



PEGA EXPRESS
ENTERPRISE

The digital transformation journey with Pega

Recommendations and best practice on implementation

A PEGA PLAYBOOK



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The digital transformation journey with Pega

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Introduction

Pega provides industry-leading technology to set up your enterprise-wide transformation. In this document, we provide an **end-to-end overview of how to implement your transformation to a unified low-code ecosystem** – from standing up your instance of Pega, all the way through to maintaining a unified app building business environment.

Our approach empowers you to deliver value quickly through an innovative app factory. Working with a leading-edge technology like Pega, you will have unparalleled agility, transparency, and confidence as you connect insights into end-to-end experiences and orchestrate actions across systems - old and new.

Through our experience in the industry, low code success is achieved when you consider the following activities:



Start at the Center



Define Transformation Organization



Build your 1st Application



Scale the Enterprise



Move Towards Autonomy

A low code ecosystem is considered a form of business transformation and will take a level of investment in time and resources to set up for success. The following activities take you through the transformation:

- **Start at the Center** with outlining your business problem and outcomes
- **Define the Organization for End-to-End Transformation** with the business operating model you need to set up for success
- **Build your 1st application** in confidence while leveraging the power of Pega to deliver quality, speed and value
- **Establish a strong Pega foundation to ensure your enterprise is scale-ready** so that developers in a range of capability are empowered and ready for continuous development
- **Move towards an Autonomous Enterprise** that self-improves processes and technology as your organization grows and matures.

You will attain an enterprise with a solid library of capabilities from which developers choose, modify, apply and innovate solutions in their areas of expertise. By unifying applications, common data, channel and workflow sources, artificial intelligence is easier to apply, making your enterprise future-ready - one that **simultaneously innovates while delivering efficiencies and value.**

1

Start at the Center: Pega solving your business problem.

Employees and customers are no longer passive consumers of technology - they actively participate in shaping the tech experience and demand that it adapts in real-time with them. To react and change this quickly, across all channels and systems, you need agility. Pega Infinity allows you to maintain the ability to scale enterprise-wide.

Embracing the Center-out™ approach

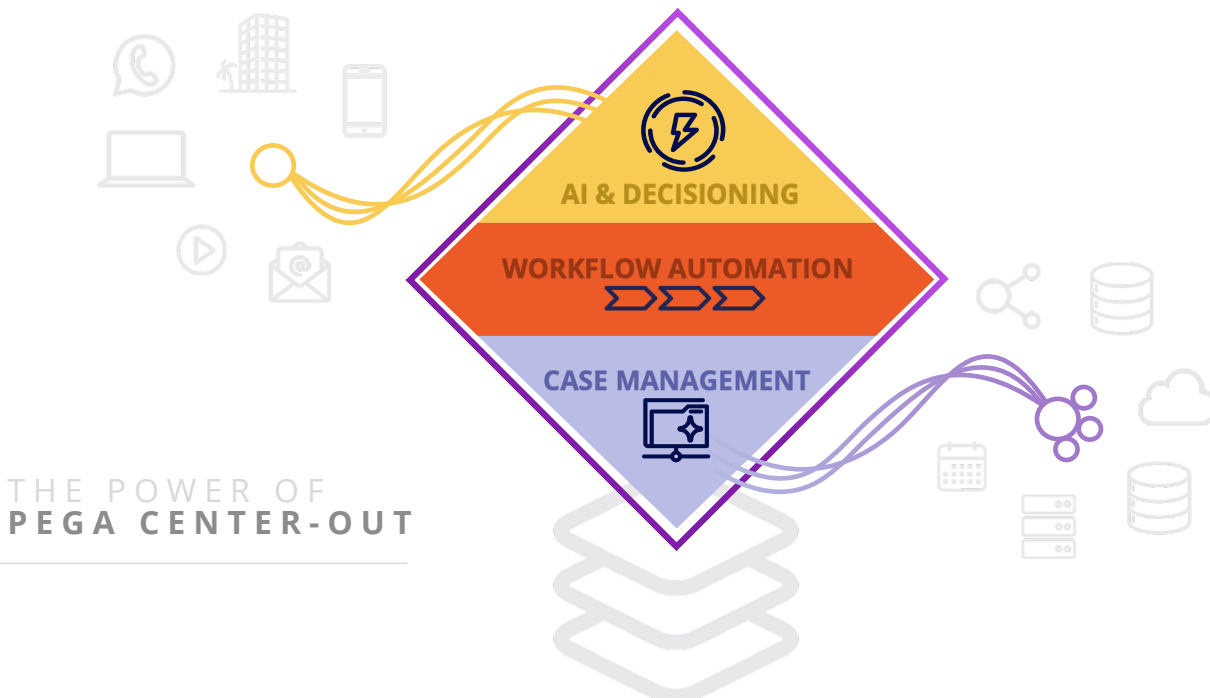
The key to enterprise success is to adopt a Center-out™ approach to structuring your technology. It starts with **your business architecture around customers and outcomes** instead of around products or business functions. Center-out allows the business to adapt whenever necessary and have the technology reflect changes in different systems swiftly.

Adopting Center-out means you improve **common customer journeys that run across all channels** (i.e. call center, social media, online, mobile and back office) delivering a consistent customer experience.

Keep your focus on the customer
Industry example

CUSTOMER JOURNEY	PRODUCT(S)	BUSINESS FUNCTIONS
Financing a home	<ul style="list-style-type: none"> • Fixed Rate Mortgage • Variable Rate Mortgage • Off Set Mortgage • Lifetime Mortgage 	<ul style="list-style-type: none"> • Call Center • Back offices • Online • Social media • Disputes • Underwriting • Fraud • Sales • Service • Policy Administration • Accounts Department • Payroll • Complaints Department

Leveraging Pega’s low-code platform, AI-powered decisioning and workflow automation you can build **innovation into your end-to-end customer journey, unify experiences across your channels and business functions and adapt** with increased agility.



How to structure your architecture from the Center-out

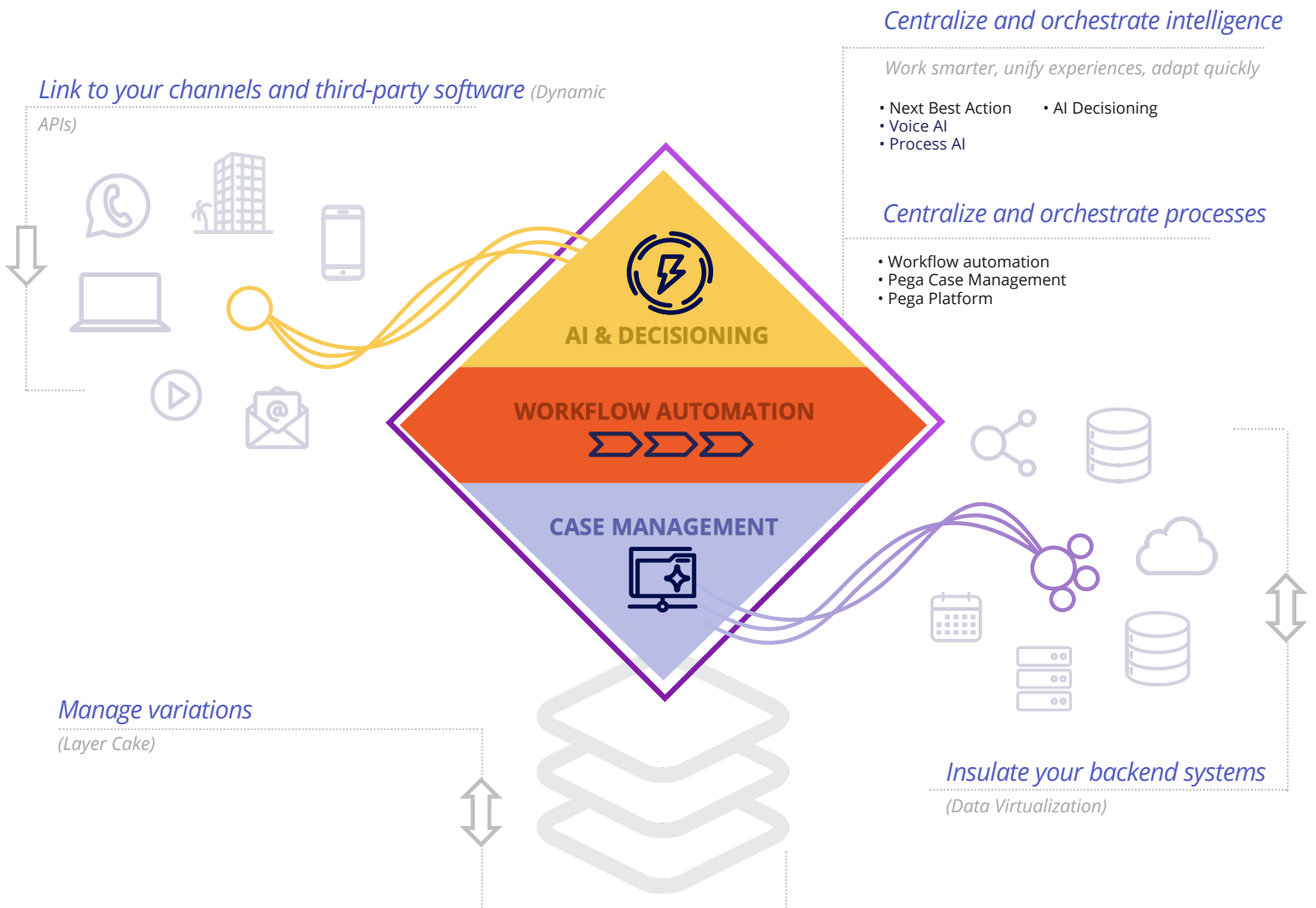
In order to deliver customer and business outcomes, you will consider **where to define your business logic**. Business and technology leaders will align and actively partner with one another to ensure this architecture evolves in the right way. The collaboration will ensure that the technology accurately represents the way the business needs to run in order to increase effectiveness.

Working from the Center-out means you start with centralizing your business intelligence, processes, and workflow automation. You can then link out to your user interface (UI) across your channels using dynamic APIs and use data virtualization to insulate your processes and customers from the complexities of your backend systems.

Getting this right relies on the following 5 factors:

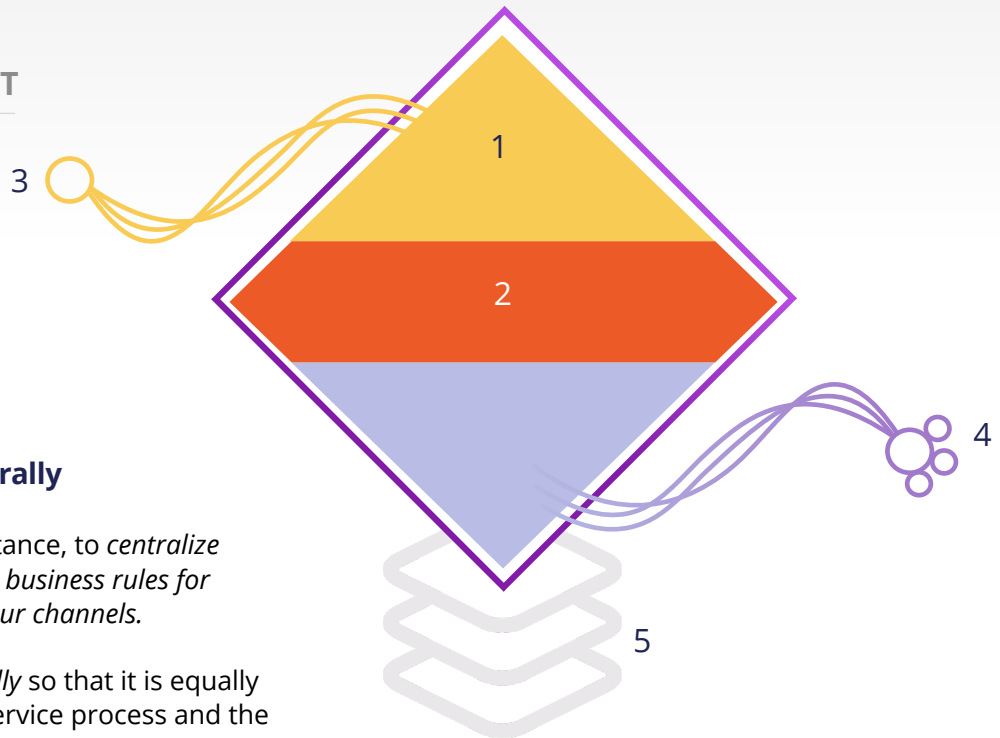
- Manage intelligence centrally
- Focus on outcomes, align your processes
- Connect experiences up to your channels
- Connect down to your data, keep logic nimble
- Manage variations to be scale-ready

We elaborate on these factors in the next section.



THE POWER OF PEGA CENTER-OUT

Defining the 5 Core Principles



1 Manage intelligence centrally Pega AI & Decisioning

This requires, in the first instance, to *centralize your business intelligence and business rules for consistent access across all your channels.*

Placing the intelligence centrally so that it is equally accessible to both the self-service process and the call center process means that consistency across channels is immediately improved – less risk, more consistent experience, easier adaptability.

2 Focus on outcomes, align processes Pega Case Management & Workflow Automation

The customer journey is defined in terms of the stages and the steps required to get the work done. *Success for the customer is making sure that the design of the underlying process meets their needs and delivers their outcome* irrespective of the channel or your organization's operating model.

Pega's Case Management capabilities, allow you to *centralize the processes* and link the context of where the customer is in their journey with the associated business rules, intelligence.

3 Connect experiences to all channels Pega Dynamic APIs

Dynamic APIs *render your centralized processes, business logic and intelligence and keep your channels and business logic synchronized for consistent customer experiences.* The added benefit is that your UI across channels will automatically update as you apply changes with no recoding needed.

4 Consolidate data and keep logic nimble Pega Data Virtualization

Your customer journeys and underlying processes are heavily dependent on data spread across several different applications, databases, and systems of record. *The 4th principle of Center-out is to insulate your process, users and customers from the complexity of your back-end systems.* Keep true to your customer outcomes using Pega's Data virtualization capabilities to *design your cases to automatically pull in needed data in a common structure, regardless of source.* This gives you the agility to build new experiences on existing systems and modernize legacy systems without breaking processes.

5 Manage being prepared for scale Pega Situational Layer Cake

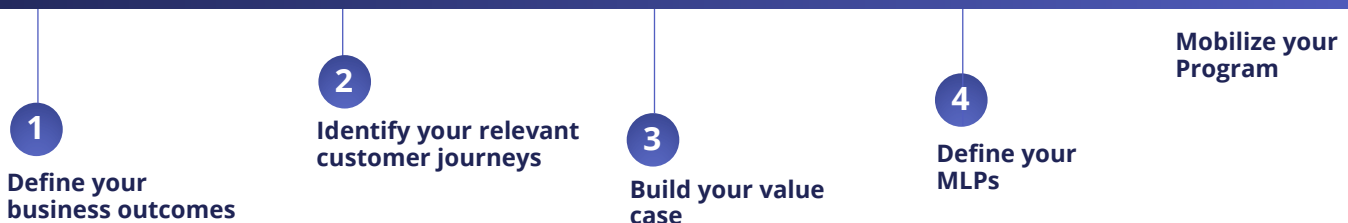
Future-proof your business architecture by organizing everything you build in layers that map to the unique dimensions of your business such as customer types, lines of business, and geographies. This layered approach helps you manage business variations without duplicating logic. Start small for fast wins and scale up over time.

Define your organization's end-to-end transformation roadmap

At Pega, we understand that organizations need to 'keep the lights on' with current operations while responding to the ever-increasing rate of change. With Center-out, the focus on the customer journey will drive the definition of your transformation roadmap and ensure alignment of business and technical architecture.

We tackle the transformation with agility and coherence - customer journey by customer journey. Breaking the overall transformation into incremental customer journey releases simplifies the program and develops acceleration over time.

Start your transformation with a Center-out roadmap



Business outcomes are tied to a company's strategic objectives and heavily influenced by what customers experience and feel as they interact with the organization via technology. When creating a Center-out transformation roadmap, the business outcomes and the related **customer journeys** to achieve the outcomes will need to be articulated for design and realization within the Pega Platform™ application.

With the strategic picture identified, the next step is to be clear on the **business value case**. We start by selecting the customer journeys that will deliver the most value to your customers and your organization. To retain your agility, reduce complexity and increase speed to value we create a plan for *incremental releases of capability* – at Pega we refer to these as a **Minimum Lovable Product (MLP)** starting with your most valuable customer journey and expanding from there. You are now ready to **mobilize your program**.

