PRACTICAL GUIDE

Duck Creek Technologies

Accelerate Speed to Market for P&C Insurance Products

A Guide to Scaling Innovation and Deployment for CIOs, CTOs, and Application Delivery Managers

Contents

Executive Summary

Today's technology leaders at P&C insurers must respond rapidly to changes in business strategy and the need for portfolio remediation, by developing and deploying products at scale, across all lines of business.

Macroeconomic upheavals, competitive pressure, legislative changes, and increasing risk brought about by climate change, cyberattacks, claims litigation, and evolving customer expectations make these goals harder to accomplish.

This guide offers CIOs, CTOs, product teams, and application delivery managers guidance on establishing a cloud-based product innovation, development, and deployment model, called the "new operating model," to meet these needs.

Within the framework of the new operating model, CIOs gain an understanding of how:

- A new engagement model for business sponsors and technology leaders can spur business growth.
- Separating strategic initiatives from those that target operational efficiencies maximizes the value of product innovation to business sponsors.
- Adopting new innovation metrics helps relate innovation investment to business outcomes.
- To develop new product innovation strategies based on market attributes and design preferences.
- Business and IT stakeholder responsibilities are optimized to speed up product releases.
- The new operating model reduces operating expenses and product lifecycle management costs.
- To positively influence business strategy with product options that support growth objectives.

CTOs, product teams, and application delivery managers learn how to:

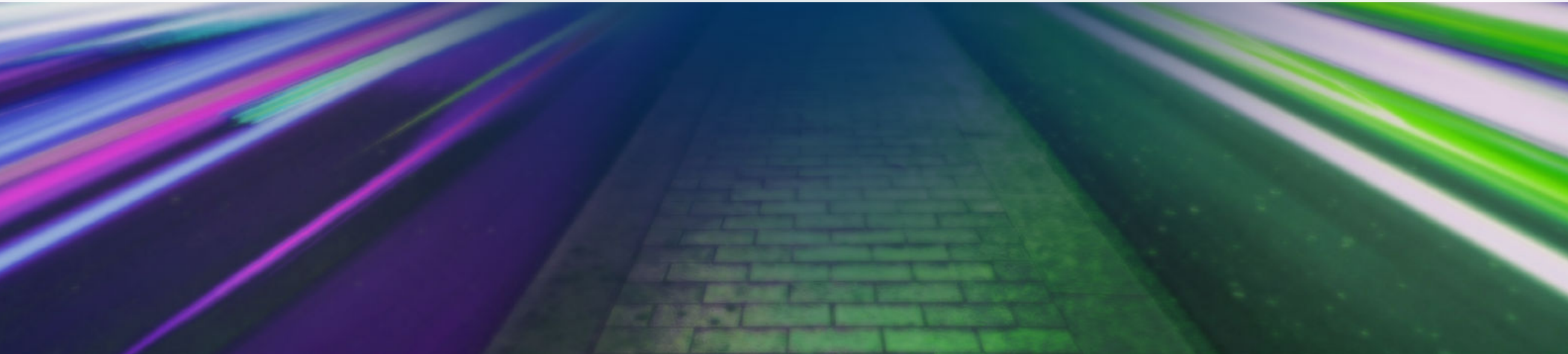
- Begin the journey to cloud-centric product development.
- Identify a modern core system offering by its essential capabilities.
- Utilize ten criteria to select a modern core system vendor that can deliver on the carrier's growth strategy.
- Identify solution partners within the vendor ecosystem that can add value across the policy lifecycle.
- Select a system integrator best positioned as a partner to successfully bring product to market.
- Utilize modern DevOps practices to accelerate product development and testing, and manage software releases.
- Leverage an Integrated Development Environment (IDE) to develop, test, and deploy core products.

Key Takeaways

The guide concludes with key takeaways that serve as a handy reference as the reader develops and implements the new operating model on the road to accelerated product development and deployment.

Accelerating Speed to Market for P&C Insurers – A Definition

The ability to respond rapidly to market opportunities, macroeconomic changes, regulations, and customer expectations is centered around a new operating model that accelerates profitability and growth. You can deliver insurance products in progressively shorter time frames by using a cloud-based innovation ecosystem, best practices in cloud governance, product management, process, and team management.



Expectations for Real World Results

With a combination of strategic planning, adoption of a modern operating model, and process innovations, CIOs, CTOs, and application delivery managers for P&C lines can achieve product introduction speeds that are as repeatable as they are impressive.

Using modern software application paradigms such as product modularity and inheritance, new product development and deployment schedules have been cut from months to weeks. Configuration changes to products serving the needs of specific market segments can be made in minutes instead of weeks.

The new operating model also reduces reliance on third parties to make changes to pricing, coverages, underwriting rules and workflows in core systems, tasks that would result in unacceptable delays as well as in higher costs.

The business benefits of adopting the new operating model are clear. P&C carriers can grow policy revenue faster, grow the customer base across diverse segments, reduce opportunity costs, and increase customer, employee, and agent satisfaction.

Step	Change to Commercial Business Policy	Time to Complete
1	Add new "Cyber Liability" coverage to policy w/new data fields such as limit amount, deductible amount, etc.	< 1 hour
2	Add rules for when new coverage should be included on the policy (e.g. state = CA, revenue > $250K, etc.)	< 1 hour
3	Add calculation of the incremental premium related to this coverage, based on standard rate factors.	4 hours
4	Add changes to existing policy forms templates to include wording for the new coverage.	2 hours
5	Add new policy form for the required coverage certificate.	2 hours

Table 1: Examples of time to make configuration changes for commercial business policy in the new operating model.

A global specialty and reinsurance carrier launched over 80 products in a two-year time frame within the United States. Associated DWP grew from approximately $1.2 billion to $1.5 billion in the first year. New products cost the company four times less to build, and product modifications cost five times less. On the operational side, the carrier went paperless, cut quote time in half, cut policy issuance time in half, and eliminated duplicate entries – a common issue with specialty lines.

The Way Forward for CIOs and CTOs at P&C Insurers

"Through 2025, insurance CIOs adopting public cloud will deliver innovation necessary for business model transformation three times faster than their traditional counterparts."

Gartner®
Gartner[1] Predicts 2022: Insurance — Advancing Digital Maturity Will Enable New Ways to Differentiate
Richard Natale, Kimberly Harris-Ferrante, Laurie Shotton, Sham Gill, Rajesh Narayan, James Ingham
16 November 2021

The P&C insurance landscape is evolving quickly. Traditional lines such as commercial property and auto face increasing inflationary pressure that drives up claims' costs, making it difficult to balance financial performance with the need to moderate rate increases. Increasing cyberattacks targeting corporations are forcing insurers to develop new underwriting, pricing, and coverage definitions to mitigate the risk of large losses.

Competitive pressure has increased with the introduction of new pricing strategies such as mileage- based premiums for auto lines. Comparative rating systems, once only prominent in personal lines, can find the lowest rates in commercial lines, requiring carriers to carefully balance coverage terms and premium increases to compete.

For specialty lines, carriers need to leverage artificial intelligence (AI) and data science to evaluate risk and exposure for commercial firms seeking D&O and Employment Practices Liability policies, or risk ceding market share to niche competitors.

To achieve success with the new operating model, CIOs and CTOs, in collaboration with their business sponsors, must redefine why and how insurance products are developed, reassess, and modify the role of IT and business
stakeholders, and put in place a technology infrastructure that meets near and long-term business goals.

The new operating model fosters this process of discovery, aligns business strategy more closely with IT strategy, and cultivates an agile approach to product innovation across the enterprise. The result is highly scalable deployment of P&C insurance products in rapid succession, available when the business needs them.

The following sections guide the reader through planning and implementing a product innovation infrastructure that fits within the new operating model, with a primary focus on accelerating the development and deployment of innovative insurance products to meet the challenges and opportunities described.

Numerous stakeholder groups play a role in addressing these challenges, through a combination of revised operations and workflows, a renewed focus on customer and employee experience, new ownership and accountability structures, cultural adaptation to new processes, and investment in technology. Taken together, these initiatives form the basis of a new enterprise operating model that carriers must adopt to sustain long-term profitability and growth.

From Business Strategy to Innovation Strategy: Guidance for CIOs

With the need to innovate and deploy products rapidly to stay competitive, the CIO is called upon to re-invent product development and IT infrastructure, processes, and ownership, while establishing a continuous feedback loop between the business strategy function and the technology function that guides innovation strategy, systems, and data architecture.

