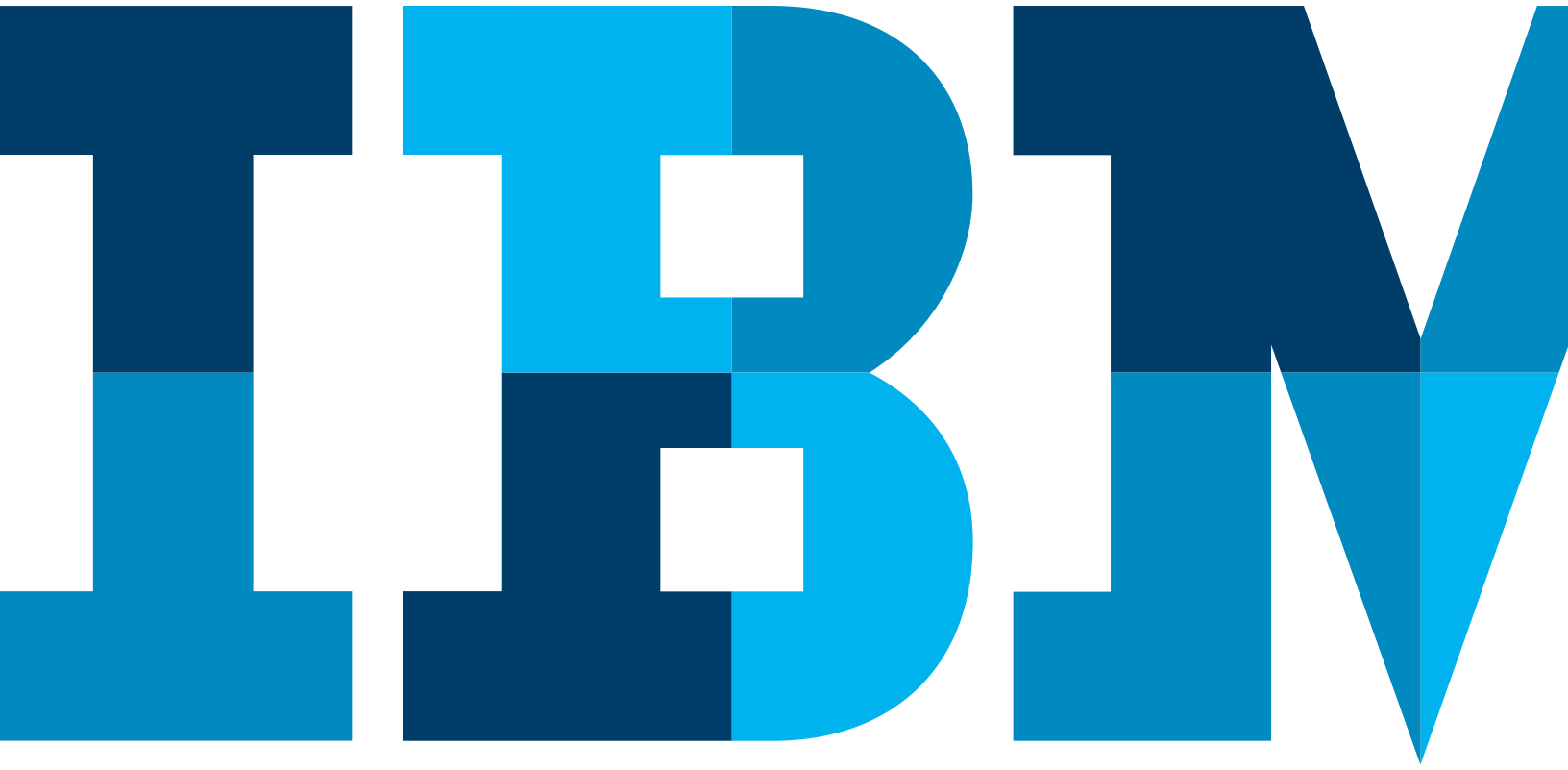
Shaping the future of insurance with IBM Watson

Redefine the next-generation customer experience



IBM

As the insurance market becomes digital, digitally-savvy customers, based on their experience with other industries such as retail, expect insurers to provide the same advanced customer experience to them during their interactions. They expect insurer's to know them in advance when they call, proactively engage with them after gathering relevant information from data such as social media and call center logs, and provide them with proactive advice and guidance. For this paper, the term 'customer' includes all parties that receive or provide services to an insurance company (for example, customer service representatives (CSRs) and brokers, claimants, and third parties such as administrators, independent adjusters, and outside counsel).

