White Paper

Introducing Agility to Enterprise Applications

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WHAT'S INSIDE?

Introducing Agility to Enterprise Applications

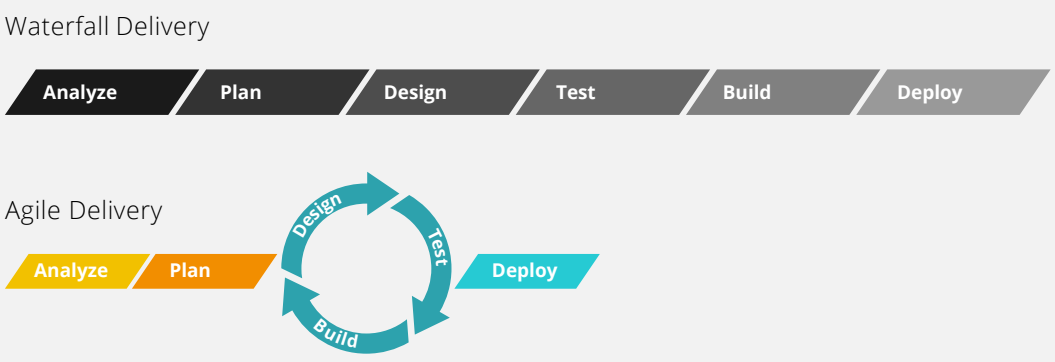
Eric Ries' highly successful book **The Lean Startup**, published in 2011, presents an innovative methodology for agile development of business products, the rapid delivery of a minimum viable product (MVP), resulting in validated learning, driving innovation and business value realization. Ever since, companies of diverse types have been adopting and refining the model to different degrees.

Internet companies were the quickest to adopt Agile principles and apply them to the entire software delivery lifecycle. This approach is known as Continuous Delivery. Internet companies were soon followed by software product companies and as of late, by durable goods and services enterprises.

Continuous delivery empowers the business end of the enterprise to respond to competitive threats by quickly testing new capabilities or even new markets. This then enables them to derive insights on what works - and more importantly, what doesn't work - using an approach that is faster, low-risk and low-cost.

The fit between Internet companies and the continuous delivery model is a natural one, but what about other types of companies? Are all companies equally apt to adopt continuous delivery? If so, to what extent and how? Are there universal best practices that can be applied to ensure a smooth transition for all types of companies?

Waterfall vs. Agile Application Delivery



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The Continuous Delivery **Gold Rush**

Cloud based companies have taken continuous delivery to new heights. The online world runs on a continuous always-on basis, so applications, data delivery channels, analytics engines and all other network-connected elements of total system operation must also adhere to the same continuous mantra. Netflix, - which has evolved its business model from shipping DVDs to streaming video over the web - has developed its own open-source continuous delivery platform, Spinnaker, now employed by Google Waze [1], among other companies.

Web developers can write code and have the changes in production within a few hours. Many Internet companies also practice continuous deployment, whereby code is automatically deployed to customers. Facebook was utilizing continuous deployment as early as 2005. Flickr was one of the first organizations to publicly embrace continuous deployment; it reported an average of 10 software deployments a day in 2009.

To accommodate the continuous delivery model, software product companies like Adobe, that have traditionally sold newer versions of their products, now sell annual subscriptions to their cloud SaaS products – continuously updating and delivering them.

Companies ranging from retail to financial services and healthcare have also started using continuous delivery in relation to their customer facing web and mobile applications. Those companies can plan, develop, and test a single feature. Because software runs on Linux or Windows servers and is perpetually connected to the Internet, change can be deployed when it makes sense. However, examples of enterprises selling tangible goods moving to a continuous delivery model have been few and far between. Specifically, we have seen little or none in the realm of Enterprise IT moving enterprise backend applications towards continuous delivery.

Case Study

ETSY

At Etsy, another early adopter which reported over 11,000 software deployments in 2011 [2], newly hired software developers are assigned a simple bug to find and fix on their first day of work, and are expected to deploy their fix to production servers within a day or two — without supervision and without a separate testing team.

[1]Multi-Cloud continuous delivery using Spinnaker at Waze
[2]ICSE 2016, Continuous Deployment at Facebook and OANDA

Why the Enterprise **Hasn't Caught Up**

Fish can swim faster than ducks for a number of reasons. DNA, anatomy and evolution are some. Similarly, companies whose primary focus and core competency is software, are best suited to deliver products in a continuous model. In contrast, examples of enterprises that have successfully adopted continuous delivery are still scarce.

