

# CELENT

## XCELENT Awards 2020

# POLICY ADMINISTRATION SYSTEMS: NORTH AMERICA PROPERTY CASUALTY EDITION:

2020 xCELENT AWARDS, POWERED BY VENDOR MATCH

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This is an authorized excerpt from a Celent report profiling Policy Administration vendors. The reprint was prepared for Guidewire but the analysis has not been changed. For more information about the full report, please contact Celent at [info@celent.com](mailto:info@celent.com).

# CONTENTS

- Executive Summary ..... 1
- Introduction..... 2
- Policy Administration Systems: Definition and Functionality ..... 3
- Report Method ..... 13
- Celent’s ABCD Vendor View..... 15
- Vendor Profiles..... 18
- Guidewire Software: Guidewire InsuranceNow ..... 21
- Guidewire Software: Guidewire PolicyCenter ..... 37
- Concluding Thoughts ..... 51
- Leveraging Celent’s Expertise ..... 52
- Related Celent Research ..... 53

## EXECUTIVE SUMMARY

This report provides an overview of the policy administration systems available in North America for property and casualty insurance carriers. The report profiles 31 policy administration solutions, providing an overview of their functionality, customer base, lines of business supported, technology, implementation, pricing, and support. Of those solutions, 14 qualified for Celent's ABCD rankings. Their profiles include customer references and a Celent opinion of the solution. Those solutions are also ranked in the ABCD Vendor View. Another 20 solutions did not qualify to be ranked in the ABCD Vendor View, and those profiles do not include a customer reference or a Celent opinion.

Some vendors also appear in companion reports profiling these systems in Asia Pacific, Europe/Middle East/Africa, and Latin America. Vendors that qualified are ranked in the ABCD Vendor View grids.

Guidewire received the following two XCelent designations:

- XCelent Technology for the leading Advanced Technology score:  
Guidewire PolicyCenter
- XCelent Customer Base for the leading Customer Base score:  
Guidewire PolicyCenter

## INTRODUCTION

This report is part of a series on policy administration systems (PAS) in North America, Latin America, EMEA, and the Asia-Pacific. It profiles the majority of the property casualty policy administration systems available in North America today. It uses Celent's ABCD vendor view, which is our standard representation of a vendor marketplace, designed to show at a glance the relative positions of each vendor in four categories: **A**dvanced Technology, **B**readth of Functionality, **C**ustomer Base, and **D**epth of Client Services. Insurers should consider which of these factors are most important to them and review the detailed profiles in this report to assess vendor suitability.

This report includes 14 systems that fully met the inclusion criteria for Celent's ABCD Vendor View as described in the "Report Methodology" section of this report. It also profiles 17 additional vendors that did not meet the ABCD criteria. These vendors are either new market entrants or, for a variety of reasons, did not fully meet the inclusion criteria.

This report should help insurers define their core systems requirements and, where appropriate, create a short list of vendors for evaluation. Expanded PAS functionality and improved technology mean that insurers continue to have a wide spectrum of systems and vendors to consider when they are looking for a solution to fit their needs. Insurers should leverage their access to the authors through analyst access calls to learn more about the vendors.

# POLICY ADMINISTRATION SYSTEMS: DEFINITION AND FUNCTIONALITY

## DEFINITION

In one sense, the definition of a policy administration system (PAS) is very simple—it is the system of record for all policies that an insurance company has written. At this most basic level, a PAS is a repository of policy-level data related to objects of insurance, coverages, limits, conditions, exclusions, duration of the policy, endorsements, and so forth. A permanent policy record is created at the time a policy is issued, and it includes the complete history of the policy through renewal, termination, cancellation, and/or reinstatement.

In actual practice, an insurer uses a PAS—either by itself or closely integrated with specific point solutions—to execute a number of core processes, and relies on several types of supporting capabilities. All modern core policy systems provide basic functionality for the most standard processes of quoting, issuing, endorsing, and renewing a policy. However, there is significant variation in the way the solutions handle these functions.

## TRANSACTIONAL SERVICING FEATURES

A variety of features are available to handle the day-to-day transactional activities of quoting, issuance, endorsements, renewals and cancellations.

**Scheduling/calendar/diary:** A wide variety of tools are available to help the underwriter manage their workload. Underwriter desktops typically include an area where new business quotes, policies needing issuance or renewal, endorsements, and other assigned tasks are easily found. User interfaces can vary widely but often include features such as the ability to sort by clicking on columns, to filter columns, and to drag and drop and rearrange columns. All solutions include search, but some include sounds-like search, partial word search, Boolean search, or wildcards. Most systems allow underwriters to create manual diaries, tasks, and notes and to easily see their work in a calendar format. Many are integrated with email, allowing an underwriter to send an email from the desktop. Many include a policy or account summary that contains the most important information about a policy or account and is available at a glance from any location within the policy. Some solutions allow the underwriter to customize their own workspace, choosing which modules they want displayed, selecting a color scheme, or adding links to commonly used third-party websites. Other capabilities such as configurable help text, hover-overs, and wizards can help an underwriter easily navigate through the task.

**Quick quote and full quote.** Agents and underwriters often want to get a quick indication of risk acceptability and price and to compare the price of different options. Quick quote functionality allows a price to be generated with minimal data entry. The data entry screen contains only those questions needed to calculate a rate or to determine the basic terms and conditions of the policy. Sometimes the questions will include basic risk acceptability questions, but quick quote is not usually intended to handle the full underwriting of the policy. Many solutions support dynamic questions that expand and change based on the answers to specific questions, allowing the system to prompt the broker or underwriter to get more detailed information based on insured's responses. Multiple versions of the quote can be generated to see the impact of different terms, conditions, and product choices. Some solutions handle side-by-side quoting by opening separate windows. Some allow different quote versions to be saved. More and more are offering side-by-side quoting in a single window. Once a quote is generated, some solutions allow for multiple side-by-side views of different options. The user can change a

deductible in version one, or a limit in version two. Some solutions use drop downs to show the different available options, with the price difference for each option shown next to the label within the drop down itself. Most solutions include the ability to create and display rating worksheets (a detailed listing of how the premium was calculated). Some have the ability to show simplified versions to the brokers and detailed versions to the underwriters.

**ACORD upload:** ACORD applications are the most commonly utilized form of application in the industry. The data is commonly contained in the agents' or brokers' agency management systems. Rather than requiring the broker to reenter the data on the application, many systems allow brokers to upload an ACORD application and have the data prepopulate the appropriate fields, retaining a copy of the ACORD application elsewhere in the system.

**Data upload:** specialty and commercial lines policies often include large schedules of drivers, locations, vehicles, or equipment. Many systems allow these schedules to be imported or uploaded from an Excel spreadsheet. Some systems require that the spreadsheet be formatted in a particular order. Some allow mapping of the spreadsheet as the spreadsheet is being uploaded.

**Data services:** Underwriters rely heavily on third-party data or reports from external data services. Most systems have some level of pre-integration with the most common data service vendors. Some require the underwriter to manually request the external data. Others use business rules to automatically send the data request and retrieve the data or report. Some can take the data retrieved and populate the specific field; others store the data as a record that the underwriter can review, and the underwriter can then enter the data into the correct field in the policy record.

**Automated underwriting:** Many solutions have the ability to use business rules to automate the underwriting process. The solutions use business rules to determine if the transaction can proceed without human intervention, or if intervention is required, a task is generated for the underwriter to review and act on. Some solutions can handle basic yes/no questions only. Others can perform very sophisticated underwriting. The capabilities are heavily influenced by the level of sophistication of business rules and workflow capabilities.

**Underwriter assignment:** While some carriers still assign work manually, more and more carriers are looking for automated support in the underwriting process. Solutions handle underwriter assignment in a variety of ways, for example the ability to assign policies/quotes to a team or individual using a round-robin capability, or the ability to assign tasks to specific individuals based on specific criteria. Some solutions can assign a transaction very granularly, based on line of business, agent, geography, and workload. Most systems allow multiple underwriters to be assigned to work on a single account handling different policies. Carriers also look for capabilities for manual assignment or reassignment for both bulk transactions and single policies or accounts.

**Automated renewals:** Most solutions have the ability to handle no-touch automated renewals. If the policy meets the carrier's defined requirements, the information from the original policy carries over to the renewal, and the policy is issued. Some allow business rules to be used to apply an inflation factor automatically or to make other bulk changes on policies as they renew. Those policies that do not meet the requirements are popped out of the renewal cycle and assigned to an underwriter for intervention. Along with automated renewals, look for automated non-renewals. Some solutions allow a policy to be marked for non-renewal. Others allow business rules to be used to determine whether an underwriter will allow the policy to renew. In the case of an automated non-renewal, the system can generally send out the appropriate documents in the right time frame according to the jurisdictional requirements of the policy.

**Endorsements:** All systems can handle endorsements. Almost all systems can handle out-of-sequence endorsements as well. When it comes to out-of-sequence endorsements, there are a variety of techniques in place. Some alert the underwriter to the fact that the policy change is out of sequence. Each affected endorsement is identified, and the underwriter can select which to back off and which to roll back on. Others handle the back off and roll on automatically, only highlighting conflicts for an underwriter's intervention. At least one solution can handle multiple policy changes with different dates on a single endorsement. Mid-term broker of record changes can often be handled as a bulk transaction, but some systems require the changes to be implemented policy by policy. Some allow a lot of flexibility as to when commission changes occur, and some allow the commission to begin accruing to the new broker immediately. Others begin commission accrual at the time of renewal.

## PRODUCT MANAGEMENT CAPABILITIES

In addition to transactional capabilities, a policy administration system is the primary repository for the product rules, rates, and forms attachment logic for all products.

**Product design tools:** The product architecture is a key component of a policy administration system. Often when implementing a new system, this is an area that requires significant work on the part of a carrier, such as redesigning their products to match the architecture inherent in the policy administration system. Look for a base set of insurance products that can be leveraged for building new lines or new products. Some solutions allow easy cloning of product/rating rules and structures. Many solutions have a product architecture that is depicted as a tree, which allows inheritance across jurisdictions for common features. Some include color-coding that helps a carrier easily identify where a product does not conform to the nationwide version. Some keep their product architecture in an Excel or Excel-like format, which can be easy for the business to maintain. Some solutions include wizards that make it very easy for a business user to make basic parameter-driven product updates. Some include a self-documenting product dictionary. The dictionary is the source of complete, reusable insurance product definitions, including rates, underwriting rules, calculations, specifications, integration definitions, and data for managing forms so each piece can be defined as reusable components that can be rapidly adapted to form new products or enhancements. Some product dictionaries are very business-user-friendly with natural language definitions.

**Rating:** Most, but not all, solutions include rating engines as a key feature. As vendors create more sophisticated configuration tools, rate changes can be done by business analysts rather than developers. The rate tables, rules, and algorithms are externalized from the programming code. There are wide variations in the level of sophistication of the rating engines. As carriers have moved to more complex rating algorithms, rating engines have expanded their ability to support complex rating algorithms, including multivariate rating and by-peril rating. The more precise an algorithm, the more precisely a risk can be priced. As insurers extend their use of predictive models, they need algorithms that can accommodate these models. Look for the ability to easily create subroutines; built-in functions to handle minimum premiums, rate capping, or prorating; and the ease of ordering the expression. Interpolation of rates is sometimes needed, like when a specific rate is not provided in a rate table. Some tools include interpolation capabilities out of the box. Rounding is another area to look at closely to ensure the ability to round with the right level of granularity at any place in the expression. Most allow multiline, multilocation rating on a single quote or policy. Many also allow multistate rating. Look for the ability to use external party information sources (e.g., credit score, loss data, property data, predictive scores etc.) in the rate algorithms during real-time calculation. Other features to look for include the date management capabilities—the ability to manage multiple dates based on the versions of the rate, table, or algorithm changes. Some solutions require the versioning dates be embedded in the code or script. Others provide fields to enter the dates. Some allow different versions or effective dates for renewals versus new business.

**Rating maintenance tools:** For the easiest management and maintenance, rate tables should be kept separate from the algorithms, and business rule definition and management (e.g., automatic driver assignment) should be maintained separately from the rating algorithms. It's also helpful to keep deviations in a separate layer. Most solutions allow the import or export of rating tables to or from spreadsheets. Look for how the tool handles multidimensional tables. Look for the tools necessary to create the algorithm—some have graphical Visio-like tools. Lastly, reusable rating components are helpful, especially if there is a prebuilt library of product and rating rule components. Even better is to have a repository of rules that is searchable and version controlled.

**Testing, modeling, and analytical tools:** Some solutions include very robust tools for handling the rate analysis function. Testing, modeling, and product analysis tools that allow an insurer to do an impact analysis to calculate the overall impact of a rate change or a displacement analysis to identify the number of policyholders that will be affected are included. Some include tools that make it easy to compare current rates against proposed rates. Not all vendors have these types of tools built in. Some vendors have business intelligence tools included and can set up reports that can provide some level of analysis as well. Some solutions do not include any functionality for handling rate analysis or testing. This is an area that is rising in priority for insurers. For more information, see the report *New Tools for Product Management: Four Tips for Getting It Right*.

**Bureau support:** Most developed markets globally have local definitions of products, rates, and standards that inform the majority of the products in the market. In some cases, this is imposed or managed by a particular distribution channel, in some it is agreed to by a standards body, and in others is simply local convention. Increasingly it is the distribution channels that are increasing product diversity and speed of change as distribution partners impose standards of other parties. Examples include having to adopt price comparison site data standards to appear on their lists or adopting a data standard on a blockchain to participate in specific international marine opportunities, as seen in *InsurWave*<sup>1</sup>.

In the United States almost all commercial lines insurers rely on ISO or NCCI for rates, rules, and forms. There are several ways in which vendors provide ISO rating support to their clients.

**Vendor interpretation:** Some vendors have their own teams of people that support ISO content. Employees read the ISO circulars, interpret them, and send the information to the insurer to determine if they wish to adopt the change. If the insurer wishes to adopt the change, the vendor then loads the changes into the policy administration system. The cost for this service is typically loaded on top of the vendor's annual maintenance fee for its solution. Some vendors provide service-level guarantees to ensure the vendor does not miss a filing date.

