SwiftStack

Clinical Data Repository

Cloud-native, scale-out storage for health care providers facing explosive data growth

In a 2017 study by the New England Journal of Medicine, 95% of health care IT executives identified *clinical data* as the most important data type in their organization. While these results should not come as a surprise, they do underscore the strategic value of storing, managing, and delivering clinical data to enhance patient care.

Hospital IT was built department by department, with infrastructure decisions largely based on the recommendation of the primary software application provider. Medical imaging environments and their related data storage architectures evolved in this fashion. For example, radiology PACS was tied to its own storage unit, cardiology PACS was tied to its own storage unit, and so on.

Drivers of Change in Hospital IT

Several key factors have compelled hospital CIOs to seek ways to evolve from a department-centric approach to an enterprise-wide model for medical imaging:

- Fast-growing nature of clinical data
- IT burden of overseeing so many discrete systems
- Complexity of PACS migrations
- Proliferation of non-DICOM data types, such as MPEG, JPEG, WAV, MP3, and PDF
- Need to leverage clinical insights found across all of a patient's images and files

New Architecture

To address these challenges, SwiftStack enables a health care provider to build a Clinical Data Repository:
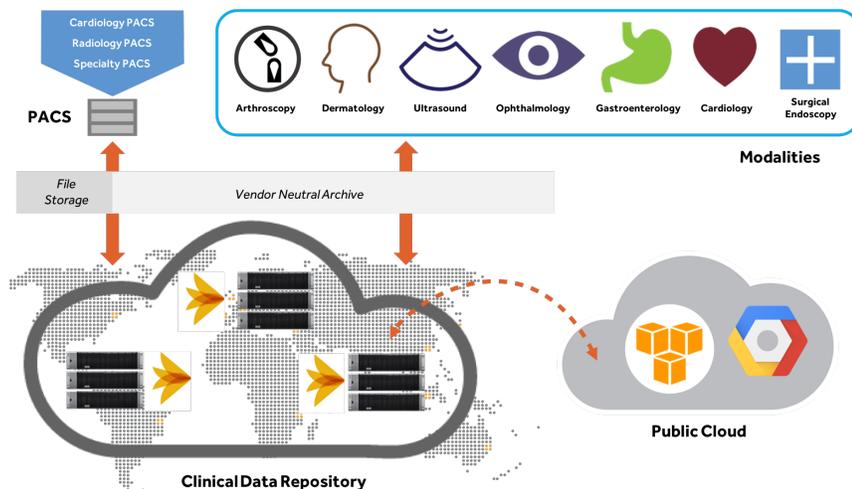
SwiftStack's modular design allows hospital IT to "grow as they go" - storing more patient images at higher resolutions, servicing more clinicians in real-time, adding more sites as the organization expands, and incorporating more public cloud capabilities into the workflows. All of these enhancements can be done at the hospital's pace and without disruption.

HIGHLIGHTS

Supports clinical data from PACS, Vendor Neutral Archives (VNAs), and non-DICOM sources

Stores data on-premises and, optionally, in the public cloud

Solves scale and management challenges

Deploys on hardware of choice, but runs best on Cisco UCS

Spans multiple data centers

Offers data durability surpassing ten "9's"

Encrypts data in-transit and on-disk

"With data growth exceeding 50% year over year, infrastructure and operations leaders are looking for extensible on-premises storage products that can address an increasing number of use cases with lower acquisition and operational costs."

Gartner

The Value of a VNA

A Vendor Neutral Archive (or "VNA") is an enterprise-wide repository of patient images and studies, and associated unstructured clinical content. VNAs are available through all of the major health care software providers, including Fuji, GE Health, and Cerner. A VNA integrates with PACS and EHR systems, consumes non-DICOM data from diagnostic and monitoring devices, and supports multiple storage platforms.

VNAs are optimized to interface with SwiftStack storage.

Geared to the Modern Health Care Provider

SwiftStack forms the foundation of a Clinical Data Repository, and, as the centralized storage pool for patient images, reliably delivers universal data access, automation at-scale, high availability, and high performance. SwiftStack's modular, scale-out architecture allows a hospital or imaging clinic to start in the terabytes and grow into the petabytes - all without interruption to data service. Simply put, SwiftStack was built from the ground up to operate in the 24/7 mission-critical world of health care.
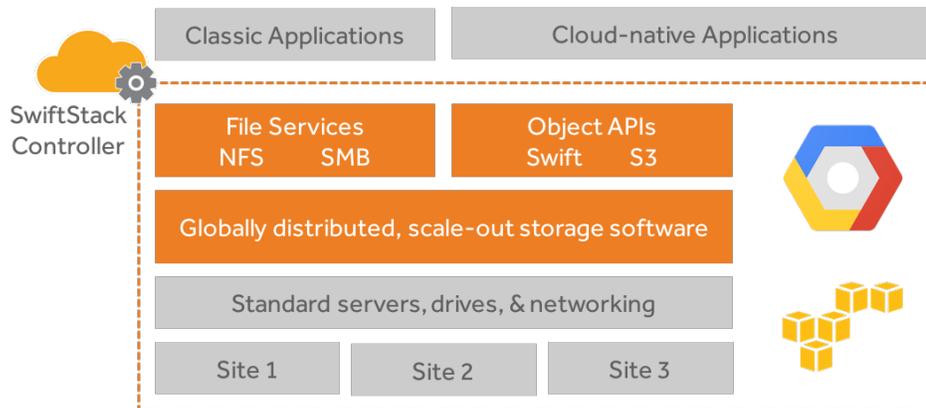
Why SwiftStack for Health Care Providers?

1 **Freedom of choice** - standard x86 servers, SAS or SATA disk drives, and Ethernet networking components are used; non-like components can scale the cluster; data can be synchronized to public cloud buckets

2 **Easy to deploy and scale** - a single command installs the SwiftStack software on each node running a standard Linux operating system; policies are managed out of band with the SwiftStack Controller

3 **Multi-region** - nodes of a cluster can exist in multiple geographic sites to protect and location-optimize your data; buckets in Google Cloud and AWS are also available storage locations

4 **For applications of today and tomorrow** - existing applications can access and consume storage using file services without being refactored; at the same time modern applications use object APIs

5 **Single-pane-of-glass management** - the SwiftStack controller gives you out-of-band management for all storage resources; it's a SaaS application, or it can run privately behind your firewall

To try SwiftStack for free, go to https://www.swiftstack.com/try-it-now/.

For additional assistance or to learn more, always feel free to contact us. We're here to help.
Phone - (415) 625-0293
Email - contact@swiftstack.com
Chat - Just go to swiftstack.com and look for the chat pop-up in the bottom right