A carrier might carry lines for commercial property, auto, and D&O. Another carrier might focus on lines for farming and agriculture. A third carrier might carry lines targeted at the construction industry.

In each case, line of business sponsors such as the Chief Underwriting Officer for large commercial lines or the VP of Claims for farm insurance provides the business requirements for needed products to the CIO and the product team. With new innovation strategies possible within the new operating model, the CIO, working with the CTO, product, and application teams, develops an innovation strategy that will best meet the required product capabilities, achieve segment specific scalability, and preserve the ability to adapt the same products for future markets in a short time frame.

This ability to scale and adapt products is made possible with a combination of product modularity, software feature inheritance from base product module to derived products, and reduced software lifecycle management overhead. **With these highly scalable and adaptable product lines "on the shelf", the CIO is now able to provide the line of business sponsor with new or alternate go-to-market product options that potentially address business opportunities that may not have been part of the initial business strategy.** Thus, the feedback loop between the business strategy function and the technology function fulfills its objective of meeting market opportunity with timely products.

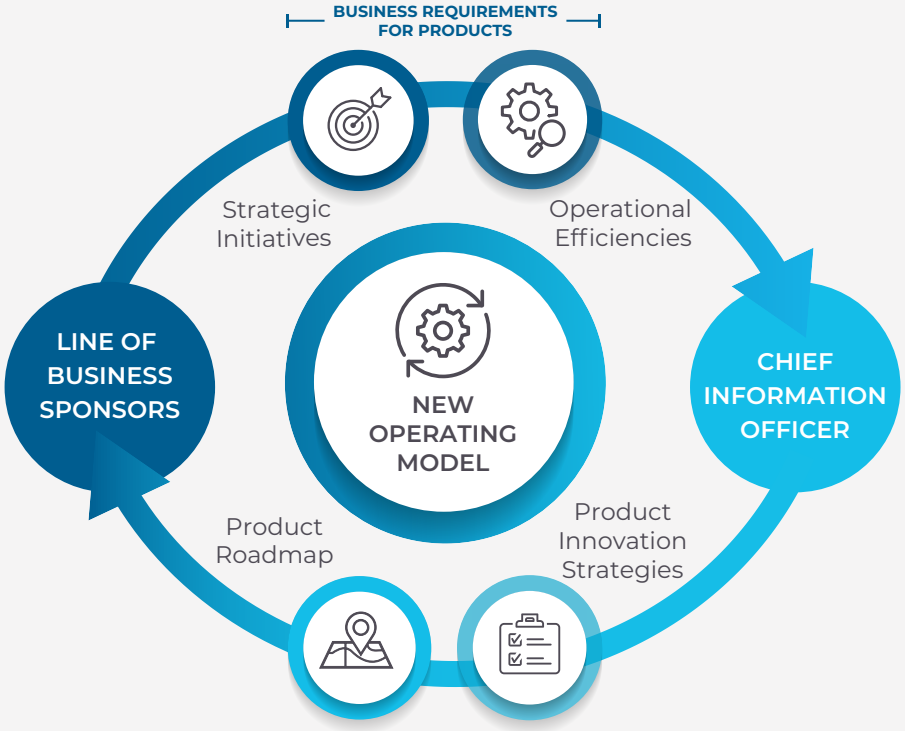


Figure 1: A continuous feedback loop between business sponsors and the CIO guide innovation strategy, systems, and data architecture

Differentiate Strategic Growth Initiatives From Desired Operational Efficiencies

It is important to differentiate between strategic growth priorities and desired operational efficiencies. Doing so allows the CIO to prioritize change initiatives based on near term and long-term business goals, consider time constraints and budget planning, plan resource allocation, and consider external factors such as macroeconomic and regulatory environments.

Align New Innovation Metrics to Business Performance

The new operating model facilities a stronger collaboration between the executive business sponsor and the CIO's team.

The benefit is that the CIO's team can seek and obtain input from the sponsor about desired improvements in quantifiable metrics and processes that the new operating model can deliver.

This focus on metrics targeted for improvement will serve as an excellent guide when evaluating a core system vendor's ability to improve these metrics within the new operating model. Figure 3 shows a unique perspective on product innovation metrics that can be tracked with the new operating model, leading to corresponding improvements in business metrics.

Accelerate Speed to Market

For Strategic Initiatives

- Make outstanding customer experience a growth catalyst.
- Expand into new target markets/regions.
- Take on underwriting risk for new asset classes.
- Leverage real time IoT data to redefine risk assessment and risk prevention across lines of business.
- Embrace ESG as part of a long-term product strategy.

Through Operational Efficiencies

- Improve business continuity by eliminating downtime for software and hardware upgrades, testing, and support.
- Free up IT resources to focus on solutions for business use cases.
- Integrate ecosystem products to support underwriting complex asset types.
- Implement straight-through processing.
- Implement a more efficient product development infrastructure.

Figure 2: Differentiating between strategic growth initiatives and desired operational efficiencies helps define the path to accelerated product development

A New Perspective on Metrics Within The New Operating Model

Product Innovation Metrics

- Average Time to Market for New Product
- Average Time to Market for Product Modification
- DWP (with new product)
- Percent Requirements Met
- Total Cost of Ownership (TCO) for Modernized Architecture
- ROI (as measured by new DWP and operational efficiencies)
- Product Scalability Across Markets
- Technical Debt Reduction

Growth/Profitability Metrics

- Return on Equity (RoE)
- New Product DWP by Line of Business
- Combined Ratio
- Policy Retention – Expired Policies
- Policy Retention – Renewable Policies
- Loss Ratio
- Expense Ratio

Operational Efficiency Metrics

- Underwriting Speed
- Claim Settlement Cycle Time
- Claims Processed per Claims Employee
- Claim Error Rate
- Reduction in Claims Leakage
- Time to Complete Regulatory & Financial Reporting
- Customer Satisfaction Scores

Distribution/Sales Channel Metrics

- Revenue per Policyholder
- Quote-to-Bind Rate
- Growth Rate
- Renewal Rate
- New Policies per Agent
- Policies-in-Force per Agent

Figure 3: Improvement in Key Product Innovation Metrics Lead to Corresponding Improvements in Business Metrics

New Product Innovation Strategies Guide Product Roadmaps

A sound business strategy articulates a clear segmentation of the insurers target market, and the insurance needs of that target market that the carrier seeks to meet through the sale of new policies. This information forms the basis of the carrier's product innovation strategy.

Business Strategy → Innovation Strategy → Product Roadmap

The product innovation strategy articulates the approach to the development of insurance products in a way that meets the needs of the market segments articulated in the business strategy. The product innovation strategy will allow the product management, product development, and application delivery managers to develop and execute on a product roadmap that brings product to market that align with the business strategy.

Product Innovation Strategies With the New Operating Model

With low-code product creation, a modular product architecture supporting re-use through inheritance, cloud-centric deployment and adoption of best practices, the new operating model offers carriers the ability to evolve and execute on innovation strategies that enable the rapid deployment of new and modified products, difficult to achieve with legacy products.

Figures 4, 5, 6, and 7 illustrate four different innovation strategies that carriers can utilize to accelerate product introduction across lines of business, geographies, and sales channels.

Multi-Region – One Product

Consider this model:

- If you want one single product definition that applies across all regions.
- If you want to make a single product change that affects all regions.

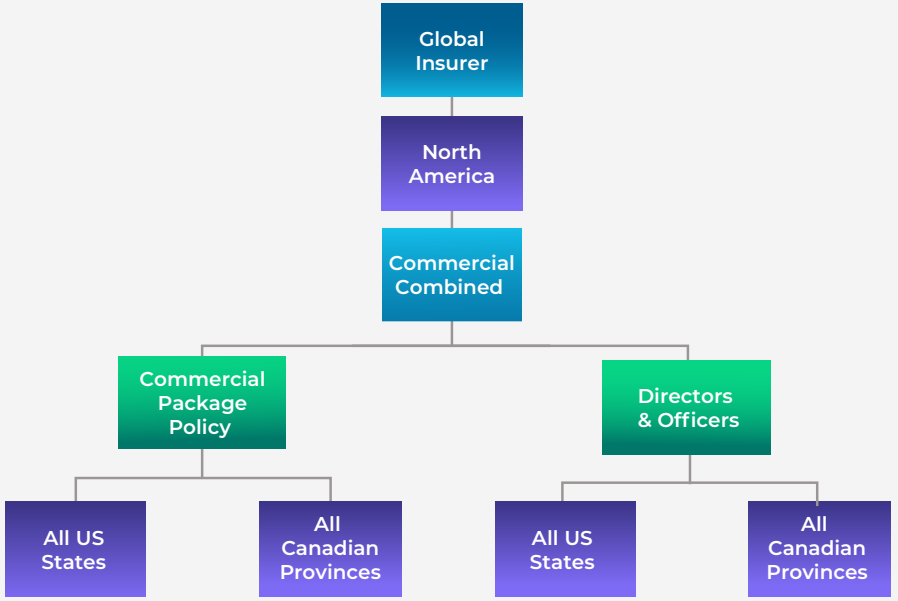


Figure 4: Multi-region, one product innovation strategy

Multi-Product – One Region

Consider this model:

- If you do not need to maintain a single product definition for all regions.
- If you want to maintain each product for each region separately.
- If you want to quickly launch new products in existing regions.
- If you want to accelerate development by duplicating a product for a new region.