To meet these changing customer expectations, Life and Property and Casualty (P&C) insurers are looking for innovative solutions that can enable them to shape the future of insurance by improving customer experiences. They are looking for intelligent automated chat solutions with self-service capability at their call centers, with which the customers can chat in natural language just as they chat with a CSR and obtain the required support quickly in real time. IBM Watson delivers this next wave of customer engagement capability to insurers through cognitive computing capability.

IBM Watson can fundamentally change how customers and insurance companies interact and can help increase the customer's trust and confidence in the insurer's capabilities. At the core of what makes Watson different are three powerful technologies: natural language, hypothesis generation, and evidence-based learning. Watson is about bringing these capabilities together in a way that has never been done before, resulting in a fundamental change in the way insurers can look at quickly solving customer's problems in a real time chat with Watson. Drawing upon its ability to navigate natural language, Watson can quickly go through volumes of 1) unstructured information (such as blogs, call center logs, posts, policy documents, declaration pages, endorsements, underwriting notes, and adjuster notes), 2) structured information (such as transaction records pertaining to policy and claims) and 3) a combination of structured and unstructured information (such as claim history and billing and payment history) to come out with meaningful and relevant answers to a question or query in natural language from a customer in a live chat with Watson. Watson also has the capability to generate a hypothesis (describe the evidence) that it uses to make a recommendation to the customer. Watson understands contextual interactions and continuously updates its knowledge with evidence-based learning.

Insurers can derive the following benefits by deploying Watson:

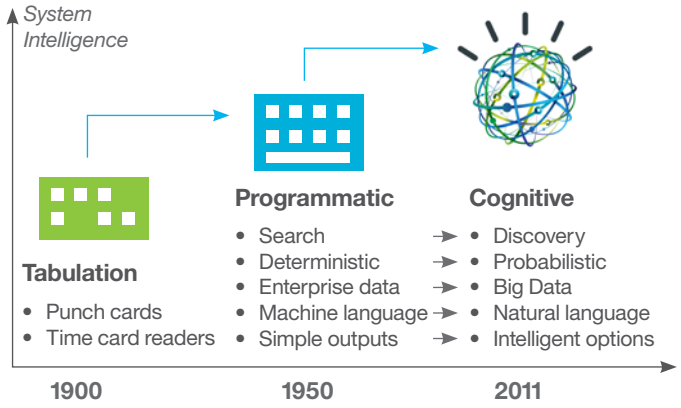
Benefits	Associated key performance indicators (KPIs)
Increased revenue	• Number of new customers • Number of customer referrals • Price by customer segment • Percentage of policies upgraded • Policy premium to personnel cost • Average policy size
Deepened customer relationships	• Client retention rate • Policy renewal rate • Net promoter score • Number of customer complaints
Improved efficiency and reduced cost	• Percentage of call deflections • Contact ratio by channel • Average handling cost of claims • Transfer rate • Average handling time • First call resolution

The history of Watson

IBM has a historical commitment to research - investing $6 billion per year. Watson was a product of this commitment. Watson enables humans to chat with it in natural language through a feature called 'Watson Personal Advisor' (Powered by Watson).

The **'Watson Personal Advisor'** capability was tested for the first time during an American quiz show, Jeopardy, and won against all human competitors present in the first clash between humans and machines in the history of the show. Jeopardy was selected as the ultimate test of Watson's capabilities because it relied on many human cognitive abilities traditionally seen beyond the capability of computers, such as:

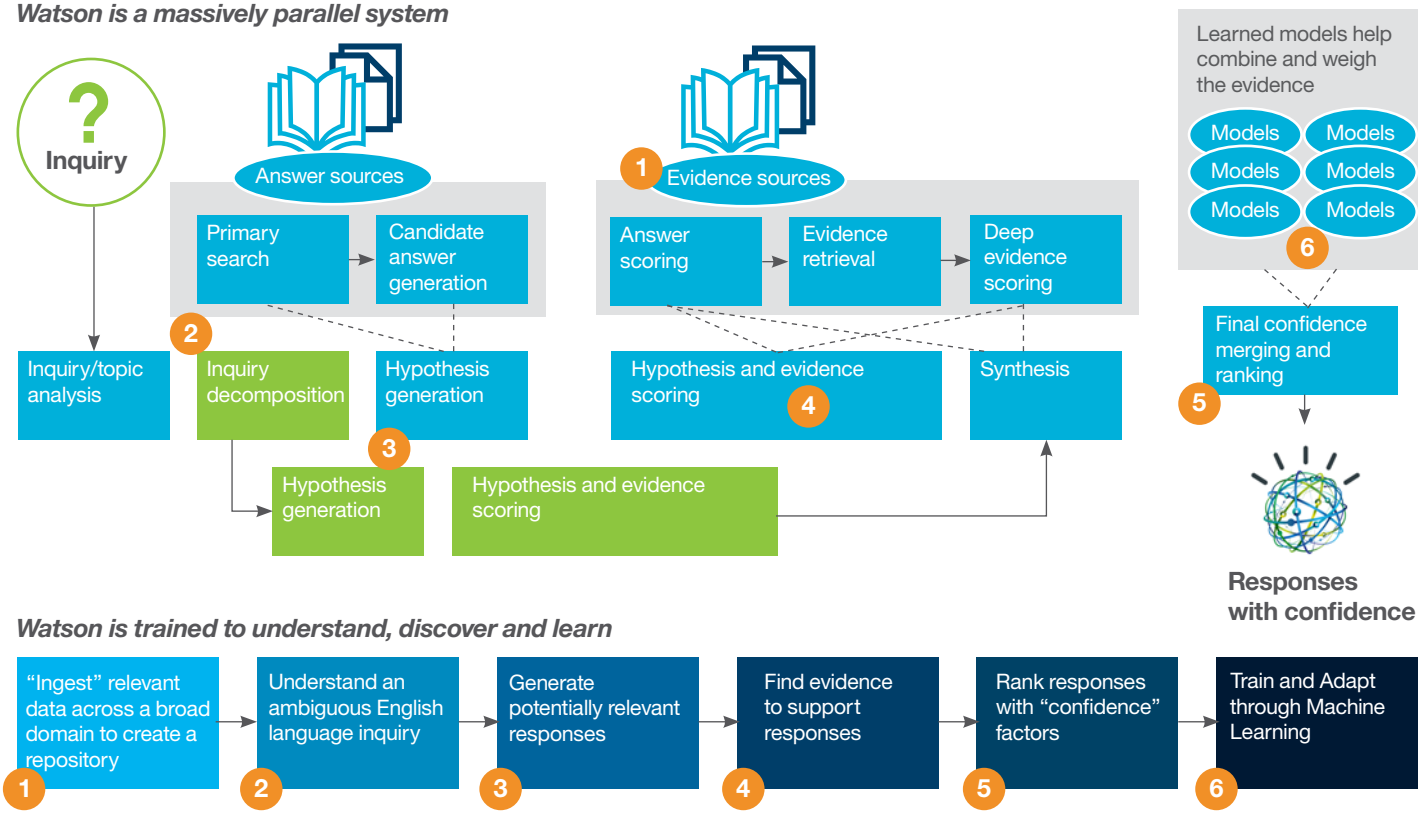
- Natural language processing
- Hypothesis generation
- Evidence-based learning



What is Watson?

IBM's Watson represents a system with the next wave of technologies. It is a cognitive-era system, a system that learns and understands natural language just like human beings. There is no need to program every output with complex programming logic. It is a new species that is taught by design, learns by experience, learns from interactions, gets smarter over time, and makes better judgments over time.

Watson reads exponentially growing insurance industry-related data in the form of thousands of articles, publications, books and so on. As it reads, it learns and enhances its knowledge. As it learns, it connects the dots with what it just read with what it already knew. Watson can process thousands and thousands of unstructured documents available in different formats and it understands the content. Watson provides the capability to interact with the big data in a new way—natural language. Once it understands the content of the various documents it has read, we can ask questions in natural language. It responds in a chat in natural language just as human beings respond to a question in a friendly chat. When we ask questions, it generates a hypothesis (potential answers) with a level of confidence. If it doesn't get the right answer for the first time, we need to help it to get the right answer and then it learns. It just doesn't learn from what it knows today, it keeps on updating its knowledge continuously. Watson runs thousands and thousands of algorithms that run, improve, get better and more algorithms are created as it learns. It is about relations and correlations that can be difficult for humans to understand. It understands the implications of a customer's questions; it can also ask the customer some clarifying questions, where needed.