**ISO ERC support:** The most significant option for rating engines is the ISO Electronic Rating Content (ERC). With ERC, ISO offers its rating content in an electronic format. This service has many features—all of which are intended to streamline the process for insurers, allowing them to take revisions faster. ISO provides all circulars in an electronic format. They provide loss costs, rules, and forms attachment logic in both XML and Excel formats. ISO includes a reporting utility that helps insurers identify and understand the differences between the circular revisions and the insurer's current rating structure, including their program deviations. Insurers can subscribe to ISO ERC, but to get full value,

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<sup>1</sup><https://insurwave.com/>



their policy administration or rating system needs to be able to absorb the XML stream or Excel files.

Vendors that are ERC-enabled have invested in technical capabilities that allow the rating solution to receive the ISO ERC changes from ISO. The vendor creates a utility that receives the changes and transforms the data into the solution's data model. Typically, the solution provides additional tools to allow the insurer to identify what changes were made and modeling tools to understand the impact of those changes. Look for how many major and minor lines have been enabled and how many are actually in production. For more information about the benefits of ISO ERC, see our report *Does ISO ERC Deliver the Goods?*

**Price optimization, machine learning, and artificial intelligence:** Systems may include price optimization tools (in jurisdictions where this is legal). Some include artificial intelligence capabilities. In some cases, the integration is simply allowing models and other data sources to inform the rating, underwriting rules, and pricing. Increasingly, however, both actuaries and pricing leads are leaning more and more on advanced analytics, machine learning, and AI to inform rating and pricing. This requires building a data science pipeline into the rating and pricing capability to create, update, and realize the utility of these models at run-time. For more discussion on the data science pipeline and DataOps, see *Demystifying Artificial Intelligence in Insurance: The Tools Supporting Data Science and the Rise of DataOps*.

**Fraud at quote:** Fraud analytics at the point of sale is another new area we are starting to see, particularly in markets with significant fraud issues. Many policy administration systems can integrate with a third-party solution in this area. Some are beginning to work on creating this capability themselves.

**Reinsurance:** One of the newer areas that vendors have begun to invest in is reinsurance capabilities within the policy administration system. Most solutions do not include this functionality. The most robust solutions allow for full program definition. Carriers can identify multiple treaties based on perils, lines of business, geographies, or other dimensions. Treaties can be assembled into programs with specific inurements identified. The solution will create bordereaux reports tracking the exposures, the commissions, and the premiums back to the reinsurer. Some allow an underwriter to manually mark a policy as reinsured with some basic information about any facultative contracts. Some have set up reports that allow for basic reporting on policies that meet basic treaty requirements.

## COMMON FUNCTIONALITY

There are a variety of functions that are not specific to underwriting or product management, but can generally be found in a policy administration system.

**Workflow:** Some solutions serve more as data capture tools. Workflow is simulated with screen flow. Other solutions have true workflow capabilities—the ability to automatically generate and assign tasks based on event changes in a policy, time lapse, or data changes in a field. Some of the solutions profiled have the capability to visualize the workflow through graphical depictions. Some have a graphic design environment, with automated background code generation. This means graphical depictions are actionable—clicking on a step allows the carrier to modify that step, or steps can be dragged and dropped to rearrange the sequencing. It is not uncommon for a software vendor to use a third-party or open source tool to manage the workflow requirements.

**Document creation:** Most of the solutions include some sort of correspondence or forms library for the most common forms and letters. Many integrate to third-party solutions to provide additional capabilities because many of the built-in solutions are not robust

enough to handle production-level policy generation. Look for standard templates out of the box. Many of the solutions will come preloaded with ISO, NCCI, or Bureau forms. The forms attachment logic is typically included as part of the product definition, and the templates themselves are included in the document creation tools. In addition to policy forms, many systems can automatically generate correspondence using business rules and task generation capabilities. When an event occurs, or the data within a field changes, the solution can automatically create correspondence that can often be delivered using a variety of mechanisms: mail, email, or SMS.

**Document management:** Some systems contain a document management capability allowing for storage of internally generated documents and external documents such as photos, videos, and other media. Many integrate to external third-party solutions to provide more scalability. Look for the level of granularity in indexing forms being created. When a policy file holds hundreds of items, being able to rapidly sort to find the document needed can save time. Look for not just the ability to search the metadata about the document, but also the ability to search within the document.

**Reporting:** Reporting capabilities vary widely across solutions. Virtually all solutions integrate to a third-party reporting tool. Some include a third-party reporting tool out of the box. Some solutions use open source reporting tools, and some have solutions built in-house. Most include some level of prebuilt standard reports that can be subscribed to or scheduled. Standard reports typically deliver operational reports, performance measures, and some level of financial reporting. Look for the number of reports included out of the box. Ad hoc capabilities vary widely. Some are quite easy to use, with the ability to drag and drop data elements and build a report very simply. Many include dashboards with graphical views of data, and many of those include drilldown capabilities.

**Mobile/multichannel access:** Almost all solutions are browser-based and so are available via a tablet or mobile device for an underwriter in the field. More and more have been optimized for a mobile device using HTML 5 or responsive design. Some solutions come with mobile applications out of the box meant for a potential policyholder to access their policy, pay their bill, or get proof of insurance.

## TECHNICAL FUNCTIONALITY

While assessing features and functionality is a critical step in selecting a policy administration system, there are a number of technical considerations to be considered as well.

**Configuration tools:** A general trend in insurance software is to create tools that allow carriers to do more modifications of the system through configuration tools rather than through code. The most robust tools allow carriers to easily add data elements, create business rules, modify workflows, create forms, create screens, modify the user interface, and even map interfaces, all using configuration tools. Some tools are extremely intuitive with drag-and-drop and point-and-click capabilities. Others require knowledge of a scripting language to make the changes. Many vendors are moving toward a dual development environment with simplified tools and wizards meant for business analysts to use to make general changes and a more robust environment meant for technical staff to utilize.

**Business rules:** Look for the ability to design and execute business rules and underwriting rules that are separate from the core program code. Carriers should assess the ability to reuse and share rules. Some tools are extremely intuitive and use natural language; others require knowledge of scripting. Some have visualization tools that allow a carrier to use a Visio-like tool to build business rules. Some solutions include a searchable and version-controlled rules repository. A few solutions offer tools to help carriers conduct impact analysis of the rules or traceability tools to help them understand how and when rules are being used. Since many carriers create hundreds or thousands

of rules, there should be a strong rules management environment with a well-organized repository, version control and version storage, etc.

**Data:** Data is more and more important for carriers, and software vendors are acknowledging this by building in more tools to help carriers with their data needs. Some solutions deliver a certain number of extra fields that users can modify for their own use. More common are configuration tools that allow the easy creation of data elements, including the ability to mask data, encrypt data, add context-specific help text, and also allow for modification of the data model. Self-documenting data dictionaries are available. Some solutions come with an ODS out of the box and may even include a data warehouse with the appropriate ETL tools. Most solutions are built on an industry standard model such as ACORD.

**Release management:** Some solutions include workflow capabilities to handle the release management within the policy admin system. Some feature full ticket management. Look for the ability to package a group of changes or filings together that you can manage as a release, as well as the ability to assign and track the work packets.

**Versioning and change control:** Versioning and update management is a critical component for a policy admin system. Rating plans may be used for new business on one date and a different date for renewals. Effective dates may differ by jurisdiction or product. Look for multiple date-management capabilities, for example, new, renewal, effective, available, expiration, and so on.

The easiest solutions to use are those that have fields to enter the type of date and the actual date by product or state. Some tools require the developer to enter the date in XML. These are harder to audit.

Tools are available in some solutions that allow for auditability of versioning, and version comparison reports come out of the box for some solutions. And, of course, look for controls to manage concurrent changes on a release, e.g., locking out changes when another is working on it.

Change control functions include the ability to track and document changes that are made, who made the change, and the reasons for making the change. Some automatically document the activity and changes to allow for easy traceability. Some include the ability to see which fields, formulas, and tables are being used.

As systems use more real-time data enrichment and models in their pricing, version and change control will increase in complexity, as will audit requirements from regulators. These capabilities may start to stretch into models and integrations that support changes in the products.

**Security:** Security is becoming increasingly important to insurers, especially as policy administration solutions are frequently accessed by web quoting applications. Ask about the security standards the vendor complies with and which certification and assurance methods are used. Take a look at how the system handles security for managing APIs for application-level integration. While many policy admin systems don't need to be PCI compliant, some are. Look at which authentication capabilities the system leverages for internal and external users. There is a broad range of capabilities, ranging from one-time passwords, security tokens/PINS, multifactor authentication, and federated identity support up to biometric security support. With regards to cybersecurity, look for whether the software has penetration security and how the system has been tested.

**Scalability:** While we typically think of scalability in terms of the number of policy transactions, or the number of users, an additional area to examine is how the system

handles multiple locations or vehicles on a policy. Performance as the system scales is another important consideration.

**Integration:** Policy administration systems integrate to large numbers of third-party systems and external data sources. Most solutions have been designed with a service-oriented architecture and have a variety of ways of handling integration, with many settling on the use of RESTful APIs as the common standard. Most systems have some kind of accelerator, or experience integrating to the most common third-party data sources and the most common general ledgers. With the rise of insurtech, new data platforms, and the position of rating as a participant in a wider ecosystem, fast integration capability will be a deciding factor in insurers' agility.

**Implementation:** Vendors use a wide variety of implementation methodologies. Some prefer to handle all of the implementation themselves. Others prefer to work with third-party system integrators. More and more vendors are moving to an agile or hybrid methodology. Look to see what methodology the vendor uses and how it aligns with your own preferred methodology. Some vendors are very good at helping carriers transition to an agile approach. Look for the artifacts they have available for gathering requirements documenting the product architecture and capturing the business rules. Vendors claiming very fast implementation timeframes may indeed have better artifacts and more configurable solutions, or they may be touting very simple single product implementation with little or no configuration. Be sure to do customer reference checks to understand how well the vendor handles project management, knowledge transfer, and scope creep with carriers of a similar size and complexity as your company.

**Cloud:** Few technologies are as talked about as cloud computing. Cloud-enabled solutions are on the rise, with most of the responding vendors reporting that they have cloud-enabled core systems. When it comes to the term "cloud," there are many different variations available. Most vendors offer a hosted version of their software. The software is licensed by the carrier and is hosted by the vendor either in its own data center, in a private data center like Rackspace, or in a public data center like Amazon or Microsoft. Look for the level of managed services available if you are interested in this option.

## SUITE CAPABILITIES

Celent has limited the definition of a PAS to include a set of core processes and key supporting capabilities. However, vendors do not necessarily limit their definitions of a PAS in the same way, and many have attempted to build out some or all of the end-to-end components that an insurer might need. Some insurers are just looking for a best-of-breed PAS to work with other core systems already installed, but other insurers may be looking for a vendor who can offer broad solutions for multiple areas of their insurance operations.

Some of the additional end-to-end components defined here are also listed as core processes of the PAS. This is not a contradiction. A vendor might bundle a component with their PAS (for example, rating), but also consider it (and also sell it as) a separate, stand-alone product. Alternatively, a vendor might provide a basic level of functionality in one area, but also have an upgraded, higher-cost product or an ISV partnership with a different vendor to provide an advanced solution (e.g., document creation).

In order to help insurers with their comparison of different solutions, each profile in this report has a table summarizing whether the vendor in question offers one or more of the following end-to-end components and whether the components are part of the base offering or sold as a stand-alone system. We use the description "Yes—integrated into the policy admin module" to mean that the functionality is part of a monolithic code base. We use the description "Yes—separate module available from this vendor" to mean there is a separate module available that has been integrated with the policy administration system.

Table 1: Suite Components

SUITE	AVAILABILITY
CLAIMS ADMINISTRATION	A system to record and transact all matters relating to a claim from first notice of loss through final settlement.
BILLING	A system to create invoices and handle collections from producers and policyholders. It typically handles basic commission processing as well. It may include deductible billing.
CRM	Allows the aggregation of data on a customer or at an account-level view and provides utilities that streamline the communication and management of customer data. Typically includes lead management and campaign management in addition to tracking the demographics of the customer.
REINSURANCE	A system to record any reinsurance contract related to a policy or set of policies and a claim or set of claims. The solution typically will calculate the bordereaux, manage inurements, calculate claims reimbursements, and manage the financial and reporting interactions with reinsurers and brokers including commissions.
RATING ENGINE	A stand-alone rating engine should be capable of handling complex pricing algorithms and should integrate easily with multiple policy administration systems. They typically include more robust rate analysis tools and can usually operate on a headless basis if required.
DIGITAL TOOLS	Digital tools can be thought of as software or applications that augment the core system to provide additional digital capabilities. For example, chat bots, digital marketing tools, and video communication would all be considered digital tools.
DISTRIBUTION MANAGEMENT	A system that manages the compliance aspects of agency management, including onboarding of agents and tracking the licenses and appointments as well as complex compensation transactions across multiple policy administration solutions, including incentive compensation.
BUSINESS INTELLIGENCE	Designing, storing, and accessing reports ranging from simple lists to multidimensional calculated variables. In general, reports are used to monitor activities by a user and by all levels of management. Tools generally allow standard reports with scheduling tools and ad hoc reporting.

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SUITE	AVAILABILITY
ETL TOOLS	ETL tools allow any organization to extract data from numerous databases, applications, and systems, transform the data into a usable format, and load the data from all of these sources into a single database, data mart, or data warehouse for reporting, analysis, and data synchronization.
DATA HUB	A data hub is a centralized service that connects an insurer's IT system, including core systems, IoT devices, web applications, IoT devices, or other applications in use. The data hub manages the connections to each of the systems and orchestrates the data flow among them.
DATA WAREHOUSE	A data warehouse is a system that pulls together data from many different sources within an organization for reporting and analysis.

