Unlocking Data to Transform Financial Services
The Connected Financial Institution: Part 2

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Executive Summary

Key Challenges

- Financial services firms are facing a rapidly changing and evolving set of business imperatives such as an increasing regulatory and risk management burden, deepening customer relationships to improve customer retention, and leveraging increasing amounts of information to enable strategic decision making.

- Financial institutions face significant challenges when unlocking, aggregating and managing data across organizational, geographic and product information silos.

- Firms must transform their data management approach to unlock data from its silos, incorporate unstructured information from non-traditional sources, and integrate information whether on-premises, in the cloud, batch-based, or real-time.

Recommendations

- Become a Connected Financial Institution by modernizing your data management architecture and rapidly breaking down data silos across the organization.

- Look beyond traditional fragmented integration approaches and implement a unified connectivity platform to loosely-couple applications and data, allowing you to easily modify applications and data sources without needing to re-architect the integration layer.

- To increase the speed of deploying new integrations and improve developer productivity, choose an integration platform that incorporates off-the-shelf connectors and templates.

About the Connected Financial Institution

Information Technology (IT) is no longer only the steward of middle- and back-office functions, but a critical business partner to growth. In this three-part whitepaper series, we'll explore the key challenges that financial institutions’ IT functions must address: legacy modernization, in which we’ll discuss how to bring legacy systems into the 21st century; data management, where we’ll reflect on the need to access and aggregate data for regulatory reporting and customer facing initiatives; and digital transformation, where we’ll take a look at how to manage the mobile, omni-channel, and API technologies that bring value to customers. At the core of each of these challenges is the need for a new level of connectivity. To thrive in this era, financial services organizations must seamlessly integrate applications, data and devices and it is those organizations that are able to embrace these challenges - those “connected financial institutions” - that will win.

Introduction

In the first installment in our Connected Financial Institution whitepaper series, we discussed how aging back office systems, operational effectiveness and open source adoption are driving legacy modernization initiatives across the financial services industry. But the story doesn’t stop there. Modernizing legacy systems is only the first step in addressing the business imperatives faced by financial institutions.

Accessing, aggregating and transforming data is critical whether for regulatory compliance reporting, understanding the customer, or being able to manage large data sets for predictive analytics. Financial institutions face significant challenges when unlocking, aggregating and managing data across the enterprise to achieve these strategic business objectives. This data is often siloed in legacy back office systems and line of business-centric databases, using disparate data definitions and technologies. This presents a daunting challenge to IT professionals tasked with creating and managing development environments that can meet demands from internal and external stakeholders to quickly deliver information from across the enterprise. As Dana Edwards, CTO at MUFG Union Bank, N.A, said: “The traditional approach to IT and development is no longer adequate for today’s business environment.”

The traditional approach to IT and development is no longer adequate for today’s business environment

-- Dana Edwards, CTO, MUFG Union Bank, N.A.

The traditional approach to data management centers on extract, transform, and load (ETL) tools to get data from one place to another, usually as a batch process in a data-warehousing environment. Data management has evolved far beyond this approach and requires both batch and real-time integration across back office servicing systems, departmental data stores, analytics platforms, SaaS applications, mobile apps, and social media networks. As this evolution continues with digital innovation and transformation, technology leaders must consider integration holistically across the enterprise and create an agility layer that is key to future-proofing your data management architecture.

1 Union Bank Puts Its Money on DevOps, Samuel Greengard, Baseline, July 7, 2014
Data Management Challenges in Financial Services

There are three major categories of data generated or used in financial services:

- **Customer/client/policyholder data** may include contact fields, products used, transactional information, customer service inquiries and demographics.
- **Credit/financing/policy underwriting data** may include financial, purpose, health, actuarial, collateral and appraisal.
- **Risk/compliance/fraud data** may include loss, watch list, suspicious activity, statistical parameters and audit results.

These data elements sit in various, purpose-built data stores across an organization, with unique data definition, data model, information security, and user access requirements. But in order to address the business drivers of regulatory compliance, customer centricity and data-driven decision making, information must be able to flow through the enterprise while respecting data governance dictates.