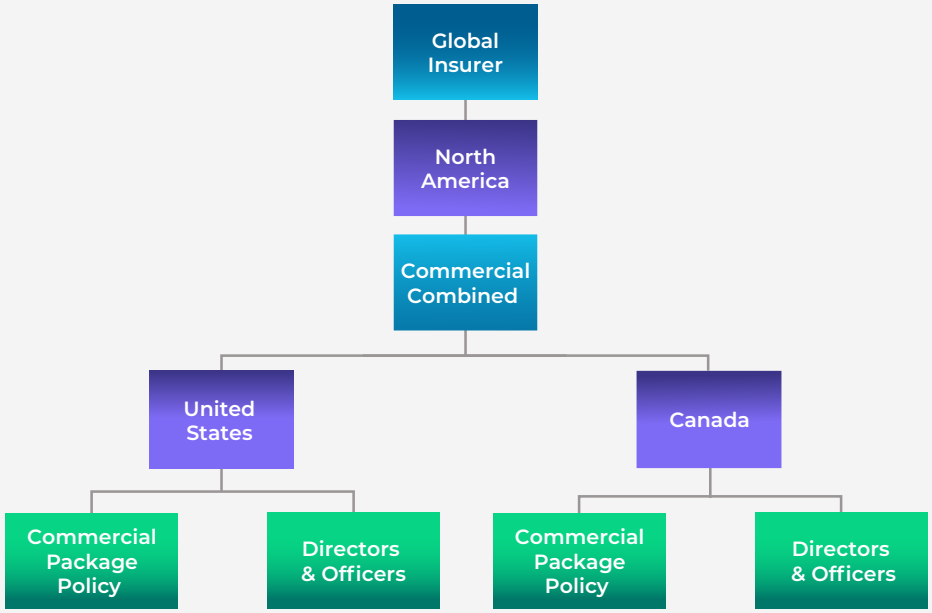


Figure 5: Multi-product, one region innovation strategy

Common Base Auto – Multiple Variants Across Countries

Consider this model:

- If you know that the base product will meet target market needs in multiple regions.

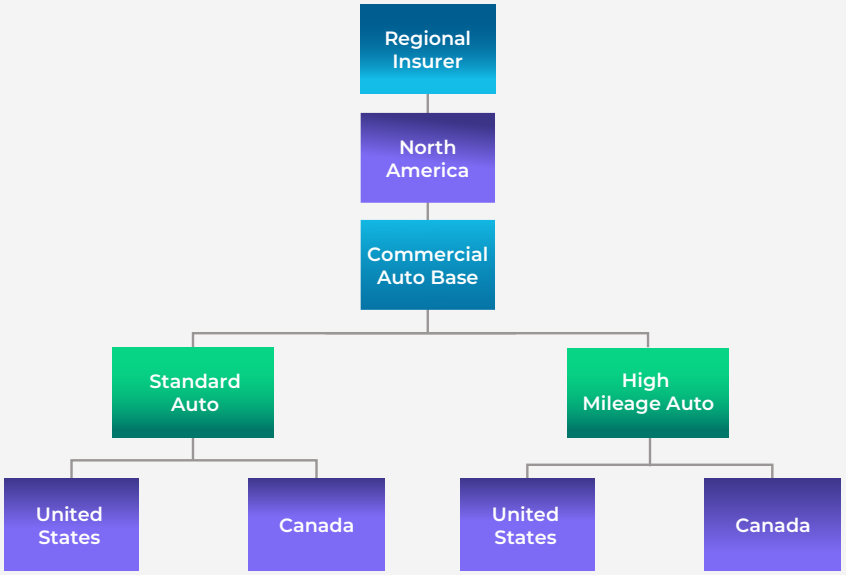


Figure 6: Common base, multi variant across regions strategy

Common Base Auto – Multiple Variants Across Sales Channels

Consider this model:

- If you know that the base model will meet target market needs across sales channels.

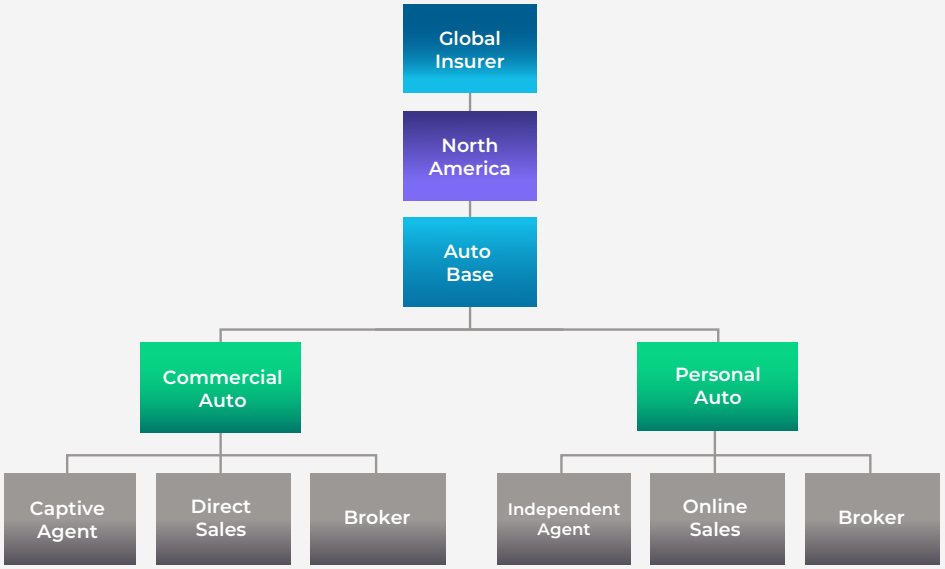


Figure 7: Common base, multi variant across sales channels strategy

Implement a Cloud Governance Model to Support Accelerated Product Delivery

With a modern core system, application and IT infrastructure are managed in the cloud. A cloud governance model is essential to ensuring a successful transition to this cloud-based, accelerated product development and deployment environment.

Cloud governance ensures that software deployment, application and data security, system integration, and other aspects of cloud computing are planned and managed to yield the best outcomes for business and technology operations.

With the governance model that is structured to accelerate product development and deployment, relatively simple product modification tasks that took months with legacy core products can be accomplished in minutes or days, by business stakeholders without need for IT support.

With the governance model structured to accelerate product development and deployment, relatively simple product modification tasks that took months with legacy core products can be accomplished in minutes or days, by business stakeholders without need for IT support.

To achieve speed to market, the carrier's governance model must define the responsibilities of individuals and teams who will own or support key functional areas that directly impact speed to market for new insurance products. These ownership areas include:

1. Development of new products or modification of existing products within the new operating model.
2. Testing and deployment of these products.
3. Product updates related to pricing, product, underwriting, workflows, and forms.
4. Coverage modifications for products.
5. Updates to integrations and creating new integrations with products.

A detailed discussion on cloud governance is outside the scope of this guide. In-depth information on cloud governance models can be found at The Open Group.

Take Control of the Budget

With business strategy closely aligned with innovation strategy within the new operating model, IT budget requests become targeted and defensible. The CIO can directly associate budget requests with growth objectives for the business. Moreover, the budgeting challenges associated with maintaining legacy systems and supporting their users begin to recede as the carrier's new operating model matures over time with greater use of the model to develop and deploy products across the value chain.

With a modern core system as the technology foundation within the new operating model, predictability of costs is greater due to subscription-based pricing models and the ability to scale costs with usage.