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Source: Celent

# REPORT METHOD

## CRITERIA FOR INCLUSION

Celent actively reviews vendor systems in the insurance software market. Some solutions qualified for profiles that include customer references and a Celent opinion of the solution. These solutions are also ranked in the ABCD Vendor View.

Celent's ABCD Vendor View analysis is used to highlight vendors that have attained success selling their systems in the North American market. In general, in order to have a full profile and be included in the ABCD Vendor View grids, a policy administration solution had to have:

- At least one new sale to one new customer in the region within the last 24 months.
- At least three live customers per region, at least one of which must be an insurer.
- Participation by at least three reference customers.

There are 14 solutions that meet these criteria and are included in this report with ABCD profiles.

Even if a vendor is not included in the ABCD Vendor View, Celent provides a system profile of many other solutions. Solutions that did not qualify to be ranked in the ABCD Vendor View do not include a customer reference or a Celent opinion. There are 17 solutions that meet these criteria and are included in this report but are not included in the ABCD Vendor View grids.

It is important to note that the information available in this report is also available through Celent's online resources. Prior to relying on the information for a particular vendor, Celent suggests reviewing their online company and product profiles, which may be more current.

## ABOUT THE PROFILES

Each profile is structured the same way. Profiles present information about the vendor and its policy administration system offerings, its geographic presence, and its client base. Charts are used to provide more detailed information about specific features such as lines of business supported, technology, and partnerships.

The profiles are presented in alphabetical order.

## LIMITATIONS

Celent believes that this study provides valuable insights into current offerings in policy administration solutions. However, readers are encouraged to consider these results in the following context. The vendors self-reported. Participants in the study were asked to indicate which policy administration capabilities are provided in addition to providing generic information about their client base. While this information was supplemented with publicly available information where possible, Celent did not confirm the details provided by the participants.

## EVALUATION PROCESS

To analyze the capabilities of policy administration solutions that are active in the insurance marketplace, Celent sent an invitation to participate in this year's report to a broad set of PAS vendors. There was no cost for vendors to participate.

Each participating vendor completed an online RFI in Celent's VendorMatch/RFX platform. The RFI requested information about the features provided in the solution, the technology and architecture, the current client base, the pricing models, and the vendor itself. RFIs were completed on 31 products for North America.

After Celent received completed RFIs from the vendors, each vendor was evaluated for meeting the criteria for inclusion in the ABCD Vendor View analysis. Those vendors that qualified for Celent's ABCD evaluation provided a briefing and demo for Celent focusing on usability and functionality for everyday users; product and rules configurability for IT and system administration users; and the overall architecture of the system.

Celent also asked references provided by each vendor in the ABCD Vendor View analysis to complete an online survey in order to obtain their view of the system's business and technology value.

The RFIs, the demos/briefings, and the reference surveys provided quantitative and qualitative data that was used in the ABCD analysis of these vendors. This process is described in the next section.

Vendors had an opportunity to review their profiles for factual accuracy and to provide their own perspectives but were not permitted to influence the evaluation.

Some of the vendors profiled in this report are Celent clients, and some are not. No preference was given to Celent clients for either inclusion in the report or in the subsequent evaluations.

It should be noted that although a particular system is shown as implemented in only one major line, it still may be capable of supporting both commercial and personal business. For example, an insurer looking for a personal lines solution may wish to contact a particular commercial lines vendor because of that vendor's technology or delivery capabilities.



# CELENT'S ABCD VENDOR VIEW

Celent has developed a framework for evaluating vendors. This is a standard representation of a vendor marketplace designed to show at a glance the relative positions of each vendor in four categories: **A**dvanced and agile technology, **B**readth of functionality, **C**ustomer base (i.e., relative number of customers), and **D**epth of client services. The Celent Vendor View shows relative positions of each solution evaluated and does not reflect an abstract evaluation. Each vendor solution is judged relative to the others in the group.

While this is a standard tool that Celent uses across vendor reports in many different areas, each report will define each category slightly differently. For this report, some of the factors used to evaluate each vendor are listed in Table 3. Celent's view of the relative importance of each factor and of the solution and vendor's capabilities also contributes to the final rating.

Table 2: Examples of Possible Factors Used in Celent Policy Administration System ABCD

ABCD CATEGORIES	POSSIBLE FACTORS
ADVANCED TECHNOLOGY (AND FLEXIBLE TECHNOLOGY)	Platform and codernity (Code base, platform, databases, localization capabilities, etc.) UI (ease of use, mobility) Data and adaptability/extendibility (openness of application, code base, data model, etc.) Integration (web services, APIs, reference comments) Scalability and cloud (cloud readiness, largest installations, etc.) Ease of change (change tooling, debugging capabilities, etc.)
BREADTH OF FUNCTIONALITY	Functions and features provided in base offering In production lines of business and number of deployments for each User experience
CUSTOMER BASE	Number of live insurers using the system for personal, commercial, or specialty lines of business New client momentum
DEPTH OF CUSTOMER SERVICE	Size of professional services and support team in region Insurers' post-implementation experiences

Source: Celent

## THE XCELENT AWARDS

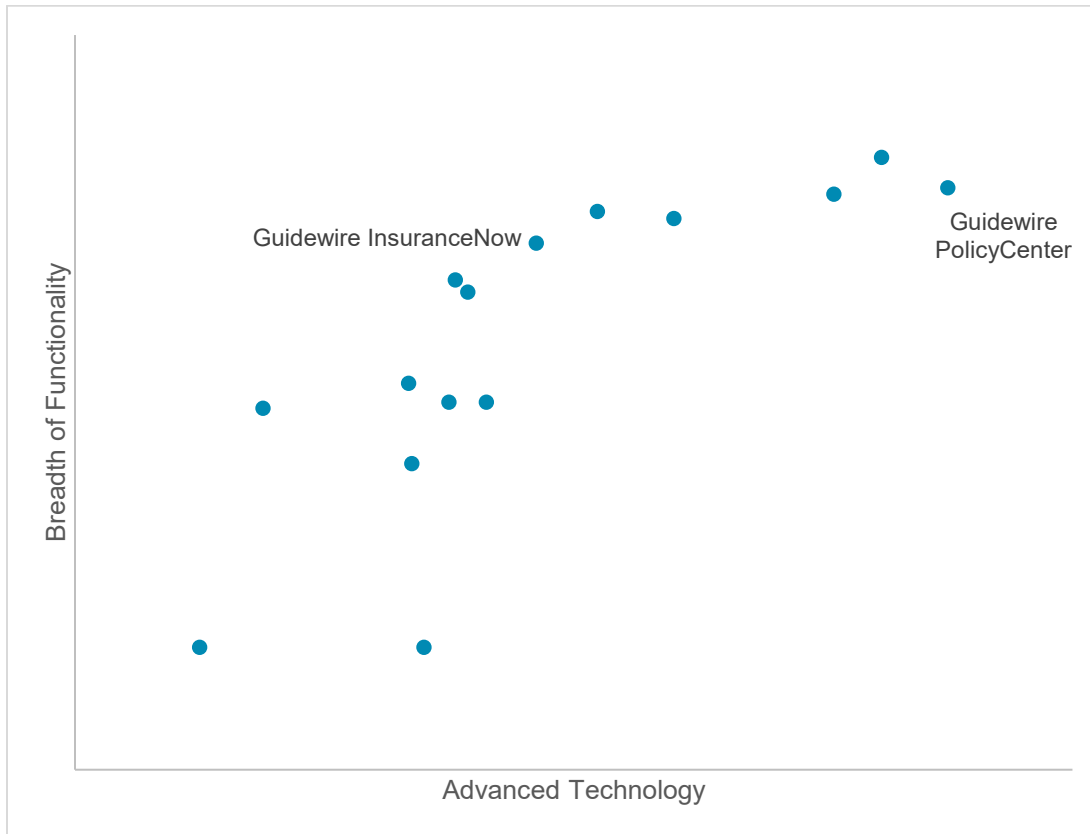
Within this framework, the top performers in each of the ABCD dimensions receive a corresponding XCelent Award:

- XCelent Technology for the leading Advanced Technology score
- XCelent Functionality for the leading Breadth of Functionality score
- XCelent Customer Base for the leading Customer Base score
- XCelent Service for the leading Depth of Service score

## XCELENT TECHNOLOGY AND XCELENT FUNCTIONALITY

Figure 2 positions each vendor along two dimensions: the vertical axis displaying the relative rankings for Advanced Technology and the horizontal axis showing relative Breadth of Functionality rankings. The XCelent Advanced Technology winner is Guidewire InsuranceNow.

Figure 1: XCelent Technology and XCelent Functionality

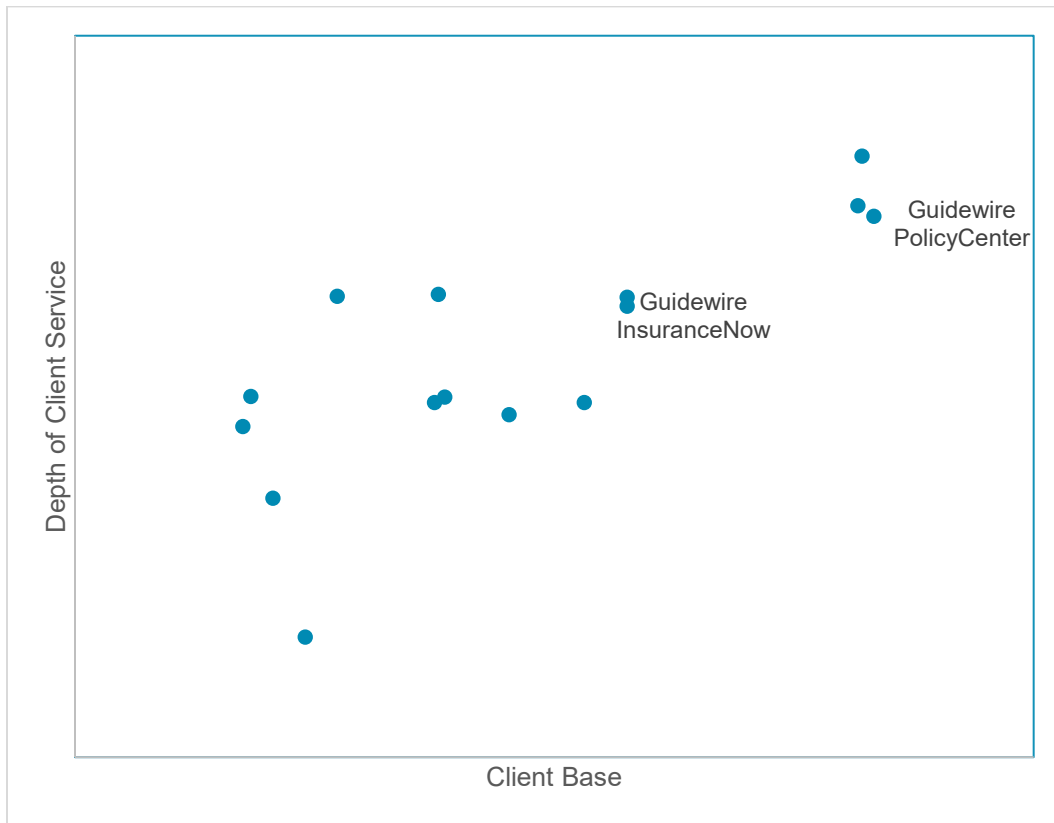


Source: Celent

## XCELENT CUSTOMER BASE AND XCELENT SERVICE

Figure 3 positions each vendor along two dimensions: the vertical axis displaying the relative level of depth of customer service and the horizontal axis displaying the relative customer base. The XCelent Customer Base award is given to Guidewire PolicyCenter.

Figure 2: Customer Base and Depth of Customer Service



Source: Celent

Celent advises insurers to consider past vendor results but not to compare the placement of vendors in the charts from prior years, because not only is the market changing, but so has our analysis. The criteria used to determine the A, B, C, and D rankings in this report are broadly similar, but not identical, to the criteria used in the previous Celent PAS vendor report published in 2018. For example, in this report, we are considering new criteria in Advanced Technology related to microservices and integration approaches. The market is also evolving due to acquisitions and partnerships, solutions development, and alternative delivery models.

We suggest that insurers consider their specific needs and each vendor for what it offers. Although they are very successful in one or more of the criteria, the XCelent Award winners may or may not be the best match for an insurer's specific business goals and solution requirements.

# VENDOR PROFILES

## ABOUT THE PROFILES

Each of the profiles presents information about the vendor and solution; professional services and support capabilities; customer base; functionality and lines of business deployed; technology and partnerships; and implementations and cost. If a system was included in the ABCD Vendor View analysis the profile also includes customer feedback and Celent’s opinion of the system in regards to usability, product configuration, and workflow abilities as well as summary comments.

The profiles also include a list of in production and supported lines of business and a table showing specific functionality capabilities. Additionally, the profiles include a table of technology options.

If included in the ABCD Vendor View analysis, the vendor’s reference feedback gathered through the use of an online survey is presented in the profile. Customer feedback sections include a diagram that displays the average ratings given to the vendor in five categories. Each average rating includes up to eight underlying ratings shown in Table 4 scored by the customer on a scale of one to five, where one means poor and five is excellent. Open-ended comments regarding the system and the vendor are also included in the feedback section.

