which in Eric's case is the Amazon S3 cloud which in itself is also versioned. So we can actually get back to full copies of the entire file system at any time in case a rogue application would do something very harmful, release a virus that is brand new or somehow delete everything. That is not a problem, we can get back to that, and we demonstrated that in many of our industry through various customers. We do have lots of recovery points available to end users.

5. Definition of Hot vs. Cold transfers?

Eric Quinn, IT Manager, C&S Companies

Very simply, a hot transfer means that a file has already been opened at a particular location and it is now cached in the Panzura box, so that it essentially is a local storage at that point. A cold transfer is a file that does not exist in a particular location; it only exists in the cloud and maybe in another controller somewhere. When the user tries to



open it and it takes a little bit more time to come across the internet, because you got to bring the file across and then reconstitute it locally. That is the difference between hot and cold, it's whether or not it's ever been opened in that location before. Hot, yes... Cold, no.

6. Will this webinar recording be available for download?

Dan

The answer to the question is it will absolutely be available and it will be available on the Panzura website at the URL that you see on your screen, <http://panzura.com/resources>. So you will be able to go there later today and download it.

Direct link is <http://panzura.com/webinar-cands-companies/>

7. How does it do with data shortcuts in Civil 3D and also with sheet sets?

Eric Quinn, IT Manager, C&S Companies

It works just fine. We are using, we don't really use sheet sets but we do use data shortcuts. The reason we don't use sheet sets is because over WAN AutoCAD says don't use sheet sets. We just didn't do it because it was causing such a slowdown across our LAN. I don't know if sheet sets works within the Panzura solution or not. I would assume so, but I do know that data shortcuts work because essentially the files are seen as local files and so the data shortcuts would be just fine. The one thing that should be noted just as a technical issue, when deploying Revit and deploying probably data shortcuts as well, we have employed (Microsoft) DFS namespace services on our domain controllers. That is necessary to make Revit work correctly because despite the fact when you connect you models in Revit, it shows up as a named drive. Under the covers, Autodesk does use the UNC name, for those of you that are setting up a Panzura box or proof of concept; you will want to know that if you using Revit and a number of AutoCAD products as well, you're going to want to start to delve into the DFS namespace. You don't need to get into the full DFS file solution, just the namespace. Helps everything kind of move smoothly across so that the system believes it's looking at the same server no matter where those files reside.

Brian Wink, Senior Architect, Panzura

With Eric and other AEC customers, we have seen that the solution works fine with Revit. Similar results to what Eric has seen, and we discussed here also, with the sheets and other applications. We haven't seen any issues to date in our customer base, its a very straight forward solution.

Eric Quinn, IT Manager, C&S Companies



I will put it out there for Revit customers, we have a gentleman who is part of our organization his name is Eric Wing. If you are big into Revit you probably know that name. He writes a book every year called, "Revit, no experience required". And he has been writing that book for a number of years and has done some of AutoDesk's actual course work. So he is very knowledgeable in Revit and what he has told me, during this whole solution, is that it is working better now than it ever has even when it was a local file store. And he was sitting in our Syracuse office where our data store is located. So for those of who join this AutoCAD seminar there's my push for Panzura and Revit. And just so you know I haven't even received a t-shirt from Panzura. So they aren't paying me to be here.

8. Do you think Panzura is a good solution for a single office company that already has data storage and infrastructure similar to your 2005 model, minus the Riverbeds?

Eric Quinn, IT Manager, C&S Companies

I guess it depends on what you're trying to accomplish. If you are looking to get a real-time backup and business continuity solution in the cloud, it would work for you. The strength of Panzura, I believe, this is just coming from Eric Quinn here the IT guy from a small engineering firm, the strength is the real-time access and file locking from around the country or around the world for that matter. So if you are a single office, the reason that you would employ Panzura is to get data up and down to the cloud and have that be your backup solution. So that you can get rid of the tape drive, get rid of taking tapes off-site.

Brian Wink, Senior Architect, Panzura

Eric basically said it. The point is, our focus is to make sure that data is as close to the end-users as possible. And from what we've seen in the AEC industry and many others as well is that really isn't a bad thing. It really makes life a lot easier. And you get some additional side benefits of the centralized data, with the durability in the cloud and the fact that it's not just close to one set of users, it's close to all users and that is a property of our Global File System. Short answer to the question would be yes, I would see that as a benefit even without the Riverbed optimizations.

Dan

Panzura does have a product that we offer that is actually tailored for this use case. So if you're interested we can get you some information for you.

9. Do you have to have a centralized location or can you use the different servers located in different offices and throughout the company?