In the next section, we will cover each of these steps in more detail.



PEGA EXPRESS TERMINOLOGY

What is does MLP mean?

A Minimum Lovable Product or MLP is how Pega refers to releases. Unlike a Minimum Viable Product (MVP) which is just viable, an MLP represents the minimum that is required for customers to love a product, rather than merely tolerating it.

1. Define your business outcomes

The initial step is for the business to identify what are the strategic business outcomes needed to achieve and understand any baseline performance metrics to help create a business value case?

Outcomes drive transformation in organizational agility and help teams work smarter whilst simultaneously unifying customer experiences.

By leveraging Center-out, coupled with Pega's low-code platform capabilities, you can design and build applications and experiences to achieve defined business outcomes. Pega AI-powered decisioning and workflow automation supports customers throughout the lifecycle from the first contact, acquisition, growth, retention and advocacy.

Organizations typically derive strategic business outcomes from the perspective of the following key areas that play to the strength of Pega's product portfolio.

- Improving the effectiveness of your customer engagement,
- Accelerating your acquisition and onboarding
- Automating your customer service capabilities
- Streamlining your operations and
- Improving the effectiveness of your exception resolution

Examples of great outcomes achieved from our solutions

AUTOMATE CUSTOMER SERVICE



3-minute reduction in average handle time across 10K agents and 100 service processes

STREAMLINE OPERATIONS



2x productivity of 400k field staff with zero downtime

PERSONALIZE ENGAGEMENT



£100M profit increase in a single market from 3x higher offer acceptance

1. Identify your customer journeys

The next step to leverage center-out is to identify the end-to-end **customer journeys** based on the value they bring to your customers and your organization. A good way of achieving this with Pega is through the best practice of Design Thinking. Pega's Catalyst™ service applies Design Thinking to a workshop experience that takes you through the following steps:

- **Frame.** Understand your challenges and identify digital transformation opportunities.
- **Focus.** Select a high-impact customer journey to focus on and define the problems to solve.
- **Spark.** Use a design thinking approach to identify and design human-centered solutions, then co-create a prototype.
- **Catalyze.** Co-create a roadmap and delivery plan to scale up our prioritized recommendations and prototype.
- **Scale.** Provide the strategic framework to continue your transformation journey.



Learn more about our Pega Catalyst service here:

[Pega Catalyst™: Applying design thinking principles to speed digital transformation | Pega](#)

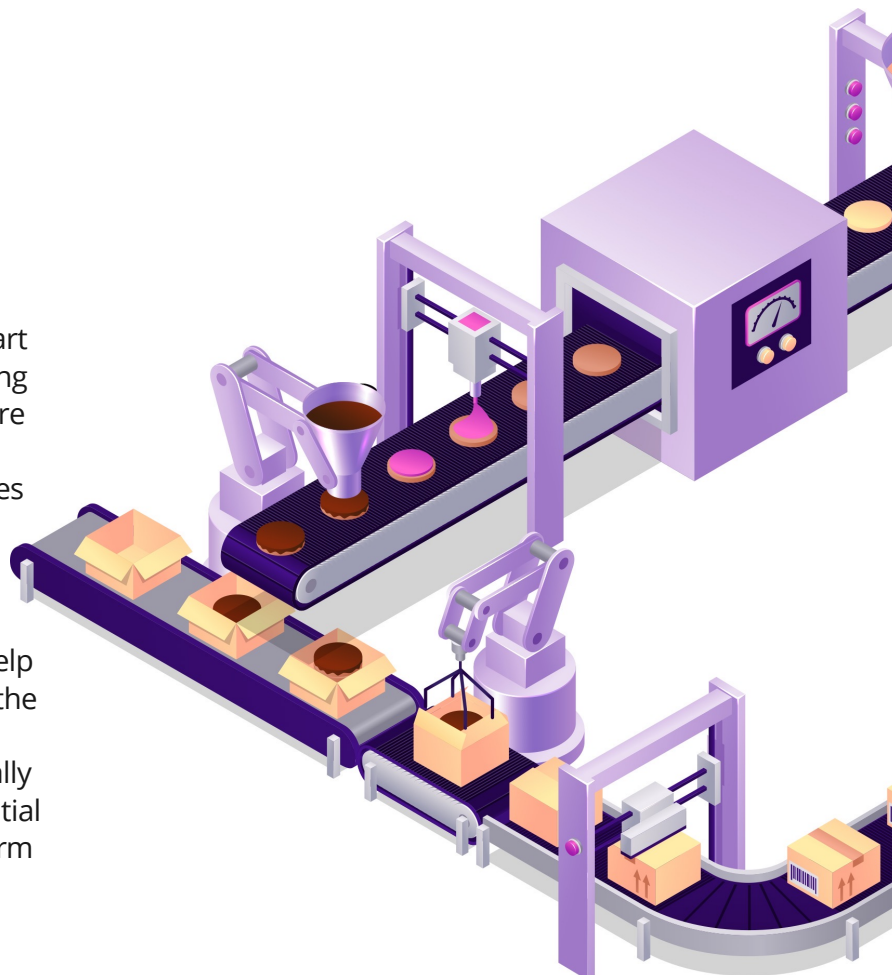
PEGA EXPRESS USE-CASE



Example Manufacturing Company

This established firm didn't know where to start with their transformation, and through working with Pega concluded that their sales team were prevented from being successful due to the volume of post-sale support queries and issues that they constantly dealt with.

Through a Pega Catalyst engagement, they identified the customer journeys needed to help automate these processes with Pega, so that the manual support needed was significantly reduced. Prototyping it with the client to visually bring it to life and agree the scope for their initial Minimum Lovable Product releases (Pega's term for a release).



Next, in order to define implementation priorities and scope, we break down the customer journeys into more manageable pieces - called Microjourneys®. Each Microjourney achieves an outcome for the customer and comprises the stages and steps necessary to get the customer's goal completed. Breaking down journeys into more manageable 'chunks' helps ensure that releases are sized appropriately and allows applications to be incrementally developed and released to the end users, which allows them to adopt new ways of working quickly and provide feedback on improving the solution.

PEGA EXPRESS USE - CASE



In a car service company, car breakdown cover can be broken down into more manageable microjourneys and be delivered incrementally over time.

As seen in the diagram below, Car Breakdown cover is in principle made up of three smaller microjourneys.

- Purchasing a Car Breakdown Policy
- Assistance at the side of the road
- Policy renewal

Triple C Car service

Organization providing road-side assistance to members



Goal: Nora wants to feel safe when she travels and wants to know she has support when her car breaks down.



Microjourney™

Apply for membership

Nora is driving her kids to many after school activities. She applies for a membership from Triple C Car Service using the web portal from her home computer. She feels relieved to know there is someone to help her if the car breaks down.



Microjourney™

Request road-side assistance

Nora was on her way to pick up the kids from soccer practice when her car suddenly stalled. She finds Triple C Car Service mobile app to request roadside assistance.



Microjourney™

Renew membership

Nora has used the service several times and received a renewal notification. She is pleased with the services she has received and renews her membership using her cell phone.

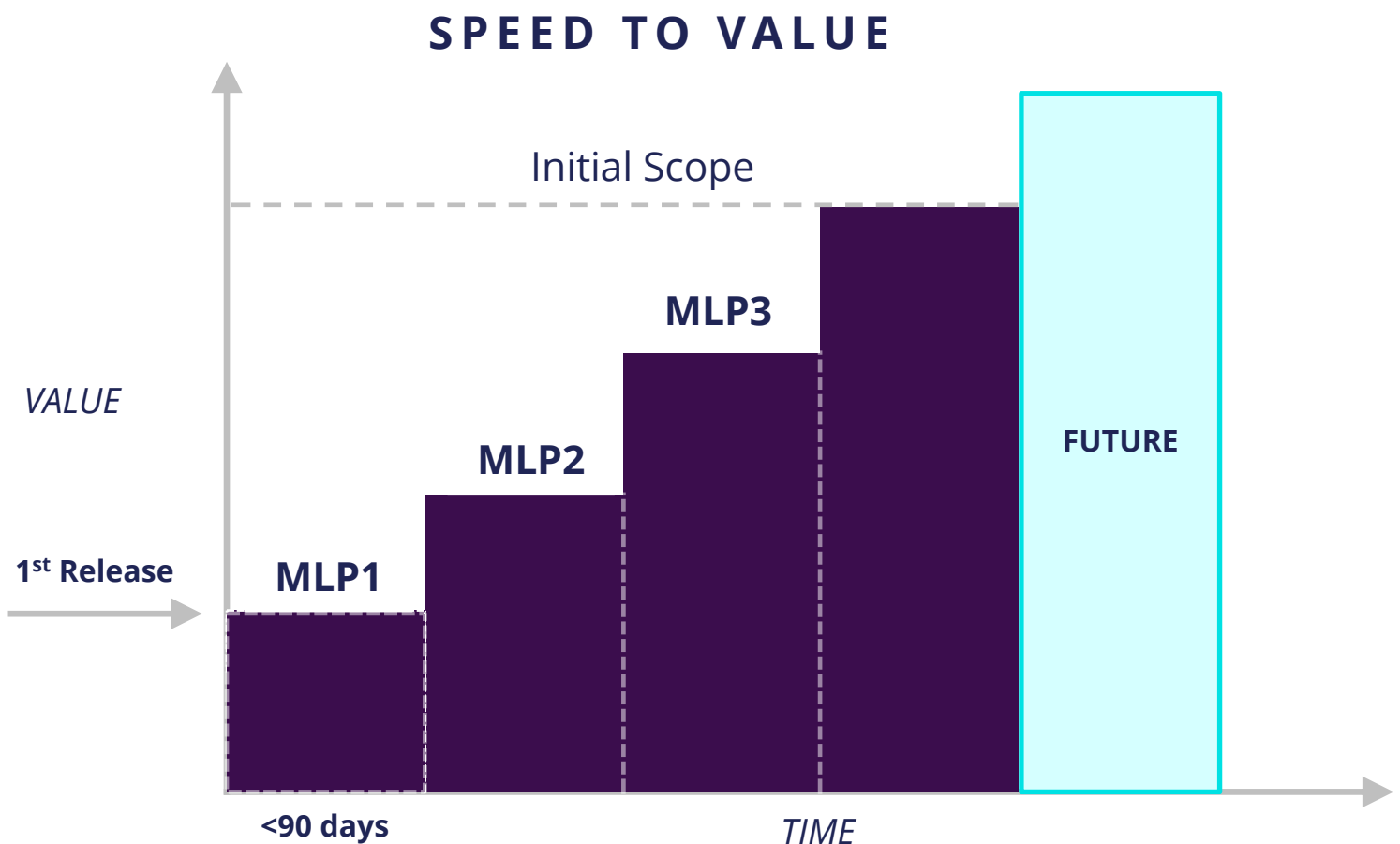
3. Build your value case

With an understanding of your business outcomes, and the journeys that will achieve them, you can create your business case that:

- Captures the business outcomes that the Pega solution will achieve
- Outlines the Minimum Lovable Product (MLP) release plan to deliver those outcomes
- Explains the baseline performance of any existing solution
- Presents the target Key Performance Indicators (KPIs) that the Pega solution will achieve
- Calculates the return on investment (ROI) by using the baseline and target model

4. Create a portfolio of Minimal Lovable Products (MLPs)

With your customer journeys and microjourneys identified and aligned to your business and customer goals the next step is to prioritize the microjourneys into releases, or MLPs, creating a release road map. Sequence your releases to achieve your highest value customer journey's first, with a proportionate balance of value attributed to reusable capabilities that expedite your overall delivery timeline for your transformation.



With your Roadmap in place - you are now ready to mobilize your program and to get ready to start your Pega application delivery. Mobilizing your team, so that are successful from the start, is covered in the next chapter.

Example Center-out transformation roadmap

The example image below, shows ABC* Call Center’s center-out strategy, supported by portfolios which will be delivered through MLP releases. ABC Call Center wants to create a unified global platform for its organization to reduce overheads and then work smarter through increasing the level of automation before taking advantage of Pega’s Artificial Intelligence capability to create an adaptive and personalized engagement for its customers.

*Client name changed for confidentiality.

PEGA EXPRESS CASE STUDY



Client “ABC” Global Call Center, new to Pega Platform™

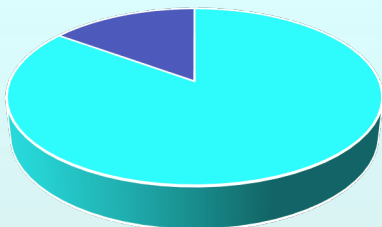
- 40 call centers, in 4 continents and 26 languages
- Legacy Technology – 6 disconnected CRM systems, regionally managed, with post-COVID 50% increase in flexible home working for employees
- 20+ integration points
- 80% increase inbound and online queries in 2022
- >3 months to onboard new customers

Vision: One unified Call Center platform for the world

- Optimize existing operations to facilitate more effective home working and increase customer NPS
- Automate majority of requests and only manually handle exceptions.
- Provide world class customer experiences

MLP 1 Prioritize a single platform

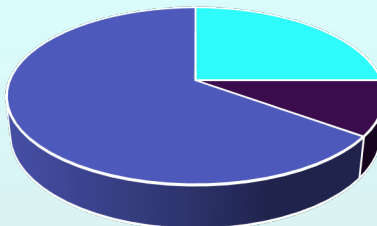
Unify + Work smarter



- Organize business architecture around customer journeys
- Channel independence
- Centralize data and integrations
- Sunset 6 CRM systems
- Unify on **Pega Platform**

MLP 2 Automate Customer Service

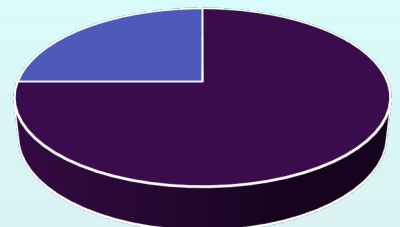
Unify + Work smarter + Adapt Instantly



- Simplify services to reduce handling time
- Focus on workflow automation
- Implement self-service capability
- Implement Natural Language Processing to handle inbound requests
- Accelerate onboarding

MLP 3 AI-powered decisioning

Work smarter + Adapt Instantly



- Personalize customer engagement across all channels, managed in one place
- Process AI to route work more effectively
- Customer Service Next Best Action to provide proactive service experiences and reduce handling times

2

Mobilize your transformation delivery program

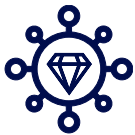
With your Transformation road map in place, appropriate preparation – of the **people** – is critical to embarking on a successful transformation journey. We strongly advocate applying a structured model to large transformation initiatives. Based on both industry best practices and Pega implementation experience, the model begins with a strategy and plan.

There are 4 fundamental strategies to establish before building the first application:



Change management strategy

Systematically execute activities addressing the people side of change so that stakeholders and users adopt the transformation



Governance

Define the structure to raise and resolve issues and decisions, while communicating effectively through all levels of the organization



Resourcing

Establish the team roles and responsibilities to delivery your transformation based on skills, capabilities, and influence



Technology

Set up the technology foundation to manage your delivery process and create your applications

Create your Change Management Strategy

Prepare your organization for the change ahead by planning for the people side of change. Create a change management strategy to define your approach to drive the change program from the start.

The key to a successful change management plan is not to wait until implementation has begun – analyzing, sizing and scoping the impact of the change occurs with a selected change management team as the initiative is being formed.

Change management is a parallel initiative to the technical build of the solution. It consists of understanding first where are strengths and weaknesses are, assessing the amount of resistance in the organization, and then constructing a master plan of actions and deliverables that bring the people on board with the change and excited for the day the transformation begins.

Your organization may already have a change management office (CMO) to partner with. If not, Pega can work with you to understand the scope of change management services needed for your transformation, so you may seek a partner with expertise.

Define your change management strategy to prepare, manage and sustain your people side of change

1

Prepare Approach



ACTIVITIES

- Define Success
- Define Impact
- Define Approach

DELIVERABLES

- Change Management Strategy
- Readiness Assessment
- Sponsorship Assessment

2

Manage Change



ACTIVITIES

- Plan & Act
- Track Performance
- Adapt Action

DELIVERABLES

- Master Change Management Plan
- Communications & Training
- Sponsor & Resistance Activities

3

Sustain Outcome



ACTIVITIES

- Review Performance
- Activate Sustainment
- Transfer Ownership

DELIVERABLES

- Reinforcement Plan
- Rewards & Recognition
- Change Management Closeout

Establish your governance model

Governance refers to structures and processes that are designed to ensure transformation accountability, transparency, responsiveness, empowerment, and broad-based participation. A defined governance structure keeps stakeholders engaged in the program and contributes to the successful delivery through their respective responsibilities.

