CELENT

XCELENT Awards 2018

EUROPE, MIDDLE EAST, AND AFRICA POLICY ADMINISTRATION SYSTEMS 2018

PERSONAL, COMMERCIAL, AND SPECIALTY ABCD VENDOR VIEW

Craig Beattie
May 2018

This authorized reprint contains material excerpted from a recent Celent report profiling and evaluating 38 different P&C / general insurance policy administration system vendors in EMEA. The full report is more than 290 pages long. This report was not sponsored by Faktor Zehn in any way.

This reprint was prepared specifically for Faktor Zehn, but the analysis presented has not been changed from that presented in the full report. For more information on the full report, please contact Celent at info@celent.com.

OLIVER WYMAN

CONTENTS

INTRODUCTION

Significant innovation is occurring in product management and underwriting in Europe, Middle East, and Africa. Insurers are looking to grow, differentiate themselves, navigate the regulatory environment, and do all of this efficiently. At the same time, they are faced with an explosion of new technologies such as AI, the Internet of Things, drones, wearables, and big data, to name only a few. As millennials become a larger proportion of buyers, customer attitudes and expectations are changing. Mobile and social are driving escalating expectations for customer service.

Insurers are focusing their investments on initiatives to drive growth and efficiency. Underwriting is central to these goals as carriers drive to have the right products, priced well and processed efficiently with consistent, often superb customer service.

Significant change has been happening in the processes of product development. Certainly, many carriers still use legacy practices. More recently some insurers are focusing on expanding their product set with more product innovation. Insurers are utilizing more complex rating schemes and using a wide variety of data elements in their rating algorithms. In commercial lines, insurers are generally moving to product innovation on endorsements tailored to specific industries. Being able to take advantage of these trends requires the ability to rapidly make product changes, ingest third party data easily, and easily change business rules. Highly configurable product development environments are a requirement to deliver rapidly changing products, along with systems allowing fast change in distribution.

The most innovative insurers are focusing their product management efforts on unique products such as behavior-based products, or products with services embedded. Telematics is such a product. It bases the pricing of the product on the driving behavior of the policyholder and often includes additional services such as driver tracking, fleet monitoring, or gamification platforms.

Changes in pricing are occurring too. Multivariate rating algorithms are being used, and product managers are using predictive analytics as a key tool in providing pricing guidance for books of business. Some carriers have dynamic business rules, or are using machine learning, to monitor the underwriter’s pricing behavior on a book of business and dynamically providing pricing guidance. Some use predictive analytics to assess the loss ratio going forward and adjust pricing in real time.

These kinds of advancements change the role of the product manager. Product managers must add business rules management and analytics to their portfolio of skills. In addition to providing oversight on individual policies or transactions, they now need to be experts in formulating and monitoring rules. Managing when and how often underwriters override rules, assessing the frequency and impact of the use of a rule, and determining when to retire, modify, or enact a new rule are all critical tasks in the new practice of rules governance.

Just as product management is changing, so the practice of underwriting is also changing. The typical underwriting practice is for an individual underwriter to gather a combination of customer-provided data and third party data such as financial information through an application and third party data calls. Physical inspections or photos are required on most properties over a certain value or in a particular fire zone. Data is generally entered manually by an underwriter or is uploaded from an agency management system into the policy administration system. The underwriter uses a

combination of company guidelines and their own underwriting judgment to assess the risk and determine the appropriate terms, conditions, and price. Fully automated underwriting is used only on standard lines such as personal motor and home. Cross-sell occurs when the underwriter remembers to offer additional products. Most correspondence is handled manually by the underwriter, and documents are often stored in a document management system that is separate from the policy administration system, requiring an underwriter to search a separate system when looking for documents. Workflow is often depicted as screen flow in the policy administration system, or is handled in a third party system. Many companies still have challenges handling out of sequence endorsements. Most companies have some kind of automated renewal process for business that meets certain criteria.

The typical process above can be quite costly because it requires substantial human intervention and is prone to errors. Carriers are moving toward a more automated process, which can streamline cost and improve decision-making. Carriers are providing prefill — pulling in third party data to prefill an application, thereby reducing the data entry needs of the agent and/or underwriter. Fully automated underwriting is extending to more complex lines: small and medium business (SMB/SME) and workers comp. Business rules and scoring are being used to provide risk assessment and pricing advice on more complex business. Carriers are using business rules, predictive analytics, and machine learning to automate the cross-sell of standard products such as cross-selling commercial motor on a small business policy, or an umbrella on a property policy. Easily changed business rules are a prerequisite for offering these capabilities. As carriers fully automate the underwriting of a line of business, they have to be able to rapidly and easily change a business rule as the business environment or regulation changes.

The most innovative carriers are heavily using analytics in a variety of ways. Analytics have the most impact when used to assess risk quality and provide pricing guidance. Insurers have reported loss ratio improvements of 4–10 points when implementing this type of initiative. Analytics are also being used to minimize inspections or the ordering of third party data. Why routinely order costly data to support rating? Carriers are predicting which data are most likely to be material to the insurer and only ordering those, thereby reducing their costs.

In commercial lines, carriers use analytics to determine which accounts should get a physical audit versus a paper audit. Uber-like inspection services are being used, allowing carriers to significantly increase the speed of getting a photograph. In addition, carriers are experimenting with drones for property inspections. New sources of data are being used, including social media scores (using social media presence to assess risk). Other carriers use social media to assess a prospect's risk profile and are driving cross-sell initiatives based on that risk profile. Sophisticated product recommendation tools are being created, and automated cross-selling of unique products is occurring. Carriers must have the ability to create business rules and to have event- and data-driven workflow in order to automate these tasks. The automated delivery of customer communications is a key requirement, and some carriers are now using tailored video as a component of their customer communications, using XML streams from the policy admin system to dynamically create videos to deliver information such as a welcome letter.