Brian Wink, Senior Architect, Panzura



We do want the centralized data store, that is key. Now, there are multiple options as far as what that centralized data store can look like. That can be a public cloud as in Eric's case where he used Amazon S3. There are multiple public cloud providers out there. It can be private data store and there are options when you deploy the private data store in order to get the abilities, some of those data stores are replicated to multiple places. So the answer is yes, now what we don't want to do though is just use your existing data store as it is, your existing NAS whatever that looks like. We would want to use a specific type of data store to make sure the data is durable, again that is part of the benefit, once it's in this system it's going to be there. You are going to be able to get it back today, tomorrow, 10 years from now, it's going to be safe. We want to make sure that, we call it a private store if you will, has those properties as well. We're certainly happy to talk to you and guide you on that way, it's not a complicated problem to solve.

10. I have a few guys who work from home from time to time. Do I need a Panzura box at their house? Is there software they run? Or am I in the wrong webinar for my office?

Brian Wink, Senior Architect, Panzura

The idea is this; the biggest benefit is going to come the closer you are to one of the Panzura boxes. So if you wanted to get that big benefit, having one of those guys close to a Panzura is going to give them the biggest possible benefit. Now that doesn't necessarily mean that it has to be in their house. It means that it has to be close to their access point. Wherever they are, however they are entering the network from their house, you would want a Panzura at that location. That could be at the centralized location that could be at the remote office, I don't know how your network is organized. Again the biggest benefit is going to come when users are closer to the Panzura or the access point is closer to Panzura. That would be kind of one we sit down and talk about and architect to make sure we can address those things. We certainly have done that before for customers in this space and others.

11. So to use Panzura, do you need to redo your entire company WAN structure?

Brian Wink, Senior Architect, Panzura

I would say no, typically in all honesty what we find is that we relieve the WAN structure. For customers that do go to public clouds, traditionally upfront they are utilizing MPLS networks that tend to be expensive and fairly utilized. With Panzura, they can use the public internet connection which they already have, typically in place. This alleviates a lot of that pressure from the MPLS networks hooked on the WAN connections along with the way we move the data. Technically what we are doing is almost like a data multi-task, and again I use that term very very loosely. What I mean by that is that we are able to move the data out to the cloud one time from wherever



it's created and all other locations can consume it from that cloud. And so, I would say as long as you have the ability to access that cloud or that object store from where your offices are then you don't need to re-adjust your network or re-architect your network. I would say that is extremely rare for customers that I have seen. We do want good quality access from where the Panzuras live to where that cloud exists, typically that's near the WAN. Typically we sit down and lay out your network and talk about what the options are and we pretty much solve those in all cases.

Eric Quinn, IT Manager, C&S Companies

From my perspective, after this implementation we did not change our WAN setup, our infrastructure one bit other than to make sure we had better access directly to the internet. Again, we were connected to each other pretty well. Our internet access at the time was converged, all of our offices going out one single location because we had a single firewall that was provided. A hosted firewall, so we had to be sure we had enough bandwidth to get to the internet for all our offices. So really, there was no change to our WAN infrastructure in order to implement this project.

12. Are we going to talk about Revit?

Eric Quinn, IT Manager, C&S Companies

Revit works extremely well. We have had some very large projects with Revit, 300MB central model files that we open up in several offices around the country to work together. Really no issues, it works wonderful actually and that is not an exaggeration. It really does work well. The Revit way of working with things, with the central model and local, as you save stuff out and save to central. It works really well in this environment. Again, the only thing you need to do if you haven't done so, when you deploy this environment, is to get the DFS namespace set up so that the controllers, Panzura controllers, understand or actually, the Revit understands the Panzura controllers basically are operating as a single server.

13. How does Panzura perform on Revit projects with central files, 50MB and up. Accessed by more than 5 users?

Eric Quinn, IT Manager, C&S Companies

I would say again, our experience has been great. We have central models that are 300-400MB being accessed by 10-15-20 users; we haven't had a single issue. It's probably one of the better operating systems, the Revit model, to work in Panzura. Again, we were trying to solve an AutoCAD issue. Revit was really not an issue for us even with the WAN optimization but Panzura has just made it better.



14. Can you use Panzura with internal centralized storage? We have a global data center with users connecting via internet and/or MPLS?

Brian Wink, Senior Architect, Panzura

We do have plenty of customers who have internal centralized storage of their own. We would want to discuss what that looks like exactly to make sure it's appropriate for the application. We certainly have users doing that.

15. Is there a more technical explanation of the solution architecture?

Dan

We do have information on our website which you can consult and take a look at and we also could get together with you and have a discussion in greater detail.

