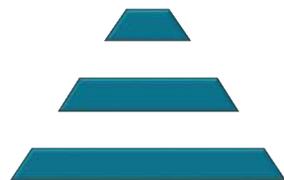


The Inner Circle Guide to Cloud-Based Contact Center Solutions



CONTACTBABEL

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“The Inner Circle Guide to Cloud-based Contact Center Solutions (3rd edition)”

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INTRODUCTION

“The Inner Circle Guide to Cloud-based Contact Center Solutions (3rd edition)” is one of the Inner Circle series of ContactBabel reports. Other subjects include Omnichannel, Self-Service, Interaction Analytics, Outbound & Call Blending, Workforce Optimization and PCI DSS Compliance, and can be downloaded free of charge from [here](#).

The Inner Circle Guides are a series of analyst reports investigating key customer contact solutions. The Guides aim to give a detailed and definitive view of the reality of the implementing and using these technologies, an appraisal of the vendors and products available and a view on what the future holds.

The Inner Circle Guides are free of charge to readers. Research and analysis costs are borne by sponsors - solution providers in the specific area of study - whose advertisements, case studies and thought leadership pieces are included within these Guides.

Solutions providers have **not** had influence over editorial content or analyst opinion, and readers can be assured of objectivity throughout. Any vendor views are clearly marked as such within the report.

As well as explaining these solutions to the readers, we have also asked the potential users of these solutions whether they have any questions or comments to put directly to solution providers, and we have selected six of the most popular to ask to the report’s sponsor. These branded Q&A elements are distributed throughout the report and give interesting insight into real-life issues.

Please note that statistics within this report refer to the US industry, unless stated otherwise. There is a version of this report available for download from www.contactbabel.com with equivalent UK statistics.

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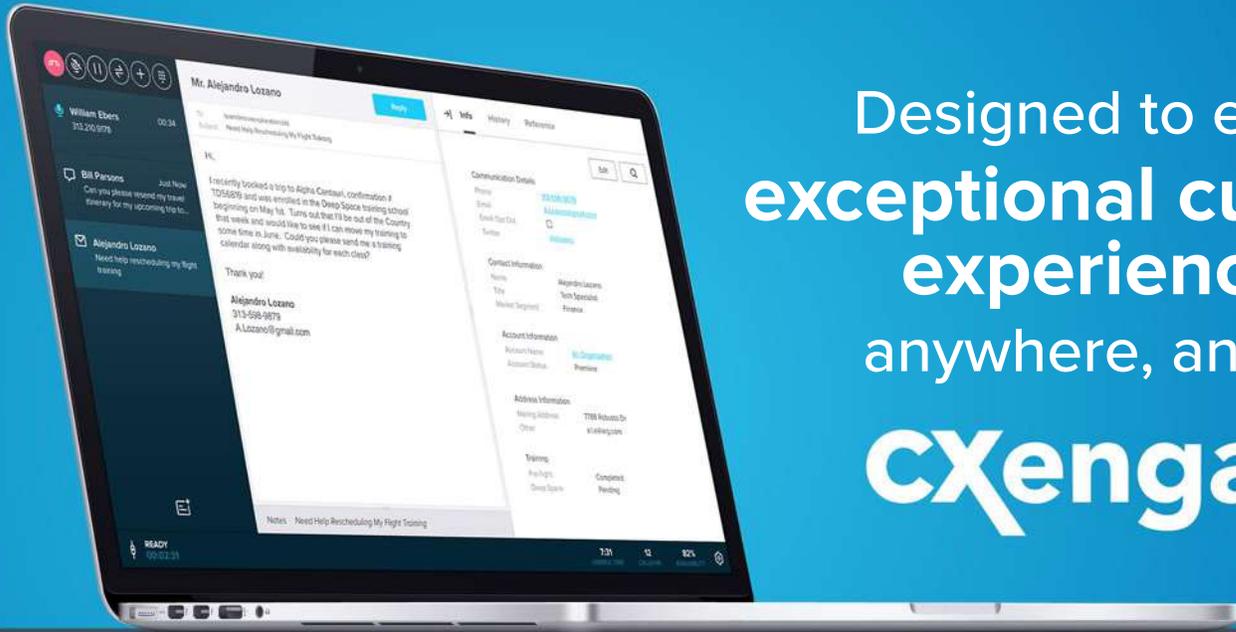
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Headquartered in Austin, Texas, Serenova also has operations in Canada, the United Kingdom and Australia.



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anywhere, anytime
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Own less. **Command** more.

47%

of consumers say that a fast response to an inquiry or complaint is the key element to an ideal customer experience.*

63%

of executives say silos within the organization and a lack of integrated information systems are the two biggest obstacles standing in the way of improving the customer experience.*

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- Global Scale Up & Out
- Effortless Power & Insight
- Open & Flexible

Simple. Smart. Agile.
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**The Economist Intelligence Unit Perspectives, Creating a seamless customer experience, March 2015*

'CLOUD': TERMS & DEFINITIONS

Having technology provided and managed by a third-party away from a customer's premises is not a new idea, with service bureaux and ASPs (application service providers) being around for many years. PBX functionality through Centrex has been available since the 1960s, with IVR and ACD functionality often being offered through a network provider too. In the past few years, the success of SaaS (Software-as-a-Service) solutions such as Salesforce.com have paved the way for widespread creation and adoption of cloud-based solutions, both from incumbent vendors and solution providers new to the industry, with the take-up of IP and movement towards more open systems also driving the use of cloud.

The economic downturn's negative effect on capital investment made businesses demand more flexible pricing alternatives, which made the pay-as-you-go, operating expense of cloud-based solutions an attractive proposition. The past few years have seen many CPE (customer premise equipment) vendors react to this demand by offering rental-based options similar to their cloud competitors, although CPE provision will still require payment for hardware, testing etc.

The modern contact center has a multitude of applications supporting it, with hardware, middleware and networking equipment around and inside it. The traditional method of deploying these resources has been on a CPE basis, with the business's IT resource implementing and maintaining it. Now, the vast majority of this equipment, functionality and supporting resource is available in a third-party hosted environment, through one of the various types of cloud-based delivery.

Broadly, there are five types of technology that contact centers can use:

- Contact center functionality: ACD/PBX-type functionality (including interaction routing and queuing), CTI, IVR (routing and self-service), outbound dialing
- Desktop applications: CRM, customer management systems, helpdesk applications, agent desktop, knowledge bases, multichannel handling applications, scripting, web chat & collaboration
- Management applications: workforce management, QA/QM, call recording, interaction analytics, reporting, MIS and business intelligence, eLearning, workforce optimization, customer experience feedback
- Enabling technology: security, databases, payment technology, middleware, IP networks and other common architecture or hardware
- Other hardware: IP phones, PCs or desktop terminals, headsets, etc.

Cloud-based solutions are the latest in a line of alternatives for businesses to owning and running their own technology. Here are explanations of some of the terms that readers may have encountered in researching cloud-based contact centers.

- **Cloud** is the delivery of computing and storage capacity as a service to different business, organizations and individuals over a network. It can be said to consist of Infrastructure as a Service (IaaS) - servers and storage space, Platform as a Service (PaaS) - operating systems and web servers, and Software as a Service (SaaS) - the functionality of software available on demand without the need to own or maintain it. The cloud is characterized by huge scalability and flexibility, (often, but not always) shared resources, a utilities approach to billing (pay for what you use, for example) and an abstraction of obvious on-site infrastructure.

There are various deployment models:

- **Public cloud:** applications, storage, and other resources are made available by a service provider, often offered on a pay-per-use model. Public cloud service providers own and operate the infrastructure and offer access via the Internet
- **Private cloud:** infrastructure operated solely for a single organization, whether managed internally or by a third-party and hosted internally or externally. They require management by the organization or its third-party
- **Virtual private cloud:** a deployment model that pulls in public cloud infrastructure-as-a-service (IaaS) while running the application on-premise or in a private cloud, in order to improve disaster recovery, flexibility and scalability and to benefit from Opex-based costing while avoiding expensive hardware purchases
- **Community cloud** shares infrastructure between several organizations from a specific community with common concerns (security, compliance, jurisdiction, etc.), whether managed internally or by a third-party and hosted internally or externally. The costs are spread over fewer users than a public cloud (but more than a private cloud), so do not gain as much from cost reductions. It may be a more appropriate deployment model for departments within government or public sector bodies, than within commercial organizations, for example a department offering Contact Center as a Service to other departments or agencies within their network
- **Hybrid cloud** is a composition of two or more clouds (private, community, public or a linked cloud/CPE solution) that remain unique entities but are bound together, offering the benefits of multiple deployment models. By utilizing "hybrid cloud" architecture, companies and individuals are able to obtain degrees of fault tolerance combined with locally immediate usability without dependency on internet connectivity. Hybrid Cloud architecture requires both on-premises resources and off-site (remote) server based cloud infrastructure.

- **SaaS (Software as a Service)** is a model of software deployment whereby a provider licenses an application to customers for use as a service on demand. SaaS software vendors may host the application on their own web servers or download the application to the consumer device, disabling it after use or after the on-demand contract expires. The on-demand function may be handled internally to share licenses within a firm or by a third-party service provider sharing licenses between firms.

On-demand licensing and use alleviates the customer's burden of equipping a device with every conceivable application. It also reduces traditional End User License Agreement (EULA) software maintenance, ongoing operation patches, and patch support complexity in an organization. On-demand licensing enables software to become an operating expense, rather than a fixed cost at the time of purchase. It also enables licensing only the amount of software needed versus traditional licenses per device. SaaS also enables the buyer to share licenses across their organization and between organizations, to reduce the cost of acquiring EULAs for every device in their firm.

Using SaaS can also conceivably reduce the upfront expense of software purchases, through less costly, on-demand pricing from cloud providers. SaaS lets software vendors control and limit use, prohibits copies and distribution, and facilitates the control of all derivative versions of their software.

- **CPaaS (Communications Platform as a Service)** is a cloud-based platform that allows the embedding of real-time communication functions into a business's own applications and workflows: voice, video and SMS can be integrated into mobile or web-based applications by way of APIs, eliminating the need to build infrastructure or individual interfaces.
- **Hosted** solutions have similarities to SaaS in that the application is hosted off the customer's premises, but may not actually be managed by the service provider. A hosted solution may be an individual instance of an application running on a single server dedicated to the customer, restricted in scalability by its finite nature. Although this may allow greater control and flexibility, it can be more expensive and there is less redundancy. It may be thought that all SaaS solutions are hosted, but not all hosted applications are SaaS.
- **Network-based solutions** are marketed as solutions with equipment physically located in multiple locations, permitting users to access the various services via a combination of the contact center's internet connection and the standard PSTN networks. This allows complete geographic independence and disaster recovery (DR) solutions.
- **Multi-tenancy** refers to where a single instance of the software runs on a server, but serves many customer organizations. Clients' data and configuration are separated virtually but the same actual hardware, software versions and databases are used. This deployment model is likely to be able to offer functionality at a lower cost due to the economies of scale possible, but is less customizable than other options.

-
- **Multi-instance** occurs where separate software instances or versions (and possibly actual physical hardware) are provided for each individual business. This deployment option is considered most effective for complex and deep integration, but is unlikely to be offered at a similar cost to a multitenant option.
 - **Hardware virtualization** masks from users the physical characteristics of the platform, hosting multiple isolated instances of an application on one or more servers. The same image can be used on multiple sites, whether customer-owned or hosted.

CLOUD: WHO'S USING IT?

WHAT'S CHANGED SINCE 2012?

In the first edition of this report, written in 2012, it is probably fair to say that the main driver for cloud was that of Opex payments, rather than capital expenditure. All of the solution providers interviewed for this report indicates that while the pay-as-you-go, or monthly rental model is still an attractive proposition, it is far less important in now than it was five years earlier. Solution providers point out that CPE deployments can now often be paid for in an Opex model, and that the movement to cloud is more about the functionality, agility and scalability that this model offers.

It is also the case that operations have generally become more complex, certainly in the number of channels offered and the proportion of interactions going through them. It is no longer possible for many companies simply to focus upon voice, and the attendant need to provide a single view of customer regardless of channel acts as a inhibitor to the siloed approach. Quality monitoring, analytics, workforce management and the unified desktop are some of the tools used today that take all of the siloed data and try to put it into a holistic context, taking advantage of all the different data sources, and the expansive, open nature of cloud solutions encourages this outlook.

Looking at the inhibitors, while concern over data security is still amongst the most important factors holding back the movement to cloud, the concerns that many reluctant potential customers hold seem to be much more specific to their business, rather than being a wide-ranging, generic fear of losing control, in particular around integration and customization.

Solution providers point out the one of the main differences to have occurred in the past five years is that cloud is now seen as a genuine alternative to CPE for even the largest of enterprises, not just smaller operations. Some state that they originally focused their product and marketing efforts on the small and medium contact center sectors, but that many of their customers are now those with many hundreds (if not thousands) of agents. There is an increased familiarity and trust in cloud-based solutions, both in decision-makers' personal (i.e. non-business) lives, and in the prevalence of cloud-based enterprise applications, which is meant that cloud as a deployment model has widespread acceptance.

Solution providers note that there has been great growth in cloud solutions that support outbound sales activity, where the pay-as-you-go model allows outsourcers to have some control over their profit margins depending on the amount of work that they have, as well as benefiting from the immediate use of added functionality that cloud-based solutions provide. It is common for cloud providers to tightly integrate with CRM and contact management packages (e.g. Salesforce.com), and adding dialing functionality supports the consultative style of selling, giving agents the opportunity to read up about customers before they dial. This is not just the case for traditional contact centers, but also for organizations which may not see themselves as having a contact center, but which carry out large amounts of sales communication with customers and prospects, albeit in perhaps a more informal environment. Cloud-based solutions offer such enterprises the benefit and efficiency of the contact center world, without the high levels of sunk cost and operational and technical expertise that a CPE solution would demand.

Solution providers report that there is far less effort needed these days to explain the business benefits of cloud, noting that the widespread adoption of cloud-based CRM solutions has done a lot of the market education work for them. Almost unanimously, they note that while issues around cost and productivity are still important, organizations as a whole tend to be more concerned about the customer experience and service delivery, and that these are the messages that the market listens to.

Currently, solution providers' cloud customers tend to come from CPE environments which have reached end of life - which may then choose to migrate to cloud using the same provider, or come from a competitor - rather than from competing cloud vendors. It is noticeable in the next section that the actual overall use of mature technologies such as call recording has changed little in the past few years, but that the deployment method has moved strongly from CPE to cloud.

VERTICAL MARKETS AND CONTACT CENTER SIZES

The suitability of cloud-based solutions by vertical market segmentation is perhaps less relevant than some other contact center functionality, being more a factor of the individual organization's requirements for flexibility, access to Capex funding, attitude to IT and the state of their existing systems.

Having said that, the **outsourcing** sector has been very quick to embrace cloud technology, with the very nature of their business is a cultural fit with the idea of letting a third-party take control of non-core activities. The ability to add and shed agents very quickly, coupled with the definite knowledge of the associated cost appeal to the way in which these organizations do business, which also enables them to produce rapid and detailed bids for new work without fear of long technology implementation times, and with certainty over costs. The movement away from high-volume outbound campaigns into more of a blended environment has also put pressure on certain types of outsourcer to include new functionality, and cloud offers a quick and integrated way to do this. The flexibility of billing is a major attraction for a contact center whose actions implement directly upon profitability.

Formerly a major growth pool in the industry, **public sector** contact centers have seen investment budgets slashed in recent years with little hope of a reversal in the near future. Many local government IT departments have been decimated in cost-cutting exercises. Cloud-based solutions offer a way to maintain a good level of functionality without having a large in-house IT operation, while keeping costs low and predictable. However, some vendors report that this is a very difficult market sector to sell into, with a high degree of inertia due to the defensive attitude towards any new expenditure and the potential shedding of knowledgeable and experienced IT resources.

Seasonal contact centers (such as **retail and travel**) are also a major target for cloud-based solution providers, who can add pay-as-you-go functionality almost immediately. Even paying a premium for a short-term usage contract will be far cheaper for a contact center which would otherwise have to buy extra full licenses at a far higher cost. The high level of competition in B2C, especially retail, means that the promise of a quick return and low impact on profitability make cloud of great interest to this vertical market. Healthcare is further back: hospital networks are not directly competitive, so have less focus upon being a step ahead of the competition. Those businesses with a fixed, heavily-regulated environment are also less likely to be early to the cloud, as they will want to maximize their existing infrastructure investment, and are likely to be risk-averse to allowing individual departments to buy what they want.

Cloud-based solutions are finding their way into even the most risk-averse verticals, such as finance and healthcare, for which the importance of customer/patient data security cannot be overestimated. Depending on the geography, standards such as HIPAA, SSAE 18 and ISAE3402 must be complied with, and many cloud providers have made it part of their strategy to meet or exceed the prescribed levels of security and audit in order to be able to address these markets and take away one of the most pressing issues faced by these clients.

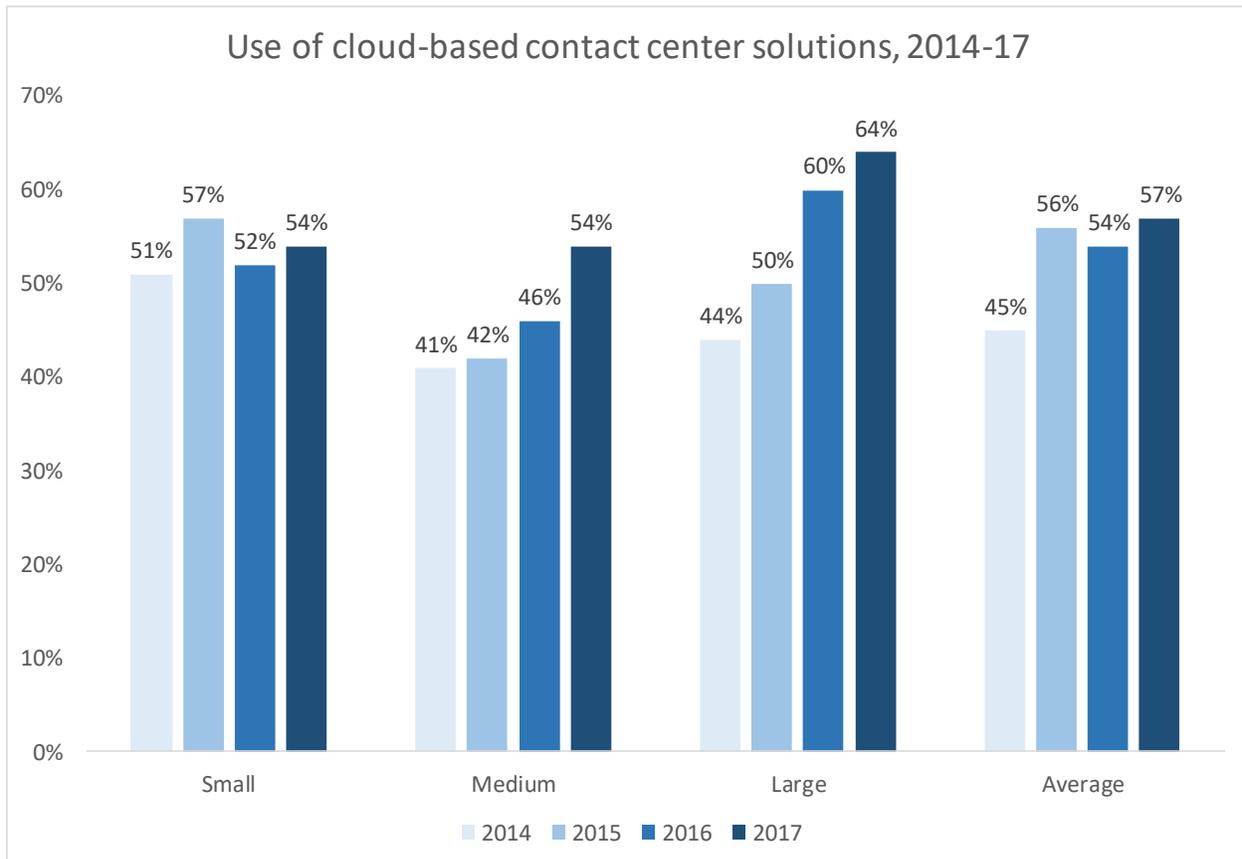
Departmental contact centers (in private companies rather than public sector organizations) have also been quick to consider cloud-based solutions, as their IT operations may not fit with the rest of the organization and can be a burden rather than a strategic asset. Cloud offers them a chance to take control of their own destiny, rather than be a small part of a much larger whole that may be moving in another direction. Such departmental contact centers may be in the sales and marketing function, which means that outbound functionality is of great concern to them.

The **SME (small-medium enterprise)** sector's theoretical desire for the rich functionality available to large enterprises has been dampened by the cost of implementation, as well as the general lack of IT in-house resource available to fine-tune and customize it so as to get the most of the solution. Cloud-based solutions can now alleviate much of the requirement for in-house resource, as well as offering an Opex solution at a lower price point for sophisticated functionality, and is a hugely attractive option for this sector of the market. The SME sector is far more likely to take up cloud-based solutions wholesale, whereas the data later in this report show that large enterprises are more likely to evolve into cloud piece-by-piece.