To support these types of expansions, insurers have to have more capabilities in the policy administration system. Business users expect a variety of improved capabilities. They want to improve internal workflow to support business process changes to improve efficiencies and reduce expenses. They are looking to improve consistency in handling procedures, both to improve customer service and to avoid compliance issues. Insurers need to improve flexibility in managing rules to respond quickly to regulatory changes. As more insurers use predictive analytics, they want the ability to operationalize predictive analytics through rules and workflow — especially to better assess risk and optimize pricing. They expect increased data accessibility as they add new data elements and look

for new, unique insights in their data. In addition, they want a modern, intuitive user interface for their employees, agents, and partners.

The IT organization wants everything the business wants because their goal is to enable the business to perform well. In addition, IT is looking for a platform to enable an agile IT department in order to facilitate great IT/business alignment. This means a highly configurable system with a variety of strong granular tools including tools to manage the testing and the release cycle. They want standards-based commodity technology that will allow variable staffing strategies. One of the biggest drivers of the system selection decision is the functionality. IT expects a minimal functionality gap with an out of the box template for every line, in order to speed up the implementation process and reduce customization. Inherent in all these demands is reduced technology risk — meaning a modern architecture that simplifies the insurer's footprint and a track record of success in similar lines of business with similar size clients.

Policy administration vendors have responded by enhancing functionality. Significant levels of research and development have been occurring in the vendor community. Vendors are investing as much as 50% of their revenue in product enhancements. Most have upgraded their system with a modern look, feel, and navigation and a functionally rich UI. Configuration tools continue to become more user-friendly — and tools for the IT organization are more likely to be included. More and more vendors have deep partnerships with add-on technologies such as document creation, document management, analytics, and reporting in order to simplify the application architecture for a insurer. Mobile apps are common, and most vendors can offer a hosted solution for insurers that want to outsource infrastructure management or obtain other managed services.

A Transition to a New Architecture Begins

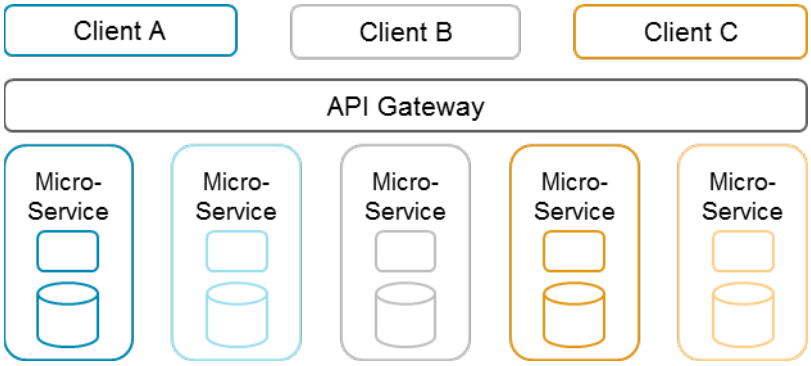
In the past year or so, there has been an explosion of interest in a new architecture for insurance systems (and for many other types of systems as well). This new architecture is characterized by microservices and APIs which are typically cloud-based. (For a more detailed discussion of microservices and APIs, see the Celent report *Honey, I Shrunk the Services: Microservices in Insurance*, December 2017.)

For the purpose of this discussion:

- An application programming interface (API) is a method of communicating with a set of microservices (or other services). An API Gateway a software tool that publishes the API and allows a set of internal or external code to interact with the API.
- A microservice is a self-contained, deployable component that contributes an API to a wider architecture. A microservice's actions are typically limited in scope (for example looking up GPS coordinates, as opposed to looking up GPS coordinates and finding construction characteristics of a building at that location).

Figure 1 shows how programs or physical servers interact with an API Gateway and a set of microservices.

Figure 1: Simplified Diagram for Microservices and an API Gateway

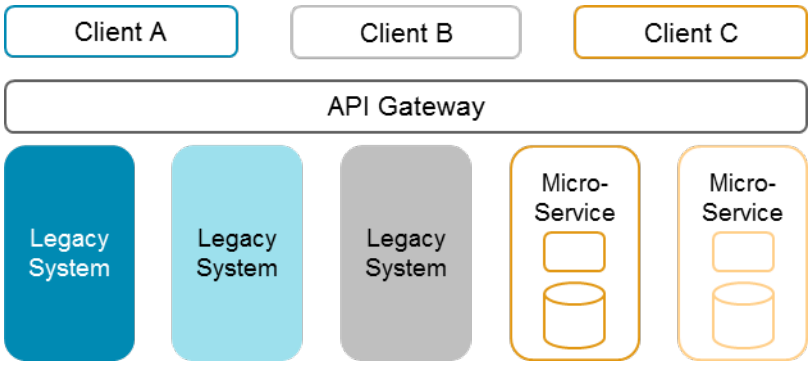


Source: Celent Report, Honey, I Shrunk the Services: Microservices in Insurance

In general, APIs and microservices may be built, maintained, and modified more quickly and more efficiently than other types of functionality and integration methods in other types of architectures. They are also more open in the sense that other internal or external systems can access functionality or data more easily.

Over the next several years, microservices and APIs will likely coexist with legacy policy administration and other core systems, as shown in Figure 2.

