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Why a Gradual Software Release is the Way to Go

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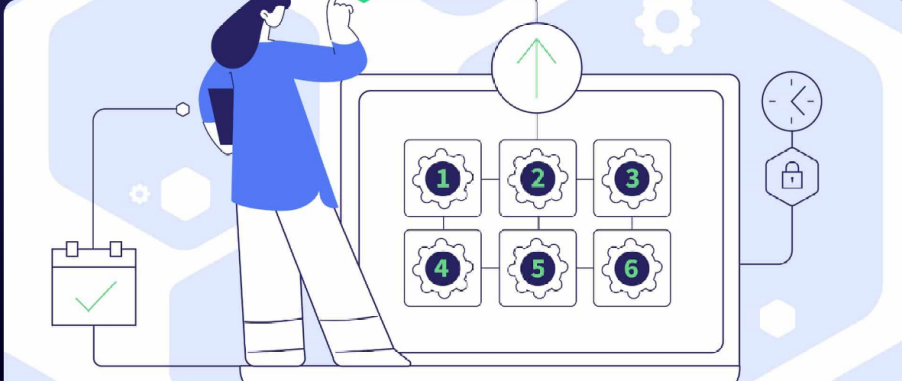


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TL;DR

A gradual software release is better than simultaneously launching new features to all customers. This approach:

- Mitigates risks
- Enhances user experience
- Allows for data-driven decisions
- Improves scalability
- Builds customer trust

By addressing issues early, providing better user support, and making informed adjustments, companies can ensure a smoother and more successful rollout of new features. This will ensure reliability and lead to higher user satisfaction and long-term success.

This blog post explores some basic release process approaches and explains why gradual rollouts are superior for business-critical applications.

Introduction

These days, we develop software faster than ever and that's mostly a good thing. We have advanced technologies and new methodologies supporting this speed. At the same time, processes and guardrails must be in place throughout the development process to ensure that when released, features and products work as expected. After all, while speed is an essential element when facing your competition, quality is more important when you look at it closely.

Release Options

There are several strategies that companies can consider adopting for their release process. Each approach has its own set of advantages and potential drawbacks, depending on the specific needs and goals of the company and its user base. Some options include:

- Big bang
- Canary
- Feature toggles
- Dark launch
- Phased or gradual rollout

Each approach has its own benefits and challenges; in many cases, a combination of strategies gets the best results. By carefully considering these options, companies can optimize their release processes to deliver high-quality software that meets user needs and drives success.

To help understand the differences between these processes, we've outlined some highlights of each of them in the following table:

Approach	Description	Advantages	Disadvantages
Big Bang	All new features and updates are released to all users simultaneously.	Immediate availability of new features for all users. Simplified version control, as everyone is using the same version. Can create a significant impact and generate buzz if the update is well-received.	High risk of widespread issues if bugs or performance problems are present. Can overwhelm support teams if users encounter difficulties. Requires extensive testing and preparation to ensure stability.
	New features are deployed to the production	Enables thorough backend testing in a	Does not provide user feedback during the

Dark Launch	environment but are not yet visible or accessible to users. This allows for performance monitoring and backend testing without user interaction.	live environment. Minimizes user disruption during the testing phase. Allows for performance optimization before full release.	initial testing phase. Requires careful management to ensure features remain hidden. Limited to backend and performance testing, not user experience.
Progressive Options			
Feature Toggles (Flags)	New features are enabled or disabled for different user segments via configuration settings. This approach is particularly useful when releasing less stable features in beta, making them available for users but with their knowledge that the feature is still being tested.	Facilitates continuous delivery and integration. Allows for easy rollback of problematic features. Enables experimentation and iterative improvements.	Can lead to increased code complexity. Requires robust configuration management. Potential for "toggle debt" if toggles are not properly managed and cleaned up.
Canary	Deploying new features to a small, select group of users (the "canaries") before rolling out to the broader user base. This allows for real-world testing while limiting potential issues to a manageable group.	Early identification of issues in a real-world environment. Allows for incremental feedback and improvements. Reduces risk of widespread disruption.	Requires careful selection of canary users. Can create a perception of favoritism or unequal access among users.
Phased/Gradual Rollout	Releasing new features to increasing segments of the user base over time. This allows for controlled scaling and monitoring at each phase.	Balances risk and speed of deployment. Allows for monitoring and adjustment at each phase. Reduces the impact of potential issues by limiting exposure.	Requires careful planning and monitoring. Can delay full availability of new features. Potential for inconsistency in user experience during rollout.