It is important to consider the cost of "doing nothing" – events such as pandemics and unforeseen macroeconomic changes can expose the limitations of legacy systems, making recovery difficult and weakening the carrier's competitive position.

Table 2 compares the budgetary impact of running legacy systems versus that of utilizing a cloud-based modern core system.

Business strategy drives innovation strategy within the new operating model, making the CIO's budget requests targeted and defensible.

	CIO Budget		
Costs	**Legacy System**	**Modern Core System**	**Reasons**
Software/Hardware Upgrades & Maintenance	Higher	Lower	Software/hardware updates done by core system vendor and infrastructure provider.
Staffing	Higher	Lower	Fewer developers/testers with modern core systems; business staff make configuration changes instead of IT
Product Development	Higher	Lower	Shorter time to develop product equals lower cost of product development
Environmental	Higher	Lower	Modern core systems consume less electrical power than legacy systems
Opportunity Cost	Higher	Lower	Shorter development cycles with modern core systems allow the carrier to target more opportunities.
Technical Debt	Higher	Lower	Skills gap maintaining legacy systems leads to security, compliance issues, technology failures; modern core systems are constantly updated

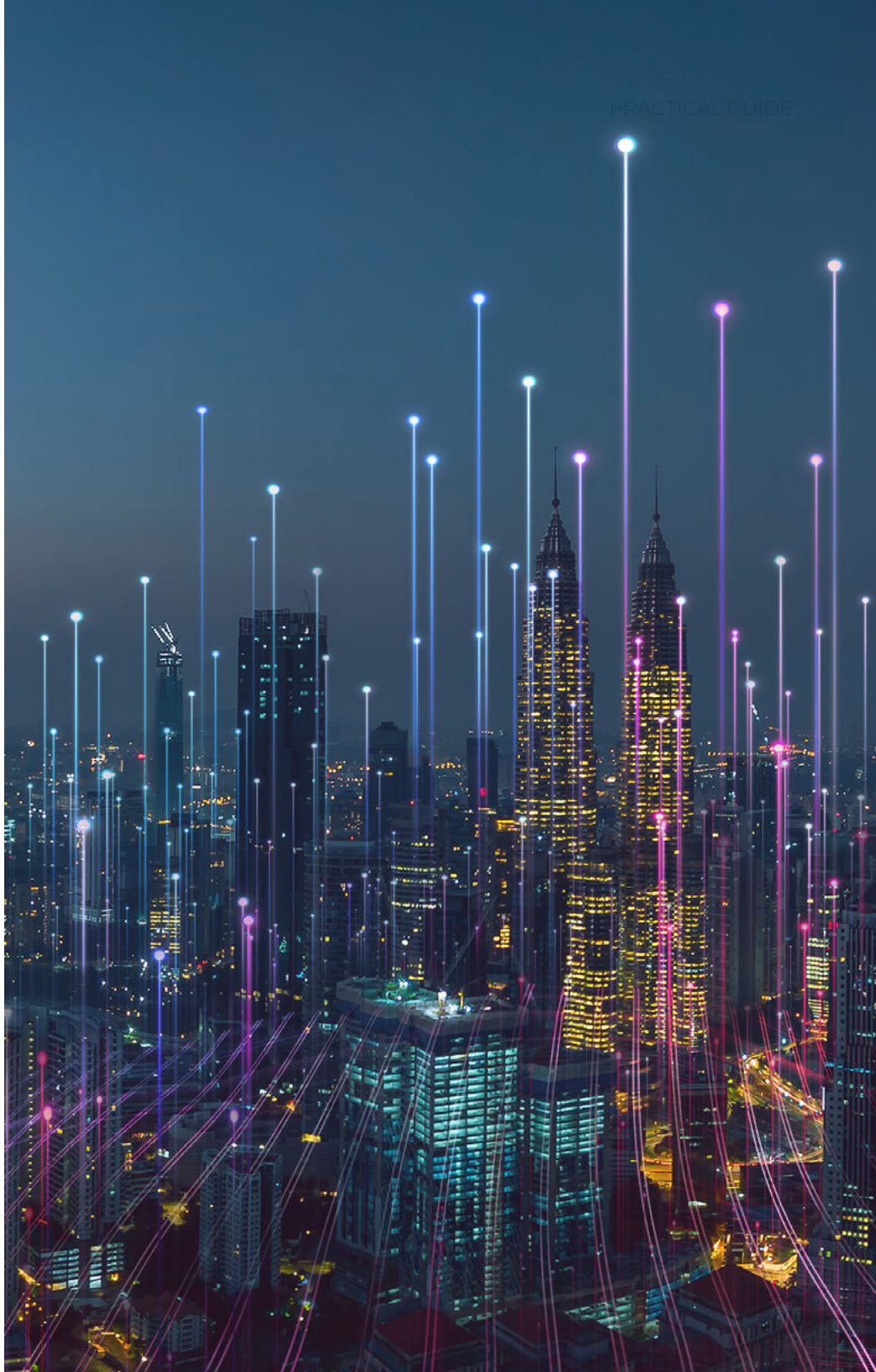
Table 2: Relative cost impact of maintaining legacy systems vs modern core systems on the CIO's budget

Use the Cloud-based Innovation Model to Change the Conversation About Growth

The cloud-based innovation model that supports accelerated product development and deployment is a strategic enabler for technology leaders such as the CIO and CTO.

It gives technology leaders at P&C insurers the ability to:

1. Influence growth and profitability objectives set by business peers across lines of business.
2. Directly contribute to premium growth with new and modified product solutions that are costly and complex to develop with legacy systems.
3. Clearly articulate the value proposition of new insurance products to business peers as a result of accelerated product development.
4. Lower the opportunity costs associated with entering new markets.
5. Give business leaders the flexibility to remediate the product portfolio in a shortened timeframe.
6. Help executive peers, board members, and business sponsors see IT, infrastructure, and application functions as profit generators rather than as cost centers.



Execute for Success: Guidance for CTOs, Product Teams & Application Delivery Managers

Begin the Journey to Cloud-Centric Product Development

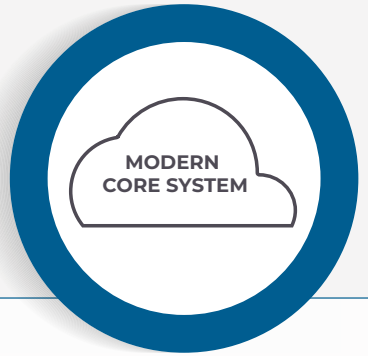
With innovation strategies like those described earlier, the CTO's team and the product management team can plan both a short-term and long-term roadmap towards cloud-centric product development. A practice commonly adopted is to begin developing cloud-based insurance offerings in an incremental manner. This lowers the risk of business disruption, balances spend, and offers the opportunity to apply lessons learned to the next application migration to the cloud.

A low-risk first step might be to develop a separate solution that feeds into existing solutions for existing products, such as a new way to do rating for existing products, leveraging a new algorithm, or adding new variables.

Another early option is to develop a brand-new product offering unencumbered by legacy systems. This allows the insurer to experiment with the new product and finalize the offering before scaling deployment across target markets.

The ability of the core system vendor to support successful development and deployment of insurance products defined in the roadmap is the most critical aspect of vendor selection.

Ensure that line of business executive sponsors understand how their products evolve within the application architecture. This will help build consensus faster on product roadmaps.



- Cloud-based evergreen platform – core products always on the latest version
- Innovation strategy of rapid product development leverages software cloud ecosystem
- API-first design for connectivity to rich ecosystem of technology partners
- Modular, inheritance-based design, low code development and workflow definitions, for rapid product rollouts
- Low product lifecycle management overhead
  - Active delivery cloud services
  - Modular product architecture separates frequently modified areas (rates, forms) from base modules
- Subscription model for predictable OPEX

Figure 8: Essential attributes of a modern core system

Select a Modern Core System Vendor for "Best Fit"

Embracing an accelerated product development and delivery model is a major commitment for the P&C technology leadership, and one that requires careful thought when it comes to selecting a modern core system vendor.

During the process of vendor selection, it is important to consider how the vendor's modern core system will integrate into the existing application architecture to avoid workflow, business process, communications, and data incompatibilities later. It will also become clear if any existing products can be sunset because of operational and business benefits gained from the new cloud-based products, while also reducing OPEX.

Figure 9 highlights the essential vendor selection criteria to be considered to maximize the value that the core system vendor brings to the project.

