



FROM SYSTEMS TO STRATEGY

WHY ENTERPRISE IMAGING MUST CHANGE IN TODAY'S HEALTH SYSTEMS

An InsiteOne
Thought Leadership

Publication
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Published: 05 Feb 2026

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Introduction



Over the past three decades, radiology has experienced one of the most profound transformations in healthcare. What began in the mid-1990s as a shift from film to digital imaging fundamentally changed how medical images are captured, stored, interpreted, and shared, positioning radiology as one of the earliest and most advanced digital specialties in medicine.

That transition was driven by necessity. Imaging volumes rose steadily as populations aged, new modalities such as MRI and PET expanded diagnostic capability, and collaboration across clinical specialties increased. To keep pace, radiology adopted technologies like Picture Archiving and Communication Systems (PACS), enabling rapid image acquisition and digital interpretation while introducing new workflows to manage growing complexity and scale.

Today, radiology stands at another inflection point.

While Artificial Intelligence (AI) and Machine Learning (ML) are quickly proving their benefits in workflow optimization and clinical analysis, a broader and equally important transformation has been unfolding across healthcare. Imaging is no longer confined to radiology. Cardiology, pathology, ophthalmology, wound care, and other specialties now generate vast volumes of digital images, often using different systems, standards, and workflows. The result has been a familiar pattern: siloed data, fragmented access, and operational inefficiencies that limit clinical and organizational value at scale.

In response, healthcare organizations have begun to shift from department-centric imaging systems to enterprise imaging platforms designed to consolidate imaging and clinical content across the enterprise. This evolution is not merely about storage consolidation; it is about creating a scalable, interoperable foundation of patient clinical information that supports modern workflows, cross-specialty collaboration, and the next generation of AI-enabled care.

As imaging continues to grow in volume, variety, and clinical importance, mid-size and large integrated delivery networks (IDNs) face a critical question: can legacy imaging architectures support the operational demands of modern healthcare?

This paper explores why enterprise imaging, supported by modern cloud-based architectures and workflow-centric design, is becoming essential for healthcare organizations seeking to improve operational efficiency, control costs, and support collaboration across the continuum of care. While each organization's journey will be unique, the shift toward next generation enterprise imaging platforms reflects a broader move toward resilient, interoperable, and workflow-driven imaging strategies designed to meet the realities of healthcare in 2026 and beyond.



From PACS to Enterprise Imaging: Choosing the Right Model for Scale

PACS

With nearly 700 million radiology studies acquired annually in the United States and more than 4.2 billion performed worldwide⁰¹, healthcare organizations continue to face growing pressure to manage imaging at scale. When imaging volumes from cardiology, ophthalmology, dermatology, wound care, and other visible light and video-based sources are included, the magnitude of the challenge increases significantly. While radiology remains the largest producer of imaging data, it is no longer the only, or even primary, driver of imaging complexity.

Picture Archiving and Communication Systems (PACS) emerged in response to the early digital transformation of radiology, providing a way to store, transmit, and display diagnostic images efficiently. As defined by *Radiopaedia*, “PACS enables the transmission of medical images from the point of acquisition to multiple, physically disparate locations, supporting filmless workflows and access to multiple imaging modalities across hospitals and geographies”⁰². PACS was designed to manage DICOM-based radiology images, offering storage, transmission, and diagnostic viewing tools that allowed radiologists to manipulate, compare, and interpret studies digitally.

The archive component of PACS was purpose-built to support DICOM image storage, with early systems often encapsulating radiology reports within DICOM objects to maintain viewer compatibility, a practice that still exists today. Over time, PACS platforms expanded to support additional file formats (such as JPEG, MPEG, and PDF), but their underlying architecture remained largely unchanged. Image data, metadata, and storage pointers are typically managed as separate components, requiring careful coordination during migrations to ensure data integrity and accessibility when systems change.

For mid-size and large health systems, the limitations of PACS have become increasingly evident. Legacy PACS architectures are inherently departmental,

designed around radiology-centric workflows rather than enterprise-wide imaging strategies. Integration with other clinical systems, particularly EHRs, can be complex and brittle. For some solutions, operational costs remain high due to specialized hardware requirements, frequent refresh cycles, and expensive data migrations when replacing vendors. In addition, workstation-centric designs and proprietary controls can introduce workflow bottlenecks, limit interoperability, and reduce radiologist productivity, particularly in environments where clinicians are required to access multiple systems across specialties.

While PACS remains a critical diagnostic component, it was never intended to serve as the enterprise foundation for managing all imaging content across a modern healthcare organization.

VNA

Vendor Neutral Archives (VNAs) emerged to address many of the structural limitations inherent in departmental imaging systems. At a fundamental level, a VNA is a *medical device that stores clinical imaging data using standardized formats and interfaces, independent of the proprietary systems that created the data*. This approach allows any compliant system or viewer that supports recognized standards, such as DICOM, HL7, or integration APIs, to access imaging content without requiring complex data translations.

VNAs deliver two foundational benefits that are especially important for mid-size and large health systems:

1. A standards-based, centralized storage architecture that enables enterprise-wide access to imaging content, often integrated directly into the EHR for image enablement; and
2. Long-term protection against costly and disruptive data migrations since all data is maintained in an industry recognized standard format.