For example, since the 2008 financial crisis regulatory compliance has generated an ever-evolving series of laws, regulations, and rules that mandate more stringent risk analysis and reporting which requires re-architecting connectivity to pull newly required data elements out of its product, functional and geographic silos. Once it is made available, it still needs to be cleansed, reconciled and standardized.

The good news is that, once financial institutions have the processes and technology in place to meet regulatory mandates, they can leverage those tools to deepen their customer relationships with a 360-degree customer view, improve data driven decision-making and move forward on their journey of becoming a Connected Financial Institution.

In this second installment of our white paper series, we discuss data management in financial services, how key business drivers are affecting the industry, how organizations are responding, and propose best practices to transform your organization and accelerate the pace of change.

Business Imperatives for Transforming Data Management

Financial services firms are facing a rapidly changing and evolving set of business imperatives such as an increasing regulatory and risk management burden, deepening customer relationships to improve customer retention, and leveraging increasing amounts of information to enable strategic decision making. Financial institutions need to transform their data management approach to unlock data from legacy application silos, incorporate unstructured information from non-traditional sources, and integrate applications on-premises, in the cloud as well in hybrid integration scenarios.

An Ever Evolving Regulatory Compliance Landscape

An ever evolving and more stringent regulatory compliance landscape places increased reporting and risk oversight demands on financial services firms around the globe. It's difficult for technology teams to keep up as firms are generating and analyzing more data than ever before due to initiatives such as Dodd-Frank, Basel II, FINRA, FATCA, and EMIR. And there are more to come including Basel III, MiFID II, Solvency II and global derivatives regulation. Adding to the demands of regulatory compliance, many of the regulations require changes to transaction formats to standardize processing and reporting. Examples include the FpML standard for electronic dealing and processing of OTC derivatives, the SEPA standard for payment processing in the euro area, and XBRL for harmonized reporting under Solvency II.

As discussed earlier, large financial institutions house data across the organization in siloed applications and data stores. In a Financial Information Management Association survey regarding securities reference data, 50% of respondents ranked data silos as their first or second biggest challenge and 51% of respondents said sharing data between different parts of their institution is difficult and requires manual effort every time data is shared. Another challenge is that risk management and compliance systems are often managed by separate IT teams from core accounting and servicing systems, making it difficult to optimize data management efforts across the enterprise. Because of these data and organizational silos, compliance reporting usually entails transferring information using batch file processing from multiple systems into a centralized data mart, creating more data in the process.

The process of extracting, aggregating, standardizing and reconciling data for regulatory and compliance purposes increases the risk of poor data quality and inaccurate reporting, which can spell trouble for financial institutions. Technology shortcomings in the reporting process can result in multi-million dollar fines. Examples include Merrill Lynch fined $1.2 million for reconciliation and billing errors, Deutsche Bank fined $7.8 million for misreporting derivative buy and sell contracts, and JPMorgan Chase fined $2.05 billion for anti-money laundering compliance deficiencies.

To avoid these fines and ready themselves for increasing regulatory demands, financial institutions are ramping up their governance, risk management, and compliance IT investments. According to a research paper from technology vendor SunGard, "banks are likely to spend more than $8 billion in the next six years to improve technology platforms to meet demands to beef up how they manage and report risks."

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- Sungard

² Data Management: Regulations and Silos A Top Concern for Banks, Bank Systems & Technology, September 4, 2013
³ Digital agenda driving IT hiring spree at City investment banks, Finextra, November 10, 2014
Much of the IT spend will be on the data layer, but modernizing the integration layer is a key component to breaking down data silos, enabling data standardization and reducing data latency with real-time data transfer. In 2010, Daniel Tarullo, member of the Board of Governors of the Federal Reserve System, testified on systemic risk before the U.S. Senate about the need for improved data integration and standardization to close important gaps in data collection and systematic analysis for institutions across the financial services industry. With regulatory compliance a moving target, it is difficult for firms to close these gaps once and for all.

As firms design their data management approach for regulatory compliance, they also need to address data governance for the information they are accessing. Data governance encompasses the availability, usability, integrity and security of data used across the enterprise.

