

With all the promise of digital technologies like cloud and AI, banks worldwide are carefully determining the optimal deployment models for their most critical workloads. This process often dictates keeping sensitive workloads on-premises and on existing platforms.

Creating the Bank's Fit-for-Purpose Infrastructure for Critical Workloads

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Written by: Jerry Silva, Program Vice President, IDC Financial Insights

Introduction

The financial services industry has made tremendous strides in adopting cloud, with even the most complex workloads like core deposit and loan systems moving to public cloud. Yet, despite this progress, IDC believes that a “cloud only” strategy will not be an appropriate approach for every bank for a variety of reasons.

The digital infrastructure in financial services is becoming increasingly complex as more and more applications and platforms move from the relatively simple 100% on-premises deployment model to an infrastructure that now contains cloud (often multivendor, multicloud environments), third-party specialist services providers, and increasing functionality at the edge.

This complexity may lead some organizations to consider a single-vendor or cloud-only strategy as a way to simplify the infrastructure, a strategy that may work for smaller institutions. But for most banks that proactively use technology to gain competitive differentiation, the more correct strategy is to create a “fit for purpose” infrastructure to determine the best deployment models for its operations. Such a strategy considers the goals of the business, the requirements of individual workloads and platforms, the institution’s technological abilities, the markets it competes in, the speed with which it must respond to customer expectations, and the regulated industry in which the institution operates.

Definitions

IDC defines the digital infrastructure to include dedicated on-premises datacenters and edge systems, as well as shared public cloud services. It spans compute, storage, network, and infrastructure software (including virtualization and containers), as well as the automation, AI/ML analytics, security software, and cloud services needed to maintain and optimize legacy and modern applications and data. Ecosystem participants, including systems integrators and channel

AT A GLANCE

KEY STAT

According to a recent IDC worldwide survey, 47% of financial institutions intend to keep production workloads on premises over the next two years, either on private cloud deployments or on dedicated, traditional platforms.

KEY TAKEAWAY

Even as cloud has become a transformative technology in the banking industry, and continues to make advances every day, the on-premises datacenter is still a critical deployment model for many banks as part of an overall “fit for purpose” infrastructure strategy.

partners, are also important contributors to the future of digital infrastructure. This infrastructure should be secure, agile, and scalable to connect customers, employees, and partners to mission-critical data and applications.

“Fit for purpose” is defined by IDC as the determination of deployment location and/or model for the bank’s technology assets based on the specific requirements and characteristics of the individual asset (workload, data, service, etc.). This definition also includes the bank’s own risk management and compliance strategies, as opposed to an overriding strategy, like “cloud only,” that does not consider specific requirements or may compromise requirements for the benefit of adhering to a larger standard or strategy.

The Benefits of Fit-for-Purpose Digital Infrastructure

The ability to create and maintain a fit-for-purpose digital infrastructure gives the bank the flexibility to balance the needs of the business with external forces, whether they come from changing customer expectations, regulatory pressures, disruptions to market economies, and new technological innovations, among other things. While cloud does offer many advantages and can help an institution attain many of these goals, there are still advantages in maintaining what are often called “legacy” technologies and platforms. However, such solutions or tools should not automatically be considered for modernization for the sake of something new.

IDC has created a conceptual digital infrastructure that contains existing on-premises systems and platforms as part of a holistic digital infrastructure architecture. This infrastructure model recognizes the strengths and applicability of noncloud systems and deployment choices based on a number of factors. Organizations have cited many reasons for *not* moving workloads off mainframe systems, including:

- » A lack of developers who understand older applications, and thus an inability to ensure that they will run properly on cloud
- » The high cost of migrating some applications to cloud (in part for the previously stated reason)
- » A lack of skills necessary to migrate applications to cloud
- » The high costs associated with refactoring the application to run on cloud
- » The fact that some applications require low latency
- » The local sovereign regulations that govern some data

While these are cited as challenges in moving workloads to cloud, they can be interpreted as benefits to keeping such applications in traditional on-premises datacenters. In the case of COBOL-based workloads, for example, many third-party services providers have some to support the need for COBOL developers to continue to maintain such applications, and have, in fact, created training programs and implementation services to ensure that those workloads continue to run.