At an **enterprise** level, organizations that are young and rapidly-growing that don't have the experience or incumbent team to run their own contact center are prime candidates to consider cloud. Where the contact center is dynamic - adding and shedding agents as required, whether contract-based, seasonal or multi-site/global - cloud is also a good fit. Organizations where finding Capex is difficult are of course also more likely to look at cloud-based solutions. Many solution providers report that enterprises have shown significant growth in interest in cloud-based solutions over the past three years, with many CPE/cloud providers now stating that the majority of new sales are for their cloud-based solution, even at the top-end of the market.

Looking at our survey respondents' use of cloud-based solutions over the past five years, it would seem that very little has changed, with 45-50% of small and medium operations using cloud in some way, with larger operations perhaps a little more likely to be doing so.

Figure 1: Use of cloud-based contact center solutions, by size (2014-17)



As the following charts show, the reality is that most contact centers are adding more cloud functionality to their operations from a relatively low base in 2013, upgrading existing solutions, adding new functionality and broadening their use of cloud. There is still a large untapped market for cloud solutions though, with 56% of contact center respondents in our 2017 survey stating that they did not use any form of cloud-based functionality at all.

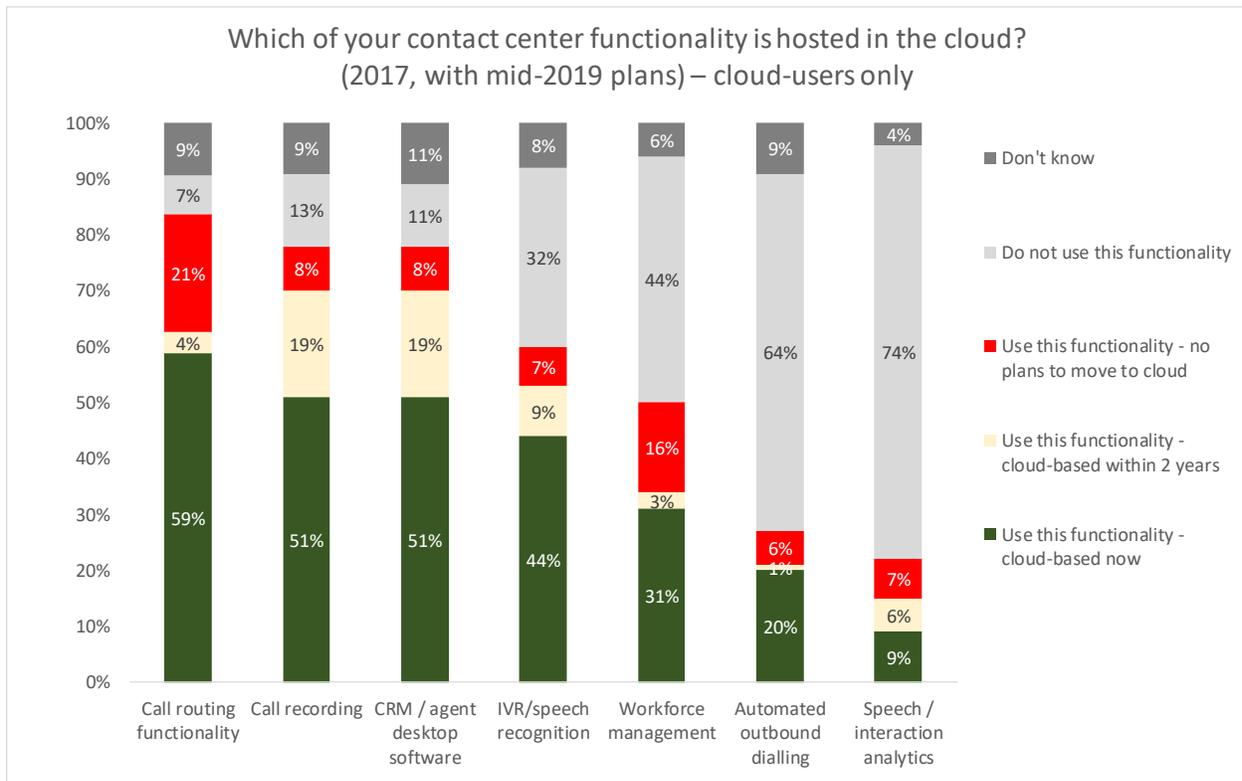
USE OF CLOUD-BASED CONTACT CENTER FUNCTIONALITY

Respondents who used at least one cloud-based application or solution were asked about the contact center functionality that they currently had within the cloud, and what their plans were for the next two years.

CRM, call recording and call routing functionality were the most likely to be deployed through cloud-based solutions, with IVR functionality also used significantly. It is interesting to note that 1 in 4 of respondents using call routing functionality had no plans to move to the cloud. In a similar pattern, 32% of WFM users did not predict that they would move to the cloud in the foreseeable future.

Against this, CRM and call recording users were much more likely to be planning cloud-based deployments, and although speech analytics users were relatively few, 27% expected to move from premise-based to cloud within 2 years.

Figure 2: Which of your contact center functionality is hosted in the cloud? (2017, with mid-2019 plans) – cloud-users only



Six Steps to Capture, Understand, and Adopt the Voice of Your Customer in the Contact Center

Understanding the customer is key to the success of any company - but very few companies truly understand what their customers want versus what they need, which are two very different things. There's where the "Voice of the Customer" (VOC) comes into play. It's a process used to capture both qualitative and quantitative information from a myriad of customers, including requirements, preferences, and feedback. That information is then used to help a company deliver the best quality of service/product. And to do it right, companies must track and accommodate changing customer requirements and expectations to ensure continued success.

The contact center presents an ideal place to implement an ongoing VOC process and encourage two-way conversations. Here are six steps to capture, understand, and adopt the VOC in your contact center:

-  **Implement your information-gathering tools.** Try customer surveys, focus groups, or individual interviews. Review complaints, compliments, and comments in a few places - social media, review sites (Glassdoor, Yelp, etc.) and your customer database - to gather some significant data. It's also important to ask your agents because they interact with and hear feedback straight from the customer's mouth.
-  **Analyze the data.** Read every piece of feedback to really get into the mind of your customer. Look for trends as well as outliers. Decide how to best relay that information and make it easily understandable and actionable.
-  **Compare the results to your company or product strategy.** Examine how this new data compares to your original company or product plans. Are customers saying the same things or is the feedback all over the place? Is there anything new or different? Can you realistically make the changes customers are requesting?
-  **Take action.** You've got the information and the insights - now it's time to put them to work. Use these insights as a tool to implement improvements across your company, such as a change to your approach to customer service, your product offerings, or even your methods of communication.
-  **Close the loop.** Show customers you took their feedback seriously and made changes based on that. This is an important opportunity to remind them that your company is focused on the customer experience and they are important and valued.

Implementing a VOC process is admittedly not quick or simple, but the payoffs can be company-changing. Following these steps will empower your company with a better understanding of your customers' wants, needs, and most of all, their voice. Having a VOC process in place, both during product development and after, is critical to improving your company and strengthening relationships with your customers.

EVOLUTION OR REVOLUTION?

There is no correct answer as to whether moving to the cloud in stages or in a single step is the better option: solution providers state that there is likely to be only a minor difference in overall cost at the end of the process. Most customers move to the cloud application by application, although it is important to ensure that there is a long-term strategy and timescale in place. This method reduces the risk of changing systems and fits in with any specific need to upgrade or replace the functionality.

Implementing cloud-based solutions for most businesses is often an evolutionary journey, driven by a combination of decisions made elsewhere in the organization, the need to upgrade equipment or improve functionality, and to avoid the financial pressures that come with capital investments. The contact center industry is moving inexorably to a state where cloud-based functionality is the norm, and with every successful trial, proof of ROI or high-profile success, this becomes more of a reality.

From the practical viewpoint, the benefits to migrating in small steps mean that allows users to build confidence of familiarity with the new system, as well as allowing more time for customization and calibration. Businesses running a very large telephony system already are obviously much less likely to do rip-and-replace, rather moving to the cloud department by department, and piece by piece.

For organizations where the telephony infrastructure is still not at the end of life, adding functionality for cloud-based deployments on an as-needed basis may be a good option, allowing the usage of new tools and techniques. For new, smaller or rapidly growing contact centers, it would seem to make sense to use a fully integrated cloud-based solution with rich functionality and benefit from the Opex/pay-as-you-go model. The core components of the contact center, including ACD, IVR and recording, may work well as a consolidated resource in the cloud, so businesses may deploy this cloud functionality together.

Some factors influencing organizations' movement to the cloud include:

- the requirement for a department or discrete part of the contact center to have new functionality up and running quickly (for example, for the collections department to implement an outbound dialer)
- the level of depreciation that the current telephony infrastructure has experienced
- whether there is a suitable new campaign or new client (for outsourcers) where a cloud-based solution would be appropriate to trial, allowing the establishment of a template for success that can be repeated throughout the organization at a wider scale at a later date.

While the need for internal IT resource to manage the contact center platform is much lower once the business has migrated to the cloud platform, in practice it rarely means that the IT department is cut in size. Many, if not most businesses have a backlog of IT maintenance and improvement projects, as well as more strategic implementations that they would like to carry out if only they had the resources. Freeing up the IT department from the day-to-day running of the contact center environment allows the redeployment of resource to more valuable projects. Some solution providers report that some cloud users' IT departments have been restructured to have fewer full-time employees, using consultants for any network/firewall, PBX or PC desktop issues.

END-USER QUESTION #1:

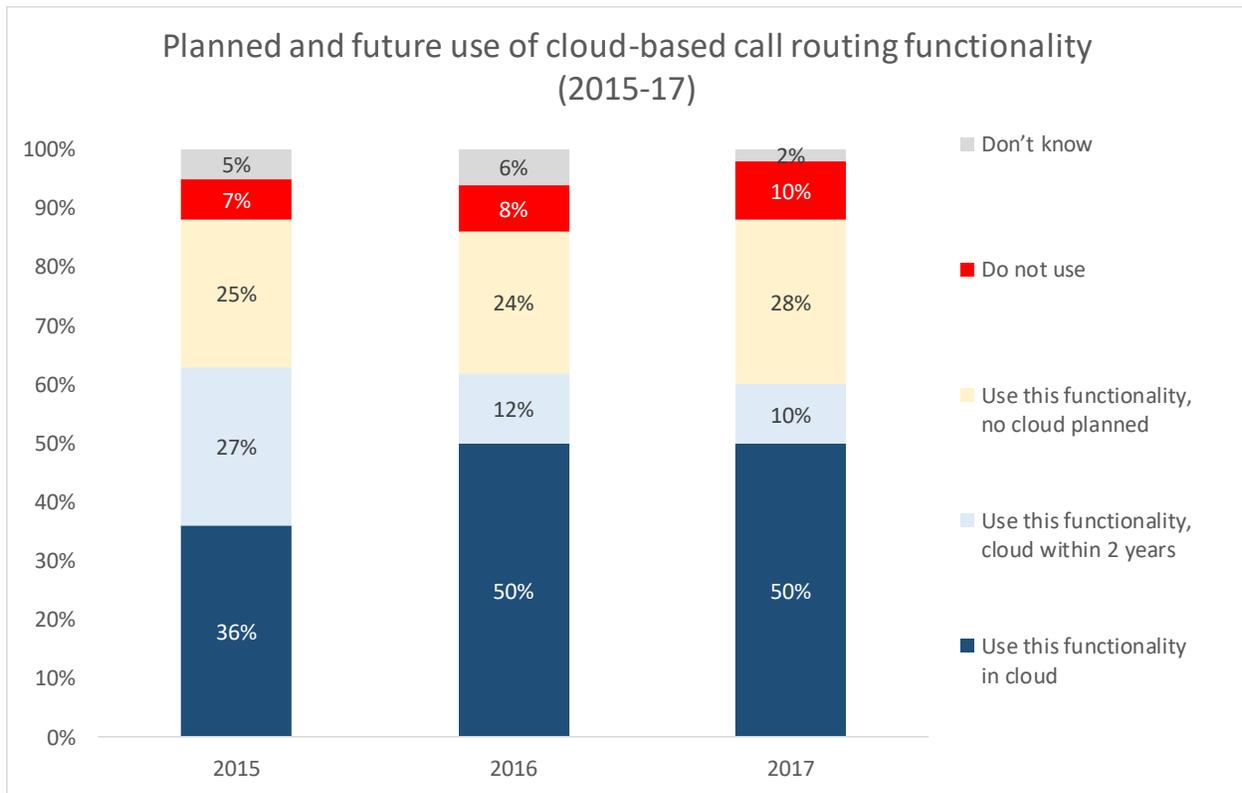
“IS IT BEST TO WAIT UNTIL WE CAN MOVE EVERYTHING TO THE CLOUD, OR DO IT BIT-BY-BIT? WHICH SORTS OF FUNCTIONALITY WORK BEST IN THE CLOUD?”

 **Serenova** Most clients will choose to migrate in a phased approach. That might be by region, department or (less often) by specific functionality. One of the main differentiators for Serenova is the elastic nature of our architecture. Clients find that they can gain a good deal of flexibility with lines of business that need to scale up or out quickly to respond to customer demand.

Call Routing

The use of cloud-based call routing has increased to 50%, although there is a significant minority of survey respondents who do not have any plans to move their routing to the cloud.

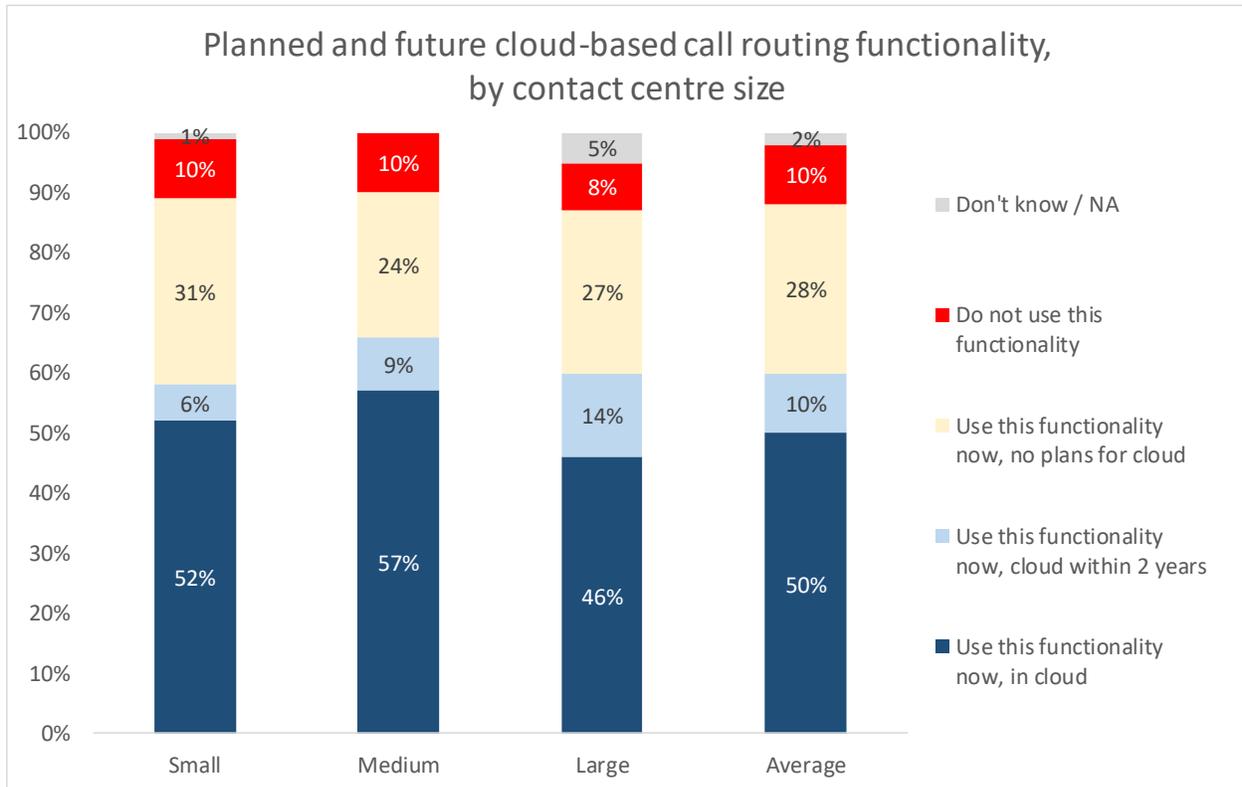
Figure 3: Planned and future cloud-based call routing functionality (2015-17)



Cloud-based call routing is a little more popular amongst small (sub-50 seat) and medium (50-200 seat) operations.

Large operations are more likely to be planning a move to cloud, which should equalize the use of cloud-based call routing between size bands.

Figure 4: Planned and future cloud-based call routing functionality, by contact center size (2017)

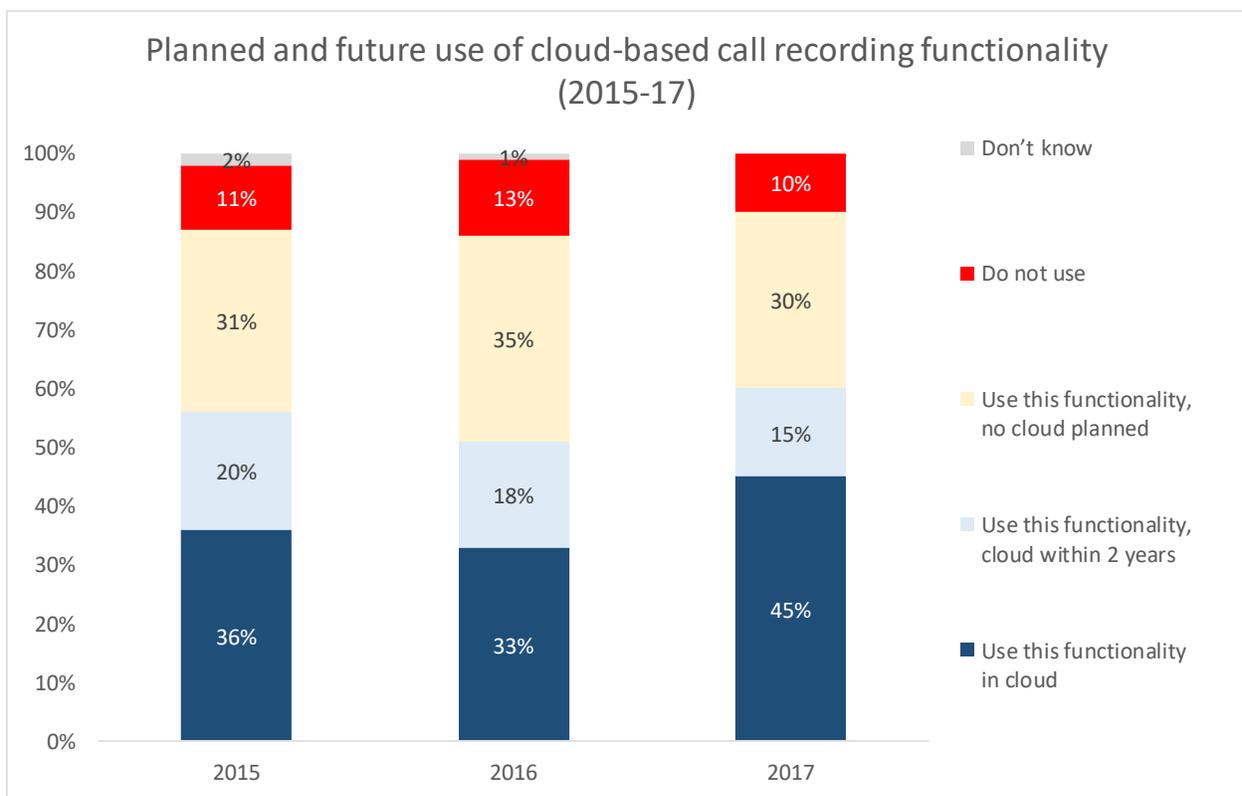


Call Recording

As with call routing, the penetration rate of cloud-based deployments has increased gradually since 2015, with 45% of survey respondents using cloud-based recording in 2017, against 36% in 2015.

A considerable proportion of respondents in the finance, retail & distribution and service sectors report that they are looking to update their call recording solutions, which is almost certainly connected with adding speech analytics capabilities to the recording functionality in order to improve the QA process, increase compliance and gather new business insight from their customer interaction records.

