



EBOOK

How Banks Benefit from Continuous Integration and Delivery

Confident Deployments, Quality Products, and Satisfied Customers

INTRODUCTION

Financial institutions serve customers just like any other business. However, the information they handle is much more sensitive than anything you might find at a retail store.

People guard their financial information as well as they can. Any interruption in these services can have major effects. Financial institutions take this responsibility seriously and are constantly implementing new tools to better serve their clients.

Online banking has soared in popularity since the turn of the century.

It affords an immediate ability to check the status of a person's bank account while also performing basic banking functions that used to involve a trip to a physical location.

This popularity is going to continue to grow. In fact, the online banking market is projected to reach \$20.5 billion by 2026.

Customers are going to expect more from their financial institutions. Banks have to meet these expectations to remain competitive.

Salesforce has become known as a reliable platform to quickly produce code for applications and customizations. This helps banks roll out new capabilities to better serve their customers.

However, the speed at which these new rollouts occur can occasionally lead to mistakes and malfunctions.

Continuous Integration and Continuous Delivery not only address the need for fast production, but also reliable quality.

Here's how banks can benefit from utilizing Continuous Integration and Continuous Delivery.

Continuous Integration



Your team likely has more than one developer. Collaboration between team members is the best way to get quality lines of code integrated into new software releases. This could come in the form of innovative features, new configurations, or bug fixes to existing software.

However, multiple people working on the same project can also create problems:

- Accidental code overwrites
- Redundant work
- Conflicting code commits
- Broken deployment

Continuous Integration is a development process where the code is integrated automatically from multiple developers into a single software release.

A shared repository will eventually be put into production once all the code has been fully integrated.

Continuous Integration automates this process and verifies the validity of the new changes. This provides an opportunity to see how everyone's code interacts with each other to catch potential issues early in the process.

Automating your processes affords a series of benefits for your team, your end users, and your company as a whole. Financial institutions have a higher standard of quality for their software. The degree of sensitive information—not to mention their clients' finances—necessitate this.

We'll look a little deeper into the top three benefits you can expect to see from utilizing Continuous Integration:

1. Quality Assurance
2. Reduction of Issues for Live Services
3. Save Money

Quality Assurance



Bug-free software is great for any business or service. Banks, however, have a higher need for proper functionality. Any mistake in the process of a transaction could create a massive headache for a customer, or a regulatory issue for the bank itself.

Continuous Integration has multiple layers of testing in place to make sure every commit of new code with the repository is verified by an automated build process to root out potential issues at an early stage.

Test deployments offer another opportunity to verify each customization of the source control repository.

Working with multiple developers means there are multiple points of view at every stage throughout the development process. Continuous Integration provides a means of unifying these points of view to homogenize the final product.

Testing the deployment of updates and software before they are made gives developers the opportunity to rectify any inconsistencies before they are made public. Banking customers rely on this software to perform important tasks in their day-to-day lives. Successful software operations are critical.

Financial institutions aren't afforded flexibility in the proper operation of their systems. Continuous Integration places a focus on making sure new changes won't degrade this functionality.

Reduction of Issues for Live Services



The ultimate goal of any new software or bug fix is to improve the end user experience—either for employees or for customers. Every step in the development process is aimed at achieving optimal usability. After all, what’s the point in producing new services or updates if they don’t improve upon the existing platform?

But no matter who’s using the software, it will all have an effect on how your customers view their interactions with your bank. Customer trust is an essential aspect of a financial institution’s relationship with their customers. And consistent, quality service is the best way to ensure they maintain a positive view of your bank.

Continuous Integration’s focus on verification of code results in a drastic lowering of issues seen during use of live services.

This makes it much easier for your employees to provide excellent service to your customers. And in the case of online banking, it makes your customers’ direct experiences smoother and more enjoyable.

A successful update or software deployment is ultimately decided by how useful it is to the end user. Reducing the amount of post-launch issues drastically improves the user’s overall experience with the product.

Save Money



Efficiency should be one of the top goals of your development team. The ability to produce quality products without wasting time creates an environment conducive to successful operations.

Financial institutions provide an essential service to their customers—but they still need to aim for successful business practices.

Reducing the amount of money spent in production sets banks up for a profitable outcome once the software or update is released.

Any issues with the software are going to need to be addressed. Developers will end up going back to fix any unknown issues if proper quality assurance measures aren't taken upfront.

Redundant work creates wasted labor hours—and money.

Getting it right the first time—or fixing any issues when they are small—saves your team the work of massive fixes post-production.

Unhappy customers will take their business elsewhere.

Frequent issues with software and online banking might convince your customers to find a financial institution that doesn't experience so many hiccups. Prevent this with the quality assurance capabilities of Continuous Integration.

Continuous Delivery



Continuous Integration is an essential aspect of an optimized development pipeline. However, creating a quality code repository is only the first step toward a successful software rollout. These new functionalities need to be sent into production.

Continuous Delivery is the process of getting all types of changes to the code repository into production after receiving the correct approvals.

Examples of these changes include:

- Features
- Bug Fixes
- Configurations

Quickly and securely delivering changes to the code repository gives your team everything they need to build, test, and release new features or fixes with increased frequency and speed.

Financial institutions—along with other highly-regulated industries—particularly benefit from this because of their need to verify functionality before release due to their heightened security and compliance concerns.

Continuous Delivery usually involves a production-like staging area with a defined period to approve new features prior to production. This acts as a final security check to make sure everything is arranged in the proper form.

