



Why modernize your business with Pega?



Table of contents

Introduction: Why keep your enterprise software current?	3
Modern: Provide a cutting-edge architecture to set your business up for true transformation	4
Nimble: Enable business agility by accelerating application development and time to market	6
Ready for what's next: Simplify ongoing modernization and upgrades of the entire IT ecosystem	8
Innovative: Adopt the latest features and experiences	9
Conclusion	11

Introduction: Why keep your enterprise software current?

For years, enterprise IT teams have struggled to keep their platform and application ecosystem up to date. This struggle has been amplified by the expansion of IT portfolios. A recent study by Okta found a 68% increase in the number of applications deployed over the past four years – and the average enterprise has over 129 live applications.

Many organizations have plans to modernize their application environment. While application modernization starts as a top priority for most IT groups, these projects are usually the first to be deprioritized when new business requirements rise in the backlog. Other more pressing projects, such as those that can add a new capability to the business, are usually prioritized over an upgrade. According to Gartner, by 2023, 90% of current applications will still be in use, but most will have received insufficient modernization investment. If the application is working, the organization does not want to disrupt a system that is performing as expected and required.

Additionally, it can be difficult to find the budget and time needed to perform upgrades on a consistent basis. As a result, application and platform versions remain stagnant.

These legacy platforms and application versions may be running fine, but the business is missing out on many opportunities to improve performance, utilize new and exciting features, and transform their business. Time to market is also impacted by legacy application development platforms as Pega is constantly adding new features to accelerate application development.

Modernizing an enterprise's IT ecosystem ensures the organization – including its developers and business units – consistently stays:

- **Modern** – by providing a cutting-edge architecture to set your business up for true transformation
- **Nimble** – by enabling business agility by accelerating application development and time to market
- **Ready for what's next** – by simplifying ongoing modernization and upgrades of the entire IT ecosystem
- **Innovative** – by adopting the latest features and experiences

Let's dive into each of these considerations to understand the underlying risk and how modernization mitigates it.

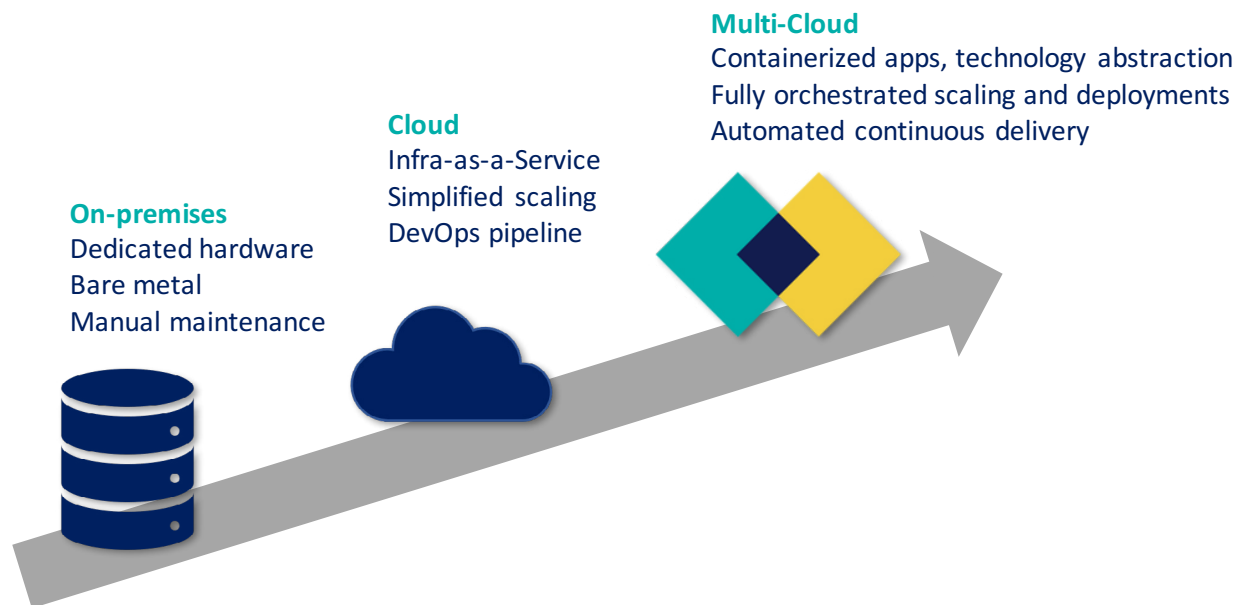
Modern

Provide a cutting-edge architecture to set your business up for true transformation

Technology deployment and architecture best practices are rapidly changing. It wasn't that long ago that the status quo for deploying applications and platforms was on-premises with purchased, dedicated, and limited hardware. Software was deployed directly on bare-metal systems with limited, static backing-technology dependencies. System administrators relied on error-prone scripts and manual procedures for deployments, promotions, and maintenance.