CAD Theory of Operations and Best practices <http://panzura.com/download-resources/?resource=1915>

Additional White papers

<http://panzura.com/resources/white-papers/>

16. Has Panzura been tested with Tekla structures?

Eric Quinn, IT Manager, C&S Companies

We have not gotten the chance to test it with Tekla yet. I don't know where it would be of any difference. Again, Panzura is a CIFs file storage solution, if it works across the network to a Windows based storage server it's going to pretty much look the same as it looks at the Panzura box. Again, I will say we have not been able at this point to test it with Tekla but we are looking at testing it in the future with Tekla.

Brian Wink, Senior Architect, Panzura

We've got a couple of customers that have done some actual testing with it and it does seem to work just fine. It's been a great solution for the various applications we've seen in this space.

17. What is the cost of Panzura?

Dan

A little bit difficult to answer in this forum because it really depends on what the specific needs are of your organization. We do have a broad offering at various different price points. The next step to answering that question is to take a look at what your needs are and match that up with what we have to offer.



18. How does this differ from Globalscape and Peer Solutions? It looks like the same type of local cache solution?

Brian Wink, Senior Architect, Panzura

Those solutions are effectively built on top of a file system, just slightly different (since they are not the file system). They struggle a little bit with the synchronization. We are a file system; it is the essence of what we do. So we do have a good blog posting on our website that describes this in a bit more detail as well. It all has to do with the way we are able to synchronize and keep the file system consistent. With those other solutions, what our customers have typically seen is that the more locations you get, the synchronization overhead starts to outweigh the benefits. Because it is heavy weight as it (app) has a need to walk the entire file system because it isn't the file system and it's (Peer/Globalscape) a separate application. Whereas, we have intimate knowledge of where the file system changes are and we have intimate knowledge of the file locks. We actually work at the change level of files and data. We're able to communicate that very effectively in real time between all locations. Therefore as the number of locations grows, as the number of users grows, the solution can continue to provide the same benefits over and over again.

Eric Quinn, IT Manager, C&S Companies

I would like to weigh on this myself. Because we did a proof of concept with Peer Solutions and in the past before 2005, we did use Globalscape and here is what I know. At least with the Peer Solution and our previous experience with Globalscape, which was not Globalscape at the time it was Avaiil, when you talk to the folks at Peer and get support, they will tell you that in a company our size we would never want to put our entire data store into their solution. There would be way too much overhead needed to move the files back and forth, across the country to all of the offices. Again my goal at C&S was to have every user in every office have equal connectivity to every file on our system. In order to implement the Peer Solution, we would have had to bump our bandwidth up beyond what we could afford or change the way we do business, which is tell people here is your file, this is what you can see, this is what you can get to. If you need something else, you going to have to email IT so that they can make those files available to you. If you get put on a project in our San Diego office working with our Detroit office, we're going to have to put that into the Peer Solutions file matrix and get those setup for you, so it's going to take some time for that information to be sent out to the San Diego office or wherever you are located. We did not want to change the fact that with our central data store as it was in 2005 and beyond. Everybody could see what the company was doing and we didn't have to touch it and that is what we liked. For me, while there is local caching in both of those solutions, that's where the similarities end. They are not similar in any way other than yes, after you have opened it up there's a local cache or there is a local cache that gives you a better experience.



Brian Wink, Senior Architect, Panzura

If you remember the charts too, those solutions really focus on caching of the data and keeping that data local. That is really 7% of the problem, the real problem was verifying the data you have there is accurate and what you should be using. That's what a file system does. While Panzura does cache data, it's actually a side benefit in this case. Our primary benefit is the fact that we are owning and operating and are authoritative on the file system itself at the edge. Therefore all of those checks are handled right there without any extra intervention from any other sites. That's where the big benefit in this case comes from and that's what those solutions aren't able to do.

19. The example was a very small file or an AutoCAD project. How about a 500mb file?

Brian Wink, Senior Architect, Panzura

I think Eric has mentioned a little bit already, he has seen projects with larger files and they work just fine. Again, we use that example because it really shows the point. It shows the point hey I can move 1.5 mbps that should be no big deal with any kind of bandwidth. And so, it really shows the point that bandwidth was not the problem. Therefore something else is, let's figure out what that is. It turns out that it was the latency. So what we see with bigger projects is you still have a bigger project has even more checks therefore there is more latency involved. And, benefits continue to exist and this is where we also do cache data as well and we can continue to move those larger chunks of data from a local store as well. So the benefits persist regardless of the file size. We chose that example because it was very blatant that it's obviously not a data movement problem it's a latency problem. So I think that is what we've seen at least.