For governance to be effective it needs to be structured to incorporate all levels of the organization and to support the flow of information, decisions, and guidance in both directions. The key here is that you provide guidance at multiple levels – from the strategic, business value-focused forums down to the daily, tactical status-related activities. We recommend the lightest-weight model possible to help you achieve your business outcomes while responding to change.

Define your multi-level governance structure

Ensure alignment for optimal outcomes.

Pega's recommended approach for multi-level governance and communication management

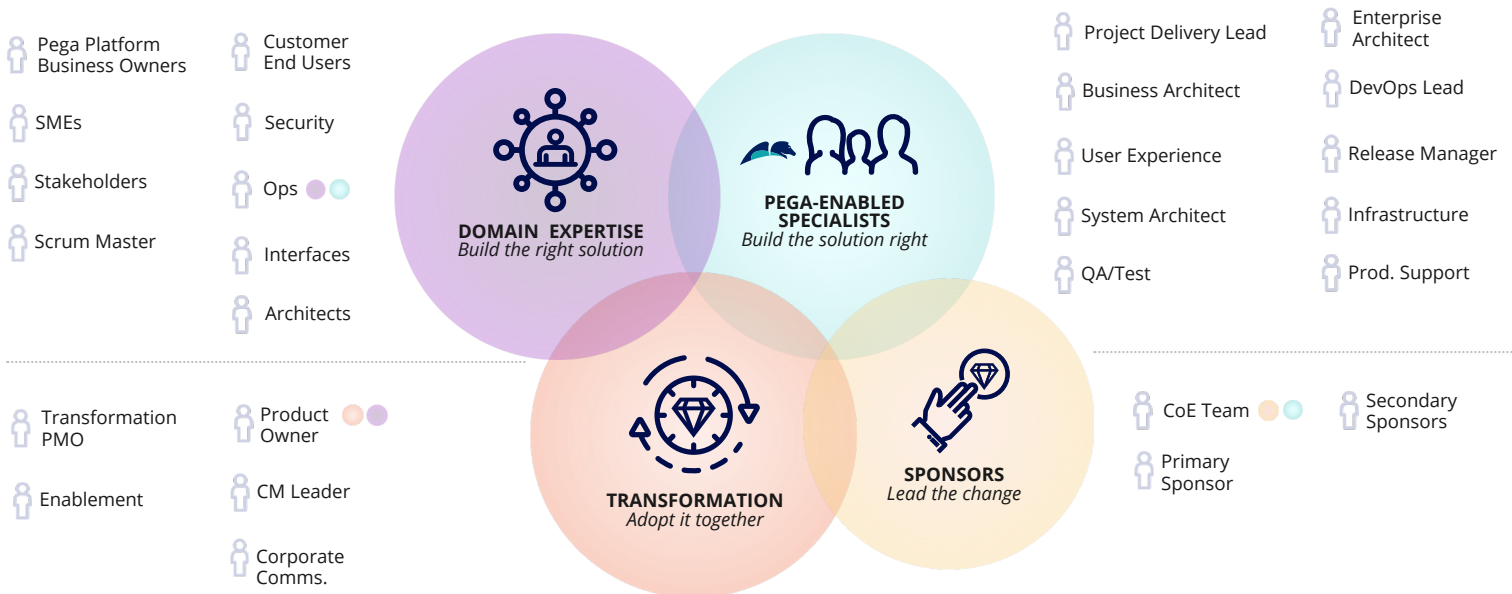
	FORUM	FREQUENCY	PARTICIPANTS	DISCUSSION TOPICS
ESCALATIONS Raising Issues Communicate Resolution	Executive Governance ▶ Enterprise Alignment	Quarterly	<ul style="list-style-type: none"> Client: Senior Executives (Business, IT) Partner Executive/s Pega Senior Executives 	
	Program Governance ▶ Account Strategy Meeting	Monthly	<ul style="list-style-type: none"> Client: Program Owners (Business, IT) Partner: Account Owner Pega: Sales, Client Success Leaders 	<ul style="list-style-type: none"> Review risks to achieving target business outcomes Coordinate / integrate business strategies; address cross-program issues Review performance metrics/satisfaction Review key escalations on action timeliness Adoption and Change Management
	Stakeholder Governance ▶ Cross-Department Review	Bi-weekly	<ul style="list-style-type: none"> Client: Project Team Leads, Project Dept. Heads Partner: Account Team Leads Pega: Project Team Leads, Account Team Representatives 	
	Project Governance ▶ Daily Standups	Daily	<ul style="list-style-type: none"> Client: Project Team Members, Team Leads Partner: Account Delivery Team Pega: Project Team 	<ul style="list-style-type: none"> Project level day-to-day governance Project team Issue/risk management/ escalation to program stakeholders Current project status reporting for plan analysis, scope, schedule Project Change Control

Establish the team

Assessing and establishing your business and technical delivery capability is key to success, and we recommend to **start with assembling the right team**. Your transformation program will support business domain experts, transformation experts, Pega-enabled specialists and the program sponsors. Each area has a critical role to play:

DOMAIN EXPERTISE	→	<i>Build the right solution</i>
PEGA-ENABLED SPECIALISTS	→	<i>Build the solution right</i>
TRANSFORMATION TEAM	→	<i>Adopt it together</i>
SPONSORS	→	<i>Lead the change</i>

Below is a representation of the different areas with typical roles:



Domain Expertise – Domain experts know their business best. They understand the pain points, the existing process, the people, and the impact. All transformation teams rely on the existing user base and IT representatives to provide everyone the context and priorities to build the right solution.



Pega-Enabled Specialists – They know Pega best. The project team will be bringing their expertise in the technology, the industry and all previous solutions to understand how to provide ongoing solutions in a simple and quick manner.



Transformation Team – Working collaboratively with the Project team and the Sponsor, the change management team is dedicated to the people outcomes of the digital transformation. They assess the impact of the change, the scope of sponsorship coaching, resistance management, communications, and enablement for the initiative. The team should be made up of members who are effective communicators and influencers who understand change management and can deliver and execute a plan for the organization to adopt all proposed changes to the way the company will work.



Sponsors – the primary sponsor for the change is a key person or group of people that the end users and stakeholders look to for understanding the transformation, its benefits, and the risks of not moving forward. Sponsors have critical responsibilities to actively and visibly support the change, build a coalition of support with other key stakeholders and leaders within the organization, and communicate directly with employees while modeling the behavior we aspire towards as we transform.

Establish your technology

Setting up the supporting **technology** for your organization's low code journey is straight-forward. Below we have assumed a Pega Cloud setup on the latest version of Pega Platform™ which provides you with a sustainable, future-proof and scalable infrastructure. In this section, we introduce different **setup options** and provide recommendations.

Establish the Technology Stack

To get started, you need at least one Pega Platform environment. **Pega App Factory**, the Pega starter-kit for low code development, is then installed on each instance of the Pega Platform. So, if you have 4 Pega Platform environments, App Factory will be installed on each of the environments.

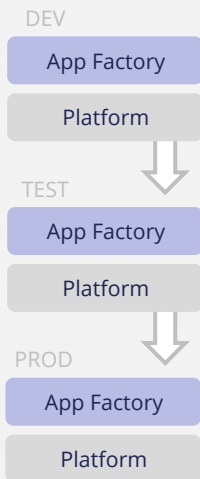
Choose your Setup Options

Our recommendation is to setup the number of environments (Dev, Test, QA, Prod etc.) to match your organization's needs, and at what stage on the low code journey you are. The Setup Options below provide guidance based on number of environments needed. We recommend that setup includes Pega's Deployment Manager capabilities to help manage the promotion of new features from lower-to-higher environments.

GUIDANCE FOR SETUP OPTIONS

Option 1

3 environments. No Deployment Manager



PROS

Segregated environments

RISKS

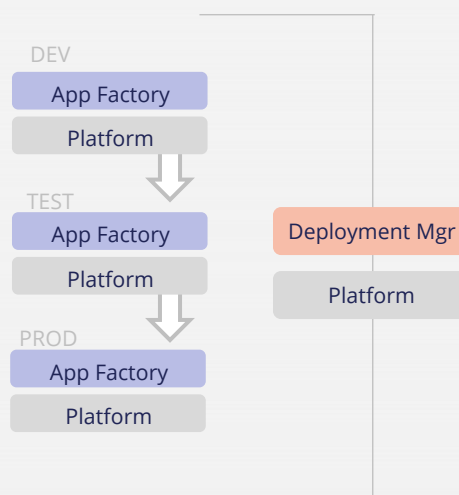
Manual deployments, increasing workload and introducing bottlenecks

No Pre-Prod environment, often required for critical testing



Option 2

3 environments with Deployment Manager



PROS

Segregated environments

Automated promotion between environments

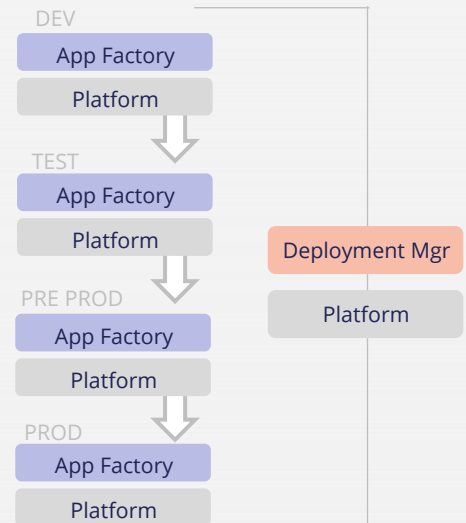
RISKS

No Pre-Prod environment, often required for critical testing



Option 3

4 environments with Deployment Manager



PROS

Segregated environments

Automated promotion between environments

Enables additional Pre-Prod testing, in a clean environment and final deployment validation

RISKS

Minimal



Pega Recommended Basic Setup

Medium-to-large organizations should setup 4 environments to start:

- (1) Development
- (2) Test
- (3) Production
- (4) One environment that runs Pega's Deployment Manager

Select from available options to connect Users in your organization to App Factory on Pega Cloud

There are four options, explained in greater detail on our [Pega Documentation site](#). They are:

- Via public internet
- Via Cloud Exchange, which bypasses the internet using third party solutions
- Via Direct Connect, which is an Amazon service that establishes a dedicated network connection from client premises to Pega Cloud, bypassing the internet
- Via Amazon Web Services (AWS) PrivateLink which enables connectivity between different AWS managed cloud services

Your IT policy and enterprise architecture approach will inform which option is best.

Ensuring future-proof and scalable tech

Pega keeps pace with emerging and established international and local compliance standards and regulations; we maintain extensive compliance certifications and attestations, plus third-party assessments. Visit our [Trust Center](#) for details on our Compliance Certifications and Attestations.

Add existing applications to App Factory

To prepare the enterprise for the benefits of citizen development, data unification and autonomy, existing applications can be added either now or ongoing to App Factory. You can find the instructions in [Pega Documentation](#).

Implementing the Setup

You submit a request with the Pega Account team then the Pega Cloud team sets up new instances of Pega Platform as part of our managed cloud services and install App Factory on each instance of Pega Platform.

Step 1: Request an install of Pega Platform

If your organization has a Cloud Administrator, they can raise a **Service Request** through the Pega My Support Portal and install the Pega Platform on each new environment. Login credentials are provided following install.

Step 2: Install App Factory

App Factory can be installed on top of each designated Pega Platform instance. App Factory is readily available on [Pega Marketplace](#). The [App Factory installation guide](#) provides step-by-step instructions. This installation step is best performed by a certified Pega Administrator.

Learn about our [Pega Cloud Services](#) and refer to the [Pega Cloud subscription documentation](#) for more information.

Pega Cloud environments are available and operational in days, as opposed to weeks or months with traditional infrastructure approaches. It generally takes 3 to 5 business days from the provisioning request to delivery.

Leverage Compatibility with existing Pega deployments

If you have an existing Pega deployment you can connect to your existing applications from within App Factory, which enables you to link to remote stand-alone environments. However, we do not recommend that citizen developers build on top of existing applications using App Factory to create new applications.

Configure Security

Pega Cloud provides isolated cloud services for each client, with full data encryption, and third party attested/certified cloud services.

Pega Cloud services offers a robust set of networking and security controls that enable clients to leverage the power of Pega Platform and strategic applications as a cloud delivered service. Pega supports isolated and secure networking, and you can schedule work without affecting other clients.

3

Building your first Pega application

Getting started on your first application project is quite simple. Outside of a transformation program Pega's products and capabilities were built for quick success; our previous sections outlined how to get the best out of Pega in a low-code transformation.

Using our Low Code authoring tools and Pega Express™ best practices you can quickly take your first microjourney from concept to working application.

By this point you should have your resources enabled in Pega, your governance and change management strategies ready, and Pega installed in your preferred environments. To achieve the business outcomes, it also assumes you have identified your roadmap of microjourneys® or Minimum Lovable Product (MLP) releases as described in the previous chapter.

Delivery with Pega Express™

To help you get the most out of your Pega investment, we have cataloged proven best practices that make up our delivery approach, Pega Express™. Pega Express is a light, design-focused approach that uses Pega's low code experience, best practices and scrum to deliver meaningful outcomes quickly.

Pega Express is made up of six core values which are supported by our **values and best practices**.

These six core values are:



Solve the business problem



Design great experiences



Collaborate effectively



Leverage the power of Pega



Agility and Scale



Accelerate time to value

Pega Express values and best practices are designed to easily integrate into your own trusted delivery approach. If your organization would benefit from a specific delivery structure, you can follow our four phases of Discover, Prepare, Build and Adopt for a guided implementation path.

This section talks through some of the key best practices that will enable you to deliver your first quality application quickly.

You can learn more about Pega Express at:
[Pega Express Delivery Approach | Pega Community](#)

Take our Pega Academy course:
<https://academy.pega.com/topic/pega-express-delivery/v1>



Planning your first project

In this section we are primarily going to focus on sprint and test planning, which is an integral part of application development. Pega recommends development using Scrum. Scrum is a framework that is central to the Pega Express™ approach, allowing work to be incrementally delivered and constantly reviewed with the business for feedback. Through this agile approach configuration is achieved through sprints (which usually last for 2 weeks).

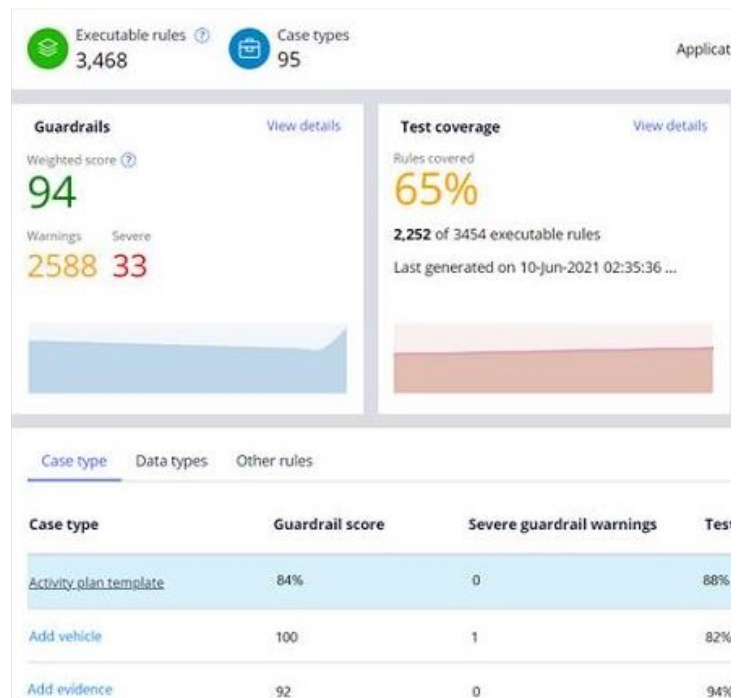
Establishing the number of sprints that your project needs and planning the test strategy that will support it is fundamental to the success of your application.

Begin by estimating your application complexity in App Studio using a skeleton case design. We have online tools in [Pega Community](#) to help achieve this. The estimate of complexity will help you plan the level of skills and capabilities to resource the delivery team. Once you have established the number of sprints needed to achieve MLP1 you can start to determine your test strategy.