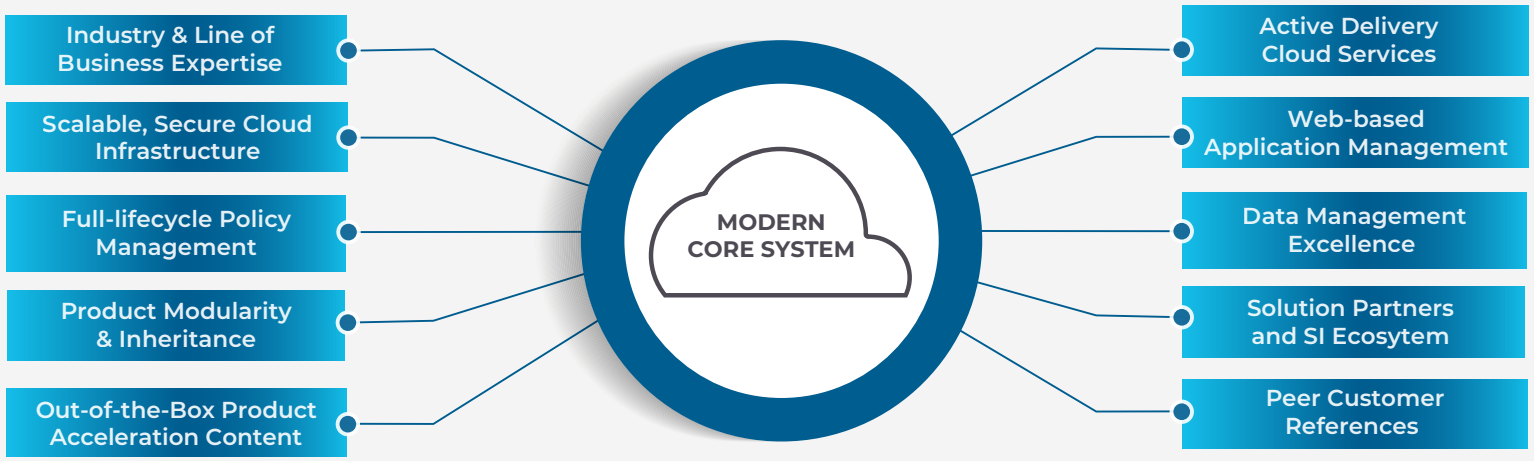


Figure 9: Vendor Selection Criteria for a Modern Core System

Industry & Line of Business Expertise

A modern core system vendor must bring both industry and line of business expertise to the project. A core system vendor with proven expertise can:

1. Help the carrier accelerate the development of P&C products across the insurance value chain including policy, rating, billing, claims, distribution, and reinsurance.
2. Advise the carrier about roadblocks to technical implementation and suggest workarounds.
3. Suggest best practices in development and deployment that worked well at other carriers.
4. Reduce risks associated with project delays, cost overruns, and ecosystem integrations.
5. Execute effective onboarding for IT, product developers, business analysts, end users, and agents.

Scalable, Secure Cloud Infrastructure

A modern core system must leverage a world-class cloud infrastructure for its core applications. Cloud infrastructure platforms such as Microsoft Azure allow cloud-based core applications to be available globally. The cloud infrastructure can scale the utilization of cloud resources such as hardware, memory, and services up or down, while maintaining application performance.

A detailed discussion on cloud infrastructure is outside the scope of the document. However, it is worth mentioning some of the capabilities that carriers must expect from a modern core system in the cloud such as:

1. Full separation of one carrier's data from another's.
2. Hardware and software updates to cloud infrastructure that support the core system vendor's evergreen, always updated core applications.
3. Industry standard security and governance protecting carrier data and user accounts from malicious actors.
4. Ability to support rapid integration of ecosystem solutions with core applications.
5. A user-friendly integrated development environment (IDE), rich in capabilities that allow carrier staff such as developers, testers, IT staff, and business staff to access, build, and modify insurance products in an agile manner.
6. Support for legacy to cloud migration plans that fit with the carrier's timeline and migration strategy.
7. High availability and reliability, along with robust disaster recovery.

Full Lifecycle Policy Management for Customers, Agents, and Employees

An enterprise-class modern core system MUST deliver value across the full lifecycle of a P&C insurance policy from quote to bind to endorsement transactions, day two processing, and renewal automation.

This comprehensive policy lifecycle management drives improvements in key performance metrics across lines of business, ultimately contributing to premium growth.

Figure 10 shows the core system platform capabilities, pre-configurable options, and market-specific configurations that must be available for a system to truly be called an enterprise class modern core system.

Having a configurable front end user interface employing drag and drop UI customization is not enough for a system to qualify as a modern core system.

The modern core system must be able to:

1. **Connect and optimize workflows between the front (customer, employee, agent), middle (processing), and backend (data retrieval, reporting, analytics).**
2. **Provide financial and regulatory reporting on data that feeds down stream systems.**
3. **Efficiently automate workflows resulting in operational efficiencies across policy management, rating, underwriting, distribution management, claims, and billing.**
4. **Provide an outstanding customer, agent, and employee experience that is based not just on the user interface but on the ability to provide rapid, problem-free transactions and communications.**

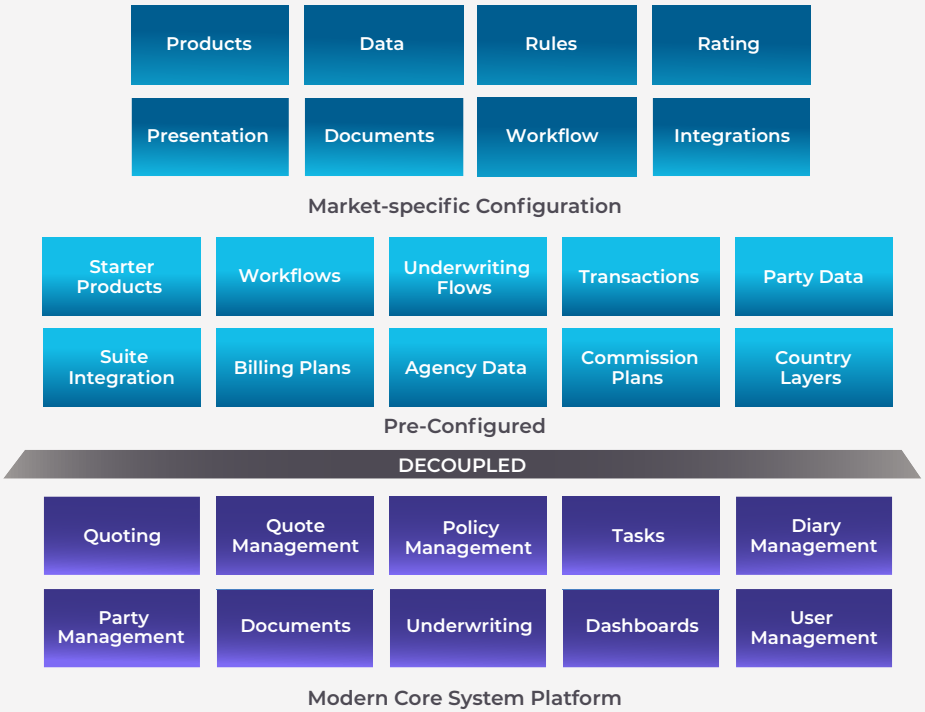


Figure 10: Modern core system elements supporting full lifecycle policy management

Product Modularity and Inheritance for Accelerated Product Design

A vendor's software product architecture is key to its ability to support the carrier's innovation strategy and by extension, the carrier's business strategy. For accelerated product development, a modern core system's software architecture MUST offer the following:

- **Low-code software inheritance** – a modular approach to product development by which products are built using a base model as the starting point. New products can be based off the base model with the ability to modify configurations for each market.
- **Single point of change** – A change in product features, rates, forms, rules, UI, workflows can be propagated to every product based off the modified product. With this ability to rapidly scale up product release and launch in multiple markets, the carrier can rapidly adapt to regulatory and macroeconomic changes, enter new growth markets, and position itself strongly against competitors without having to redesign the entire product.
- **Rich library of pre-built content and integrations** – This topic is covered in the following section.

Out-of-the-Box Product Acceleration Content

A modern core system vendor must offer a deep and wide library of industry content that truly accelerates product development and deployment. Such content includes:

1. Pre-built bureau-based product definition templates and circular updates for personal, commercial, and specialty lines.
2. Line of Business kits containing pre-built product definitions with rules, rates, and forms to accelerate product development.
3. Implementation accelerators and integrations with third-party solution providers.

