The Total Cost of Ownership of Cloud and Premise-Based Contact Center Systems

A five-year cost comparison for the deployment of contact center technology infrastructure

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SUMMARY

In a nutshell

Contact centers looking to expand or refresh their technology infrastructure should consider comparing the total cost of ownership (TCO) of cloud-based tools with that of traditional premise-based systems. Hosting has traditionally been viewed as a cost-effective option for small centers without capital expense budgets, but Ovum believes that it is also a viable alternative for some larger centers looking at more complex and sophisticated technology environments. This report looks at TCO comparisons for cloud and premise-based contact centers over a five-year period. It includes comparisons for centers in different situations, ranging in size from 50 agent positions to 750 agent positions, and incorporates different levels of technology commitments.

Ovum view

The choice of whether to deploy contact center infrastructure via premise-based technology or cloud-based services involves many variables, but as the quality of the tools converges, buyers need to look more closely at the relative costs under different deployment scenarios.

Ovum's research shows that there are situations in which large, multi-site service organizations can benefit from cloud-based solutions. Ovum believes that the more applications and functions an enterprise includes with the core routing platforms, the better the cost profile for hosting compared to traditional premise-based systems.

Large companies that are looking to hedge their movement into complex multichannel interaction environments or to ensure that their technology stays at the cutting edge of innovation would be wise to

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consider cloud solutions. While hosting is not always the cheapest option, over a five-year period the differences are sometimes not significant enough to make cost a compelling reason to avoid the cloud.

While many people focus on the cloud's different cost model, it does offer other significant strategic advantages. For example, cloud-based systems are much quicker to deploy, and to scale up or down in response to changing business conditions. Many users also report that they are easier to administer than premise-based systems due to interfaces that are unified across different product modules. The cloud offers businesses a way to hedge their technology decisions using a more forgiving short-term payment model.

The comparisons in this report are based on current technology trends and prices, and so represent a snapshot of what decision-makers can expect in the near term. It is likely that cloud pricing will continue to decrease across the board. It is equally likely that vendors of premise-based systems will strengthen their offerings, or come to market with creative cloud/premise combinations in order to compete against cloud-only firms. The result will be fewer reasons to use cost as the differentiator, and a more feature-rich environment on both sides of the divide. From a pure cost perspective, it is true that hosting does compete effectively with premise systems over a five-year period in very small installations. What most enterprise buyers probably do not realize is that there are some situations in which very large centers, especially those using the most advanced technologies, can see a cost advantage with cloud systems for as long as five years.

Key messages

- For small centers (50 agent positions), the cost of technology hardly differs between hosting and on-premise equipment over a five-year period. This takes into account the savings in technology, labor, and administration; the ongoing savings in maintenance; and the fact that premise-based tools offer less flexibility in deploying small numbers of interactive voice response (IVR) ports.
- Mid-sized and large centers (300–750 agent positions) will find a more varied picture, in which it is sometimes best to opt for hosting and sometimes on-premise systems. Much of the variation will depend on the amount of IVR a company needs, as this technology has the sharpest cost difference between the two deployment modes.
- When an enterprise understands the full relative implications of cost over time under different scenarios, it can consider other important variables in its decision-making. These include flexibility and scalability, the speed of deployment, and the speed with which vendors implement improvements. Factors such as ease of use, ease of administration, and the modernity of the user interface are also important considerations that should be put into context along with price.

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CLOUD-BASED AND PREMISE-BASED SYSTEMS

The development of competing contact center models

Contact centers were originally provisioned through expensive on-site infrastructure dedicated to telephony processes, call routing, interaction management, self-service, and workforce optimization (WFO). For the last dozen years, however, this model has been challenged by the more flexible option of buying infrastructure through different consumption models, including subscription services and transaction-based pricing. These options can be provisioned remotely or in the cloud.

Most contact centers still rely on premise-based equipment for most of their infrastructure. However, the buying decisions for a wide range of contact center operations and management tools must now include some consideration of cloud suppliers. Customer interactions have become more complex, incorporating a wider variety of transaction types, and enterprise buyers must include factors such as flexibility, scalability, speed of deployment, and ease of administration in their purchasing decisions. This is increasingly important, as Ovum's research indicates that 74% of consumers now use at least three contact channels when interacting with customer service.