By storing imaging data in non-proprietary formats, VNAs decouple clinical data from viewing and workflow systems. This allows organizations to replace or add PACS platforms, enterprise viewers, or specialty applications without repeatedly migrating historical imaging data. Given the high cost and operational risk associated with large-scale data migrations, this architectural separation represents a significant financial and strategic advantage.

In addition, VNAs typically provide advanced lifecycle management capabilities that support regulatory compliance, retention policies, and legal requirements for imaging data. As healthcare organizations continue to accumulate imaging content over longer patient lifespans, these governance capabilities have become increasingly important.

While VNAs solve critical data management and portability challenges, they are not designed to manage imaging workflows at scale. On their own, VNAs provide storage and access, but not orchestration.



Enterprise Imaging (EI) is the evolution of today's modern imaging strategy.

Enterprise Imaging

Enterprise Imaging (EI) is the evolution of modern imaging strategy, one that extends beyond storage consolidation to address workflow, access, and governance across the entire enterprise. Enterprise Imaging solutions are designed to support virtually any imaging or multimedia content type (DICOM, JPEG, video, PDFs, and more) generated by any department, modality, or care setting.

Rather than serving a single specialty, EI provides a centralized

imaging backbone that connects imaging data, workflows, and access across the enterprise. This eliminates departmental silos, improves integration with the EHR, and enables consistent imaging experiences for clinicians regardless of specialty. The result is improved collaboration, reduced infrastructure duplication, and a more sustainable cost structure.

The HIMSS-SIIM Enterprise Imaging Workgroup defines Enterprise Imaging as “a set of strategies, initiatives and workflows implemented across a healthcare enterprise to consistently and optimally capture, index, manage, store, distribute, view, exchange, and analyze all clinical imaging and multimedia content to enhance the electronic health record”¹⁰³.

In practice, Enterprise Imaging platforms go far beyond archiving. They enable and optimize workflows by capturing, routing, prioritizing, analyzing, securing, integrating, reporting, exchanging, and governing imaging and multimedia content

across multiple specialties and care environments. These platforms support advanced diagnostic viewing, collaboration, and clinical decision-making while serving as a patient-centric source of truth for imaging data across the organization⁰⁵.

Most Enterprise Imaging solutions are built on a VNA foundation, as vendor-neutral archiving remains essential for interoperability and long-term data stewardship. However, EI extends the VNA model by adding enterprise-scale workflow orchestration, sophisticated metadata management and tag morphing, advanced integration frameworks, and governance models that align imaging strategy with organizational goals. Enterprise Imaging encompasses not just technology, but a coordinated approach to how images are captured, managed, accessed, and used across the health system⁰⁶.

From Departmental to Enterprise

Each of these technologies – PACS, VNA, and Enterprise Imaging – emerged in response to the continued digitization of healthcare. PACS addressed the initial shift from film to digital in radiology. VNAs followed as organizations sought to consolidate storage, reduce migration risk, and extend imaging access beyond radiology. Enterprise Imaging arose as imaging expanded across nearly every clinical domain, requiring a unified, interoperable, and workflow-driven approach.

Today, healthcare organizations face a new reality. Imaging volumes continue to rise, staffing pressures persist, and emerging technologies such as artificial intelligence (AI) are introducing new demands on data access, integration, data monetization, and operational coordination.



\$2.02B



2026 EI Global Market

Projected to grow to \$3.49B by 2031 @ CAGR of 11.5%⁰⁴



63%



Cloud-Based Deployment

Of the market's enterprise imaging solutions and continues to grow⁰⁴



4.2B



Images

Performed worldwide with 16.5% of that performed in the United States⁰⁷

Extracting meaningful value from imaging now requires more than managing your files, it requires managing workflow, on-going scalability, and advanced complexity.

Enterprise Imaging has become the strategic framework through which mid-size and large health systems can align imaging operations with clinical, financial, and technological priorities, while laying the foundation for smarter workflows, scalable AI adoption across the enterprise (not just in radiology), and sustainable imaging operations in the years ahead.



Enterprise Imaging as an Operating Model for Modern Health Systems

Mid-size and large healthcare systems are increasingly defined not by a single hospital or specialty, but by *networks of care delivery* that span acute, ambulatory, post-acute, outpatient, and community-based settings. These organizations often include hospitals, imaging centers, ambulatory surgery centers, specialty clinics, rehabilitation services, and post-acute providers, frequently brought together through growth, affiliation, or acquisition. While the missions of these entities may align, their underlying systems, workflows, and data environments are often fragmented.

The strategic objective for these health systems is clear: deliver coordinated, high-quality care while controlling costs and reducing operational risk. Achieving that goal requires more than clinical excellence – it demands infrastructure that enables collaboration, visibility, and efficiency across the enterprise. When communication breaks down between care settings or clinical teams lack access to complete patient information, care coordination suffers, inefficiencies multiply, and revenue leakage becomes difficult to contain.⁰⁹



Enterprise Imaging aligns closely with the operational realities and strategic goals of modern health systems because it treats imaging as a shared enterprise asset, not a departmental byproduct. By enabling consistent access to imaging and clinical content directly within the EHR, enterprise imaging platforms support collaboration across specialties, care settings, and geographies, reducing friction in care delivery while improving clinical decision making.