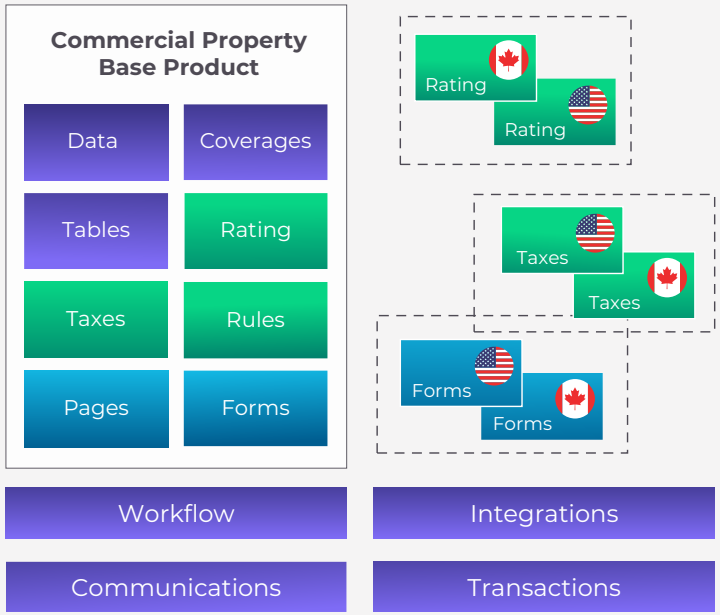


Figure 11: Example of commercial property product deployed in multiple regions with regional changes made to rates, forms, and taxes

With this content, carriers can innovate and modify products rapidly without starting afresh for each new product. Find out more about what to look for in a vendor's content library at P&C Insurance Industry Content.

Widely Used Acceleration Content for Commercial Lines

- **General Liability**
- **Commercial Property**
- **Commercial Auto**
- **Inland Marine**
- **Crime**
- **Commercial Umbrella**
- **Commercial Package Policy**
- **Business Owners Policy**
- **Workers Compensation**

Active Delivery Cloud Services

Legacy software development lifecycle management (SDLC) is costly in terms of resources utilized and disruption to business. With active delivery, the P&C carrier is freed from the burden of application, security, and feature upgrades and maintenance, while allowing the carrier to speed up the deployment of new products and features to support growth.

Active delivery consists of the following three components:

Silent Updates

These are software updates conducted in the background without the need for carrier staff and time resources. Typical updates include software patches, security fixes and performance updates.

New Feature Availability

Every individual core product has new features made available for use by the carrier at a defined cadence for product specific releases. Each individual product has a set delivery schedule and feature backlog based on priority.

Flexible Feature Adoption

Flexible feature adoption allows carriers to selectively turn product features on, after the feature becomes available. This decoupling of feature availability from feature adoption results in the following benefits:

1. Flexibility to adopt the new feature when it satisfies a business need.
2. Prioritization of feature adoption from a set of features.
3. Operational efficiency through better use of carrier resources for user onboarding and support.

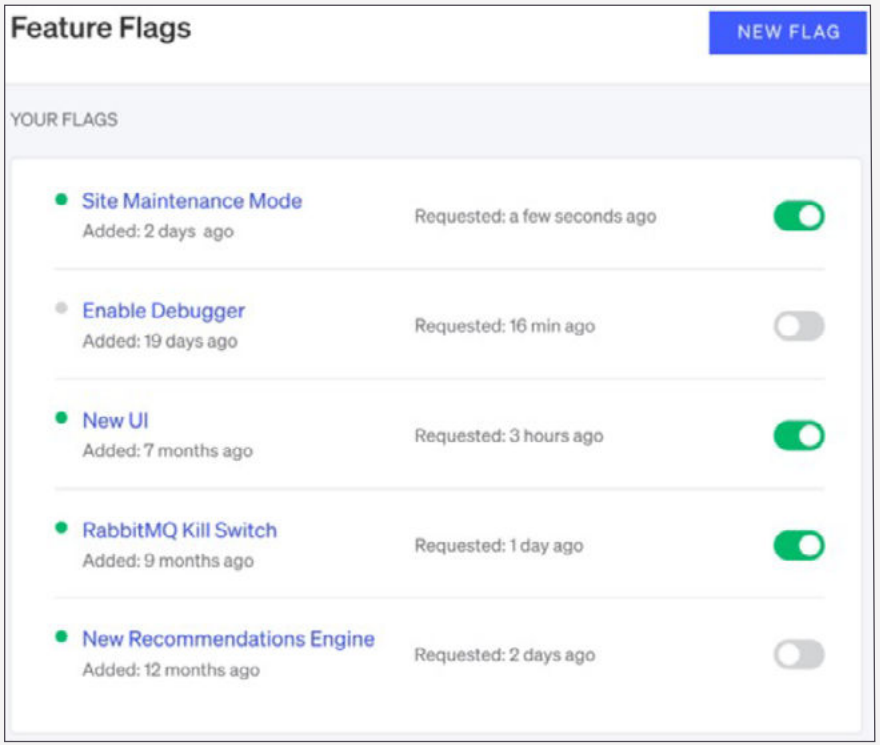


Figure 12: Flexible feature adoption allows features to be activated using a simple software switch

Adoption of features is decoupled from availability of features

Web-based Application Management

A powerful web-based application management portal is a foundational element of a modern core system. It offers the DevOps team powerful data gathering and assimilation along with other tools delivered through user friendly dashboards to:

1. Deploy customer releases into production on your schedule.
2. Monitor environment statuses, performance and metrics, and incident ticket trends.
3. Conduct upgrade analysis to determine duration and cost of upgrades.
4. Manage data updates such as backup and restore operations, clone data, and manage test user's roles and access privileges.