How can Watson help insurance companies?

Innovative insurance business leaders are exploring the possibility of driving the next level of customer engagement with cognitive computing. IBM Watson enables such transformational engagement. Innovators in the insurance industry are leveraging this disruptive technology now.

Insurance customer engagement challenges

Long wait times to speak to a CSR have been commonplace. Technology savvy insurance customers are becoming increasingly frustrated with the impersonal, generic customer service they usually receive from insurance company call centers coupled with the inability of the CSRs to:

Know their customers well

- *No identifier information at the point of answering*—the CSR does not know who is calling and what products they have with the company
- *No access to social media data*—no information beyond what they can obtain by querying different applications (which is mostly structured data)
- *Impersonal*—scripted speech
- *Process driven*—not personal
- *Circumspect*—not trusting

Engage them continuously

- *Insulting*—not engaging
- *Confusing*—conflicting instructions
- *Maddening*—lack of resolution

Empower them

- *Time consuming*—long waits
- *Inconvenient*—hours of operation, channels supported
- *Frustrating*—repeating it over and over

Watson's approach to customer engagement challenges

Insurers can leverage Watson's capabilities in either of two ways. 1) They can enable customers and prospects to directly interact with Watson in natural language in a chat, instead of the CSR, or 2) They can deploy it in the call center as a tool to help their CSRs quickly glance through the enormous amounts of big data relevant to the customer and quickly come out with appropriate recommendations.

Under the first option, individual customers and prospects can interact with Watson in plain English (similar to the way they interact with a CSR in a chat) directly in a chat through their smart phone mobile app after authenticating and clicking the 'Watson Personal Advisor' button. They can type in questions in plain English such as "Hey Watson, if I let my neighbor borrow my car and he gets into an accident will I be covered?" In seconds, Watson searches through all the relevant documents and can come back with a recommendation about coverage to his vehicle when his neighbor is driving his vehicle. After going through the Watson reply, if required, the customer can chat with Watson and ask 'Hey Watson, please show me the evidence based on which you are giving this recommendation.' Watson quickly displays the summary of the evidence it used to make that recommendation. For example, Watson can reply saying that based on condition # 1.1 and Exclusion # 2 of your auto policy and a recent judgment on a similar case in the state of NY in which you are currently residing, I gave that recommendation. Then the customer can once again ask Watson in chat 'Hey Watson, appreciate if you

	The goal	The challenge	The approach
Transform how people and companies interact	Help clients feel known, engaged and empowered regardless of channel	Approximately ½ of all incoming calls are not resolved but 61% of issues could have been fixed with better access to information	Watson understands content in context, in real time, across channels delivering a personalized experience
Lower barriers to ongoing engagement	Grow top-line revenue with previously under engaged customers	Gaining insights and client understanding with data doubling every 2 years is difficult	Watson understands content in context, in real time, across channels delivering a personalized experience
Drive labor optimization	Improve bottom line results and efficiency to reduce cost while improving client experience	$300B/year contact center labor cost with 20%/year turnover and 1/3 with <1 year experience	Watson is delivered through the cloud, working in plain English and empowers clients for better outcomes

could please show me the detailed judgment you are referring to in your evidence above.' Watson displays the complete judgment.

Under the first chat option, Watson is capable of providing omnichannel interactions; conversations that began with Watson on a smartphone mobile app, for example, and discontinued in between, can be picked up at the same point on a tablet later (No need to once again restart the discussions from the beginning with Watson. Instead customers can start from the point from where they left earlier). The Watson solution is designed with the omnichannel customer experience in mind, and customer data travels with customer requests wherever they interact with a company.

Watson helps to divert most of the Level 1 calls from CSRs and thus provides additional capacity for CSRs to tackle more complex issues.