This alignment becomes even more critical as healthcare organizations increasingly participate in value-based care models, including Accountable Care Organizations (ACOs) and other risk-sharing arrangements. These models shift reimbursement away from volume-driven fee-for-service structures toward outcomes-based incentives, placing greater responsibility on providers to deliver timely, coordinated, and effective care. At their core, value-

based care initiatives emphasize three foundational goals:

1. Ensuring patients have **timely and equitable access** to care,
2. Enabling **meaningful patient engagement** through access to information and care tools, and
3. Supporting **seamless collaboration** among care teams to improve outcomes and patient satisfaction.⁰⁸

Imaging plays a central role in achieving these objectives. As diagnostic imaging becomes embedded in a growing number of care pathways, clinicians and patients alike expect rapid, intuitive access to imaging studies and results. When multiple providers are involved in a patient's care episode, access to complete imaging history, regardless of where or when it was acquired is essential to informed

Imaging Innovation

consultation, care planning, and follow-up. Enterprise imaging enables this access by centralizing image management across the health system, ensuring imaging data is available when and where it is needed.

This centralized approach is particularly important given that a significant portion of clinically relevant data has historically lived outside the EHR. When imaging and other multimedia content are incorporated into the longitudinal patient record, clinicians gain a more complete clinical picture, supporting better decisions, reducing redundant testing, and improving outcomes in ways that directly support value-based care objectives.

Growth through acquisition further amplifies the need for enterprise imaging



strategies. Mid-size and large health systems frequently inherit multiple PACS

environments, disparate imaging repositories, and inconsistent workflows as they expand. Without consolidation, the overhead required to maintain interfaces, support users, and manage parallel systems grows quickly. Enterprise imaging platforms, typically built on vendor-neutral architectures, enable organizations to migrate imaging data into standardized formats, simplify integrations, and establish a single source of truth for imaging across the enterprise. Once data is centralized and normalized, future system changes can occur without repeated migrations, significantly reducing long-term cost and operational disruption.

Beyond cost and integration efficiencies, enterprise imaging also addresses a growing human challenge: clinician and staff burnout. As imaging volumes rise and care delivery becomes more complex, the burden placed on radiologists, physicians, and care teams continues to increase. Enterprise imaging platforms reduce cognitive and operational friction by making imaging data easier to find, access, and interpret within clinical workflows. When combined with workflow orchestration and AI-enabled capabilities, these platforms help automate routine tasks, surface relevant information proactively, and support clinicians in focusing on higher-value clinical work.

In this context, enterprise imaging is no longer simply a technology choice, it is a strategic enabler. For mid-size and large health systems navigating growth, value-based care, workforce strain, and digital transformation, enterprise imaging provides the foundation for coordinated care, scalable operations, and data-driven innovation in 2026 and beyond.

Cloud as the Foundation for Scalable Enterprise Imaging

The global COVID-19 pandemic acted as a catalyst for structural changes in healthcare delivery, accelerating trends that were already underway and exposing limitations of traditional, location-based systems. Virtual consultations, telehealth, remote monitoring, and distributed care models moved rapidly from optional to essential as organizations adapted to new clinical, operational, and staffing realities.

Growth through acquisition further amplifies the need for an enterprise imaging strategy in both mid-size and large healthcare organizations due to increases in operational complexities.

Healthcare has seen greater adoption of cloud-based solutions based on hybrid care models established during the COVID-19 pandemic.

In the years since, these changes have not receded, they have matured. By 2026, healthcare delivery is defined by hybrid care models, distributed clinical teams, and persistent workforce constraints, all of which place new demands on how imaging data is accessed, shared, and managed. Imaging workflows can no longer depend on centralized infrastructure or on-site availability; they must scale across locations, roles, and care settings without introducing additional operational burden.

This shift has reframed cloud architecture from a tactical IT decision into a foundational requirement for enterprise imaging. Cloud-native platforms enable health systems to support remote and hybrid workflows, scale imaging operations elastically, improve resilience, and reduce dependency on aging infrastructure. More importantly, they provide the architectural flexibility needed to support enterprise imaging strategies that prioritize workflow efficiency, interoperability, and long-term adaptability, rather than simply maintaining the status quo.

Technologies that existed well before the pandemic, but had seen limited adoption in healthcare, rapidly moved into the mainstream as care delivery models evolved. Virtual care, remote collaboration, and distributed clinical workflows exposed the limitations of traditional, on-premises infrastructure and accelerated investment in more flexible architectures. As connectivity and reliability improved, cloud-based solutions gained traction as a practical and scalable foundation for modern healthcare systems.

While cloud computing itself is not new, it traces its origins to early multi-user computing initiatives such as Project MAC at MIT, funded by the Defense Advanced Research Projects Agency (DARPA)¹⁰, its relevance to healthcare has grown substantially as platforms have matured. Over time, cloud technologies evolved from experimental concepts into highly resilient, secure, and globally adopted infrastructure models across nearly every industry.

Healthcare, however, historically lagged sectors such as financial services and e-commerce in cloud adoption. Concerns around patient health information (PHI), regulatory compliance, and data sovereignty led many organizations to favor locally managed systems where control felt more tangible. Under frameworks such as the Health Insurance Portability and Accountability Act (HIPAA), the consequences of data breaches are significant,

reinforcing a cautious approach to infrastructure change.