Deployment Factors and Trends

The explosive growth of cloud in financial services can’t be overestimated. Yet banks still consider many factors when deciding which applications should or can be migrated to cloud. According to IDC’s April 2023 *Worldwide Industry*

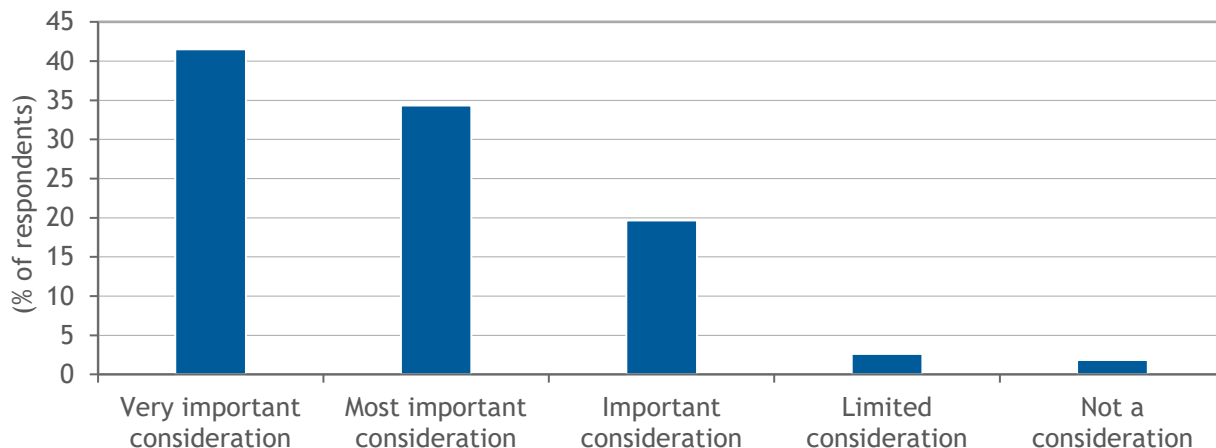
CloudPath Survey, banks cited the top factors they considered when determining what workloads to move to cloud. Among them:

- » Security (56%)
- » Cost of running on cloud (51%)
- » Data sensitivity (51%)
- » Regulatory compliance (50%)

As a regulated industry, banks are particularly sensitive to security and compliance. When asked how important regulatory compliance was to their choice about where to deploy applications and data, financial institutions were very clear about their answers (see Figure 1).

FIGURE 1: **Importance of Regulatory Compliance in Choosing Deployment Model**

Q To what extent do regulatory and industry compliance requirements impact your organization's choice about where to deploy specific applications and data workloads?



n = 133 financial institutions worldwide

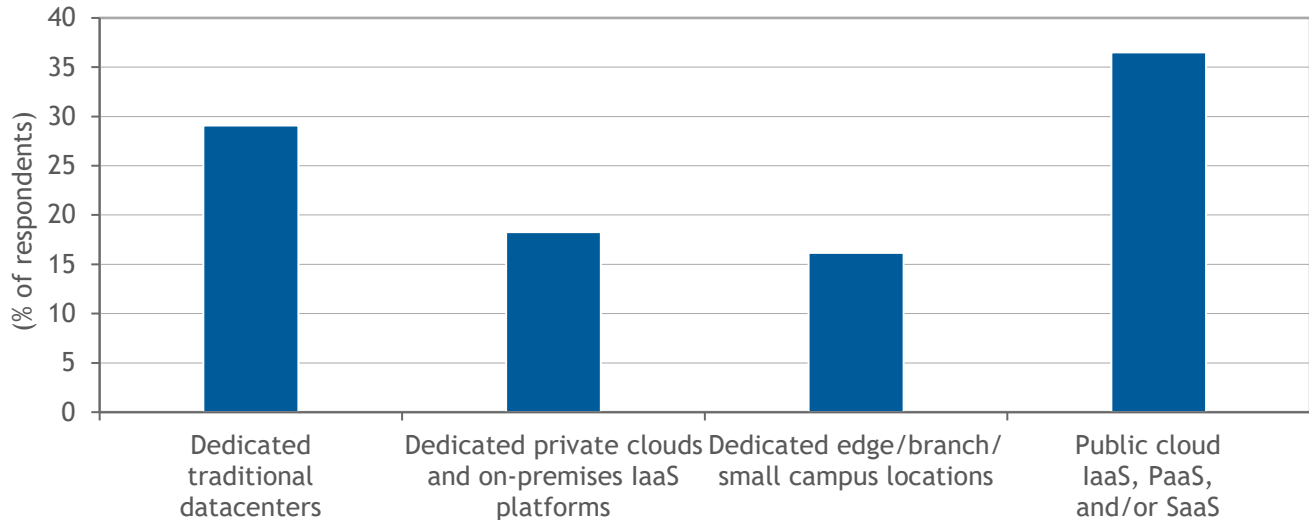
Source: IDC's *Future of Digital Infrastructure Worldwide Sentiment Survey*, June 2023

The impact of security in determining an appropriate deployment decision mirrored the compliance answers almost identically.