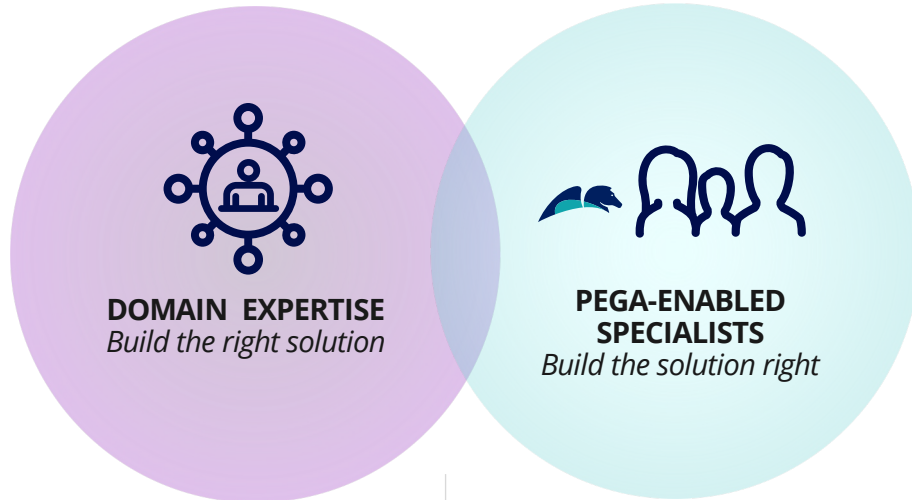
Your test strategy should include:


- ✔ Unit Testing throughout the sprints (automated using Pega Unit)
- ✔ Reviews of application health e.g. guardrail scores during the sprints to maintain optimized build quality
- ✔ UAT and E2E Testing in parallel to the Sprints
- ✔ Triage process for any issues so they can be reflected in the backlog
- ✔ Continuous performance testing alongside the sprints
- ✔ Provision for additional testing e.g. security of validation test e.g. for Pharmaceutical companies
- ✔ DevOps capability through Pega's Deployment Manager


PEGA'S APPLICATION QUALITY DASHBOARD





With an understanding of your test and sprint plan, you can start to **identify and secure the stakeholders** who will help support your Pega application development. The list below is a subset of the roles identified for the total Transformation program to get you simply and efficiently started on your first build.



 **Product Owner:** Represents the business and serves as a single point of contact for business decisions. ●●


 **Scrum Master:** Runs the daily scrum standup calls and resolves blockers and challenges to progress.


 **Business Subject Matter Experts:** To help shape the solution and provide feedback throughout the implementation.


 **Project Delivery Lead:** The project lead manages the project implementation, responsible for governance and overall project success.

 **Business Architect:** Captures business requirements and sets priorities ensuring business collaboration.

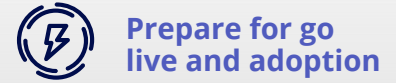
 **System Architect:** designs, creates and modifies workflows, creates decision tables and decision trees, configures harness sections, and designs test cases.

 **User Experience:** experienced designer brings expertise in the user interface (UI) and user experience (UX) to the project.

 **QA/Testers:** Owns and delivers the test plan for the business, including any release specific testing e.g. security.

 **Ops:** Responsible for access requests and deployments. ●●

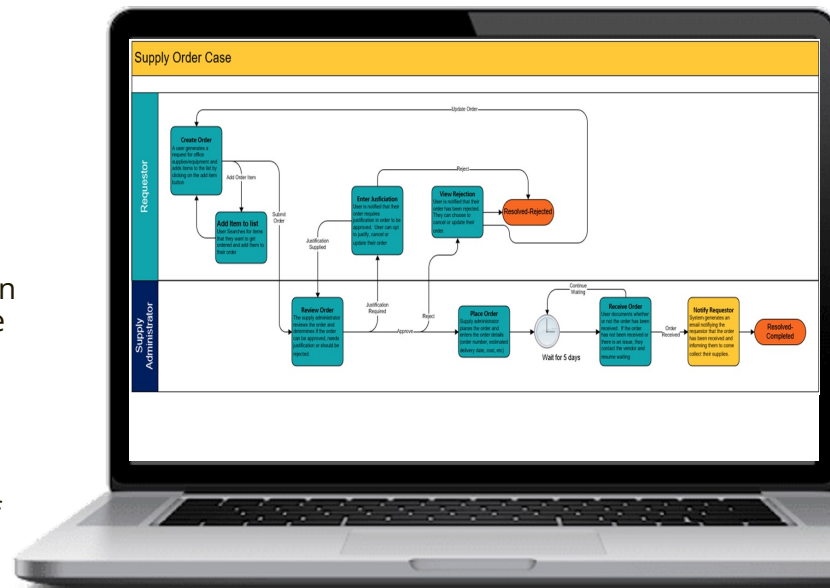
There are **3 key factors** which help ensure you build the right quality solution quickly each supported by our relevant best practices. They are:



Focus on the right solution

As we begin implementation, revisit your defined Microjourneys to ensure that the application aligns to your current and future needs.

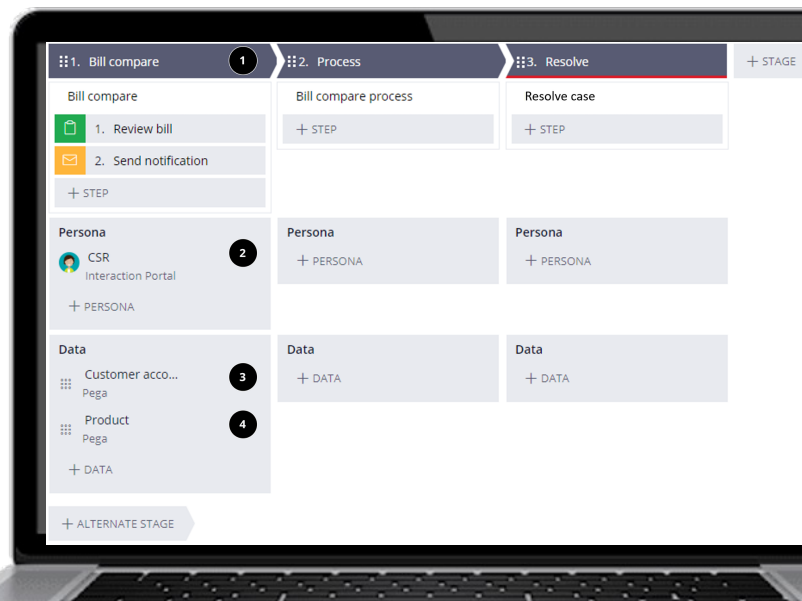
- As discussed in section 2, Pega's best practice of **microjourney definition** is a way of breaking down complex customer journeys into more manageable smaller microjourneys. Microjourneys can be defined directly within Pega or mocked up using collaboration tools as the example shown to the right. This technique not only helps focus on ensuring the scope is sized appropriately but creates a very visual understanding of the scope of the application being created.



- With a comprehensive visual understanding of the proposed microjourney, you can now easily identify Pega's pre-configured out-of-the-box components (**microjourney accelerators**) to help fast track configuration and testing. An example shown below is mobile billing enquiry from Pega's Customer Service.

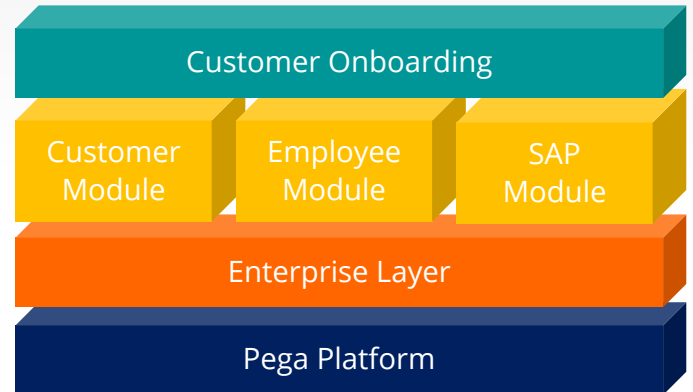
- Design Thinking** techniques are also applied on the application build level to hone the microjourney and optimize the end user experience. This is achieved through a collaborative approach (*seen above*) known as a Design Sprint (the steps are purposely different from the Design Thinking work completed at the program level). Design Sprints draw upon collective experience and use innovative techniques to refine the proposed microjourney, identifying the best ideas, and then testing a more detailed prototype.

This process also develops an understanding what components are needed for the application and establishing a view as to how the microjourney can be broken down into sensible 'chunks' for rapid delivery.

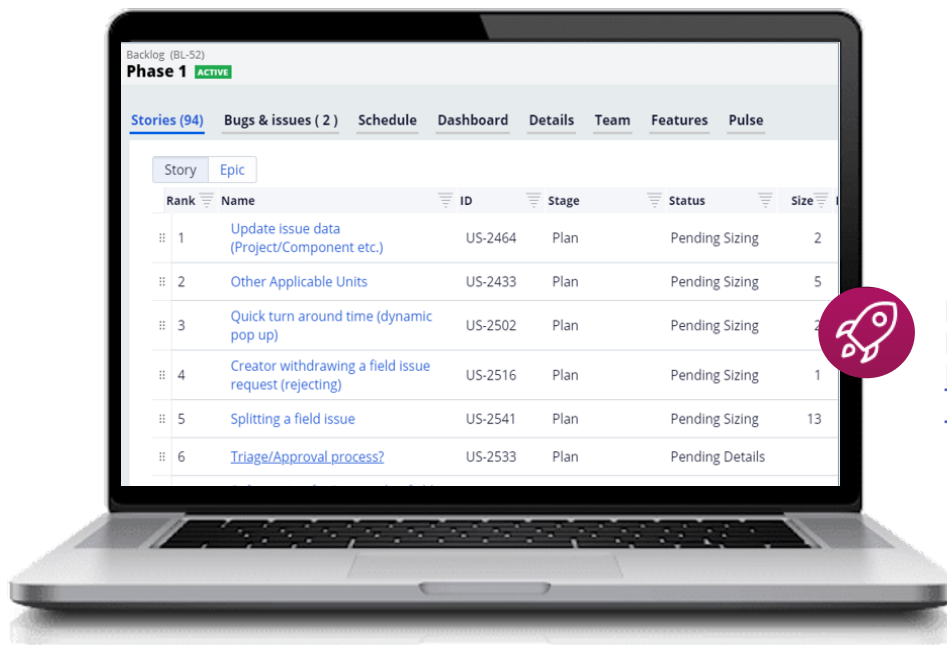


Focus on the right solution *(continued)*

- For transformation, differing from a point solution, we design the application with the bigger picture in mind and create a **re-use strategy**, so common components can be easily re-used by other applications (e.g. address look up). Pega's concept of the 'Modular' Situational Layer Cake™ (SLC) is a core strength of the Pega platform, allowing components to reside in lower layers of the solution and made available to applications built on top of the enterprise base layers. A good use case is when global organizations who have slightly different applications for different countries are built on top of layers of common components that are re-used and adjusted for the relevant geography. The SLC stops common components from being built and maintained multiple times and allows for new applications to be created very quickly.



While enterprise re-use may not be your top priority on your first application, spending a little extra time to build re-use candidates in an enterprise reusable fashion can pay huge dividends for subsequent projects.



Learn more about DCO on Pega Academy: [Directly Capture Objectives | Pega Academy](#)

- With an understanding of your microjourney breakdown you can quickly start building out your backlog of user stories (as seen above). Our approach to this is through rich collaboration between the business and IT through regular **Directly Capture Objective (DCO)** sessions. DCO is a technique to visually capture the proposed work through a workshop environment and then to distil this into user stories to be prioritized in the backlog (in our tool Agile Studio or other project management tools like JIRA). DCO helps align the team around what is next to be prioritized, through creating a very visual understanding of what is to be configured and ensuring that all the key stakeholders have an opportunity to shape the solution.

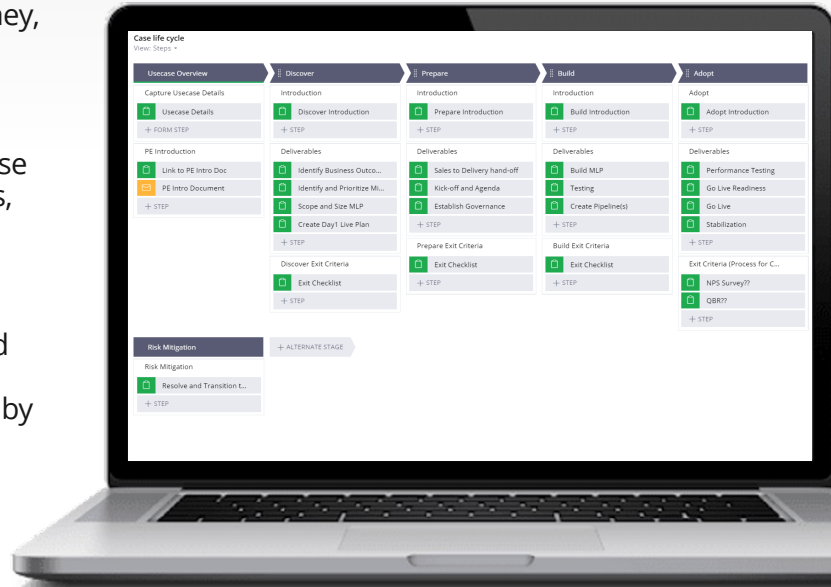
Implement iteratively using low code

With a thorough understanding of the Microjourney, you can very quickly implement and test your application using Pega's low code capability.

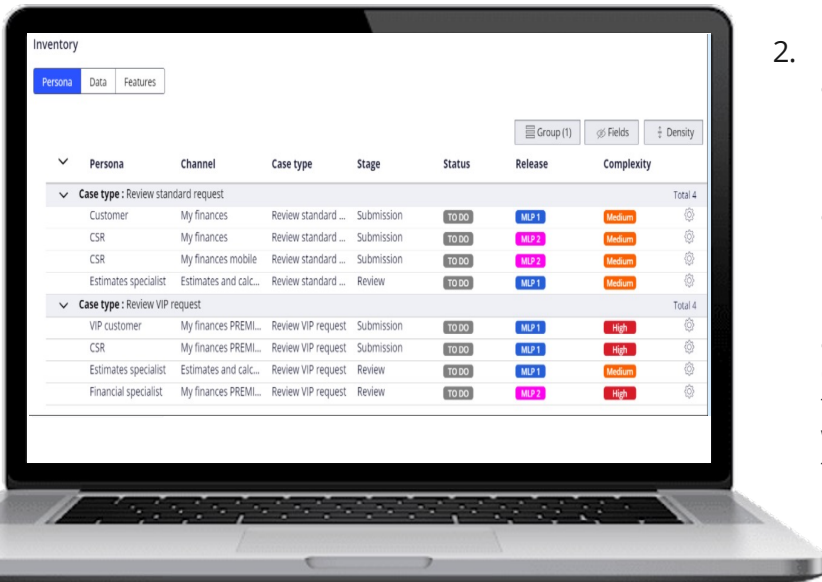
Following the **scrum** approach, the microjourney is decomposed into a backlog of user stories. These are prioritized for configuration during the sprints, with testing being undertaken in parallel. Any refinements are prioritized and included as appropriate for resolution in the next sprint.

1. A **low code** configuration is primarily achieved through App Studio (Pega's authoring tool), enabling swift and simple configuration. Start by capturing the microjourney directly into Pega, defining the case, the stages and steps. Learn more on Pega academy:

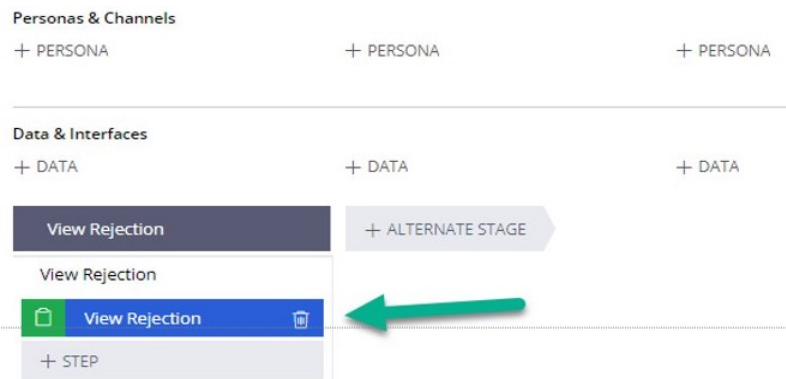
[Low-Code App Builder | Pega Academy](#)



2. Next, **capture the integrations and personas** that are required to support the proposed microjourney. Integrations are simply which data interfaces are required to support the application. An example may be address look up, whereby you can draw into application potential addresses based on a ZIP or Post Code to improve data accuracy and reduce manual errors. Personas are the people that will interact with the application, who may have different access needs. For example, you may have a persona of a Call Center Representative who can process most types of inbound requests, but a persona of Manager who has the authority to approve cases routed to them that are requiring a refund.