Figure 2: Near-Term Legacy Modernization Mixed Architecture



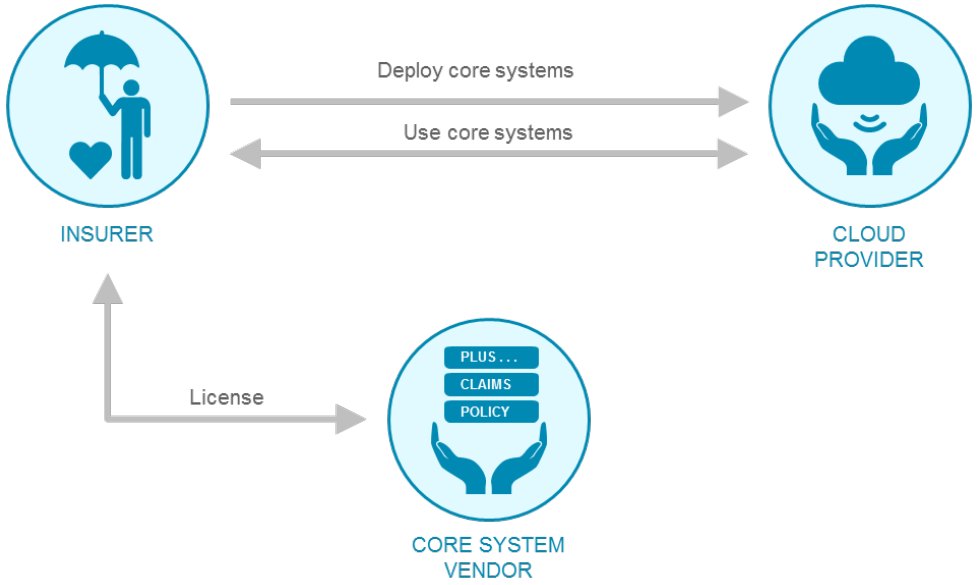
Source: Celent report, *Honey, I Shrunk the Services: Microservices in Insurance*

The third element of the new architecture is that it is cloud-based.

- Cloud-based in this context refers to a policy administration or other core system deployed in a server located off-premise from an insurer, for which a cloud provider supplies Infrastructure as a Service, or IaaS (including computing, storage, and networking resources); and Platform as a Service, or PaaS (which could include tools for programming, analytics, and database management).

A cloud-based policy administration system may be licensed by a vendor to an insurer, which in turn deploys it in a cloud (Figure 3).

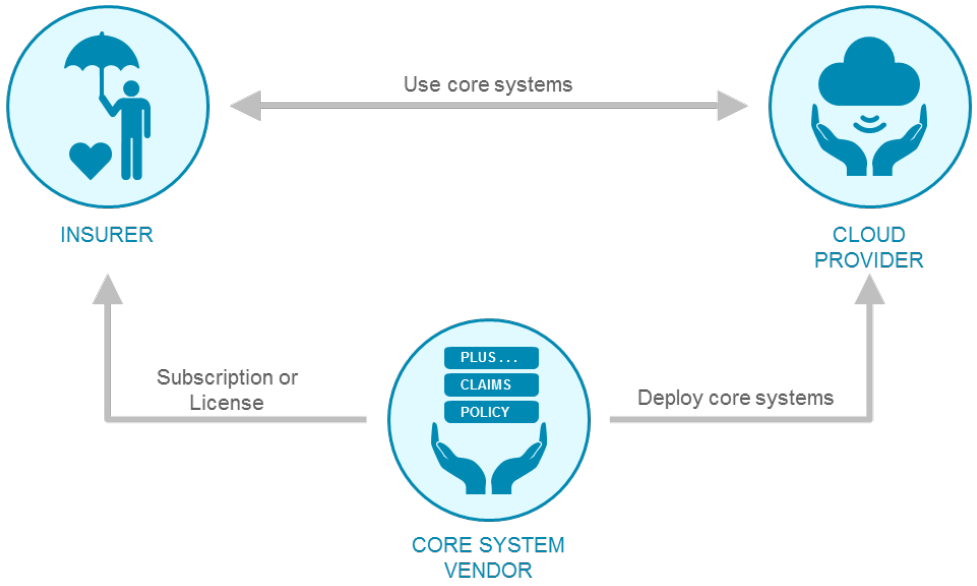
Figure 3: A Cloud-Based Core System Deployed by an Insurer



Source: Celent report, *Security for Core Insurance Systems in the Cloud*

Or the vendor itself may deploy the policy administration system in the cloud, and give an insurer access to that system either by means of a subscription (Software as a Service, SaaS) or a license (see Figure 4).

Figure 4: A Cloud-Based Core System Deployed by a Vendor



Source: Celent report *Security for Core Insurance Systems in the Cloud*

There are several advantages in both types of deployment, including: transforming certain capital expenditures into variable costs, rapid provisioning of computing and storage resources, nearly unlimited scalability, shorter development cycles for both initial

implementation and ongoing maintenance, minimizing latency across widely dispersed user locations, and improved business continuity and disaster recovery.

Taken together, microservices, APIs, and cloud-based systems have already begun to, and will continue to, transform the architecture of policy administration and other core systems.

With all these changes in the business and in the vendor community, it is no wonder that we continue to see policy administration replacement as a high priority activity in EMEA.