By now, most organizations have moved on from this trend and adopted a modern, cloud-native architecture instead. Platforms and applications that were deployed using legacy technologies leave organizations prone to:

- **Scaling issues:** Dedicated hardware and lack of automated orchestration can lead to unused capacity or even capacity shortage, which can then lead to potential service outages.
- **Vendor lock-in risks:** Bare-metal deployments lead to locked-in operating systems and backing-technology dependencies – limiting flexibility.
- **Manual system administration:** On-premises legacy systems, which can't be plugged into modern monitoring and orchestration technologies, require manual and potentially error-prone deployments and maintenance.



Cloud-native architectures provide thoughtful abstraction between technologies and components by employing application programming interfaces (APIs) and containers. Abstraction and isolation enable administrators to reduce costs, improve resiliency, and optimize their buying decisions, while simplifying the management and maintenance of the environment.

Administrators can maintain service level agreements without “overspending” on infrastructure by enabling seamless scale-up and -down of components and technologies – based on the granular demand of the functionality the service provides. Prior to cloud-native architectures, scaling services to meet demand was either unachievable because of limits on physical hardware and computing power, or extremely costly as it meant scaling up and down entire, inflexible systems.

API contracts, abstraction layers between technologies, and containerization increase resiliency and performance of services – particularly during upgrades and service incidents. With dependencies being relative and stateless, technology and nodes can be upgraded or replaced mid-operation without disruption of service. Container orchestration tools, such as Kubernetes, manage and replace damaged and upgraded nodes to ensure that services can meet clients’ demands.

Pega clients are able to change hardware, adopt new technologies, and migrate components of their environments without issue – all with our cloud-native approach that leverages API abstraction between services. With no static dependencies on hardware, operating systems, or technologies, IT departments can choose where and how they run their systems. Vendor lock-in becomes a thing of the past. With no constraints on what technology can be implemented, a pragmatic approach to transformation is possible.

The Pega Platform™ architecture is constantly evolving, ensuring that clients can take advantage of the latest best practices and technologies in cloud computing. For example, the Platform orchestrates in-memory data and cluster operations. Prior to Pega 8.4, the Pega Platform was deployed with an embedded version of Hazelcast – the technology used to manage nodes and in-memory data – which was scaled, maintained, and upgraded with the Platform at-large. In Pega 8.4, the Platform includes an API-abstraction layer around Hazelcast, enabling a client-server deployment topology, so the Hazelcast technology can be optimized independent of the Platform at large. The Platform will continue to evolve to take advantage of service abstraction, containerization, and isolation. This will benefit our clients through improved cost-effectiveness, scalability, upgradability, and resiliency.