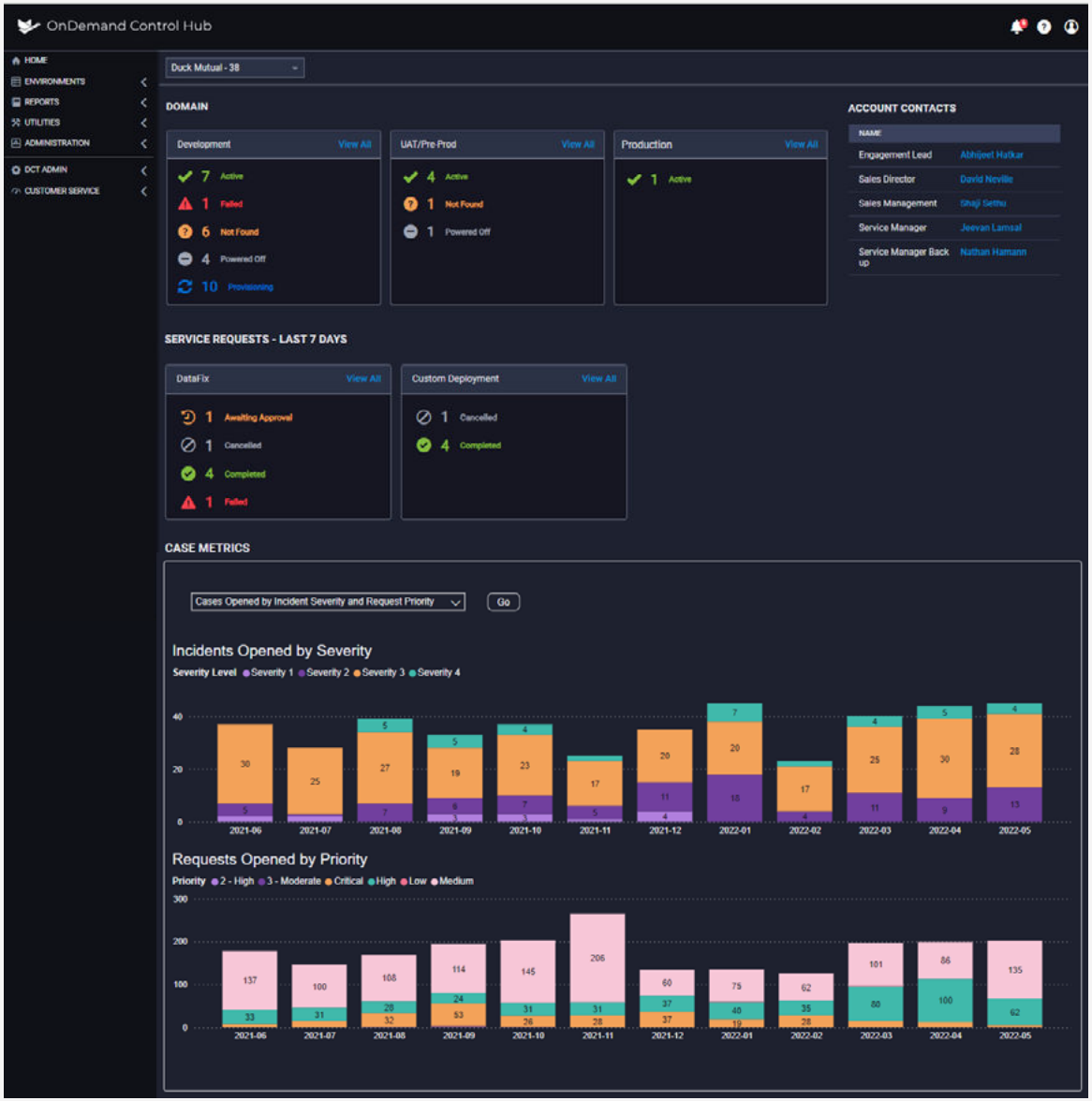


Figure 13: Example of a user interface for web-based application management

Data Management Excellence

Data is a carrier's strategic asset that, if utilized astutely, can provide the business intelligence to maximize DWP growth in diverse market segments and increase operational efficiencies across the insurance value chain.

With the help of owned data or through the integration of cloud-based partner data and analytics, a modern core system vendor must offer not just financial accounting, reporting and compliance capabilities, but also modern data integration and analytics capabilities that support:

1. Rapid P&C product portfolio remediation in the presence of catastrophic events.
2. Risk analytics for commercial vehicle fleets using IoT and telematics data to track vehicle location, driving habit, and distances and routes driven.
3. Underwriting unique or complex construction projects.
4. Risk analytics for commercial goods transportation whose risk profiles can be gauged by a combination of historical claims and loss data along with a range of contributors such as periodic changes in the location of assets such as in air and sea transportation, types of cargo, security provisions for the asset, and weather forecasts.
5. Underwriting agricultural property, equipment, livestock, and crops where weather data, location, crop and livestock data all impact the decision to underwrite and price policies for these assets.
6. Analysis of unstructured data such as voice in a claims call and forensic analytics of photographs sent by claimants.

In addition, a well-architected cloud data architecture makes it easy for employees to access, analyse, and report on data in a manner that is repeatable, reliable, and secure.

Evaluate Solution Partners to Support Innovation Strategy

A vendor's ecosystem of solution partners plays a pivotal role in a carrier's ability to accelerate product development and delivery.

Technology leaders at carriers place high value on the ability of the vendor-partner ecosystem to meet the carrier's strategic growth objectives and deliver operational efficiencies. Table 3 describes solution partner categories in the P&C technology space that can accelerate speed to market for insurance products.

Solution Partner Category	Description	Accelerated Insurance Functions
Data Prefill	Utilizes account, location, and risk analysis data to pre-populate a customer quote and show alerts for customer-specific underwriting flags based on automated and carrier specific risk profile analysis.	Policy Sales
Underwriting Risk Assessment and Pricing	Uses artificial intelligence and industry data to improve underwriting efficiency and pricing	Underwriting, Claims
Payment Solutions	Automates insurance payments ensuring business continuity and expedited payment.	Policy Sales, Claims
Policy-related Communications	Create, manage, and deliver personalized, interactive communications at scale	Policy Sales, Claims
Document Archival and Retrieving	Cloud-based content services capabilities to help insurers minimize the time, effort, and cost associated with document management	Policy Sales, Billing, Claims

Table 3: Categories of solution partners and their value in accelerating insurance functions

Ask these questions to determine fit with solution partners of interest within the vendor ecosystem.

1. Is the vendor's core cloud system (policy, claims, rating, billing, distribution, reinsurance) based on an open platform allowing for rapid and quick integration with solution partners?
2. Can the vendor integrate with solution partners to accomplish specific strategic and operational goals set by the carrier's leadership team?
3. Is a partner selected for the project "best of breed" in its class of solution?
4. Can the solution partner deploy its solution with the core system vendor for the specific line of business, specific product, for a required location?
5. What is the solution partner's sales and services strategy?
6. Is their product sold through a reseller or direct sales?
7. On past projects, what is the estimated time required to complete a vendor-partner integration for a similar sized carrier?

Selecting a System Integrator

A system integrator – SI for short – (also called service provider) can play a vital role in the successful transformation from legacy operating model to a modern operating model. The SI acts as a complementary partner to the modern core system vendor, filling needs that might be better handled by the SI.

Examples include:

- The SI can deploy staff at project sites where the core system vendor does not have local presence.
- The SI meets local government regulations regarding incorporations in the region where the project is located.
- The SI brings knowledge of business, workflow, and integration best practices unique to lines of business for the local region.

Ask these questions to determine fit with a system integrator for transformation from legacy systems to a modern core system.

1. Does the SI have the right level of competency and experience with the core vendor platform to successfully deliver the project?
2. Can the SI help develop/solidify the business case for the project, and help gain buy-in from other project stakeholders?
3. Has the SI implemented the vendor's modern core system for other customers and for similar lines of business? Request examples and case studies.
4. If required, is the SI capable of successfully integrating the core vendor platform with value-added products from the core vendor's solution partner ecosystem?
5. Is the SI transparent when communicating with clients, particularly on topics related to project risk?
6. What is the SI's track record for meeting project deliverables within budget?
7. Can the SI be a champion for internal change management as the enterprise and IT organizations move from a legacy operating model to a modern operating model?

Peer Customer References

Deciding on a cloud-based core system vendor can be a challenge in today's insurance systems market. With a proliferation of software tools and platforms in the market that claim to deliver great customer experiences for the carrier's customers, vetting the vendor's offering is made more difficult.

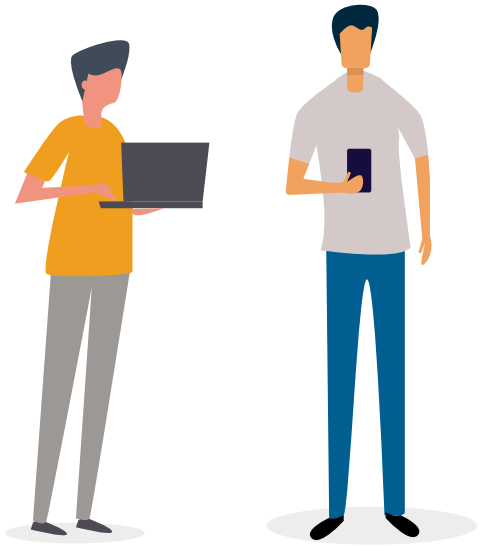
Customer references remain a tried and tested avenue for the insurance carrier to evaluate the credibility and capability that a core system vendor brings to the project.

Below are some key questions that CIOs and CTOs can ask when seeking references about the vendor.

- Request the vendor to provide at least one customer reference with a similar business profile to your organization (same regional presence, similar lines of business, and other similarities)
- Ask to speak with a CIO or CTO peer who was directly involved in their vendor selection.

Reference questions might include:

1. Did the vendor meet your expectations for the overall project?
2. How would you rate the vendor in expertise for the specific line of business?
3. What was the impact of the new cloud platform adoption on accelerated product introduction and business and operational metrics?
4. How good was the vendor in meeting project deadlines?
5. Was there transparency in vendor communications?
6. Was the vendor team empathetic to your challenges and needs and willing to work with you to resolve them?
7. Did the vendor respond quickly to requests for information, updates, and training?
8. Was the vendor able to implement end-to-end business process and workflow automation that met the primary requirements for the business?
9. How effective was the vendor in helping employees onboard, train, adapt and utilize the new cloud platform? Was the vendor effective at fostering culture change due to operational, governance, and technology changes brought about by adoption of a cloud-based modern core system?
10. How would you compare the vendor to other vendors that you considered?
11. If you had to, would you pick the vendor again for your next core system project?



Adopt Modern DevOps Practices

Modern DevOps Practices are a companion to modern core systems. Commit to the three pillars of modern DevOps Practices: automation, standardization, and repeatability.