Eric Quinn, IT Manager, C&S Companies

It's like you said, it's the same you see the benefit. There is really no difference, you get the same benefit.

20. Is there a soft client for remote VPN users? Does it support virtual machine or remote access?

Brian Wink, Senior Architect, Panzura

So the situation is this, we don't have a client that is geared to run on an end-users laptop for example. We don't support that. What we provide to the end-user is a very simple solution, and in order to make a simple solution there is a level of complexity that the product must go through. It does need to run on a server in order to do that. So for that example, I would recommend analyzing the network traffic. How does that user route into the network. We would want to have a Panzura deployed at that



egress, ingress/egress point to the network that end-user goes through. That would give that remote end-user the biggest possible benefit. There was kind of a part B to that question. Do we have a virtual client, yes we do. We have the ability to run as a server in the VMWare ESX stack, we can certainly do that. These are the things that we can, we would be happy to discuss why there is some details we would like to share with you and make sure we are applying it correctly in your environment. Those are the high level answers to that question.

21. What is the typical installation cost?

Dan

I don't know there is a direct answer for it though. There isn't really a typical installation, at that we have come across. But from an installation perspective, I can tell you that the cost is really inconsequential. It's not that significant. It's obviously going to scale depending on the number of sites and those kinds of things. This is not really a complex installation, it's one that usually takes place, it can be as quick as a couple of hours, even shorter than that in some instances.

22. We access a number of large GIS databases and SID image files for both AutoCAD and MicroStation applications. We also have standards accessed read-only on our server. The White Paper has information on XREF improvements but not any of these that I have mentioned. Do you have any information on how Panzura improved access to these sources?

Eric Quinn, IT Manager, C&S Companies

We also connect with GIS databases and SID images along with other large JP2 files and a number of different large image files. If it's on your network, it's going to be optimized, it will speed things up across a network. If you are working at different sites, once it's cached that's the hot open or warm file open vs. the cold. Panzura does the deduplication and the compression, so a cold open is still many many many many times faster than opening it as if you are just opening it across a network or a MPLS without any type of optimization in line. But once its local, it's local it's cached there. We used GIS databases, we actually have a group that does GIS programming. They are on our network and picking up databases, same experience as the CAD folks. They have seen the improvement. SID images, JP2 images no different. It is improved greatly. As far as read-only, like I said the Panzura solution is a file solution so it maintains all the file locking, the active directory rights and administration you currently have now and it follows all those same protocols.

23. We are currently using Steelheads, how does this solution differ? Sounds like both cache data at the remote office location to provide a LAN type environment?



Eric Quinn, IT Manager, C&S Companies

It caches, but what we found that the Riverbeds still had a number of (roundtrips) when you opened AutoCAD through the Riverbed, there still was all that latency back and forth. Even on a warm open on a Riverbed, we weren't seeing what we should have been seeing. We had Riverbed come to our offices and look at the solution and they said you know what we have something that will fix this. So they tried and we actually tested another one of the Riverbed solutions called Granite. And while it worked, it was a one to one solution. One office that could get to one set of data in real-time high speed, none of the other offices could. With Panzura, we haven't seen the slowdowns and everybody still has real-time access with real-time file locking no matter what office they are in. So I don't know what it is because I don't know the back-end of Riverbed and I'm not a Panzura expert. However it is that Panzura caches the AutoCAD files, it caches it differently than the Riverbed files. I don't know what the difference is but I can tell you when you sit down and see it side by side, there is a difference. The Riverbeds we knew a cold open in Riverbed might take 8 minutes, 10 minutes. A warm open still taking 4-6 minutes. I mean that was our first clue we had to do something else. Is that we were just not seeing what we thought we would be seeing, especially with the Civil3D products which I think might be part of the issue. Riverbed will tell you because they don't deal well with database information. If you know what AutoDesk had done with their Civil3D DWG format in the last few years, you know that they incorporated basically a proprietary database actually within the DWG format. My own personal speculation that is probably what the difference is in why Riverbed does not do what it used to do. It worked fine from 2005 to 2008, and then we started seeing problems. That's about the time we started working with Civil3D data, we never worked with LAN and desktop data. So the difference is Panzura works better. How's that?