Data governance is a particular challenge for firms with cross-border operations. As a noted compliance attorney said: “Not only must companies understand what data they are allowed to collect, process, and transmit internationally, but they must also grapple with at times competing and sometimes conflicting laws.” For example, in the US, the Financial Industry Regulatory Authority (FINRA) requires securities firms to maintain a system to preserve and supervise correspondence with their clients, along with making data searchable, viewable and readily retrieved. However, under European Union data protection rules, monitoring of employee correspondence may be considered a breach of human rights.

Deepening Customer Relationships with a 360 Degree View

Financial institutions have struggled for years with creating a single, 360-degree view of their customers, incorporating information about their products, usage patterns, customer service interactions, demographics, and relationships. A single, tailored view of the customer is critical so that sales, service and marketing staff have contextually relevant information when they interact with clients to improve the customer experience. In an attempt to create this view, different tools evolved for different purposes. For example, many banks rolled out Siebel in the 1990s for sales force automation and call center customer service (usually using separate instances). They used Harte-Hanks’ third-party service to aggregate, cleanse and append customer information to create a marketing customer information file (MCIF). To combine accounts owned by a customer, they used Innovative Systems Match software on the mainframe. The one thing these systems had in common was that they each operated in standalone silos. Various IT teams managed the applications and data integration was handled in different ways. Siebel often was used as a standalone application without integration to a bank’s customer information system, requiring re-keying of all fields. For Harte-Hanks, IT teams ran monthly data extracts from each account servicing system and transmitted them to the vendor. Innovative Systems was the most integrated, running nightly batch jobs to combine new accounts with existing customer profiles.

Using these disparate systems to manage customer information resulted in a “swivel chair” problem that still persists today. For example, a call center staffer needs to access two or more systems to respond to a customer complaint, one with the customer’s account history, another with their service interactions. They must switch from one system to another, with both systems requiring separate data entries to update a customer record.

Customer service is an increasingly important part of a firm’s value proposition to gain and retain customers. Financial services organizations that can’t provide a holistic view of each customer across product silos, delivery channels and servicing systems risk losing their customers to organizations that have already figured it out. And having a 360 degree view of the customers isn’t only a vision desired by financial institutions. Customers are demanding that their providers provide them with the same relevant, tailored experience that they enjoy with cutting edge personalized web sites such as Amazon. A survey report from consulting firm CGI “highlights that consumers recognize that a bank knows more about them than any other retailer, and they are expecting personalized offers, treatment and schemes.”

Financial institutions have been talking about customer-centricity for years. But the time is now to shift from a product focus to a customer focus. This is especially true for banks that have struggled with profitability in the wake of changes to their business models. Building your business around the customer is the key to improved retention and increased penetration/wallet share. Keeping customers and increasing the number of products they buy from the company are two of the most critical components of growth and profitability.

Firms investing heavily in data management for regulatory compliance have an opportunity to leverage those investments for customer-centric data management. This is especially true for managing commercial and corporate customers. Organizations historically had difficulty in tying together a commercial customer’s relationship across subsidiaries, affiliates, owners, investors, counterparties, etc. Banks are implementing new data elements such as the Legal Entity Identifier (LEI) to identify corporate entities and to develop a consistent and integrated view of an organization’s risk exposure to a corporate customer.

Financial institutions are investing in modern sales force automation and customer relationship management systems to achieve a complete 360-degree view of their clients. Many of these systems are SaaS-based, hosted in a cloud environment beyond the firm’s firewall. The most prominent example is Salesforce. These new systems allow firms to combine a traditional single view of the customer, integrating data from internal systems, with new attitudinal and behavioral data derived from external sources such as social media. Integrating attitudinal and behavioral data gives firms an opportunity to predict customer sentiment and future needs; essential elements to increasing customer satisfaction.

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4 Daniel K. Tarullo, statement before the Subcommittee on Security and International Trade and Finance, Committee on Banking, Housing and Urban Affairs, U.S. Senate, February 12, 2010


7 Understanding Financial Consumers in the Digital Era, CGI Group Inc., 2014

8 Innovation in the Insurance Customer Experience, Mark Breading, Strategy Meets Action, August 2013
One of the technology trends enabling a complete, and extended, view of the customer is a flexible and agile integration framework. Where data once was very difficult to obtain, the right integration approach breaks down the data silos of legacy accounting, servicing and product systems while connecting to external data sources in the cloud. Many firms are using internal application programming interfaces (APIs) to optimize and govern access to customer data while safeguarding other parts of the application. Those firms also consume data from social media platforms like Facebook and Twitter via public APIs.