POLICY ADMINISTRATION SYSTEMS: DEFINITION AND FUNCTIONALITY

Key Research Question 1

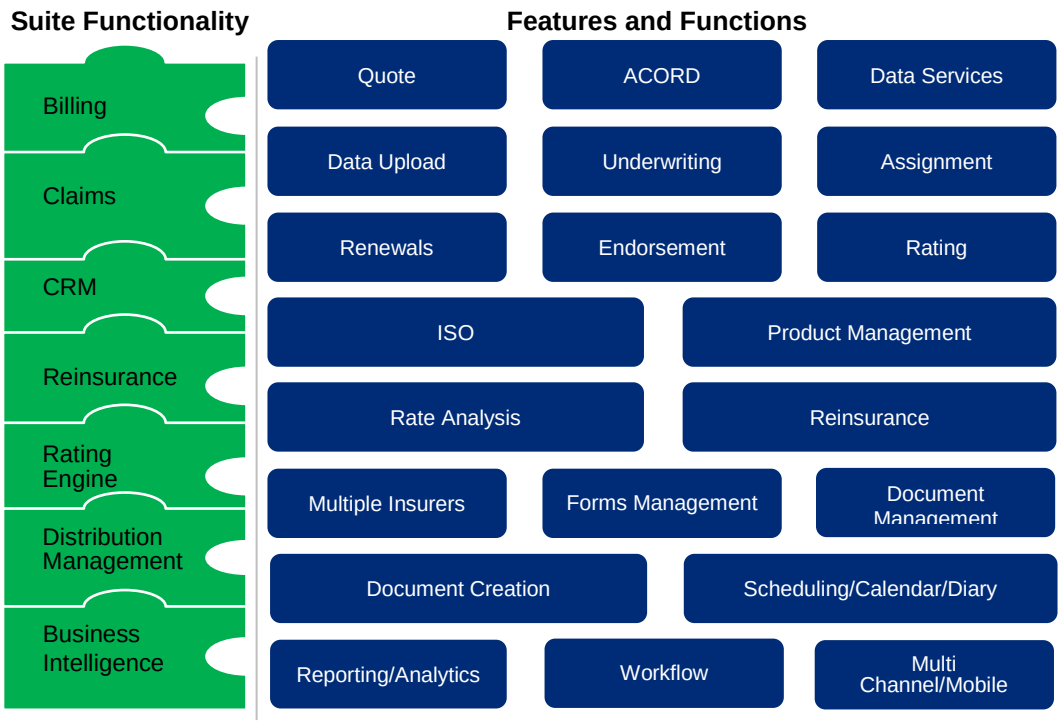
What is a property & casualty/general/specialty lines policy administration system?

The primary system of record for property & casualty/general/specialty insurance business operations, handling all transactions from the front end of individual policyholder management to the back end of billing and premium payments. They also store all product rules and definitions.

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.

Figure 5: Policy Administration System Core Processes



Source: Celent

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, as shown in Figure 5. 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 include the capability for 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 the 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 dropdowns to show the different available options, with the price difference for each option shown next to the label within the dropdown 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 offers data standards in the insurance industry — although it has less penetration in EMEA than in other regions. ACORD standards are used in the London Market for specialty and reinsurance lines, as well as some use of (different) ACORD standards in South Africa.

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 preintegration 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 take action. 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 insurers still assign work manually, more and more insurers 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 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 or single policies or accounts.

Automated renewals. Most solutions have the ability to handle no-touch automated renewals. If the policy meets the insurer'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 allow a policy to be marked for non-renewal. Some 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 generally can send out the appropriate documents in the right timeframe according to the jurisdictional requirements of the policy.

Endorsements. Endorsements are changes to a policy, sometimes referred to as mid-term adjustments or MTAs. All systems can handle endorsements. Almost all systems can handle out-of-sequence endorsements as well. When it comes to out-of-sequence, 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 done 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 the commission accrual at the time of renewal.

Multiple Insurers or Coinsurance. A common requirement with commercial insurance across EMEA, this allows multiple underwriters to be recorded against a single policy, with some details on the lead insurer, share of risk, and any commission or pricing scheme involved.

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.

Rating. Most but not all solutions include rating engines as a key feature. As vendors are creating 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 insurers have been moving to more complex rating algorithms, rating engines have expanded their ability to support complex rating algorithms including multivariate rating and by-peril rating. 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.

Rate analysis. Some solutions include very robust tools for handling the rate analysis function. Testing, modeling, and product analysis tools are included that allow an insurer to do an impact analysis — calculating the overall impact of a rate change or a displacement analysis — identifying the number of policyholders that will be impacted. These types of tools are typically found in those solutions that include a stand-alone rating engine that can be sold separately. Some vendors have business intelligence tools included and are able to set up reports that can provide some level of analysis as well. Many solutions do not include any functionality for handling rate analysis or testing.

ISO Support: *Included here for consistency but is only relevant to the North American region.* Almost all commercial lines insurers rely on ISO for rates, rules, and/or forms. The most significant new option is the ISO Electronic Rating Content (ERC). With ERC, ISO offers their 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 provide all circulars in an electronic format. They provide loss costs, rules, and forms attachment logic in both XML and Excel format. They include 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. Carriers can subscribe to ISO ERC, but to get full value, their policy administration or rating system needs to be able to absorb the XML stream or Excel files.

Product Development 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 insurer — redesigning their products to match the architecture inherent in the policy administration system. 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 an insurer 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, but can sometimes result in additional complexity for insurers with many lines of business across many states. 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 all of it 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.

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 some 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 insurer 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 out of the box. 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 ability to search the metadata about the document, but also 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 in-house built solutions. 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 insurers to do more modifications of the system through configuration tools rather than through code. The most robust tools allow insurers 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 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 insurer 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 insurers conduct impact analysis of the rules or traceability tools to understand how and when rules are being used. Since many insurers 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 insurers, and software vendors are acknowledging this by building in more tools to help insurers 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 modify 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.

Security. Often desired is the ability to easily add a new role and define the permissions for that role as well as the ability to easily add an individual to that role. Permissions may simply mean read/write permissions. Some solutions offer access granularity down to the data within the field level. For example, if party type equals insurer employee, limit access to this claim to only those with permission to see employee data.

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 including Web Services, ACORD Standard XML, Other XML, RESTful HTTP style services, JSON

format, MQSeries, JMS or similar queue technology, Flat files, Custom API, or other methods of integration. Most systems have some kind of accelerator, or experience integrating to the most common third party data sources and the most common general ledgers.

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 agile or a hybrid methodology as their preferred 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 insurers 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 insurers 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 insurer and is hosted by the vendor either in their 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, a billing system), 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., rating).

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.

Billing. A system to create invoices and handle collections from producers and policyholders. It typically handles basic commission processing as well.

Claims management. A system to record and transact all matters relating to a claim from first notice of loss through final settlement.

Reinsurance Management. 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.

Customer relationship management. 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.

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.

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 and reporting. 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.

