Q&A

Webinar: How a Leading Academic Center moved their Imaging to the Cloud

SECTRA

Knowledge and passion

Question	Answer
Is pathology in scope at Rochester as well ?	Pathology is not in the scope today, but URMC is engaging in conversations about an enterprise pathology solution.
Hello, is this webinar being recorded and will be shared later. Also, is it possible to get a copy of the presentation?	Yes, this webinar and slides will be on the SIIM website within 48 hours.
How has this changed your teams workload? Are they able to focus more on other organization initiatives? Do you expect to hire less resources in the future?	It's difficult to balance new technology with people to support it. There is no plan at URMC to decrease staff. As far as PACS support goes, the cloud will free up a lot of time for the team to do more proactive tasks to identify trends and assist with other new applications.
Can you address any privacy regulation concerns about moving to the cloud?	We have a BAA with the vendor and in our contract negotiate PHI Liability Insurance that is acceptable to both sides. The risk is shared. This requires the PACS vendor to have a good relationship with the cloud vendor and feel comfortable with the cloud security. We already have a relationship with the cloud vendor and felt good about their security model.
How did you overcome the obstacle of converting from capex to opex?	Anything that was a one-time cost was put in the capital budget. Anything that is support and ongoing will be put in the operational budget. As far as operational costs changing as far as volumes, there is true-up period in the contract to allot for volume increases. Any operational changes are addressed in the Sectra contract.
You noted UMRC has a deconstructed PACS/VNA model. Did you have to migrate the VNA to the Cloud followed by the viewer piece, or were both moved at the same time? Is the viewer/VNA the same vendor or different vendors?	URMC will keep its legacy Acuo VNA on-prem.
How are you separating capital versus operational cost buckets for Cloud solution?	Anything that was a one-time cost was put in the capital budget. Anything that is support and ongoing will be put in the operational budget. As far as operational costs changing as far as volumes, there is true-up period in the contract to allot for volume increases. Any operational changes are addressed in the Sectra contract.
How new modalities integrations are conducted in this setup?	"The cloud system is peered to the hospital network, thus modality integrations are typically managed as if the PACS was located on-premise. Sectra recommends the usage of a DICOM router to simplify and control modality integrations. In a SaaS-model, providing control and tools for self-service to managed the daily business may be as important as having the vendor taking the overall responsibility for security and availability."

Do you have large datasets/fast turnaround workflows active in the cloud? Large trauma CT exams, BI Dx Tomo needing a radiologist to preview while patient is in the room, etc.? If so, is the upload time for the large datasets acceptable to the practice?	"The workflows should be carefully analyzed just as for on-prem. In a cloud setup, the network links to the cloud may in special cases introduce added upload transfer time - however, Sectra's experience is that the majority of workflows - including emergency cases - can be conducted just as if the system was installed on-premise. As for reading performance, the distance to the cloud is not an issue regardless of dataset."
What are your major milestones for determining your ROI for success of moving to the cloud?	Ease of use and connectivity to 3rd party system for our remote radiologists. Decrease in both number and duration of unplanned downtimes. Gained efficiencies in tumor board, and conference preparation and presentations. Positive feedback from Radiologists, Referrers, Technologists, and analyst.
How do you plan to have studies sent to the cloud? Are you using a DICOM router/workflow engine?	A DICOM router is the recommended way to setup the transfer of imaging data to the cloud as this also simplifies the operational perspectives and can offer control and self-service to the customer.
How many exams do you manage, and how long has it taken to migrate your priors to the cloud?	URMC does 1 Million radiology exams per year. The migration came from the on-prem VNA so the data was "clean" which made it easier. We're not 100% migrated yet, but it's moving pretty quickly. We've moving 5 years of data ot the cloud and it's taken around 3 weeks.
How are you validating network performance? Particularly to radiologists reading from home?	"During the testing phase, there are various team members at URMC redundantly running test scripts. Network performance is carefully monitored both with external tooling and build-in capabilities in Sectra and Microsoft Azure services. As the customer network and the cloud tenant network is peered, performance need to be overlooked as a whole from the cloud components to the user workstations."
Who are you engaging when aligning your technology with the organizational needs?	We have a robust governance process. Executive leadership, clinical leadership and technical leadership were all part of the conversation. (And of course finance)
what kind of knowledge base do you recommend for the PACS working towards supporting cloud services? CSM knowledge support only provided by the third-party? or was Azure or AWS specific more helpful?	You have to understand if going to cloud will help reduce any of your current issues. For us, it was scalability. The fact that we could get hardware, we can spin it up/spin it down much faster.
Do your modalities send/query retrieve directly to/from cloud storage?	This can be setup similarly to the scenario where the storage is on-premise.