Table 3: Customer Feedback Ratings

DIAGRAM AVERAGE (QUESTION ASKED)	RATINGS INCLUDED IN AVERAGE*
FUNCTIONALITY  (How would you rate the features and functions you are currently using?)	<ul style="list-style-type: none"> <li>New business quoting/issuance</li> <li>Underwriting support</li> <li>Policy transactions—endorsements, renewals, cancellations</li> <li>Excess layers and reinsurance</li> <li>Product design tools</li> <li>Rating and rate calculations</li> <li>Underwriter desktop</li> <li>Underwriter assignment</li> <li>Document creation</li> <li>Document management</li> <li>Multi-channel capabilities—e.g., portal, mobile, etc.</li> <li>Supervisory tools (e.g., ability to assign work, vacation rules, etc.)</li> <li>Workflow/task generation</li> <li>Notes, diaries, calendaring</li> <li>Reporting, business intelligence</li> <li>Statistical reporting (e.g., ISO)</li> </ul>

USER EXPERIENCE	End users—e.g., underwriters or underwriting assistants
(Do the following users find this system easy and efficient to use? Using a 1 to 5 scale, where 1 is very difficult to use and 5 is very easy to use.)	Supervisors/managers Actuaries IT staff
TECHNOLOGY	Ease of system maintenance
(How would you rate the technology of this solution on a scale of 1 to 5, where 1 means very poor and 5 means excellent?)	Flexibility of the data model Scalability of the solution Vendor's timing in improving technical performance through new releases and fixes Configurability of the solution Overall satisfaction with the technology
IMPLEMENTATION	Responsiveness (handling of issue resolution)
(If you are familiar with the original implementation of this system at your company, how would you rate this vendor in the following areas?)	Project management (estimations, scope creep, etc.) Implementation completed on time Implementation completed on budget Knowledge of your business Knowledge of their solution and relevant technology Continuity with the implementation team—did the core team stay engaged through to implementation? Overall project success
SUPPORT	Responsiveness (handling and speed of issue resolution)
(After implementation, how would you rate the vendor's professional services staff in the following areas?)	Project management (estimations, scope creep, etc.) Work completed on time Work completed on budget Knowledge of your business Knowledge of their solution and relevant technology Communication—proactive communication of issues and changes Staff turnover Consistently meeting service level agreements Roadmap delivery Customer feature requests heard and responded to Overall quality of professional services

Source: Celent

\*Scale 1 to 5, where 1 is poor and 5 is excellent. Not applicable or no opinion not included in average.

Concerning implementation costs and fees, Celent asked vendors to provide first-year license and first-year other implementation costs (work by the insurer, vendor, or third parties) for two hypothetical insurance companies:

- Insurance Company A, a small insurer, with a direct written premium (DWP) of US\$250 million.

- Insurance Holding Company B, with four operating companies, writing multiple lines of business in five or more states, with a total combined direct written premium (DWP) of US\$2.1 billion.

When discussing insurance customers of the various solutions, the profiles may use the terms very small, small, medium, large, and very large insurers.

- Very small insurers (tier 5) have under US\$100 million in annual premium
- Small (tier 4) have US\$100 million to \$499 million
- Medium (tier 3) have US\$500 million to \$999 million
- Large (tier 2) have US\$1 billion to \$4.9 billion
- Very large (tier 1) have US\$5 billion or more.

# GUIDEWIRE SOFTWARE: GUIDEWIRE INSURANCENOW

## COMPANY

Guidewire Software is a public company headquartered in San Mateo, California with sales and professional services personnel located throughout North America. The company has 2,355 employees, of whom 781 are in professional services and 198 in technical support and licensing operations.

Guidewire InsuranceNow has 47 customers. Since being acquired by Guidewire in 2017, there have been five major releases of the product. In that same timeframe, Guidewire has roughly doubled the size of the professional services team that implements and supports InsuranceNow.

InsuranceNow is a critical component of the broader Guidewire InsurancePlatform and is targeted to customers in the U.S. who may be constrained by limited IT resources and need a ready-to-go, core solution that is complete, not complex.

Future development plans and roadmap initiatives include:

- Auto-generated digital experiences—Based on insurance product and front-end meta-data.
- Low-code configuration—InsuranceNow visual configuration tool configures nearly everything—product, rating, forms, UI, etc.
- Embedded business intelligence—More analytics embedded in the system to fuel the right decision in the moment.
- Embedding dashboards and additional reports directly into InsuranceNow to make it easier for users to immediately access the information they need to make more informed decisions.
- New InsuranceNow consumer sales portal—This will be built on the company's new API and will be an out-of-the-box sales portal included in the InsuranceNow subscription that will support quoting and issuance of personal auto and homeowners products.
- Extending business user configuration capabilities—Providing a provisioning portal for the visual configuration tool InsuranceNow Studio. This capability enables non-technical business users to contribute meaningfully to the creation and maintenance of InsuranceNow configurations.
- Additional New UI/UX Work—Significant improvements to the user experience in the claims area. New claims screens and more intuitive navigation and workflow provide a much richer experience and increased efficiency for claims users.
- Availability of next set of modern APIs—policy servicing and tasks APIs that support policy management functions for agents such as endorsements, renewals, cancellations, etc., and that support task-related functions such as the creation and execution of tasks and update of task statuses and task attributes.

Guidewire will also continue its strategic relationship with Amazon to optimize its core cloud services for the AWS cloud infrastructure.

Guidewire's spend on R&D over the past two years has been approximately 40% of license and maintenance revenues. Guidewire does not report on revenue or expense by product.

Guidewire offers an annual user conference or customer event

Table 102: Company Snapshot

YEAR FOUNDED	2001
NUMBER OF EMPLOYEES	2,355
REVENUES (USD)	Total corporate revenue: \$719.5 million (FY 2019) Product revenue: they do not report on revenue by product.
FINANCIAL STRUCTURE	Company financial structure: public company NYSE: GWRE

Source: Guidewire

Table 103: Product Snapshot

NAME	Guidewire InsuranceNow
YEAR ORIGINALLY RELEASED/DEPLOYED	1994/1900
CURRENT RELEASE AND DATE OF RELEASE	2019.2/2019
UPGRADES	Client can skip multiple versions (e.g., go directly from version 4.0 to version 7.0) They support current versions and more than two priors but not all versions.
TARGET MARKET	Guidewire InsuranceNow is best suited for U.S.-based P&C insurers who may be constrained by limited IT resources and need a ready-to-go, core solution that is complete, not complex, and one that is in the cloud, managed by Guidewire. These insurers typically have limited IT support and are looking to free up these resources from the routine system maintenance type work associated with hosting a system on-premise so they can focus more on the business. They are also looking for a full suite to be deployed as such, not in a modular way. InsuranceNow is also ideally suited for greenfield opportunities within larger insurers, where they are looking to quickly spin up new products or a new business.
INSTALLED BASE	<u>North America</u> : United States: 47
NEW CLIENTS SINCE 2017	<u>North America</u> : United States: 8
NOTABLE CLIENTS	Andover, Farmers Union Mutual Insurance, Nationwide Private Client
REVENUE FROM PRODUCT/SERVICE	They do not report on revenue by product.
FTES PROVIDING PROFESSIONAL SERVICES FOR PRODUCT	781
USER CONFERENCES/PRODUCT WORKING GROUPS	The vendor offers an annual user conference or customer event.

Source: Guidewire



## CELENT OPINION

InsuranceNow is an all-in-one solution with functionality for policy administration, billing, claims, reinsurance, data reporting and visualization, portals, and other services. This profile addresses the policy administration functionality within InsuranceNow. InsuranceNow is currently available only within the US.

During 2019 Guidewire did a significant revamp of InsuranceNow's UI. Navigation and access to information within InsuranceNow policy administration is a strong point of the solution. Clicking on items in a constantly-present side navigation panel enables access to all major sets of information and processes within the life cycle of a claim. There is also a set of context-sensitive go-to buttons on the right side of many screens.

Usability features include: highlighting requested coverages that exceed an agent's or an underwriter's authority, an endorsements table that clearly displays out of sequence endorsements, and the ability to generate quick quotes for auto coverage using partial VINs through integration with ISO VINMASTER. Business users can create and manipulate BI displays using Looker, which is bundled with InsuranceNow.

Configuration is done in two environments: Studio for users with business analyst skills, and any Java IDE (such as Eclipse) for developers. In Studio products, rules and tasks can be created and managed in a well-designed tree and menu structure set of screens. Once created, rates are displayed in Excel files. Tasks are typically associated with product versions. InsuranceNow does not have a graphic workflow design environment. More complex rating algorithms or product structures are typically created by developers in their IDE.

In summary, InsuranceNow provides well-designed, broad policy administration functionality for insurers writing low to mid-level complexity business and who want a fully integrated end-to-end suite.

## OVERALL FUNCTIONALITY

Guidewire Software offers the following modules in the core system application. Guidewire InsuranceNow is available on a standalone basis.

Table 104: Component Snapshot

SUITE	AVAILABILITY
BILLING	Yes—integrated into the policy admin module
CLAIMS	Yes—integrated into the policy admin module
CRM	Yes—through a formal partnership with another vendor
REINSURANCE	Yes—integrated into the policy admin module
RATING ENGINE	Yes—integrated into the policy admin module
DIGITAL TOOLS	Yes—integrated into the policy admin module
DISTRIBUTION MANAGEMENT	Yes—integrated into the policy admin module
BUSINESS INTELLIGENCE	Yes—integrated into the policy admin module
ETL TOOLS	Yes—integrated into the policy admin module

Source: Guidewire

## OVERVIEW

Guidewire InsuranceNow is purpose-built for U.S. P&C insurers constrained by limited IT resources. InsuranceNow provides insurers the freedom to focus on innovation and service with a ready-to-go core system that is complete, not complex. Its all-in-one design leads to rapid implementation and regular upgrades, keeping the client's technology current and its business agile.

The figure below shows Guidewire Software's functionality and the production status of key features for policy administration and servicing (PAS) systems.

Figure 26: Key Functionality

Function	In Production with Clients	Supported but Not in Production with Clients	Not Supported
<b>Desktop</b>			
User desktop/workbench	●		
Policy detail overview	●		
Can display flags and alerts on policies	●		
<b>Data Services</b>			
Upload ACORD app		●	
Integration and prefill with third-party data	●		
Can upload or import data from Excel (e.g., locations, drivers)	●		
<b>Documents</b>			
Includes a correspondence and forms library	●		
Automated rendering of forms and correspondence	●		
Can attach documents, emails, phone calls, or notes	●		
Includes a content repository and document management	●		
<b>Notes</b>			
Includes a notes facility	●		
Can search text within notes and diaries	●		
<b>Other</b>			
eSignature	●		
Consumer portal	●		
Agent portal	●		
<b>Supervisory tools</b>			
Escalation based on authority	●		
Dashboard to manage employee's workload	●		
<b>Underwriter/adjuster assignment</b>			
Automated underwriter assignment	●		
Out of office/vacation rules	●		
<b>Workflow</b>			
Automatic task generation/workflow	●		
<b>Quote</b>			
Multiline, multi-location rating on a single quote or policy	●		
Supports non-binding quoting (quick quote) functionality that only includes rating/risk acceptability-related questions	●		
Side by side quotes	●		
<b>Underwriting</b>			
Automated STP underwriting	●		
Includes underwriting analysis tools such as loss analysis	●		
Consolidated view of all policies of a single policyholder	●		
<b>Endorsements, Renewals and Other Transactions</b>			
Supports automated cancellations	●		
Handles out of sequence endorsements	●		

Function	In Production with Clients	Supported but Not in Production with Clients	Not Supported
Supports automated renewals	●		
<b>Excess, layers and reinsurance</b>			
Can document the layer, coverage, and limits when other insurers are also covering parts of the total exposure	●		
Can indicate any reinsurance contracts which apply	●		
<b>Product Design Tools</b>			
Base insurance product (templates)	●		
Inheritance of product and rating rules	●		
<b>Rate Calculations</b>			
Supports complex rating algorithms	●		
Can use third-party data gathered real time as an input to the rate calculation	●		
If legal in clients' territory, the system provides price optimization features	●		
<b>Rating Maintenance</b>			
Rate table design and update management tools	●		
<b>Testing, modeling and analysis tools</b>			
Includes testing, modeling and product analysis tools	●		
<b>Versioning and Change Control</b>			
Versioning and update management	●		
Expiry mechanism for products to ensure that quotes are up to date	●		
Change control functions	●		

- = Available out of the box
- = Configurable through a scripting language/coding
- = Under development/On roadmap
- = Configurable using simple tools for business user
- = Available with integration to a third-party solution
- = Could develop—would be considered customization
- = Configurable using simple tools for IT user
- = Available with integration to a separate module provided by this vendor
- = Not available/Not applicable

Source: Guidewire

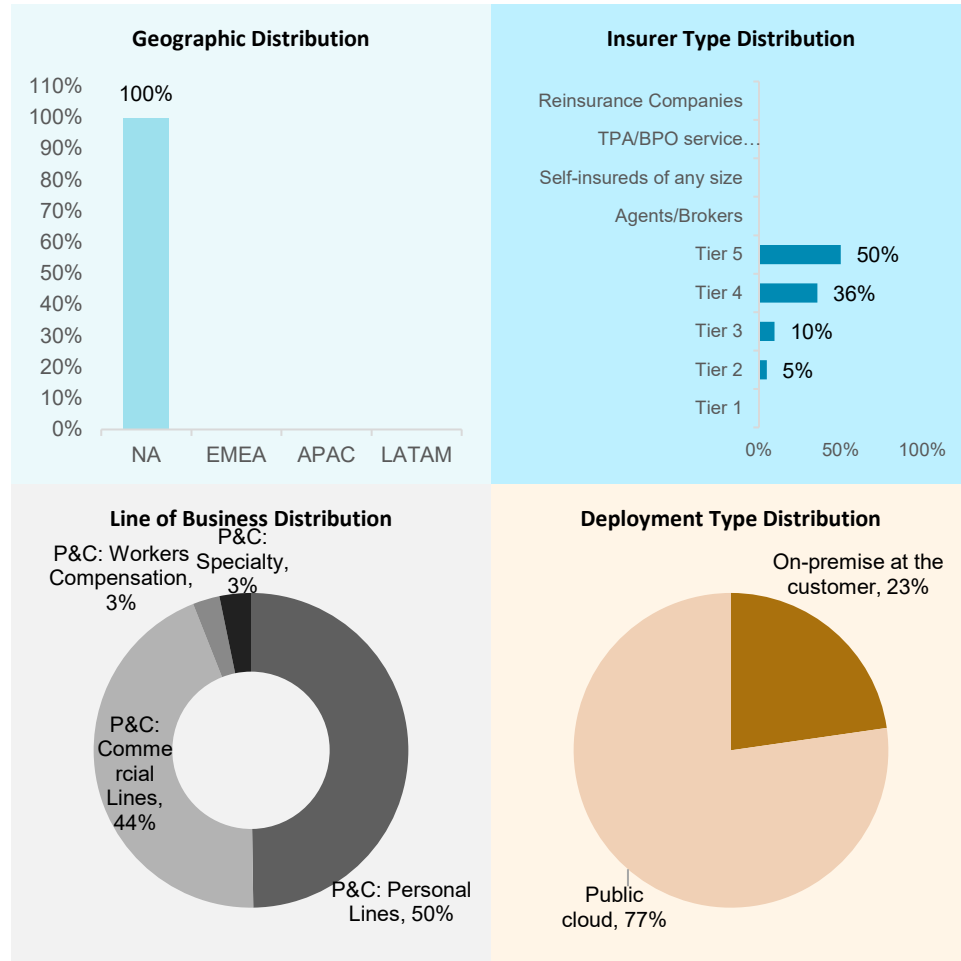
## INTERNATIONALIZATION

InsuranceNow cannot support languages other than US English or currencies other than the US dollar. International addresses are supported within InsuranceNow.

