



PACS: How to Reduce the Total Cost of Ownership

In today's rapidly changing healthcare technology industry, it can be confusing to navigate the differences between various solution architectures, especially for PACS. Design, capabilities and workflow proficiencies must be considered, but evaluating practices cannot forget to fully assess the total cost of ownership. The purpose of this white paper is to identify the intangible costs associated with traditional PACS solutions and to help users understand why many organizations are opting for alternative cloud-based or hybrid models.

On-Premise PACS

An on-premise PACS consists of a server installed locally inside a facility with software installed on the server and on the facility's computers. Images are viewed over the local area network and/or outside the network via a secure connection. In this model, the local server connects to local hard drives to provide quick access to files, and new images are sent to the local server as they are acquired. This type of architecture requires the practice to purchase the hardware, software and user licenses, resulting in a large upfront capital expenditure.

Additionally, the initial expense is not representative of the total cost of owning a traditional PACS. A practice must also consider that they are then responsible for the implementation fees, maintenance, upgrades, user and IT support and data storage. Since practices are required to keep images on file for many years (In many states, 7 years or some period beyond the age of 18 for pediatric patients), they are also responsible for disaster recovery which requires offsite data storage, monitoring and redundancy planning.

Another aspect to consider is the cost realized by your facility when the PACS is down for any period of time. Not only is the practice paying for IT support to diagnose and resolve the issue, ensuing inefficiencies result in lost potential revenue.

According to auntminnie.com,

a good benchmark for calculating the TCO is to double the costs on the PACS quote to find the approximate cost of ownership over a three-year period. Additionally, consider that hardware will need to be replaced and software will need to be upgraded in most cases after five years of use.

Summary of costs to consider in addition to the initial hardware and software license expense of a traditional PACS:

- Implementation costs (integration with existing applications, administrative and IT support, HL7 connections, training)

- Ongoing IT support (maintenance, upgrades and disaster recovery)
- Expansion costs (additional licenses for new users, new locations)
- Data security costs (offsite data center, additional memory, disaster recovery services)
- Costs associated with a down PACS (legal risk of losing images, loss of productivity)
- Year 6 expenses (hardware replacement and software upgrades)

Alternative PACS solutions

A cloud-based PACS model consists of an offsite server utilizing a secure internet connection to provide access to images and related data. All functionality is essentially the same as a traditional PACS solution, except that authorized users can access the images anytime, anywhere, as long as there is an internet connection. Since the hardware is maintained offsite with the vendor, this model requires low initial capital investment.

According to Gartner Research, more than 50% of enterprises will adopt a cloud-based application strategy by 2015. Imaging providers can realize these benefits by following suit:

- Lower capital investment with no purchase of hardware or software licenses
- The ability to focus on key business drivers instead of IT
- Eliminating the need for IT resources for upgrades, backups and administration
- Productivity gains by always using updated software
- Superior security and availability
- The “access anywhere” cloud capability

The cloud-based PACS model provides the full functionality of PACS (image management, viewing, distribution and storage) while lowering total cost of ownership. Healthcare providers are able to

connect to secure, remote data centers hosted and managed by their cloud PACS vendor while paying for the service in a convenient fee-per-study model.

An additional option is to explore the hybrid PACS model. A hybrid PACS solution provides all of the functionality of an on-premise model combined with a cloud based model. The main difference with the hybrid model is that, while all of the practice’s images are stored offsite in secure data warehouses, there is also a locally installed server with copies of the most recent images so that studies are accessible at any time, even if the internet is down. If the local server fails, images are still viewable through the cloud. This approach also provides faster image viewing than the pure cloud model, as studies are sent over the local area network prior to being backed up in the cloud. This solution provides redundancy so that practices never have to worry about loss of productivity from a down PACS. In addition, all of the benefits of a cloud-based model are still included—the vendor maintains the hardware, software upgrades, user and IT support while also providing locally stored rapid image access.

Summary

Gartner Research states that 80% of total IT costs occur after the initial purchase, which stands to reason after considering all of the direct (hardware, software, licenses) and indirect (IT support, operating costs, hardware replacement, data storage, downtime) expenses detailed above.

Even with the differences clearly defined, it may still be difficult to apply the concept of total cost of ownership to a real practical experience, so consider as an example ABC Practice, which performs 30,000 annual studies per year. They are considering a new PACS and have narrowed down their choices to 2 vendors: Company Y with an on-premise, traditional PACS requiring a large capital investment and Company Z with a hybrid PACS offering a fee-per-study payment model. The proposals and 5-year cost of ownership are detailed in a sample matrix below.

5 YR TCO	COMPANY Y	COMPANY Z
1 x Upfront Cost		
Hardware	\$30,000	Included
Software Licenses (per year)	\$30,000	Included
Implementation	\$25,000	Included
Annual Recurring Costs		
Internal IT Support (.5 FTE)	\$40,000	Included
Application Support (service agreement)	\$20,000	Included
Indirect Costs of Ownership	\$18,000	Included
Data Back Up and Security	\$10,000	Included
Fee per Study	\$0	\$2.00
5 Yr TCO	\$525,000	\$300,000

(Assume ABC Practice conducts 30,000 studies annually. All costs are estimates based on industry standards).

While it is tempting to assume that a practice will recoup its initial investment with Company Y (in this example, \$85,000) in five years and will thus spend less than the proposed amount with Company Z (\$300,000), ABC Practice clearly has to consider the additional annual costs. Included in the sample estimate are the often-overlooked indirect costs of internal IT support (which is accounted for with half of a full-time employee's salary), the vendor's annual service agreement, the indirect costs of ownership (including software upgrades, downtime and costs associated with greater risk of lost studies) and necessary data back-up and security fees. When detailed out, the 5-year total cost of ownership is over 5x the initial investment and does not even include the cost of replacing hardware in Year 6. Given that cloud and hybrid PACS providers most likely provide replacement hardware and ancillary services, the on-premise PACS solution offered by Company Y will certainly cost more in the long run.

Be sure to carefully evaluate each potential vendor to assess functional capabilities and consider the true long-term cost of owning a PACS.

About ProtonPACS

By combining Intelrad's #1 KLAS-rated PACS software with all of the necessary PACS hardware, guaranteed secure archiving, proactive support, and our always-on hybrid architecture, ProtonPACS delivers a fully functional and flexible PACS solution in a cost-effective fee-per-study model. The service is fully managed and maintained by the ProtonPACS team, greatly reducing your IT needs, and is uniquely engineered for maximum speed and the elimination of downtime. ProtonPACS is fully regulatory compliant and seamlessly communicates with any practice management system

or EMR. Contact ProtonPACS today by calling **615-376-7502**, emailing pacs@radsourc.us or visiting www.protonpacs.com.

About Radsourc

Radsourc is one of the most trusted names in imaging, earning a reputation for both advanced technology and unmatched support. Because of our success in the MRI interpretation arena, Radsourc understands the needs of PACS users. In fact, Radsourc uses ProtonPACS, so we know all of our customers are receiving a cutting-edge, worry-free solution. Learn how this easy, scalable and cost-efficient model can work for you by contacting Radsourc via phone at **615-376-7502**, via email at pacs@radsourc.us or by visiting www.radsourc.us.