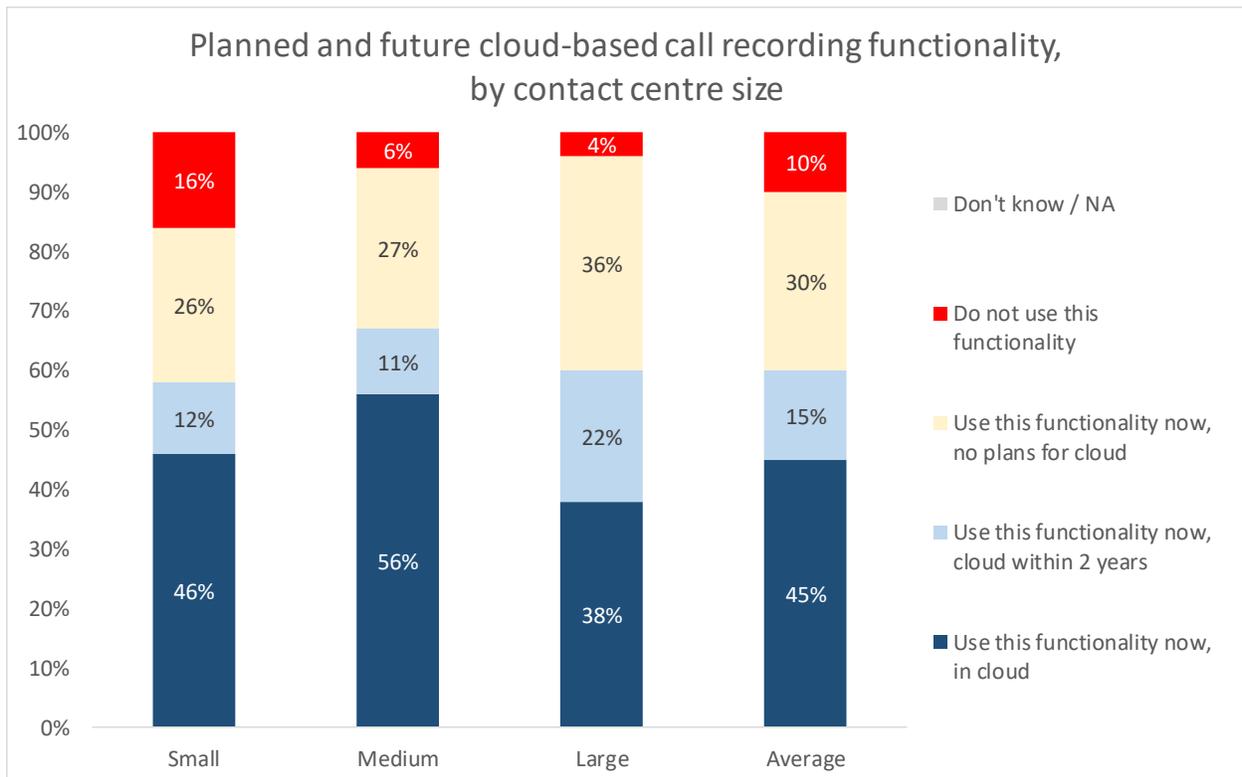
Figure 5: Planned and future cloud-based call recording functionality (2015-17)



The use of call recording has in the past been influenced by the size of the contact center operation, although the high level of penetration now found in respondents from small operations shows that vendors have been able to offer solutions successfully at various price points and deployment methods.

There has been significant growth in cloud-based call recording across all size bands, although the larger operations are more likely than small contact centers to be planning future cloud deployment, as there is likely to be significant legacy systems that are not yet at the end of life.

Figure 6: Planned and future cloud-based call recording functionality, by contact center size (2017)

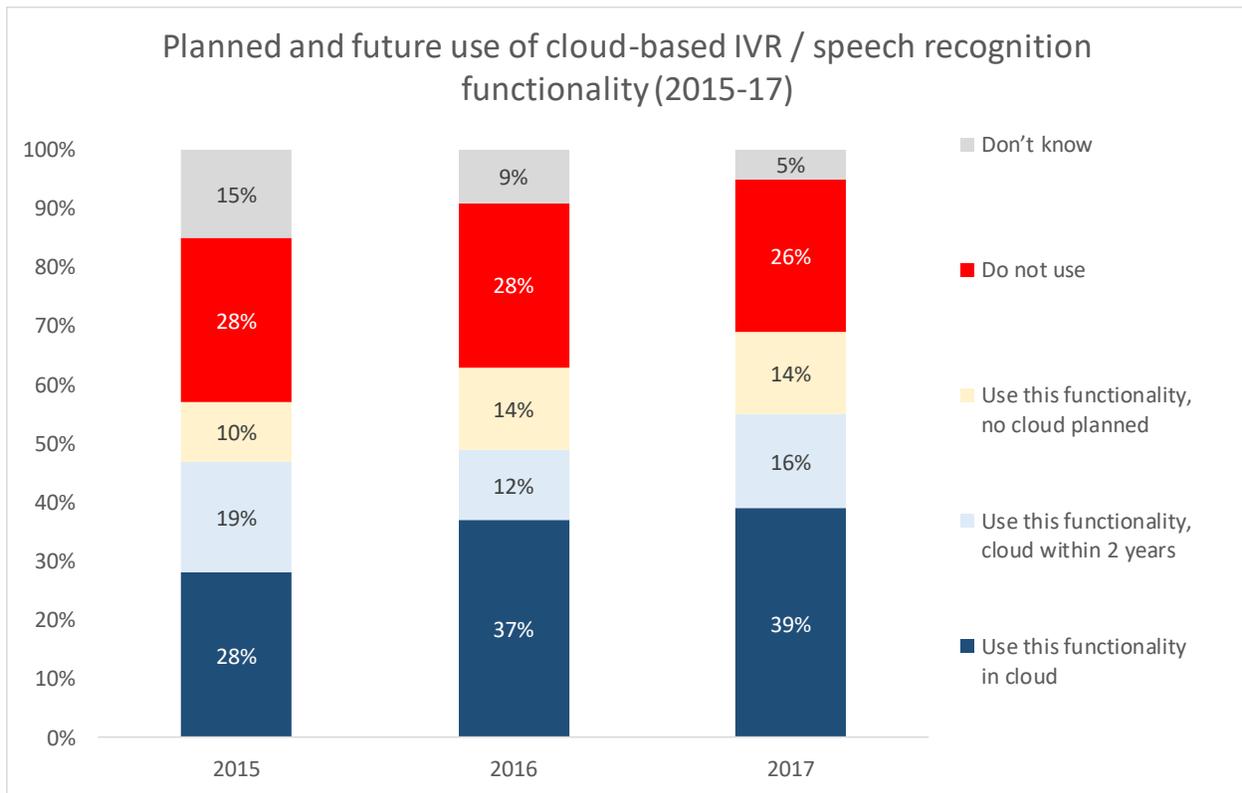


IVR / Speech Recognition

The use of cloud-based IVR/speech recognition has increased since 2015, with 39% of survey respondents using this deployment model in 2017, against 28% in 2015.

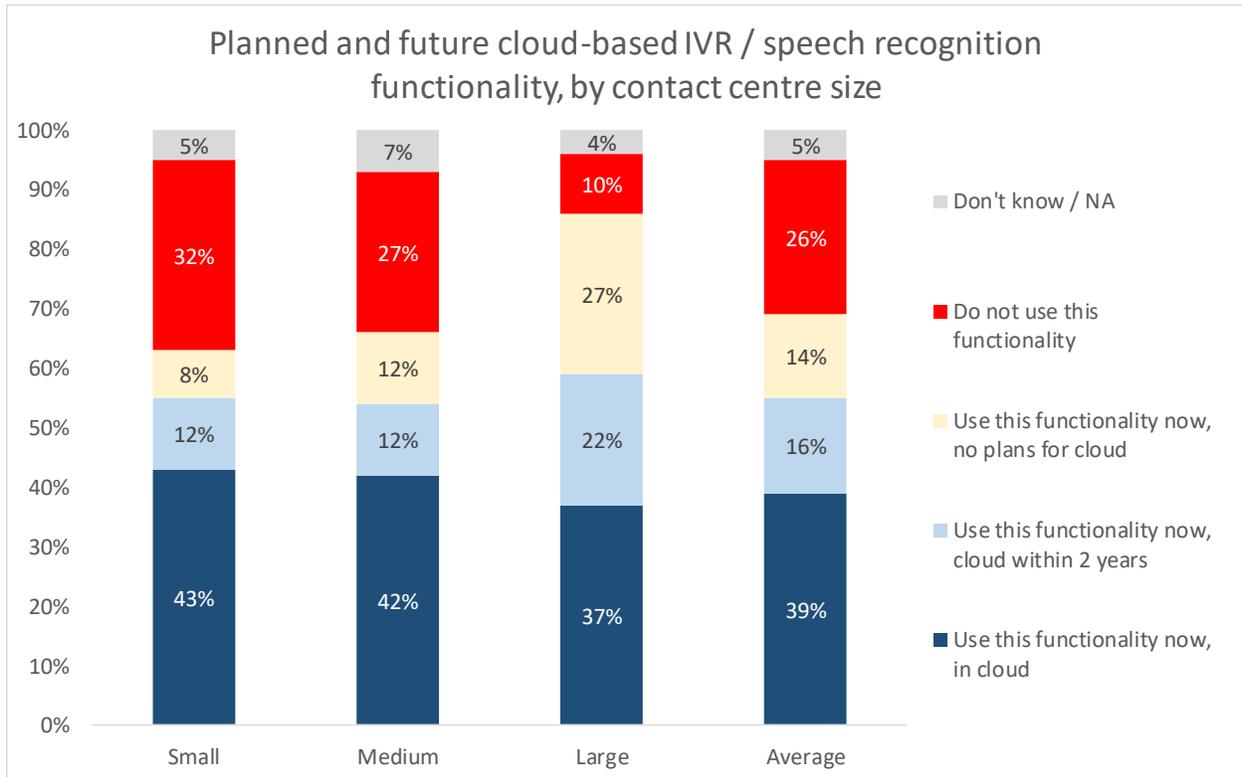
It is worth commenting that one solution provider noted that self-service in particular is seeing a very rapid move to the cloud, with cloud deployments of this solution outpacing CPE by 3 to 1.

Figure 7: Planned and future cloud-based IVR / speech recognition functionality (2015-17)



As with call routing, small operations are a little more likely to be using voice self-service within the cloud. Many large operations state that they have no immediate plans to move to cloud.

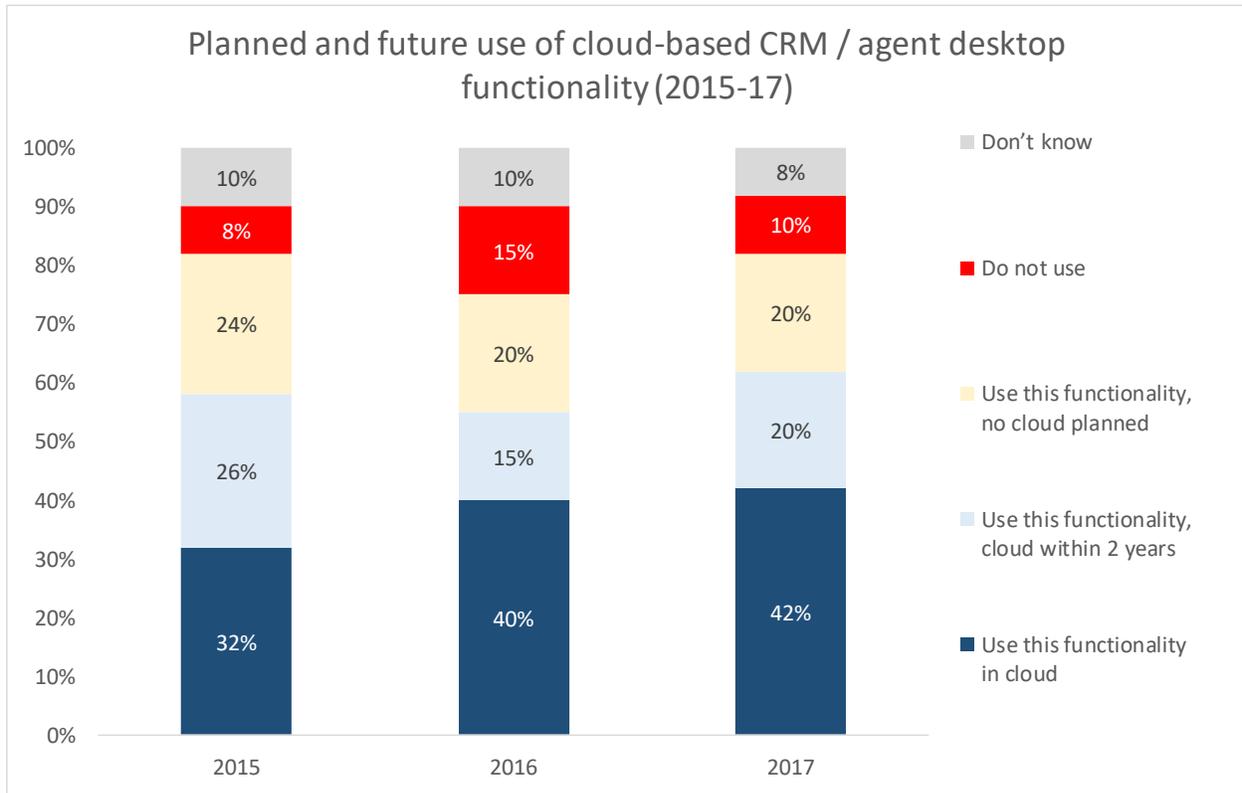
Figure 8: Planned and future cloud-based IVR / speech recognition functionality, by contact center size (2017)



CRM / agent desktop

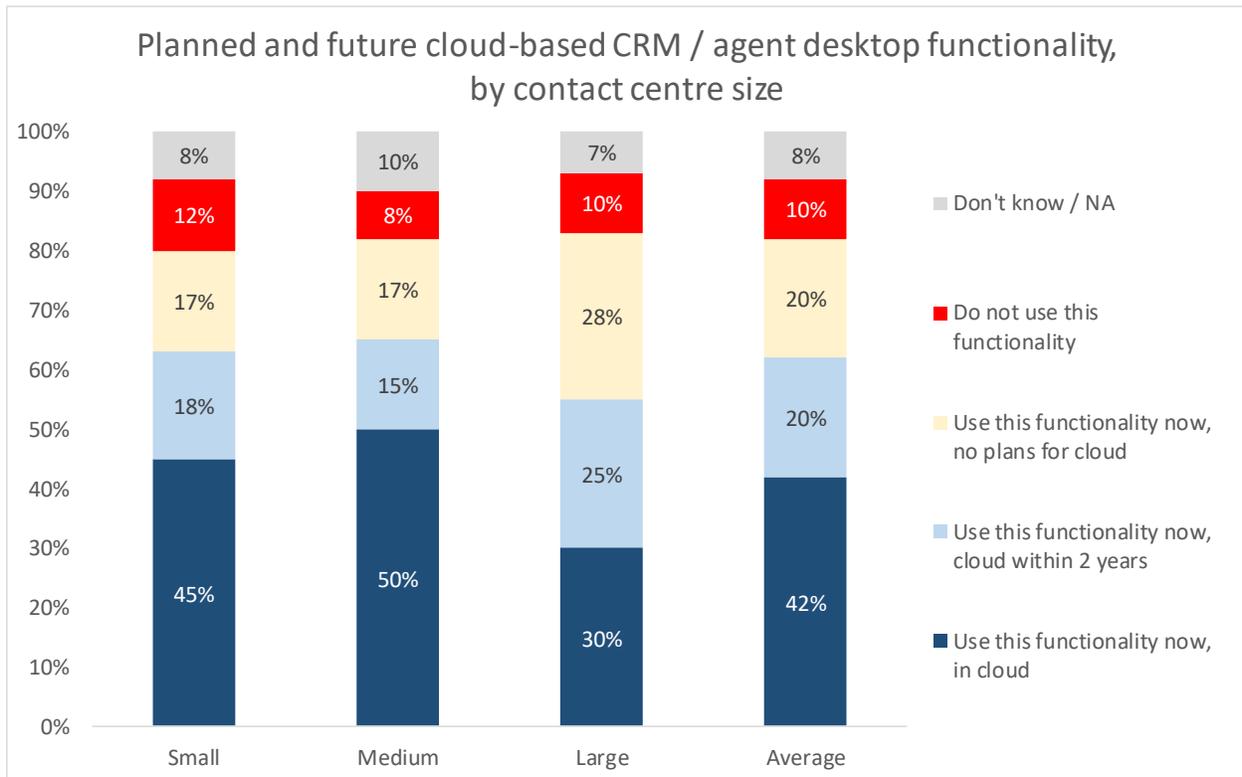
In 2015, 58% of survey respondents expected that they would be using cloud-based CRM/agent desktop functionality by 2017. This figure fell short (42%), however this year's survey respondents are expecting significant growth in cloud-based deployments by 2020.

Figure 9: Planned and future cloud-based CRM / agent desktop functionality (2015-17)



Small and medium contact centers are more likely to be using cloud-based deployments, although there is no major difference in the actual use of CRM / agent desktop solutions across size bands (regardless of the deployment model).

Figure 10: Planned and future cloud-based CRM / agent desktop functionality, by contact center size (2017)

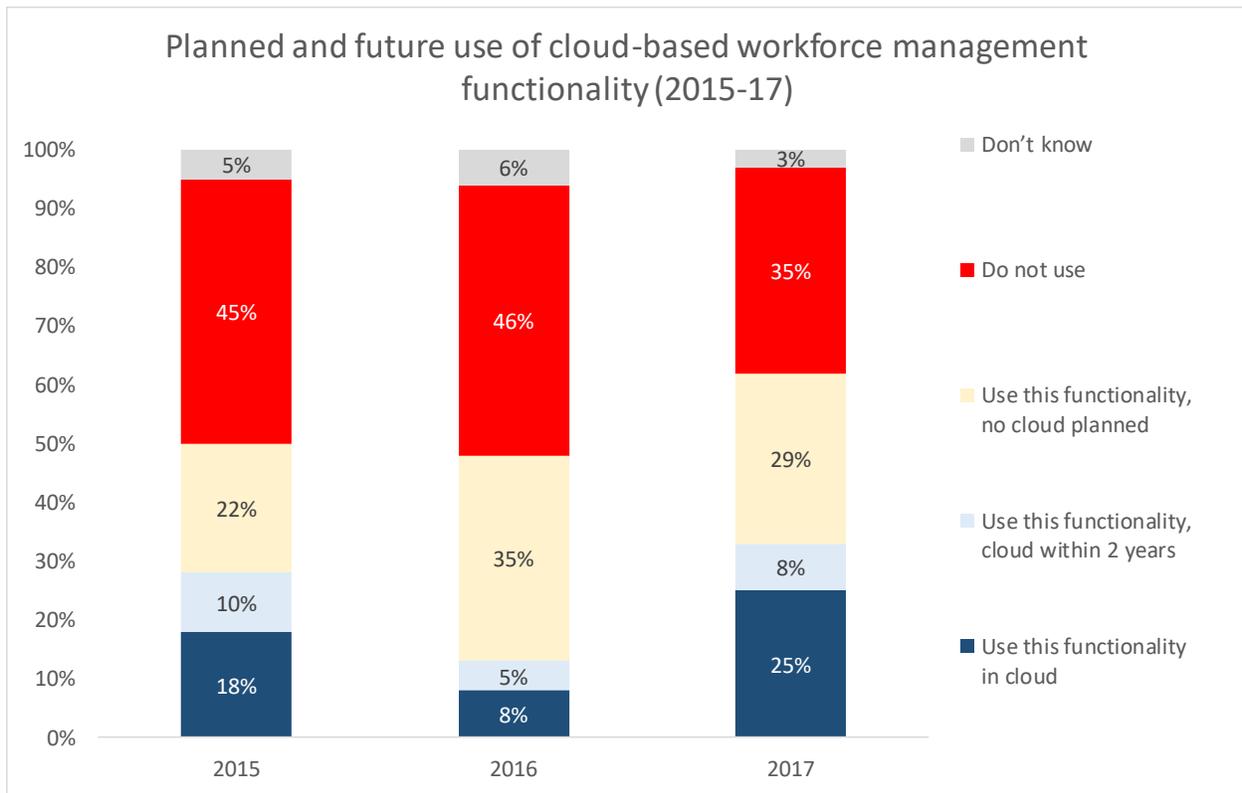


Workforce management

The use of cloud-based workforce management solutions has fluctuated since 2015, dropping from 18% to 8% in 2016's survey, and growing to 25% in 2017.

The **overall** use of this functionality (whether cloud-based or CPE) has grown from 50% to 62% in this time.

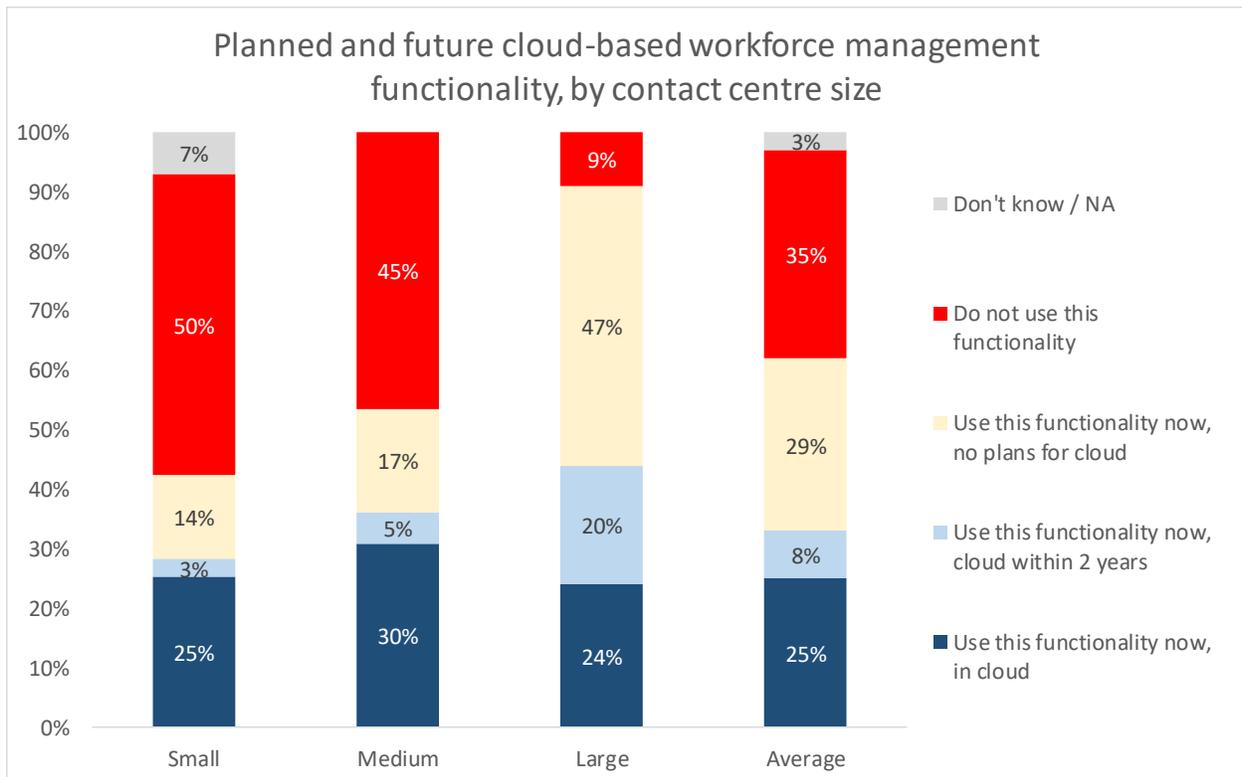
Figure 11: Planned and future cloud-based workforce management functionality (2015-17)



The use of workforce management solutions tends to have a positive correlation between the size of the contact center and the proportion of operations using it. This is less the case for cloud-based deployments, with 24% of respondents from 200+ seat contact centers using cloud-based WFM, compared to 25% within the sub-50 seat sector and 30% in mid-sized contact centers.

