White Paper

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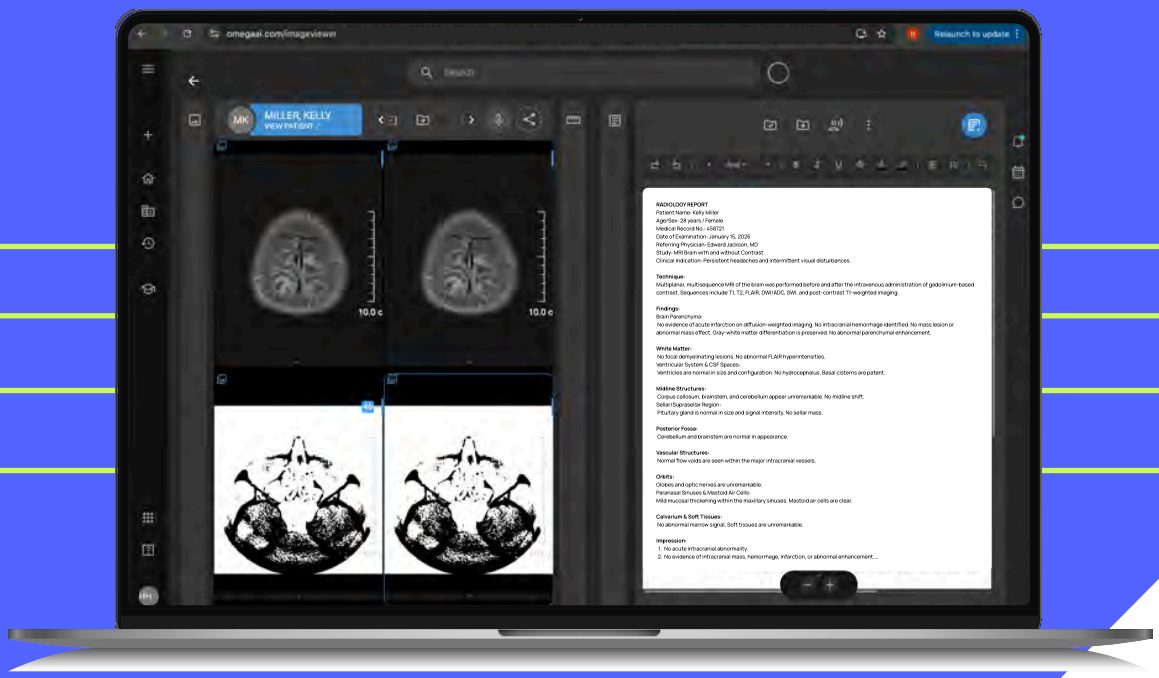
Tomorrow's PACS Today

Cloud-Native/Cloud-Based vs. Legacy PACS: A Resource Guide for Modern Imaging Centers



INTRODUCTION

The Evolution of Imaging Informatics

Today's imaging centers face new demands:[1] AI integration, remote collaboration, seamless scalability,[2] and higher patient expectations for better turn-around times. Meeting these requires technology that drives both clinical accuracy and operational efficiency.

PACS[3] remains central to this mission, ensuring fast, reliable access to images that support timely diagnoses and confident care decisions.[4]

This guide helps leaders compare legacy, cloud-based, and cloud-native PACS models[5] so they can choose the right fit for their goals and position their practices for long-term success.

Understanding the PACS Spectrum

Legacy (On-Premises)
Legacy PACS rely on traditional on-site infrastructure, with local servers, fixed storage, and internal IT support. This model remains common in long-standing hospital systems that value direct control of their hardware and data environments.

For some organizations, the benefits are clear: IT teams can manage infrastructure on their own terms, staff are already familiar with established workflows, and reliance on external networks is minimized. In regions with limited bandwidth, on-premises PACS can also provide a practical solution for maintaining reliable access to imaging.

Cloud-Based PACS (e.g., PowerServer®)

Cloud-based PACS[6] represent a step forward from traditional on-premises systems. Originally designed for local server environments, these solutions have since been adapted for cloud hosting.[7] They often provide hybrid deployment options, giving imaging centers (and the radiologists!) flexibility[8] in how they manage infrastructure (including reporting structures).

The advantages are clear:[9] reduced IT overhead, secure access from virtually anywhere, and built-in redundancy to support uptime and compliance. With scalable resources, practices can expand capacity as patient volumes grow[10] without the burden of managing physical servers. Cloud-based PACS like RamSoft's PowerServer® allow organizations to balance familiar workflows with the efficiencies of the cloud.