Whether an organization chooses to centralize information in a massive data warehouse, or use a decentralized and distributed model, the key to improving and deepening customer relationships is having timely, consistent, accurate information across internal and external access channels. This allows the enterprise not just to react to what the customer wants, but to predict and optimize every interaction with the customer, increasing the possibility of cross-sell and upsell and improving the customer experience.

Improving Data Driven Decision Making

Analytics and business intelligence have always been critical in financial services. Consider the analytics performed by actuaries to assess the likely outcome of various insurance scenarios. Or the credit risk scoring analytics involved in judging a borrower’s likelihood of repaying a loan. And the analytics used by investment bankers to evaluate merger and acquisition transactions.

What’s changed is the era of “big data.” As the Harvard Business Review puts it: “Whether you work in financial services, consumer goods, travel and transportation, or industrial products, analytics are becoming a competitive necessity for your organization.”

Financial institutions are facing a flood of information, but its not enough to create a massive data warehouse with every piece of information imaginable. The promise is in “data driven decision making”, defined as “the practice of basing decision on the analysis of data rather than purely on intuition.”

“Whether you work in financial services, consumer goods, travel and transportation, or industrial products, analytics are becoming a competitive necessity for your organization.”

— Harvard Business Review

There are both environmental and technological drivers behind the increasing focus on data driven decision-making in financial services. As discussed above, regulators forced the issue with reporting requirements that span organizational units and mandates for continuous, proactive risk identification. At the same time, new big data technologies such as schema-less databases (NoSQL), new programming paradigms that allow for massive scalability (MapReduce), and open source platforms for handling big data (Hadoop) provide the tools that IT professionals need to support requirements for improved data analysis and predictive models.

Some innovative banks and insurance firms including USAA, ANZ Bank, Royal Bank of Canada, CaixaBank Spain, and DBS Bank are using leading edge tools with massive computing power, like IBM’s Watson (the computer that competed on Jeopardy), to make recommendations on investment products and to improve online and mobile customer inquiries.

Many organizations are creating centers of excellence around data management and hiring Chief Data Officers, charged with breaking down organizational silos and standardizing processes, tools and governance. And these investments are paying off. An Aberdeen Group research report found that “Banks and other financial services companies that use predictive models have increased their new customer prospects by 10 percent and realized a 167 percent gain in cross-sell and upsell revenue compared to companies without predictive analytics.”

Of course, in order to achieve these gains, data must be actionable. Once data is freed from its silos and properly managed, the new insights gleaned from predictive analytics should be freely shared (to the extent legally allowed) to take advantage of competitive differentiation with new data-based products and services. Industry providers are using “big data” analytics to personalize digital banking (D3 Banking), improve fraud detection with non-traditional data points (Datameer), and enhance telematics for usage-based insurance pricing.

Some of the new developments in data-driven products, services, and analytics require that IT departments support new data sources that weren’t previously mined. We’ve discussed social networks and telematics devices but there are many more non-traditional, unstructured data sources (e.g. sensors, photos, videos) that could be used to provide deeper insights into customer behavior. As financial institutions build out their big data capabilities across organizational and product silos, they often struggle with transforming, migrating, aggregating and synchronizing information both from traditional and non-traditional data sources.

In order to overcome these data challenges, financial services must leverage modern integration tools to support the most comprehensive, high-quality analytics environments. Moving beyond traditional integration, new platforms support integration across on-premises and off-premises systems, with traditional web services or API-based interfaces. API adoption is increasing for big data projects because of their security, re-usability, and ease of integration. Internal and external APIs allow new data sources to be brought on board quickly, and support new business requirements, all for a lower cost than a traditional integration approach.