There are significant expectations in the largest size band that the next two years will see major growth in the use of cloud-based deployments.

Figure 12: Planned and future cloud-based workforce management functionality, by contact center size (2017)



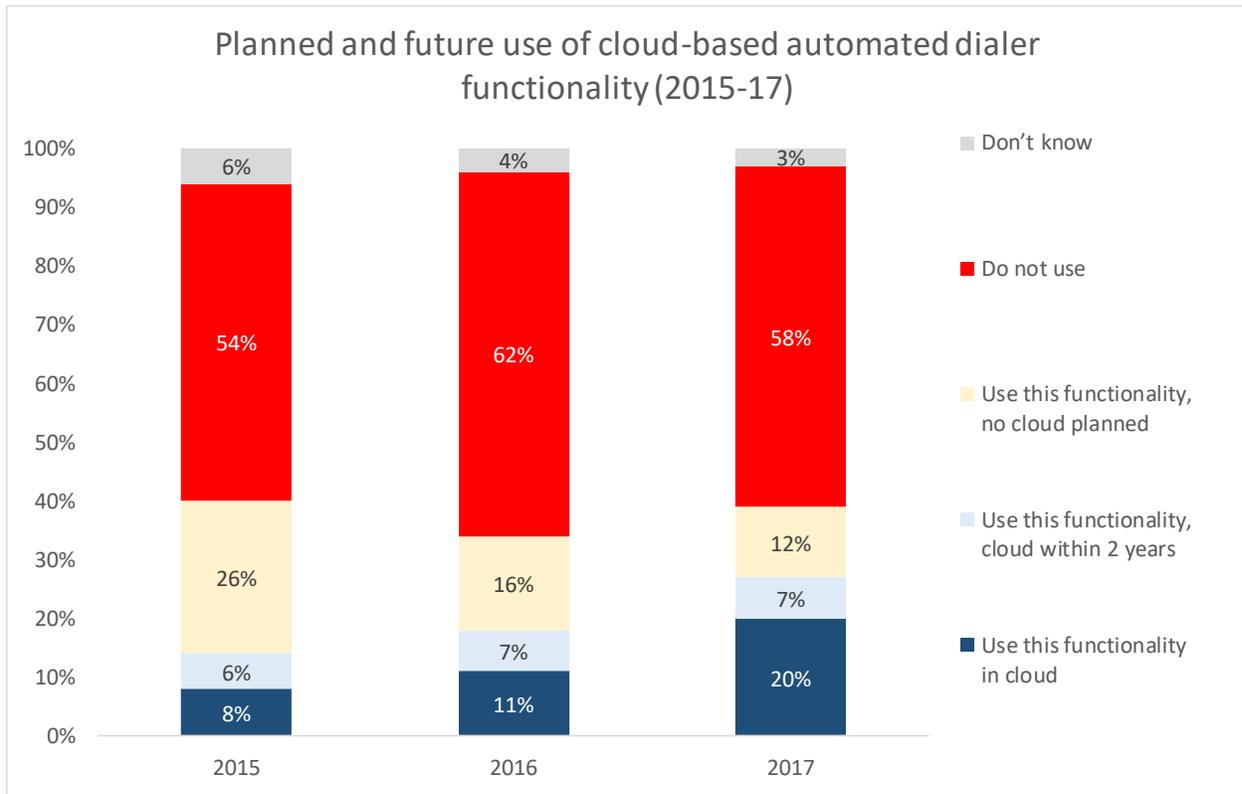
Automated outbound dialing

The use of automated dialing has always been restricted to a minority of survey respondents, with 40% of respondents using it in 2015, 34% in 2016 and 39% in 2017. The lower number in 2016 is likely to be because different respondents answer the survey each year, rather than anything particularly structural within the industry.

It is noticeable that although the use of automated dialing has not grown over this time period, the movement to cloud has been significant (going from 8% to 20%), and the interest in moving to cloud within the next two years is also there.

By 2020, survey respondents expect that almost 70% of deployments of automated dialers will be cloud-based.

Figure 13: Planned and future cloud-based automated outbound dialer functionality (2015-17)

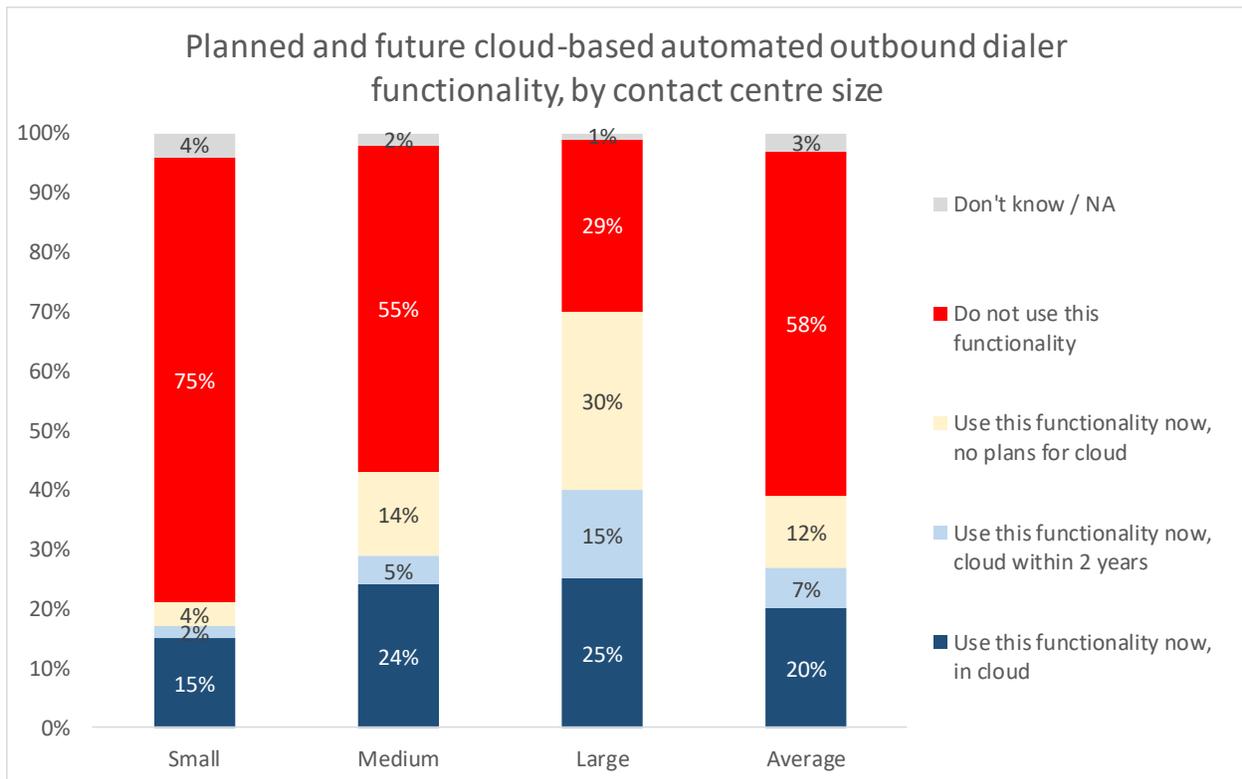


As expected, the use of automated outbound dialing is more prevalent in larger operations.

However, 37% of respondents from 200+ seat contact centers that use automated dialing do so within a cloud-based deployment, whereas 71% of those in smaller operations report that do so.

Large operations are showing interest in cloud, and expect that by 2020, more than half of their outbound dialer functionality will be cloud-based.

Figure 14: Planned and future cloud-based automated outbound dialer functionality, by contact center size (2017)

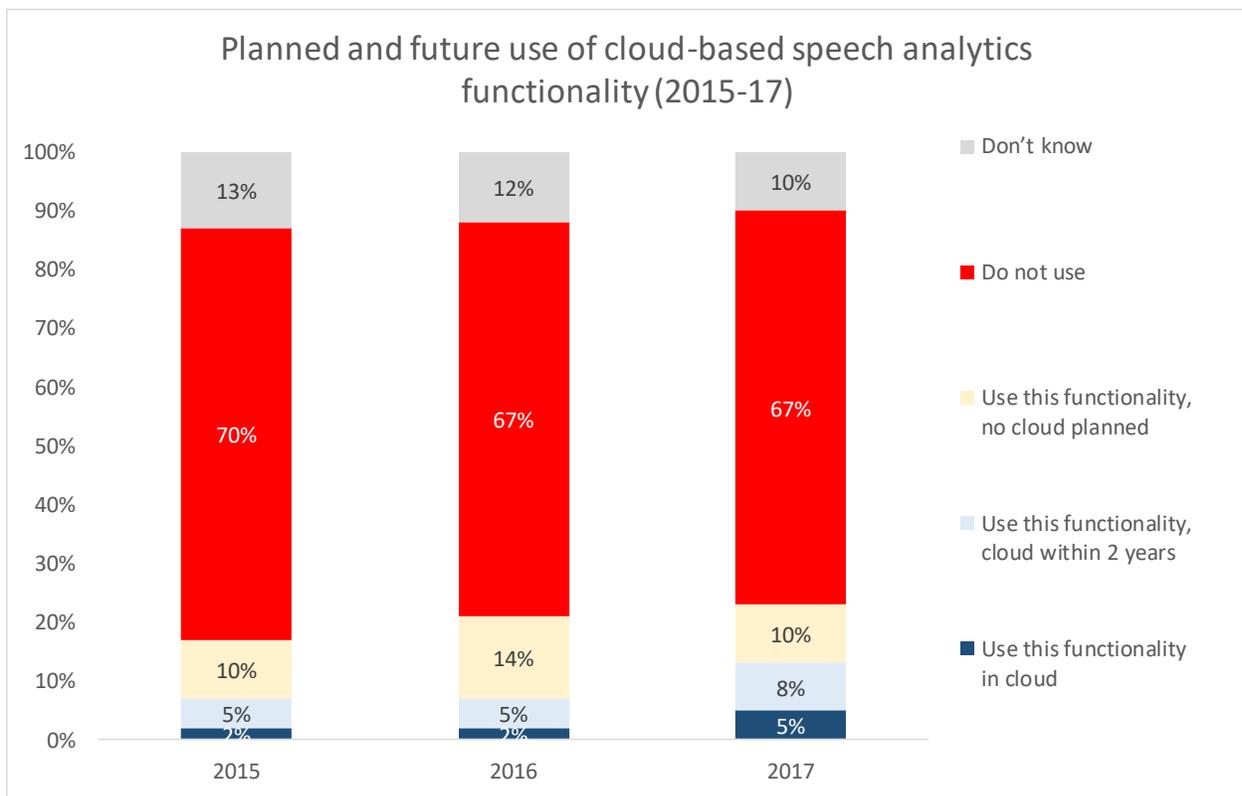


Speech analytics

The use of speech analytics as a whole is growing, although survey results do not show the definite move to cloud that is prevalent in so many of the other applications studied. Only 2% of 2015's respondents stated that they are using cloud-based speech analytics, and although this figure grew to 5% in 2017, it is still not a particularly strong move to cloud.

It is noticeable however that there was a major expectation amongst the users of speech analytics that there would be a significant movement to cloud-based deployments by 2020, with more than half of deployments being through this method by 2020.

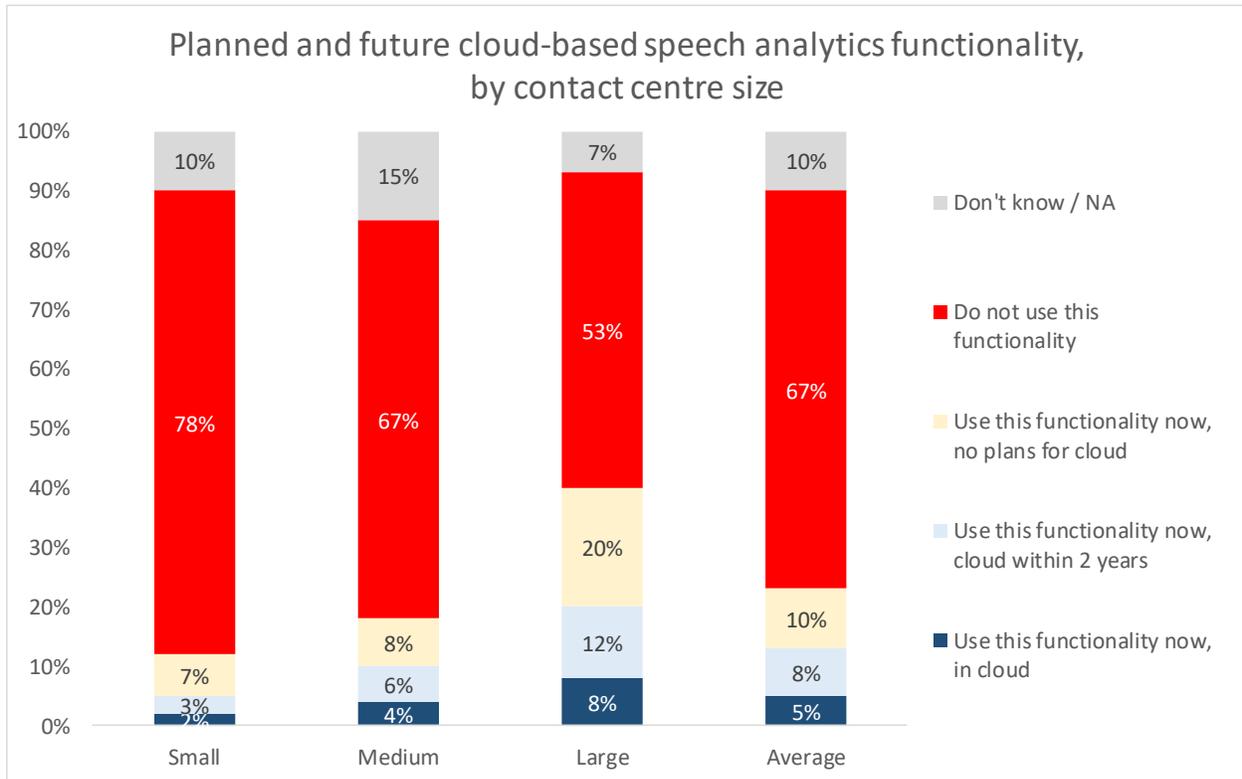
Figure 15: Planned and future cloud-based speech analytics functionality (2015-17)



Speech analytics has been taken up by larger contact centers to begin with, with more than three times as many respondents from large operations using it compared to the sub-50 seat sector.

However, there is a very significant expectation across all size bands that cloud-based speech analytics will more than double by 2020.

Figure 16: Planned and future cloud-based speech analytics functionality, by contact center size (2017)



DRIVERS & INHIBITORS

The many factors influencing the uptake of cloud-based solutions can be grouped into several areas, and it is important to remember that a factor (e.g. security) can be both a driver and an inhibitor:

- **Financial:** how does cloud affect the investment and ongoing expenditure connected with technology and the operations of the contact center?
- **Flexibility & Agility:** how can cloud-based solutions help businesses with changing interaction volumes and distributed operations?
- **Functionality:** what is the effect of cloud-based solutions on the functionality available to the contact center?
- **Security:** does Cloud bring a greater risk to security, or the opposite?
- **Control:** can a contact center change how it operates quickly enough?
- **Integration & Customization:** while out-of-the-box functionality can be quick and cheap enough to get things moving, what if businesses need more a personalized approach?
- **Performance & Reliability:** how does cloud affect the contact center's ability to deliver its service?

FINANCIAL

Cloud-based solutions are sometimes thought of as having a ‘pay-as-you-go’ financial model that allows business of all sizes to move away from high front-end expenditure, in favor of a more manageable operational expenditure approach without any overspending. While this is true in some cases, it is perhaps better to consider the financial opportunities of cloud as being related more to shifting expenditure from capital expenditure (Capex) to operational expenditure (Opex).

Small and mid-size companies in particular typically did not have the ready access to cash to make the necessary capital expenditures for expensive CPE. As a result, making the shift from Capex to Opex has been especially relevant for these organizations, although the traditional CPE vendors have reacted by offering a lease/rental option as an alternative to the traditional lump sum plus maintenance fee pricing structure.

Cloud offers contact centers a way forward without relying on capital investment:

- Businesses can scale down future customer premises equipment (CPE) investment, with a resulting decrease in capital expenditure
- Services are bought using a per-concurrent-user or even per-hour pricing model, which helps to keep operating expenses manageable and controllable
- Outright purchase of equipment isn’t for everyone, perhaps for reasons of budget or the ability to maintain the systems
- There is the opportunity to scale up quickly as demand dictates, without purchasing lots of redundant licenses or the hardware to support them
- Low-risk ability to start up, move, expand or trial new functionality without risking existing business plans
- Business retain the freedom to downscale, change targets and react to meet demand, rather than commit themselves to long-term arrangements needed to justify CPE investments.

Apart from the general, Opex-driven payment model, there are a number of specific scenarios which could impact cost positively for organizations:

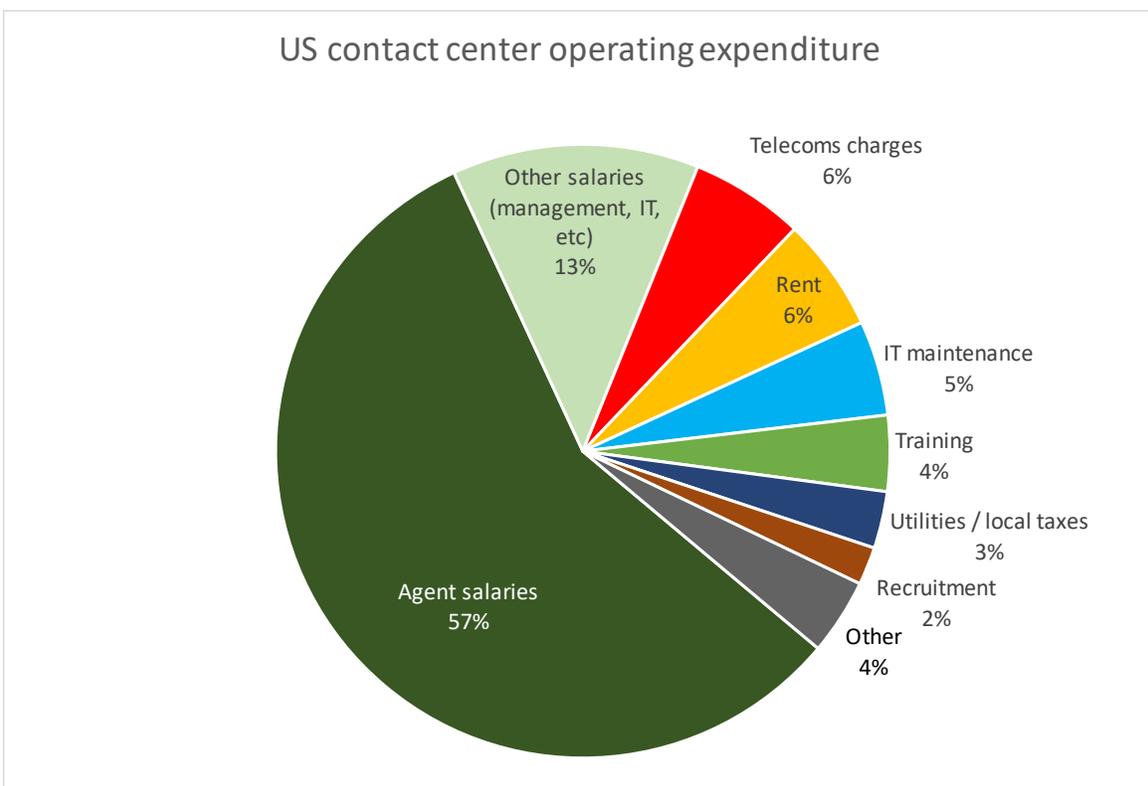
- For outsourcers and telemarketers who may have call volumes that vary dramatically depending on campaign levels, solutions with a flexible pay-per-usage pricing structure are particularly important. When production levels are the highest, and agent time is being billed to clients, the cost will increase. When there is less work, the cost drops accordingly. This allows the outsourcer to reduce risk, being able to predict one of the elements involved in profitability with much greater accuracy

- Where relevant, cloud offers the freedom to choose location(s) which can affect ongoing costs considerably in cases where property leases or excessive rental costs are an issue
- A cloud solution can offer organizations the opportunity to consolidate multiple suppliers into fewer (or even a single supplier), reducing the time spent on the supplier management role through having one point of contact and a single invoice.