By 2026, this perception has shifted. Leading cloud providers now operate security, access control, encryption, backup, and resilience frameworks that often exceed what many healthcare organizations can maintain independently. The conversation has moved from whether cloud infrastructure is secure enough for healthcare to how effectively organizations can leverage it to support modern clinical and operational demands.

As healthcare delivery continues to rely on virtual access, remote collaboration, and hybrid staffing models, cloud architecture has become particularly well suited for medical imaging. Imaging workflows demand elasticity, high availability, and rapid access to large data sets across locations, requirements that align naturally with cloud-native enterprise imaging platforms. For mid-size and large health systems, cloud adoption is no longer a reaction to crisis conditions, but a strategic decision to enable scalability, resilience, and long-term adaptability in an increasingly complex imaging environment.

There are four types of cloud strategies most organizations will consider:

On-premises Data Center



Built and staffed by the health system. While this approach offers direct control, it is costly and resource-intensive, requiring ongoing investment in infrastructure refreshes, security updates, and specialized staff training. Health systems exist to deliver patient care, not to operate and continuously modernize complex data center environments, making this model increasingly difficult to justify as imaging demands and technology complexity continue to grow.

Public Cloud Platforms



Leading providers such as Google, AWS, and Microsoft Azure have become the foundational infrastructure for many industries, including healthcare. These providers continuously invest in state-of-the-art technology, advanced security controls, global resiliency, and healthcare-specific compliance frameworks, making public cloud environments highly accessible and operationally mature.

Private Cloud

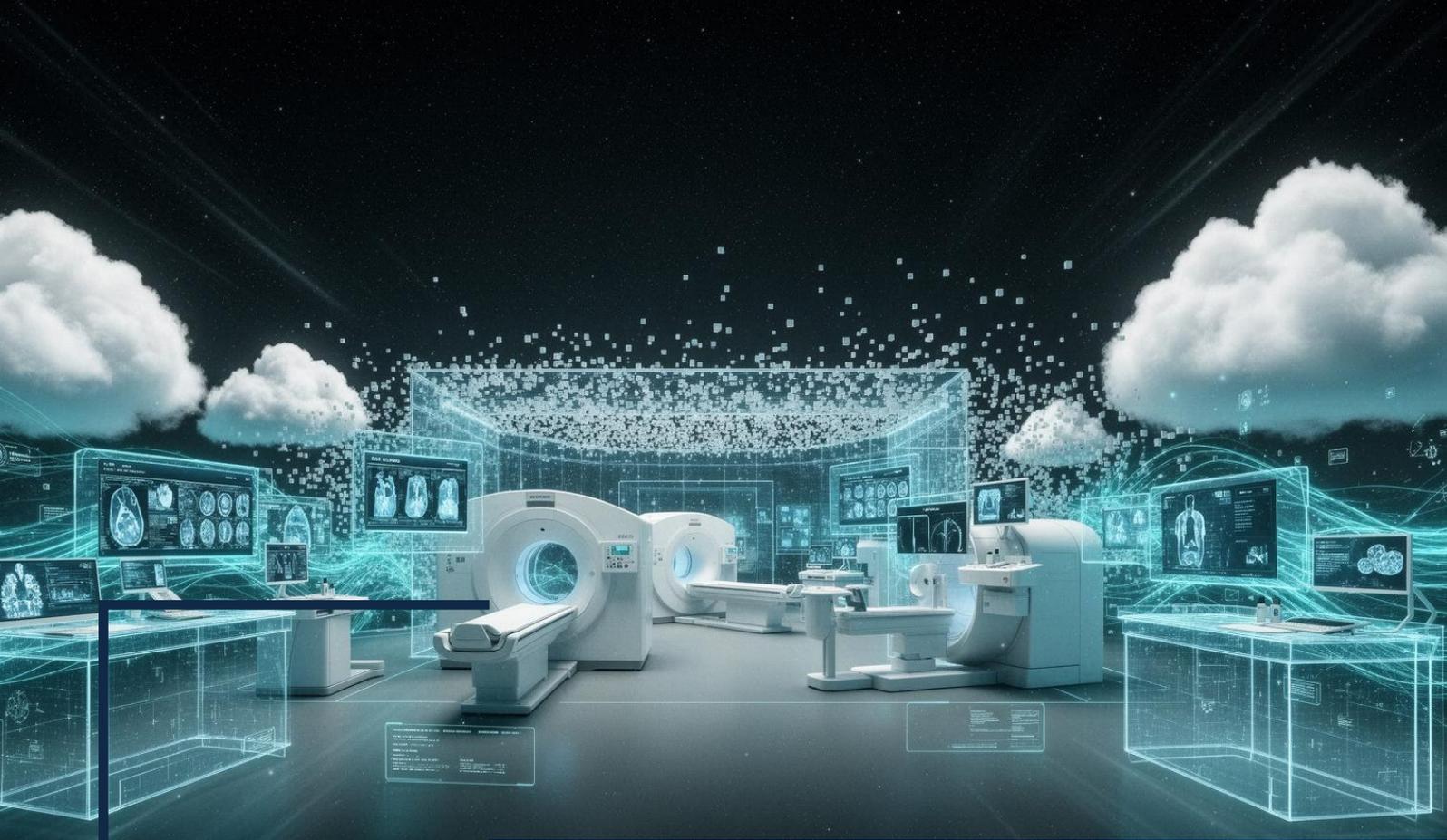


Purpose-built and managed by vendors that deliver software and services for specific industries, such as healthcare. These platforms offer many of the same advantages as public cloud, including scalability, resilience, and modern security controls, but are architected with domain-specific requirements in mind. Because infrastructure, software, and services are often bundled, private cloud models can provide more predictable and transparent cost structures.