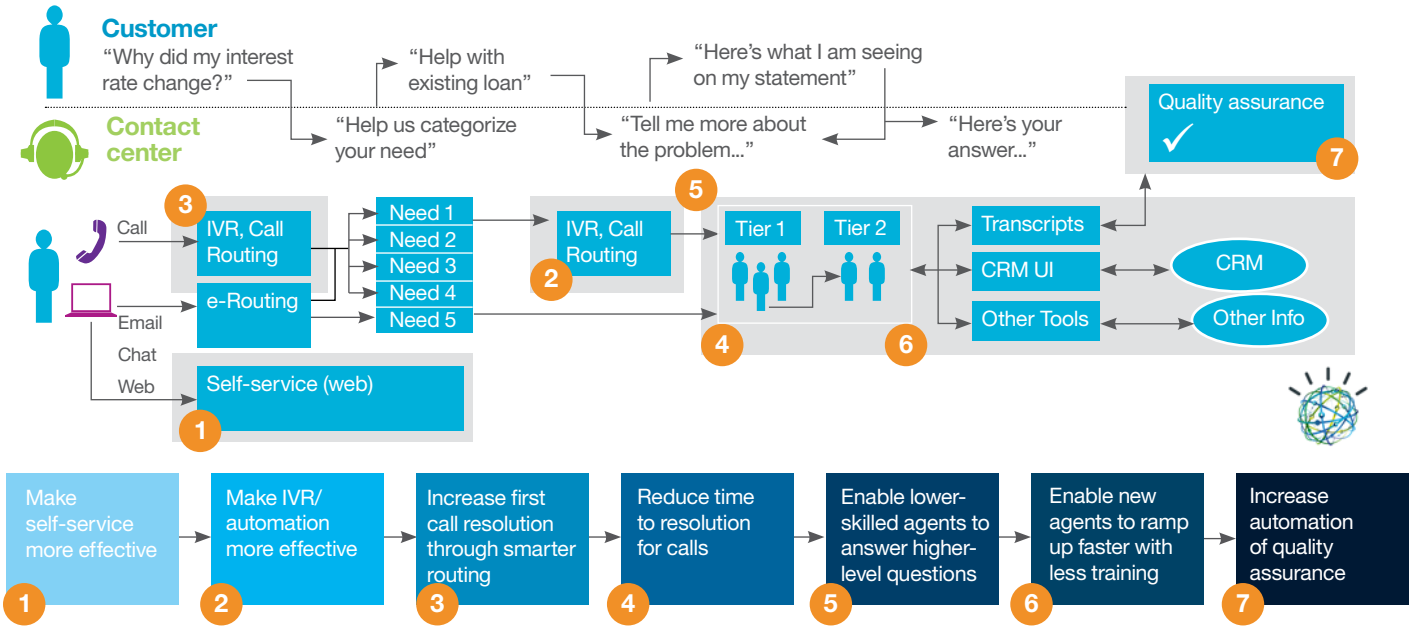
Under the second option (Watson working as a tool to help CSRs), CSRs do not have the time to read through the enormous amount of unstructured data that pertains to the customer in different social forums, such as call center logs, understand it and then use that information to help the customer. They are handicapped by their inability to quickly mine the customer's unstructured data (big data) and provide the correct recommendation. When they are talking to a customer, they usually rely on the information that has been predetermined to be important and placed into structured format.

Watson has the capability to overcome such challenges and can mine both structured and unstructured big data quickly and can provide actionable customer relevant results to the CSRs.

Insurers can leverage Watson to reduce contact center costs and increase customer satisfaction under the following broad categories:

Focus area	How cost can be reduced by leveraging Watson
Reduce number of calls	• Make self-service more effective, allowing for increased use. • Automate the policy processing change request process from the customers, helping reduce the operating expense costs and enabling agents to spend more time on revenue generating activities. • Reduce loss costs by increasing the efficiency of processing claims that get reported through the call centers (First Notice of Loss). • Make IVR/automation more effective, allowing for an increased usage of automated chats.
Reduce callbacks and transfers	• Increase first call resolution through smarter routing. Up to 30 percent of cost for FSS call centers is wasted in routing.
Reduce labor costs per CSR call	• Reduce call resolution times for queries such as adding or removing an auto to a policy or reporting a claim (FNOL). Watson helps to reduce lengthy calls by organizing them into highly structured environments. • Enable lower-skilled CSRs to answer higher-level questions and reduce the need for specialists. Lower average skill is required. • Improve scalability. An increase in policy or claim volume won't result in a proportional increase in call center staff.
Reduce other labor costs	• Enable new CSRs to ramp up faster, with less training. • Increase automation of quality assurance and consistency and accuracy.

