The Business Case for a Healthcare Cloud Integration Platform

Opportunities and Considerations for Healthcare IT Leaders and Planners

InterSystems®
Creative data technology

Executive Overview

Healthcare organizations (HCOs), Reference Labs, and Imaging Centers around the world are looking to innovative digital technology to streamline clinical workflows, improve patient care, and boost business performance. But legacy IT systems and practices often stand in the way. Deploying new digital healthcare solutions across the enterprise is a daunting proposition for many IT organizations.

Today's healthcare IT environments are notoriously fragmented. Until recently there were no widely adopted, universal standards for formatting and exchanging healthcare data.[1] Each healthcare application vendor and system provider took a different approach.

Historically, most healthcare IT organizations implemented point-to-point connections or deployed on-premises data integration engines to transform and route dissimilar data from disparate sources. Today, many organizations rely on aging on-premises integration platforms that impair application performance and are difficult and expensive to scale and maintain.

To make matters worse, many healthcare IT organizations are plagued by staffing shortages. Hiring and retaining IT talent is a challenge. Over 50 million people in the US quit their jobs in 2022 as part of the "**great resignation**" and healthcare is an industry that was hit particularly hard. Today, many healthcare IT teams are struggling to do more with less, and don't have the time and resources to administer and extend their legacy data integration systems.

Fortunately, help is on the way. Forward-looking health IT leaders are turning to a new generation of cloud-based data integration platforms to simplify operations, overcome staffing challenges, and accelerate the pace of innovation. This guide reviews the operational and financial benefits of a cloud-based healthcare data integration engine and provides tips for building a business case, evaluating a platform, and ensuring a successful outcome.

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[1] Regulations like CMS-9115-F and the 21st Century Cures Act are driving HL7® FHIR® adoption. HL7 FHIR is quickly emerging as an industry-standard data exchange format for healthcare APIs.

What is a Healthcare Cloud Integration Platform?

A healthcare cloud integration platform is a state-of-the-art data integration solution, delivered as a **remotely hosted, fully managed service** for ultimate operational simplicity, agility, and economics. It helps you streamline integration efforts and address new business, technology, and regulatory requirements—quickly, efficiently, and cost-effectively.

Specifically conceived as a platform as a service (PaaS) offering, a cloud integration platform is built from the ground up with speed, resiliency, and scalability in mind. A cloud integration platform is:

- Architected to deliver high performance and availability

- Designed to protect data privacy

- Equipped with easy-to-use tools for interface analysts and app developers

- Engineered and priced to provide cost-effective, pay-as-you grow scalability

- Backed up by service level assurances for peace-of-mind

What are the Key Features and Attributes of a Healthcare Cloud Integration Platform?

A typical healthcare cloud integration platform provides:

- All the features and functions of a traditional on-site healthcare data integration solution including built-in data transformation libraries, and GUIs for app developers and integration specialists

- A dedicated virtual private cloud for each customer

- All the cloud compute, storage, and networking resources needed to support each customer instance at scale and speed

- Comprehensive identity and access management controls, threat detection and response capabilities, and data encryption functionality

- Automatic failover capabilities to ensure high availability

With a healthcare cloud integration platform, the service provider is typically responsible for:

- Administering the underlying cloud compute, storage, networking, and security infrastructure

- Deploying, maintaining, and updating the underlying PaaS software

- Designing, configuring, and scaling the customer instance

- Monitoring the availability, security, and integrity of the platform and the customer instance

- Overseeing data backup and disaster recovery procedures
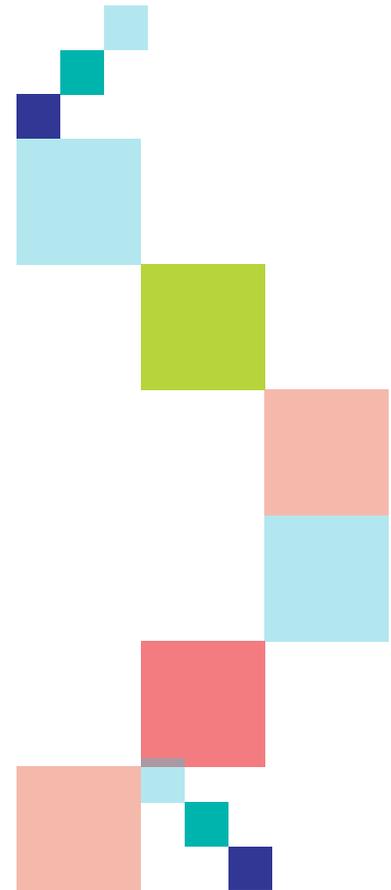
Why a Cloud Integration Platform?

Cloud integration platforms offer a variety of economic and operational advantages compared to traditional on-premises data integration solutions. A cloud platform can help you accelerate time-to-value and avoid lopsided business models with long payback periods. With a cloud platform you can eliminate capital outlays and tightly align ongoing operations expenses with evolving business requirements.