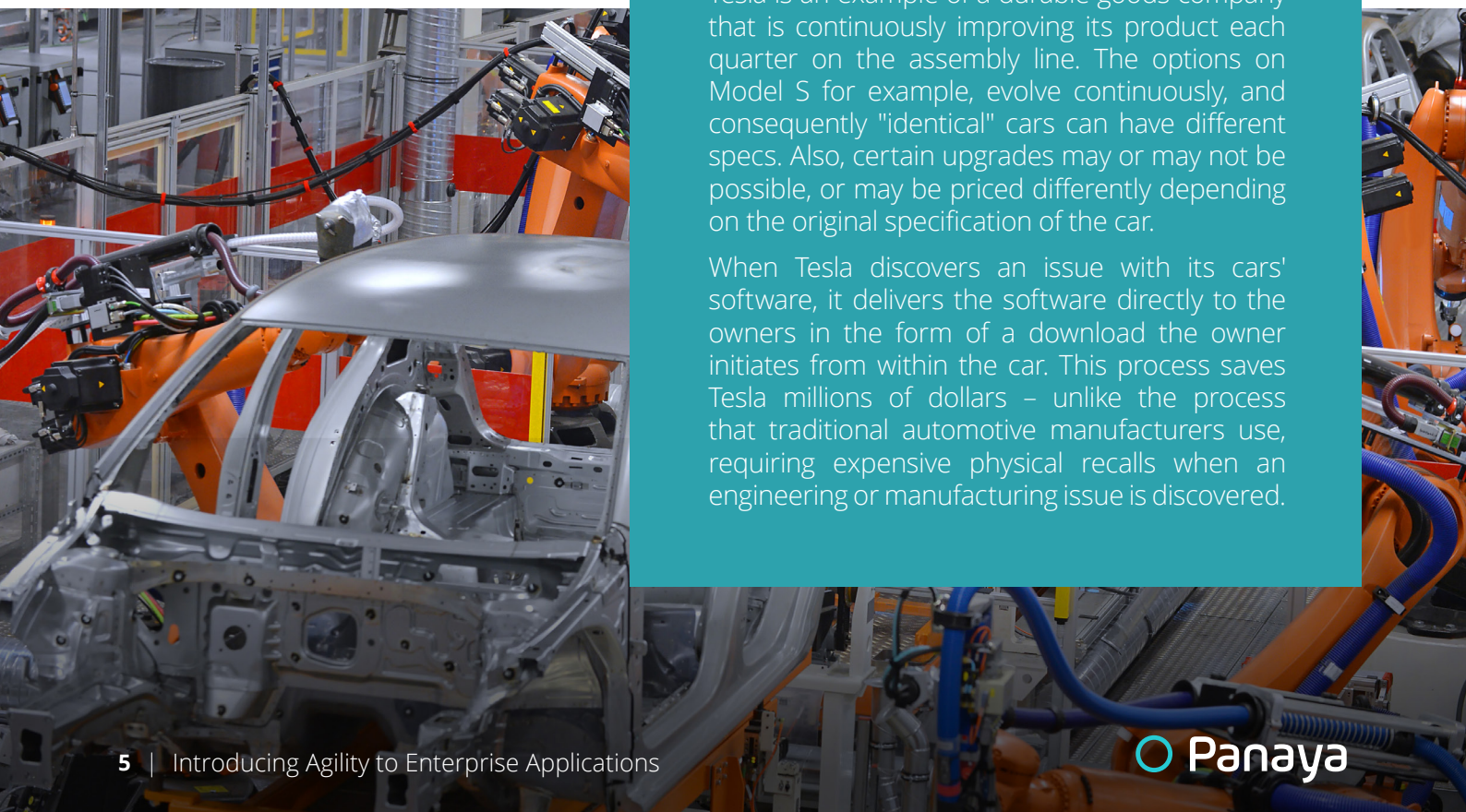
At the core of this fact lies an evolutional difference. For decades, even before the Cloud or the Web, software companies' business model was based on continuously enhancing their products' functionality. Software is unaffected by physical wear and tear. It does not suffer the tangible impact of time, other than the loss of computability (with other software or hardware being developed). Unless newer versions of a software product can perform better – they would simply not sell. It is therefore safe to say that software companies, by their very nature, live and breathe change.