The vendors that initially offered multi-tenant cloud services for contact centers targeted small businesses with the argument that the cloud would help them look "big" at a relatively low cost. The conventional wisdom since the turn of the century has been that cloud contact center services are best suited to the low end of the market, to small or informal centers that have limited growth prospects and extremely tight budgets. That assessment is not as accurate as it once was, and may lead some contact centers to make decisions based on a flawed notion of what hosting offers, and where or when it is the most appropriate solution.

Ovum has compared the total cost of ownership for multiple configuration possibilities for both cloud and premise-based equipment for contact centers, and found that there are no one-size-fits-all solutions. The best deployment option for any given center depends variously on size, available budget, technology readiness, the interoperability of existing assets, and, most notably, the range of additional applications that a center might choose to deploy on top of the core call-routing infrastructure. This study compares the costs of acquiring, deploying, and maintaining contact center systems in both cloud and premise-based configurations over a period of five years.

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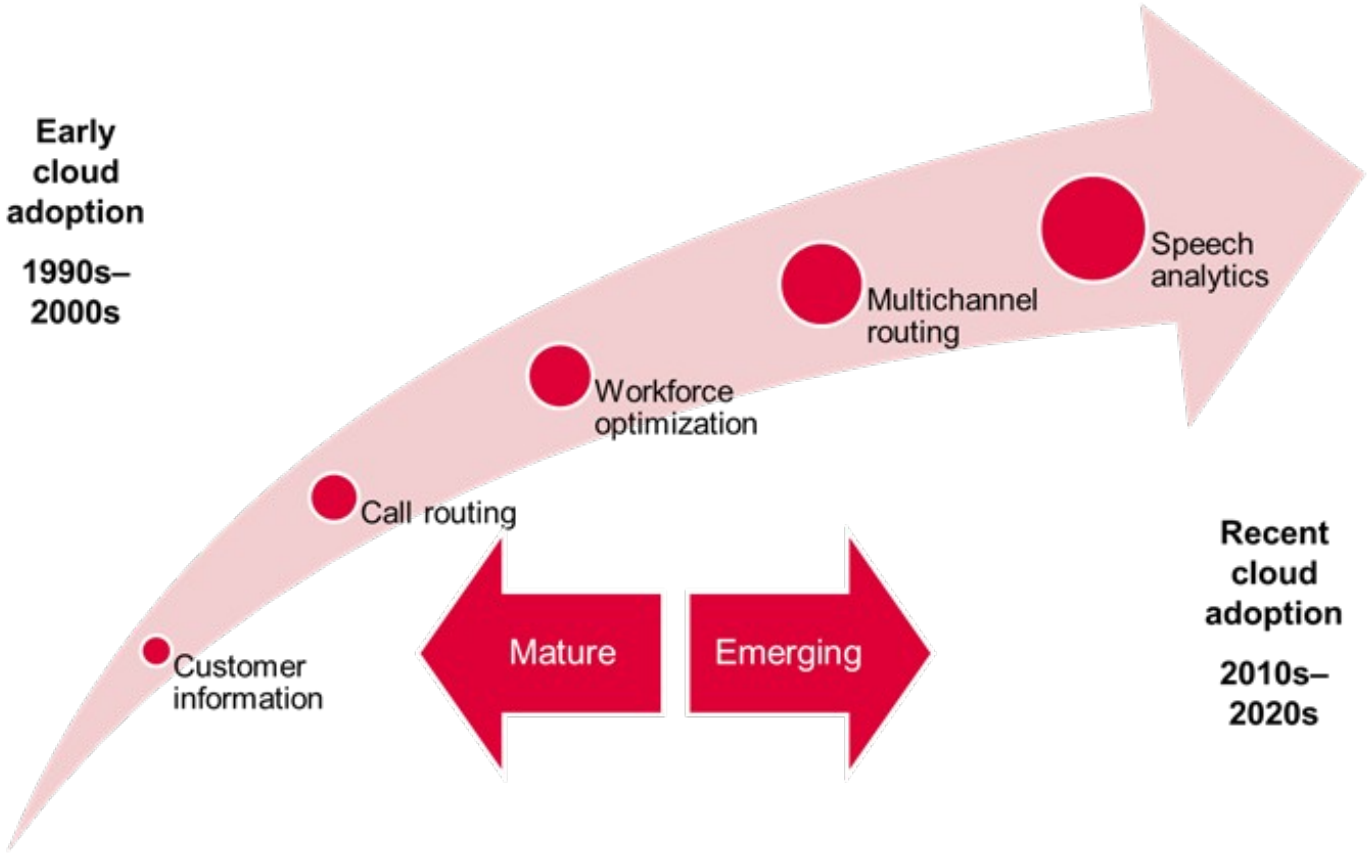
Figure 1: The progression of high-value applications to cloud deployment