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: Advanced and agile technology, Breadth of functionality, Customer base (i.e., relative number of customers), and Depth 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 1. 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 1: Examples of Possible Factors Used in Celent Policy Administration System ABCD

ABCD CATEGORIES	POSSIBLE FACTORS
ADVANCED TECHNOLOGY (AND FLEXIBLE TECHNOLOGY)	Platform and Modernity (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
	Size of professional services and support team in region
DEPTH OF CUSTOMER SERVICE	Insurers' post-implementation experiences

Source: Celent

THE XCELENT AWARDS

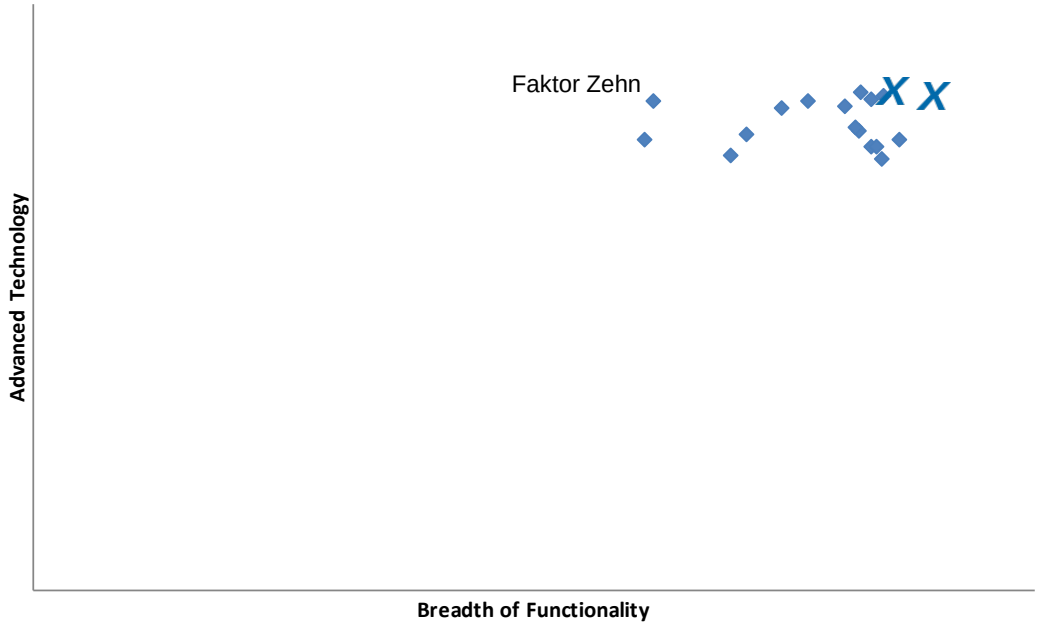
Within this framework, the top performers in each of the ABCD dimensions receive a corresponding XCelent Award:

- 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

Firstly, it is worth pointing out that all the ABCD qualifying solutions in this report were exceptional. All scored highly in our assessment as shown in Figure 6.

Figure 6: All the Solutions Scored Impressively in Technology and Functionality



Source: Celent

Figure 7 zooms in on the top right and 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.

Figure 7: XCelent Technology and XCelent Functionality

Source: Celent

XCELENT CUSTOMER BASE AND XCELENT SERVICE

Figure 8 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.

Figure 8: Customer Base and Depth of Customer Service

Source: Celent

Celent advises insurers to take into account 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 2016. For example, in this report, we are considering new criteria in Advanced Technology related to testing and speed of change 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. As stated earlier, 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.

Each profile includes figure outlining available end-to-end components and the features/functions availability within the systems. The profiles also include a list of in production and supported lines of business and the number of clients currently using the system for those products. 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 2 scored by the customer on a scale of 1 to 5, where 1 means poor and 5 is excellent. Open-ended comments regarding the system and the vendor are also included in the feedback section.

Table 2: Customer Feedback Ratings

DIAGRAM AVERAGE (QUESTION ASKED)	RATINGS INCLUDED IN AVERAGE*
FUNCTIONALITY (How would you rate the features and functions you are currently using?)	Producer/Agent Portal Policyholder Portal Customer Service Desktop Underwriter Desktop/Underwriting and Case Management Product Configuration/Definition and Maintenance Workflow / Business Process Design Business Rules Document Management Business Intelligence Analytics Billing Claims Management Commission Management Reinsurance Management Regulatory Reporting
USER EXPERIENCE (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.)	Underwriters Underwriter support staff Policy service staff System administrators Business Analysts (doing configuration)

TECHNOLOGY (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?)	Ease of system maintenance Flexibility of data model Scalability Continuous improvements in technical performance Configurability Ease of integration with internal and external data/systems
IMPLEMENTATION (If you are familiar with the original implementation of this system at your company, how would you rate this vendor in the following areas?)	Responsiveness Project management Implementation completed on time Implementation completed on budget Overall project success Knowledge of your business
SUPPORT (After implementation, how would you rate the vendor's professional services staff in the following areas?)	Skill and knowledge of professional services staff Timeliness of responses to service requests Quality of response to service requests Cost of services Overall value 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 regional insurance company that writes in the United Kingdom for 8 lines of business, producing an annual GWP of €250 million.
- Insurance Holding Company B, a European insurance holding company, which has four companies, writes in five countries (France, Germany, Italy, Spain, UK), across 24 lines of business and has GWP of €2.5 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; and very large (Tier 1) have US$5 billion or more.

FAKTOR ZEHN AG: FAKTOR-IPM

COMPANY

Faktor Zehn is a privately owned company headquartered in Munich, Germany with sales and professional services personnel located throughout the European and Middle Eastern regions. Faktor Zehn's business is providing software and services to the insurance industry. The company has 84 employees, of which 80 are available to provide professional services / client support for their PAS solution. Eighty-four are physically located in Europe, Middle East, and Africa.

The last user conference was the Faktor-IPS User Group which deals as a platform for clients to foster communication, discuss specific needs, and possible developments.