Cloud-Native PACS (e.g., OmegaAI®)

Cloud-native PACS[11] platforms are designed from the ground up for the cloud, offering a true next-generation alternative to traditional imaging systems. OmegaAI® offers integrative RIS, PACS, and VNA[12] into a single zero-footprint platform built right onto Microsoft Azure. This unified design eliminates data silos, minimizes maintenance, and ensures enterprise-grade security and compliance.

With instant access from any location, intelligent workflow design & automation, and built-in AI integration,[13] cloud-native PACS enable faster diagnostics and greater efficiency. Real-time collaboration across teams supports patient-centered workflows, while seamless scalability allows organizations to grow without infrastructure barriers.[14] For imaging centers focused on speed, interoperability, and long-term value, cloud-native PACS set the standard for modern care.

> "RamSoft [with PowerServer RIS/PACS] has transformed our operations, **enhancing scalability, efficiency, and data management.**"
>
> **Dr. John Arnold**
> Co-Founder & Radiologist

SIDE-BY-SIDE COMPARISON TABLE

Feature	Legacy PACS	Cloud-Based PACS (PowerServer)	Cloud-Native PACS (OmegaAI)
Deployment	On-prem	Cloud-hosted or hybrid	Built for the cloud
Scalability	Limited	Unlimited (Azure-backed)	Effortless, modular
Maintenance	High IT load	Vendor-managed	No local servers or updates
Interoperability	Custom	HL7®, DICOM®, IHE-ready	HL7, DICOM, FHIR, DICOMweb
Remote Access	Limited	Web-based, VPN if needed	Zero-footprint, global access
Security	On-site protocols	HIPAA, Azure-secured	HIPAA, SOC 2, ISO 13485, GDPR
AI Readiness	Requires integration	AI-enabled workflows (via integrated AI partner solutions)	Built-in AI tools and partners
Cost Model	High CapEx	Subscription model	Subscription model
Workflow Speed	Manual	Automated	AI-driven, real-time
Patient Engagement	Minimal	RapidResults™, Stana™, Blume®	Blume integrated

DICOM® is the registered trademark of the National Electrical Manufacturers Association for its Standards publications relating to digital communications of medical information.

CASE IN POINT: Premier MRI Clinics

Premier MRI Clinics in Tempe, Arizona, leveraged OmegaAI® to **rapidly expand both its patient base and referring physician network**. With AI-powered automation and instant, user-friendly access to images and reports, the center **doubled scan volumes in just two months. Faster turnaround times and streamlined communication** have strengthened provider relationships and positioned the clinic as a trusted partner for urgent personal injury and auto accident cases.

To learn more about OmegaAI®'s pivotal role in Premier MRI Clinics' growth and improved patient engagement, click **HERE**.

MODERN IMAGING NEEDS AND TECHNOLOGY ALIGNMENT

Teleradiology & Remote Workflows

Modern imaging practices depend on fast, secure access to studies at any hour.[15] Subspecialists and referring physicians require 24/7 connectivity to deliver timely reads and collaborate effectively across locations. Reliable remote workflows are a requirement, not a choice[16]—they are central to patient-centered care.

- **PowerServer** supports teleradiology[17] with a **unified, web-based architecture** that enables seamless access from any device. Radiologists can work from consolidated worklists, eliminating the need to switch systems, while real-time data sharing ensures accuracy across facilities. This design streamlines multi-site operations, supports subspecialist collaboration, and maintains continuity of care regardless of geography.
- **OmegaAI** takes remote imaging further with its **fully cloud-native, zero-footprint** platform. Constructed on top of Microsoft Azure, it enables instant, secure access to images and reports without VPNs or local installations. Integrated communication tools and **OmegaAI LINK** simplify collaboration across networks, allowing radiologists, technologists, and referrers to work together in real time. For organizations seeking effortless scalability and uninterrupted access, OmegaAI ensures care teams remain connected anywhere, anytime.

AI, Automation & Efficiency

Legacy imaging systems often depend on manual, fragmented processes that consume valuable time and strain staff resources. Modern cloud-based platforms (e.g., PowerServer®) help streamline these tasks, while cloud-native solutions like OmegaAI® go further—enabling enterprise-wide interoperability through a modular, serverless architecture designed for scale, flexibility, and performance.