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In its early days, cloud infrastructure appealed to companies that did not have the capital expense budgets to invest upfront in automatic call distributor (ACD) and IVR systems. The ability to "pay as you go" for basic features was (and still is) a very attractive proposition for small and growing companies. The contact center business was divided between mainly large centers that relied on virtualization and economies of scale to afford full-featured call routing, and smaller ones that either used ad hoc systems to handle interactions or operated without technology solutions. The advantage to a cloud-based service was the short-term price break that allowed a company to quickly ramp up an infrastructure for a limited period without having to carry the long-term cost of technology ownership and the personnel to manage it.

Over time the range of features in cloud offerings improved a great deal, and the overall costs (even on a pay-as-you-go basis) fell into commodity territory. The range of products now on the market presents a reasonable, functional alternative to premise-based systems.

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Although the penetration of WFO apps into the cloud has not yet matched that of core routing systems, there has historically been a clear connection between how centers buy their routing and how they buy their WFO. For example, when ACDs switched to IP and hybrids, many buyers took advantage of the opportunity to switch to IP-based call recorders at the same time. Changes in switching often prefigure changes in operational management applications. We discern early aspects of this shift already underway in the move toward the cloud.

Other applications are moving toward the cloud because they are relatively new and do not have a strong, established constituency for on-premise deployment. Speech analytics, for example, can be costly and time-consuming to deploy on-premise given the heavy CPU and memory requirements. The cloud provides better CPU resource allocation and more of a grid-type computing environment. Key vendors in the space have been able to convince centers to adopt the technology by emphasizing the lower risk and cost of the pay-as-you-go cloud option. These trends have the potential to upend the traditional notions about how companies can and should buy and budget for technology