We'll look a little deeper into the top three benefits you can expect to see from utilizing Continuous Delivery:

1. Competitive Edge
2. Promotes Compliance
3. Peace of Mind

Competitive Edge



Banks provide an essential service to their customers. However, they are also businesses. And just like other businesses, they need to compete with other financial institutions. One of the best ways to do this is to provide services that others simply can't match.

Continuous Delivery helps usher new features and applications through the verification process and into production. Quality is an essential aspect of a successful launch, but so is timeliness.

Faster release cycles mean you can get your updates in front of your customers at a quicker pace.

Customers are going to gravitate to banks at the forefront of the technological landscape within their industry.

For instance, **USAA was the first financial service to offer mobile check deposits** to general customers. Other banks scrambled to launch their own version of the service. Chase and Bank of America quickly followed and made mobile check deposits a constant aspect of their platform.

It's not enough to simply offer similar features as your competitors—you want to be a leader in the financial industry. Quicker rollouts help accomplish this.

Promotes Compliance



Data security is very important to banks for many reasons. Not only is customer trust one of your most valuable resources, you also want to provide a secure experience.

This is such an important consideration that the government has instituted a series of evolving regulations to ensure the safety of consumer financial information.

This includes (but is not limited to):

- Features
- Configurations
- Bug Fixes

Properly-coded features are going to be more secure. There are less vulnerabilities for cybercriminals to exploit.

This is good for customer safety and usability, but it can also factor into your bank's regulatory compliance.

Financial institutions are tasked with treating sensitive information very delicately. You need to keep this information secure. The quality assurance capabilities of Continuous Delivery contribute to adherence to regulatory requirements prior to launch.

Peace of Mind



As we've said multiple times, **data security is very important to the customers of financial institutions.** Banks deal with factors that directly impact a person's quality of life. Any failure to properly handle their finances can have direct, negative results the customer's livelihood.

It's important to offer quality services to ensure these failures don't occur—both for the general benefit of the customer as well as the culpability of the institution itself.

Continuous Delivery speeds along the process of producing new software updates, but not so fast as to be insecure.

A final approval step at the end of the process means nothing will be implemented without authorization from a designated individual.

This security measure gives you the assurance you need to confidently roll out new software updates and offerings to better serve your customers.

Confidence is an essential factor in successful banking—the customer needs to be confident in the bank's abilities, and the bank needs to be confident in their own technological infrastructure.

CONCLUSION

Financial institutions are held to a high standard—and rightly so. These services offer real value to their customers. Banks offer the ability to purchase a new car or house, save for a brighter future, and maintain a comfortable lifestyle.

However, banks also need to remain competitive in their market. Customers and clients have a lot of options for where to do their banking—how do you set yourself apart from your competition?

Continuous Integration and Continuous Delivery are powerful tools that can streamline your development processes to quickly produce reliable and secure updates and software.

Every deployment involves juggling quality code, labor hours spent, and security assurances. Continuous Integration and Delivery are automated systems that take this juggling act out of the air so you can give each aspect the attention it deserves.

Your customers expect a lot from your bank. Government regulations require it. Continuous Integration and Continuous Delivery help to meet and exceed these expectations.



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How Badly Do You Need of Continuous Integration + Delivery?

Every financial institution will benefit from utilizing Continuous Integration and Continuous Delivery. However, each business is going to differ in their approach to the development cycle—with carrying degrees of success and failures.

How do you know how badly you need to make the switch to a CI/CD pipeline?

We've put together a checklist to help you figure that out. This simple ten-point checklist outlines the top reasons a bank might look to incorporate automated and streamlined processes.

Checking even one box on this list points to improvements that can be made with a CI/CD pipeline, but this becomes even more pressing as they compile.

// Continuous Integration + Delivery Checklist:

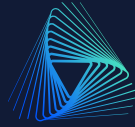
- | | |
|--|--|
| <input type="checkbox"/> Inefficient development team | <input type="checkbox"/> Unsatisfied end users |
| <input type="checkbox"/> Slow release rate | <input type="checkbox"/> Poor collaboration between team members |
| <input type="checkbox"/> Unreliable code changes | <input type="checkbox"/> Operating within a regulated industry |
| <input type="checkbox"/> Wasted developer time due to repetitive tasks | <input type="checkbox"/> Frequent application updates |
| <input type="checkbox"/> Frequently broken features | <input type="checkbox"/> Difficulty finding/correcting errors |

Tally up the number of checks on your list and find where you stand on the spectrum of necessity:

1-3: Your system is operating fairly well, but there is room for improvement that can be seen by utilizing a CI/CD pipeline.

4-6: These problems are having a direct impact on your productivity and overall profitability. It's imperative to institute a CI/CD pipeline.

7-10: Your developmental cycle has severe issues that are harming the company as a whole. Utilizing Continuous Integration and Continuous Delivery is essential.



ABOUT

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AutoRABIT is a Continuous Integration and Delivery suite for SaaS platforms. We automate and accelerate the entire application development and release process. This enables continuous integration and delivery by providing fast, simple, and secure end-to-end automation across all Salesforce implementations. We help enterprises achieve higher release velocity and faster time-to-market.

AutoRABIT provides automated Metadata Deployment, Version Controlling, Advanced Data Loading, Orgs and Sandbox management, Test Automation, and Reporting. Our services complement and extend Salesforce DX. AutoRABIT Vault—our backup and recovery solution—streamlines Salesforce data, simplifies data backup challenges, offers disaster recovery and endpoint data protection on Cloud.

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