## CUSTOMER BASE

Guidewire InsuranceNow has 47 total customers.

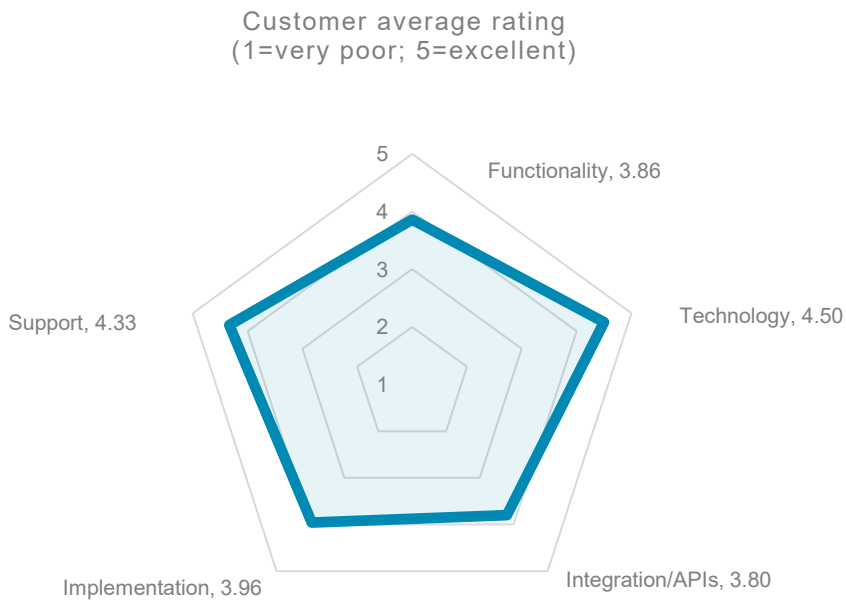
Figure 27: Guidewire InsuranceNow client base by geography, line of business, institution type, and deployment mode



Source: Guidewire

## CUSTOMER FEEDBACK

Figure 28: Customer Feedback



Source: Celent 2019/20 PC PAS Customer Feedback Survey

Three clients provided feedback on Guidewire InsuranceNow. One client has been using the system more than five years, one for one to three years, and one for less than one year. Two have a mix of personal and commercial lines, and one has mostly personal lines.

Clients rated Guidewire InsuranceNow favorably overall. For functionality, respondents appreciated the new business quoting/issuance features. Within technology, flexibility of the data model was scored the highest.

Clients felt the solution integrated most easily with their data warehouse. Regarding their implementation experience, the implementers' knowledge of the solution and relevant technology received the highest marks. Finally, in the area of ongoing system support, knowledge of their solution and relevant technology received the highest score.

## LINES OF BUSINESS SUPPORTED

Table 105: LoB Support

P&C LOBS	AVAILABILITY
Personal Auto	✓
Homeowners/Home	✓
Renters/Contents	✓

P&C LOBS	AVAILABILITY
Umbrella	✓
Commercial Auto	✓
Commercial Property	✓
Commercial Liability	✓
Workers' Compensation	✓
Medical Professional Liability	⊖
Other Professional Liability	✓
Business Owners Policy (BOP)	✓
Surety and Fidelity	✓
Excess Policies	✓
Directors and Officers Liability	✓

Legend: ✓ = Supported and in production; ⊖ = Supported but not in production; ✗ = Not supported

Source: Guidewire

## TECHNOLOGY

Guidewire hosts all new InsuranceNow customers in Amazon Web Services (AWS). The preferred technology stack for InsuranceNow includes the Amazon Linux AMI operating system, Apache Tomcat 8 application server, Amazon Aurora database for operational data, and Amazon Redshift database for reporting.

The last major technology change involved rewriting the product in Java as a Web-based, J2EE compliant enterprise suite with configurable business rules and role-based security. InsuranceNow Version 3.0, which included a major user interface update, was released in 2010. An additional user interface update was made in 2018.

The primary UI for business users, developers, and configurators is 100% browser based and provides a touch screen interface. The vendor does not have plans to change the framework in the future.

Technology details for Guidewire InsuranceNow are provided in the table below.

Table 106: Technology options

CODE BASE	Core technology: Java: 100%
OPERATING SYSTEMS	<p>The system is implemented in Java</p> <p>JEE/Java version support: InsuranceNow has now standardized on Amazon Corretto 8 to replace Oracle JDK 8.</p> <p>Available operating systems: Unix—Linux</p>
SERVERS SUPPORTED	The system uses/supports Java servers Tomcat, JRun, other
DATABASES	Databases available: Aurora (for operational data), Redshift (for reporting)
INTEGRATION METHODS	<p>Available integration methods: Web services, XML, not through web services, HTML, HTTP, RESTful HTTP style services, JSON format, MQSeries, JMS or similar queue technology, custom APIs, flat files, native messaging, other</p> <p>Public API integrations: Google Maps</p> <p>The vendor does provide training for API integrations.</p>
CORE CODE MODIFICATION	<p>Core modifications are the exception to the rule.</p> <p>% of total cost from core code/development modifications in recent implementations: 1</p> <p>Recent core code modifications include Manage customer-specific reinsurance treaties; change a base java class for custom logic.</p>
SCALABILITY	<p>Scalability metrics: The latest scalability testing demonstrated the ability to process inputs from 1,500–2,500 users all in the system at the same time with split-second response times. In their claims testing, the average response time across 435,000 requests was 123 milliseconds. Put another way, testing found InsuranceNow can handle the throughput of some 15,000 claims per hour. Underwriting performance was equally impressive. In homeowners quoting, policy issuance, billing, and endorsement testing, the average response time across 487,500 requests was 219 milliseconds. So, based on a typical year of 50 work weeks at 5 days per week and 6 hours per day, the platform can easily support an annual workload of 37 million quotes, 7.5 million policies, and 3.8 million endorsements. The tests did not suggest that any maximum scalability limits have been reached.</p> <p>System performance: InsuranceNow is highly scalable—there are no known limitations on the system's scalability. Guidewire hosts all InsuranceNow customers in AWS and uses AWS tools and services to monitor performance and scale the system as necessary to meet performance benchmarks. Guidewire regularly performs scalability studies to ensure that the system can scale as needed during high volume events such as named storms or other catastrophes.</p>

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## DEPLOYMENT MODELS

NA: public cloud:

InsuranceNow includes these managed cloud services:

**Managed Upgrades (1/yr.)**—One software upgrade a year is included with the subscription. They help clients stay current by ensuring clients are on the latest version of the software, so clients' business can benefit from the latest features and functionality available

**Daily/Monthly Operations**—all necessary batch jobs are run and handled for clients by their team

**Patch Management**—patches are applied to the software automatically, eliminating any need to involve resources on clients' side

**Bureau Stat Reporting Admin**—they will extract files for stat reporting, hand them off to make sure they get where they need to go

**Product Consulting/Q&A**—they include consulting to help with business and configuration questions to make sure clients are using the system the way it was designed to be used.

**SOC 1 Type II, SOC 2 Type II and PCI Compliance**—they complete SOC and PCI audits and they publish their audit reports to clients.

**On demand infrastructure**—the system can grow to meet the demand placed on it by clients' business. Clients don't have to worry about provisioning hardware during usage spikes.

**System Security and Audits**—making sure clients' data is secure, audited, compliant so clients don't have to

**24/7 Monitoring and Performance Tuning**—they are always monitoring the health of clients' system and making sure it is running the way it should be.

**Disaster Recovery plan and infrastructure**—Clients' applications and data are in the AWS cloud and backed by their comprehensive disaster recovery plan, ensuring business continuity for clients. With automatic failover and multiple availability zones, clients can rest assured clients' business will not be interrupted.

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## PUBLIC CLOUD OPTIONS

Public cloud options supported: Amazon AWS

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Source: Guidewire

## DATA

The InsuranceNow data model is proprietary, object-oriented, easily extensible, and based on the ACORD standard.

The solution supports industry standard data model schemas by ACORD. The database was designed from the ground up for this product. Clients can change the data model through XML metadata. The data model can be released to the client, can be easily published to a client's data model, can map to an intermediate format (such as an industry standard) to share with a client.

## INTEGRATIONS

Guidewire Software provides Web services, XML, not through web services, HTML, HTTP, RESTful HTTP style services, JSON format, MQSeries, JMS or similar queue



technology, custom APIs, flat files, native messaging, and others as integration methods. InsuranceNow can support a variety of methods for interfacing with external systems.

API details for the vendor are as follows: API is documented; external systems can trigger an event in the system that can be responded to by a workflow or business rules system; API management supports local or global standards such as ACORD application creation and rendering; API sample codes are available to clients; API developer portal is available for support and descriptions; API testing portal and the ability to use scripts on website is available; the system allows API publishing in SOAP, REST, JSON, and XML style services as APIs; API version management is available; access to the APIs is managed and use of APIs tracked by developers; Guidewire Software provides documentation and training for API integrations. The vendor does provide training for API integrations. InsuranceNow currently comes out of the box with over 120 JSON-based web service APIs. All business processing within InsuranceNow is designed as a Web Service that can be exposed as an API.

InsuranceNow includes comprehensive API documentation and examples within the menu of the InsuranceNow application. Administrators can manage API whitelists for access to their instance of InsuranceNow.

The table below shows available products pre-integrated with Guidewire InsuranceNow.

Table 107: Insurance Pre-Integrations

INTEGRATION
NCCI: Workers' Compensation Rates, Rules and Forms
Payment processing systems: Authorize.net
Other (integration type: vendor): ISO ClaimSearch
Other (integration type: vendor): OneSpan (e-signature)
Actuarial modeling tools or software: Guidewire Predictive Analytics
Address verification tools: Service Objects DOTS Address Validation and Geocode,
Analytics solutions: Guidewire Predictive Analytics, Google Analytics,
Billing systems: InsuranceNow includes an integrated Billing module,
Claims management systems: InsuranceNow includes an integrated Claims module,
Distribution management systems (e.g., commissions and licensing): InsuranceNow includes integrated commissions and licensing, document creation systems: DocOrigin, Smart Communications,
Document management systems: InsuranceNow includes an integrated Document Management module,
eApplications: InsuranceNow includes support for electronic applications through AppReader
eSignature systems: OneSpan
Fraud analytics software: InsuranceNow includes a fraud scoring framework
General ledger: Guidewire GL Interface Framework
Policy administration systems: InsuranceNow includes an integrated Policy module
Product configurator: InsuranceNow includes Studio, a tool to configure products and other system behavior
Reinsurance systems: InsuranceNow includes an integrated reinsurance module
Underwriting workbench/new business underwriting systems: InsuranceNow includes an underwriting workbench and new business underwriting
Workflow/BPM systems: InsuranceNow includes integrated workflow

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## INTEGRATION

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Credit/finance databases for both individuals and businesses: LexisNexis Insurance Score

Drivers/driving history databases for both individuals and businesses: LexisNexis MVR, Softech MVR

Insurance experience databases for both individuals and businesses: LexisNexis CLUE Auto and Property

Location/property databases for both individuals and businesses: Google Places, Clue Property Data Report

Medical databases for both individuals and businesses: Medicare 111 Query and Reporting through Perr & Knight

Vehicle databases for both individuals and businesses: Verisk VINMASTER

Other (integration type: vendor): LexisNexis Current Carrier

Other (integration type: vendor): Google Analytics

Other (integration type: vendor): Guidewire Lockbox Import

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Source: [Guidewire](#)

## CONFIGURATION

InsuranceNow provides true end user configuration for rates and rating using Excel, a business user configuration toolkit called Studio, and a technical configuration platform for more experienced developers. True end users can set up rating algorithms and rates using a standard Excel workbook. Business users can use Studio to perform product configuration including the roll-out of new states and versions and business rule configuration. Technical users can perform configuration using the InsuranceNow Eclipse or IntelliJ IDEA JAVA integrated development environments (IDE), where they can directly change the metadata files. Additionally, configurations that are made frequently and are technically trivial—such as adding/removing an authority role for a user—can be made directly in the InsuranceNow application by any authorized user. Guidewire provides certification courses on configuration through Guidewire Education on all three of these approaches.

The system supports reusable components that can be referenced in any product as required for reuse. In addition, it supports cut and paste between products and inheritance from a country-wide to a state level and between products for creation of package products, etc.

Guidewire Software's approach to change tooling is through providing specific tools for versioning parts of the configuration/code.

They use open source tools to build automated functional tests (AFTs) including Fitnesse, Selenium, and JUnit. Guidewire uses a continuous build framework utilizing Hudson/Jenkins to facilitate and automate regression testing for their own development with either continuous integration or continuous delivery. Impact analysis support for developers is provided by the configuration and development user interface which helps analyze these changes. Developers can analyze dependencies using tools in the IDE including the ability to analyze module, backward, or cyclic dependencies. Developers can also analyze references to any class, variable, method, or parameter.

For auditability, the system maintains a complete audit trail of all transactions and data changes with before and after values, date, user, and time stamp.

The following changes require a restart of the server to take effect: change to a document, change to user interface, change to underlying data model, new product creation, product modification/configuration, new web service or integration point, screen configuration/change, workflow change.