Hybrid Cloud



Combines localized performance with cloud-scale resilience, making them particularly well suited for enterprise imaging. In a hybrid model, a focused layer of compute and high-performance storage remains on-site to support latency-sensitive workflows, while long-term archiving, redundancy, and disaster recovery are delivered through cloud-based infrastructure, often replicated across multiple geographic regions for durability and continuity. Hybrid architectures offer speed, reliability, and uninterrupted access.



Healthcare leaders recognize the advantages of reducing infrastructure while enabling IT to focus directly on systems that support patient care and clinical operations.

A decade ago, the question for healthcare organizations was whether cloud-based strategies were appropriate for clinical systems such as imaging. Now, the question has shifted to how cloud architectures can be leveraged most effectively to support scale, resilience, and operational efficiency across the enterprise.

Industry momentum reflects this shift. As early as 2023, discussions at the Health Information Management Systems Society (HIMSS) annual meeting highlighted a clear trend toward broader adoption of cloud data platforms and a deliberate move away from maintaining all clinical data within health system-owned data centers. Healthcare leaders increasingly recognize the advantages of reducing infrastructure burden while enabling IT teams to focus on systems that directly support patient care and clinical operations¹¹.

Cloud-based enterprise imaging platforms further support the goals of value-based care by improving access to clinical data for providers and patients alike, enabling faster collaboration, more informed decision-making, and improved care coordination. Imaging data, when made available securely and consistently across the continuum of care, becomes an enabler rather than a bottleneck in clinical workflows.

From an operational and financial perspective, cloud delivery models, particularly Software as a Service (SaaS), have also reshaped how health systems plan and fund technology investments. SaaS approaches typically reduce large upfront capital expenditures, shifting costs toward predictable operating expenses aligned with actual usage. This model allows organizations to deploy technology more rapidly, shorten implementation timelines, and scale services as needs evolve—without competing for limited capital budgets. For mid-size and large health systems balancing growth, modernization, and fiscal responsibility, cloud-based enterprise imaging has become a practical and strategic foundation rather than a speculative choice.



For enterprise imaging, cloud-based architectures have emerged as the most effective foundation for health systems of all sizes seeking to modernize imaging environments or transition away from legacy platforms. Moving imaging archives to the cloud enables organizations to manage imaging as a longitudinal, enterprise-wide asset—supporting comprehensive patient records that extend across encounters, specialties, and care settings. Cloud-based enterprise imaging platforms also create the conditions for advanced analytics and AI/ML capabilities to be applied consistently across imaging data, enabling more informed clinical and operational decision-making throughout the patient care journey¹³.

Benefits of cloud-based enterprise imaging include:

Universal Imaging

Image-enabling the enterprise through enterprise image sharing, viewing, and collaboration tools.

Workflow Optimization

Leverage a unified VNA and imaging strategy to break down organizational silos.

Standardization

Standardize imaging workflows and streamline multi-ology image management.

Costs

Improved total cost of ownership (TCO) and expenditure visualization.

Security and Availability

High availability and disaster recovery, cybersecurity, and data compliance monitoring.

Mobility

Improved access, remote and mobile needs of users, including zero-footprint universal viewers.¹²

Navigating Complexity: Strategic Considerations for Enterprise Imaging



There is no single “right” or universal approach to enterprise imaging. Each healthcare organization operates within its own clinical, operational, and financial context, shaped by unique priorities, constraints, and growth paths. However, a clearly defined enterprise imaging strategy provides the structure needed to navigate complexity, helping organizations align technology decisions with workflow realities, reduce risk, and move forward with purpose rather than reacting to change. Below are a few tips to get started:



01

Provide access to images throughout the enterprise to better enable collaboration and decision making that impacts patient outcomes.



02

Tie enterprise imaging to the Triple-Aim initiative – enhance the patient experience, improve population health, and reduce overall costs of care.



03

Understand all your clinical specialties, how they use imaging, and the specific and unique workflows they use in their normal day as it relates to imaging.



04

Tie your health care strategy to improving care quality initiatives and patient safety.



05

Spend some time analyzing your organization to show how an enterprise strategy can better impact the bottom line of IT and the organization in terms of reducing costs.



06

Map validated patient journeys that demonstrate how enterprise imaging improves the patient experience and enhances the daily work of caregivers across the organization.



07

Develop an enterprise imaging governance strategy. This includes processes and workflows, along with decision making processes and who will sit on this committee to make quick decisions.



08

Implement your EI strategy and be sure to connect it with your EHR.



09

Understand and strategize how you will address cybersecurity in your EI initiative.¹⁶ The [HIMSS-SIIM Enterprise Imaging white paper series](#) offers practical guidance for organizations beginning their enterprise imaging journey.