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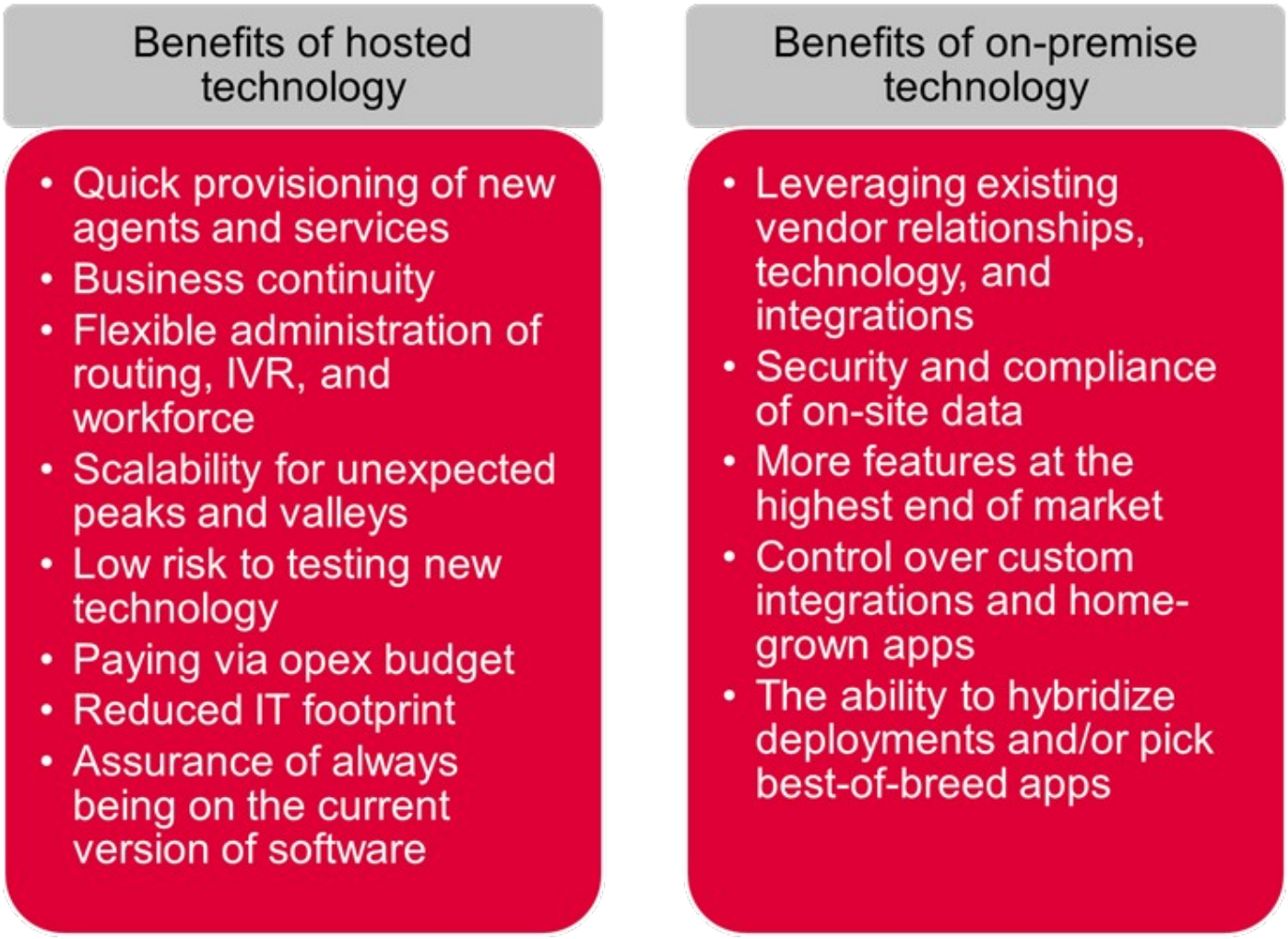
Figure 2: The contrasting benefits of cloud and on-premise technologies



Source: Ovum

Figure 2 illustrates how the two deployment models appeal to different operational mindsets. Enterprises interested in flexibility and scalability may gravitate towards cloud-based systems as they can obtain access to leading-edge technology without maintenance contracts or time-consuming product upgrades.

Cloud-based systems offer some compelling strategic benefits. For example, cloud technology allows centers to change their staffing model, as it is easier to provide technology to distributed agents. This essentially virtualizes a contact center into a group of contact center assets that exist in different physical locations but function as a single, fully integrated, seamless contact center operation. By using virtual contact centers as an adjunct to existing in-house and outsourced operations, enterprises can eliminate facilities costs, reduce overheads, access new agent talent, and reduce agent churn.

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The continuity benefits of the cloud are also important. Many hosting providers are able to support uptime of between 99.99% and 99.999%, providing a level of performance guarantee that assuages enterprises' concerns. Clear disaster recovery plans are also vital, and hosting providers typically have the ability to back up customer data in secure data centers.

On the other hand, companies that are more concerned with continuity of older systems can look at premise-based tools as a way to have more control over the location and security of data. Premise-based tools are seen as a way to extend the useful life of related, integrated enterprise applications such as CRM and business intelligence tools.

In recent years, vendors have begun adding complex applications such as WFO and analytics to their basic call routing suites. This has occurred in both the cloud and on-premise worlds. This has allowed cloud vendors in particular to move up the value chain and target their offerings to larger centers in more complex environments, ones that would rarely have considered cloud solutions before.

A likely cause was the recession of 2008–10, when many contact centers put off large infrastructure purchases. This gave cloud vendors time to gain traction with increasingly attractive pricing models and to improve their feature sets to relative parity with premise vendors. As a result, today's center is likely to look at the spectrum of applications that it is using and see cloud deployment as an attractive option.