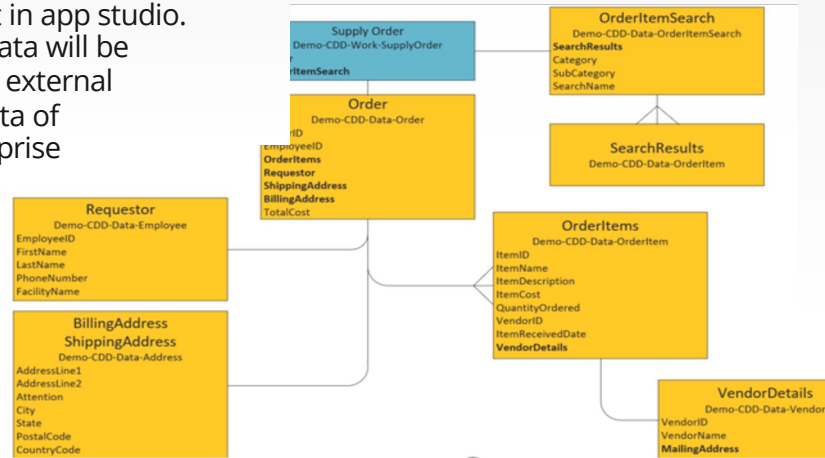


3. Enrich your microjourney by capturing **alternate flows and adding decision shapes**. This enables you to extend your microjourney functionality, adding sophistication to handle exception flows and also adding functionality like decision tables to ensure consistent handling of cases by agents.

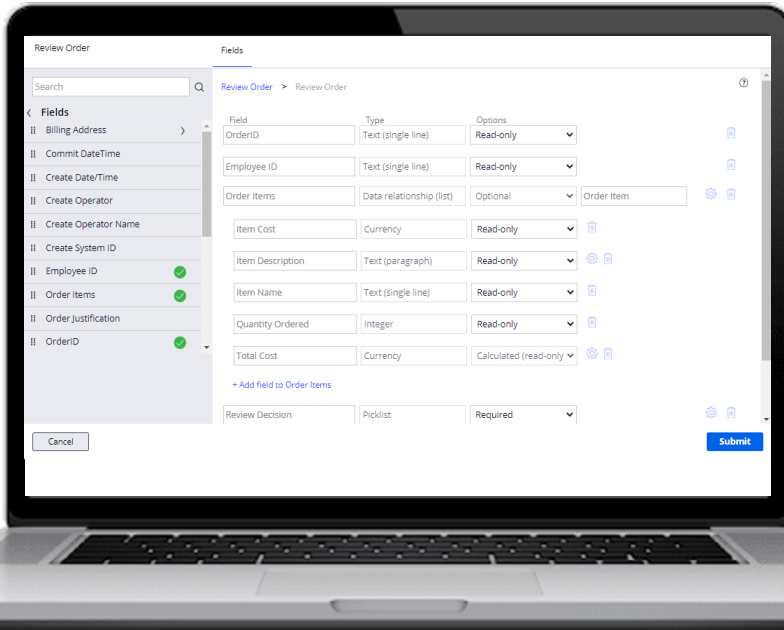


Implement iteratively using low code *(continued)*

4. Then, **define your data model** and configure it in app studio. A data model is needed so that it is clear how data will be sourced and maintained by the application and external systems that support it. Applications require data of some sort sourced either from within the enterprise (from within the Pega application or other legacy systems) or external to the organization. Clear guidelines around how data is sourced and is maintained to ensure the right information is presented and used by the application. Learn more here:



[Technical architecture | Pega Academy](#)



5. Directly in App Studio, **configure the User Interface (UI)** to make it as easy and intuitive to use. Usability will help with quicker app adoption and make any transactions and processes more efficient. This is where the user experience of your microjourney is defined and captured.

6. As defined in your test strategy, quickly and repeatedly **unit test** your application configuration during your sprints by using Pega's automated test capability, Pega Unit. Pega Unit allows you to automate unit tests, which over time create a regression pack of tests that can be run easily against any deployment using Pega's DevOps capability. Automating unit tests saves you time and allows you to instantly test your application release at the end of each sprint. Learn more here:

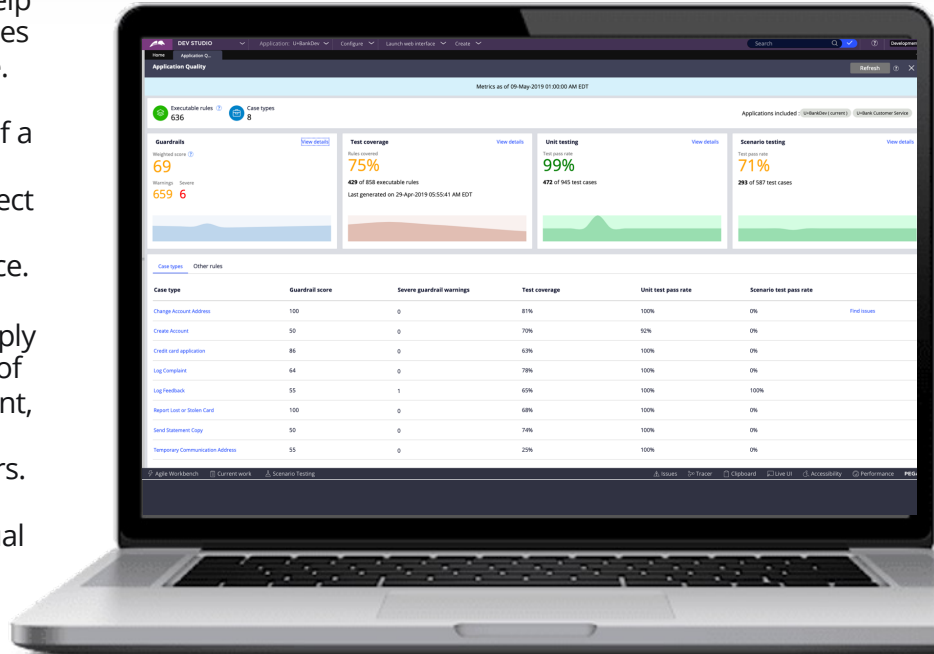
[Unit tests | Pega Academy](#)

Unit test compliance

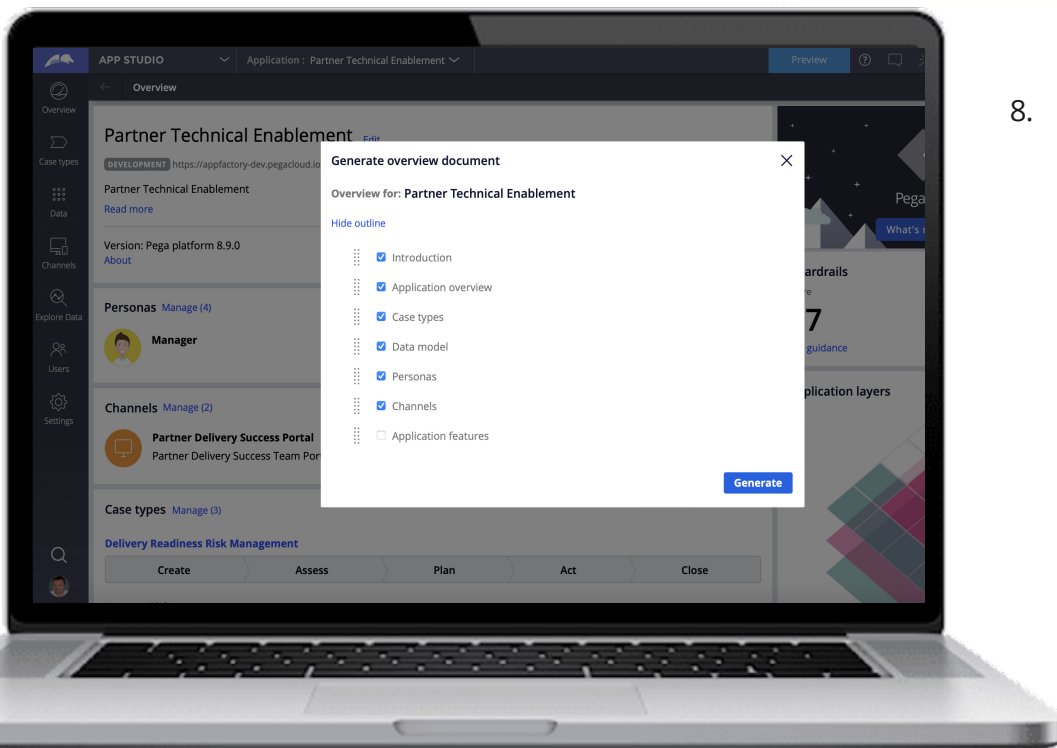
Test case name	Rule type	Rule name	Class	Last run	Result	Run history
Phone Screen Decision: Proceed or Reject	When	DECISION_CONDITION_1	PegaSamples-HumanResources-Work-jobApplication	less than a minute ago	Failed	View
Positions by Location: Canberra	Data Page	Positions by Location	PegaSamples-HumanResources-Data-Positions	3 hours ago	Passed	View
Positions by Location: London	Data Page	Positions by Location	PegaSamples-HumanResources-Data-Positions	3 hours ago	Passed	View
Positions by Location: New York	Data Page	Positions by Location	PegaSamples-HumanResources-Data-Positions	3 hours ago	Passed	View
Positions by Location: NoParam	Data Page	Positions by Location	PegaSamples-HumanResources-Data-Positions	3 hours ago	Passed	View
RepDef PositionsByLocation: New York	Report definition	Positions by Location	PegaSamples-HumanResources-Data-Positions	3 hours ago	Passed	View

Implement iteratively using low code *(continued)*

- Use in built **Diagnostics** to check on the health of your emerging application. Use Pega's Application Quality Dashboard to understand your guardrail score and help resolve any potential configuration issues as part of your sprint definition of done. Guardrails are the best practices that guide the design and implementation of a successful application. They guide development teams to the highest project success, including optimal reuse, maintainability, and system performance. Guardrails help determine which elements in the application do not comply with Pega best practices. Several types of guardrails cover all areas of development, including usability, data integrity, performance, custom coding, and others. For example, guardrails typically flag custom components that require manual changes during updates.

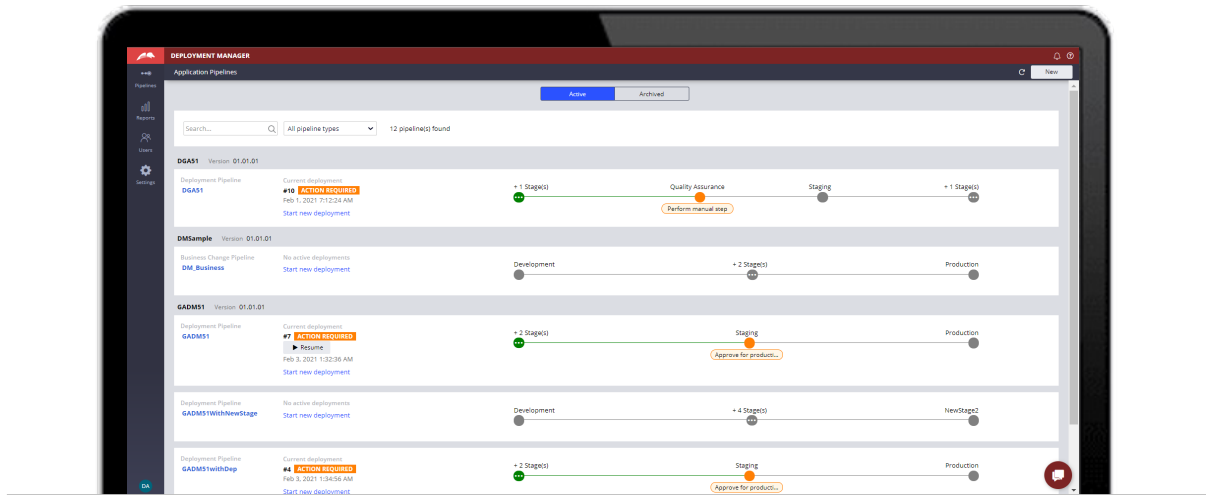


- Generate and share **Application Documentation** that summarize the solution. With Pega you can auto generate at any point an Application Document that covers the basic Application technical information. This negates the need for maintaining manual system documentation outside of Pega, it enables technical and business stakeholders to understand the application design and configuration. It assists with audit requirements if applicable to the application.



Implement iteratively using low code *(continued)*

- Set up **Deployment Manager** to enable code to be easily moved between your environments. Investing in the capability and practices that will help you scale and deliver more quickly in the longer term. Deployment Manager allows you to create DevOps pipelines to test and promote code. Given the regular schedule of releases through an agile approach, investing in deployment manager helps saves time and introduces automated testing. Code moves regularly, as there will be an implementation version of the application in one environment and a testing mirror version in another, with the implementation version eventually being shipped to production.



Prepare for go-live and adoption

Once the last sprint has concluded, and testing is complete, it is ready for any final release testing by the project or organization's operations function. Additional testing may be required e.g. security testing, validation testing before readying the release for production deployment. For example, pharmaceutical organizations often are required to complete a round of validation testing due to guarantee the application before moving to production. This often must be completed on a final stable version of the application. Learn more about testing here:

[Pega Express testing and validation | Pega Academy](#)

Before go live, all the necessary Business Readiness activities should be complete egg desktop roll out, agent training and all the appropriate communications prepared to announce the launch to the organization and your customers. This change management principles ensure the adoption of the application by both internal and external users.

Technical readiness ahead of go live includes completing the go live check lists, rehearsing the deployment if required and ensuring the right resources are ready to support the release.

With the application live, it is appropriate to review the original business outcomes that the microjourney was design to achieve, to ensure that these expectations are being met now the solution is operating in production. Any additional feedback can be absorbed into the backlog and prioritized accordingly for the next production release.

Finally, it is time to start thinking about the next application that needs creating, based on the priority order of your Minimum Lovable Product releases.

With your first application live and being improved through subsequent iterations and end user feedback, you can start to scale your operation to have multiple teams and types of applications being built simultaneously. The next chapter talks to how you can quickly scale your operation, while maintaining a focus on quality and achieving the benefits of re-usability across components.







4

Use your foundation to scale your Pega enterprise

Now that you have successfully built and delivered your first (or several) application(s) and experienced the power of Pega, you know that Pega’s low-code platform and delivery approach would be ideal to build other solutions at your organization. You have laid the Pega foundation and are ready to build off that and scale your Pega Enterprise.

It all starts with a **low-code continuum** focused on development models that empower organizations to build applications at all levels of complexity and business impact. At one end of the continuum is the Enterprise IT who focuses on high complexity and/or business critical applications. At the other end is Citizen Development staffed by business users and casual app builders who focus on low complexity, non-critical applications. At the center of the continuum are Fusion teams because they are comprised of a mix of professional IT and business users. Fusion teams have the greatest versatility with the types of applications that they can build.

Pega App Factory provides the infrastructure and governance to manage a support the low-code continuum program and the project it sponsors. It includes features such as:

 <p>Universal Management & Governance</p>	 <p>Clear Audit Trails for Tracking & Visibility</p>	 <p>Reusable Templates</p>	 <p>Open & Adaptive Technology</p>	 <p>Internal App Store</p>	 <p>Application Management Tools</p>
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In the next section, we will discuss establishing a Pega **Center of Excellence (CoE)**, which is critical to bridging the gap between Business and IT across the low-code continuum. CoE establishes governance to provide contextual decision-making for the right level of development. As the conduit between business and IT, the Pega CoE is accountable for the end-to-end journey of an application. The end-to-end journey is characterized by an overarching governance process which starts with a business request and ends with the handoff to operations support.