Table 3: Company and Product Snapshot

COMPANY	Annual corporate revenues	US $5,730,397.5
	Year founded	2004
	Exchanges/Symbols	N/A
	Headquarters Location	Global: Munich, Germany
PAS SYSTEM	Name	Faktor-IPM
	Current release and date of release	Faktor-IPM 2.3
	Release intervals	Minor enhancements: Every four month Major enhancements: Twice a year
	Upgrades	Insurers can skip multiple versions (e.g., go directly from version 2.4 to version 2.7). Vendor support for prior versions: They support current versions and up to two prior.
	Target market	All non-life LoBs, target market: DACH and NL

Source: Vendor RFI

CELENT OPINION

Faktor Zehn is an unusual vendor in the report in that they offer some of their components as open source solutions — making it easier to trial or adopt part of the suite with only the development time and costs incurred. Faktor-IPM is new to this report series and offers a strong set of functionality and is already well deployed in Germany and neighbouring countries.

Faktor Zehn demonstrated a robust, modern Java-based application. The interface for the operations user was a modern web-based interface with the dynamic feedback and interactive user interface components as you would expect from a modern system. The configuration environment is offered in a thick client interface. The configuration environment is clear, although it leans towards a developer-friendly approach for delivering change quickly in the system.

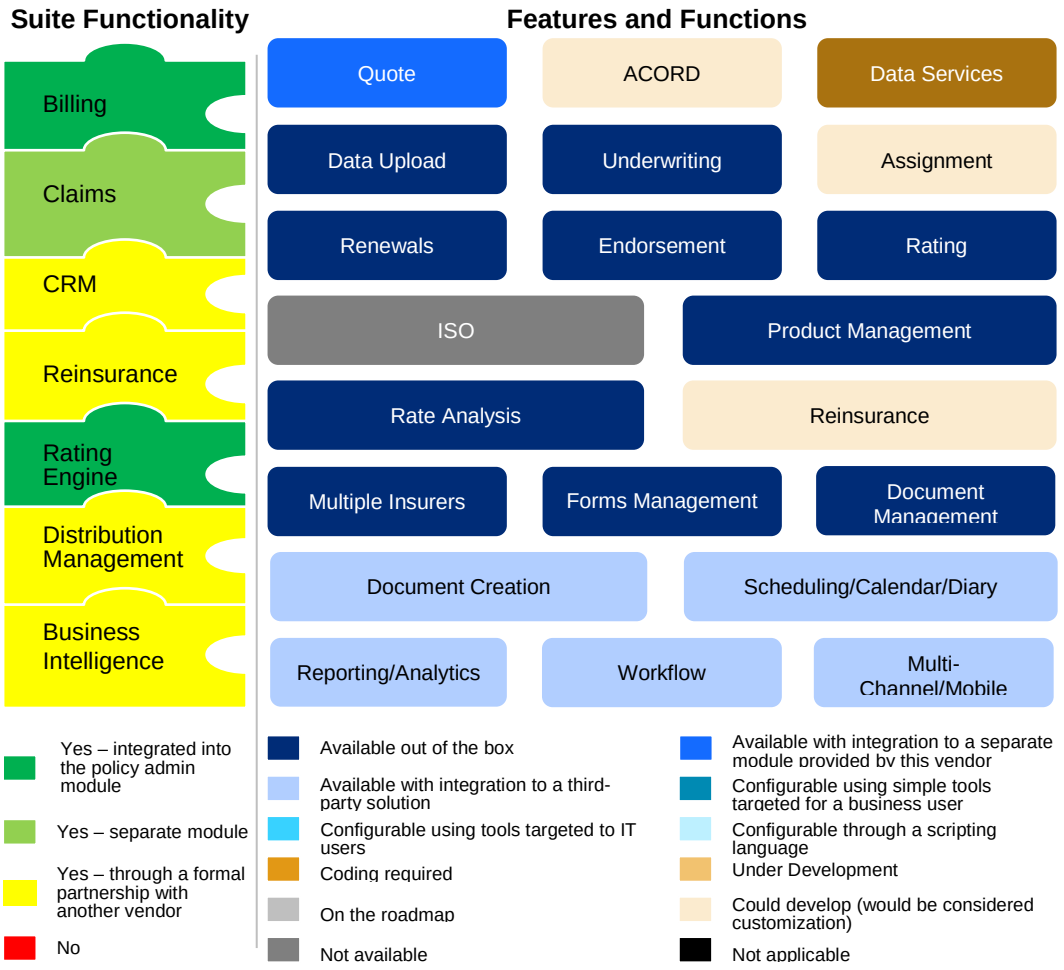
The suite is also seeing further development including a new claims component, Faktor-ICS, which is under development at the time of writing.

Faktor Zehn is particularly well placed to support insurers who wish to part-build their core system and par- buy. For insurers looking to buy a suite they will find a modern, functional system in Faktor-IPM.

OVERALL FUNCTIONALITY

A moderate amount of functionality is available out of the box. Exceptions include quote, which is available with integration to a separate module; ACORD, which could be developed (would be considered customization); data services, which requires coding; assignment, which could be developed (would be considered customization); ISO, reinsurance, which could be developed (would be considered customization); and document creation, scheduling/calendar/diary, reporting/analytics, workflow, and multichannel/mobile, which are available with integration to a third party solution.

Figure 9: Functionality



Source: Vendor RFI

CUSTOMER BASE

They have a total of 9 insurer clients. The breakdown of the clients is as follows: Tier 1 (3 clients), Tier 2 (5 clients) and Tier 3 (one client).