- **PowerServer** and **OmegaAI** embed advanced AI capabilities directly into the radiology workflow to accelerate reporting and reduce administrative burden. Built-in AI-driven tools support highly accurate voice-to-report dictation, structured reporting, and near real-time report generation—all within a single, unified environment. By **eliminating workflow disruptions** (i.e., cutting reporting delays[18]) and **reducing turnaround times**, these capabilities help improve productivity while **easing clinician workload** and burnout.[19]
- **OmegaAI** further enhances operational efficiency with intelligent case routing, teaching folders, and automated report summaries, allowing radiologists to focus on diagnostic interpretation rather than repetitive, non-clinical tasks.[20] By **seamlessly integrating AI and automation into everyday workflows**, RamSoft enables imaging centers to operate more efficiently, collaborate more effectively, and deliver faster, more accurate, connected and patient-centered care.[21]

Business Agility & Growth

Today's imaging centers need technology that can flex with their business.[22] Legacy PACS often limit growth by requiring new servers, costly upgrades, or complex integrations. Cloud-native platforms eliminate these scaling barriers, enabling practices to expand capacity, add modalities, or support new locations without disruption.

For multi-site operations, a single cloud-native environment unifies scheduling, image management, and reporting across facilities, ensuring consistent workflows and patient experiences. This flexibility makes it easier to bring new centers online and support remote teams under one secure system.

Analytics tools such as RamSoft's Essence™ BI and Root BI provide real-time visibility into performance metrics like turnaround times, study volumes, and referral patterns. These insights allow leaders to quickly identify bottlenecks, track growth, and make data-driven decisions that strengthen both clinical and financial outcomes. With cloud-based (Essence BI) and cloud-native (Root BI) intelligence, imaging centers can adapt faster and grow smarter.

PATIENT-CENTERED CARE

Imaging providers must balance efficiency with patient expectations for clarity, speed, and convenience. Integrated tools that support self-scheduling, instant image sharing, and faster result delivery have become indispensable[23]—they are essential to delivering care that keeps patients engaged and satisfied.[24]

RamSoft's **Blume** patient engagement app brings these priorities together in a **unified, cloud-based solution**. More than a patient portal, Blume functions as an automated front desk and engagement hub, enabling patients to schedule appointments, complete forms, access studies, and share reports securely from a single interface. With features like AI-powered report explanations, automated reminders, and real-time results delivery, Blume **reduces administrative burdens while giving patients the transparency and autonomy they expect.**

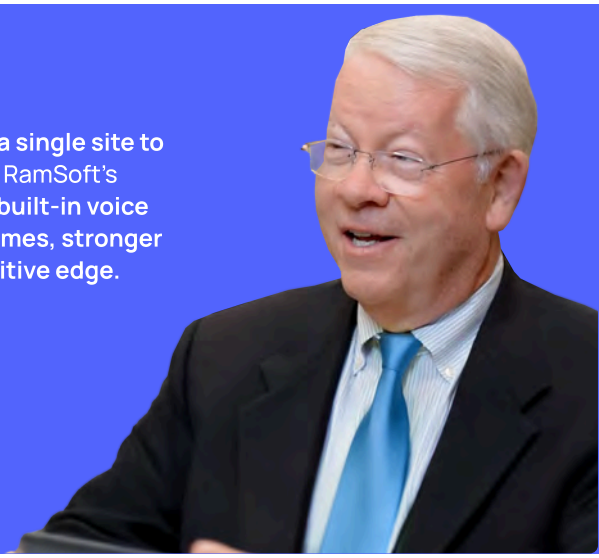
By streamlining communication and removing barriers to access, Blume empowers imaging centers to foster stronger patient relationships, improve retention, and accelerate the care journey. The result is a more connected, confident, and patient-centered experience[25] for both providers and the communities they serve.

CASE IN POINT: Outpatient Imaging

Outpatient Imaging (OPI), now part of Capitol Imaging Services, **expanded from a single site to 11 centers** performing nearly **200,000 exams each year**. To support this growth, RamSoft's cloud-based PowerServer RIS/PACS delivered **scalability, faster reporting with built-in voice recognition, and seamless multi-site access**. The result: **quicker turnaround times, stronger physician relationships, and consistent, patient-centered care with a competitive edge.**

Dr. John Arnold
Co-Founder & Radiologist

To learn more about OPI's transformation with PowerServer®, click **HERE**



DID YOU KNOW?