One of the major triggers for the move to cloud has been that infrastructure and applications have reached the end of life, with vendors indicating that they will no longer provide maintenance or support. At such a point, organizations have no choice but to consider their options, one of which is almost always cloud. Solution providers note that the financial benefits of cloud are not simply related to the cost model, noting that the decision point for some businesses can be where they see a loss in potential revenue caused by the existing contact center’s inability to deliver what is needed in terms of functionality which may be unaffordable or impractical in a CPE environment.

A contact center’s ongoing costs are mainly spent on staffing, with around three-quarters of operating cost spent on agents, IT staff and management. As cloud-based solutions are closely linked with moving from Capex to Opex, it is worth considering how a movement from CPE to cloud-based solutions could impact on expenditure in each of these Opex categories, thus reducing or substituting existing expenditure within the Opex budget and freeing up budget with which to pay the cloud provider.

Figure 17: UK contact center operating expenditure



Agent salaries

At 57% of Opex, any small change in salaries will make a large impact on overall spend. Moving to cloud means that companies can be more flexible in their staffing arrangements, either through having agents in lower-cost locations (either onshore or offshore), and by supporting a more volume-driven staffing schedule (e.g. by having homeworkers log on for short shifts when they are needed, rather than the full eight hours). It may also be the case that agents place an actual monetary value on the opportunity to work from home, reducing wage inflation pressure.

Seasonality is also addressed, through being able to add and shed agents as needed depending upon the needs of the business throughout the year, without having to purchase all of the licenses needed outright.

Cloud offers various ways to reduce or otherwise manage overall salary costs, through contact center virtualization in all of its forms.

Other salaries (e.g. management & IT)

Businesses can experience a decrease in development & implementation costs and attendant IT management salaries, as cloud solution providers will already have solutions up and running. Moving physical hardware off-site also means that these maintenance requirements will no longer be an issue for the contact center. As a general rule, cloud rarely makes a major impact on IT resourcing through staff redundancy, as most IT departments are overworked and have a backlog of projects that they are then able to dedicate themselves to.

For multisite operations, moving to the cloud will offer greater opportunities for having a single-cross-site management team in place, with call routing and self-service controlled at a single point, reducing management costs as well as improving consistency and increasing the available labor pool.

Infrastructure and processes which are held in the cloud can avoid issues which CPE resources can experience, such as unnecessary duplication across multiple sites and a corresponding increase in management costs for configuration, administration and performance checking.

Rent, utilities & local taxes

Although businesses are usually tied into contracts for their premises, a cloud approach to technology means that a growing business can look for value elsewhere if a new operation is to open; or a contract break occurs, without the upheaval and downtime associated with moving on-site hardware to another location. Moving equipment to the cloud will also reduce energy expenditure.

Additionally, as cloud supports a remote worker/home agent scenario more cheaply, this can reduce the need to find additional physical space at a central location if the operation is growing.

Telecoms charges

Call queuing at the network level also saves money. In multi-site operations - rather than pass a call down to a contact center which may not have an agent immediately available to take the call – it makes sense to queue the call at the network level until an agent is capable and available to take it. The call is then passed – once – to the agent in the specific contact center.

IT maintenance

Cloud-based solutions mean that the need for large server farms is reduced or removed, lowering the cost of hardware and maintenance. Software upgrades are carried out at a network-level, reducing cost and upheaval.

Training & Recruitment

Cloud does not offer a great deal of opportunity for saving costs on training, although there may be some opportunity for recruitment savings based on having the ability to locate contact centers or homeworkers anywhere, including in lower cost areas, and through supporting the retention and attraction of high value agents by offering a homeworking option.

Other expenditure

Apart from these instances of reduced Opex, cloud offers other opportunities to cut down on unnecessary expenditure, including:

- Operations with fluctuating traffic (either on a seasonal or more frequent basis) do not have to buy sufficient software licenses and telephone line capacity to cover the peaks, as many cloud providers offer the possibility of adding short-term licenses on a pay-as-you-go basis
- The cloud allows users cost savings associated with not having to own or run their own hardware. Although servers may be a commodity purchase, the energy costs involved in running them can far outweigh the initial purchase and the majority of computing power generally sits idle in any case
- Disaster recovery may be offered as part of the cloud package, reducing the cost of purchasing this service elsewhere.

Shifting Capex to Opex provided options for small and medium contact centers when budgets were tight. This is less of an issue now, and even those that were amongst the most cost-sensitive of operations now consider the cloud to be at least as much about functionality and freeing up resources as it is about cost.

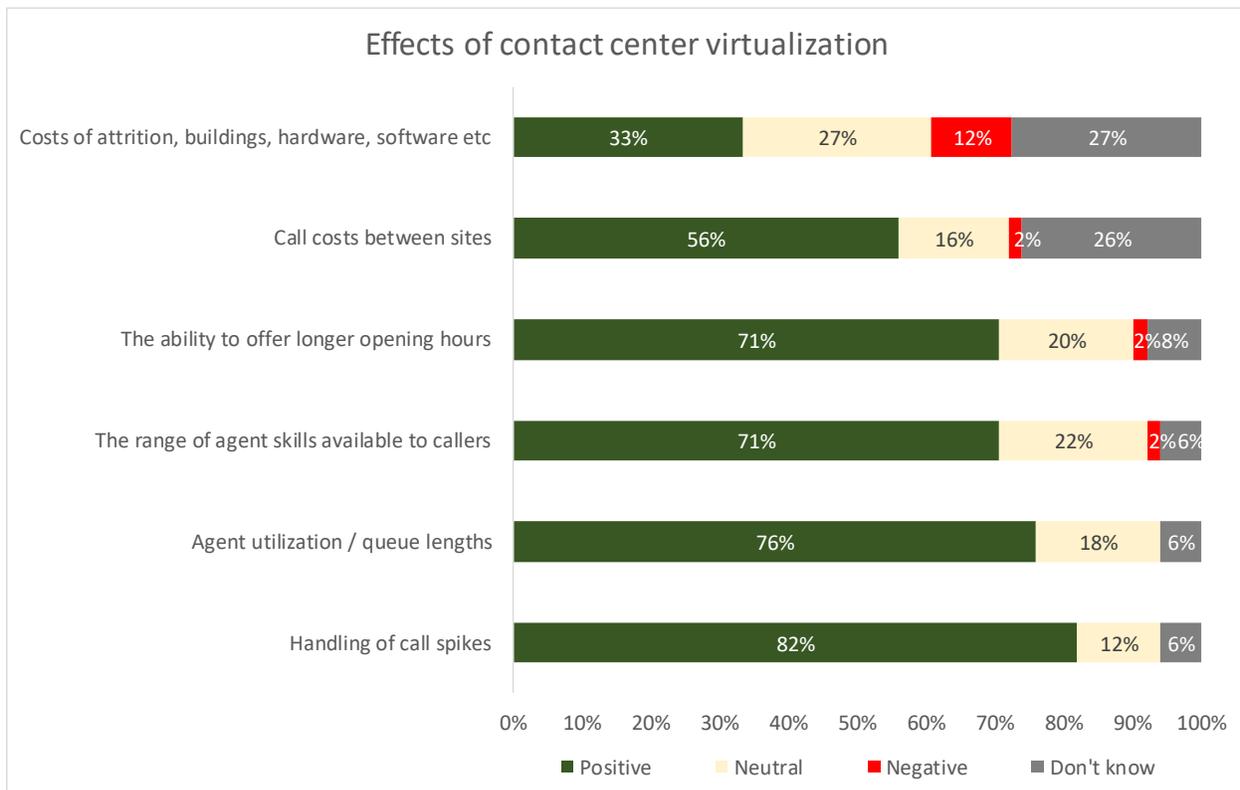
However, in the interests of balance, we should also consider cost as being a potential inhibitor. While this may seem strange, using a cloud solution for a long time may end up costing more than purchasing the technology outright. The truth of this will be determined in the TCO/ROI study that will be undertaken before any decision is made about cloud, and will need to include related elements such as the cost of CPE system purchase and application updates, as well as the greater benefit and lower cost associated with more frequent upgrades and recent functionality inherent in the cloud model. The cost of terminating a contract should also be considered as a potential risk element in the cost equation, if the move to cloud does not work out.

FLEXIBILITY & AGILITY

The maturity of Western contact center markets, coupled with the high levels of mergers and acquisitions in industries such as utilities, telecoms, insurance and finance mean that many large companies are now in a position where they provide customer contact via multiple sites, often running on disparate technologies. Cloud-based contact center solutions allow a way out of proprietary systems, lack of interoperability and the expense of maintaining many different systems without gaining from economies of scale. Of the 39% of US operations that are multisite operations, 49% are run as a single virtual contact center, with 34% a mixture of virtual and stand-alone operations, and 16% as separate operations. One of the historically strongest reasons stated by respondents for staying non-virtualized was that there were too many different systems at each location to work together: a problem that cloud-based contact center solutions address.

Respondents with virtual contact centers have generally been very pleased with the gains in efficiency and service level that they have experienced. The ability to smooth out call spikes by moving them between contact centers, and the reduced wait times were particularly mentioned, although all of the potential virtual contact center benefits mentioned were rated positively, showing a maturity and bedding-down of the technologies. However, there is some lack of unanimity amongst respondents about the net effect of costs caused by virtualizing contact centers.

Figure 18: Effects of contact center virtualization



On a day-to-day basis, cloud-based contact center solutions can theoretically offer a better service level and a simpler environment for businesses to operate in.

Reduced need for IT support and implementation

Having hardware and software based in the cloud means that ongoing system maintenance is significantly reduced, as it is the job of the cloud provider to handle such matters. This is also the case in terms of implementing new systems, with new users generally stated to be up and running in a matter of weeks. However, the level of customization may be less than that in a CPE environment with dedicated IT and business resource available, depending on the cloud deployment model, and potential cloud users should make sure that any bespoke functionality can be used or replicated in the new system.

Larger pool of agents to choose from

Treating multiple contact centers as a virtual contact center allows great efficiencies can be made through economies of scale. This is especially true where businesses are using skills-based routing. All agent competencies are displayed to the scheduler – regardless of agent location – who can be more flexible, simply because the available resource pool is so much more deep.

Cloud enables advanced features to be deployed without complex and possibly unreliable call flows, while offering disaster recovery and risk minimization. For example, queueing interactions in the cloud allows for the searching and identification of relevant agents based on skill and requirements before the call is routed. The distributed nature of cloud enables users to state where they are working from at a particular time, giving single number contactability as the cloud service will find them.

The support of contact center virtualization that cloud solutions provide is also applicable to homeworking. 45% of US contact centers use homeworking in 2017, with a further 7% running a homeworking trial.

Short-term scalability

The cloud offers great flexibility in adding or shedding agents and user licenses, of particular relevance to businesses which have substantial changes in call volumes over a year (such as the seasonality experienced by healthcare providers in the US, retailers and travel agents), the nature of outsourcing contracts or companies which have to react quickly to handle event-driven call spikes (e.g. an emergency weather situation affecting utilities companies).

Scalability is key: many contact centers want to be able to gear up and down to suit business demands and cope with peaks and troughs without unnecessary expenditure, and with cloud-based solutions they can do this on a daily or even intraday basis if necessary, instead of spending on capacity that they may not use for months.

Some solutions offer a hybrid model, a mixture of CPE and CCaaS, which allows them to instantly access extra capacity on demand, depending upon the needs of the business. This can help to break down traditional barriers around providing cost-effective handling of seasonal volume spikes, peak periods, new campaigns and homeworkers. Opinions are divided upon this: some solution providers report that hybrid is an effective and popular way of offering an elastic demand capability and disaster recovery, whereas others have found that in their experience, hybrid is more of a stepping stone to pure cloud implementation, used as reassurance and proof of concept by businesses that were not 100% convinced.

Centralized management

In a multi-site, cloud-based environment, self-service and call routing scripts can be held centrally to increase the speed to alter these as required, and also to maintain consistency across sites.

Infrastructure and processes which are held in the cloud can avoid issues which CPE resources can experience, such as unnecessary duplication across multiple sites and a corresponding increase in management costs for configuration, administration and performance checking.

FUNCTIONALITY

Solution providers that offer both cloud and CPE solutions are at pains to point out that it is not the choice of deployment model that should come first, but rather how the operational requirements and functionality of any solution match the business's strategy.

Historically, cloud-based or hosted solutions were primarily tailored for SMEs, with a trade-off between low-cost of ownership and speed to deploy against less powerful functionality. These cloud-based offerings would tend not to offer the full range or richness of functionality of their CPE equivalents, but recent years have seen concerted efforts by solution providers to be able to offer the same levels of functionality regardless of deployment model. This is not to say that the cloud-based solution offered by a solution provider to a business with 20 seats will be the same as to one with 500 seats: small operations are more likely to require a solution which is relatively easy-to-use as well as being cheaper, but any functionality which they do not have as part of the package is likely to be able to be switched on as-and-when they require it.

For some solutions, the levels of functionality available can differ from provider to provider, and of course businesses need to decide which pieces of functionality are vital, and which are worth foregoing to gain the benefits of cloud-based solutions. Customization in multi-tenancy environments is obviously far more limited than with a CPE delivery model and the cloud provider may not be able or willing to support unique customization requests. This has tended to mean that there has been a balance between functionality, cost and flexibility, although solution providers are still trying hard to offer similar levels to their CPE offerings. Having said that, the majority of functionality that contact centers require will be available through a cloud-based model, and the prevailing opinion is that with the level of competition in this area, cloud providers will be more likely to update and innovate to keep ahead of the game.

The issue of customization and integration with existing legacy systems is of differing importance for every business. Some businesses may welcome the opportunity to revisit their old business processes, management information and general operations with a completely open mind. Others may have very specific requirements which are non-negotiable. For most businesses, there will need to be a balance between the way they are used to doing things, and the way the cloud solution works. Having said that, cloud providers are at pains to point out that legacy systems do not have to be replaced or abandoned, just that the levels of customization and integration required may take off a little of the edge that moving to a cloud-based solution can bring: the rapid implementation of technology, with minimal requirements for IT resource and seamless integration between components. Vendors note that cloud-based solutions have often been architected from the ground up, so that various components work together seamlessly, requiring less time and effort to use.

Trial new applications quickly using a low-risk pilot

Contact centers can expand, move, increase size or try out new functionality without the high initial set-up costs. Using a pay-per-use model allows businesses to start a contact center or move at low risk or increase for a temporary campaign or try out new functionality without having to spend excessive amounts of time and money first. This is especially true for applications such as speech recognition which can be a very expensive solution to implement at a CPE level, and also ones where the business wishes to trial a technology quickly, or simply use it in a specific business unit.

Amongst the biggest gainers from cloud technology are mid-sized contact centers, a market which many vendors had been failing to address in the terms which its size and importance deserved. Solution providers which have deep and rich CPE functionality aimed at the high-end of the market had historically been reluctant or unable to offer similar features to smaller operations at a price point that was acceptable to both parties. Cloud-based solutions mean that this market is becoming more important to vendors: for example, when using a multitenant deployment, the reduced implementation time and lower levels of integration and customization means that more achievable price points can be offered than in a CPE environment, as vendors gain from the economies of scale associated with multi-tenancy (assuming a critical mass of customers).

Future-proof

A competitive, open cloud environment should mean that vendors will be motivated to innovate and provide better service. Cloud solution providers have continually to enhance and develop their services which bestows a competitive advantage to business users who can deploy the latest technology and the often inherent advantages of improved functionality, service and reduced costs, through their contact centers. In effect, a cloud solution removes the technology stranglehold experienced by many contact centers with CPE and allows them to concentrate on their core business as this release of frequent new functionality can be used to achieve a strategic service advantage.

In a CPE environment, upgrades to applications are carried out under ongoing maintenance contracts. Upgrading one element may cause a knock-on effect requiring other applications to be upgraded as well, a task which can be long and expensive. Cloud-based providers update applications on an ongoing, regular basis.

SECURITY

In the first market stage, security tended to be the greatest concern expressed around moving to a cloud-based solution, as – naturally – businesses will tend to think that they can look after their precious data better than anyone else, as they have the most to lose through any mistakes. Worries about attacks from outside or within the service providers' organizations, or through poorly-designed security creating potential risks, mean that allowing a third-party to be in control of a businesses' data security is a major cultural and technological change to the way most businesses and IT departments have operated.

Yet serious cloud-based solution providers have invested very heavily in physical and logical security - which many organizations have not done themselves - as it is in the solution providers' own best interests to do so: fear of a substantial data breach, and the consequent damage to brand and any financial penalties means that taking security shortcuts creates great risk for the viability of the solution provider. For an enterprise to set up its operations with a similar level of security and disaster recovery is extremely expensive, and the increasing number and stringency of regulations means that this is unlikely to change at any time in the near future.

Organizations should expect that data should be **at least** as secure in a third-party environment that is dedicated solely to providing a high-quality cloud-based service, as this is one of the factors by which the solution provider will succeed or fail. Potential cloud clients should look for:

- multiple levels of firewall protection
- continuous intruder detection systems
- a two-person rule for changes to code or hardware
- frequent scheduled password changes
- external testing and audit trails
- data encryption used both in storage and in transit, under the control of the user
- additional layers of user authentication and privilege
- vetting of employees with access to sensitive information or hardware
- internal traffic and server monitoring.

Businesses should make sure to ask their cloud provider what data encryption levels are operated, and whether the customer is given control of the data encryption key. Data should be encrypted at all stages, when travelling over the network between business and the database, and also when it is in the database and any back-up databases too. US organizations may wish to check that providers have the appropriate level of FIPS 140-2 certification, and are compliant with PCI-DSS, Sarbanes-Oxley, HIPAA and any other regulatory requirements.

A cloud deployment may be more likely to be associated with security risks as the transmission of data is assumed to be over the public Internet, and that data from multiple customers may be held on shared hardware in place physically separate from the business. This is not necessarily the case: businesses may choose to have a private circuit such as an MPLS network, or to secure the Internet connections by using IPsec VPN tunneling. In any case, the physical and logical security offered in an offsite, dedicated location may well be superior to the business's existing IT/IS environment.

Different architectural approaches may be appropriate: virtualization offers a separate single customer, multi-instance environment in the data center; the hybrid, local control model may offer the option to keep voice traffic and customer data (including recordings) locally within the business's own private network.

Agents working at distributed locations may require controls such as audit and fraud programs, functionality to control what agents can hear or view, strong and regularly updated protection of the PC environment (including anti-malware, anti-virus and firewalls), as well as screen and voice recording.

Some elements to ask about include:

- **Security:** the cloud provider must have a strong security management system based on an internationally-accepted security framework, to include physical security measures and secure data center facilities. Relevant policies, certifications and standards include the ISO/IEC 27000 family, PCI-DSS Level 1 Service Provider, and ISAE 3402 (or SSAE 18 in North America). It should be noted that with the increased use of homeworkers, security controls should be data centric, rather than location centric. Potential customers should look for independent third-party accreditation, proof of investment above and beyond the minimum required by regulation and regular penetration testing.
- **Access:** access to the service provided using industry standard encryption, or via a VPN. Data in transit should be encrypted using strong encryption
- **Usage:** make sure customer data is used only as instructed or to fulfil the cloud service provider's legal requirements and that governance and role-based access management policies, and ongoing process testing procedures are in place. This should include user profile controls; all data having a unique key for its owner; authentication; deactivating unused accounts; automated alarms; logging; audit; penetration testing and regular changing of encrypted passwords
- **Data ownership:** make sure the cloud provider claims no ownership rights to customer data
- **Payment functionality:** see [The Inner Circle Guide to PCI DSS Compliance in the Contact Center](#) for full details on the payment card solutions available in the cloud
- **Disclosure:** the cloud provider must only disclose customer data where required by law

- Geographical data location: the cloud provider must specify the locations and countries in which data will be stored. Physical protection of the data center(s) should also be considered. Data centers in multiple physical locations will offer disaster recovery options if servers are fully mirrored
- Auditing: the cloud provider must use third-party auditors to ensure compliance, both physical and technological, and should submit to audits by their clients' IS teams as required.

Other interested parties include the [Cloud Security Alliance](#), a not-for-profit organization with a mission to promote the use of best practices for providing security assurance within cloud computing as a whole.

The General Data Protection Regulation (GDPR) comes into effect in May 2018, and brings with it a host of new challenges for businesses and cloud providers who hold data on EU citizens (regardless of where their actual business is located), the latter of whom are now brought under the data protection umbrella as data processors. It would be the work of a whole separate report to cover the issues fully, but a good overview of the changes can be found [here](#) and [here](#).

It is worth noting here that the greatest risk to security does not usually come from technical malfunctions or sinister attacks on a company's infrastructure, but rather through human error, failing business practices and a lack of understanding where the greatest risks are. For example, even if a cloud provider can demonstrate the highest levels of security, the overall business is still at risk if the contact center's agents are scribbling down customers' payment details on Post-It notes. As such, security can be less about technical elements, and more about governance and processes in place within the organization. Having said that, some solution providers note that the business level executives tend to believe the cloud security isn't a problem, but the IT department can be concerned about opening their firewall.