Case Study

TESLA

Tesla is an example of a durable goods company that is continuously improving its product each quarter on the assembly line. The options on Model S for example, evolve continuously, and consequently "identical" cars can have different specs. Also, certain upgrades may or may not be possible, or may be priced differently depending on the original specification of the car.

When Tesla discovers an issue with its cars' software, it delivers the software directly to the owners in the form of a download the owner initiates from within the car. This process saves Tesla millions of dollars – unlike the process that traditional automotive manufacturers use, requiring expensive physical recalls when an engineering or manufacturing issue is discovered.



Enterprises, on the other hands were traditionally not as dependent on innovation for their livelihood. Enterprise sales were historically more affected by factors such as the quality of their service, the reputation of their brand, the durability of their products and so on. In other words, frequent change is simply not in the Enterprise DNA.

However, times have changed. Most enterprises have long since realized that constant evolution of their offering is crucial to their survival. The more pioneering enterprises like Tesla are now understanding that continuous delivery is the way to realize that evolution. However, even the most forward-thinking enterprises have not yet been able to adopt continuous delivery to the extent that software companies have.

This slow adoption rate has several reasons. For example:

- Enterprises roll out business innovation via packaged software (e.g., SAP, Oracle, Salesforce etc..) applications that have a predefined and supported interface for managing configuration or accessing data. These endpoints require dedicated Application Lifecycle Management (ALM) tools and practices
- Traditional change delivery tools are not designed for the continuous delivery model where change is collaborative and must be delivered fast and with high quality
- The alignment IT and Business resulting in the emergence of the Business Technology (BT) function is not yet completed in many enterprises. Consequently, poor cross-team viability and lack of requirements traceability hinder collaboration and impede the pace of change delivery
- Enterprises want to be agile, but are unable to meet their goals as they are confronted with the false compromise of speed vs. quality

What Is
Enterprise Agile Delivery

To meet the competitive demands of the Digital Transformation era, enterprises are required to adopt a continuous delivery model where release cadences are measured in days, not quarters and quality is guaranteed. To get there, organizations need to apply agile methodologies.

However, unlike native Internet or software companies, enterprise IT needs more than a continuous development tool such as Jira or Jenkins to infuse their organizational DNA with agility.

Within the enterprise, application delivery and testing activities must be undertaken in close partnership with business users and functional experts within their respective lines of business. This requires more collaboration, constant planning and transparency as well as a process-oriented approach to application lifecycle management.

Furthermore, backend enterprise applications do not exist in a vacuum – any potential change to the software landscape could have significant down-stream impact that far outweighs the benefit of the new functionality. Therefore, real-time visibility into project risk and quality are paramount.

Enterprise Agile Delivery is the right combination of organizational culture, methodology and tools for a collaborative, transparent and seamless change delivery process.

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Best Practices for a Safe Transition to **Enterprise Agile Delivery**

Moving from a waterfall to an agile or continuous delivery practice is not an easy transformation for large organizations. However, with the right tools and methodologies in place, enterprise applications delivery can be agile too.

Here are some tips to consider.

1 | Continuous Is Not the Same as Constant.

Not all changes must be released within hours to constitute agile or continuous delivery. Instead, when a feature or upgrade is ready, it can be deployed immediately, rather than being tied to an arbitrary schedule such as a quarterly upgrade.

2 | Dip Your Toe in the Agile Water First.

Forcing a big bang approach is likely to fail. Try agile delivery on a single and simple project led by a team motivated to perform that transition. Experience a project that is of negligible risk. Then take what you've learned from that small project and apply it to a broader initiative.

3 | Continuous Delivery Is a Cultural Change.

Take a holistic approach to your transformation. As early as in 2013, a Forrester report[1] describes the cultural difference between the old and new Software Development Lifecycle (SDLC):

"**The old SDLC** was **manual**, requiring **heroic efforts** and constant planning to coordinate a **surprising amount of low-skilled work**. As a result, management focused on reducing the unit cost of labor. Once it made funding decisions, projects took on a life of their own with little regard for the broader needs of the organization."

"**The new SDLC** is based on an adaptive, goal-directed model; the business sets the destination and the delivery team adaptively steers toward the goal...There is far more **collaboration** to determine the shape of the solution than before. Rather than focusing myopically on labor costs, the new SDLC focuses on **total life-cycle** cost and **streamlines processes** while applying heavy doses of automation to improve **predictability** and **repeatability**. "

Consider your organizational culture, specifically around IT and how to adjust it.