Strategic Implementation Considerations



Even the most thoughtful enterprise imaging strategies encounter obstacles during execution, often in the form of workflow complexities that only surface once systems and users interact in real-world settings. Addressing these challenges requires more than project management; it demands clear governance.

Establishing a dedicated enterprise imaging governance committee with cross-functional representation and decision-making authority enables organizations to resolve issues quickly, maintain alignment with strategic goals, and keep implementations moving forward without unnecessary delays.

The following steps provide a practical framework for translating enterprise imaging strategy into successful execution:



Establish Governance & Communicate Early

Establish clear enterprise imaging governance and proactively communicate upcoming changes across the organization. Early, consistent messaging—covering new workflows, timelines, and training opportunities, helps align caregivers, set expectations, and ensure teams understand how each phase of the enterprise imaging journey will unfold.



Prioritize Specialties & Start with Scale

Determine which clinical specialties will move first to the EI platform. Many begin with radiology and cardiology, due to their high imaging volume. Others may start with digital pathology, wound care, dermatology, or ophthalmology. There is no single correct path. Commit to a phased approach with a centralized architecture and a unified platform.



Migrate Legacy Archives

Begin migrating imaging data from legacy archives into the enterprise imaging platform. If radiology or cardiology are not part of the initial phase, route all new studies to the centralized archive early to minimize future migration efforts and accelerate subsequent implementation phases.



Maintain Stakeholder Communications

Communicate consistently with stakeholders, leadership, and clinical teams to share progress, successes, and potential delays. Transparent communication helps maintain alignment and reinforces the value of the enterprise imaging strategy across the organization while keeping teams aligned and pushing for the end goal benefits of the project.

Common Hurdles

Implementing an enterprise imaging strategy inevitably introduces complexity. Even well-planned initiatives encounter challenges that must be addressed decisively by the governance and enterprise imaging teams during execution.

While not exhaustive, the following areas highlight common hurdles organizations should be prepared to navigate as they operationalize their enterprise imaging strategy:

- 01** Confirm that all imaging vendors support outbound and retrieval workflows; address gaps through upgrades, replacement, or deferred onboarding.
- 02** Not all imaging workflows use orders, but all images must be uniquely identified. Establish strategies and workflows for orderless imaging and secure buy-in for the new processes required to manage it effectively.
- 03** Define early who will own and manage the VNA, whether through an internal team or a vendor-managed model. Vendor-managed solutions shift operational burden off internal IT teams, allowing those teams to focus on higher-value initiatives.
- 04** Not all historical imaging data can always be migrated. Plan early for how legacy data will be accessed, governed, and supported when full migration is not feasible.
- 05** Engage vendors and clinical teams early and remain actively involved throughout the implementation to ensure shared ownership and successful outcomes.
- 06** Keep patient care and workflow efficiency at the center of the strategy from the outset, ensuring enterprise imaging enhances, rather than disrupts, departmental workflows.
- 07** Define synchronization and integration strategies early to ensure systems remain aligned throughout implementation.

Every enterprise imaging initiative begins the same way – by starting. While the scope, pace, and constraints will vary by organization, progress depends on making deliberate early decisions that deliver value incrementally while supporting long-term goals. A phased approach allows health systems to realize the benefits of enterprise imaging while planning, funding, and scaling the strategy over time.

The first step is establishing a strong governance foundation. Form a cross-functional enterprise imaging governance team and define clear objectives for the next three to five years, including which clinical specialties will be prioritized. Ensuring that systems brought into the enterprise imaging platform adhere to enterprise standards early accelerates integration, reduces downstream complexity, and prevents the reintroduction of silos.

Next, determine the architectural model that best supports your strategy, on-premises, full cloud, or hybrid. For many mid-size and large health systems, hybrid architectures offer an effective balance: localized performance for latency-sensitive workflows such as radiology and cardiology, paired with cloud-based archiving, resilience, and scalability. Cloud architecture must also account for business continuity, including the ability to route studies directly to the cloud during outages, maintain clinician access, and automatically re-synchronize data when local infrastructure is restored. Any chosen model should support evolving cybersecurity requirements and long-term enterprise growth.

Centralizing imaging archives within an enterprise imaging platform also enables a smoother transition away from legacy imaging environments. By decoupling archives from diagnostic applications, organizations can modernize infrastructure without disrupting radiologist and other clinician workflows, while opening new capabilities such as distributed reading models, after-hours coverage, and flexible staffing strategies supported by cloud-based access.

As additional clinical specialties are brought into the platform and imaging content is integrated directly into the EHR, enterprise imaging becomes a catalyst for cross-department collaboration. Clinicians gain consistent access to imaging in the context of the longitudinal patient record, eliminating fragmented repositories and reducing



Key Takaways: Enterprise Imaging in 2026

01

Imaging Is Now an Enterprise Responsibility

Imaging spans multiple specialties and care settings, requiring an enterprise-wide strategy, not departmental systems, to support scale, collaboration, and continuity.

02

Cloud Is the Foundation for Scale and Resilience

Cloud-based architectures enable elastic growth, reduce infrastructure burden, and support modern, distributed care and imaging workflows.

