CLYSO

Modern PACS & Enterprise Archiving

Efficient, Vendor-Neutral Image and Data Management in Everyday Clinical Practice

The Picture Archiving and Communication System (PACS) serves as the digital backbone for medical imaging and raw data. The primary goal of modern PACS architectures is to completely replace isolated data silos and manual file transfers with a centralized, vendor-neutral long-term archive that integrates seamlessly with existing Hospital Information Systems (HIS) and Radiology Information Systems (RIS).



THE CHALLENGE

Everyday clinical workflows are significantly slowed down by incompatible data silos because high-end medical equipment, including MRIs, CTs, or DNA sequencing devices from different manufacturers, often traps data in proprietary systems or separate clouds. At the same time, explosive data growth driven by higher image resolutions and data-heavy methods like genomics (NGS) stretches local storage to its limit, making high-performance, mirrored archiving systems a necessity.

Adding to this technical burden is heavy compliance pressure: meeting strict legal retention periods of 10 years and complex GDPR deletion mandates must be automated across the entire network and fully verifiable via an unalterable audit trail.

THE SOLUTION

This modern archiving solution relies on automated ingestion, pulling image and raw data directly from devices via DICOM or cloud APIs before validating it and storing it in a highly structured format. This creates a seamless workflow across the hospital IT landscape: physicians can manage administrative tasks centrally within the HIS/RIS and pull up the corresponding PACS data instantly with a single click.

In the background, a smart data lifecycle management system automatically monitors all retention and deletion schedules, while providing a state-of-the-art, secure, and encrypted portal for sharing data with patients and referring doctors.

THE IMPACT

Hospitals and service providers gain maximum efficiency from near-instant, location-independent data access, putting an end to time-consuming manual file searches for medical staff.

Automating all deletion routines and ensuring tamper-proof logging guarantee ironclad legal compliance and error-free GDPR alignment. This results in a future-proof IT infrastructure built on a highly scalable, vendor-neutral platform that is compatible with all leading PACS vendors and scales effortlessly as new medical devices are introduced.

THE TECH UNDER THE HOOD: THE CEPH APPROACH

A modern PACS requires a resilient and cost-effective storage foundation. Ceph is the global gold standard for open-source Software-Defined Storage (SDS), perfectly matching the demands of healthcare IT through a unified storage approach that brings modern S3 object storage for image and genomic data as well as traditional file or block storage for HIS/RIS into a single system. Because Ceph runs on cost-effective standard commodity hardware (x86), it breaks the classic vendor lock-in and allows the free exchange of servers without restrictive licensing models.

The platform offers infinite scalability, allowing clusters to scale seamlessly from a few Terabytes to hundreds of Petabytes during live operations with zero downtime. Furthermore, advanced WORM features and S3 Object Locking keep patient data tamper-proof, securing the infrastructure sustainably and effectively against advanced ransomware threats.

CLYSO: YOUR ENTERPRISE PARTNER

Operating Ceph in critical, highly regulated healthcare environments like hospitals and large clinical labs requires specialized expertise. As a Diamond Member of the Ceph Foundation, CLYSO helps you evaluate the optimal operational model for your IT strategy, ranging from the pure open-source variant (Ceph Upstream) to the turnkey CLYSO Enterprise Storage (CES) as a validated, highly available storage operating system.

Complete data control and storage sovereignty remain entirely in your hands at all times. Our team supports you flexibly and based on your specific needs during the design of resilient archiving strategies and uses our migration tool CLYSO Chorus to deliver a smooth, zero-downtime S3 migration of your historical PACS legacy archives without ever taking access to sensitive patient data. For subsequent live operations, CLYSO provides certified 24/7 support with dedicated personal contacts and proactive monitoring to safeguard zero-downtime operations for emergency medicine around the clock.

YOUR DIRECT LINE TO THE EXPERTS

Is your clinical facility, university hospital, or medical services company facing similar challenges with data growth, legacy system migration, or GDPR-compliant long-term archiving? Do you want to break free from dependencies on expensive hardware vendors and invest in a future-proof, infinitely scalable storage architecture?

Our Ceph specialists are here to guide you every step of the way, covering everything from initial consulting and architectural design to dependable 24/7 operations. Contact us for a non-binding expert consultation, and let's future-proof your healthcare IT together.



Get in touch if you are interested!

+49 89 215252730

sales@clyso.com

www.clyso.com