Call center process - Watson cost impact centers



Sample use cases for the insurance industry

The typical characteristics of a Watson use case are:

1. ***Natural language***—situations where interaction will be in natural language. Dialogue that benefits from communication in plain English.
2. ***Content in context***—situations where putting content in context is important. Where simple 'yes' or 'no' will not suffice. Putting the customer at the center of the use case and giving answers or responses personalized to them is the critical expectation.
3. ***Continuous learning***—situations where continuous learning is required to answer day to day customer's questions.
4. ***Multiple responses***—where multiple responses or probabilistic type outcomes are important, over simple deterministic answers where there is a single right answer , but a series of considerations that need to be weighed and evaluated as a recipient of the information to make an informed, evidence based decision.
5. ***Unstructured and structured data***– situations where the nature of the information is unstructured such as blogs, call center logs, and posts and structured information such as policy documents, including endorsements and declaration page, underwriting notes, claim history, adjuster notes, billing and payment and history.

These are areas of opportunity to explore and capitalize providing new insights to the possibilities of how the best responses will be presented.

Use case	Description	Benefits	KPIs
Redefine customer experience *Customer service*	• Empower customers and CSRs with answers to important questions • Potentially, add structured data analytics to generate predictive/prescriptive results	• Higher customer satisfaction • New customer acquisition • Reduced training costs, reducing supervisor needs, improve response speed and accuracy • Additional premium from cross-sell	• A number of points improvement in customer satisfaction • A percentage reduction in customer churn, by age group • A percentage revenue increase • A percentage cost savings on call center operations • A percentage increase in customer retention
Redefine customer experience *Insurance advisor*	• Empower insurance advisor with a comprehensive view of client insurance needs/gaps • Answer questions about policies, coverage	• Higher customer satisfaction • New customer acquisition • Increased revenue from increases policy sales / cross-sell	• A percentage increase in revenue • A percentage increase in number of customers • A number of points improvement in customer satisfaction • A percentage increase in customer retention

Watson: approximately 18-22 weeks to deploy a single user scenario and 12 months for return on investment (ROI)

Watson can be fed with an insurance company's product specific information from closely held databases such as training manuals, product disclosures, policies, claims, underwriting guidelines, underwriting notes, claim adjuster notes, claims history, emails, customer forums, and call center logs, over a period of 18-22 weeks to deploy a single user scenario. Once Watson is fed with such information and trained, Watson pulls up data that a CSR wouldn't because it is looking for semantic links, not just doing text-matching based on keywords. In addition, Watson can find the information much faster than a CSR.