Table 4: Customer Base

EUROPE, MIDDLE EAST, AND AFRICA CUSTOMER BASE	In production with current release or any release less than four years old	9
	New clients since 2015	Europe: Germany 3
	Existing client base by country	Europe: Germany 6 Austria 2 Netherlands 1
	Deployment method (percentage of client base)	On Premise: 100%
	Percentage of clients using PAS through BPO services	0%
	Marquee clients	1

Source: Vendor RFI

CUSTOMER FEEDBACK

Four clients provided feedback on Faktor-IPM. Two references are Tier 4 insurers, one is a Tier 2 insurer, and the last didn't specify. Two references have been using the system for more than 3 years, one for 1 to 3 years and the last is still implementing it. All references are based in EMEA. One reference uses the solution for a mix of personal and commercial lines, one for all or mostly personal lines, and the last two for all or mostly commercial lines.

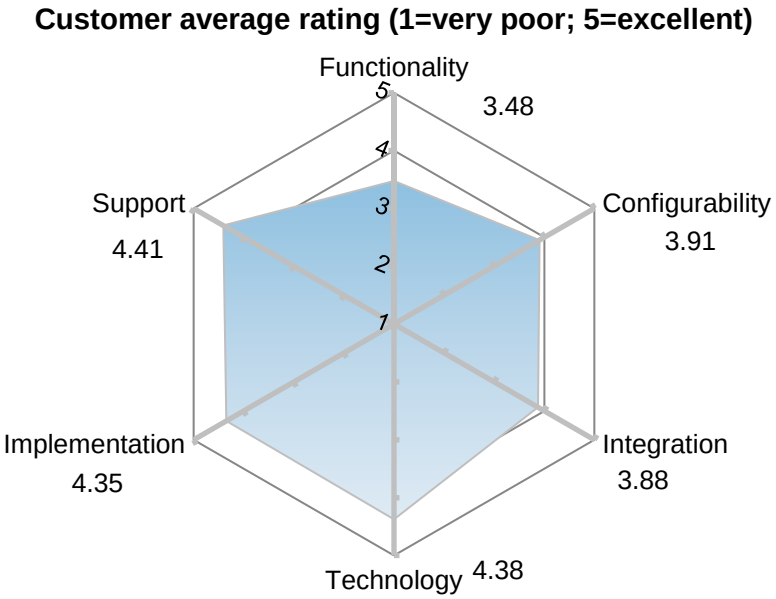
In terms of the best things about the vendor, the references valued the excellent collaboration and the highly skilled staff. In terms of the system, references valued the model flexibility, state of the art technology, and the fact it was open source with a growing community.

In terms of areas for improvement references offered some mixed ideas, including improving scalability (no further detail given) and decoupling from the Eclipse platform. In terms of the vendor, references asked for more partners / people for implementation. One reference suggested enhancing marketing for the model-driven approach.

Functionality received above average scores overall, and within functionality document management received the highest score while tools for managers was an area in need of improvement. Configurability scores were above average, and within configurability, products (design and maintenance) received the highest score, while user management (permissions, authority) was an area in need of improvement. Comments on the integration were above average, and within integration, integration to the reference's claim system(s) received the highest score. Regarding their technology experiences, insurers gave above average marks, and within technology, configurability of the solution received the highest score. The implementation was rated above average overall, and within implementation knowledge of their solution and relevant technology received the

highest score. Finally, support received above average scores, and within support knowledge of their solution and relevant technology received the highest score.

Figure 10: Customer Feedback



Source: 2017 Celent PAS customer feedback survey

LINES OF BUSINESS SUPPORTED

Table 5: Selected Lines of Business Supported

LINE OF BUSINESS	AVAILABILITY	NUMBER OF CLIENTS IN PRODUCTION IN EMEA
PERSONAL AUTO	In production today	4
HOMEOWNERS	In production today	3
COMMERCIAL AUTO	In production today	3
COMMERCIAL PROPERTY	In production today	2
COMMERCIAL LIABILITY	In production today	1
WORKERS COMP	Supported but not in production	
BUSINESS OWNERS POLICY	In production today	1

Source: Vendor RFI

TECHNOLOGY

The technical architecture is on a JEE/SOA architecture, which offers maximum flexibility and fast and easy integration of components as services. The JEE/SOA architecture allows a high degree of automation and process flexibility and makes policy management functions available to customers and sales partners. Operational systems can be connected very fast via an integration framework and various adapters (e.g., SAP).

The UIs and process flows are designed to be mobile device independent. The solution does not natively support mobile apps.

Table 6: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	Core technology: Java: 100% Business users: Java: 100% Developers: Java: 100%
OPERATING SYSTEMS	Implemented in JEE/Java Operating systems deployed on: Microsoft Windows Server, Linux/Unix/AIX
APPLICATION SERVERS	JBoss EAP, Wildfly, WebSphere
DATABASES	Preferred: Oracle; DB2/UDB Additional options: Microsoft SQL Server; Sybase; Other SQL; other (All supported databases Eclipse Link JPA);
INTEGRATION METHODS	Preferred: RESTful HTTP style services; JSON format Additional options: Web Services; ACORD Standard XML; Other XML; MQSeries, JMS or similar queue technology; Flat files; Custom API Public API integrations: SAP for Insurance (e.g. FS-CD)
BUSINESS USER UI	Main UI browser based: Yes All functions available through a browser interface: Yes Interactive UI through the use of JavaScript or similar technology: Yes Main UI thick client based: No Windows interface available: No Apple Mac interface available: No Linux-based interface available: No Is the design of the user interface responsive to different size screens? Yes
API	API documentation: Yes Developer API portal: Yes Manage access to APIs and track API usage by developers: No
SCALABILITY	Largest deployment: About 100 users and an unlimited number of policies

Source: Vendor RFI

The data model is based on the VAA insurance model with significant enhancements. It supports any other customer data model because of their model-driven approach. The data model can be extended by carriers using a modeling tool based on Eclipse RCP (Faktor-IPS). For the insurer to make changes to the data model, a set of tools is provided that allow technical staff to extend the data model and the SQL database schema. A reference model for several lines of business can be provided for the customer. It can be published to an insurer's data model and mapped to an intermediate format.