BUILDING A COMPARATIVE MODEL

Methodology

Definitions

Ovum defines a contact center by the following features:

- An ACD or PBX with equivalent functionality overlaid (or soft ACD).
- At least 10 agent positions. Agent positions are desks from which agents make and/or receive telephone calls to and/or from internal or external customers. This is taken to imply that the call in question involves communication between the agent and the customer.

Specifically excluded from these figures are:

- Public safety centers – centers that receive calls to the emergency services, which are counted separately and are not included as contact centers.
- Air traffic control centers.
- Financial trading floors.
- Legal interception centers – centers engaged in legal interception, where there is a law enforcement officer or other security worker listening in on a conversation in which they do not take part.

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Contact center scenarios

We compared pricing across three different contact center scenarios:

- One contact center, with 50 agent positions.
- Two contact centers, with a total of 300 agent positions.
- Three contact centers, with a total of 750 agent positions.

All three of those scenarios and centers are assumed to be located in North America. These three groupings represent common use cases that span a variety of technology needs and operational contingencies. For larger centers, we asked vendors to provide pricing data for information on multi-site installations to ensure that they were including the appropriate routing and management features as well as the basic per-seat costs. This pricing analysis did not include costs for network charges and real estate.

The technology options

In comparing premise-based systems to cloud systems, we identified six product categories that would be essential to most contact center environments. Those are:

- Basic call routing (i.e. voice-only).
- Advanced call routing, including multichannel capabilities, including phone, fax, web, email, and SMS, as well as queuing, priority, and skills-based routing.
- Outbound predictive dialing.
- DTMF-based inbound IVR, including collecting digits, playing prompts, and call steering.
- Workforce management, including volume forecasting, shift scheduling, and adherence measurement.
- Call recording and quality monitoring (in some cases, cloud-based call recording may still require some premise-based equipment).

Ovum obtained pricing for these products from multiple sources, including vendors and end users, and calculated average price points based on the list price for each separate piece of infrastructure, and in some cases, for separate tools sold together as a bundle.

We then created three possible produce bundles or combinations, based on the technology footprint that a company would be comparing:

- Low-impact, comprising just basic call routing and IVR.
- Medium-impact, comprising basic call routing, IVR, and WFO tools such as call recording, quality monitoring, and workforce management.
- High-impact, comprising advanced call routing, IVR, all of the workforce apps, and outbound predictive dialing.

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These three scenarios and three product bundles create a total of nine comparative simulations depicting the implications for a range of deployments with different technology footprints.

The specific factors used by any given enterprise to calculate the return on investment of the TCO of a technology investment will, of course, vary. Those selected for this comparison give what Ovum believes is a fair baseline, one that brings the very different worlds of premise- and cloud-based offerings into alignment.

In addition to calculating the average price per seat (or per port) for each technology component, our analysis included estimations of:

- the amount of call recording and storage used in a typical period
- the costs of installation (including configurations and customization)
- the cost of internal staffing related to technology management and administration
- the cost of annual maintenance and support, where applicable.

COMPARING TOTAL COST OF OWNERSHIP

The low-technology footprint scenario

In the minimal scenario, an organization would purchase only rudimentary ACD functionality and call steering capability in basic IVR. This scenario represents one traditional use case for hosting; it is aimed at small companies (or departments within larger ones) that have a light need for call handling but lack the budgets or manpower to deploy dedicated technology resources.

In this scenario there is no requirement for the added-value applications that most larger formal centers would find necessary. Here, we are looking just at the raw switching of inbound voice traffic.