Finally, as you scale your Pega Enterprise and low-code program, consider establishing a Pega **Community of Practice (CoP)** to take on some of the responsibilities of the CoE and foster greater collaboration across the Pega Enterprise

Considerations for a low-code development continuum

At Pega, we believe that Low-code development is **not only for Citizen Developers**. Everyone in your organization (including IT professionals!) will benefit based upon their skillset and experience. Pega Infinity is designed to support the range of possible development models - such as professional development, fusion team development, or citizen development - and also supports the coexistence of multiple operating models since they mutually benefit each other to strengthen your Pega program. The key to success is **to create a low-code operating model** designed to sustain the range of development levels. There are three main *flavors* that we see most organizations run:



Enterprise IT Development

Is the foundation, working on business critical or complex apps

- ✓ Traditional Software Delivery Lifecycles
- ✓ Significant business impact and complexity
- ✓ Built by IT Pega certified professionals
- ✓ Guided by the business



Fusion Team Development

Focused on building applications for a specific department or LOB

- ✓ Comprised of both citizen and Pega certified professional IT developers
- ✓ Led by a line of business (LOB) department



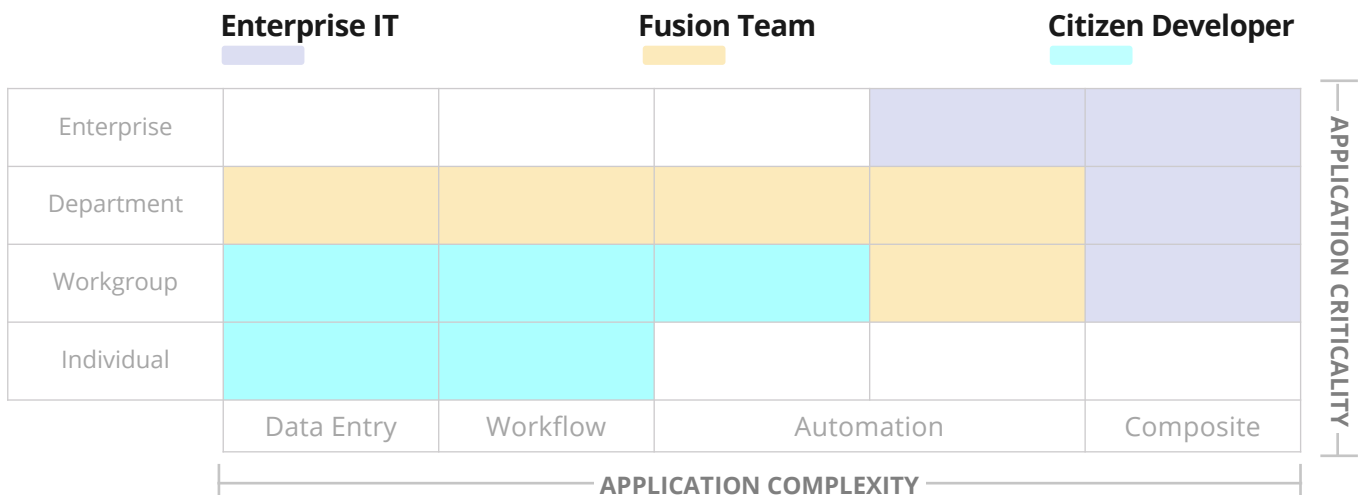
Citizen Development

Business experts build smaller, low-complexity apps that are impactful to individuals or small teams.

- ✓ Small departmental apps
- ✓ Built by citizen developers belonging to a business
- ✓ Light-weight governance from CoE
- ✓ Automated guardrail compliance via Pega's App Factory technology

Low-code development continuum

We view these operating models as a continuum rather than 3 distinct models that cannot coexist. There are benefits in having fluidity between models as ideas and knowledge flow from one to another. As development resources mature and gain experience building apps, they become skilled to take on more complex applications. In addition, having all three in your operating model fosters significant collaboration between teams and across silos. It also provides the flexibility to select the appropriate *flavor* for the solution you are building as illustrated in the image below.



What is a Center of Excellence (CoE)?

The Pega **Center of Excellence** is a governing body that works across business and IT to provide leadership, enablement, support, and governance for all initiatives built on the *Pega platform*, concentrating on providing **maximum business benefit** and **accelerating time to value** with repeatable success.

Why establish a Pega Center of Excellence (CoE)?

The Pega CoE is responsible for oversight and quality control on all application requests - from a common application request intake and build processes through release and production. Governance is established to provide contextual decision-making for the right level of development.

The Pega CoE is critical to bridging the gap between Business and IT. It provides the Business access to guidance and support from skilled CoE resources and provides IT with the assurance that all applications created and implemented by developers (citizen, fusion and professional) adhere to both Pega Best Practices/quality standards and the wider IT policies and standards.

Pega (CoE) Responsibilities

A Pega CoE is comprised of a team of Pega-experienced professionals that work cross-functionally across your enterprise and provide leadership, support, and guidance for Pega technology initiatives. The model size and makeup will depend on your existing organizational structure, your Pega portfolio and your level of Pega maturity, which is based on the number of Pega applications and their complexity.

The primary responsibilities of the Pega CoE are as follows:

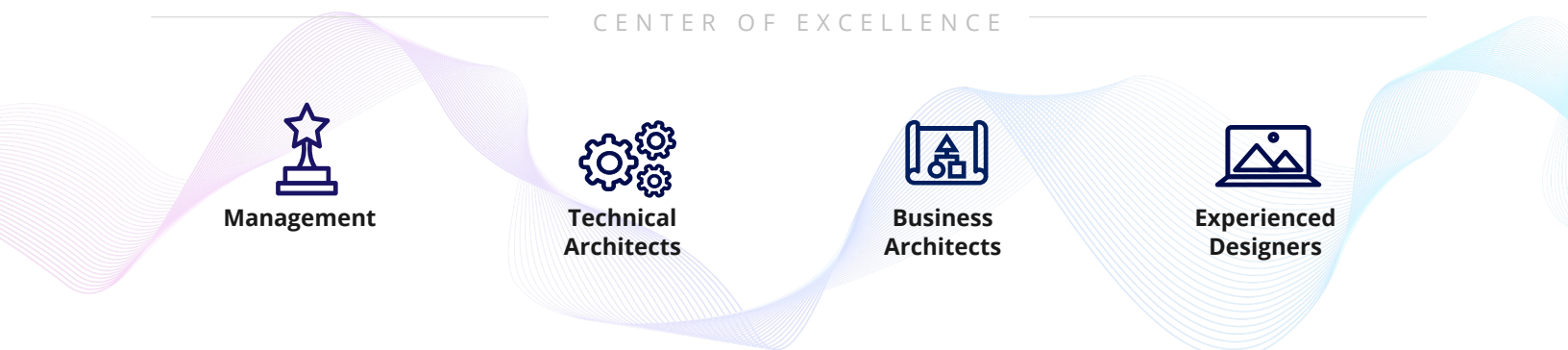
- ✓ Operate your business request intake process
- ✓ Identify your opportunities for reuse and where appropriate create or support the creation of reusable components/applications.
- ✓ Define your design, development, and implementation best practices,
- ✓ Operate the governance processes
- ✓ Authorize the release of applications



If no Pega CoE currently exists within the organization, your Pega champions would invest in **setting up the Pega CoE for the first time** by:

- Staffing the CoE with the appropriate skills and roles,
- Defining the overarching CoE management processes and implementing the necessary systems to support the operations of the COE.
- Embedding the CoE activities into the daily operations of your existing development processes

The initial investment needs to be balanced and proportionate to the maturity of your Pega landscape. It's recommended to start with a small foundation and grow over time, improving the performance as capability grows. The size of CoE and the skills required to support one will vary in response to the demand for Pega applications. At a minimum, an effective **CoE will require sufficient coverage** in the following areas:



We have seen the minimum staffing of a Pega CoE to be one FTE for Management, an FTE Pega LSA, an FTE Pega BA with a Part time Pega XD.

How to Recruit the Pega CoE

Organizations with existing Pega CoEs focus on addressing skill gaps either through coaching or adding resources.

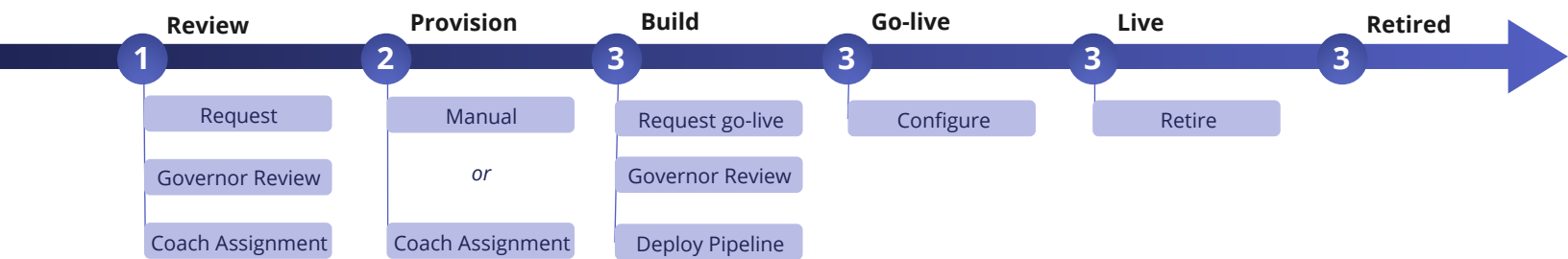
When starting a Pega CoE for the first time, the initial CoE can be staffed either by Pega or Pega Partners. As your organization grows Pega skills and expertise, you would designate the appropriate people to learn and take on the CoE responsibilities until the handoff is complete.

Use Pega's App Factory to empower your low-code program

Programs of work to create new apps can repeatedly utilize the Center of Excellence's governance function to validate each program's roadmap, their business case and capitalizing on re-useable components that have already been successfully configured. This then allows the Program to drive with a Fusion team, or a Citizen Developers team or a Professional IT team the remaining app implementation, testing and release activities while using Pega Express best practices throughout.

The governance function of the CoE is facilitated by Pega's **App Factory** which enables the CoE to manage, govern and operationalize low-code development at enterprise scale. It brings business and IT together in a **repeatable, structured software delivery life cycle** that is critical to fostering scalable, high-quality application projects. With this comprehensive program management toolkit, business and IT leaders have the visibility they need to ensure every app is built with the quality and consistency of a fine-tuned assembly line. With improved collaboration, business requirements are satisfied quickly, easily, and at a lower cost.

App Factory Application Lifecycle



As part of the industry-leading low-code Pega Platform, Pega App Factory provides a framework for app development that allows organizations to scale low-code initiatives and citizen development with confidence. One centralized dashboard includes built-in organizational best practices that everyone needs for successful enterprise app building. Additional features include:



Universal Management and Governance

Implement standard app development guardrails that give IT control over which apps get released, what features to include for different user types, and more.



Clear Audit Trails for Tracking & Visibility

Keep track of all development projects in your organization to better manage work from proposal through deployment and maintenance.



Reusable Templates

Empower users with prebuilt templates to ensure users of all experience levels can start projects fast and build apps that are quick to deploy, up to date and easy to change.



Open and Adaptive Technology

Scale innovation by integrating seamlessly across legacy systems. An easily extensible architecture allows you to automatically deploy a world-class user experience across all channels and devices.



Internal App Store

Provide colleagues with an application inventory, and the ability to quickly start using relevant workflow automations. Collaboration between citizen developers and users makes it easy to manage and address bugs and feature requests.



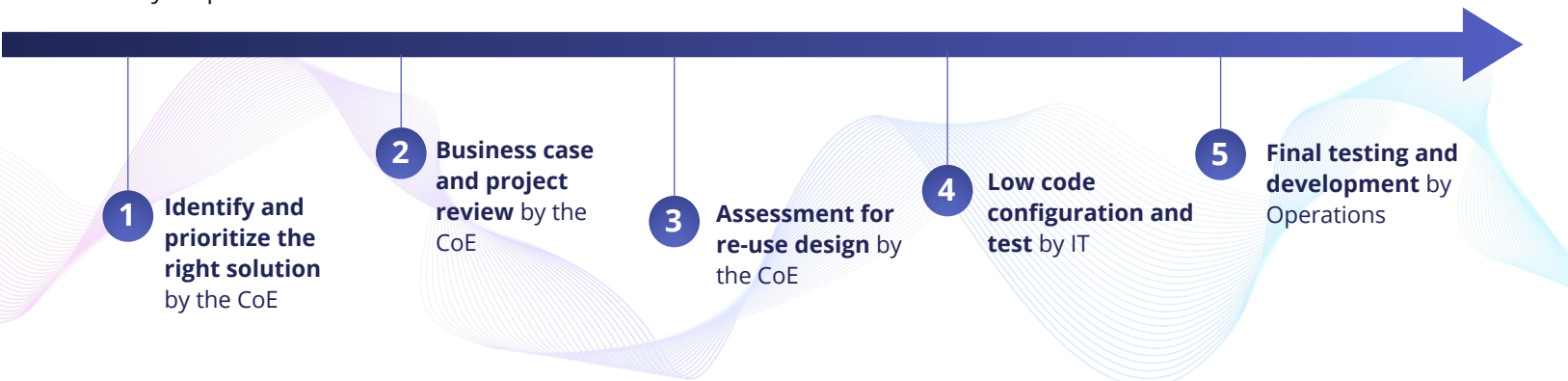
Application Management Tools

Teams submit new application requests using the intake process. App Factory automatically determine the development mode: citizen, fusion, or enterprise; Provisions development environments; Manages go-live and retirement of apps; and monitors usage metrics.

Five key steps to creating a program of work

As the conduit between business and IT, the Pega **CoE is accountable for the end-to-end journey** of an application. The end-to-end journey is characterized by an overarching governance process which **starts with a business request and ends with the handoff to operations support**.

The program of work to create new apps can be managed by the CoE in App Factory and follows these five key steps:



The following sections walk through each of these simple steps and outline the high-level program activities, Pega Express best practices and implementation steps that support each one.

Step 1 : Identify and prioritize the right solution

The initial step is for the business to identify the strategic business outcomes they need to achieve and understand any baseline performance metrics to create a business value case (Return on Investment). It is key to ensure that the business is addressing the right problem with the right solution before they assign resources, time, and money towards creating new applications.

This process, often referred to as the **intake process**, helps business teams invest appropriate effort to clarify the business problem, understand the opportunities for improvement and establish a baseline of metrics by which they can measure their success.

The business captures a visual representation of the customer microjourneys to be prioritized and groups them into Minimum Lovable Product releases (known as MLPs) to create a transformation roadmap. If applicable, they may use design thinking techniques to create this roadmap. The business submits the MLP roadmap, microjourneys and supporting business justification for approval by the Center of Excellence.