How to Choose the Right Release Approach

Choosing the right release strategy depends on various factors: the nature of the new features, the size and expectations of the user base, the company's goals and resources, and critical technical factors.

Businesses must ask themselves:

- What is the overall impact of the software and/or the specific release on the hosting operating system?
- What will the outcome be for our customers if there are minor issues in production?
- What will the outcome be for them if there are major issues in production?
- Can the release affect the customer's third-party applications and other business aspects and processes?

So, while it may seem tempting to get fast access to new features, a gradual release process often proves to be the superior strategy—particularly for releasing business-critical software that greatly impacts processes and workflows.

Mitigation of Risks

Releasing new features to a subset of users first allows developers to identify and address any unforeseen issues before they impact the entire user base. You can catch bugs, performance issues, or unexpected interactions with existing features early, reducing the potential for widespread disruption.

Example: **The historic IT Outage of July 19, 2024**, introduced a fatal bug across millions of devices, causing them to all BSOD and leaving customers worldwide completely helpless for anywhere between hours and weeks.

Following this outage, the CrowdStrike CEO recognized the importance of a more rigorous release process, saying, "For rolling out future rapid response content, CrowdStrike said it will 'implement a staggered deployment strategy,' gradually rolling out updates globally after 'starting with a canary deployment.'"

(<https://www.govinfosecurity.com/crowdstrike-says-code-testing-bugs-failed-to-prevent-outage-a-25833>)

Enhanced User Experience

By gradually introducing new features, companies can ensure a smoother transition for users. This is particularly true when the user base is extensive, in which case the enhanced experience can primarily be attributed to the available resources of the software company delivering the product compared to the size of its customer base.

A gradual rollout naturally allows for better user education and support, as the company can focus on a smaller group of users at a time, providing more personalized assistance and gathering detailed feedback.

Data-Driven Decisions

A gradual release provides valuable data to guide further development and marketing strategies. By monitoring how a subset of users interacts with new features, companies can make informed decisions about necessary adjustments and the best way to present the features to the broader audience.

At Coro, we employ a gradual rollout of our products and new features. When we release new features that require updates to our endpoint agent, we only release the beta for the agent first. During the first week of the rollout, we monitor activity in our services to ensure the agent is working properly, among other things. This enables us to make smart decisions about the rest of the rollout.

Improved Scalability

Rolling out new features gradually allows for better management of system resources and scaling challenges. This controlled approach helps ensure that infrastructure can handle increased loads, preventing downtime or performance degradation.

performance regression.

A Commitment to Quality and Customer Satisfaction

A gradual release process demonstrates a commitment to quality and user satisfaction! Customers appreciate it when companies take the time to ensure new features work seamlessly and enhance their experience before rolling them out on a larger scale. By doing this, the company ensures it is doing its absolute utmost to ultimately ensure business continuity for its customers. This approach builds trust and fosters loyalty.

A gradual rollout could have helped avoid the **historic IT Outage of July 19, 2024**. A more progressive approach would have bricked only a small subset of devices early in the process, leaving the vendor and only a few of their customers to navigate the issues together and rapidly.


Conclusion


While a grand, full-scale feature launch can be alluring, the benefits of a gradual release process are undeniable. By mitigating risks, companies can ensure that new features function well and successfully bring customers and their users the promised value.


As a customer, you benefit significantly from companies adopting a gradual release process for new software features. This approach ensures that new features are stable and reliable, as issues are identified and resolved early on with fewer users. Your experience is enhanced because the rollout is smoother, and the company can provide better support and communication. Knowing that a company values quality and user satisfaction enough to take a measured approach builds trust and confidence in its product. Ultimately, you get to enjoy well-tested, thoughtfully implemented features that improve your overall experience with the software.

Embrace the gradual release process. Expect your vendor to manage their rollouts in this way, and watch the software you rely on evolve in a controlled and impactful way, leading to the success of your business, too!


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