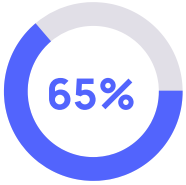
The global healthcare cloud PACS market:

8.9%

Forecasted CAGR for 2025–2033*

$7.6B USD

Expected worth by 2033*



Healthcare providers utilize cloud-based PACS*

***Global Growth Insights[33]**

SOLUTION SPOTLIGHTS

PowerServer – Cloud-Based PACS Suite

PowerServer delivers the flexibility of a 100% web-based imaging platform with both cloud and on-premises deployment options. Built on a unified single-database architecture, the suite offers integrative RIS, PACS, and teleradiology (through TELE PLUS) functionality—**removing data silos and enabling seamless workflows across sites and users.**

The platform includes a built-in AI ecosystem (via integrated AI partners solutions), secure image and report sharing through RapidResults, and actionable insights with Essence BI analytics. Hosting on **Microsoft Azure** **ensures enterprise-grade security, HIPAA compliance, and 99.95% uptime for dependable performance.**

PowerServer is designed for organizations that need hybrid deployments, expanding imaging centers, or teleradiology groups seeking scalability, automation, and remote accessibility. By combining versatility, reliability, and intelligence, PowerServer empowers providers to streamline operations and accelerate patient care.

OmegaAI® – Cloud-Native RIS/PACS/VNA

OmegaAI is RamSoft's one-of-a-kind cloud-native, zero-footprint RIS/PACS/VNA platform, designed from the ground up for speed, scalability, and AI-powered efficiency. Built on **Microsoft Azure**, it delivers enterprise-grade security and disaster recovery while eliminating the need for local servers or manual updates.

The platform natively supports voice dictation, intelligent automation, and cross-site scalability, helping radiologists and administrators **streamline workflows across multiple facilities**. Its flexible **licensing matrix allows organizations to license only the capabilities they need**—whether RIS, PACS/VNA, Reporting, or Imaging EMR—and **expand as operations grow**.

With **seamless interoperability** through HL7, FHIR, and DICOMweb standards, OmegaAI connects systems and partners without complexity, **enabling a single source of truth for imaging data**. This makes it an ideal solution for next-generation enterprises, multi-site networks, and AI-driven care delivery.

CHOOSING THE RIGHT FIT FOR YOUR IMAGING CENTER

Every imaging center today faces unique needs based on its scale, growth trajectory, and level of digital maturity.[26] A single-site provider may prioritize ease of use and reduced IT overhead, while multi-site enterprises require unified access, seamless collaboration, and advanced analytics. Similarly, practices just beginning their digital transformation have different priorities than early adopters of AI-driven workflows.

Flexibility in implementation and licensing is critical. The right platform should adapt to current operations while preparing the business for future needs—whether that means expanding locations, adding subspecialties, or integrating AI tools[27] as they become standard in clinical care.

For long-term success, cloud-native and cloud-based solutions deliver the strongest return. They **enable scalability, ensure security, support AI integration,[28] and position imaging centers to meet patient and provider expectations well into the future.**

CONCLUSION: ACCELERATING THE FUTURE OF IMAGING

The evolution of PACS reflects the changing needs of imaging centers. Legacy systems provided control and familiarity but often limit growth and efficiency. Cloud-based platforms reduce IT overhead and enable secure, flexible access, while cloud-native solutions extend these advantages with intelligent automation, built-in scalability, and true interoperability.

For imaging centers, the choice comes down to aligning technology[29] with operational goals, growth plans, and patient expectations.[30] What is clear is that cloud-native is no longer a distant vision[31]—it is already shaping the present of imaging success and setting the foundation for the future.[32]

WANT TO SEE WHAT IMAGING ACCELERATED LOOKS LIKE FOR YOU?

Reach out to our Sales team or book a tailored demo to discover how RamSoft's cloud-based and cloud-native PACS platforms can future-proof your imaging center.

Request a Free Demo

750+
Customers worldwide

10,000+
images/studies handled daily

30+
years' experience serving healthcare organizations

About RamSoft

RamSoft is a global provider of innovative cloud-based radiology software solutions for imaging centers, radiology departments and teleradiology providers. PowerServer is utilized by over 750 sites and thousands of customers worldwide and offers a flexible, scalable design enabling imaging operations of all sizes to leverage comprehensive cloud-based RIS/PACS capabilities. RamSoft's latest offering, OmegaAI, is a cloud-native AI-driven platform delivering rapid, secure, and robust RIS and PACS capabilities that are completely zero footprint. Powered by Microsoft Azure, RamSoft's solutions provide the highest levels of security, HIPAA compliance, and protection against cybersecurity threats. Additionally, Blume, available for OmegaAI and PowerServer, allows patients to access, share, and book appointments for their diagnostic imaging studies.

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