Based on the factors that banks consider before moving applications to cloud, it is clear that the on-premises datacenter will continue to survive, especially at larger institutions. This fact is supported by financial services respondents in IDC's *Future of Digital Infrastructure Worldwide Sentiment Survey* (see Figure 2).

FIGURE 2: **Financial Services Deployment Landscape in 2025**

Q What is your best estimate of your organization's current allocation of production computing workloads and storage capacity deployments across the digital infrastructure deployment options in two years?



n = 133 financial institutions worldwide

Source: IDC's Future of Digital Infrastructure Worldwide Sentiment Survey, June 2023

The Continued Case for the Mainframe Core

Many of the world's banks run core banking software that was developed 40 or more years ago and continues to run on mainframe-class platforms. When the move to cloud began, the mainframe was seen as due for replacement in favor of cloud. (IDC refers to mainframe-based technology as 1st Platform, client-server as 2nd Platform, and cloud as 3rd Platform.) This desire to migrate away from the mainframe necessarily included replacing many of those core banking systems used by the world's largest institutions.

But in the mid-2010s, the IBM mainframe experienced a number of innovative upgrades, including supporting Java and enabling the web. IDC referred to this new breed of the platform as the "connected mainframe." By 2016, banks began rethinking the role of the mainframe, investing in the platform, and factoring it into their transformational plans, including how to integrate the mainframe into cloud infrastructures.

Today's mainframe, which IDC calls the "transformative mainframe," provides the traditional high availability, highly secure, and high transaction throughput it has always been known for. In addition, it now supports microservices-based workloads, IoT, AI/ML workloads, modern development tools, and agile development methodologies as well. These are all technological capabilities that can be leveraged by core systems that are also being modernized and staying on the mainframe.

Based on the advances in mainframe technology, and the importance of regulation, security, resiliency, and performance inherent in the banking industry, many banks are considering the strength of the mainframe while planning for modernization of the core banking systems. The transformation supported by APIs, microservices, and containers has given the institution more freedom than ever to “decouple” the business logic of the traditional, monolithic core, and modernize or migrate pieces of the core system to appropriate platforms, including cloud, without the risks of migrating the entire platform all at once. This also means that the bank may choose to keep some of the most critical core functionality (e.g., transaction processing, customer data, general ledger) on the mainframe by design.

Key Partnerships Will Be Required

The case to keep and leverage the strength of the mainframe can't be overstated, particularly for large financial institutions that have complex infrastructures, are moving to more complex multcloud architectures, and want to minimize the risks normally associated with modernizing what is arguably the bank's most critical platform. In addition, almost every sector worldwide is suffering from a lack of skilled staff that can help operate, let alone transform, their infrastructure. Banking is no exception to that challenge.

For those reasons, and to ensure that mainframe-based platforms continue to provide secure, resilient, and scalable operations for the bank, partnerships must be forged that can help the institution accomplish business goals without the undue burden of technological transformation. Banks need to seek out partners that first understand the “rules” of banking with regard to data sensitivity, regulatory compliance, resilience, and performance and scalability. Prospective partners also need to be experts in banking products and services to support ongoing development for this industry. Last, the ideal partner has the experience (and people) to understand the characteristics of mainframe development and operations. At the same time, the right partner will also have the same level of expertise in digital infrastructure including cloud and edge, as these technologies must be perfectly meshed to maintain all the characteristics required in the banking industry.

Considering Luxoft

Luxoft, a DXC Technology company, has over four decades of experience in developing bespoke software for banking, wealth management, lending, payments, and core modernization. Luxoft employs 17,500 staff globally and partners with over 430 other partners serving an array of industries that include banking, capital markets, insurance, automotive, telecom, retail, manufacturing, and healthcare.

Luxoft focuses on developing and implementing tailor-made technological solutions in collaboration with a network of financial services partners. This collaboration helps financial institutions achieve their goals and maintain leadership in industry innovation.

In the context of core banking modernization and cloud banking solutions, Luxoft supports banks on their transformation journey, working with financial institutions to rejuvenate and modernize their core banking systems.