CONTROL

Control, visibility and reporting

Loss of control is of as much concern to businesses as fears over integration. A service provider may not be as responsive as an in-house team, and it may take hours or even days to make changes to the system, so service level agreements should include response times. It is also the case that the solution provider upgrades or implements new functionality as and when they wish, in the case of the multi-tenancy model, and backing up the system is also something that the solution provider becomes responsible for. It is vital that these issues too form part of any agreement between the client and the cloud solution provider, with expectations of the provider's speed to react stated and agreed in writing before any contract is signed. Some cloud vendors provide complete visibility of their service availability and performance through web-based dashboards. Cloud-based contact center solutions are more likely to have an ongoing, real-time monitoring capability included in it, rather than operational performance management being an end-of-day activity

Some solution providers note that some traditional BPOs and outsourcers, as well as large financial institutions prefer to own and control their own technology, which is a major hurdle to overcome for a cloud provider. These organizations also have significant resources and focus upon security and governance, which makes the cloud proposition a more difficult sell, although not impossible.

Having said that, multisite, global enterprises would benefit both in terms of cost and functionality by being able to consolidate their operations over a single platform, utilizing a single supplier.

Cultural considerations

Making the move to cloud is seen as a far bigger proposition than deciding whether to implement or replace a particular contact center application such as call recording or workforce management. The decision can be as much cultural and political within an organization as it is technological or operational. Perceived security and data privacy issues around cloud are always present in any such discussion, and a lack of confidence or understanding of the reality around these issues, especially in the higher echelons of decision-makers, has on occasion vetoed or delayed the move to cloud, regardless of the financial or functional arguments put in its favor.

Solution providers note that it has also been the case that there has been a common perception that cloud is an all-or-nothing infrastructure decision, which is untrue. Many vendors offer options for customers to keep what they feel that they need on-site - for example call recordings and sensitive data - while moving offsite the elements of the contact center solution that businesses are most comfortable with outsourcing.

The move to cloud has similarities to the decision-making process around IP that many contact centers have been through:

- it may not be related just to the contact center, but other business areas too
- the technical elements of the decision may not be easily understood by business-focused executives
- concerns about security and reliability are frequently aired
- the general movement of control away from the enterprise to a third-party can cause uneasiness
- final decisions may not be made from within the contact center environment.

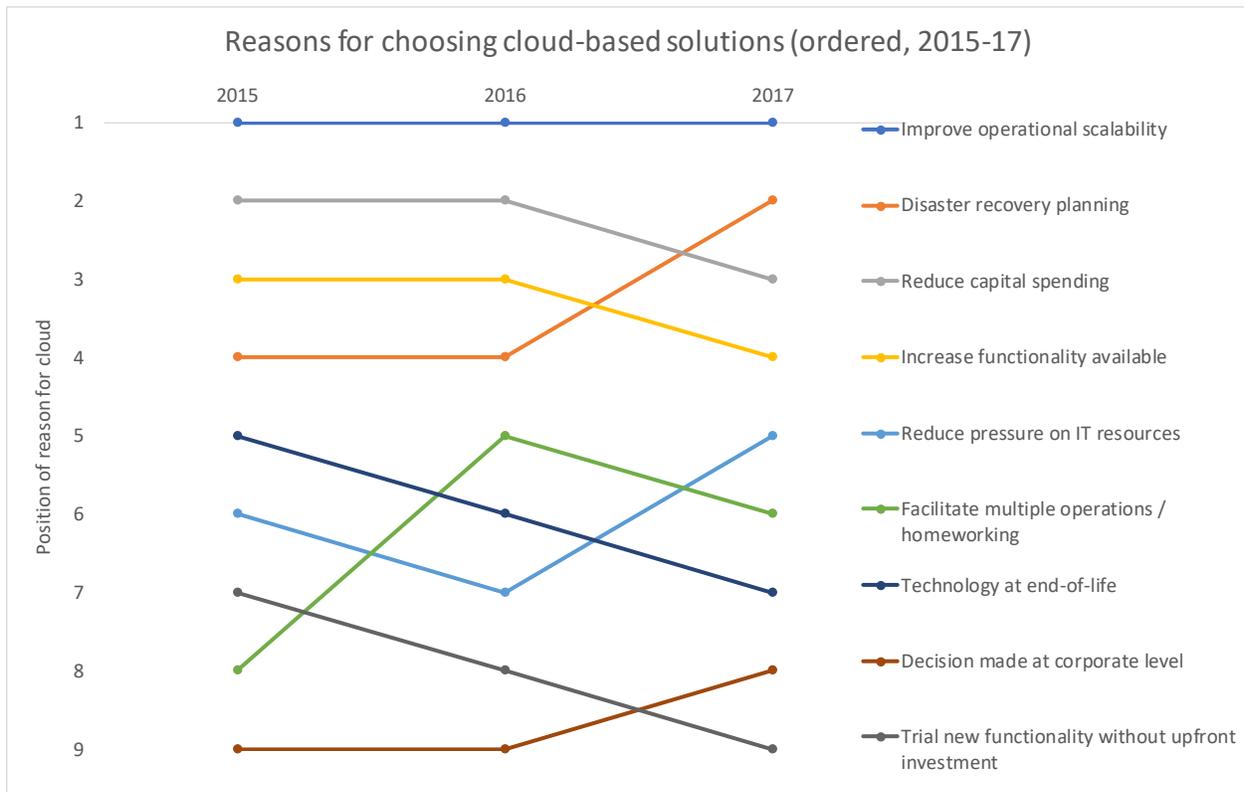
Using the case of IP, 40% of contact centers in the US and UK stated that the move to IP was a corporate decision, not a contact center decision. Although the case for cost reduction via a single IP network was stated to be the most important factor in the final decision, corporate sponsorship was placed at no.2.

THE RELATIVE IMPORTANCE OF DRIVERS AND INHIBITORS

Over the past three years, US survey respondents were asked how important each of the nine reasons below was for choosing cloud-based contact center solutions. In order to understand the changing view of the industry, these data were aggregated and ordered from 1 to 9 (where 1 is the most important and 9 is the least important), and are shown in the chart below. Although we only have three years of data, some patterns are starting to emerge:

- the importance of scalability cannot be underestimated, holding 1st place throughout
- disaster recovery is growing in importance, rising from 4th in 2015 and 2016 to 2nd in 2017
- a reduction in capital expenditure - often stated as one of the major reasons to move towards cloud - has been in either second or third place in each of the years studied. Despite solution providers believing that Capex avoidance is less important, it is still a major reason for cloud
- Trialing new functionality and existing technologies approaching end-of-life are both dropping in importance, whereas freeing up IT resource is growing in importance.

Figure 19: Reasons for choosing cloud-based solutions (ordered, 2015-17)

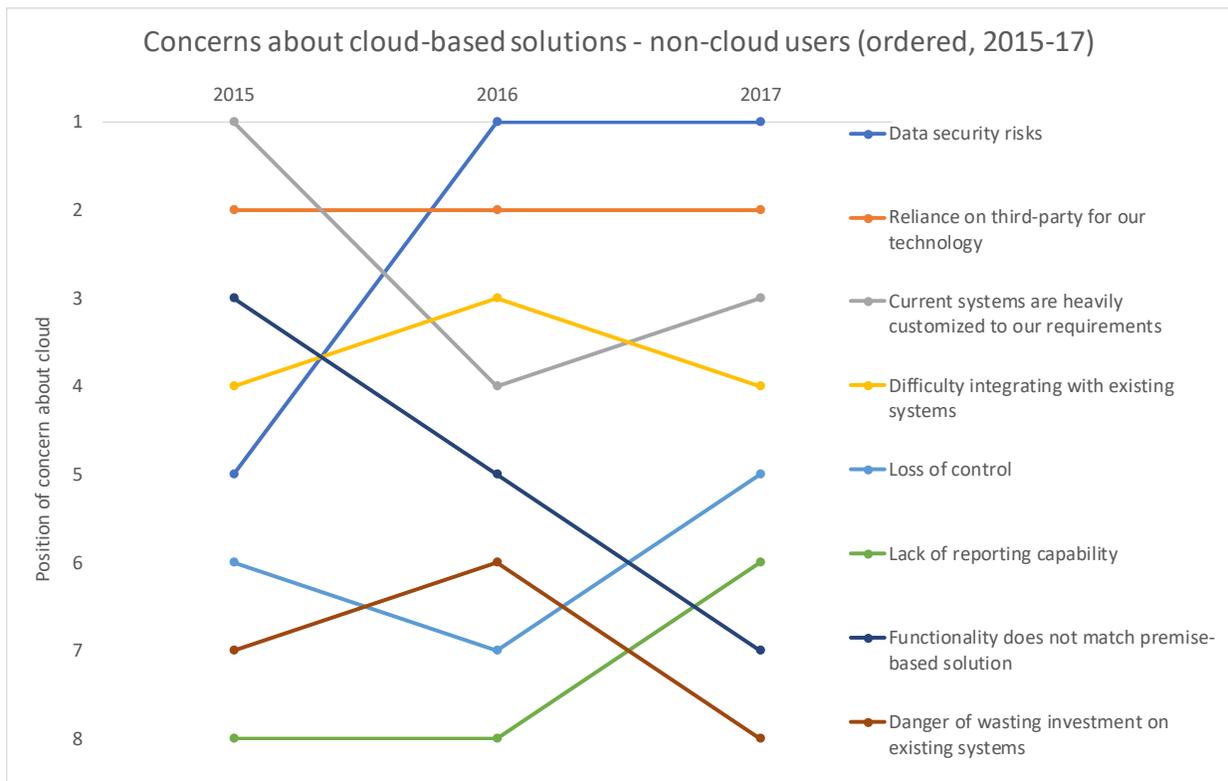


INHIBITORS

The large amount of primary research data collected through interviews - both with those that use cloud, and those that do not - allows us to examine not only what is holding people back from implementing cloud, but make some sort of judgement on how fair or realistic their assessment is. Despite the generally positive experiences that most users of cloud solutions have reported, there have been considerable barriers to implementation that have held back some potential users, connected with the greatest concerns around customization, integration and ceding control to a third party.

For non-cloud users, the historically major concern that data security will be compromised by third-party control of customer details has stayed at no.1 position through 2016 and 2017, despite a drop in 2015 which is probably a statistical blip, as years previous to 2015 also show deep concerns about security. Solution providers' efforts to provide greater education and understanding about risks and reality - as well as striving to improve (and prove) the security and reliability of their own systems – clearly need to continue. Some cloud-based solutions allow clients to keep call recordings and sensitive customer information on their own site, whereas most others provide externally-audited and accredited dedicated security that can usually surpass most on-premise offerings.

Figure 20: Concerns about cloud-based solutions (respondents not using cloud), 2015-17



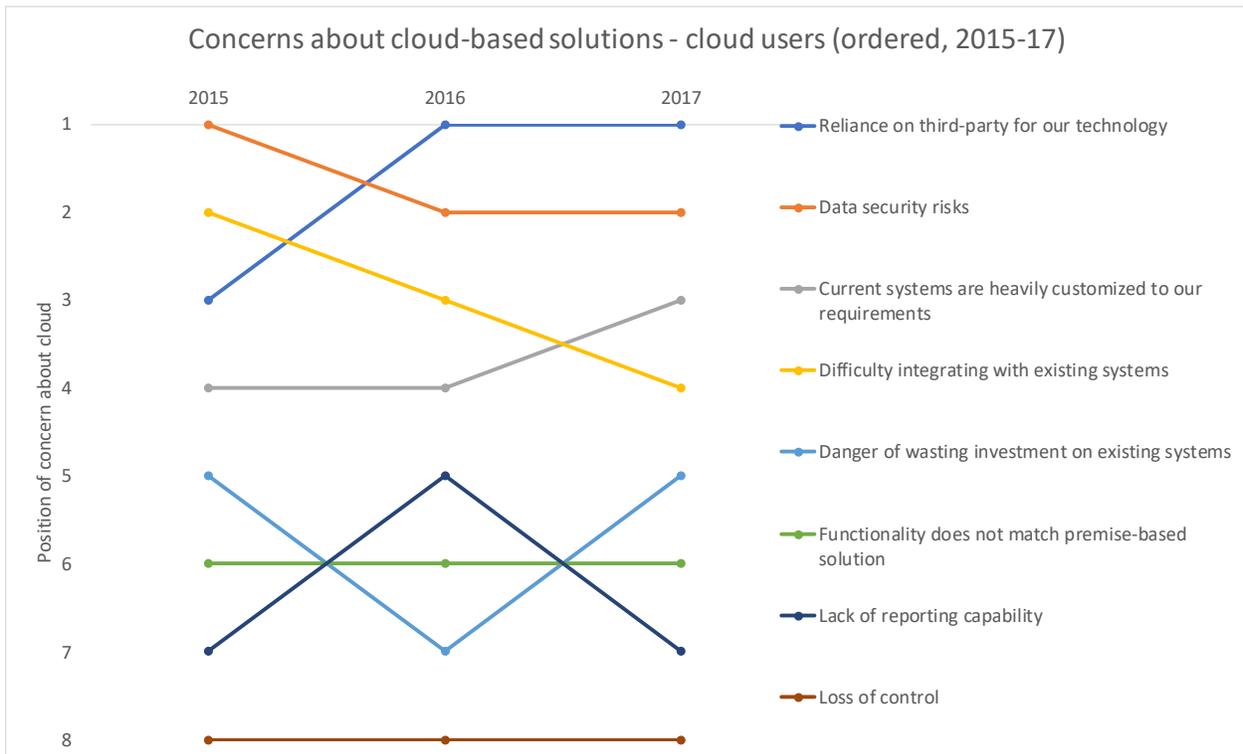
Non-cloud users’ growing concerns are around a loss of control and to a lesser extent, a lack of reporting capability. The functionality that solution providers have recently added to their solutions means that fear of not being able to have such a feature-rich application in the cloud has dropped from 3rd place to 7th place since 2015. Concerns over integration and customization are consistent.

When considering only those survey respondents that actually **use** cloud, the need to rely on third parties continues to be an issue for many, although concerns about a resulting loss of control is not a major problem for most: it is perhaps as much a cultural issue as a technical or operational concern.

Data security is a consistent concern, even amongst experienced users of cloud, who know the potential risk from a breach. Customization and integration are also areas of potential concern, although the latter has dropped from 2nd in 2015 to 4th in 2017, suggesting that this area is being addressed by cloud providers.

In all, it seems that cloud-based solution providers need to focus on addressing security and customization issues to reassure both potential and actual cloud users, although the general positive experience of most cloud users lends an element of assurance.

Figure 21: Concerns about cloud-based solutions (respondents using cloud), 2015-17



BEST FIT

Not all businesses are ready for cloud-based solutions. Perhaps culturally there are too many concerns about security within various areas of the business to carry the argument. It may be that there has just been a major capital investment in CPE which fulfills the contact center's need. Moving to cloud is not a 'no-brainer'. Below are some of the characteristics that mean some businesses will choose CPE while others will migrate to cloud-based solutions.

Figure 22: Characteristics of businesses choosing cloud and CPE

More suitable for Cloud	More suitable for CPE
Fluctuating call traffic (e.g. seasonality) that requires flexibility in adding & shedding agents	More predictable traffic that does not require changes in agent numbers
Planned addition of new sites and/or homeworkers	Stable contact center environment in terms of headcount and location
Looking to add functionality and/or have technology at end-of-life	Have made substantial and recent investments in technology
Multi-site locations that could benefit from consistency of technology and management	Single-site location or no need to virtualize
Innovative and risk-taking culture aimed at gaining competitive edge	Conservative cultural approach to new technology and risk management
Simpler reporting & routing	Very complex routing & reporting requirements
More standardized back-office integration	Sophisticated and deep integration with back-office systems, developed over many years
Willing to look at Opex model of funding	More comfortable with Capex model
Do not have enough experienced IT staff to implement, support and maintain systems	Have a lot of experienced IT staff
Willing to cede some control over privacy and security to third-parties	Culturally unwilling to relinquish control over privacy and security

Many solution providers emphasize that cloud/premise decision is just as much about attitudes and commitment to internal IT as it is about cost. For many organizations, the IT department is freed from its role of ongoing maintenance and management, and can look at other projects of more strategic benefit to the business.

IMPLEMENTATION AND USAGE

PRE-IMPLEMENTATION

The selection of most IT solutions is normally carried out in a similar way, but some steps you may wish to consider for cloud-based solutions include:

- A selection team should be chosen with responsibility for all of the areas affected, including contact center operations, IT, compliance, back-office, business operations and probably sales and marketing
- While bearing in mind the underlying business processes that the technology supports, select the specific technologies that are to be cloud-based, and also those bespoke applications that are to remain in-house, such as specific complex reports. Take the opportunity to consider 'ideal world' functionality as well
- Research the types of solution available in the market, and understand any actual differences between premise-based and cloud-based functionality. Provide vendors with specific instances of complex functionality and business processes required to meet your own particular requirements and challenge them to prove that they can be met. This should include all instances of existing back-office functionality that the solution needs to integrate with and where possible, a wish-list of functionality in the future
- Investigate publicly-available referenceable sites from cloud-based providers that are similar to your own requirements, and submit an RFP (request for proposal) to the long-list. Request a detailed product roadmap along with timescales in order to assess whether this solution will meet your demands along the line. You may wish to invite solution providers informally to demonstrate their product before offering an RFP. Potential clients should look closely at the vendor's financial position and backing to make sure that the quality of service and level of innovation can be maintained in the future, also that they have the technological expertise in-house to keep making these improvements
- Any response to an RFP should include service level agreements over availability, call delivery, voice quality, speed to make requested changes, support hours and availability, details of security and redundancy offered, prices for customization, contract length options, implementation times, contract cancellation penalties and notice periods.

END-USER QUESTION #2:

“WHAT SORT OF ASSURANCES AND GUARANTEES SHOULD WE LOOK FOR FROM A CLOUD PROVIDER IN TERMS OF SECURITY AND PERFORMANCE? HOW DOES GDPR AND THE HUGE FINES THREATENED FOR DATA LEAKAGE ALTER THIS?”

 Clients should assess cloud providers across 5 aspects of security, 1) Data, 2) Platform & Physical, 3) Network, 4) Application and 5) Human

DATA SECURITY: CxEngage™ uses Amazon Web Services (“AWS”) compute, storage, management, security & identity services, and other services to ensure platform security in all AWS regions where CxEngage™ is deployed. This includes, but not limited to access control lists, identify and access management (IAM) policies for product and non-production platforms.

At the CxEngage™ application level, users of a tenant authenticate to the CxEngage™ platform and once authenticated, they can access information for one or more Tenants based on their membership. Only a Tenant Administrator may invite a user to a tenant and can control a user’s access to Tenant resources based on roles and permissions assigned to the user by the Tenant Administrator.

All tenant data including configuration, interaction and log file data is logically separated by a universally unique identifier, or UUID for the tenant. Access to this data via the UI or API requires the UUID for the tenant and an authorized user session.

Serenova has incorporated IP filtering functionality into CxEngage™. When configured by a tenant administrator, this feature will restrict unauthorized user connections to CxEngage™ based on their originating IP address. Only users who connect from a permitted IP address (specific IPv4 or range of IPv4 addresses) can gain access to CxEngage™ resources including APIs, configuration UI and agent toolbar.

PLATFORM & PHYSICAL SECURITY: We operate in AWS’s Tier-4 -class data centers. Each data center employs multiple security parameters including access control at both perimeter and building ingress points, video surveillance, and intrusion detection systems. Staff pass through at least two 2-factor authentication entry points to reach data center floors. In addition, Serenova leverages a number of security protection measures for monitoring, alerting and detection of unauthorized access.

NETWORK SECURITY: Serenova employs a number of security measures to ensure a secure platform environment for our customers including virtual private clouds for core services of the platform, data stores, and monitors for unauthorized access and encryption.

APPLICATION SECURITY: As an organization, Serenova leverages several methodologies such as Secure By Design and Holistic Security Reviews to limit any security vulnerabilities within all our applications.

HUMAN SECURITY: Background and reference checks are conducted on Serenova personnel who are authorized to access customer data. In addition, all employees must review and certify a full understanding of the Serenova Policy and Procedures.

How does GDPR and the huge fines threatened for data leakage alter this? All cloud based solution providers have the protection of information as a core and critical function of their ongoing existence in the marketplace. While GDPR has increased the awareness and the impact of potential security breaches, every cloud provider understands that security protections are of the utmost importance to their clients and to the cloud provider's ongoing existence in the market.

PERFORMANCE & RELIABILITY

Cloud clients depend upon the solution provider to maintain a high level of service reliability, availability and uptime. This means there must be data center redundancy and geographical separation, and enforceable service level agreements.

Service providers will test their systems on an ongoing basis, and a few will even guarantee their availability to 99.999% (the '5 9s target of carrier-grade availability), backed by penalties if they do not achieve this. This level of reliability is the standard for very large contact centers which have paid significantly for this in a CPE environment, but is likely to be an improvement on what SMEs are used to, with their much smaller budgets. The nature of cloud-based systems - that they can be accessed from anywhere by anyone with a browser, with little or no client-side software needed - means that problems at the client's premises can be circumvented by physically moving staff elsewhere. Potential users of cloud-based solutions should be aware of what they are comparing when they place vendors side-by-side for reliability assessment. Some vendors include the necessary downtime associated with maintenance and upgrades of an instance, others only count unscheduled downtime.