While the software vendor tests the code base common to all carrier deployments in the cloud, each carrier deploys unique configurations, integrations, and extensions. Incorporating automated testing enables rapid and broad test coverage, allows carriers to identify issues earlier in the release cycle, keep up with the pace of cloud releases, and avoid costly and impactful re-work once releases are promoted through environments. Unit testing, integration testing, user acceptance testing (UAT), and performance testing are all candidates for automation.

Incorporate the cloud product deployments into change and release management processes for consuming new features and fixes. This should include a regular review of release notes to understand how they might impact customer specific configuration and implementations.

Investing in resources to automate and test deployments will deliver a rich payback in accelerating new product introduction.

Conduct Development & Testing Within an Integrated

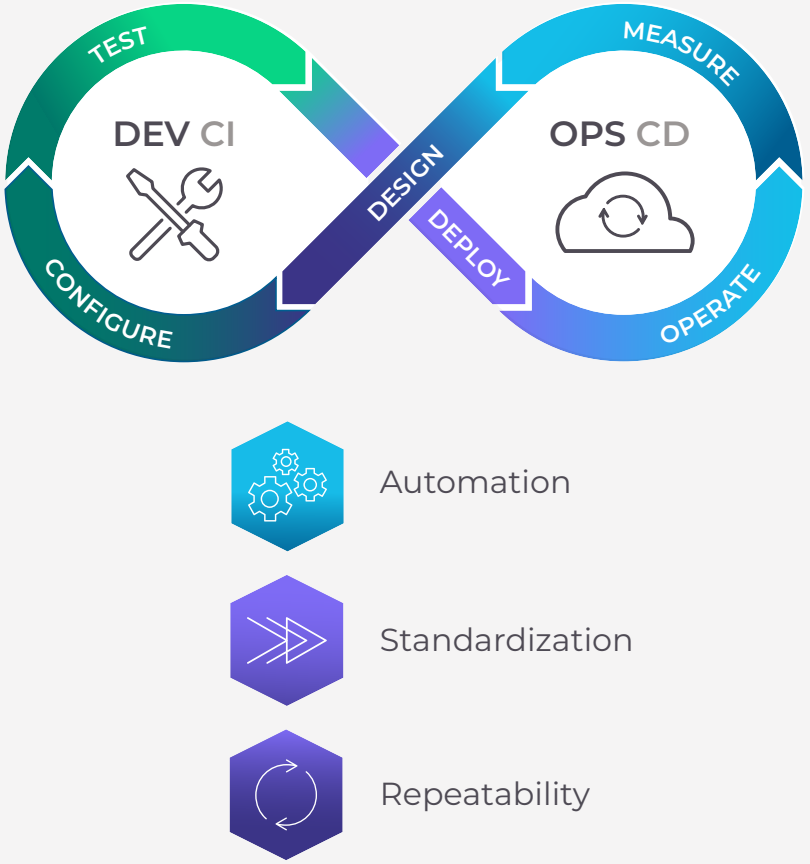


Figure 14: Advantages of Modern DevOps Practices

Development Environment (IDE)

Installing core systems software on a local developer or test engineer's laptop can be an arduous process requiring costly hardware, software, and support.

An Integrated Development Environment (IDE) such as one based on Azure's DevTest Labs, supported by the core system vendor offers a cost-effective alternative that helps the carrier stay current with the cloud software.

The IDE can be configured to contain the tools required for the carrier DevOps team to develop and test software applications including the ability to track tasks and bugs, the GIT source code repository, and predefined pipelines for package creation and deployment of extensions.

The IDE can be customized for carriers who have their own preferred development and test tools. The core system vendor must provide new software images, and patches from the cloud infrastructure provider as they become available. At the carrier, lab managers can choose when to make these updates available to their developers and can force updates at their discretion.

Design UI's and Portals to Maximize Customer, Agent, and Employee Satisfaction

Choose a UI and portal solution that support multi- and omni-channel for distribution. This will deliver a seamless and satisfying user experience, while also simplifying updates to these assets. This is especially important for insurers considering roll-out of a multi-brand strategy or seeking to provide various segments of customers or agents their own unique experience. If a decision is made to utilize headless apps, consideration should be given to solution that can provide agile API's.

Reduce Number of Disparate Front Ends

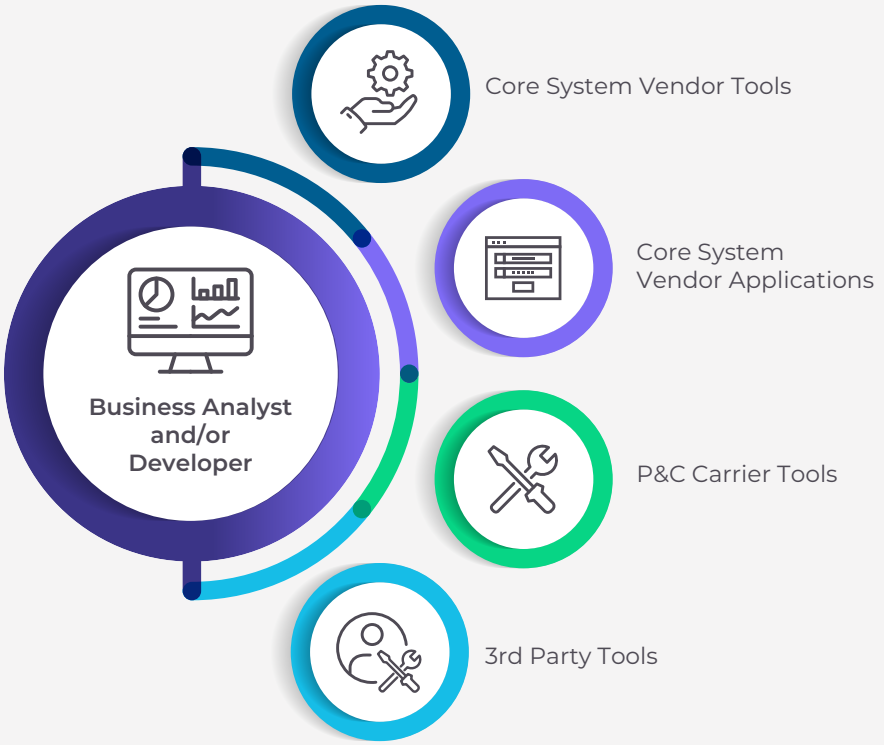


Figure 15: Integrated Development Environment (IDE) for carrier product developers and business analysts

Disparate front ends for customers as well as staff can result in a poor experience for both. Operational efficiency also takes a hit. For example, adding an additional field on the screen requires updates to multiple systems, delaying transactions between carrier and customer and ultimately impacting customer satisfaction.

Key Takeaways

1. Meeting the opportunities and overcoming the challenges of P&C insurance markets requires carriers to adopt a new operating model.
2. CIOs and business sponsors form a partnership with business strategy driving product innovation strategy, which in turn informs the product roadmap.
3. Business sponsors and IT/Product leaders establish a feedback loop that benefits both business strategy and product innovation.
4. The new operating model is the gateway to new innovation strategies supporting premium growth.
5. Budgeting for IT infrastructure and product development can be lowered and become predictable and defensible with the new operating model.
6. The new operating model with the modern core system as it's foundation allows IT resources to be freed up to focus on product innovation for business needs.
7. Modern core system attributes such as product modularity and inheritance, product acceleration content, active delivery cloud services, and an integrated development environment allow product teams to accelerate product releases, an outcome difficult to achieve with legacy systems.
8. A modern core system MUST accelerate product availability to business sponsors across the insurance value chain including policy, rating, billing, claims, distribution, and reinsurance. This includes the ability to connect and optimize workflows connecting the front (customer, employee, agent), middle (processing), and back end (data retrieval, reporting, analytics).
9. The 10 vendor selection criteria for a modern core system serve as a handy reference for CIOs, CTOs, and product teams seeking to evaluate a modern core system vendor.

About Duck Creek Technologies

Duck Creek Technologies (NASDAQ: DCT) is the intelligent solutions provider defining the future of the property and casualty (P&C) and general insurance industry. We are the platform upon which modern insurance systems are built, enabling the industry to capitalize on the power of the cloud to run agile, intelligent, and evergreen operations. Authenticity, purpose, and transparency are core to Duck Creek, and we believe insurance should be there for individuals and businesses when, where, and how they need it most. Our market-leading solutions are available on a standalone basis or as a full suite, and all are available via Duck Creek OnDemand. Visit www.duckcreek.com to learn more. Follow Duck Creek on our social channels for the latest information – LinkedIn and Twitter.

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