



3 steps to incorporating cloud in your imaging strategy

A modular approach to improving data management and security, without committing your entire enterprise

That's life in **flow**.

AGFA 
HealthCare



Expert Insights

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Imaging modalities today are creating more and more images, from more and more departments and specialties. But all this data must be handled, stored and protected. Cloud can offer an attractive and promising solution, enabling you to use a secure service provider's resources for your data storage.

However, for many hospitals, moving to the cloud can seem like a difficult and demanding task. It doesn't have to be. **Charles Morris**, Director Enterprise Imaging, explains how Agfa HealthCare offers an 'easy button' for seamlessly closing the infrastructure gap in your image management.



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A healthcare-centric cloud strategy: the hybrid approach

One of the first choices to make is whether you want a full-cloud or a hybrid approach. **For the healthcare sector, we at Agfa HealthCare believe that a hybrid approach is generally the best approach to get started.**

Cloud offers excellent opportunities for reducing cost and complexity in organizations, but we have found cloud is best adopted in smaller, incremental steps. So, it is our recommendation to start with a hybrid-cloud approach with some technology on site, and some in the cloud.



3 steps to taking your images into the cloud

We have created an easy-to-follow roadmap that helps healthcare providers avoid the complications of adopting cloud in a single leap.

1

The first step is Enterprise Imaging Cloud Storage, which is the ‘base’ that makes an ideal starting point. It uses both the customer’s on-premise Agfa HealthCare Enterprise Imaging platform¹, and the public Azure and/or Amazon Web Services (AWS) clouds. Images are simultaneously cached on-premise and archived in the cloud, where they can be stored for as long as you desire. However, we have made this a flexible solution that can include, for example, a second on-premise archive if your confidence in cloud is not yet one-hundred percent.

2

The second step is a cloud hosted VNA: both the Enterprise Imaging VNA compute and storage are hosted in the cloud, which means that images can be archived from any number of on-premise PACS.

3

The final step is a full Cloud Enterprise Imaging solution where providers no longer require any PACS systems on premise and the whole of the primary production system lives in the Cloud. Agfa HealthCare’s Cloud Enterprise Imaging solution, which is a works in progress, should be available for general release in 2023. This gives customers the time to go through steps one and two before considering moving PACS to the cloud.

These tiers offer our customers an easy 3-step journey to cloud for image management. However, because the roadmap is flexible, each healthcare organization can ‘jump in’ at the spot that is right for them.

Production system versus disaster recovery: a flexible solution

While cloud is ideal for data management – i.e., the primary production system – it is just as appropriate as a disaster recovery component. In fact, it can do both of these jobs at the same time.

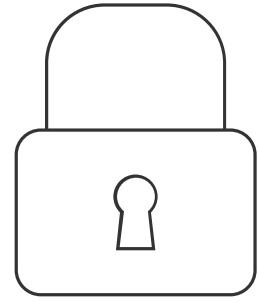
Healthcare organizations generally keep at least two copies of their medical imaging data. One is on-premise for easy availability, while a replicated copy is stored at a different facility. In the event of a disaster at the main site, the recovery copy is safe and the hospital can be up and running without delay. Cloud offers multiple different options for disaster recovery, even with the ‘first tier’ of cloud storage. On the one hand, you can use a hybrid approach, where the primary copy is kept on-

premise, and the secondary copy is in the cloud. This simplifies and reduces the infrastructure you have to maintain to keep data secure from a potentially devastating disaster. But you can also choose an “all-cloud” disaster recovery approach, keeping, for example, three separate copies in the cloud, with only a temporary cache on-premise. With this solution, you no longer have to manage the archive storage at all. **So the options are very flexible, depending on your requirements.**

How secure is the cloud, and the data kept there?

Over the past four or five years, cloud providers have been investing heavily in security. In fact, I believe that the cloud providers put more thought into data security than the hospitals themselves – and with good reason. With tens of thousands of customers, they need to be very stringent about security.

Amazon Web Services, for example, hosts a dedicated U.S. government cloud that meets the requirements of the U.S. Department of Defense. That shows the high level of security these public clouds can now offer.



‘Custody’: who owns the data?

The question of who owns the data in the cloud generates a lot of discussion and concern. At Agfa HealthCare, we believe that the custody of the data should always remain with the healthcare enterprise. Furthermore, it should not be locked behind a door you can’t get through. You should own the tenancy and the encryption keys.

There are several different ways cloud can be adopted, and you need to consider custody when making your choice. With a turnkey solution, the customer pays a subscription to the vendor, and hands over their data. The vendor manages the data in the cloud on the customer’s behalf.

The customer does not have direct access to the underlying storage, or the encryption keys. They only have access to the service layer that provides data storage and retrieval.

At Agfa HealthCare, we take a more customer-centric approach. In our vision, we provide the technology that enables your healthcare organization to store data in a cloud account that belongs to you. The tenancy with Azure or AWS is thus between you and the cloud provider. That means all of the underlying storage, the services and the encryption keys remain in your custody. Of course, you still access the data for daily use through the regular vendor-neutral interfaces that we provide in our applications.



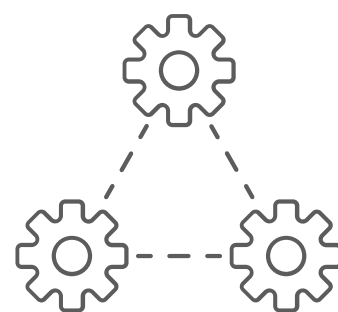
“Even if you looked at cloud a few years back and said “It’s not for us”, now is a good time to take another look. I think you will be pleasantly surprised.”

Charles Morris
Director Enterprise Imaging
Agfa HealthCare



Cloud performance

One issue raised about earlier cloud solutions was slow connectivity. Now, however, the connectivity is extremely robust, especially in metropolitan areas. And it is also quite inexpensive: as network costs have dropped dramatically over the past years, cloud has become much more accessible for all kinds of hospitals.



This also valid for Agfa HealthCare’s storage in the cloud solution, which enables very fast data retrieval. The system uses fetching algorithms in the VNA to pre-retrieve data based on order type, and put it directly on the on premise cache, even before it is going to be used.

If, on the other hand, your hospital is using the full cloud VNA, you are actually viewing images directly from the cloud itself. There is no more need for the data to be sent

back to the on-premise PACS for enterprise viewing. It’s like watching a streaming service directly from the cloud: fast, easy and resilient. And as we transition to ‘fatter pipes’, i.e., high-bandwidth connections, as well as true cloud-driven technology, bandwidth consumption is further reduced.

Contact your Agfa HealthCare Client Executive to get started

or email enterpriseimaging@agfa.com



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