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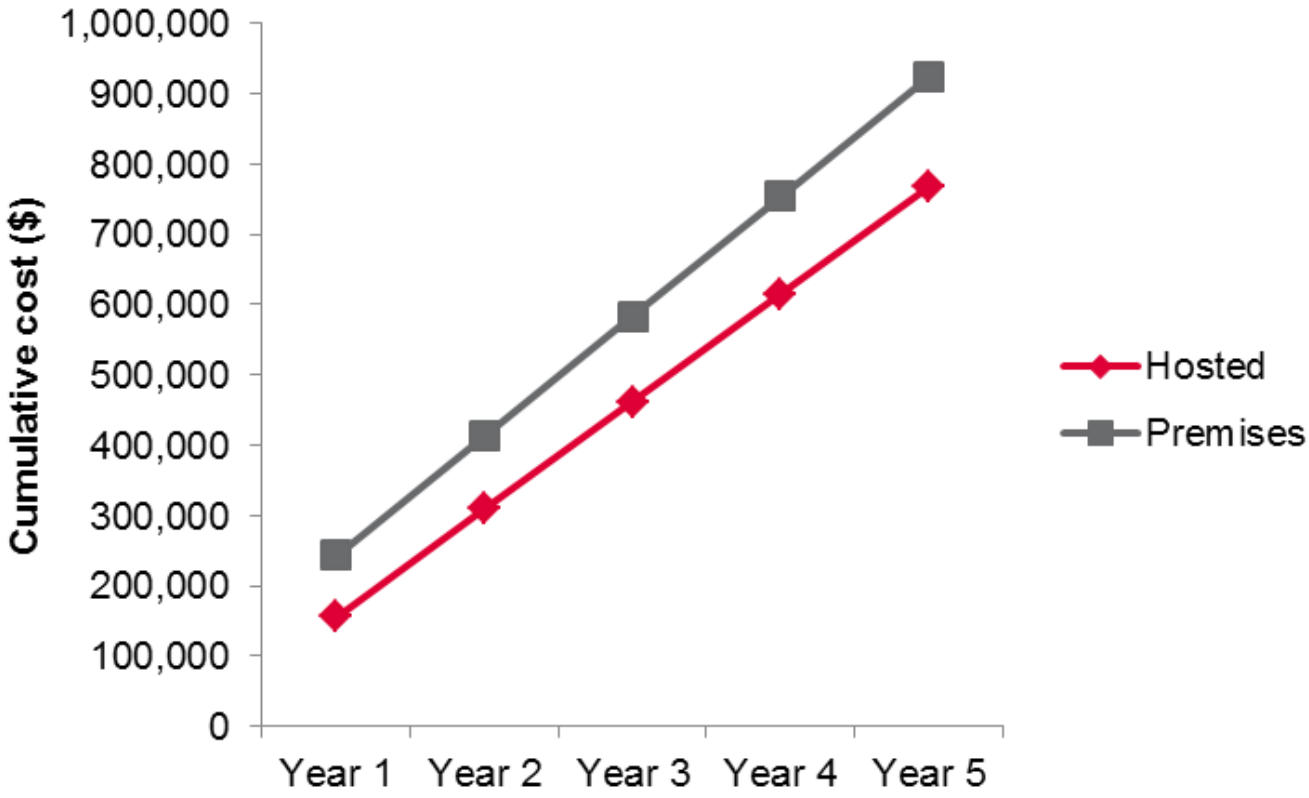
Figure 3: The cost of a low-technology footprint (50 agent positions on one site)



Source: Ovum

Figure 3 shows the five-year cumulative cost of a single 50-seat center. At this size, the cost profiles for both on-premise and cloud systems are very similar, even out to five years. The average cloud platform costs approximately $100,000 less in the first year, and by the fifth year the spread has grown to a cumulative $150,000.

The cost advantage of hosting in this scenario is due almost entirely to the vast difference between the annualized on-premise and cloud IVR. At 50 agent positions, a year's worth of basic ACD is almost twice as expensive when bought as a service. However, the cost of IVR (as measured by the number of ports needed) completely overwhelms the ACD advantage that on-premise systems enjoy.

This scenario is one of the few in which hosting enjoys a clear advantage over premise-based systems for the entire five-year period; in fact, most involve 50-seat centers. This is why traditional marketing has targeted hosting at entry-level contact centers, and why IVR was initially the largest sector to move strongly toward cloud services. However, there are now more complex situations in which the deployment decision hinges on factors that go beyond cost.