¹¹ Data Science and its Relationship to Big Data and Data-Driven Decision Making, Foster Provost and Tom Fawcett, March 2013
¹² Predictive Analytics in Financial Services: See the Future, Make it Brighter, Peter Krensky, Aberdeen Group, August 29, 2014
Best Practices for Data Management

“Big Data” itself was historically its own data silo with rigid extract, transform and load (ETL) processes moving data from on-premises source systems to a tightly-controlled data warehouse. When lines of business wanted data analytics, they sent a request to the data warehouse quant jocks and hoped that the query returned the data they were looking for. This approach no longer works for financial institutions looking to streamline regulatory reporting, monetize customer analytics, and democratize data-driven decision-making. These business drivers, along with innovative, cost effective technologies such as Apache Hadoop and NoSQL databases, are spurring financial services firms to invest in next-generation data management.

As IT architects design their data architecture, it’s clear that they need to re-consider their integration approach, one that allows financial services firms to meet new data management challenges in an agile and cost-effective way. Many big data projects encompass public, private or hybrid clouds, although some financial institutions, particularly banks, are hampered from implementing public clouds due to information security restrictions. Reaching out to cloud-based architecture components may best be accomplished with a service-oriented architecture (SOA) and API management framework that is flexible enough to connect legacy on-premises systems with cloud-based applications, either in batch or real-time.

Real-time data integration has become increasingly important as firms are increasing the amount and sources of real-time data used for fraud detection, recommendation engines, predictive analytics, etc. But as discussed in the first white paper of this series, financial institutions continue to rely on mainframe-based systems to run back office systems for such critical functions as deposit accounting, policy administration, loan servicing, and payment processing. As applications were designed from the ground up to support batch processing, bridging technology is required to integrate batch and real-time data flows. An example is the requirement to save real-time transactions throughout the day and then send them in a batch during nightly processing.

The dynamic nature of current (and future) data management projects require more flexibility than traditional, proprietary, heavy weight ETL tools can offer. The right integration platform can reduce or eliminate rigid ETL batch processes with high-performance, loosely-coupled, multi-protocol connectivity. By separating the consumption of data (address change) from the systems that provide that data (servicing system), firms can change the underlying systems of record without downstream impact to the consumers of that data. This drives much greater flexibility and operational effectiveness.

An integration platform that incorporates off-the-shelf connectors and templates also increases operational effectiveness by increasing the speed of deploying new integrations and for connecting new applications. Off-the-shelf connectors enable integration to the most often used SaaS (e.g. Salesforce, ServiceNow, Workday) and on premises applications for common business processes without custom code. They also simplify connectivity with big data architecture components (e.g. MongoDB, JDBC, Rabbit MQ, WebsphereMQ) either with a pre-built connector or an API layer between your application and data layers. Integration templates accelerate the pace of development with pre-built process flows for common data handling patterns, such as migrate, broadcast, aggregate, correlate and synchronize. Pre-built connectors and templates are readily customizable and extendable, making it easy for developers to change integration patterns when needed.

To successfully enable the vision of becoming a “Connected Financial Institution” the integration architecture should have three distinct layers:

- **Data Access Layer**: Utility services that facilitate data retrieval from key systems of record
- **Orchestration Layer**: Processing logic that transforms and enriches data
- **Data Presentation Layer**: APIs or services through which consumers are provided governed and secured access to data

Integration Layer

Data Presentation
- **Address Change API**
- **Address Change Processing Logic**

Orchestration Layer
- **Web Services**

Data Access Layer

Legacy applications and databases

To be able to achieve this vision in a rapid and repeatable fashion, an integration platform must be able to provide:

- Out-of-the-box connectivity into key accounting and servicing systems that allow the rapid build of the data layer
- Message processing components that allow architects and developers to focus on implementing and optimizing the orchestration layer, rather than custom coding
- Ability to expose data via APIs and services through the same platform as that used for the data and orchestration layers.
Case Study

As a key part of its business transformation initiative, a life insurance company needed to modernize its 1970’s technology, integrating disparate endpoints, increasing developer productivity and reducing manual processes. The insurer’s legacy technology used batch, point-to-point integration that resulted in data duplication, timing issues and transformation problems. These problems contributed to poor data being sent to external partners and it was difficult to proactively fix and address the data quality issues. They also lacked a master data management (MDM) strategy, with no authoritative data sources or enterprise validation rules. This caused end users to mistrust the information they received and there was no visibility into the downstream effects of data errors.