A cloud platform can also help you simplify IT operations and speed up innovation. With a cloud platform the service provider takes care of the underlying infrastructure. Your internal resources stay focused on core business imperatives like writing interfaces or rolling out new clinical applications.

Healthcare Cloud Integration Platform Benefits Summary

Economic Benefits

- **No capital equipment expenses.** With a cloud platform, the service provider owns the underlying compute, storage, networking, and security infrastructure.

- **Lower ongoing operations expenses.** The service provider is responsible for all infrastructure administration, support, and maintenance as well as all physical space, power, and HVAC costs.

- **No idle resources or squandered capacity.** A cloud platform provides pay-as-you-grow scalability. With an on-premises approach you have to overprovision compute and storage capacity to support future requirements.

Operational Benefits

- **Greater IT productivity.** A cloud platform can help alleviate IT staffing challenges and reallocate personnel and budget for more strategic tasks.

- **Inherent extensibility.** Cloud platforms are adaptable and future proof. Service providers deliver new features and functions, and disrupting service.

- **Economical geo-redundancy.** Cloud platforms support cost-effective failover across data centers (availability zones), ensuring continuous service in the event of a catastrophe.

A CLOUD PLATFORM CAN ALSO HELP YOU SIMPLIFY IT OPERATIONS AND SPEED UP INNOVATION.

Debunking Common Cloud Service Myths

Many healthcare IT leaders are naturally concerned about data governance, surprise expenses, and other potential cloud drawbacks. But these concerns are often based on misconceptions. Let's set the record straight and dispel some common myths about cloud services.

MYTH: If I move to the cloud, I lose control over my data.

THE TRUTH: Not exactly. The service provider manages the underlying hardware and software infrastructure, but you still maintain full control over the administration, governance, and use of your business data.

MYTH: Cloud services have lots of hidden fees and expenses.

THE TRUTH: Many cloud services do have complicated pricing structures with hidden fees. Look for a service with simple, transparent, usage-based pricing.

**MYTH:** Moving to the cloud will result in job cuts and morale issues.

THE TRUTH: On the contrary, moving to the cloud frees up talent to focus on more interesting work. It helps staff members advance their careers. And it helps the IT organization focus employees on core business activities.

Building a Business Case for a Cloud Integration Platform

A cloud integration platform is an obvious choice for an organization deploying a data integration solution for the first time i.e., a greenfield deployment. But if your organization is like most, you probably already have at least one, or even many, data integration solutions in place. Does a new cloud integration platform make good financial sense? Or are you better off trying to extend your existing on-premises solution? You'll need to do a total cost of ownership (TCO) analysis to find out. You can use the chart below as the basis for your investigation.

When building a business case be sure to consider intangible expenses. Planners often overlook indirect expenses like opportunity costs. For example, legacy system administration and maintenance burdens can divert valuable IT resources from other projects that might improve patient care in ways that are difficult to quantify. Similarly, legacy system performance constraints can hinder clinical workflows and impair patient satisfaction and retention in ways that are difficult to measure.

Assigning a dollar value to some these nebulous costs might be difficult, but you can't simply ignore them. They represent the hidden expenses of maintaining the status quo and are crucial for understanding the true total cost of ownership.
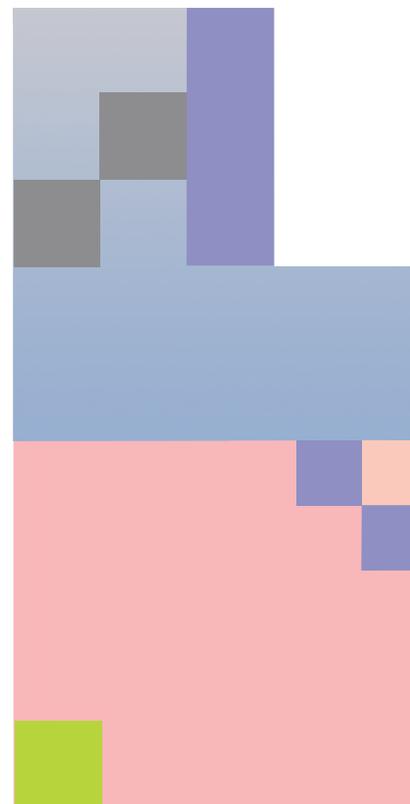
Healthcare Integration Platform TCO Comparison

	Maintain Status Quo Continue to extend existing legacy on-premises platform	Adopt PaaS Solution Migrate to a cloud-based, managed service
CapEx and other one-time expenses		
Hardware expenses	**Yes.** Additional compute, storage, and networking equipment to address evolving capacity needs	No
Software licenses	**Yes.** Additional software licenses may be required to support new capabilities or users	No
Migration expenses	No	**Yes.** One-time costs related to cloud migration
Training expenses (lost time and productivity)	No	**Yes.** One-time costs related to learning new system
Recurring operations expenses (OpEx)		
Network and system design	**Yes.** Design changes may be required to support increased traffic demands and capacity requirements	No
Network and system implementation (labor associated with deployment of new systems)	**Yes**	No
Infrastructure administration (labor associated with ongoing adds/moves/changes to IT infrastructure)	**Yes**	No
Infrastructure management (labor associated with monitoring, diagnostics, repair, upgrades)	**Yes**	No
Infrastructure operations (space, power, HVAC)	**Yes**	No
Hardware maintenance fees	**Yes**	No
Software maintenance fees	**Yes**	No
PaaS subscription fees	No	**Yes**
Intangible costs (Hidden expenses)		
Disruptions and diminished patient care/satisfaction due to unplanned downtime	**Yes**	No. Uptime SLAs
Poor clinician experience and impaired patient care due to integration platform performance constraints	**Yes**	No
Budget squandered on overprovisioned/unused compute and storage capacity (opportunity costs)	**Yes**	No
IT personnel diverted from core business activities (opportunity costs)	**Yes**	No