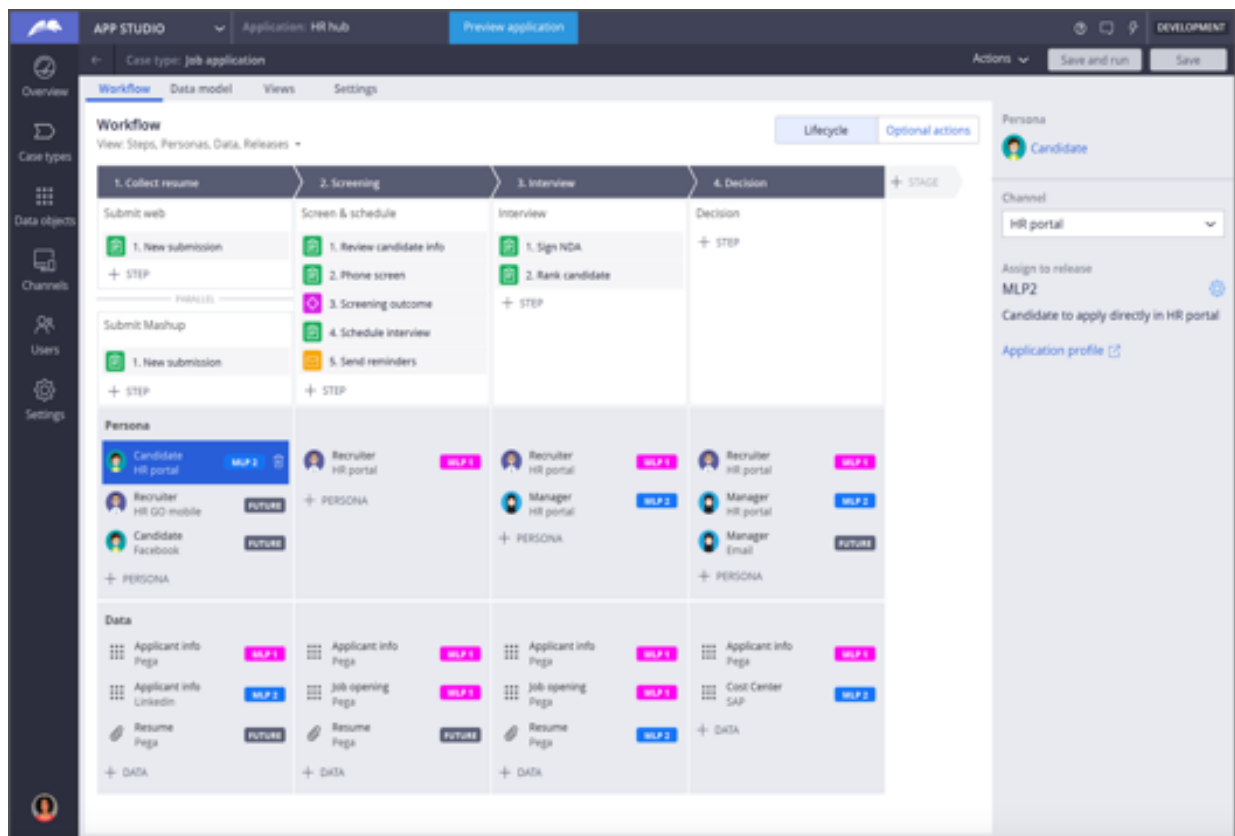
Nimble

Enable business agility by accelerating application development and time to market

In today's climate, organizations must respond to customer needs and market opportunities faster than ever before. Failing to do so opens the door for disruption, competitors, and missed opportunities.

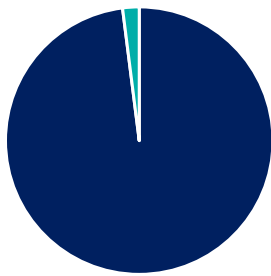
Today's market calls for a quick, go-to-market pace for a modern solution for the application lifecycle – from design to development to DevOps. Organizations require a toolset that ensures agility, visibility, quality, and repeatability at every step of the process.

Pega App Studio, introduced in Pega Infinity 8.1, folds agile design and development methodologies directly into the application development experience. Ensure releases are iterative, rapid, and value-focused while providing simple visibility so all stakeholders are on the same page and can execute seamlessly. When combined with Pega Deployment Manager for low-code DevOps pipelines, App Studio allows organizations to release application increments early and often – responding to the needs of their customers as fast as they change.



Prescriptive application development in App Studio

With a simple and guided low-code development interface, App Studio expands the horizons of agile application development beyond the professionals – empowering employees throughout the organization to become citizen developers. According to Forbes, only 2% of the world’s population knows how to code. Simultaneously, the need for solution development is growing rapidly (5x that of IT development capacity). Organizations who foster citizen developers will be set up for success – accelerating innovation, increasing output, burning down IT backlogs, and accelerating time to market.



2%

Of the world's population knows how to code

5x

Application demand growth compared to IT dev capacity



Citizen development presents massive opportunities. However, it does come with some hurdles. Organizations who have tried to foster employee use of some application development platforms – without the proper IT management toolset – have found that programs can fail quickly.

Successful citizen development programs call for the right tools and methodologies around:

- **Governance:** Building in automatic, repeatable, and purposeful approvals and gates to ensure organizational standards are maintained throughout the citizen development ecosystem
- **DevOps:** Automating provisioning and pipelines for citizen developers, eliminating manual system administration work
- **Reuse:** Kickstarting citizen developers with ready-to-use components and integrations
- **Collaboration:** Providing a space for questions, knowledge sharing, and coaching to enable and support new application makers

Pega’s Low-Code App Factory provides IT with this toolset, ensuring all citizen development efforts are set up for success and to support business goals and align to organizational standards.