Potential clients should make sure that the provider's infrastructure is load-balanced and over-provisioned relative to the number of users to ensure resilience and consistent levels of performance. There is a risk that some providers add new clients without adding new hardware or other supporting systems (which would obviously be more profitable), and this would negatively affect the response times of the applications.

Ensuring business continuity during outages, facility emergencies and inclement weather is a critical requirement for any contact center operation. Cloud-based contact center models ensure business continuity by enabling agents to be connected to the technology platform and necessary applications from anywhere with Internet access. Even in an outage, companies maintain the ability to service and sell to the client base, undermining what could otherwise be a disastrous situation resulting in lost revenue, dropped calls and negative customer experiences. Cloud solutions eliminate the costly and time-intensive process of building and maintaining a back-up site from which to take calls and deal with emergency situations, and superior solutions are fully-redundant, with complete disaster recovery and business continuance delivered from multi-site locations.

Cloud solutions can also provide back-up disaster recovery protection to centers which prefer on-site CPE or a hybrid model, as reserve protection. In this way, disaster recovery can act as a first step into the world of cloud, with the company becoming more familiar with offsite functionality and hardware, which can lead to a greater commitment to put the primary functionality into the cloud once their own technology is at end of life.

ROI, TCO & PRICING

Before being able to calculate return on investment, it is necessary to understand the total cost of ownership of cloud-based solutions compared to their CPE equivalents. These can include:

- Reduction or redistribution of agents (e.g. through homeworking or virtualization) expanding the agent pool and service levels without increasing agent numbers overall. This is particularly the case for businesses requiring highly skilled and trained agents - health, medical, technology, life sciences and pharmaceuticals for example - as homeworking is seen as an effective agent retention and recruitment method
- Impact of increased functionality on call handling times and first-contact resolution rates (e.g. having multi-site skill-based routing strategies supported in the cloud)
- The in-house cost associated with the maintenance and management of on-premise hardware and software, compared with that spent monitoring cloud-based systems (although minimal, businesses will still want to be aware of what is happening, when upgrades are scheduled, supplier liaison, etc.)
- Initial cost of CPE and the structure of financial payments, effect of depreciation, etc. (NB – CPE costs are likely to be substantially higher than cloud at first, but lower as time passes and costs are written-off. It is important to compare the overall cost of any cloud contract with the TCO of the CPE solution over the appropriate timescale)
- The value of staying current with technology, both in terms of reduced license fees and the impact of superior systems on agent performance. Include the cost of additional training requirements in a frequent release environment
- Whether additional functionality provided by the cloud provider over time is included in the fixed monthly payment, and if so, what would be the cost of upgrading on-premise solutions to include this functionality?
- Cost of calls, the ease of moving between telephony providers, and the extent to which calls are included in the cloud package
- Compare the cost of staffing for seasonal volumes and spikes (licenses, recruitment, training, staff salaries etc.) compared to cloud-based pay-as-you-go, homeworkers or short-shift workers, as well as attendant additional hardware fees for major on-premise volume increases (e.g. adding an extra server).

The distribution of payments is very different, as well as the overall fee paid. Although there may be an initial fee associated with cloud-based solutions (connected with the discovery and implementation phase, as well as a payment in advance), this upfront cost is likely to be far lower than with traditional on-premise purchases, although the latter may be alleviated somewhat in the case of a leasing arrangement.

TCO assessments of cloud vs on-premise deployments generally reach a conclusion that cloud-based cost savings are proportionately larger with increasing contact center size, and also where the level of functionality is greater too. However, some solution providers report that longer-term, the depreciation associated with on-premise solutions means that the TCO gap narrows, so that after 7 years or more, the difference is much less, if not wiped out totally.

As expected, there is no single right calculation to the ROI question, although payback is stated by most solution providers to be within 12 months in virtually all cases, and in many, a considerably shorter timescale (perhaps 3-6 months). The actual figure depends on factors such as number of seats, the number of contact center locations, the functionality employed, the costs of integration or customization and other such factors. Most vendors have an ROI calculator for prospective clients to use. Any choice **not** to move to cloud is less frequently financial than for many other types of technology decision (except perhaps in cases where there has been large recent capital investment made), but may be more concerned with cultural issues, existing IT infrastructure and expertise, and other concerns such as customization or integration with irreplaceable legacy systems.

From the vendor perspective, some say that cloud-based solutions don't impact particularly positively on their profitability, as revenues from contracts are recognized over a number of years, rather than immediately in the case of many on-premise sales. It does however provide a guaranteed income stream and help cashflow forecasts, allowing them to run their business with a greater confidence and stability, which is obviously helpful for their customers as well.

Contract lengths vary, but are generally in place for at least a year, more often two or three. Some vendors provide a zero-commitment option but these are likely to work out pro-rata perhaps 40-50% more expensive than long-term contracts. Solution providers differ widely in their contract offers, with some operating a very flexible 'per logged hour' billing system, whereas others will want an agreed minimum number of agents per month, with additional users billed as required.

For most vendors, especially those offering a multi-tenant model, the cost of maintaining and upgrading the solution is lower, which impacts positively upon their own costs.

Pricing will of course depend on the features and functionality that client choose to use, although the following table gives a rough idea of what users can actually expect to pay. Generally speaking, when comparing similar levels of functionality, price points have come down over the past three years. Cost tends to be 10-20% higher for small operations on a per-agent basis. Businesses should note that per-minute telecoms charges may not be included in the monthly cost.

Figure 23: Pricing examples

Functionality / size	Price (typical \$ per agent per month)
Basic - voice only, may have recording	\$40 - \$100
Advanced – may have routing, automated outbound, reporting	\$80 - \$150
Enterprise - full blended and omnichannel, may include WFM, disaster recovery, quality management, analytics	\$125 - \$200

Further notes on pricing

- Potential cloud clients should also check and include the cost per minute of delivering and making calls, as well as any additional platform usage fee (e.g. per logged-in agent minute)
- Non-standard service requests (such as customization, extra reporting etc.) will also usually be charged for separately, with a rate of \$100-\$150 per hour being typical
- Multichannel functionality may be added on a per-seat basis, including email, social media and chat. Extra pricing of \$30-40 per agent per month per extra channel can be expected
- Potential customers should also take into account any per supervisor/manager license costs
- Most cloud-based providers offer pricing based on concurrent users, rather than specific named users, which reduces wasted license fees
- Most cloud vendors offer pricing on a per-seat/per-month basis, but some offer the even more granular approach of per logged hour or even per minute, which is of particular interest to outbound telemarketing companies and outsourcers, for whom this directly impacts upon profitability, with daily viewing of billing offered by some vendors

- Businesses may be charged separately for connectivity to the data center which may be on a per minute basis, so will need to make sure that any request for quotation includes the same levels of access, data and voice traffic. Solution providers also note that prospective customers should ask about minimum call charges, per second billing, per digit billing and the rounding up or down of telco charges
- Standard service level agreements start at around 99.7% guaranteed availability, with some vendors offering 99.999% on a premium contract. If these SLAs are not met, vendors will offer reduced rates as compensation. Service levels offered by some vendors may differ depending on contact type, although with the multi-tenancy approach, everyone gets the same service levels.

Contact centers will experience significant reductions in one-off implementation costs, as there is little or no hardware or software to be deployed in the contact center environment. It is likely, especially in multitenant environments, that any maintenance fee will either be included within the package, or at least much less than the typical CPE maintenance charge, which can be around 15-20% of the original license cost per year).

Solution providers comment that the majority of savings realized in the first year are due to the elimination of maintenance and implementation costs, particularly in environments where there is a single cloud provider delivering all of the services, rather than the organization still running some functionality itself, which would still require maintenance and effort to keep software levels compatible between products.

The length of the contract is also an issue. Cloud solution providers will prefer long-term multi-year contracts, and offer significant discounts to encourage this, enabling them to predict their revenues more accurately and thus be able to invest in the solution with some confidence. Those customers which are new to cloud may prefer to have shorter contracts, with the option to break, at least until they become familiar with the offering. In theory, longer-term contracts benefit everybody, in that customers of businesses which are financially secure are more likely to benefit from the stability and consistent levels of R&D that such a supplier can provide, as well as not having to re-engineer their customer contact environment and processes every few years.

Other factors influencing pricing are:

- number of agents
- number of supervisors
- functionality required (e.g. outbound only, blended, call recording, multichannel etc.)
- number of logged-in agent minutes per month
- number of outbound minutes dialed per month (split by landline, international and mobile)
- number of SMS sent
- length of contract.

END-USER QUESTION #3:

“WHERE DO THE BIGGEST COST SAVINGS COME FROM? HOW CAN WE SHOW THAT THERE’S A REAL ROI FROM MOVING TO CLOUD?”

 Most organisations realize value across several aspects from moving to a true, multi-tenant based cloud solution;

- IT Infrastructure – costs can be eliminated for servers, databases and related capital investments
- IT Staffing Realignment – moving IT from maintaining servers, databases & applications to becoming technology advisors to the business
- CAPEX to OPEX – moving from a fixed capital investment costs for IT to a variable, operating expense that can vary with the associate business volume.
- Opportunity Costs – moving to a multi-tenant cloud solution means that customers are no longer stuck in the “upgrade” conundrum as the cloud architecture keeps a continuous flow of innovation to its users eliminating the decision between moving to a more current and robust platform vs. facing the challenges of managing costs & disruption of an upgrade

VENDOR REQUIREMENTS

Most cloud contact center solutions only require agents to have a standard telephone/USB headset and an Internet connection from their desktop. Some cloud-based solution providers require software to be downloaded upon the agent desktop, whereas others need only a standard Internet browser.

Security

There are various independent accreditations and certifications used by providers of cloud-based solutions, some aimed at demonstrating the security of the datacenter (whether physical or virtual security) including ISAE 3402 or SSAE 18 in North America. Others focus on the process of processing payment card data (PCI DSS), whereas others are around information security controls (ISO/IEC 27000 family) or quality (ISO9001). Other interested parties include the [Cloud Security Alliance](#), a not-for-profit organization with a mission to promote the use of best practices for providing security assurance within cloud computing as a whole. Potential customers should look for independent third-party accreditation, proof of investment above and beyond the minimum required by regulation and regular penetration testing.

Cloud solution providers are confident that the dedicated security procedures and architecture in place within their solutions were likely to exceed those found in their clients' previous contact center operations, having full-time dedicated security resources and a vested interest in keeping client data safe. A security breach for in-house contact center is damaging and embarrassing; for a cloud provider to suffer a similar failure would impact very severely on their credibility and the very future of the company. However, security should not be left simply to the solution provider. Discussions should be had around firewall configurations, network security and DDoS (distributed denial of service) attack mitigation.

Solution providers note that while security concerns are still very much to the forefront of the conversation, the questions that potential customers have are now far more sophisticated and realistically founded compared to a few years ago. There is a great desire across the entire business to ensure all security requirements are met, and much greater detail offered to the solution provider on what is actually needed. Potential customers should identify and priorities the services that require the highest level of performance guarantee, as requiring that all services need this level of guarantee is expensive and probably unnecessary.

The General Data Protection Regulation (GDPR) provides a single set of data collection, storage and use regulations for all companies to follow, and from May 2018, cloud providers who are data processors (rather than their clients, who are data controllers) will also bear responsibility for the legal protection and processing of the data. As such, cloud providers will have put procedures in place to comply with GDPR, but this is obviously an area which should be focused upon in any discussions with the potential or existing provider. Any businesses that hold data on EU citizens will be affected by the GDPR, not just those organizations based in the EU.

Integration and customization

Cloud vendors will keep APIs up-to-date, with screen-popping into a home-grown CRM system, look-up of call recordings in a CRM system, and sending reporting and recordings to a third-party application being mentioned as some of the more frequent integrations requested. Some providers have very close relationships with specific CRM vendors, and as a general maxim, cloud-based contact center solutions can be seen to be following in the footsteps of cloud-based CRM.

Some customization in existing operations may have come about as an ad-hoc 'work-around' that has over time become the way in which things are done. It is important to revisit the business processes that the technology is there to facilitate, to see if there are easier ways to achieve this rather than reproducing the same method in a cloud-based environment. Concerns over customization are frequently cited as a major inhibitor to moving to cloud.

Functionality

Solution providers state that moving from a premise-based deployment to the cloud should not reduce the functionality available to users. Potential cloud users are responsible for carrying out an audit of all existing and required functionality, and how it relates to defined business processes, before asking solution providers to guarantee that any move to cloud will include the required depth of functionality. It is not enough simply to accept that solution providers have 'workforce management' or 'outbound' capabilities. There is a great deal of upgrading and increased sophistication happening in the cloud world, which in some cases is from quite basic functionality, so potential users should have a list of specific processes and functionality that any solution should be able to deliver, and make sure that the chosen solution can deliver that, as well as being able to view a product roadmap that is updated on a regular basis (e.g. quarterly), which will project expected functionality a least a year in advance, preferably more.

It is also important to understand the opportunities for scalability. Adding and shedding agents when required is one of the big advantages that cloud computing has over its premise-based equivalent, but potential users should put real-life scenarios in front of bidding suppliers to make sure that the required level of scalability is possible and that no hidden costs or nasty surprises are associated with it.

Reliability

Multi-location datacenters are ubiquitous amongst cloud providers, providing redundancy and disaster recovery as part of the deal. Stated levels of availability amongst cloud providers are typically 99.99% or higher, and most are backed with performance-related guarantees, with reimbursement of fees if targets are not met. While this is somewhat reassuring, it will do little to assuage the loss of revenue or customer goodwill if the cloud-based contact center solution is unavailable for any amount of time. Potential clients should investigate the exact levels of redundancy built into solutions, including the use of alternative network providers and mirrored datacenters if the problem occurs outside the software providers' purview.

Solution providers note that quality of service testing is vital to ensure that contact center network traffic and any associated data processing has sufficient guaranteed bandwidth. 24/7/365 monitoring and support should also be a given. For operations using dynamic scripting, it is vital to ensure the fast and immediate reaction of input and response, and guaranteeing network quality of service should be high on the implementation priority list.

Cost

Most cloud solution providers operate a per-agent/per-month option to pricing, with a minimum number of logged-on agents per month being the baseline minimum cost. To this, the cost per minute of calls made or delivered should be added, although many providers will offer this as part of the package, to make fees more predictable. Additional costs for customization and integration should also be investigated.

CLOUD DECISION-MAKERS

Solution providers indicate that decision-makers tend come from two main areas: IT and finance, with senior people within contact center operations (e.g. Contact Center Director) who want specific functionality also heavily involved in some cases.

While business and contact center management have input into the cloud decision, some solution providers see more drive coming from the CIO or strategic IT leader, particularly in the midmarket. Larger enterprises' decisions will tend to be driven more by a mix of business unit owners and IT leaders.

IT is often keen to minimize the management and support of server environments, with the main focus on the key IT systems that support the business. If they can move telephony to the cloud, it gets rid of significant resource overhead and allows them to focus on key systems. Some solution providers state that the majority of their customer opportunities come from businesses which are solely looking at cloud, having made their minds up usually due to their telephony infrastructure being at end of life. Such businesses wish to redeploy their IT resource away from the maintenance and integration of the contact center platform into something more strategic.

The finance driver comes from the easy management and control of budgets, with fixed cost per head per month making financial planning easier as well as removing the necessity of having upfront capital expenditure.

PROOF OF CONCEPT AND TRIALS

Solution providers note that proof of concept and trials are now less likely to be requested by potential clients than they were a few years ago, as large numbers of reference sites and general levels of market education are far higher than they used to be. Having said that, solution providers note that it is the enterprise organizations that are keenest to prove the concept first: for example a single office or department will try it, then they will roll out the solution more widely. Small and medium organizations are more likely just to implement cloud functionality in one piece.

It is worth noting that cloud offerings can speed up sales and deployment cycles, as companies can move faster to purchase a cloud-based solution because there is no large upfront investment required needing multilevel sign-off. This can also enable smaller, autonomous departments to begin using cloud solutions from their own budget, rather than have to look for budget from corporate.

Although the cloud doesn't offer itself particularly to 'quick wins', business looking to prove the concept within the organization may look to deliver the first implementation through new business initiatives. For example, a new outbound calling campaign, trialing a new service to clients or introducing a homeworking regime. Alternatively, identifying an application that is at end-of-life, and using cloud rather than a CPE replacement will make an immediate benefit to the bottom-line.

IMPLEMENTATION

Successful cloud customers generally have a visionary or champion at a high level of the organization that makes sure all of the competing interests work together to achieve the big picture. It is important to take your time when choosing a cloud supplier, as this will hopefully be a long-term relationship.

Look as far into the future as possible when considering how you wish to be dealing with your customers, but leave enough flexibility to change plans. Consider the additional costs that may be needed for this extra functionality, and make sure that the correct type of cloud architecture is available to you: do not sacrifice functionality for the convenience of the cloud provider, and make sure that integration with existing key systems is agreed to.

TIMESCALES

In a traditional CPE project, the project life cycle can take well over a year, from the scoping of initial requirements through to implementation and use. Cloud offers the opportunity to reduce this greatly, and with the fast pace of customer contact technology, businesses are scared about missing the next wave of innovations.

The time required to implement a cloud-based solution will differ hugely depending upon the level of complexity and functionality required, the level of integration and customization and the cloud deployment method chosen. As a general rule of thumb, solution providers indicate that a cloud-based implementation will tend to take around half the time of an equivalent CPE deployment, as there are fewer delays while companies purchase hardware and upscale their teams. The more 'cloudy' the deployment model (e.g. multitenant/public cloud rather than private cloud, multi-instance or hybrid), the quicker the deployment tends to be.

While the actual technical implementation stage may last only a matter of weeks, the move to cloud environment is an opportunity for businesses to re-evaluate the extent to which their customer contact operation supports the goals of the business. As such, it may be beneficial to carry out a root-and-branch exploration of current contact center operations, identifying any gaps in functionality or process that the move to cloud would give an opportunity to improve. The timescale for this, which will include the functional design specification, is unlikely to be measured in days or even weeks. Once the organization is satisfied with the direction in which it wishes to go, the vendor selection process may be carried out, using the results of this assessment to guide the decision-making process.

Once the decision to proceed with a specific vendor's cloud solution has been made, the next step is to implement. While every project is different, and depends upon the size, functionality and complexity of any integration, most solution providers report that cloud-based contact centers can be operational within a matter of a few weeks (or even less if the implementation and integration is relatively simple).

It may be divided into the following stages (some of which may run concurrently), which will differ greatly in length due to the size and complexity of the organization and its required functionality:

- Discovery: 4-10 days
- Build, training and reporting: 5-20 days
- Implementation and testing: 5-20 days
- Fine tuning and adoption: 2-10 days
- Bespoke agent and management training: 2-6 days
- eLearning and training support as appropriate (likely to be 1-2 weeks).

Post implementation support is becoming an increasingly important element of the overall package, and 24/7/365 support with dedicated account / technical contacts is much more common.

END-USER QUESTION #4:

“IN YOUR EXPERIENCE, WHAT THINGS DO THE MOST SUCCESSFUL CLOUD CUSTOMERS HAVE IN COMMON? WHAT PITFALLS SHOULD WE AVOID?”



They understand the value of moving from a fixed to variable cost model for the business, and have a strategy to redeploy IT from operational/maintenance to consultative advisory roles within the business.

What pitfalls should be avoided? Moving to a single tenant cloud solution (hosted apps) with the expectation of receiving all of the benefits that only a true, multi-tenant cloud architecture can provide.

INTEGRATION & CUSTOMIZATION

Some solution providers may state that much of the integration required within the legacy CPE environment is unnecessary within a wide-ranging cloud-based solution, as the various components and functionality are architected to work together from the beginning. However, while out-of-the-box, plug-and-play application functionality is possible, the reality is that some level of integration with legacy applications and data sources will be required in order to fulfil the business's needs, and solution providers offer API connectors to CRM systems and other applications to this end.

Being able to continue using relevant existing CPE systems, and access databases and back-office systems is a minimum requirement for all businesses considering cloud-based solutions, and one which is still of great concern to many organizations. As all businesses are unique, there is no generic solution to this, but many cloud providers have pre-built integration with leading CRM applications such as Salesforce.com, MS Dynamics, SAP CRM and Oracle CRM On Demand, and web service APIs enable customers and technology partners to create tightly-integrated contact center applications.

Many users of cloud solutions require interaction routing based on data extracted directly from an enterprise data source, or through interaction with a web service or Java API. It is important to deploy a strategy that keeps data in the most suitable locations and which can be linked through the use of unique identifiers. If dynamic routing or self-service is required, there may well be some software development required to link the cloud solution with back-end systems, but the use of open web-based interfaces rather than proprietary client/server protocols to transfer the CTI-type data will reduce the effort of integration.

Depending on the requirements of the business and the application involved, solution providers note that there are numerous ways of integrating: by transferring data periodically in data batches, through real-time communication on the server side or by actioning real-time requests from the workstation.

Some solution providers note that the private cloud option is becoming more popular, where a third party is responsible for the management of dedicated infrastructure, especially in environments which require complex integration and customization. Other solution providers state the private cloud is far more suitable to very large customers, and that the 'democratization' of technology offered by multi-tenancy means that everybody gets the most up-to-date functionality at the same time.

END-USER QUESTION #5:

“OUR EXISTING SYSTEMS ARE HEAVILY CUSTOMIZED AND WE’RE CONCERNED ABOUT INTEGRATION OR HAVING TO GIVE UP NECESSARY FUNCTIONALITY. HOW ARE OTHER COMPANIES HANDLING THIS AND HOW CAN YOU HELP?”