In addition to data management issues, making changes to internal or external endpoints was a significant application development burden. There also wasn’t a reference architecture, which resulted in solutions being developed differently, increasing integration difficulty and development time.

The insurance company re-architected its technology by implementing the Mulesoft Anypoint Platform. It uses Anypoint Platform as an integration broker with multiple layers including transport protocol, message formats, and data value mapping.

Anypoint Platform enabled the firm to migrate from its batch, point-to-point integration to an event driven model with web services orchestration. Wrapping its legacy endpoints with SOA and web services allowed systems to be abstracted systems from each other, improving reliability and security. It also allowed integration hooks for external systems, increasing flexibility. Implementing Anypoint Platform also sped up the quality assurance process, with testing now 5-10 times faster after eliminating point-to-point integration.

The company used MuleSoft with Cassandra, an open source NoSQL database, to allow them to switch from legacy batch mode to low latency data ingestion enabling more timely data for external partners. This new reference architecture introduced patterns for SOAP and REST-based web services, improving exception handling and notifications along with the ability to create new interfaces faster.

Anypoint Platform helped to ensure high quality data throughout the application process and improved the speed of its underwriting process. By eliminating tightly coupled systems with a loosely coupled abstraction layer, the insurer will also have an easier time replacing its 40-year old policy administration with minimal disruption to the enterprise.

Integration: The Key to Data Management

Financial institutions taking a holistic view toward data management across regulatory compliance, customer centricity, and big data projects have an opportunity to optimize the use of data across the organization. What becomes clear from taking a closer look at these related business drivers is that integration is key to effectively and efficiently enabling the flow of information and providing an agility layer for future needs.

In selecting an integration solution, key considerations include:

- The breadth of the integration vision, ranging from application integration, service design and development to API creation and management
- Product innovation to reflect evolving integration use cases for legacy modernization, data management, and digital transformation
- Total cost of ownership in terms not only of hardware and software cost, but also developer resourcing costs, developer productivity and time to value.

The next phase of data management will be unifying big and small data while accelerating data collection from more sources. Addressing these challenges require not only having the data and the infrastructure, but more importantly, coping with resource and skill-set constraints. Smart enterprises adapt their architectures and leverage integration tools like MuleSoft’s Anypoint Platform to shorten deployment cycles, save costs, and improve ROI.

MuleSoft’s Anypoint Platform is the world’s leading connectivity platform for SOA, Saas, and APIs and is uniquely positioned as the one-stop solution for your future-proof data management initiatives. Anypoint Platform provides a unified integration architecture for loosely-coupled applications and data so financial services firms can easily swap and add applications and data sources without needing to re-architect the integration layer. It’s ability to wrap legacy system functionality and introduce re-usable web services, REST APIs, and microservices are fundamental enablers for accelerating the pace of data management initiatives.

Many firms see developer productivity increase when they make legacy data accessible with a REST API rather than a SOAP web service. Using a SOAP web service often assumes knowledge of the underlying legacy application, while a concise, human-readable REST API eliminates that dependency. By definition, microservices have very targeted functionality, designed to perform a particular task, and pass messages using an API that decouples the underlying
technologies. MuleSoft delivers native capabilities for connecting APIs to backend systems, leveraging the market-leading capabilities of Anypoint Platform.

The chart below summarizes MuleSoft’s solution set for solving the data management challenges of integrating higher velocity (real-time) and higher variety (non-traditional data sources.)

MuleSoft’s Anypoint Platform is the world’s leading integration platform built on an open source developer toolchain familiar to thousands of developers. Anypoint Platform is especially well suited for data management, allowing financial services firms to get up and running quickly, while providing a framework to meet future integration needs. Whether you’re integrating data from legacy mainframe applications, departmental databases, or third-party data sources via APIs, Anypoint Platform provides a clear and easy path for data management.