03

Workflow – not Storage, Drives Value

Enterprise imaging succeeds when workflows are orchestrated across systems, specialties, and teams, improving efficiency, predictability, and clinician experience.

04

Interoperability Enables Longevity and Flexibility

Standards-based platforms protect against vendor lock-in, simplify integrations, and ensure imaging data remains accessible and usable over time.

05

Enterprise Imaging Powers AI and Future Innovation

A unified, cloud-based imaging foundation is essential for scaling AI, analytics, and precision health initiatives without repeated re-architecture.

operational overhead. Retiring redundant imaging systems further simplifies IT environments and delivers meaningful cost savings.

Along this journey, most organizations will also begin, or expand, their use of artificial intelligence. AI continues to show promise not only in image interpretation, but in workflow optimization and operational efficiency. Cloud-based enterprise imaging platforms provide the ideal foundation for AI adoption by enabling scalable compute, seamless integration, and rapid deployment across the enterprise. Importantly, this approach preserves flexibility, allowing organizations to adopt new AI capabilities as they mature without locking into rigid architectures.

With thoughtful planning, consistent communication, and disciplined governance, enterprise imaging implementations can move health systems beyond siloed, department-centric models toward a unified, workflow-driven approach. The result is improved operational efficiency, better clinician experiences, and most importantly, enhanced patient care across the enterprise.

From Vision to Advantage: EI is no Longer Optional

Enterprise Imaging is no longer an emerging concept, it is a defining capability for healthcare organizations navigating growth, workforce constraints, and rising imaging demand. While early adoption progressed more slowly than many anticipated, momentum has accelerated as imaging volumes continue to increase and health systems recognize the limitations of department-centric approaches. Today, more organizations are prioritizing enterprise imaging strategies over isolated system replacements, recognizing that long-term success depends on scalability, interoperability, and workflow alignment.

Cloud architecture has become the foundation that makes this shift possible. By removing the operational and financial burden of maintaining traditional infrastructure, cloud-based enterprise imaging platforms allow health systems to scale dynamically, adapt to changing needs, and refocus IT resources on initiatives that directly support patient care. Preparing an enterprise imaging strategy that incorporates cloud technology is no longer a future consideration, it is a prerequisite for sustainable growth and resilience.

At the same time, enterprise imaging provides the platform required to adopt and scale artificial intelligence responsibly. As AI continues to mature, from image interpretation to workflow optimization, cloud-based enterprise imaging environments offer the flexibility, compute power, and integration capabilities needed to deploy new tools without locking organizations into rigid architectures. This ensures health systems can evolve as AI advances, rather than repeatedly re-architecting their imaging infrastructure.

The scope of enterprise imaging is also expanding beyond traditional radiology and cardiology. As specialties such as digital pathology, ophthalmology, dermatology, and other image-intensive disciplines continue their digital transformation, incorporating them into an enterprise strategy early helps avoid repeating past mistakes – namely, deploying new siloed solutions that later require costly migration and re-integration.

By consolidating imaging and multimedia content across the enterprise, organizations unlock new opportunities for analytics, population health initiatives, and clinical research. When imaging data is enriched with longitudinal clinical records, radiomics, genomics, and other data sources, it becomes a powerful asset for precision health, clinical trials, and innovation. These capabilities not only improve care delivery and outcomes but also open the door to new revenue opportunities while reducing inefficiencies inherent in fragmented systems.

Enterprise Imaging is no longer a “nice to have,” but a strategic requirement. With clear governance, thoughtful planning, and strong executive sponsorship, healthcare organizations can move beyond siloed imaging environments toward a unified, workflow-driven platforms that support clinicians, empowers innovation, and scales with confidence. Those that act now will be best positioned to deliver better care, operate more efficiently, and lead as healthcare continues to evolve.

ENDNOTES

01 FORNELL, DAVE. "TRENDS IN THE NUMBER OF RADIOLOGY STUDIES AND A DECLINE IN RADIATION DOSE." HEALTH IMAGING, 19 DEC. 2022, HEALTHIMAGING.COM/TOPICS/MEDICAL-IMAGING/TRENDS-NUMBER-RADIOLOGY-STUDIES-AND-DECLINE-RADIATION-DOSE.

02 VADERA, SONAM. "PICTURE ARCHIVING AND COMMUNICATION SYSTEM: RADIOLOGY REFERENCE ARTICLE." RADIOPAEDIA BLOG RSS, 24 JAN. 2020, RADIOPAEDIA.ORG/ARTICLES/PICTURE-ARCHIVING-AND-COMMUNICATION-SYSTEM?LANG=US.

03 ROTH, CHRISTOPHER. "WHAT IS ENTERPRISE IMAGING? - SIIM.ORG." WHAT IS ENTERPRISE IMAGING?, SIIM.ORG/PAGE/ENTERPRISE-IMAGING&HP092617. ACCESSED 7 JUNE 2023.

04 MORDOR INTELLIGENCE. "ENTERPRISE IMAGING SOLUTIONS MARKET SIZE, SHARE & 2031 GROWTH TRENDS REPORT." MORDOR INTELLIGENCE, 3 FEB. 2026, WWW.MORDORINTELLIGENCE.COM/INDUSTRY-REPORTS/ENTERPRISE-IMAGING-SOLUTIONS-MARKET?UTM_SOURCE=CHATGPT.COM.