Modernizing tools to ensure you have the toolbox you need to keep pace is critical. Pega solves this with a complete organization strategy in App Studio and App Factory.

Ready for what's next

Simplify ongoing modernization and upgrades of the entire IT ecosystem

For years – due to the architecture and limited capabilities of legacy systems – upgrades were an expensive, infrequent exercise. With so many competing priorities, many IT departments struggle with their limited budget for upgrades – leading to difficult prioritization decisions and inevitably long periods between upgrades for certain systems.

One thing isn't immediately apparent: As systems age, they become more and more costly to maintain, integrate, and upgrade. Organizations that commit to a consistent modernization strategy – by upgrading early and often – avoid these deferred costs.

For the past few years, our top priority at Pega has been to provide capabilities, services, and enablement to support clients who undertake a consistent modernization strategy.

With in-platform, low-code, automated testing capabilities, we can quickly and confidently validate business-critical applications against new platform or application versions – allowing for proactive identification and resolution of potential issues.

With Pega Cloud®'s ever-evolving suite of services, organizations can utilize automated Pega Platform and application upgrades to take on rapid, high-quality modernization projects.

Pega 8.x introduced automatically deployable platform patches. Now, organizations can adopt fixes quickly and maintain high-quality systems with no additional work.

Innovative

Adopt the latest features and experiences

Technology is rapidly changing. And the expectations of developers, employees, and customers are shifting along with it. One key benefit of software currency is the ability to adopt newly released features – optimizing efficiency and experiences.

At Pega, we take every release as an opportunity to continually expand on the already robust tenets of our platform:

- **Making decisions** with customer-centric AI that drives optimized actions
- **Getting work done** with powerful automation capabilities that deliver outcomes
- **Delivering excellent experiences** with purposeful, beautiful UX out of the box for every channel
- **Providing a future-proof digital architecture** with tools and services to support IT

In Pega Infinity™, we've committed to release incredible, impactful features across these themes:

	Pega 8.1 Fall 2018	Pega 8.2 Spring 2019	Pega 8.3 Fall 2019	Pega 8.4 Winter 2020
 <p>Digital Experience for end-users & customers</p>	<ul style="list-style-type: none"> • Low-code UI theming: create & edit app look & feel in App Studio. • Multiple mobile apps: build & deploy multiple mobile apps per Pega application. 	<ul style="list-style-type: none"> • Rich UI editing in App Studio: create engaging forms & apps from within App Studio. • Consumer-grade web self service: experiences end-users expect – build & preview in App Studio for web, mashup & mobile. 	<ul style="list-style-type: none"> • Table toolbar: get the info you need with runtime table customization & personalization. • Cosmos UI: consistent, intentionally designed experiences (standard in out-of-the-box for citizen developed apps). 	<ul style="list-style-type: none"> • New digital channels & digital messaging: engage everywhere with unified virtual assistants deployed across Facebook, Apple Business Chat, etc. • Citizen developer mobility: build & deploy mobile apps entirely from App Studio.
 <p>Decisioning & AI for app developers</p>	<ul style="list-style-type: none"> • Prediction Studio: create ML models for analytics & decisions. • Intelligent email processing: create & route work using NLP & AI. • AI summarization: extract the meaning & key points from long-form text. 	<ul style="list-style-type: none"> • Intelligent email responses: automate work & close the loop • Simplified chatbot deployment: test & build bot interactions in preview mode. • Prediction monitoring: optimize & understand efficiency of your AI. 	<ul style="list-style-type: none"> • Rich chatbot interactions: use forms & rich UI components in chatbots to capture & display info. • Machine learning as a service: use 3rd party predictive models with the Pega Platform. 	<ul style="list-style-type: none"> • Intelligent case processing: optimize & accelerate the resolution work via AI predictions. • Always-on unified inbound & outbound marketing
 <p>Intelligent Automation for app developers</p>	<ul style="list-style-type: none"> • Role-based workspaces: App Studio, Dev Studio, Admin Studio, Prediction Studio • Visual Integration Designer: create & understand app data sources • 'Space' collaboration: foster & participate in the conversation. 	<ul style="list-style-type: none"> • Task tracking: in-context project management for spaces & cases. • Guardrail controls: enforce quality with justified guardrails. • Automations: reduce complexity & activity dependence. 	<ul style="list-style-type: none"> • Business logic condition builder: optimize work routing & automation based on your rules. • Data Visualizer: understand & edit data model using drag & drop. 	<ul style="list-style-type: none"> • 3 pillars methodology: capture the foundations of any process in Pega – journeys, personas, and data – to jumpstart application development.
 <p>DX Architecture aka IT's best friend</p>	<ul style="list-style-type: none"> • GDPR: regulatory support for your application. • Automated scenario testing: create UI-based test cases from within Pega. • Application quality dashboard: visualize your app quality & test coverage. 	<ul style="list-style-type: none"> • Digital Experience API: expands platform horizons enabling developers & front-end specialists with rich UI metadata. • App layers visualization: understand your architecture. • Deployment Manager portal: monitor your pipelines. 	<ul style="list-style-type: none"> • Zero-downtime patches: stay up to date with the latest quality enhancements on PegaCloud. • Vulnerability detection: protect your app by checking for Java injection vulnerabilities. • Kubernetes & OpenShift deployment: run & scale anywhere. 	<ul style="list-style-type: none"> • Project fnx: architectural evolution to microservices for improved scalability & resiliency. • UI architecture improvements: improve UX & performance with UI architecture & generation enhancements.