Also, did you see any large improvement on image streaming for larger studies like for Tomo or CT?	We are not live yet. Go Live is August. We are not anticipating any slowness, and potentially a slight improvement.
Have you considered breast tomo studies as part of the network performance testing?	A cloud system is fully capable of dealing with large datasets such as BTO. Fulfilling BTO reading KPI's is part of the Sectra One Cloud service agreement.
Similar to your response about MFM processes, did you see any challenges with areas such as POC device images/reports/billing?	No issues we use a DICOM broker for POCUS
Can you cite an example of offerings which brought excitement to your stakeholders?	The stakeholders outside of radiology aren't going to experience much change. The two areas that will be impacted are the ED and Orthopedic staff. The new ortho tools are tremendously different and offered excitement. For radiology, any time we have downtime or an upgrade, it's painful. So, we were able to explain that downtimes would be reduced and remote reading would become more efficient from this move to the cloud.
Can you share what components of the PACS solution is in the cloud? Is it the viewer and some cache? Is the archive as well?	The viewer and database are in the cloud. There will also be a mini VNA in the cloud that will cache studies but the long term archive VNA will remain on-prem.
Are you planning to use the cloud PACS as a secondary VNA? What does this look like for long term storage in the cloud?	There will be a mini-VNA in the cloud.
Why did you choose to keep the VNA on prem and not in the cloud?	URMC was a deconstructed PACS site and the VNA was already on-prem and will remain there.
Was it a challenge with the 3rd party post processing environments to have them develop against the API to integrate like the previous on prem workflows?	"The cloud system is peered to the hospital network, thus integrations are typically managed as if the PACS was located on-premise. The new normal is likely to deal with an IT echo-system that includes on-premise components and cloud components. "
Are mammo tomos going to the cloud? Are providers viewing these from the cloud? How is the performance from the cloud if you are? Are you using DICOM Retrieve or DICOM web?	We currently read on Prem using Hologic. This is a roadmap discussion and will require load and speed testing. The viewer integrated into our EMR is a zero foot print web viewer. We are using DICOM Q/R for communication between our VNA and the diagnostic viewer.
Why did you decide not to move the VNA to the cloud? Any thought to moving that way in future?	URMC was a deconstructed PACS site and the VNA was already on-prem and will remain there.