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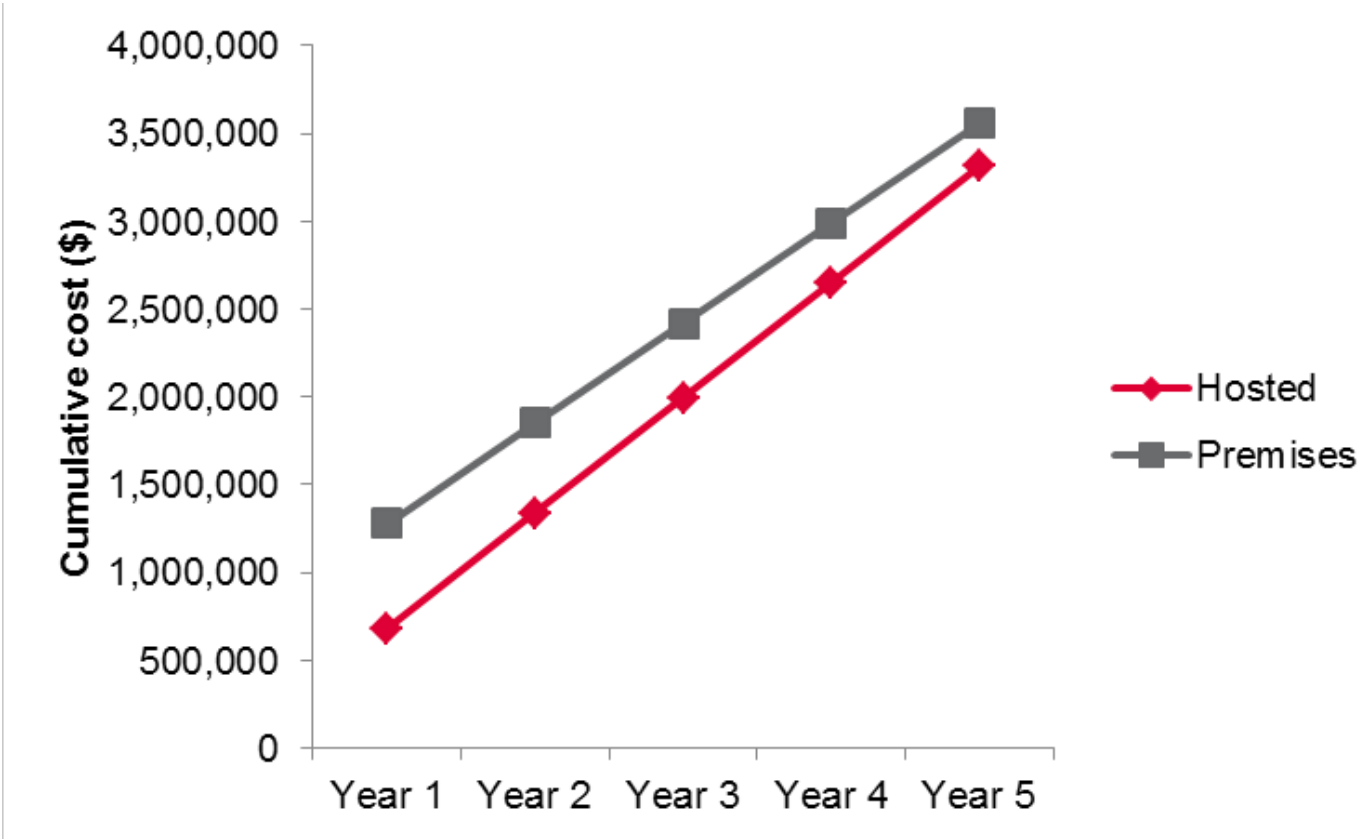
Figure 4: The cost of a low-technology footprint (300 agent positions across two sites)



Source: Ovum

Figure 4 shows that for a 300-seat, two-center organization the initial outlay for the first year favors a cloud solution, and though the cumulative figures converge, cloud remains the most cost-effective throughout the five-year span. Both models show a total outlay of around $3m, providing enough room for an enterprise to consider factors such as the technology roadmaps of the competing vendors, or the need for flexibility in terms of managing the administration of the equipment.

