Huge NHS cloud deals mean tough questions:
Here's what imaging tech suppliers must prove

A major shift for diagnostic imaging into public cloud has begun in the NHS. But how can imaging networks and healthcare providers ensure suppliers are able to deliver on such important, large and complex projects? Chris Scarisbrick, deputy managing director for Sectra, explores.

The largest public cloud projects to ever take place within the NHS are beginning. Regional procurements for public cloud hosted diagnostic imaging solutions have recently seen the earliest of adopters go-live.

Now, a tsunami is set to follow, with projects involving vast amounts of data needed for the care of millions of patients, soon to become commonplace.

Pervasive barriers to public cloud adoption in diagnostics have at last been overcome. But as resulting benefits are sought for diagnostic collaboration across healthcare providers, the task of delivering such highly complex initiatives must not be underestimated.

NHS procurements are right to ask difficult questions of those bidding for contracts. Here's six areas where suppliers must be able to prove their ability to deliver against difficult demands:

Cybersecurity remains paramount
The cybersecurity threat in healthcare is more prevalent than almost any other industry, largely because of the value healthcare data presents to cyber criminals who might hold it for ransom.

There are significant security benefits to be had for healthcare in moving to Software as a Service cloud models – allowing NHS organisations to tap into very scarce and world-leading expertise that large cloud providers attract.

But seeking assurances around cybersecurity remains paramount. In part this might mean verifying credentials vendors have in place, and compliance with standards such as ISO27001 and Cyber Essentials Plus – something increasingly required in recent years. Just as important is to check beyond the prime contractor, and to examine the resilience of the supply chain, and importantly, to ensure that the platforms that SaaS environments run on are fully compliant.

Procurements might choose to ask questions around many other aspects of cybersecurity safeguards; to understand in detail expectations around patching regimes and the immediacy of security updates, for example. The cyber threat is real – and full confidence is needed at every step.

Are imaging vendors really leveraging cloud innovation?
It is particularly important that vendors can demonstrate they aren't simply lifting systems from on-premise deployments, and replicating those environments in the cloud.

Enterprise imaging solutions should now continually evolve, as cloud technology providers continue to innovate with the platforms they sit on.

Gaining access to that innovation in diagnostic imaging, requires imaging vendors to have very close and collaborative relationships with their cloud partners, so that they can take full advantage of portfolio developments that large scale cloud developers can provide.

For example, that might mean the ability to store infrequently accessed pathology data in archive tiers – which can be a factor of 10 times more cost effective. It also means an ability to optimise

cloud solutions for NHS workflows in many other ways that support efficiencies and new ways of working in healthcare.

Suppliers must also be able to show how their cloud platforms can streamline the introduction of artificial intelligence into diagnostic workflows. AI applications are typically cloud native – but solutions that have been developed to facilitate access with minimal burden on local NHS teams, will be one consideration.

NHS organisations might ask questions of imaging suppliers around the extent they are able to share ideas, expertise and engineers with cloud platform partners. They might determine their supplier's ability to influence development that will push boundaries and make full use of the art of the possible. And tender teams might ask questions that determine a supplier's ability to leverage high-value resources – including longevity of partnerships, and the scale of data commitments that imaging vendors have made with their cloud partner.

Sustainability
Delivering into public cloud environments can mean data around energy consumption is more accessible.

This is increasingly important for all suppliers as the NHS seeks to become the first net zero healthcare system in the world. For diagnostic imaging, this is particularly important, given the large proportion of all healthcare data that is consumed and processed.

NHS organisations might now justifiably ask for greater intelligence on projected carbon emission reductions for cloud imaging, and for evidence on what has been achieved. They might examine energy efficiency ratings cloud providers have been awarded, as well as sustainability reports. Continued sustainability innovation could also fall in the spotlight – for example, with projects emerging to place datacentres underwater to harness natural cooling effects.

Standardisation and reduced burden on NHS IT teams
Fully managed cloud solutions should take away significant pressures from busy NHS IT teams. Imaging technology vendors should be able show this working in practice. And it should be possible from the earliest stages of implementation.

Public cloud can bring with it an ability to standardise early technical aspects of deployment. Rather than manually configuring the basic environment, parts of this process can be automated and templated. This can reduce deployment times, and associated costs, and reduce risk of human error. Making this work in practice, does however require experience on which to base standard approaches.

Delivery of key functionality must also be aided by public cloud. Very few customers will want to manage their own installation of a speech platform, for example, when a common version can be deployed at scale with guaranteed performance.

Scrutinising experience
Public cloud is still relatively new in the NHS when it comes to hosting systems that consume as much data as imaging. But experience does already exist within the supplier community. NHS organisations will rightly look beyond marketing messages. They will interrogate evidence of both successes, and lessons learned, in early SaaS based public cloud enterprise imaging and similar large-scale projects.

There is no pretending: public cloud hosted solutions of the scale required are not simple, and require deep expertise to deploy and manage correctly. NHS organisations must be able to trust that suppliers and their cloud partners are able to deliver systems that perform for regions that cover patient populations in the millions. Datacentres must be stable, accessible, responsive, and surface

the right data to the right professionals to inform large numbers of diagnostic decisions, every hour of every day.

Trusts will look to vendor neutral assessments – for example KLAS reports. But they also want to have transparent access to customer references where they can have frank and honest conversations to gain a forensic understanding of what has gone well, and what has been learned. For most, this will mean effective evidence of fully managed cloud solutions. Evidence of delivering to networks in a federated environment, is not likely to meet requirements.

Exit – how do I get my data back?
NHS customers might also rightly demand visibility of what happens at the end of their contract. Questions might be raised about the ability to retrieve data in five or 10 years, without incurring costs from cloud providers. Imaging technology vendors might choose to take on some of that risk, and to guarantee access on project conclusion.