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[1]By Kurt Bittner with Phil Murphy, John R. Rymer, Jeffrey S. Hammond, Tom Grant, Ph.D., Steven Kesle

New Solutions **for a New Age**

For enterprises to realize the promise of agile delivery, they need to adopt the next generation of application lifecycle and delivery tools. Here is a quick reference chart of what that entails.

	Traditional ALM	Next-Generation Agile Delivery
Collaboration	Specialized roles in siloed teams	Holistic and integrated environment enables collaboration with all business process stakeholders in distributed teams.
Traceability & Visibility	Black box without phase or progress visibility	Requirement-centric view for the business user. Tests and defects mapped to business change requests and development requirements, enabling better scoping & on-the-go prioritization decisions.
Test Management & Automation	Largely manual testing and defect reporting	Project and test managers can assign different steps of a single business process to multiple key users, while sequence and workflow are managed from a business process-centric view. Autonomous testing eliminates manually engineered test cases through zero-touch test case creation and maintenance.
Delivery Impact & Risk mitigation	Inability to accurately assess change impact and risk prior to release	Project and release-level impact analysis and risk mitigation to assess testing and production readiness to the level of individual requirements. Real-time code analysis of SAP and SFDC provides insights into all other impacted transactions and ensures those impacted areas have test coverage via automatic test plan validation and preemptive code-fixes.
Compliance & Workflow	Inability to apply policy across the entire portfolio and have visibility into overall process status	Requirement lifecycle approval workflow enables compliance with internal and regulated change introduction processes while continually managing the change lifecycle process.

Introducing

Panaya Release Dynamix

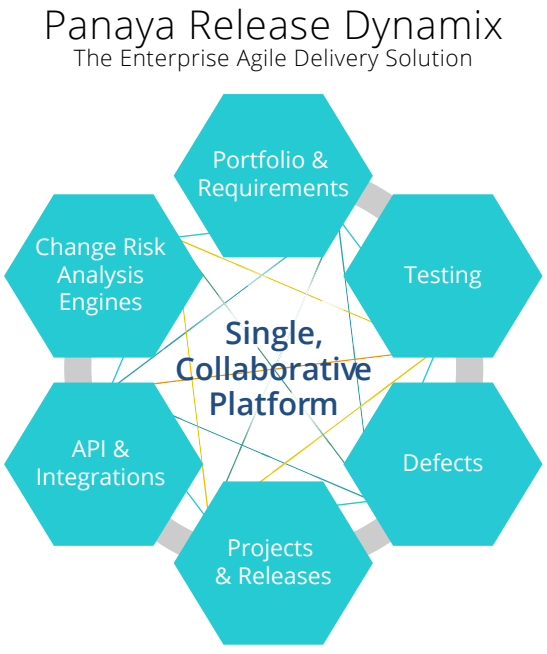
The Enterprise Agile Delivery Platform

With Panaya RDx, the complexity and bottlenecks inherent to change are removed, allowing enterprise to become agile. Panaya RDx accelerates application lifecycle activities by providing a real time requirement-centric view that enables risk and effort based prioritization of change delivery projects and releases. Sofware delivery associated risk such as failure to meet KPIs, can now be analyzed and assessed based on progress.

Manage Application Change from Creation Through Validation

Bringing together all the stakeholders of change onto a single platform, Panaya RDx delivers:

- **Traceability** | Users can map tests and defects to business change request and development requirements, increasing quality and business assurance
- **Agility** | Change delivery managers can enable continuous delivery through visibility into requirements, user stories and tasks
- **Compliance** | Organizations can employ a requirement approval workflow to comply with internal as well as regulated change introduction processes
- **Collaboration** | Users benefit from proactive communications and notifications that help to identify conflicts and remove dependencies typically found in complex, cross-functional (often geographically dispersed) business processes
- **Compatibility** | Organizations can continue with best of breed solutions and protect existing investments. RDx is fully interoperable with Incident, Requirement and Change Management solutions, Test Automation and Panaya Connect API



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THANK YOU

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About Panaya | With Panaya, organizations can accelerate application change and continuous delivery of innovation. Panaya provides cloud based test management, test automation and enterprise agile delivery solutions that ensure collaboration between Business and IT. Enabling faster release velocity while ensuring quality, Panaya delivers an optimized user experience with end-to-end visibility of the application lifecycle. Since 2008, 1,600 companies in 62 countries, including a third of the Fortune 500, have been using Panaya to deliver quick, quality change to enterprise applications.