Selecting a Healthcare Cloud Integration Platform

Not all healthcare cloud integration platforms are the same. Use the checklist below to formulate your requirements and evaluate potential solutions.

✔ **Key data integration platform features.** Does the solution support a wide range of contemporary and legacy healthcare information protocols and standards such as HL7® FHIR®, HL7 V3, HL7 V2, HL7 CDA®, HL7 CCD®, and HL7 C-CDA®?

✔ **High performance.** Is the platform engineered to handle high volume transactions at scale and speed?

✔ **High availability.** Does the provider support automatic failover within and across cloud data centers for high availability?

✔ **SLA commitments.** Does the provider stand by their service with uptime assurances?

✔ **Strong security.** Does the platform encrypt data-at-rest and data-in transit to safeguard data privacy?

✔ **Intuitive GUIs.** Does the solution include easy-to-use portals and tools for interface engineers and app developers?

✔ **24/7/365 support.** Does the provider offer round-the-clock system monitoring and customer care?

✔ **Straightforward pricing.** Does the provider offer transparent, easy-to understand, usage-based pricing?

Introducing InterSystems HealthShare® Health Connect Cloud™

InterSystems HealthShare Health Connect Cloud is a comprehensive data integration PaaS offering, operated, and managed by InterSystems experts.

At the heart of Health Connect Cloud lies a high-performance, multi-model data engine that seamlessly handles the many formats of healthcare data at high speed. The InterSystems platform easily and cost-effectively scales from serving small clinics to handling the transaction volumes of the largest and most complex healthcare delivery systems in the world.

Health Connect Cloud capabilities include:

• Pre-built data transformations for most popular healthcare data formats

• Mirroring with fast failover recovery

• Source control with code promotion between CI/CD environments (e.g., DEV, TEST, and LIVE)

• Intuitive drag-and-drop HL7 interface development

• Strong user authentication and authorization controls, and data encryption

• 99.9% availability SLA commitment

• 24/7/365 system monitoring and customer support
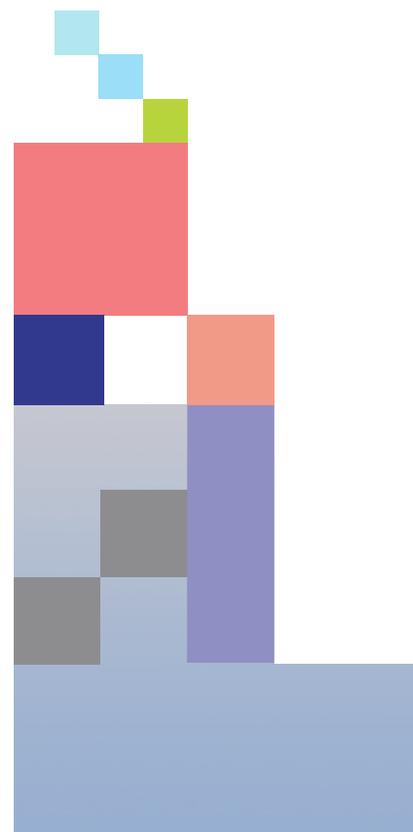
Conclusion

Are outdated data integration systems and practices holding back your organization? Do you waste precious time and budget on efforts that don't provide substantive business value? Are you unable to rapidly integrate new data sources after a merger or acquisition, or respond to other C-level mandates in a timely fashion? Are performance and reliability issues impacting user experience and damaging your team's reputation?

Maybe it's time to take a fresh look at your approach to data integration. A healthcare cloud integration platform can help you streamline integration efforts, boost application performance and availability, and free up resources to support core business initiatives.

To learn how InterSystems HealthShare Health Connect Cloud can help your organization reduce TCO and accelerate the pace of innovation please visit **https://www.intersystems.com/interoperability-platform/integration-engine**

About InterSystems

Established in 1978, InterSystems is the leading provider of data technology for extremely critical data in healthcare, finance, supply chain and other industries and throughout the public sector. Its cloud-first data platforms solve scalability, interoperability, and speed problems for large organizations around the globe. InterSystems is committed to excellence through its award-winning, 24×7 support for customers and partners in more than 80 countries. Privately held and headquartered in Cambridge, Massachusetts, InterSystems has 38 offices worldwide.

For more information, please visit **InterSystems.com**

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