App Factory helps the CoE customize and manage this centralized standard Intake process which yields many benefits to business, IT, and organization stakeholders by;

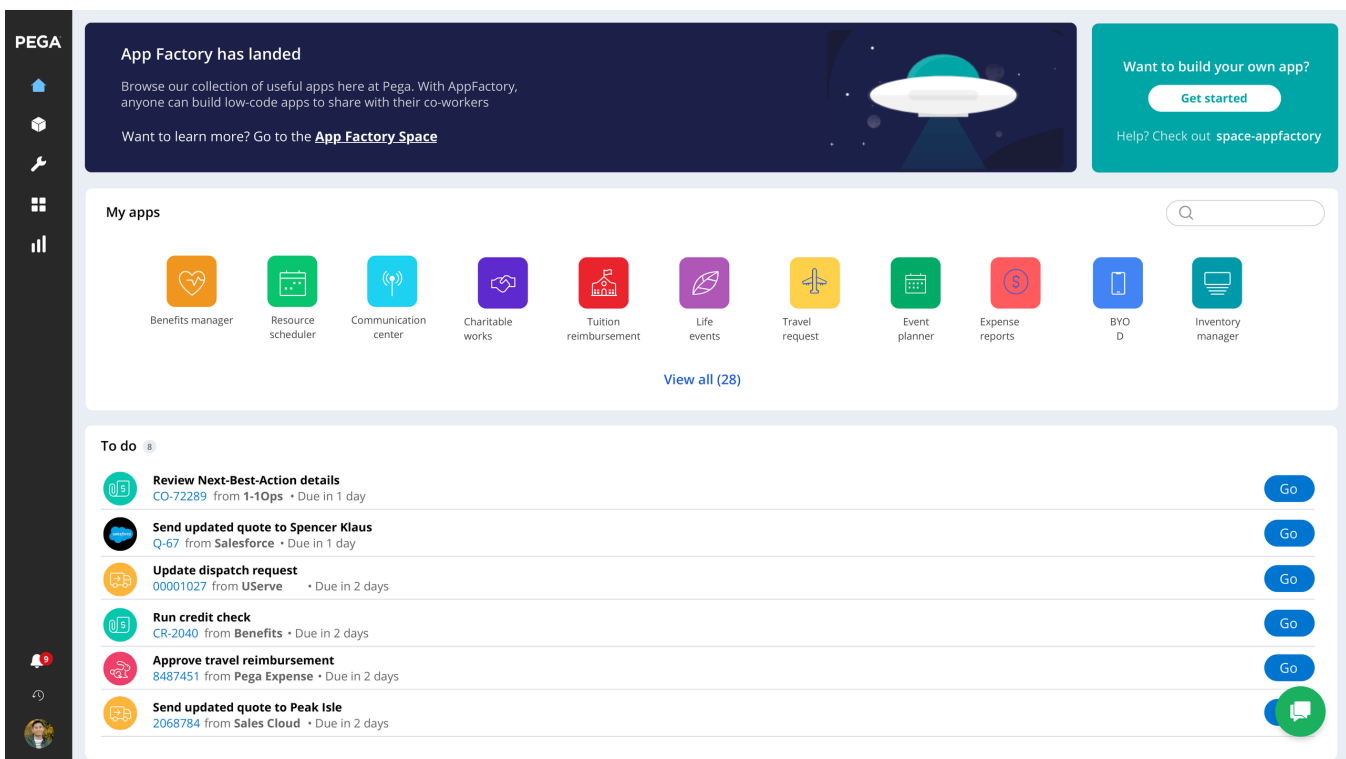
- ✔ **Standardizing** the basis on which new applications are created,
- ✔ **Reducing silos** between departments to improve impact
- ✔ **Establishing the foundation** for benefits tracking of the new application
- ✔ **Decreasing time and cost** for new applications by maximizing the opportunities for departments to share components and solutions already available
- ✔ **Increasing the opportunities** to identify overlap and duplication of effort

Step 2 : Submit App for business and technical approval

The Center of Excellence reviews and assesses the request (microjourneys, Minimum Lovable Project releases and supporting justification to ensure that it aligns with the organization’s strategy for Pega and has sufficient business value for it to be prioritized.

The **request assessment starts the engagement between the business team with the CoE experts** to provide the next level of guidance and governance ensuring the application scope and features are a good fit for the Pega platform.

Collaboratively the CoE and business representative agree on the complexity and criticality rating of the application and select the appropriate development model (IT-led development, fusion team development, or citizen development) for the project.



The CoE is also **responsible for the quality of the application design**, adherence to the organizational IT standards, and the Pega delivery and development best practices. This assessment and review includes a business design and a user experience design review. This is to ensure that the **technical design is aligned with the business needs** and that the **business design is maximizing the capabilities of the Platform** without undue customization of preconfigured Pega capabilities.

The frequency and depth of the **technical reviews are proportionate to the size, complexity and criticality of the application** along with **security and compliance considerations**. Where appropriate the CoE may require the technical reviews and signoff before the build activity can start. For other circumstances, the CoE may elect to run the technical governance reviews in parallel alongside the build activity.

Step 3: Re-use assessment and instructions by the CoE

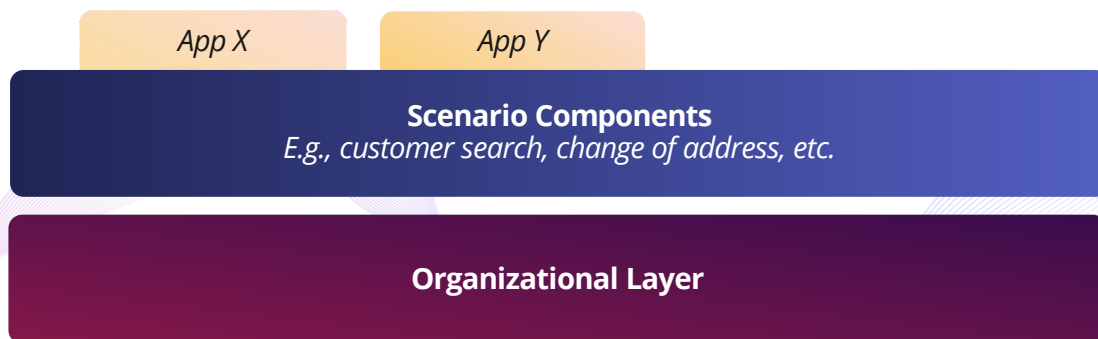
On behalf of the Program/Project, the Center of Excellence will undertake a reuse assessment and **identify the existing components that should be reused** by the application and the potential for new common functions and components. An example might be ‘customer search’ which may be used by multiple applications.

The CoE is responsible for identifying these components or building them and providing them to the Project/Program team to use in their app build. This may be developed through a pipeline or a separate deployment if in a unique environment.

The assessment performed assumes that application will be built on top of layers. The following diagram shows this logic, where apps are built on top of Scenario Components so that they can re-use common components in their case design.

Before concluding the assessment process, the CoE will invoke the appropriate technical governance reviews covering the business design, technical design, and data model. **The timing and depth of the technical reviews will be proportionate to the development model.**

A final activity for the CoE is to authorize the **enterprise IT and Fusion development** teams to create the new application and ensure the relevant reusable assets are included. **For citizen developers**, the CoE will create the application on their behalf and ensure the reusable components are included before providing access to the designated citizen developer.



Step 4: App implementation and testing

App implementation and testing can be undertaken through the Program/Project by a Citizen Developer pool, a Fusion team or a Professional IT group. Supported by DevOps capability to facilitate the seamless transfer of code from one environment to another. The implementation team will utilize the re-useable components provided by the Center of Excellence, to create implementation efficiencies and a consistent approach.

Step 4: App implementation and testing *(continued)*

Low code configuration is achieved through App Studio, enabling swift and simple implementation. Implementation assumes there will be an implementation version of the application in one environment and a testing mirror version in another application, with the implementation version being shipped to production. Configuration is achieved through sprints, following the scrum approach. Where the microjourney is decomposed into a backlog of user stories, which are prioritized for configuration during the sprints with testing being undertaken alongside the sprints. Any issues are prioritized and included as appropriate for resolution in the next sprint.

A well-tuned test and deployment operation will run alongside the configuration sprints and in principle take advantage of all available Pega automation and built-in quality indicators. This includes automated testing through Pega Unit, deployments through Pega Deployment Manager and application health steps through Application Quality Dashboard. This is supported by client testing, including performance and security.

Pega Unit is used to complete unit testing and create a regression pack of repeatable tests. Pega Scenario testing or third-party tools like Selenium are used to perform UI testing. Guardrails are constantly monitored to ensure the application is optimized from a configuration perspective and Pega Deployment Manager.

High level deployment manager steps:

1. Identify the Pipeline template
2. Create the DevOps pipeline
3. Assign out of the box tasks to each step
4. Execute to test and promote code to staging or production

Learn more:

[Deployment Manager | Pega](#)

[Deployment Manager for DevOps | Pega Academy](#)

[Accelerating delivery using DevOps practices for Pega applications | Pega](#)

High level Pega unit implementation steps:

- Record a unit test for automated testing
- Save the test case
- Run the test case

Learn more:

[Unit tests | Pega Academy](#)

High level quality steps (guardrails):

1. Go to the overview landing page in App Studio
2. In the guardrail section note the guardrail score
3. Click 'get guidance' to see prioritized guidance to resolve

Learn More:

[Monitoring guardrail compliance | Pega Academy](#)

Step 5: Final testing and deployment

Once the final sprint has concluded, and testing is complete, it is ready for final release testing by the Program or organization's operations function, who may perform additional final testing e.g. security testing, validation testing before readying the release for production deployment.

Extending your CoE's reach with Communities of Practice

Low-code development is **not only for Citizen Developers**. We believe that everyone can **benefit from low-code development** regardless of skillset and experience. That's why we created the best low-code platform for **AI-powered decisioning and workflow automation** on the market. It is uniquely designed to support the limitlessness of development models whether its an enterprise IT-led development, fusion team development, or citizen development. And like any continuum, all operating models can coexist; in fact, as you will see, they mutually benefit each other and strengthen your entire Pega program. The key to success is to create a low-code operating model designed to support different levels of development spanning the continuum.

What is a Community of Practice (CoP)?

A Community of Practice is an organized group of people with a common interest in low-code development using Pega. While not required, many organizations opt to establish a Pega CoP at either the departmental or company-wide level. It is focused on intake & onboarding, lightweight governance, and knowledge and enablement. It achieves this by:



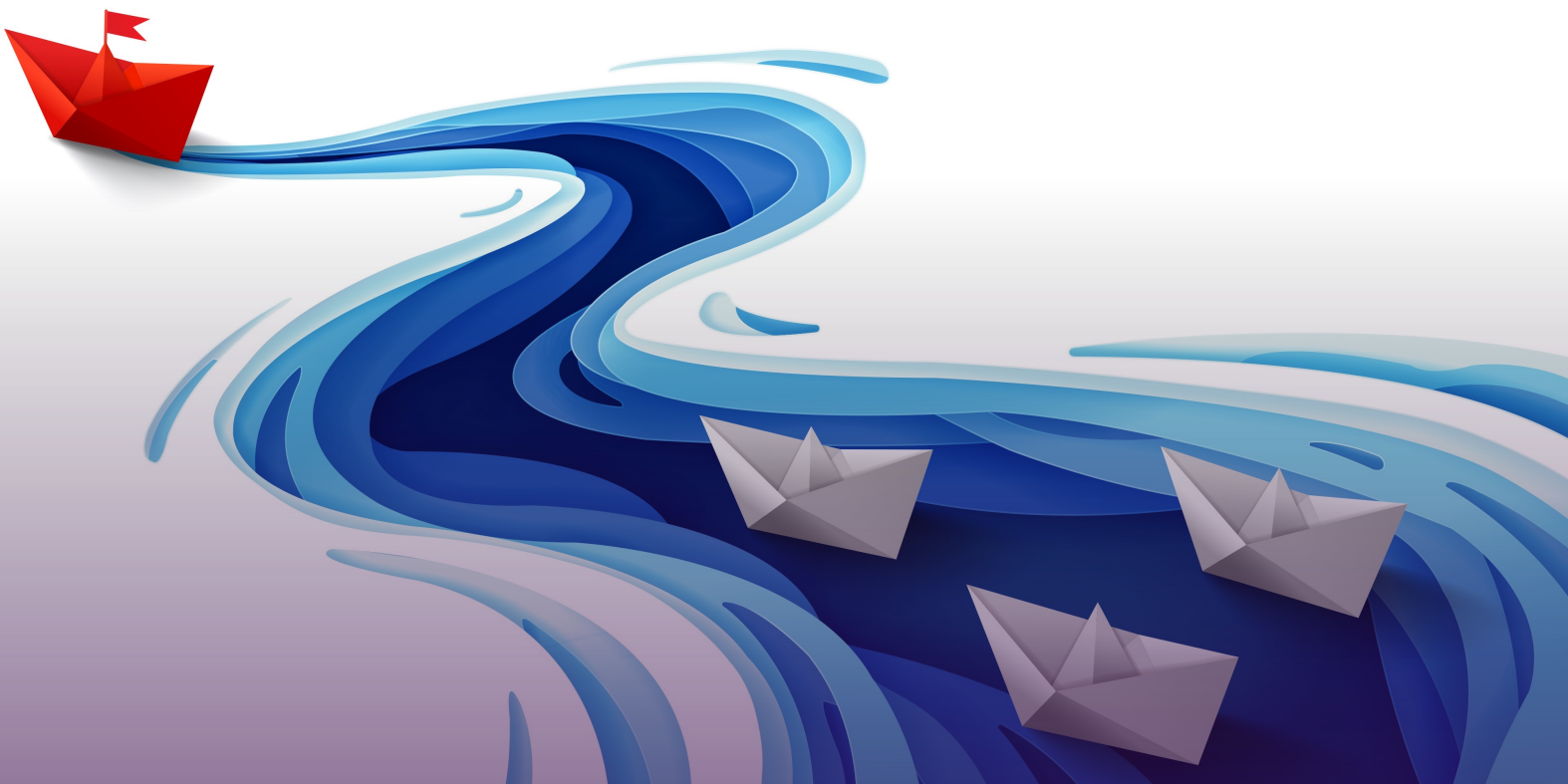
Bringing **citizen developers together** for support and encouragement



Helping **up-skill citizen developers** without taxing the IT team



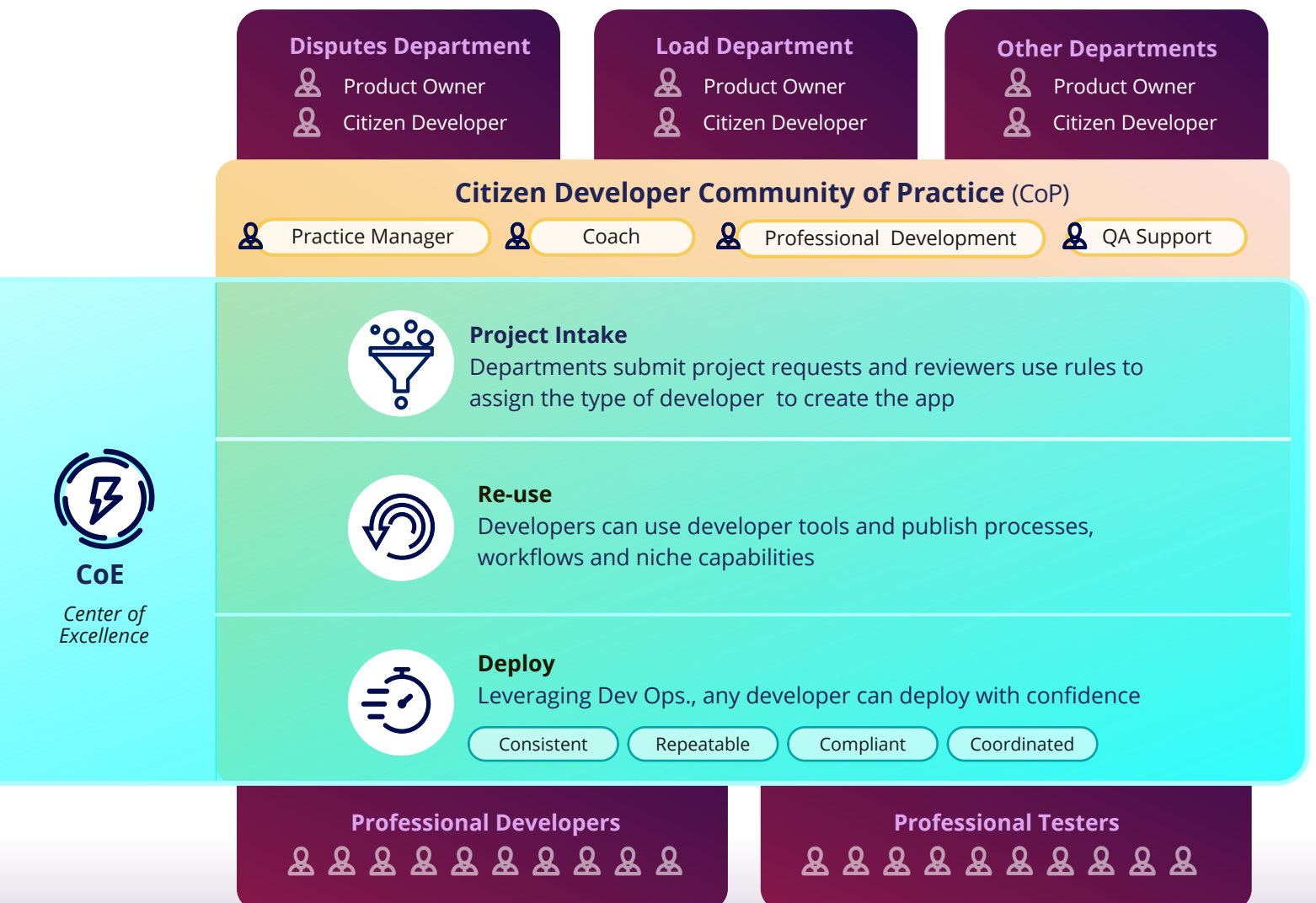
Represents the citizen and fusion development teams in the CoE



How the CoE and CoP work together

The CoP is meant to **complement the CoE and reduce some of the burden** and responsibilities of the CoE by empowering the developers to own and manage various aspects of the Low-Code App Factory program. While the CoE defines the intake process it **can delegate intake process to departmental CoPs** as the volume of projects increases.