Adopt the latest Pega Platform capabilities available for **making decisions**, such as **Prediction Studio** and **Pega Email Bot™** to unlock deeper engagement across channels.

- Simplify the creation and optimization of machine learning models that are sophisticated, customer-centric, empathetic, and transparent in **Prediction Studio** – a consolidated, low-code toolbox for working with AI in Pega. Use these models across channels and cases to optimize key metrics across the customer journey.
- Reduce operating costs and mistakes, accelerate customer email response time, and automate routing and outcomes with **Email Bot**. Email bot is filled with capabilities, such as NLP, OCR, AI, RPA, and case management, for turning email into a 21st-century channel.

Adopt the latest Pega Platform capabilities available for **getting work done**, such as **Visual Integration Designer** to automate work across back-end systems.

- **Visual Integration Designer** helps application developers understand and edit the external data relationships their applications rely on – all in a drag and drop, easy-to-engage-with interface.

Adopt the latest Pega Platform capabilities available for **delivering excellent experiences**, such as **Pega Cosmos Design System** and **Citizen Developer Mobility** to create applications with optimized, accessible, visually-appealing UX.

- The new **Cosmos Design System** provides a beautiful default UX for applications, which helps developers quickly achieve ideal experiences for their users.
- Enable anyone to create and deploy mobile applications without coding knowledge or technical hurdles with the new **Citizen Developer Mobility** capability built into Pega App Studio.

Adopt the latest Pega Platform capabilities available for **providing a future-proof digital architecture**, such as **Digital Experience API** to break down organizational and technical silos by seamlessly connecting business applications into larger, modern, API-based ecosystems.

- Pega's new **Digital Experience API** brings business application flexibility to the next level – with model-driven interfaces for performing and reviewing work in business apps. It's complete with the UX metadata needed to create connections across technologies.

Maintaining a modern business with Pega ensures your organization stays innovative by utilizing the Pega Platform to the fullest for **making decisions**, **getting work done**, **delivering excellent experiences**, and **providing a future-proof digital architecture**.

Conclusion

Don't allow your enterprise to fall victim to the pitfalls of static, legacy architectures. While it takes time and resources, modernizing your ecosystem ensures your organization avoids unnecessary risks and takes advantage of massive productivity gain opportunities.

Modern IT ecosystems, including application development platforms like Pega, allow developers and business units to stay:

- **Modern** – by providing a cutting-edge architecture to set your business up for true transformation
- **Nimble** – by enabling business agility by accelerating application development and time to market
- **Ready for what's next** – by simplifying ongoing modernization and upgrades of the entire IT ecosystem
- **Innovative** – by adopting the latest features and experiences

Schedule a call with your account executive today to make sure you have the most current version of Pega.



We are Pegasystems, the leader in software for customer engagement and operational excellence. Our adaptive, cloud-architected software – built on the unified Pega Platform™ – empowers people to rapidly deploy and easily change applications to meet strategic business needs. Over our 35-year history, we've delivered award-winning capabilities in CRM and digital process automation (DPA), powered by advanced artificial intelligence and robotic automation, to help the world's leading brands achieve breakthrough business results.

For more information, please visit us at www.pegacom