# Cloud Object Storage Helps Banks Succeed as they Hurtle Into the Data-Driven Future

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An Executive Brief Sponsored by IBM

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March 2017

## INTRODUCTION

Only a handful of industries have been transformed by the digital age the way banking has. Internet and mobile banking, digital wallets, and a raft of new and innovative products have redefined "the bank" from a local, brick-and-mortar branch to an anytime-anywhere process. The new banking environment has opened opportunities for national, regional, and community banks alike, which are no longer constrained to serve only customers located in the areas where they maintain a physical branch presence. But it has also brought challenges associated with collecting, processing, analyzing, storing, and protecting vast amounts of new data, from multiple locations and sources.

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The challenges presented by the influx of data are significant, with 72% of financial services firms surveyed by Frost & Sullivan citing "managing data growth" as a top IT concern.[1] More specifically, firms face challenges in purchasing, implementing and managing storage infrastructure to handle the growing volumes of data. Among their "top three" challenges, financial services firms name high maintenance costs (cited by 24%); capital budget constraints (23%); and aging, inefficient equipment (20%).

Although businesses in most other data-intensive industries are embracing the scalable, cost-effective cloud for storage workloads, financial services firms have been less enthusiastic. Half of all financial firms say they continue to store *all* their data on-premises (compared with 34% of businesses across all industries). For some storage—including high-speed, transactional workloads—an on-premises system may well be optimal. However, in other cases, IT leaders cite the unique challenges facing their industry as a reason to be leery of storing data in the cloud. These include:

- **Shifting and tightening regulatory environment** – 74% of financial institutions cite "compliance concerns" as an important restraint to cloud adoption. Banks face a tangle of state and federal laws dictating how data is collected and stored, how decisions are made, how long records must be retained and accessible, what data must be reported, and what data may be audited. Furthermore, because the laws can change at any time, the bank may be required to produce records retroactively about past activities; this means data volumes will continue to increase.
- **Security and privacy** – 75% of financial firms cite security concerns (specifically, "unauthorized access to data") as a restraint to cloud adoption. As the guardians of customers' most private information and valuable assets, banks must take every possible step to ensure that the data they collect is secure, both in primary and any replicated forms. A well-publicized breach will harm the bank's balance sheet (as it

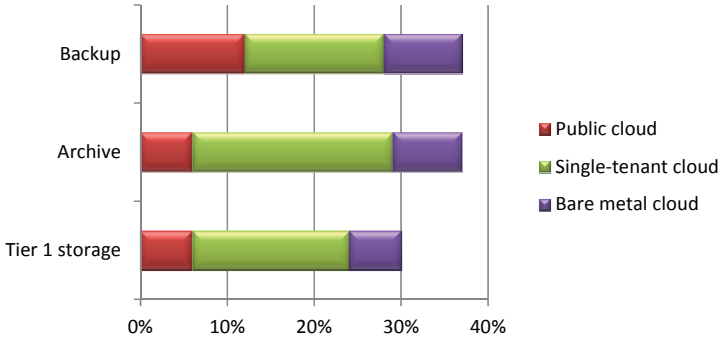
[1] Frost & Sullivan 2015 Cloud User Survey of US-based IT decision-makers

absorbs losses and any fines), as well as productivity (as employees are re-deployed to investigate the breach, revamp processes and technology, and deal with client impacts), and reputation (causing customers with little loyalty to go to competitors).

- **Data integrity and immediacy** – 68% of financial services firms say they are concerned about "loss of control" over their data in the cloud; and 63% cite concerns about performance and consistency. According to the Consumer Financial Protection Bureau, the top consumer complaints about banks relate to confusion about availability of funds; including holds on debit cards and check deposits, treatment of mobile deposits, and provisional credits related to error resolution.[2] While the source of the frustration is a combination of policy (bank and regulations), communications, and technology, it indicates the need for banks to ensure that customers have always-available, always-accurate access to their account data. That means that not only must transactions be logged quickly, but backup data stores must be always consistent and available in case of a failure.

And yet, the influx of data and the need for fast and flexible storage is convincing banks that the benefits of the cloud outweigh the perceived risks. In the past few years, more than a third of banks have turned to the cloud for storage workloads, including primary storage, archive, and even backup. Drivers include cost reduction (cited by 80% of financial services firms); better management of data growth (72%); shifting costs from CAPEX to OPEX (69%); and reducing the maintenance burden (68%). The needs are becoming more urgent as tightening margins, competitive pressure, and shifts in consumer behavior and expectations are causing banks to seek out new and innovative ways to serve customers.

**Financial Services Firms Using Cloud for Storage Workloads**




*Source: Frost & Sullivan Cloud User Survey*

Supporting innovative data-reliant solutions requires the right cloud storage foundation—flexible, fast, secure, highly available, and cost-efficient. That's why more banks are choosing hybrid cloud object storage services to complement their on-premises systems.