Table 108: Approach to System Changes

APPROACH TO SYSTEM CHANGES	AVAILABILITY
Business rule definition	Configurable using simple tools targeted for a business user
Data definition	Configurable using tools targeted for an IT user
Table maintenance, list of values, etc.	Configurable using simple tools targeted for a business user
Interface definition	Coding required
Product definition (insurance or banking products)	Configurable using simple tools targeted for a business user
Role-based security, access control, and authorizations	Configurable using simple tools targeted for a business user
Screen definition	Configurable using tools targeted for an IT user
Workflow definition	Configurable using simple tools targeted for a business user

Source: Guidewire

## SECURITY

InsuranceNow conforms to SOC 1 Type II, SOC 2 Type II and PCI. To maintain these, Guidewire undergoes a number of third-party audits throughout the year. Guidewire Software is PCI compliant. One-time passwords, flexible user permissioning, out of band identification, security tokens/pins, multi-factor authentication, and federated identity support are available as authentication factors for internal and external users.

For cybersecurity arrangements, Each InsuranceNow customer has an isolated production Virtual Private Cloud (VPC) in Amazon Web Services (AWS), which acts as a secure network for all aspects of system access. Instances of the Amazon Elastic Compute Cloud EC2 (computing capacity), Elastic File System EFS (files and logs), Apache Tomcat Application Server, and Aurora Relational Database Service (RDS) are contained within a private subnet within the VPC. AWS Elastic IP addresses, designed for dynamic cloud computing, provide access to the VPCs and have their own firewalls to control IP address authentication. Security groups, which act like a firewall, are also defined for each EC2 instance. Secure access to the application is defined via HTTPS. SSL with 256-bit encryption is used. Data is encrypted in transit using TLS 1.2 and encrypted at rest in the database.

## PARTNERSHIPS

Table 109: Partnerships

TYPE OF PARTNERSHIP	PARTNER VENDOR
SYSTEM INTEGRATORS	Guidewire Professional Services manages all implementations of InsuranceNow. Guidewire works with certified business partners such as CastleBay, Cognizant, ITS Data Services, Ernst & Young, and Perr&Knight to supplement implementation teams with additional skills (e.g., data migration or regulatory reporting). Third-party vendors go through a vendor selection and certification process that includes InsuranceNow training.
CONVERSION PARTNERS	Guidewire works with ITS on some projects that require conversions,
FUNCTIONALITY PARTNERS	Guidewire PartnerConnect Solution partners provide software, technology, and data solutions as well as insurance support services. Their solution partners help drive business value by developing and delivering additional integrations, extensions, and other complementary solutions for Guidewire Software. Guidewire views these add-on products as integral to the overall value of the Guidewire solution. Their relationships with these providers allow them to recommend best of breed technology that complements and integrates well with Guidewire InsuranceNow. Their relationships are varied and are delivered as both OEM and Accelerator offerings. For example, they utilize Looker Visualization tools as part of their BI solution. They work closely with the major database providers on a global basis to insure compatibility with their offerings. They partner with document and communication ,anagement providers such as Smart Communications and DocOrigin. They maintain partnerships with the major providers of statistical, actuarial, and underwriting claims information for insurance insurers including ISO, Lexis Nexis, and NCCI. They also partner with other software providers to add additional functionality in the system, like Authorize.Net to provide simple, secure credit card payment capabilities and Service Objects for address verification services. Please note that this is not an exhaustive list.
TECHNOLOGY PARTNERS	InsuranceNow is a Java web application that is hosted on Amazon Web Services (AWS) and managed by Guidewire on behalf of its customers.
FINTECH PARTNERS	Nine
ACCREDITATIONS AND CERTIFICATIONS	Guidewire is a compliant Payment Card Industry (PCI) service provider and has completed AICPA SOC1 and SOC2 audits. Guidewire is ISO 27001 certified for its Cyence product. In addition, Guidewire is preparing to acquire the ISO 27001 certification for its InsuranceSuite, Guidewire Digital and DataHub and InfoCenter products in Q1 2020. As part of preparation for the ISO 27001 audit, Guidewire has implemented an Information Security Program that aligns with the ISO 27001, AICPA SOC and PCI DSS requirements.

Source: Guidewire

## IMPLEMENTATION, AND SUPPORT

Table 110: Implementation and Support

FUNCTION	APPROACH
EMPLOYEES AVAILABLE /AVERAGE EXPERIENCE LEVEL (YEARS)	<p>Guidewire Software has 979 staff with 15 average years of experience providing professional services/client support for this solution.</p> <p>The average number of customers per professional services/client support staff is 19.</p>
LOCATIONS OF EMPLOYEES	<p>Guidewire Software has employees across the world, with 1,472 employees in the United States and 883 employees internationally.</p> <p>If implementation resources need to be sourced from different countries, the vendor applies specific rates by location.</p>
RESOURCE BREAKDOWN (VENDOR, CLIENT, SYSTEM INTEGRATOR)	<p>Typical implementation team size: 11 to 15</p> <p>Vendor: 40% Client: 60% SI: 0%</p>
USE OF THIRD PARTIES	<p>They regularly work with third-party system integrators.</p> <p>Conversion options: vendor or third-party.</p>
AVERAGE TIME TO IMPLEMENTATION	<p>Initial implementation: 7 to 12 months</p> <p>Second and subsequent LOBs: four to six months</p> <p>Second and subsequent states/jurisdictions: four to six months</p>
PREFERRED IMPLEMENTATION APPROACH	<p>The InsuranceNow guided implementation approach includes these phases: Customer Assessment (establishes customer readiness and resource requirements for the project), Project Kickoff (align expectations, deliver statements of work, prepare client and Guidewire services teams), Standard Design and Configuration (gather product definition and requirements and stand up the initial insurance product(s) in InsuranceNow), Advanced Tuning (workflow and other tweaks based on feedback during user acceptance testing), Production Readiness, and State Rollout.</p>
SLA AVAILABILITY	<p>Service scope included in base SLA: 24x7 service hours</p> <p>Services available for additional fee: extended service hours (beyond 9 am to 5 pm)</p> <p>Features typically included in SLA: incident status updates based on priority level of incident, metrics and reports, ticket prioritization, upgrades</p> <p>System availability: 96 to 100%</p>

Source: Guidewire

## PRICING

Table 111: Pricing Models

PRICING MODELS AVAILABLE:	Pricing models available: subscription-based license, other pricing model not listed
FACTORS USED TO DETERMINE PRICING	Usage-based factors: None Tier-based factors: None

Source: Guidewire

Table 112: Five-Year Pricing Estimates

INSURER SCENARIO	LICENSING	IMPLEMENTATION	ALL OTHER
AVERAGE YEAR 1 COSTS	US\$500,001 to US\$1 million	US\$1.01 million to US\$5 million	0
AVERAGE YEAR 2 AND BEYOND REMAINING COSTS	US\$500,001 to US\$1 million	0	0

Source: Guidewire

# GUIDEWIRE SOFTWARE: GUIDEWIRE POLICYCENTER

## XCELENT Awards 2020 - Advanced Technology

## XCELENT Awards 2020 - Customer Base

### COMPANY

Guidewire Software is a public company headquartered in San Mateo, California with sales and professional services personnel located throughout NA, EMEA, APAC, and LATAM. The company has 2,355 employees, of whom 781 are in professional services and 198 in technical support and licensing operations.

With each major release of Guidewire’s InsuranceSuite and its associated products PolicyCenter, BillingCenter, and ClaimCenter, Guidewire has upgraded the application, underlying tools, third-party libraries, Java versions, and required application stack options, often expanding the list of vendors supported.

Future development plans include:

- Broadening user base (and serving digital channels)
- Business agility
- Intelligent claim handling and analytic insight.

Guidewire’s spend on R&D over the past two years has been approximately 40% of license and maintenance revenues. Guidewire does not report on revenue or expense by product.

Guidewire offers an annual conference.

Table 113: Company Snapshot

YEAR FOUNDED	2001
NUMBER OF EMPLOYEES	2,355
REVENUES (USD)	Total corporate revenue: \$719.5 million (FY2019) Product revenue: They do not report on revenue by product.
FINANCIAL STRUCTURE	Company financial structure: public company NYSE: GWRE

Source: Guidewire

Table 114: Product Snapshot

NAME	Guidewire PolicyCenter
YEAR ORIGINALLY RELEASED/DEPLOYED	2005/2006

CURRENT RELEASE AND DATE OF RELEASE	10.0.3/2020
UPGRADES	Client can skip multiple versions (e.g., go directly from version 4.0 to version 7.0)  They support current versions and more than two priors but not all versions.
TARGET MARKET	Mid to large sized property and casualty insurers and personal and commercial lines of business including workers' comp.
INSTALLED BASE	<u>North America</u> : Canada: 16, United States: 68  <u>EMEA</u> : Belgium: 3, France: 2, Germany: 3, Italy: 2, Poland: 1, Russia: 2, Switzerland: 2, United Kingdom: 8, South Africa: 1  <u>APAC</u> : Australia: 8, Japan: 3, New Zealand: 3  <u>LATAM</u> : Argentina: 3, Brazil: 2, Colombia: 1, Peru: 1, Uruguay: 1
NEW CLIENTS SINCE 2017	<u>North America</u> : Canada: 10, United States: 35  <u>EMEA</u> : Denmark: 1, Finland: 2, France: 2, Germany: 5, Italy: 2, Russia: 2, United Kingdom: 3  <u>APAC</u> : Australia: 3, Japan: 1, New Zealand: 1  <u>LATAM</u> : Argentina: 1
NOTABLE CLIENTS	Nationwide; The Hartford; Farmers Zurich; Aviva; PZU Sampo Japan; Icare; QBE Caixa; Pacifico Seguros; Seguros SURA Columbia
REVENUE FROM PRODUCT/SERVICE	They do not report on revenue by product.
FTES PROVIDING PROFESSIONAL SERVICES FOR PRODUCT	781
USER CONFERENCES/PRODUCT WORKING GROUPS	The vendor offers an annual user conference or customer event.

Source: Guidewire

## CELENT OPINION

Guidewire's PolicyCenter has had a significant revamp of its UI. The most significant addition is a left side, context sensitive navigation pane that provides relevant actions, indicators for sequences to be completed, and links to pages for other information or functions. Other features supporting ease of use include: a quick quote wizard having pre-defined (and modifiable) coverage levels, an indicator of missing or erroneous data that pops-in from the right margin, an easy to use table format for resolving out of sequence endorsement issues, and options for making renewals automated or manually processed.

There are also several effective add-ins to PolicyCenter. ProducerEngage and CustomerEngage are digital portals for agents, prospects, and policyholders. CustomerEngage has a graphic timeline showing the time-stamped sequence of actions related to a policy before and after issue. There is also a profitability predictor for a given policy quote. Using predictive analytics, it shows the projected profitability for a given policy configuration on a 1 to 1,000 scale where 500 is average profitability. That



projection changes as coverages, limits, deductions and other product characteristics change. Additional license fees are required for all of these add-ins.

Configuration has been significantly changed with the introduction of PolicyCenter’s Advanced Product Designer tool, which utilizes XMind’s mind mapping software. Essentially, XMind’s drag-and-drop UI allows a product designer to gather product requirements visually. Using the Advanced Product Designer tool, the product designer can go through three designated stages to conceptualize, visualize, and finalize any new or modified product. Guidewire believes that using Advanced Product Designer makes the product design process significantly faster than the design processes in earlier PolicyCenter versions. PolicyCenter’s rules configuration environment also has some usability enhancements. Workflow can continue to be graphically mapped in Studio’s IDE.

In conclusion, PolicyCenter continues to be one of the leading policy administration systems—as evidenced by its upgraded UI, its various usable improvements, and its introduction of the Advanced Product Designer component.

## OVERALL FUNCTIONALITY

Guidewire Software offers the following modules in the core system application. Guidewire PolicyCenter is available on a standalone basis.

Table 115: Component Snapshot

SUITE	AVAILABILITY
BILLING	Yes—separate module available from this vendor
CLAIMS	Yes—separate module available from this vendor
CRM	Yes—separate module available from this vendor
REINSURANCE	Yes—integrated into the policy admin module
RATING ENGINE	Yes—separate module available from this vendor
DIGITAL TOOLS	Yes—separate module available from this vendor
DISTRIBUTION MANAGEMENT	Yes—through a formal partnership with another vendor
BUSINESS INTELLIGENCE	Yes—separate module available from this vendor
ETL TOOLS	Yes—separate module available from this vendor
DATA HUB	Yes—separate module available from this vendor
DATA WAREHOUSE	Yes—separate module available from this vendor

Source: Guidewire

## OVERVIEW

Guidewire PolicyCenter™ enables property and casualty insurers to meet the needs of a rapidly changing industry with more effective underwriting, agile policy and product management, and excellent customer service.

PolicyCenter embodies 10 years of innovation through partnerships with more than 100 property and casualty insurers. Insurers leverage this experience and Guidewire’s

commitment to gain market-driven innovation in customer service, underwriting decision-making, and policy management.

The figure below shows Guidewire Software’s functionality and the production status of key features for policy administration and servicing (PAS) systems.