Carriers do have access to core code; configuration tools targeted to a business user are available for the following: insurance product definition, workflow definition, and business rule definition. Data definition is configurable using tools targeted for an IT user. Screen definition, interface definition, and role-based security integration require coding. Changes to the system are possible through reusable components, inheritance, and other schemes. All product components (including product features, coverages, benefits, transactions, rules, and calculations) are reusable for multiple products.

In Europe and Middle East the system is preintegrated with SAP FI for general ledger; SAP FS-CD for billing systems; SAP FS-CD for payments systems (disbursements); SAP CRM and bsi.CRM for CRM; and Faktor-IOS for producer portal (quick quote, illustration, bind, issue).

Product changes can be analyzed using testing tools provided that help evaluate the impact of change and can be tested in a standard way using common tools. They provide a set of prebuilt tests. A restart of the system is required only for the addition of a new field.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is Agile. A typical project team of 10–40 people consists of resources from the insurer (30%), Faktor Zehn (40%), and external professional services firms (30%). Service-level agreements are offered; a typical SLA includes feedback within four hours for level 1 defects, feedback within eight hours for level 2 defects, and feedback within one week for level 3 defects. The feedback during working days will be between 9 a.m. and 5 p.m.. Additional support can be available upon request with an individual agreement.

The average time to get the first line of insurance live in a single jurisdiction is typically 12 to 18 months depending on the integration requirements and the level of configuration required, with second and subsequent lines taking 4 to 6 months in the same jurisdiction. Second and subsequent jurisdiction implementations typically take 4 to 6 months.

Faktor Zehn offers term license, perpetual license, usage-based, SaaS, subscription, and risk-based pricing options. The license fees are typically based on number of functional components/modules, premium volume, and enterprise license / flat fee. The vendor will offer a fixed price implementation If required by customer. After an inception phase with a clear defined scope and requirements, this can be offered. In general the vendors believes that T&M results are cheaper for customers due to less overhead.

The total cost to implement Faktor-IPM can vary according to the capabilities and available resources of the client, and the overall scope of system use.

Table 7: Pricing estimates

INSURER SCENARIO	LICENSING	VENDOR FEES	THIRD PARTY FEES	MAINTENANCE FEE / OTHER
Implementation costs only: assuming a two year project for a regional insurance company that writes in the United Kingdom for eight lines of business, producing an annual GWP of €250 million.	€500,000 to €1 million	No cost, not applicable	€1 million to €5 million	19%

INSURER SCENARIO	LICENSING	VENDOR FEES	THIRD PARTY FEES	MAINTENANCE FEE / OTHER
One year post implementation costs for the regional insurance company.	N/A	No cost, not applicable	No cost, not applicable	19%
Assuming a four year implementation period, for a European insurance holding company, which has four companies, writes in five countries (France, Germany, Italy, Spain, UK), across 24 lines of business and has GWP of €2.5 billion.	€1 million to €5 million	No cost, not applicable	€10 million to €15 million	19%
One year post implementation for a European insurance holding company				

Source: Vendor

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 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 — both the overall architecture and the configuration tools and environment.
- The vendor's stability, knowledge, 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 SOA and web services becoming the de facto standard. 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.
- 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.

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 [list several here]. 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

The New Recipe that Is Changing Insurance
February 2018

The New Build Vs. Buy Debate
February 2018

Honey I Shrunk the Microservices
December 2017

North American Policy Administration Systems 2018: Personal, Commercial, and Specialty ABCD Vendor View
February 2018

Copyright Notice

Prepared by

Celent, a division of Oliver Wyman, Inc.

For more information please contact info@celent.com or:

Craig Beattie cbeattie@celent.com

AMERICAS

USA

200 Clarendon Street, 12th Floor
Boston, MA 02116

Tel.: +1.617.262.3120
Fax: +1.617.262.3121

USA

1166 Avenue of the Americas
New York, NY 10036

Tel.: +1.212.541.8100
Fax: +1.212.541.8957

USA

Four Embarcadero Center, Suite 1100
San Francisco, CA 94111

Tel.: +1.415.743.7900
Fax: +1.415.743.7950

Brazil

Av. Doutor Chucri Zaidan, 920 –
4º andar
Market Place Tower I
São Paulo SP 04578-903

Tel.: +55.11.5501.1100
Fax: +55.11.5501.1110

Canada

1981 McGill College Avenue
Montréal, Québec H3A 3T5

Tel.: +1.514.499.0461

EUROPE

France

28, avenue Victor Hugo
Paris Cedex 16
75783

Tel.: +33.1.73.04.46.20
Fax: +33.1.45.02.30.01

United Kingdom

55 Baker Street
London W1U 8EW

Tel.: +44.20.7333.8333
Fax: +44.20.7333.8334

Italy

Galleria San Babila 4B
Milan 20122

Tel.: +39.02.305.771
Fax: +39.02.303.040.44

Spain

Paseo de la Castellana 216
Pl. 13
Madrid 28046

Tel.: +34.91.531.79.00
Fax: +34.91.531.79.09

Switzerland

Tessinerplatz 5
Zurich 8027

Tel.: +41.44.5533.333

ASIA

Japan

The Imperial Hotel Tower, 13th Floor
1-1-1 Uchisaiwai-cho
Chiyoda-ku, Tokyo 100-0011

Tel: +81.3.3500.3023
Fax: +81.3.3500.3059

China

Beijing Kerry Centre
South Tower, 15th Floor
1 Guanghua Road
Chaoyang, Beijing 100022

Tel: +86.10.8520.0350
Fax: +86.10.8520.0349

Singapore

8 Marina View #09-07
Asia Square Tower 1
Singapore 018960

Tel.: +65.9168.3998
Fax: +65.6327.5406

South Korea

Youngpoong Building, 22nd Floor
33 Seorin-dong, Jongno-gu
Seoul 110-752

Tel.: +82.10.3019.1417
Fax: +82.2.399.5534