## REDEFINING CUSTOMER TRANSACTIONS: NEW TYPES AND USES OF DATA

From the earliest days of passbook savings accounts, banks have always captured and protected customer transaction data. However, in recent years, the very nature of customer interactions has changed. For example:

- Banks deal with more types of transactions, beyond in-person deposits, withdrawals, and check-cashing. Today's users utilize mobile and Internet banking, ATMs, and debit cards. According to a 2016 eMarketer report, 68% of US adult internet users banked online in 2016; and fully 77% banked via mobile device.[3] The shift requires banks to collect and store more, diverse transactional data in real-time, as well as to maintain growing volumes of historical account information.

[2] Consumer Financial Protection Bureau Monthly Complaint Report August 2016

[3] eMarketer, Canada Ahead of US in Digital Banking Usage, May 2016

- Banking is no longer local. Thanks to digital transaction options, users can retain their accounts lifelong without needing a brick-and-mortar branch. That requires banks to develop a new, digital relationship with customers; one that relies on consistent data that is accessible to automated systems, as well as contact center service representatives.
- Fewer customers visit the bank, which means employees have fewer opportunities to review the account, and fewer chances to upsell. This requires banks to make better use of account data—current and historical—to determine optimal services, and to utilize appropriate communications channels.

The challenge for banks is to retain and grow revenue in the new digital environment. For many, the focus is on introducing new and expanded products, targeted toward all customers or specific customer segments. And that requires access to accurate, secure, and highly available data. For example, services rolled out by banks in recent years include the following:

- To appeal to paper-averse millennials, some banks increase the timeframe for customers to access historical account data, even extending back 5 years (long enough to meet IRS record retention requirements).
- As a service to time-constrained customers, banks offer a year-end account summary, analyzing transactions to determine how money has been spent and the source of income. A year-over-year comparison can show differences in spending.
- Value-added services, including budget assistance, can appeal to younger customers.
- "Alert" options support financial responsibility among on-the-go customers; for example, reminders to pay bills, and mobile alerts when funds are low or available.
- Regular account reviews can produce automated recommendations for new services or account optimization.

To support such new products, banks must be prepared to access, store, manage, analyze, and utilize growing amounts of sensitive data, which is ideally done with a flexible and sophisticated cloud object storage solution.

## WHY CLOUD OBJECT STORAGE FOR BANKS?

Object storage is a flexible and scalable storage structure that stores all data as discrete objects in a flat name space. Object storage allows all types of data—structured (e.g., databases), unstructured (e.g., images, video), and semi-structured (e.g., email, social media messages)—to be stored and managed together. Thanks to its massive scalability and speed of access, object storage is the basis for all major cloud storage services.

For banks looking for a secure cloud-based solution to complement existing on-premises storage, cloud object storage can offer a number of benefits. But not all cloud object storage is alike. Look for cloud object storage that offers:

- **Flexible deployment options (on-premises, public cloud, hybrid):** Banks have massive amounts of customer and usage data in premises-based storage systems. And for fast transaction processing, it may make sense for data to remain on premises. But a cloud object storage service with flexible deployment options lets you deploy the same storage platform on premises as in the cloud, enabling your premises-based and cloud-based storage to be managed together in a hybrid configuration.

- **Multi- and single-tenant cloud options:** Assuring that customer data remains private and secure drives banks to prefer single-tenant cloud options. In fact, among financial firms that use cloud storage, three times as many choose a single-tenant option than the multi-tenant public cloud. However, few true single-tenant cloud-based storage options exist in the market. To be sure that your storage meets your strict compliance and privacy needs, choose a service that offers the option for dedicated cloud storage as part of your storage solution.
- **Data privacy/security:** The provider's ability to address very real security concerns is paramount to banks' decision to use the cloud. Ensure that data is encrypted and safe in the cloud. Also understand how the provider assures your data will be protected if a data center is breached, no matter where it is located.
- **Data durability/availability across regions:** A national or even large regional bank will be collecting and sharing data across multiple geographies. Choose an option in which data resiliency is architected in. For example, IBM Cloud Object Storage offers a unique architecture that relies on patented data dispersal and erasure coding technologies, to ensure data consistency in real time (not eventual consistency); and ensures that data remains available and secure even if a site goes down.
- **Cost efficiency and predictability:** Consider total costs for all your storage, not just the storage cost-per-GB. On-premises solutions require replication for disaster recovery, which can double the cost of your storage. For cloud deployments, consider costs associated with ensuring the level of availability you need. Some cloud providers charge for cross-regional replication of data—and then charge you again to transfer the data between cloud centers. In contrast, the unique architecture of IBM Cloud Object Storage automatically disperses "slices" of data across multiple data centers in multiple regions, minimizing the need to pay for replicated data stores.

## CONCLUSION

To survive into the digital future, banks will need to reinvent themselves. They will need to delight a demanding and technology-savvy new generation of customers, developing new services and channels to reach them.

At the same time, banks must continue to tackle escalating challenges, including

- The ever-changing regulatory environment, which creates reams of new data
- The need to secure customer, transactional, and operational data
- The urgency to ensure that critical data is always available and always accurate

And they must do it all with squeezed margins and higher costs of doing business.

To meet their needs, banks require a storage solution that is cost-efficient, secure, and flexible. The right cloud object storage system will provide a foundation for success in the data-dependent future.

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