Figure 29: Key Functionality

Function	In Production with Clients	Supported but Not in Production with Clients	Not Supported
<b>Desktop</b>			
User desktop/workbench	●		
Policy detail overview	●		
Can display flags and alerts on policies	●		
<b>Data Services</b>			
Upload ACORD app	●		
Integration and prefill with third-party data	●		
Can upload or import data from Excel (e.g., locations, drivers)	●		
<b>Documents</b>			
Includes a correspondence and forms library	●		
Automated rendering of forms and correspondence	●		
Can attach documents, emails, phone calls, or notes	●		
Includes a content repository and document management	●		
<b>Notes</b>			
Includes a notes facility	●		
Can search text within notes and diaries	●		
<b>Other</b>			
eSignature	●		
Consumer portal	●		
Agent portal	●		
<b>Supervisory tools</b>			
Escalation based on authority	●		
Dashboard to manage employee’s workload	●		
<b>Underwriter/adjuster assignment</b>			
Automated underwriter assignment	●		
Out of office/vacation rules	●		
<b>Workflow</b>			
Automatic task generation/workflow	●		
<b>Quote</b>			
Multiline, multi-location rating on a single quote or policy	●		
Supports non-binding quoting (quick quote) functionality that only includes rating/risk acceptability-related questions	●		
Side by side quotes	●		
<b>Underwriting</b>			
Automated STP underwriting	●		
Includes underwriting analysis tools such as loss analysis	●		
Consolidated view of all policies of a single policyholder	●		
<b>Endorsements, Renewals and Other Transactions</b>			
Supports automated cancellations	●		
Handles out of sequence endorsements	●		
Supports automated renewals	●		
<b>Excess, layers and reinsurance</b>			
Can document the layer, coverage, and limits when other insurers are also covering parts of the total exposure	●		
Can indicate any reinsurance contracts which apply	●		

Function	In Production with Clients	Supported but Not in Production with Clients	Not Supported
<b>Product Design Tools</b>			
Base insurance product (templates)	●		
Inheritance of product and rating rules	●		
<b>Rate Calculations</b>			
Supports complex rating algorithms	●		
Can use third-party data gathered real time as an input to the rate calculation	●		
If legal in your territory, the system provides price optimization features	●		
<b>Rating Maintenance</b>			
Rate table design and update management tools	●		
<b>Testing, modeling and analysis tools</b>			
Includes testing, modeling and product analysis tools	●		
<b>Versioning and Change Control</b>			
Versioning and update management	●		
Expiry mechanism for products to ensure that quotes are up to date	●		
Change control functions	●		

- = Available out of the box
- = Configurable through a scripting language/coding
- = Under development/On roadmap
- = Configurable using simple tools for business user
- = Available with integration to a third-party solution
- = Could develop—would be considered customization
- = Configurable using simple tools for IT user
- = Available with integration to a separate module provided by this vendor
- = Not available/Not applicable

Source: Guidewire

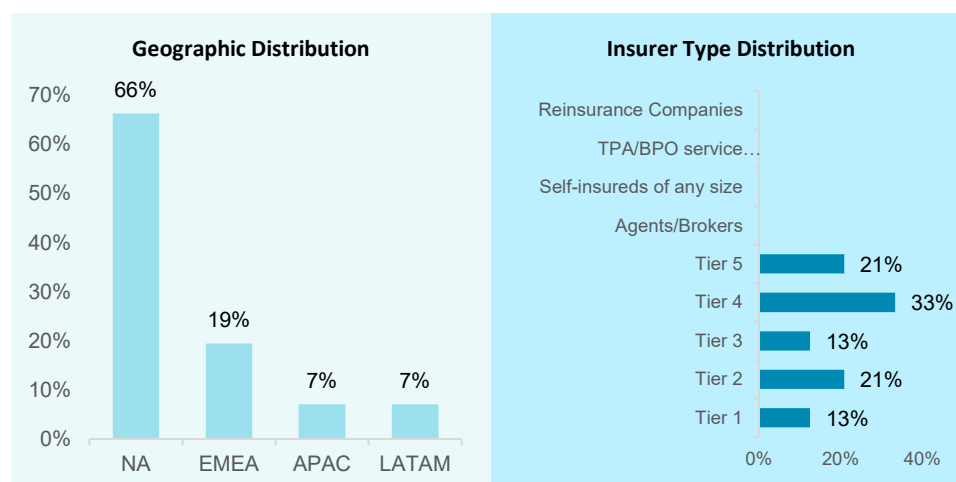
## INTERNATIONALIZATION

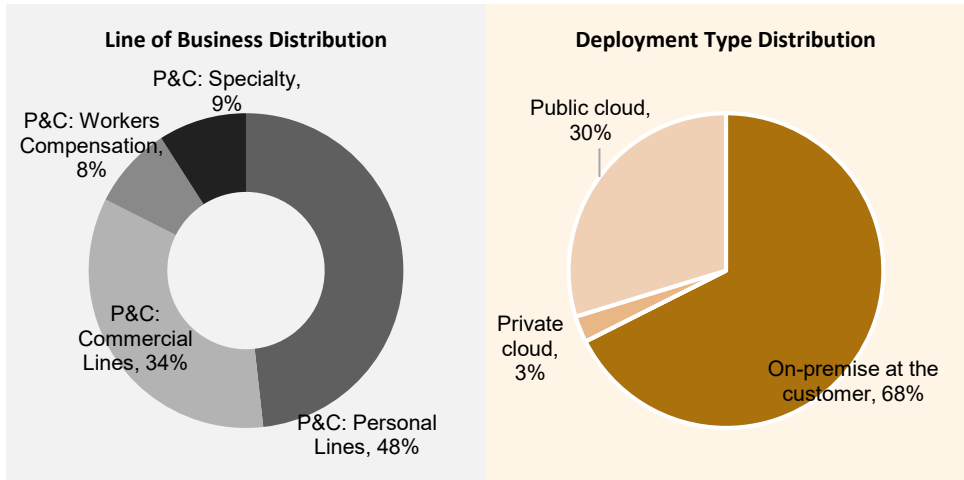
Guidewire Software can support multiple currencies, with USD, GBP, EUR, AUD, CAD, JPY, and RUB currently in production. Guidewire Software can support multiple language, with English, French, German, Dutch, Japanese, Spanish, Chinese, Portuguese, Italian, and Russian currently in production.

## CUSTOMER BASE

Guidewire Software has 113 total customers globally.

Figure 30: Guidewire Software client base by geography, line of business, institution type, and deployment mode in North America

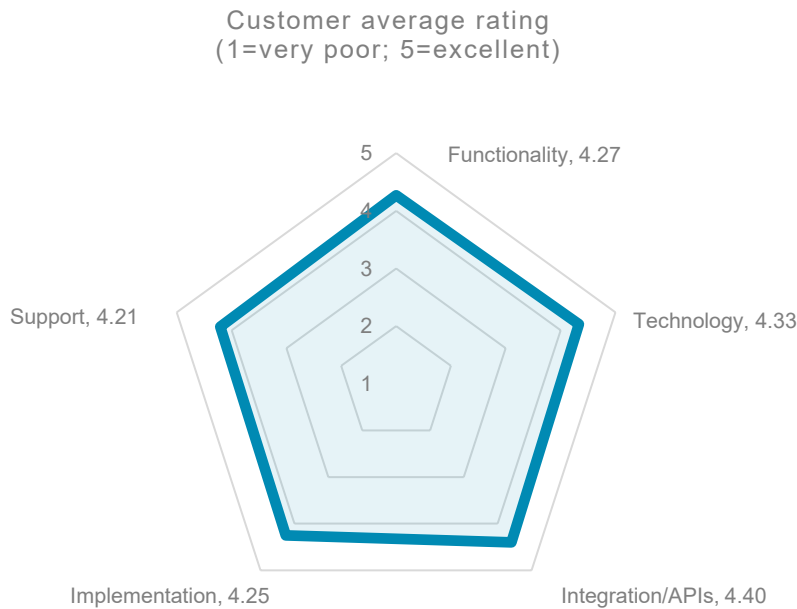




Source: Guidewire

## CUSTOMER FEEDBACK

Figure 31: Customer Feedback



Source: Celent 2019/20 PC PAS Customer Feedback Survey

Three clients provided feedback on Guidewire PolicyCenter. One client has been using the system for three to five years, one for less than one year, and one is still implementing it. Two clients have all or mostly personal lines and one has a mix of personal and commercial lines.

Clients rated Guidewire PolicyCenter favorably overall. For functionality, respondents appreciated the new business quoting/issuance features. Within technology, configurability of the solution was scored the highest.

Clients felt the solution integrated most easily with their claims. Regarding their implementation experience, the implementers' knowledge of the solution and relevant technology received the highest marks. Finally, in the area of ongoing system support, knowledge of the insurer's business received the highest score.

## LINES OF BUSINESS SUPPORTED

Table 116: LoB Support

P&C LOBS	AVAILABILITY
Personal Auto	✓
Homeowners/Home	✓
Renters/Contents	✓
Umbrella	✓
Commercial Auto	✓
Commercial Property	✓
Commercial Liability	✓
Workers' Compensation	✓
Medical Professional Liability	✓
Other Professional Liability	✓
Business Owners Policy (BOP)	✓
Surety and Fidelity	✓
Excess Policies	✓
Directors and Officers Liability	✓

Legend: ✓ = Supported and in production; ⊖ = Supported but not in production; ✗ = Not supported

Source: Guidewire

## TECHNOLOGY

Guidewire applications are built exclusively for the J2EE platform from a clean-sheet design: they contain no legacy code. Each application runs as a standard three-tiered architecture with a web client on the front end, an application server hosting the application, and a database storing the content. Each layer of the application is built using modern, proven technology. The applications run as clustered instances deployed on the J2EE Server and connect to the Database via standard JDBC. All application functionality is provided through a web browser interface, making it simple to provision and update the application for internal and external users.

Guidewire's technology core is based on the requirements of Guidewire's customers. Although each carrier is unique, they have a standard set of base requirements that need to be addressed by the technology. Layered on top of the technology core is the base functional content, in this instance, the PolicyCenter application. The final layer is the customer-configured content, which is created using the tools from the technology core.

The underlying technology stack has always been a standard Java Enterprise Edition (Java EE) server application server. Each Guidewire application is built and deployed as a Web Application Archive (WAR) or Enterprise Application Archive (EAR) file to the application server. It contains all the configuration, operational data, and data definition files necessary to execute the application. The operational data for the Guidewire application is stored inside a relational database. Only the versions of the underlying databases and application servers have changed to stay current.

The primary UI for business users is 100% browser based. For developers and configurators it is 100% browser based, thick client installed on a desktop. The vendor does not have plans to change the framework in the future.

Technology details for Guidewire PolicyCenter are provided in the table below.

Table 117: Technology options

<b>CODE BASE</b>	Core technology: Java: 86%; GOSU: 13%
<b>OPERATING SYSTEMS</b>	The system is implemented in Java and JEE.  JEE/Java version support: The current release of PolicyCenter, 10.0.3 utilizes Java 11.  Available operating systems: Unix—Linux, Unix—Other, Windows
<b>SERVERS SUPPORTED</b>	The system uses/supports Apache Tomcat, JBoss Enterprise Application Platform, IBM WebSphere Application Server and Oracle WebLogic
<b>DATABASES</b>	Databases available: Microsoft SQL and Oracle
<b>INTEGRATION METHODS</b>	Available integration methods: Web services, XML, not through web services, HTML, HTTP, RESTful HTTP style services, JSON format, MQSeries, JMS or similar queue technology, custom APIs, flat files, native messaging, other  Public API integrations: PolicyCenter's flexible integration platform is integrated with hundreds of third-party systems across their customer base. Google Maps, Facebook, and Bing are common integration points.  The vendor does provide training for API integrations.
<b>CORE CODE MODIFICATION</b>	Core modifications are the exception to the rule.  % of total cost from core code/development modifications in recent implementations: 0  No modification of the core product has occurred in any Guidewire implementations. Guidewire supports the customer's tailoring and extension of application functionality and behavior via the use of included configuration tooling. Guidewire does not provide access to the source code for the core application.

## SCALABILITY

Scalability metrics: Guidewire has performed extensive load and stress testing on Guidewire PolicyCenter™ 9 modeling the demands of high-volume insurers. Current results include successful testing at over 20,000,000 in-force policies and 20,000 concurrent users.

System performance: PolicyCenter is designed to scale to the needs of the largest property and casualty insurers. The same Guidewire Platform underlies each of the applications in the InsuranceSuite and provides much of the functionality to support scaling to high levels. Clustering logic built into the system enables multiple Guidewire application instances to be joined together to form a cluster, allowing the spreading of load across a greater pool of logical Guidewire application nodes. In addition to the horizontal scaling provided by the integrated clustering, customers can also scale vertically via the use of more powerful individual application nodes. Each node in the cluster can be designated to perform specific roles such as UI presentation, batch processing, or third-party messaging, ensuring the applications continue to perform for both end users and automated processes.

## DEPLOYMENT MODELS

NA: On-premise at the customer, on-premise at a partner, private cloud, public cloud

EMEA: On-premise at the customer, on-premise at a partner, private cloud, public cloud

APAC: On-premise at the customer, on-premise at a partner, private cloud, public cloud

LATAM: On-premise at the customer, on-premise at a partner, private cloud, public cloud

Guidewire PolicyCenter has been architected to operate in the cloud or on-premise. Cloud deployment options include private, public, and hybrid cloud deployments. Guidewire offers PolicyCenter via Guidewire Cloud, a fully managed SaaS offering that is deployed and managed by Guidewire and hosted on Amazon Web Services. Customers can also choose to manage PolicyCenter directly or through a Guidewire partner as a managed service within a system integrator of their choice.

The Guidewire Cloud offering is a cloud-based, single vendor solution that combines Guidewire's software products with their implementation and production management services. In this model, Guidewire Software takes program level ownership and accountability of the initial implementation effort. Upon go-live, the Guidewire Cloud Services team handles all operational and application support functions required to care for the production system. This solution allows carriers to focus on the business of insurance and to better manage risk by transferring much of it to Guidewire.

## PUBLIC CLOUD OPTIONS

Public cloud options supported: Microsoft Azure, Amazon AWS, Google Cloud Platform (GCP), Alibaba Cloud, IBM Cloud/Bluemix, Oracle Cloud, Salesforce Cloud, Force.com, AppExchange

Source: Guidewire

## DATA

Guidewire Software's data model is designed by Guidewire. These models have been designed to support the full policy and billing lifecycles with excellent run-time

transactional performance and can be easily extended on a per-carrier basis using the included configuration tooling. During an implementation project, carriers are free to map the data to industry models (such as ACORD) for data exchange in integration. PolicyCenter includes out of the box functionality to process an ACORD FNOL XML file to populate into an initial policy.