Brian Wink, Senior Architect, Panzura,

Take that down a layer, if you look at it. Riverbed is a great solution. A lot of my friends work there and we work well with it all the time. If you've got it, continue it. Understand what it does, right. Riverbed is focused on WAN optimization. So Riverbed by nature is amplifying bandwidth, ok. They are not a file system. The reason I bring that up is because the situation why that product doesn't by itself solve this problem is because you are not just asking for a single file. What you have to do when you open these projects is like Eric said, you've got to go back to another repository and you've got to look at more details. So what Riverbed being a network solution can't answer, can't cache, it can't cache the fact that a file has changed. It can't cache the fact that a file is locked or closed or open somewhere else. When a request comes in via the network that Riverbed sees for one of those types of operations - Hey what's the latest status on this file? It has to go all the way back to the source and ask the source that's the file system what's the deal, tell me what your answer? It has to go back. Whereas if you are just asking the Riverbed, I just need this data, I know this data is good, I know you've got it, just give me that data. It does a great job, it's got that cached, and it's going to send that right out. What Panzura does because we are the file system when



all those checks happen, the file opens, the locks, all those file system operations that the Riverbed can't answer for because it can't cache that stuff because it's not a file system. We are a file system, we can answer those questions, and we can answer them right then and there. We're actively keeping that file system information up to date on all our machines in real time. Therefore we can answer that without any need to go back and check. That is something that a network solution can't do, it doesn't have the ability to do that because those are things that are not cacheable on the network. It would be like trying to cache a phone call. Can't cache a phone call because you don't know what I am going to say next. And that's the problem because it's a chatty phone call. Whereas I can cache an image, because that image never changes from one time to the next. And so, we're a file system, we're going to be able to have that information locally and respond locally and eliminate all the round trips required for that. That is really where the changes occur that Eric mentioned. The applications change how they store data. They went from more monolithic files to distributed files. Therefore when you open a project you've got to check that all those other distributed files are still in sync. You know about them, you've a copy. And that is where the latency came into play.

24. How long did it take C&S to transition over to Amazon S3 environment and implement Panzura?

Eric Quinn, IT Manager, C&S Companies

It took us a couple weeks of moving the data through one of the Panzura controllers into the cloud and being sure that that was updated, or kept updated with the latest information. We used a copy protocol similar to Robocopy, to move the data from our current central data store up into the cloud. So, it took a couple of weeks. Again we had 11TB of data, at the time we were dealing with a 30mb internet connection so if some of you take a shot at what the math of that would be. It took a while to do that and then go through every night upload what had changed. And then on a long weekend, we picked a holiday weekend, where we knew IT was going to have 3 days in case something went wrong. Because that's what we always built in, as we were IT people. We said OK, we're going to make this change this weekend. And we told everybody in the organization, our file store will not be available from Friday night at 8pm until Monday afternoon at 5pm. Again, knowing that it was a long weekend, the reality is that we shut it down at 8pm on Friday, shut the network down. Did one last copy of all the data that had changed that day and by about 10:30 at night we were back up and running. I was kind of scared to send an email off to everybody saying hey it went a whole lot quicker than we thought and instead of 3 days it took us 3 hours. Depending on how much data you have and how much you have to upload, if you have a central data store. Again, we were uploading everything all at once because we were already in a central data store. Whereas if you are uploading stuff from 5,6,10,12 offices around the country, you can do them one at a time. You push up one office, then the next office. You can do one a weekend or however you want to do



it. So for us, it took us several weeks because we wanted to make sure everything made it up to the cloud because we only have one central data store. And we did push stuff through multiple controllers. So stuff that we knew was being opened in Syracuse was going to go up through the Syracuse controller. Stuff that we knew that was pretty much going to be opened by our team in San Diego, we pushed through the San Diego controller because that would cache it automatically on that spot. There would be no cold opens or at least very few along the way. You know for just to let you know the reality of it, we worked very hard for a couple of weeks after the implementation with Panzura to be able to kind of fight through some of the issues. And they found some things that they had made 100 times better and one of them is the initial upload. They now have put some variables into the system that really optimize the system since we did it. And again, we started our transition back in April of this year; actually we started it before that. The actual transition was we said ok we are now loading files up to the cloud and we are going to switch over, that happened in April with a lot of planning before that. Panzura has made tremendous strides in the options they have for folks who are uploading stuff up into the cloud and getting it back down. So kudos to them for their hard work.



About Panzura

Panzura optimizes enterprise data storage management and distribution in the cloud, making cloud storage simple and secure. Panzura's revolutionary global cloud storage solution combines the flexibility, performance and productivity benefits of distributed storage with the manageability, security and cost benefits of centralized storage, overcoming fundamental "administrator vs. user" and "budget vs. performance" conflicts. With Panzura, data location no longer affects usage. Panzura: Cloud Storage Made Seamless.



695 Campbell Technology Parkway #225
Campbell, CA 95008
+1 (408) 578-8888

For more information: info@panzura.com
For sales: sales@panzura.com