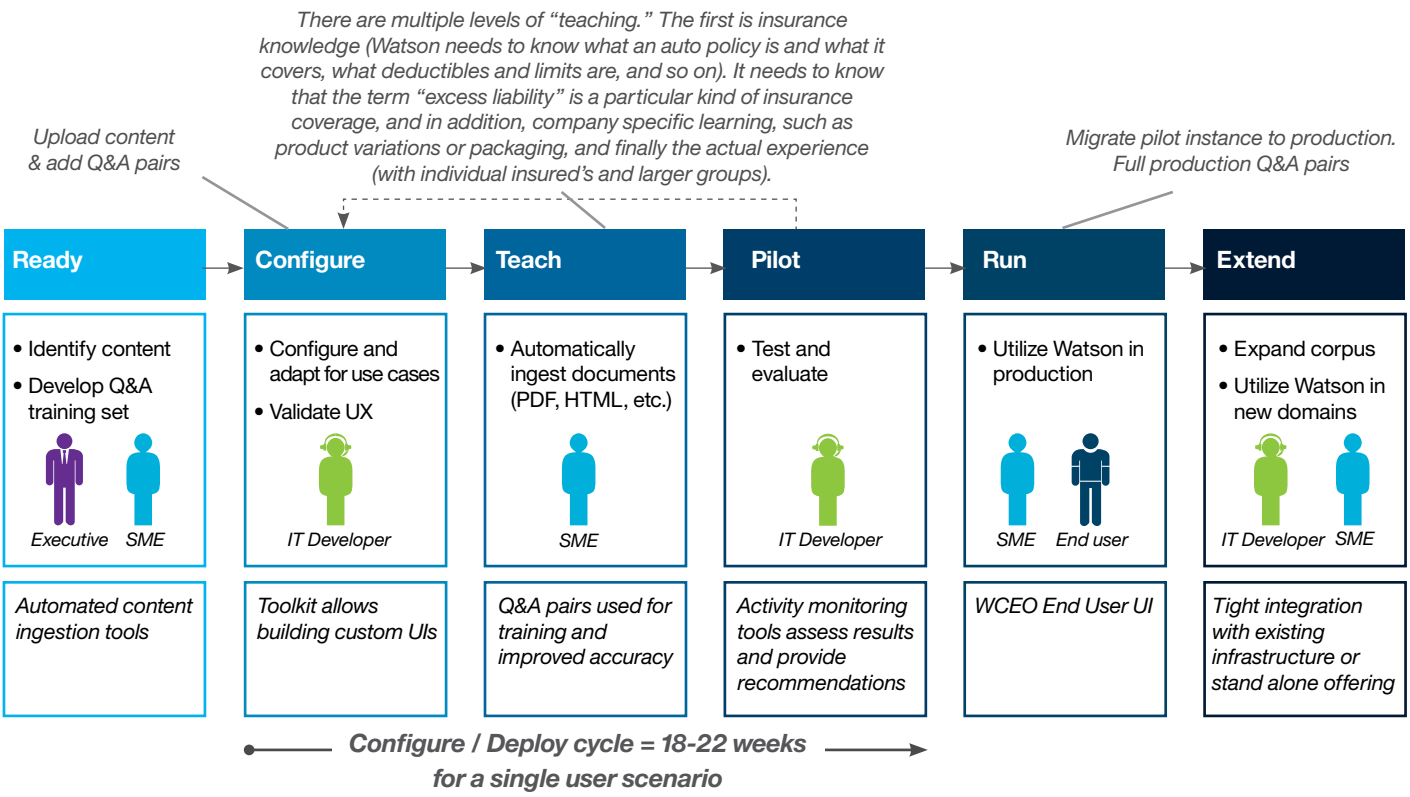
In addition to Watson, insurers can also leverage a comprehensive portfolio of IBM solutions which include business consulting, advanced analytics, hardware and IBM Research assets to further augment the power of Watson. By bringing together all of these capabilities, insurers can aim to uniquely position themselves to redefine the future of insurance by providing next generation customer experiences to their customers.

About IBM's Watson Cognitive Computing

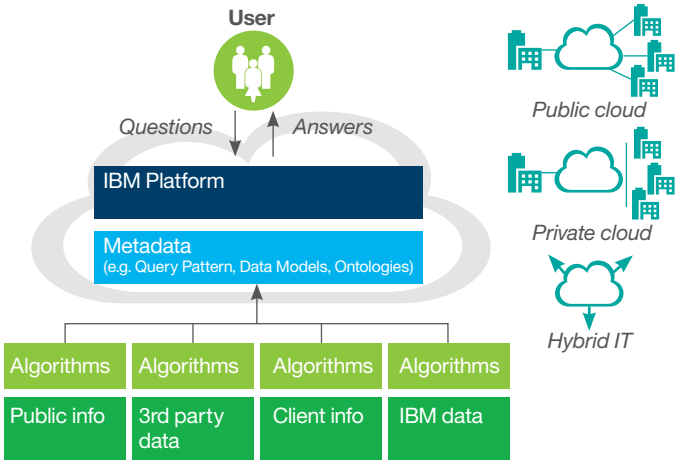
Nearly three years after its triumph on the television quiz show Jeopardy, IBM has advanced Watson from a game playing innovation into a commercial technology. Now delivered from the cloud and able to power new consumer and enterprise apps, Watson is 24 times faster, smarter with a 2,400 percent improvement in performance, and 90 percent smaller—IBM has shrunk Watson from the size of a master bedroom to three stacked pizza boxes.

Named after IBM founder Thomas J. Watson, IBM Watson was developed in IBM's Research labs. Using natural language processing and analytics, Watson processes information akin to how people think, representing a major shift in an organization's ability to quickly analyze, understand and respond to big data. Watson's ability to answer complex questions posed in natural language with speed, accuracy and confidence is helping insurers redefine the future of insurance with next generation customer experience.

Watson is available as a service in a cloud-based deployment model



IBM Watson is delivered as a service accessible through the cloud



For more information

For more information on IBM Watson, please visit ibmwatson.com

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