05 TIERNEY, MARY C. "THIS IS ENTERPRISE IMAGING." HEALTH IMAGING, 10 JAN. 2023, HEALTHIMAGING.COM/SPONSORED/1068/SECTRA/TOPICS/HEALTHIT/ENTERPRISE-IMAGING/ENTERPRISE-IMAGING.

06 RUFER, DOUGLAS A. "THE VALUE OF AN ENTERPRISE IMAGING STRATEGY." MACH7 TECHNOLOGIES, 5 SEPT. 2019.

07 FORNELL, DAVE. "TRENDS IN THE NUMBER OF RADIOLOGY STUDIES AND A DECLINE IN RADIATION DOSE." RADIOLOGY BUSINESS, 19 DEC. 2022, RADIOLOGYBUSINESS.COM/TOPICS/MEDICAL-IMAGING/TRENDS-NUMBER-RADIOLOGY-STUDIES-AND-DECLINE-RADIATION-DOSE.

08 RUFER, DOUGLAS A. "SIMPLIFYING CLINICAL DATA AND IMAGE ACCESS IN VALUE-BASED CARE." MACH7 TECHNOLOGIES, 12 SEPT. 2019

09 HEALTH ANALYTICS ADMIN. "INTEGRATED DELIVERY NETWORKS (IDN)." HEALTH ANALYTICS, 8 NOV. 2022, WWW.HEALTHANALYTICS.COM/EXPERTISE/INTEGRATED-DELIVERY-NETWORKS-IDN/.

10 FOOTE, KEITH D. "A BRIEF HISTORY OF CLOUD COMPUTING." DATAVERSITY, 4 MAY 2023, WWW.DATAVERSITY.NET/BRIEF-HISTORY-CLOUD-COMPUTING/

11 "HEALTHCARE IT DATA STORAGE IS MOVING TO THE CLOUD." HEALTH EXEC, 12 MAY 2023, HEALTHEXEC.COM/TOPICS/HEALTH-IT/MEDICALINFORMATICS/HEALTHCARE-IT-DATA-STORAGE-MOVING-CLOUD.

12 "CLOUD-BASED ENTERPRISE IMAGING TO HELP EXPEDITE HEALTHCARE PROVIDERS' JOURNEY OF ENABLING BETTER CARE." CLOUD-BASED ENTERPRISE IMAGING TO HELP EXPEDITE HEALTHCARE PROVIDERS' JOURNEY OF ENABLING BETTER CARE, 2 MAR. 2021, WWW.PRNEWswire.COM/NEWS-RELEASES/CLOUD-BASEDENTERPRISE-IMAGING-TO-HELP-EXPEDITE-HEALTHCARE-PROVIDERS-JOURNEY-OF-ENABLING-BETTER-CARE-301236357.HTML.

13 "CLOUD-BASED ENTERPRISE IMAGING TO HELP EXPEDITE HEALTHCARE PROVIDERS' JOURNEY OF ENABLING BETTER CARE." CLOUD-BASED ENTERPRISE IMAGING TO HELP EXPEDITE HEALTHCARE PROVIDERS' JOURNEY OF ENABLING BETTER CARE, 2 MAR. 2021, WWW.PRNEWswire.COM/NEWS-RELEASES/CLOUD-BASEDENTERPRISE-IMAGING-TO-HELP-EXPEDITE-HEALTHCARE-PROVIDERS-JOURNEY-OF-ENABLING-BETTER-CARE-301236357.HTML.

14 MAYANI, ARCHIE. "COUNCIL POST: ENTERPRISE IMAGING IN THE CLOUD: A NECESSARY TRANSFORMATION." FORBES, 8 APR. 2022, WWW.FORBES.COM/SITES/FORBESTECHCOUNCIL/2022/04/07/ENTERPRISE-IMAGING-IN-THE-CLOUD-A-NECESSARY-TRANSFORMATION/?SH=6E7C442160ED.

15 "SIX BENEFITS OF ENTERPRISE IMAGING PLATFORMS TO DELIVER TRUE PATIENT-CENTRIC CARE." PR NEWswire: PRESS RELEASE DISTRIBUTION, TARGETING, MONITORING AND MARKETING, 27 FEB. 2019, WWW.PRNEWswire.COM/NEWS-RELEASES/SIX-BENEFITS-OF-ENTERPRISE-IMAGING-PLATFORMS-TO-DELIVER-TRUEPATIENT-CENTRIC-CARE300803182.HTML#:~:TEXT=THE%20TOP%20SIX%20BENEFITS%20OF%20ENTERPRISE%20IMAGING%20THAT,...%20HEALTHCARE%20COMPLIANCE%20AND%20MONITORING%20ADHERENCE.%20.

16 PRIMO, HENRI, ET AL. "10 STEPS TO STRATEGICALLY BUILD AND IMPLEMENT YOUR ENTERPRISE IMAGING SYSTEM: HIMSS-SIIM COLLABORATIVE WHITE PAPER - JOURNAL OF DIGITAL IMAGING." SPRINGERLINK, 8 JUNE 2019, LINK.SPRINGER.COM/ARTICLE/10.1007/S10278-019-00236-W.



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