How do you grow your team? Do you have to beg and plead for personnel every year or do you have a way to request fractional FTE every time a new project shows up?	I wish I could say we have a way to request fractional FTE's. We have tried this approach many times and yet we always seem to be begging. Our rule of thumb is 1 FTE to every 5 systems....I have a couple of teams that are behind.
I may have missed the slide, how long does it take to upload images. Also what happens if there is a disruption of services to the cloud.	Sectra One Cloud comes with KPI's around image import and the fulfillment of KPI's are part of the general service agreement.
Did you always know that your VNA is going to remain On-Prem? Did you consider taking your VNA to the cloud? What helped you decide that? Was it the volume of data alone?	URMC was a deconstructed PACS site and the VNA was already on-prem and will remain there.
What is your proposed SLA for on demand prior retrievals (beyond prefetch rules or other scenarios). Due to moving these from an on Prem VNA to the cloud to then present in the PACS Client this can be problematic.	< 5 seconds
How may weeks, months, or years of exams do you plan to store in the cloud ?	5 years of data will be stored in the cloud
Apologies if this was answered earlier in the presentation, how are you separating your research data from clinical data? Two different applications, and databases? What did those conversations looks like with your stakeholders when building out the research platform?	Those conversations are still on going. We plan to separate the DB's, but use the same viewer. It will most likely require a separate log in, but we are going to try a plug in with a pass through of credentials.
Do the clinics also have express route, or do they backhaul through the primary facility ?	URMC had an existing express route to Azure that will be used for the Cloud PACS.
With regard to PACS Administrator workflows, what functions has your vendor taken over that would have traditionally fallen on the internal team?	My PACS Admin teams are split between system and applications. The apps team will not change much. The systems team will not have access to the servers and will need to rely on vendor support when troubleshooting any issues. They will have dashboards to monitor system efficiency. We are hoping this helps to identify and resolve any negative trends before they become an issue.
What is your downtime solution?	We are setting up a downtime system with the most recent 4 wks of data. (older studies if needed will be accessible from the VNA)
What is your timeline for go-live? Sorry if I missed that earlier.	Go live is scheduled for the end of July.

What can you do to test potential cloud performance before starting the transition? For example, are there demo cloud databases that can be tested with your system?	It is always possible to test by implementing a proof of concept-project.
For priority workflows, is there a tiered pipeline approach to account for an environment where a large percentage of exams are "STAT"?	URMC has specific routes set up for emergent type studies that have a SLA defined. So, for example, a stroke case would go through a prioritized route and bring the study to the cloud viewer and the reading radiologist quickly.
How big were your broadband connections?	"This is normally determined by the size of the site, number of users, volumes etc. A 1 Gb connection is the normal recommendation for a decently sized hospital group. Sectra One Cloud generally includes connectivity through the Microsoft Expressroute service. This connectivity component can be dedicated for imaging or shared with other services depending on the customer usage scenario."
How did you come to the decision of 5 years to migrate	We were on a different RIS 5 years ago. So it was the easiest cut off point.
Was it single connection to the cloud or multiple?	"Sectra recommends having redundancy in the cloud connectivity. Microsoft Expressroute comes with built-in redundancy as it includes a primary and secondary link. However, it is not uncommon to also have Internet connectivity established. Links are always secured by establishing an end-to-end IPSec tunnel from the cloud tenant to the customer premises."
Have you running into any issues with your cloud so far?	Not yet because the system is not yet live. URMC has used the cloud for other applications and has not experienced issues.
On you cloud short term cache how much storage do you use and how far look back does that give you?	We will have 5 years in the cloud, and everything else will be able to be queried from the VNA.
How many environments will you have in the cloud besides production? Test, dev, sandbox?	"This is agreed per customer. The normal scenario is to have a Product, Test and Development environment."
How have you engaged technologist and imaging clerical staff on functionality and performance	Our technologists are RIS driven, so there won't be much change for them. However, they have a training track and we will have superusers at each imaging location. Some clerical/reading room asst workflows will change slightly. They have been consulted and are also part of the training plan.
I hate to ask this with your vendor on the meeting :-) ... but would you change about the implementation and what would you do differently during the assessment phase.	Nothing during the assessment phase....but I would've given us more time for planning and implementation.

If you are only migrating 5 yrs to cloud, what do you plan to do about the data on-prem & VNAs hardware aging out (even if VMs)? Refresh seems to negate Cloud transition cost savings.	There is no plan at this point to decommission or age out our on-prem VNA.
How many Terabytes correspond to your 5 years of exams ?	~600
What service lines do you over see and how many of these (cardiology, MFM excluded) do you anticipate using the cloud PACS?	All DICOM imaging for Radiology, Cardiology, MFM, Peds Cardiology will be in the cloud. Research, pathology, dental and ophthalmology will be future discussions. My service lines include everything from Imaging Sciences to food services, pulmonary to fetal monitoring, etc.