The same is true for other processes which the CoE defines but can delegate to the CoP(s) in order to scale, e.g. deployment and release management, security and guardrail compliance, etc. The **CoP also represents the interests of the various development teams** and can make **requests from CoE** for new reusable components, or even **design and build new components** which they provide to the CoE to make available for wider use.



5 Moving towards an autonomous enterprise

Acknowledging your current state



As a multi-dimensional organization that evolves over time, your systems have developed and grown to respond to the needs of the business. However, with this rapid evolution, you may have attained a level of complexity where a single source of customer information, or an end-to-end total customer or employee experience has become a challenge. With your Pega investment, you can take advantage of our capability portfolio to work smarter, unify experiences and adapt quickly towards the ultimate vision – an Autonomous Enterprise that applies AI & automation at scale to improve total customer and employee experience while improving efficiency.

What makes an organization an Autonomous Enterprise?

- Self-optimizing workflows based on AI and optimal outcomes
- Business rules and AI initiate/execute service before customers realize the need
- Humans focus on complex exceptions
- Leaders tune system performance balancing the mix of business goals or introducing new ones
- Humans train the AI to hyper scale the business

Evolve your application portfolio to build agility and autonomy in your organization

The autonomous enterprise is a self-optimizing business that applies AI and workflow automation to your organizations' operations, servicing and engagement. As you move from manual work to full autonomy, Pega recommends you consider your journey towards autonomy by focusing on these three strategies:



Autonomous Operations

Move towards a 'self-driving' back office which is efficient, provides superior customer experience and completely manages risks. Align your workforce, increase productivity and continuously optimize.

▲ **45% increase** in back-office operational efficiency due to Pega Platform baseline automation capabilities



Autonomous Service

Intelligently engage and seamlessly automate every customer journey across any channel, front to back office, via assisted, proactive or self-service, without disrupting your existing systems.

▲ **80% automation** of customer service processes for one organisation



Autonomous Engagement

Ensure every decision and interaction is aligned to your top-level business strategy. Drive hyper-personalized engagement in real-time and at scale, using AI powered decisioning.

▲ **3-10x increase** in customer engagement rates

Key to agility in building an autonomous enterprise is taking a **center-out approach** by placing the customer journeys and outcomes at the center of the business architecture. This represents a shift from the traditional product-centric focus which is not tied to customer outcomes.

Taking a center-out approach enables organizations to achieve consistency in the customer experience across channels and instances of applications, achieved by defining a common end-to-end journey. This approach makes it possible to rapidly deploy changes and adapt instantly.

Leverage Pega's products and capabilities to deliver your business outcomes

Pega provides a comprehensive solution portfolio to support your digital transformation. Where you start is determined by your business outcomes and your organization's priorities.

Autonomous Operations

Align your workforce, increase productivity, manage risks & optimize end-to-end processes

The COO has a single view into the performance of all their teams & workflows. All back-office workflows across the business continuously align to strategy for new levels of efficiency and margins

Autonomous Service

Automate work from front to back office, guide agents & deliver self-service on preferred channels

The CXO can provide faster, more seamless service experiences for customers and employees. Every service interaction is an amazingly seamless as-a-Service experience for customers and agents, all with less cost

Autonomous Engagement

Personalize experiences & seamlessly connect customers to services

The CMO can deliver personalized experiences at scale that make each customer feel valued

Underpinned by a unified Autonomous Enterprise platform

Powerful, integrated low-code capabilities:

- **Pega Robot Studio:** to automate work
- **Process AI and Process Mining:** to optimize processes
- **Situational Layer Cake™:** Across geographies, languages and silos
- **Conversational AI and NLP:** to drive engagement, understand intent, automate manual work & recommend **Next Best Action**
- **Chatbot, Email bot, IVR bot:** to automate work out of the contact centre using **virtual agents**
- **Digital Self-Service** to engage on customer preferred channels
- **Real-time Decisioning:** to analyze billions of customer interactions
- **Next Best Action:** to determine the best course of action for every individual
- **Predictive Analytics:** to drive unified customer engagement across all channels

Together with Pega, your vision of an Autonomous Enterprise, powered by Pega's platform and your people's strategy, is closer than you can imagine. We have used our extensive experience to create this playbook as an illustration of how digital transformation with Pega can be executed and realized.

6

Wrap-up summary

Pega has a clear vision for your organization and can partner with you on your journey to get there. Together with our products and best practices we can:



Work Smarter

Improve transparency and tracking with enhanced visibility that increase the ability to respond to business needs in a timely fashion.



Unify Experiences

Intelligently automate end-to-end workflows and simplify enterprise operational complexity to drive success.



Adapt Instantly

Get to market quicker through extending portfolio offerings by creating new applications that integrate seamlessly into existing business ecosystems.

We achieve lasting and scalable transformation through:

- Starting at the center and understanding your business challenges and desired outcomes.
- Unlocking the power of low code to quickly create applications.
- Preparing your organization for End-to-End transformation.
- Scaling your enterprise to create momentum and continuous development.
- Move you towards an Autonomous Enterprise that self improves.



Learn more by visiting us at:

[Low code platform for AI-powered decisioning & workflow automation | Pega](#)

For more information:

Please reach out to the Pega Express team via email: PegaExpress@pega.com.



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ENTERPRISE

Appendix

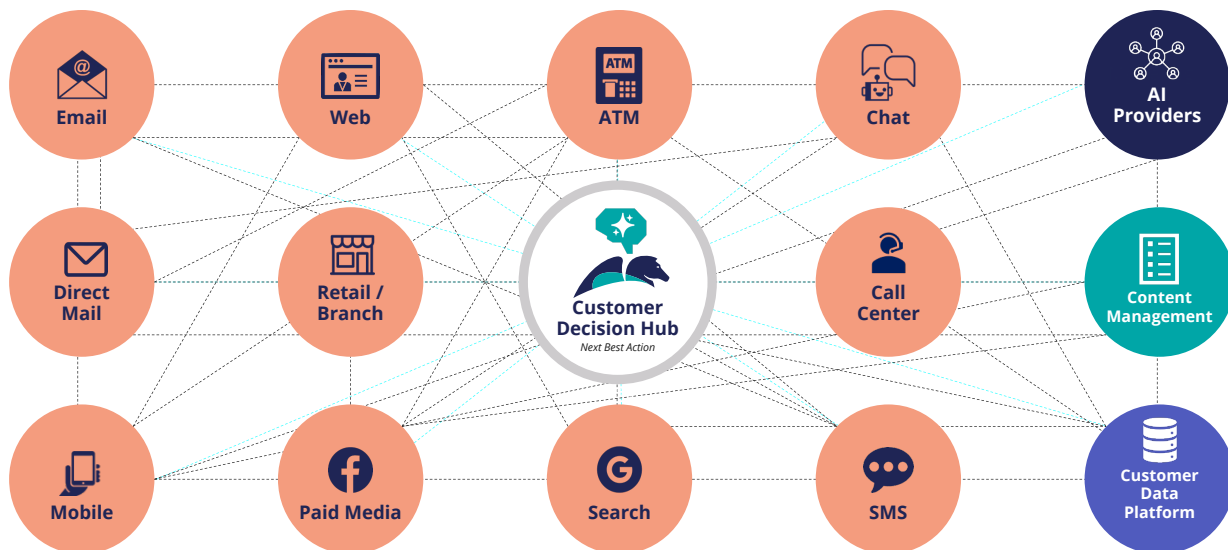
- Pega Products and Capabilities
- Authors and Contributors

Customer Decision Hub

Customer Decision Hub™ determines the next best action for every customer – then delivers it in their preferred channel during their moment of need. It provides monitoring and reporting tools that you can use to browse customer and decision data, gain insights about the performance of your actions, review KPIs, monitor adaptive and predictive models in your system, and create reports to retrieve various types of data.

How does Customer Decision Hub benefit my organization?

When multiple point solutions of customer marketing are set up, each to optimize a specific channel experience, together they can create a customer experience that is not contextually relevant to their needs. When Customer Decision Hub is implemented, the unified information of a specific customer’s actions allows you to real-time act upon the next best action.



Examples are:

- Provide a retention offer to an individual at risk, saving costs
- Personalize content for each channel experience, strengthening relationships
- Customizing rewards for purchases and actions, reinforcing loyalty

How do I get started?

Please refer to [Get started with Pega Customer Decision Hub](#) in our Pega Docs site for detailed implementation steps, as well as [Customer Decision Hub | Pega Community](#) for videos, blogs and support.

Customer Service

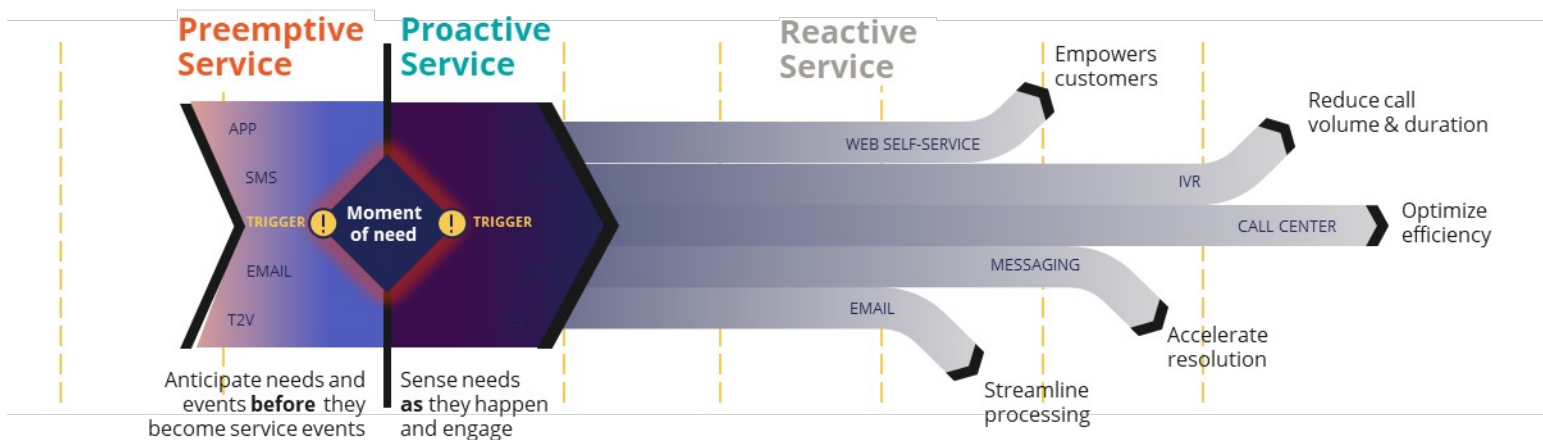
Pega Customer Service consolidates relevant customer information from your legacy systems, interaction data, and service requests into a composite view. These customer composites provide relevant account detail, interaction history across channels, and recent service requests. They dynamically display customer information based on the customer context and current situation. Your CSRs can quickly search for contacts, accounts, service requests (cases), and knowledge content.

How does Customer Service benefit my organization?

Pega’s Customer Service automates your business processes across systems and channels to drive significant cost savings and improve your customer and employee experience.

Because information from multiple applications are unified, customer service agents possess the appropriate data to serve their customers real-time. The efficiencies culminate to reduced training times, increased customer satisfaction and increased contact center productivity.

A single, consistent UI also means that your agents don’t have to be specially trained to handle certain interaction channels, simplifying your staffing needs.



Reduce propensity to call



Contain inquiries



Improve efficacy of live interaction

How do I get started?

Please refer to [Get started with Pega Customer Service](#) in our Pega Docs site for detailed implementation steps, as well as [Pega Customer Service | Pega Community](#) for videos, blogs and support.

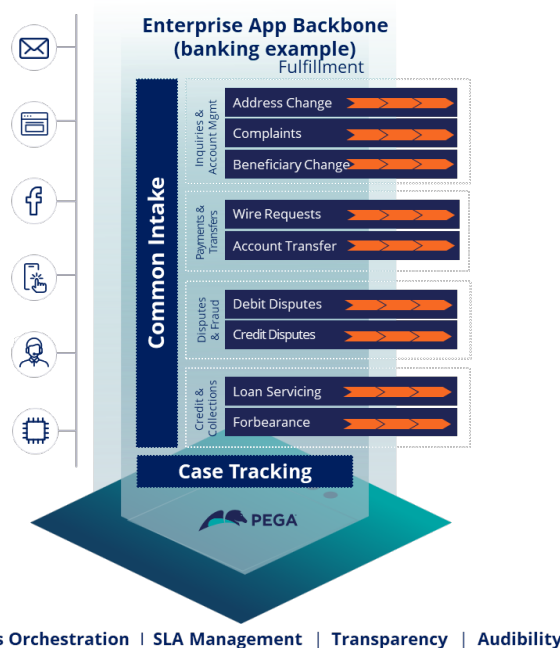
Platform

Pega Platform™ is a low-code case management and application development platform intended for enterprises seeking to build, deploy, and evolve strategic business applications. Within the Platform, the creation of workflows capture the life cycle of work from inception to resolution. Pega Platform’s low-code application development facilitates rapid solutions with collaboration between your organization’s business and technology teams.

How does Platform benefit my organization?

Pega Case management delivers end to end visibility, automation and work management. It not only provides a unified context of processes, logic, data, and intelligence but also provides visibility across all these areas.

Low-code applications can bring value quickly to your organization in a user-friendly and intuitive way. By using the various out-of-the-box tools, you can define customer journeys, develop applications, track your progress, and communicate with team members and stakeholders, accelerating the business efficiencies and opportunities you can create with Pega.



How do I get started?

Please refer to [Get started with Pega Customer Service](#) in our Pega Docs site for detailed implementation steps, as well as [Pega Customer Service | Pega Community](#) for videos, blogs and support.

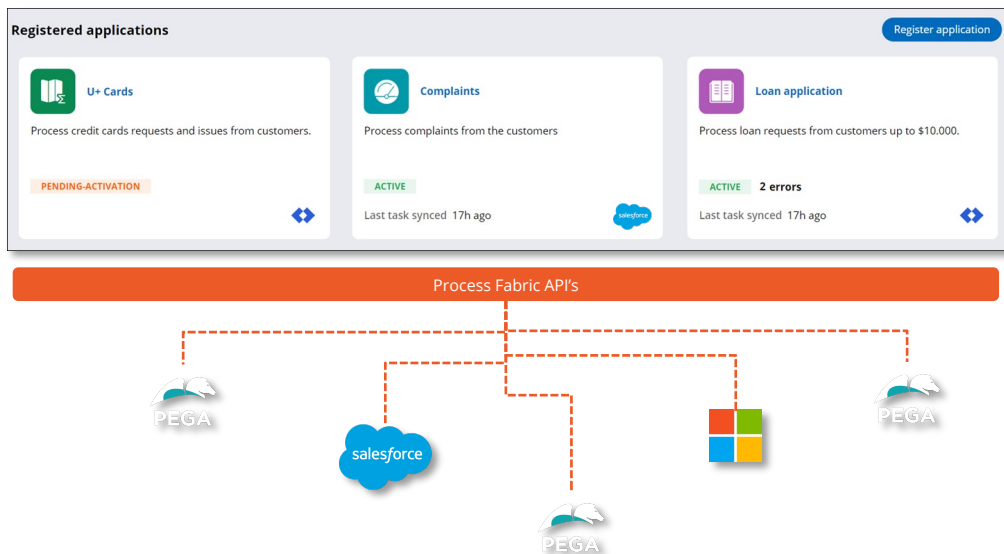
Process Fabric Hub

Process Fabric Hub is an add-on Pega application that provides capabilities for connecting and orchestrating work from distributed applications across your enterprise. It brings more effectiveness and consistency to organizations in which work is distributed over many applications without needing to rearchitect the existing structure of your business applications.

How does Process Fabric Hub benefit my organization?

Consider a scenario in which bank employees resolve assignments related to loan applications, document reviews, and customer onboarding by logging in to respective separate applications. Instead of switching between the applications, employees can access all their routed assignments in a single place, Pega Process Fabric Hub. As a result, you gain an improved employee experience and improved workload management, better insight into which cases to prioritize, and identify trends in bottlenecks on a more holistic basis.

Using the Pega Platform, you can create simpler applications pertaining to a customer journey.



The applications can change autonomously and asynchronously while continually communicating with Pega Process Fabric Hub.

How do I get started?

Please refer to [Pega Process Fabric Hub](#) in our Pega Docs site for detailed implementation steps, as well as [Process Fabric | Pega Community](#) for videos, blogs and support.