The PolicyCenter data model is purpose-built to the Guidewire PolicyCenter business case, which currently serves over 240 P&C carriers. It is built to balance third normal form purity and is tuned for accessibility and scale at some of the largest carriers globally. Guidewire contains data model imports for ACORD, ISO, and other industry standard formats. The PolicyCenter data model also allows carriers to extend the system with their own fields, tables, foreign keys, and data structures supported by third normal form relational database platforms to meet their custom needs through their configuration tool, Guidewire Studio. The configuration is maintained in an upgrade-safe configuration layer, which allows support for future compatibility.

The database was designed from the ground up for this product. Clients can change the data model using the included Guidewire Studio configuration tool. Customers never modify the application source code for any reason. The data model can be released to the client, can be easily published to a client's data model, and can map to an intermediate format (such as an industry standard) to share with a client.

PolicyCenter is designed to allow customer extension of the application's base data model. Editors within the Guidewire Studio configuration tool enable insurers to extend the base data model, adding new fields to existing entities as well as defining entirely new entities. The data model editor persists the data model descriptions as XML files. The applications read these files during application deployment, and automatically generate and issue any DDL required to update the database schema to reflect the customer-defined data model extensions.

## INTEGRATIONS

Guidewire Software provides Web services, XML, not through web services, HTML, HTTP, RESTful HTTP style services, JSON format, MQSeries, JMS or similar queue technology, custom APIs, flat files, native messaging, other as integration methods. PolicyCenter's integration platform can integrate with any third-party system. They recommend a more loosely coupled approach using Web services or specific sets of Guidewire-provided integration APIs.

API details for the vendor are as follows: API is documented; external systems can trigger an event in the system that can be responded to by a workflow or business rules system; API management supports local or global standards such as ACORD application creation and rendering; API sample codes are available to clients; API developer portal is available for support and descriptions; the system allows API publishing in SOAP, REST, JSON, and XML style services as APIs; API version management is available; access to the APIs is managed and use of APIs tracked by developers; Guidewire Software provides documentation and training for API integrations.

The table below shows available products pre-integrated with Guidewire PolicyCenter.



Table 118: Insurance Pre-Integrations

## INTEGRATION

Medical bill review systems: Mitchell SmartAdvisor

State FROI reporting (United States only): Mitchell SmartAdvisor

Payment processing systems: Prelude PayPilot, InsurPAY

Other (integration type: vendor): Claims History: ISO ClaimSearch

Other (integration type: vendor): FNOL Reporting: Safelite

Address verification tools: USPS

Agency/broker management connectivity solutions (those that manage the data transfer between a carrier's systems and an agent/broker's systems): Vertafore TransactNOW

Agent portal software: Guidewire ProducerEngage

Agent/broker management systems: IVANS

Analytics solutions: Guidewire InfoCenter, Guidewire Live (Explore)

Billing systems: Guidewire BillingCenter

Business intelligence systems: IBM Cognos

Claims management systems: Guidewire ClaimCenter

CRM solutions: Salesforce for Financial Services

Data warehouse: Guidewire DataHub

Document creation systems: Smart Communications SmartComm

Document management systems: Hyland OnBase

Enterprise risk management (ERM) systems: Oracle Financials

eSignature systems: DocuSign

Fraud analytics software: FRISS Fraud Detection, Guidewire Predictive Analytics

Loss control or premium audit systems: Utilant LC360; Guidewire Checking Audits

Policy administration systems: Guidewire PolicyCenter, Price optimization tools: Guidewire Predictive Analytics

Product configurator: Guidewire Studio, Guidewire Product Designer

Reinsurance systems: Guidewire Reinsurance Management

Stand-alone rating systems: Guidewire Rating Management

Underwriting workbench/New business underwriting systems: Guidewire Underwriting Management

Credit/finance databases for both individuals and businesses: LexisNexis Consumer Credit Score

Demographic/consumer databases for both individuals and businesses: LexisNexis Consumer Credit Score

Drivers/driving history databases for both individuals and businesses: LexisNexis MVR

Insurance experience databases for both individuals and businesses: LexisNexis C.L.U.E.

Location/property databases for both individuals and businesses: CoreLogic® RCT Express

Medical databases for both individuals and businesses: ODG

Vehicle databases for both individuals and businesses: LexisNexis MVR

Source: Guidewire

## CONFIGURATION

Guidewire Software provides specific tools for versioning parts of the configuration/code.

Guidewire provides testing tools that help evaluate the impact of change. Configuration changes to the application will follow a build, test, deploy process. Customers typically have multiple test environments in which impact testing can be performed before moving changes to production. Guidewire Studio, built on JetBrains' IntelliJ IDEA software, offers a wide variety of refactoring options to track down and update any configured code reference automatically. Refactoring options such as changing of class signatures, encapsulating fields or methods, and move, migrate, replace options can be easily accessible using the Refactor context menu within Studio. Additionally, Guidewire provides a merge tool during the upgrade process to highlight files that have been modified by the customer or modified with new content by Guidewire. A customer then has the option of taking on the latest changes from Guidewire or maintaining their current configuration.

Table 119: Approach to System Changes

APPROACH TO SYSTEM CHANGES	AVAILABILITY
Business rule definition	Configurable using simple tools targeted for a business user
Data definition	Configurable using tools targeted for an IT user
Table maintenance, list of values, etc.	Configurable using tools targeted for an IT user
Interface definition	Configurable using tools targeted for an IT user
Product definition (insurance or banking products)	Configurable using simple tools targeted for a business user
Role-based security, access control, and authorizations	Configurable using simple tools targeted for a business user
Screen definition	Configurable using tools targeted for an IT user
Workflow definition	Configurable using simple tools targeted for a business user

Source: Guidewire

## SECURITY

Guidewire InsuranceSuite Cloud (including PolicyCenter) and Cyence products are ISO 27001 certified. Guidewire has demonstrated that it meets the Payment Card Industry (PCI) standard and has completed AICPA SOC1 and SOC2 audits. One-time passwords, flexible user permissioning, out of band identification, security tokens/pins, multi-factor authentication, and federated identity support are available as authentication factors for internal and external users.

Each customer has isolations for all their environments enforced at the network, compute and storage level by combination of firewalls, software defined networks and container technologies. Guidewire Cloud Platform enables end-to-end encryption with TLS 1.2 and all systems are fully hardened. Additional security precautions are taken for DDoS and malware protection. SOC 2 compliant logging and runtime scanning of containers is enabled to find and mitigate vulnerabilities. Guidewire Cloud Platform systems have

encryption at rest, endpoint security, threat intelligence and cyberattack response services for its operators.

## PARTNERSHIPS

Table 120: Partnerships

TYPE OF PARTNERSHIP	PARTNER VENDOR
SYSTEM INTEGRATORS	There are currently more than 10,000 system integrator consultants who have been trained or are experienced on Guidewire applications.
CONVERSION PARTNERS	For a complete listing of partners, please visit <a href="https://www.guidewire.com/partnerconnect">https://www.guidewire.com/partnerconnect</a> .
FUNCTIONALITY PARTNERS	Their solution partners help drive business value by developing and delivering additional integrations, extensions, and complementary solutions for Guidewire products. Smart Communications, Hyland, OpenText, DocuSign, Mitchell, Perr & Knight, and FRISS, to name a few.
TECHNOLOGY PARTNERS	Guidewire extends their solution footprint by working with third-party technology and business advisory companies that complement their solutions and provide significant customer value. They continue to form new partnerships in the technology arena to ensure their customer's eco-system needs are fulfilled. Furthermore, they also have relationships with platform companies like IBM, Microsoft, and Oracle to ensure their technologies are ported and optimized on their infrastructure. They maintain membership in and relationships with Standards and Industry groups such as ACORD-LOMA, ISO, IAIABC, and others.
FINTECH PARTNERS	Universal Payment, Prelude, and InsurPay
ACCREDITATIONS AND CERTIFICATIONS	Guidewire InsuranceSuite Cloud (including PolicyCenter) and Cyence products are ISO 27001 certified. Guidewire has demonstrated that it meets the Payment Card Industry (PCI) standard and has completed AICPA SOC1 and SOC2 audits.

Source: Guidewire

## IMPLEMENTATION, AND SUPPORT

Table 121: Implementation and Support

FUNCTION	APPROACH
EMPLOYEES AVAILABLE /AVERAGE EXPERIENCE LEVEL (YEARS)	<p>Guidewire Software has 979 staff with 15 average years of experience providing professional services/client support for this solution.</p> <p>The average number of customers per professional services/client support staff is 7.</p>

FUNCTION	APPROACH
LOCATIONS OF EMPLOYEES	<p>Guidewire Software has employees across the world with 1,472 employees in the United States and 883 employees internationally</p> <p>If implementation resources need to be sourced from different countries, the vendor applies specific rates by location.</p>
RESOURCE BREAKDOWN (VENDOR, CLIENT, SYSTEM INTEGRATOR)	<p>Typical implementation team size: 20 to 30</p> <p>Vendor: 10% Client: 50% SI: 40%</p>
USE OF THIRD PARTIES	<p>Third-party system implementors do most of their implementations.</p> <p>Conversion options: vendor or third-party.</p>
AVERAGE TIME TO IMPLEMENTATION	<p>Initial implementation: 7 to 12 months</p> <p>Second and subsequent LOBs: four to six months</p> <p>Second and subsequent states/jurisdictions: four to six months</p>
PREFERRED IMPLEMENTATION APPROACH	<p>Guidewire uses an Agile methodology approach for rapid configuration and deployment of their products.</p>
SLA AVAILABILITY	<p>Service scope included in base SLA: 24x7 service hours</p> <p>Services available for additional fee: extended service hours (beyond 9 am to 5 pm)</p> <p>Features typically included in SLA: incident status updates based on priority level of incident, metrics and reports, ticket prioritization, upgrades</p> <p>System availability: 96 to 100%</p>

Source: Guidewire

## PRICING

Table 122: Pricing Models

PRICING MODELS AVAILABLE:	Pricing models available: term license, enterprise license, subscription-based license, other pricing model not listed
FACTORS USED TO DETERMINE PRICING	<p>Usage-based factors: None</p> <p>Tier-based factors: None</p>

Source: Guidewire

Table 123: Five-year pricing estimates

INSURER SCENARIO	LICENSING	IMPLEMENTATION	ALL OTHER
AVERAGE YEAR 1 COSTS	US\$500,001 to US\$1 million	US\$1.01 million to US\$5 million	0
AVERAGE YEAR 2 AND BEYOND REMAINING COSTS	US\$500,001 to US\$1 million	0	0

Source: Guidewire

## CONCLUDING THOUGHTS

### FOR INSURERS

There is no single best policy administration solution for all insurers. There are a number of good choices for an insurer with almost any set of requirements. An insurer seeking a new policy administration system should begin the process by looking inward. Every insurer has its own unique mix of lines of business, geography, staff capabilities, business objectives, and financial resources. This unique combination, along with the organization's risk appetite, will influence the list of vendors for consideration.

Some vendors are a better fit for an insurance company with a large IT group that is deeply proficient with the most modern platforms and tools. Other vendors are a better fit for an insurance company that has a small IT group and wants a vendor to take a leading role in maintaining and supporting its applications.

Most policy administration systems bring some level of out-of-the-box functionality for various lines of business and operating models. Many systems offer powerful configuration tools to build capabilities for both known and future requirements. We're increasingly seeing a growing focus on integration strategies, including a shift to a microservices architecture.

We recommend that insurers that are looking for a policy administration system narrow their choices by focusing on four areas:

- The functionality needed and available out of the box for the lines of business and states desired. Check to see what is actually in production.
- The technology, including the overall architecture, the integration framework, and the configuration tools and environment.
- The vendor's stability, knowledge of, and investment in the solution.
- Implementation and support capabilities and experience.

### FOR VENDORS

As a group, vendors continue to make significant investments in their policy administration systems. The solutions are delivering more functionality, improving configuration tools, and are more connected, with a new focus on integration. Although these trends are all very good news for insurers, they do make the competitive challenges facing vendors that much more daunting.

Celent recommends vendors differentiate themselves by:

- Focusing on improving usability for both new and experienced users and managers.
- Making implementation faster and less expensive.
- Continue to move to open APIs and other integration frameworks to drive the easy orchestration of processes and data across external digital capabilities.
- Continuing to build out configuration environments to put change controls in the hands of the carriers.

*Was this report useful to you? Please send any comments, questions, or suggestions for upcoming research topics to [info@celent.com](mailto:info@celent.com).*

## LEVERAGING CELENT'S EXPERTISE

If you found this report valuable, you might consider engaging with Celent for custom analysis and research. Our collective experience and the knowledge we gained while working on this report can help you streamline the creation, refinement, or execution of your strategies.

### SUPPORT FOR FINANCIAL INSTITUTIONS

Typical projects we support related to policy administration systems include:

**Vendor short listing and selection.** We perform discovery specific to you and your business to better understand your unique needs. We then create and administer a custom RFI to selected vendors to assist you in making rapid and accurate vendor choices.

**Business practice evaluations.** We spend time evaluating your business processes, particularly in policy administration, rating, and claims. Based on our knowledge of the market, we identify potential process or technology constraints and provide clear insights that will help you implement industry best practices.

**IT and business strategy creation.** We collect perspectives from your executive team, your front line business and IT staff, and your customers. We then analyze your current position, institutional capabilities, and technology against your goals. If necessary, we help you reformulate your technology and business plans to address short-term and long-term needs.

### SUPPORT FOR VENDORS

We provide services that help you refine your product and service offerings.

Examples include:

**Product and service strategy evaluation.** We help you assess your market position in terms of functionality, technology, and services. Our strategy workshops will help you target the right customers and map your offerings to their needs.

**Market messaging and collateral review.** Based on our extensive experience with your potential clients, we assess your marketing and sales materials—including your website and any collateral.

## RELATED CELENT RESEARCH

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November 2019

API and Affinity in Insurance: Revisiting our SOA Predictions and Path Forward

August 2019

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November 2018

Digitizing the Customer Experience: A New Framework

May 2018

The New Architecture for Core Systems: What It Is and How Quickly Vendors Are Adopting It

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