Luxoft's managed services portfolio includes end-to-end support and maintenance for banking applications, infrastructure, and platforms, enabling banking clients to optimize their IT operations and reduce costs. As the creators and custodians of Hogan, a core banking platform used at dozens of the world's largest banks, Luxoft has the business and technical expertise to modernize that core banking system implementation and maximize its performance. Hogan, processes over \$5 trillion in global deposits daily, alongside millions of transactions.

Luxoft's tenure and credibility supports its position as a trusted partner for financial institutions. The organization uses a holistic approach and deployment options for core banking systems that encompass in-house, mainframe, mainframe hybrid cloud-based models, software as a service (SaaS), or IT or business process services. Importantly, given the continued reliance on dedicated datacenter resources, Luxoft's approach to modernization includes operating applications across three distinct environments: the mainframe within their datacenters, private clouds for COBOL development, and public clouds for customer-facing applications. This hybrid approach enables streamlining the rollout process, promoting shared maintenance, and augmenting scalability.

Challenges

Luxoft supplies an important capability to many organizations, particularly large financial institutions that have complex architectures and are moving to a digital infrastructure that includes on-premises, private cloud, public cloud, and hybrid environments. What may challenge Luxoft is the inexorable shift to cloud and away from traditional (and some would call "legacy") environments in the long run. IDC surveys point to financial institutions moving even critical workloads like core deposit processing to public cloud, typically as a part of modernizing and/or refactoring their older platforms. This is particularly true of small to midsize institutions that operate simpler architectures, such as third-party core banking systems, and can afford — both from a cost and risk perspective — to move the entire core platform to a software provider and cloud provider. This might limit both the target market for Luxoft to large enterprise only, and the time frame within which this particular business model of extending the life of traditional platforms will continue to be a success.

There will be a need to continue to operate many of the traditional platforms, whether core or other applications, for quite some time. And this extends to not only maintaining the systems but to continue to innovate with those older systems as the foundation for business agility. Luxoft seems well-positioned to support specific banking clients with the support and innovation services without taking on the risks associated with immediate platform modernization and/or the move to cloud if it doesn't make business sense.

Conclusion

IDC's *Future of Digital Infrastructure Worldwide Sentiment Survey* underscores the continued importance of dedicated datacenter resources. For many financial institutions worldwide, the reality for the foreseeable future still includes many traditional technology resources that for many reasons, will not only remain in operation but must be part of the bank's innovation strategy. These resources, whether in the mainframe or server farms, can contribute to the institution's digital infrastructure strategy if the bank can continue to develop new functionality on the platform or find an appropriate strategy to modernize parts of these platforms and create opportunities in the market.

Banks with older technology that isn't considered for immediate transformation, regardless of the reason, should still look to maximize the value of those platforms by forming strategies for those systems that include go-forward

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development. Using partners that understand the business models in the financial services industry, have the resources to work on existing platforms and systems, and can bring innovation to the institution will be critical.

At the end of the day, many banking workloads will move to cloud for a variety of reasons, but it is clear that many applications, or parts of applications, especially the critical core banking platform, may remain on dedicated mainframe resources. Consequently, banks need to plan for innovation in the core regardless of the deployment technology.

About the Analyst



Jerry Silva, Program Vice President, IDC Financial Insights

Jerry Silva is vice president for IDC Financial Insights responsible for the global retail banking practice. Jerry's research focuses on technology trends and customer expectations and behaviors in retail banking worldwide. Jerry draws upon over 35 years' experience in the financial services industry to cover a variety of topics, from the back office to customer channels to governance in the technology shops at financial institutions. His work for both institutions and vendors gives Jerry a broad perspective in technology strategies.

MESSAGE FROM THE SPONSOR

Luxoft is reshaping the banking landscape by ushering in a new era of technology-driven innovation. Our expertise in hybrid cloud solutions and core modernization empowers financial institutions to transcend traditional boundaries. With Luxoft, banks can seamlessly integrate the power of hybrid cloud technology, enabling agile, scalable, and cost-efficient operations.

We bridge the gap between legacy systems and cutting-edge technologies, revitalizing core banking systems to meet the demands of today's digital world. This transformation not only enhances operational efficiency but also improves customer experiences and ensures regulatory compliance. Luxoft is at the forefront of this evolution, revolutionizing banking for a brighter, tech-driven future.

Expect the extraordinary — trust Luxoft expertise: <https://www.luxoft.com/industries/banking/hogan-hybrid-cloud-solution>



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140 Kendrick Street
Building B
Needham, MA 02494, USA
T 508.872.8200
F 508.935.4015
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