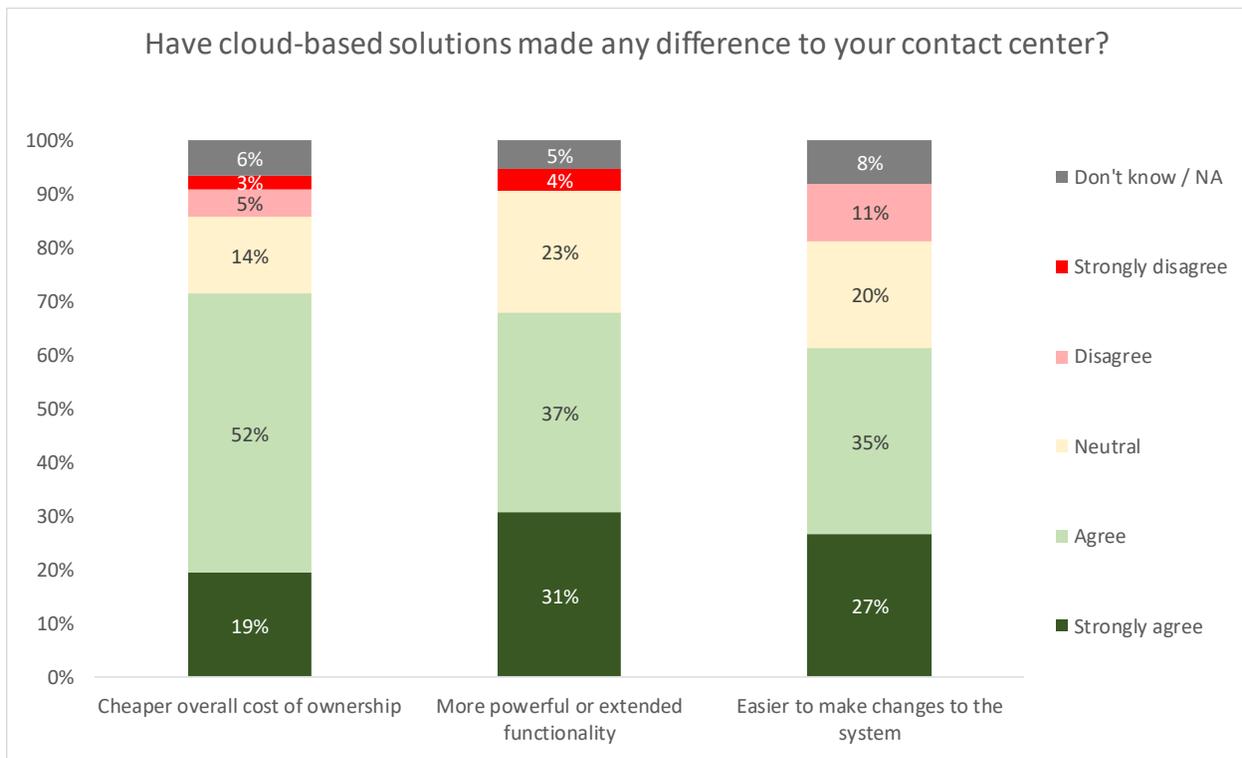
 **Serenova**® As a global leader in the CCaaS, with more than 17-years of experience, providing cloud contact center and customer service solutions, Serenova drastically reduces the complexity and frustration associated with multiple legacy tools and delivers greater insights into your data and performance than ever before possible. Serenova’s CxEngage™ solution was built from the ground-up as an API-first solution leveraging the AWS microservices-based architecture for rapid innovation around complex, multinational deployments. CxEngage’s API-first architecture means that it not only supports both out of the box and custom integrations with current third-party applications, but also whatever comes next.

POST-IMPLEMENTATION: THE RESULTS OF USING CLOUD

Those contact center respondents who have actually implemented a cloud or hosted solution have generally found that it has delivered significant advantages in most cases.

71% of respondents stated that cloud-based solutions had given a cheaper overall cost of ownership of their contact center technology, with 8% disagreeing, although most not strongly. 68% experienced more powerful extended functionality in a cloud-based environment, with 4% strongly disagreeing that this was the case. 62% of respondents stated that cloud made it easier to make changes to the system, with 11% disagreeing.

Figure 24: Have cloud-based solutions made any difference to your contact center? (2017)

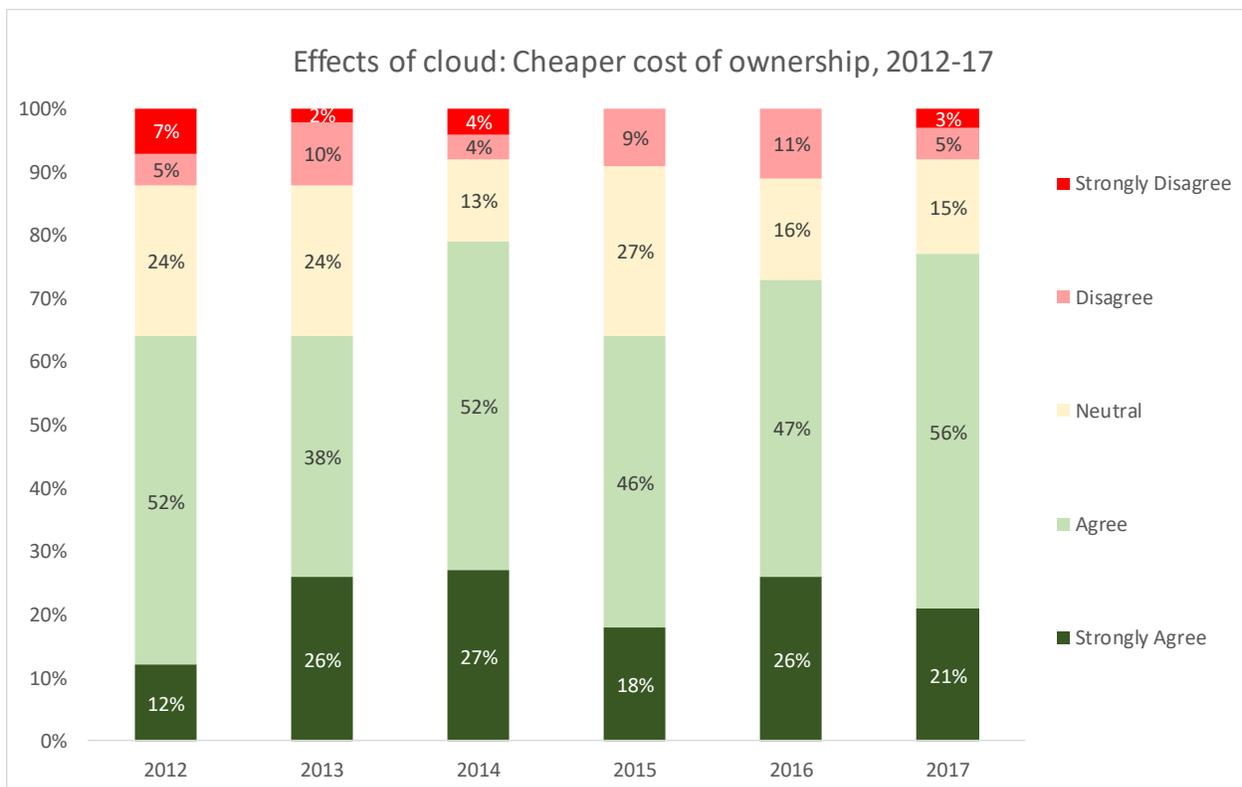


Despite different companies taking part in this research each year, the findings have been consistent for many years and readers can treat these with considerable confidence.

To show this, the following three charts show how each of these effects has been viewed by respondents over the surveys carried out between 2012 and 2017. (NB – As the option “Don’t know” was not offered in all past surveys, these responses have been removed from the following three charts, and proportions recalculated).

The belief that cloud offers a cheaper overall cost of ownership is consistent, with a very small minority disagreeing.

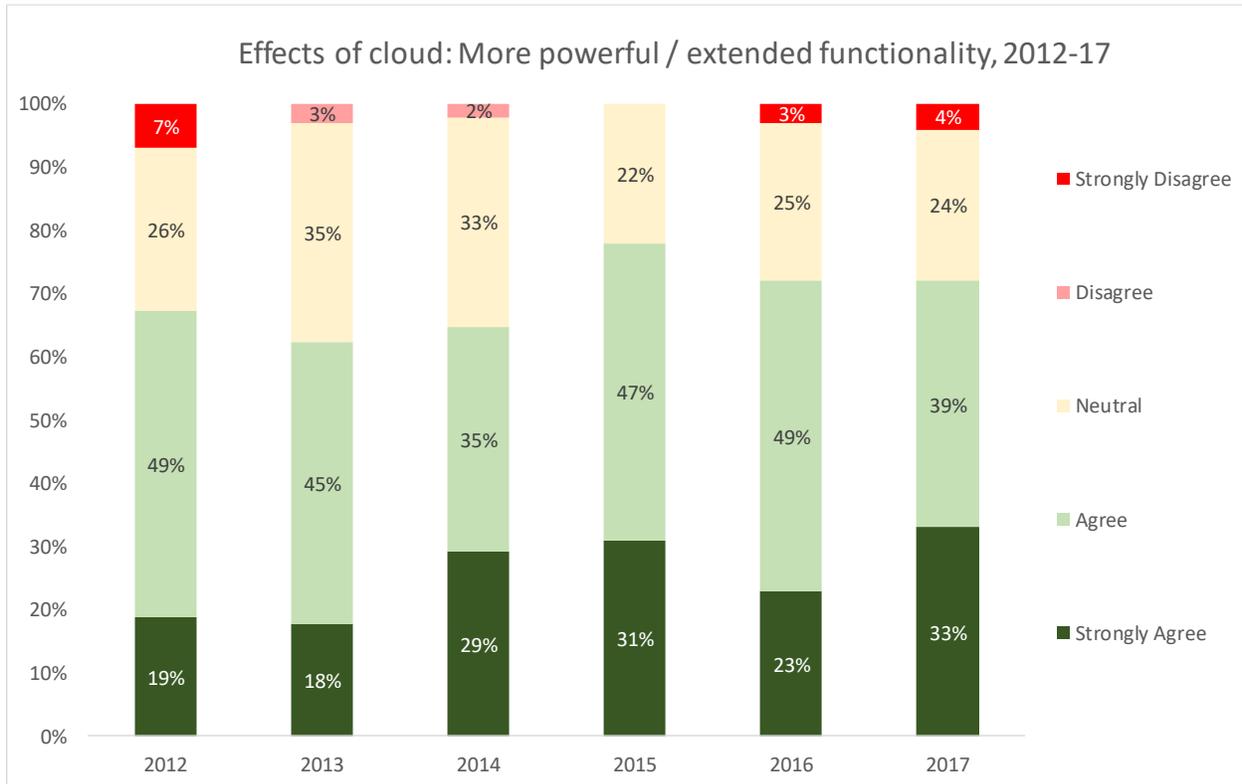
Figure 25: Effects of cloud: Cheaper cost of ownership, 2012-17



Looking at the effects of cloud on functionality, there is a strong feeling that this deployment model offers more powerful and extended functionality.

The proportion of respondents strongly agreeing with this has risen from 19% in 2012 to 33% in 2017, in line with previous findings in this report that saw the concerns about lack of functionality in the cloud declining in recent years.

Figure 26: Effects of cloud: More powerful / extended functionality, 2012-17

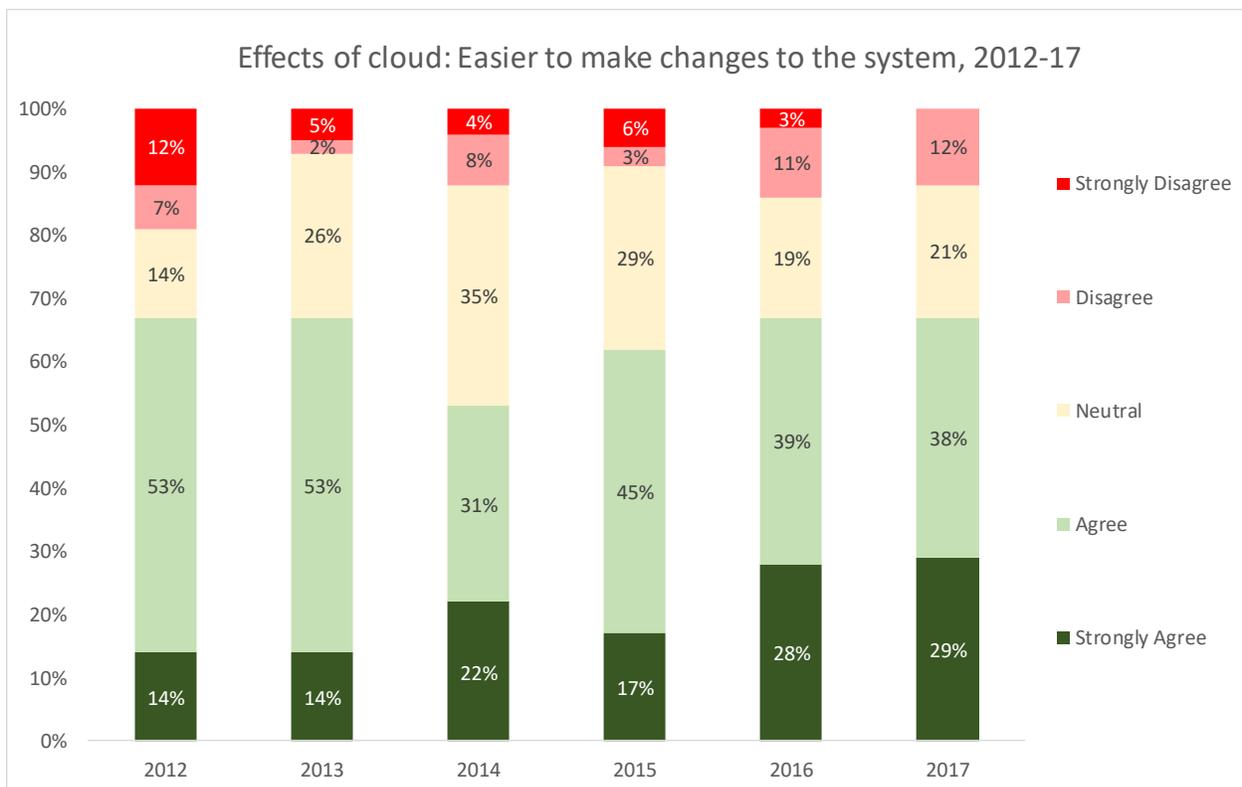


When the question about whether cloud made it easier to make changes to the system was originally asked in 2012, there was a some difference in opinion, with 19% disagreeing. This figure was only 12% in 2017, with no respondents strongly disagreeing.

The proportion of respondents strongly agreeing that cloud makes system changes easier has risen from 14% in 2012 & 2013 to 29% in 2017.

Cloud solution providers now offer a quicker and easier method for contact centers to make changes to their solutions, and contact center users are more familiar and comfortable with making changes in a cloud-based solution.

Figure 27: Effects of cloud: Easier to make changes to the system, 2012-17



END-USER QUESTION #6:

“WHAT CAN CLOUD DO TO INTEGRATE THE BACK OFFICE AND KNOWLEDGE WORKERS ELSEWHERE IN THE ORGANIZATION – ARE MANY COMPANIES DOING THIS YET OR ARE THEY STILL FOCUSED ON THE CONTACT CENTER?”

 Serenova provides enterprises the ability to extend employee presence, skills, proficiency and capacity rules to back office and knowledge workers throughout the organization. Knowledge around when the employee is available to work, what kind of work can they do, how proficient are they compared to their co-workers and how much work can they handle at a given time. These are the types of answers Serenova can enable for enterprise workers. With this knowledge, we can then look at the work itself and deliver it to the right person, at the right time to ensure the highest productivity and best chance of fulfilling the delivery expectations.

Serenova further allows the queueing and routing of work-items such as email, service requests, invoices, orders, cases, faxes, and trouble-tickets to the best skilled and available employee to fulfil front and back-office requests and realize a significant reduction in both response and resolution times, as well as significant increases in productivity.

While integration of back office employees and tasks is just starting, many forward-thinking companies are realizing the significant potential for productivity gains across the enterprise.

THE FUTURE OF CLOUD-BASED CONTACT CENTER SOLUTIONS

The general view from the vendor community is that cloud-based contact center solutions are an evolution in the industry, rather than being revolutionary. At the top end of the market, the sunk costs, complex processes and in-house expertise held by the largest and most-established contact centers have held back a wholesale early move to cloud at enterprise-level, but at the technology end-of-life stage, cloud is now a credible option to take even for these mission-critical operations. The power that switch providers used to have over the contact center industry has been long broken, and even the most risk-averse and conservative companies are exploring other options to the traditional on-premise model.

For many established operations, cloud-based functionality is an addition to their armory, not a complete substitution. It is thought that the majority of current new implementations have at least some element of cloud-based solutions involved and vendors report very significant growth in cloud deployments, certainly compared to their premise-based offerings, although the proportion of contact centers using **solely** cloud technology is still relatively small.

In terms of functionality, the core contact center functionality is well-entrenched in the solutions studied in this report and has been added to significantly in the past couple of years, bringing it to parity with the existing CPE solutions in many cases. There is a great deal of focus upon adding real-time analytics and social media management as part of a wider multimedia functionality set, and in improving the reporting capabilities offered.

Large enterprises in particular are demanding the delivery of calls via MPLS (Multiprotocol Label Switching, an initiative that integrates information about network links - bandwidth and latency - into IP in order to improve IP-packet exchange and thus call quality), guaranteeing the reliability of the core service.

A major driver for cloud-based contact center solutions has been that more and more of the CRM and other enterprise and personal software markets has moved to the cloud. As ingrained cultural and technical inhibitors to outsourcing enterprise IT have been broken, it has dragged contact center functionality along with it, with the presence of ever more tight integration between contact center and CRM functionality evidence for this.

Despite cloud-based contact center solutions offering smaller operations the biggest potential jump in functionality and performance, there had previously been a reluctance to engage with vendors to understand the reality of what cloud can bring. This has changed somewhat, especially as these businesses have seen a great growth in cloud-based CRM and contact management solutions, with call routing being a popular option as well.

To some extent, cloud-based solution providers have had their advantage over their CPE rivals watered down somewhat, as the latter have reacted to the pay-as-you-go/Opex model of pricing by offering something along similar lines through monthly rentals and leasing arrangements. The flexible and scalable nature of cloud-based solutions however has meant that some providers now offer increasingly innovative pricing arrangements, going down to per hour or per minute, or even per second billing that directly reflects the resources being used. This model is particularly interesting for outsourcers, as well as those businesses with highly variable and seasonal revenues and those for whom a need to reduce IT resource costs is greatest.

Many solution providers are starting to look outside the immediate contact center environment, trying to widen their appeal within the enterprise. Many have been looking at the field service and content expert areas for many years, creating a virtual pool of knowledge that can be drawn upon as required, regardless of location. More recently, the back office has become an area of interest: like the contact center, it is task-oriented and theoretically suitable for similar types of efficiency improvement and management techniques, with similar metrics possible.

Some solution providers are enthusiastic about WebRTC (a communications standard that allows application developers to write applications, without requiring additional plug-ins, downloads or installations to use. It allows audio and video conferencing applications to run on browsers via Javascript APIs, supporting voice, chat and video), stating that these will simplify cloud deployments. WebRTC means that there is no on-premise hardware, software, and telephony infrastructure at all, as the web browser becomes a fully-featured agent desktop with a phone, greatly reducing the cost of ownership.

For solution providers, the move towards cloud has been a calculated risk: the initial cost of setting up data centers and altering existing solutions or building new ones to fit this deployment model has cost a great deal of time and money. In the longer-term, once a critical mass of customers is achieved, and the longevity of contracts gives a certain amount of confidence and reassurance in the future, we can expect to see further new functionality and features. While the depth of functionality offered through the cloud will certainly increase in the future, just as important is the improved ability for business users to modify functionality such as routing and IVR.

One key issue to face is that ceding control of IT to a third party means that the business cannot just choose to bolt-on whatever additional functionality it wishes to, but must rely upon the cloud provider to have this functionality available if required, and at a price that is acceptable. This means that businesses must try to look far into the future (at least as long as the cloud contract they are signing), and estimate the functionality that they may require during this period. This is difficult in that there may not be an expertise or real understanding within the current business of what will be required or how this will work.

There is no sense from talking with solution providers that the cloud market is slowing or even reaching maturity yet. Neither is there an unrealistic expectation that the logical progression is towards an industry entirely provisioned by cloud-based solutions. Solution providers are deliberately answering each question that the market has about the security, control, integration, functionality and risk associated with cloud-based contact centers, but while the solutions available spread ever more widely into the market, there is an understanding that CPE will still be preferable for some.

ABOUT CONTACTBABEL

ContactBabel is the contact center industry expert. If you have a question about how the industry works, or where it's heading, the chances are we have the answer.

The coverage provided by our massive and ongoing primary research projects is matched by our experience analyzing the contact center industry. We understand how technology, people and process best fit together, and how they will work collectively in the future.

We help the biggest and most successful vendors develop their contact center strategies and talk to the right prospects. We have shown the UK government how the global contact center industry will develop and change. We help contact centers compare themselves to their closest competitors so they can understand what they are doing well and what needs to improve.

If you have a question about your company's place in the contact center industry, perhaps we can help you.

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