A framework to meet future integration needs is critical as financial institutions increasingly migrate to “off the shelf” or SaaS packaged applications for non-core administrative functions such as human resources, accounting, or customer relationship management. Data from these systems needs to be integrated with data from legacy back office applications and their adoption demonstrates evolving integration needs across SOA, SaaS, and API solutions as they converge over time. MuleSoft’s library of 120+ connectors and best practice templates for the most critical SaaS and on premises systems capture best practices from hundreds of successful enterprise implementations, to enabling faster deployment and time to value.

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MuleSoft’s Anypoint Platform provides a unified, lightweight integration platform to rapidly connect, orchestrate and enable any internal or external endpoint. The result is a 3x to 6x faster time to launch new initiatives, connect systems, and unlock data across the enterprise. The Anypoint platform delivers an exceptional unified user experience in concert with robust technical features and performance.

Furthermore, unlike alternatives, MuleSoft’s Anypoint Platform can be rapidly deployed and is easily understood by developers with little retraining. Since MuleSoft’s solutions are easy to use and understand, any developer can quickly become productive without lengthy training in vendor-specific technology.

With Anypoint Platform, enterprises can:

- Expose and integrate data from legacy systems with web services, while providing an internal API gateway for solutions deployed in private clouds
- Augment existing data management integration architecture to provide real-time, on premises data integration with cloud, mobile and social applications
- Maximize developer utilization and productivity by eliminating proprietary, heavier tooling with popular open source standards and tools

The Anypoint Platform is the world’s leading integration solution and is trusted by many financial institutions, including 4 out of the top 10 global banks, for their data management needs. MuleSoft is the only integration provider to be named a Leader in both the Gartner Magic Quadrant for On-Premises Application Integration Suites and the Gartner Magic Quadrant for Enterprise Integration Platform as a Service (iPaas).

Ready to Get Started?

MuleSoft has a team of expert consultants conversant in data management to help you develop your Connected Financial Institution roadmap. We have field-tested experience in integrating disparate data sources with cloud services and multi-platform applications, in addition to our expertise in the design and publishing of modern APIs. For those looking to learn more, these resources provide a deeper look into MuleSoft’s technology:

**Mule 101: Rapidly Connect Anything, Anywhere**

What if you could deliver an integration project 8 times faster? With the Anypoint Platform from MuleSoft, you can. Join MuleSoft founder Ross Mason and Sr. Product Manager Steven Camina for a demo-driven walkthrough and discussion on how you can integrate faster with the Anypoint Platform.

http://www.mulesoft.com/webinars/esb/mule101rapidlyconnectanythinganywhere

**Big Data’s Velocity and Variety Challenges**

Big Data is becoming mainstream, and your company wants to realize value from high-velocity, -variety and -volume data. However, building modern big data integration solutions can be challenging due to legacy data integration models, skill gaps and Hadoop’s inherent lack of real-time query and processing capabilities. Discover how to tackle velocity and variety challenges and to leverage Anypoint Platform’s various offerings for easy and future-proof big data integration.

http://www.mulesoft.com/lp/whitepaper/soa/big-data
About the Author

Patricia Hines is the Industry Solutions Director for Financial Services & Insurance at MuleSoft. She has over 20 years of experience in financial services across business, technology and operations. Her areas of expertise include corporate-to-bank integration, online cash management, delivery channels, and customer relationship management along with end-to-end commercial lending. Patty was a Research Director in Wholesale Banking at CEB TowerGroup, a leading financial services advisory research firm, where she conducted primary research and produced written reports focused on industry trends, strategic business drivers, and technology solutions. Patty has held senior product management, marketing and technology positions at FleetBoston Financial, Wells Fargo, Citibank, OpenText GXS and S1 Corporation (now ACI Worldwide). Patty received her MBA from the Yale School of Management and a bachelor’s degree in business administration from the State University of New York at Albany. She also holds a Certified Treasury Professional accreditation from the Association of Financial Professionals.

About MuleSoft

MuleSoft’s mission is to connect the world’s applications, data and devices. MuleSoft makes connecting anything easy with Anypoint Platform™, the only complete integration platform for SaaS, SOA and APIs. Thousands of organizations in 54 countries, from emerging brands to Global 500 enterprises, use MuleSoft to innovate faster and gain competitive advantage.

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