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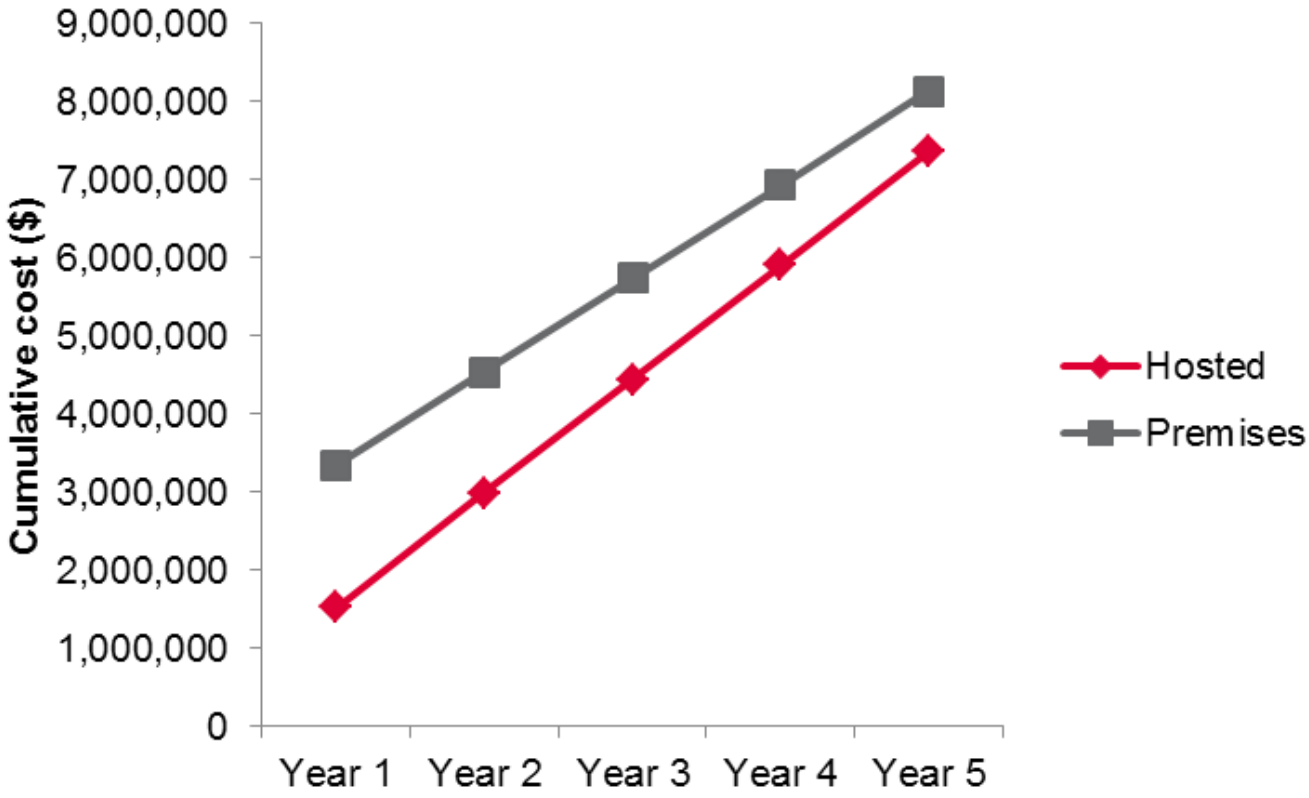
Figure 5: The cost of a low-technology footprint (750 agent positions across three sites)



Source: Ovum

When the low-technology deployment is expanded to three sites and 750 agents, cloud solutions remain cost-efficient, and the spread between the fifth-year costs is approximately $800,000. It is important to note, though, that this low-technology footprint scenario has less applicability in large centers, which will be likely to need much more sophisticated routing (between and among centers), as well as management and optimization applications that can support such a large agent pool.

The low-technology footprint option makes sense for small centers, and as it scales the cost curve bends towards favoring premise systems. The reality, though, is that the facts on the ground mean that it is impractical for large centers to turn to cloud solutions purely for basic routing and IVR. Larger centers, as we shall see, can find a better match with hosting for more elaborate scenarios that include more robust functionality. The premise-based version of the low-footprint scenario is the equivalent of buying a souped-up PBX or very limited ACD – neither the premise nor the cloud solution would be a recommended purchase by itself. The TCO here is less important than the feature set, reliability, scalability, and technology roadmap.

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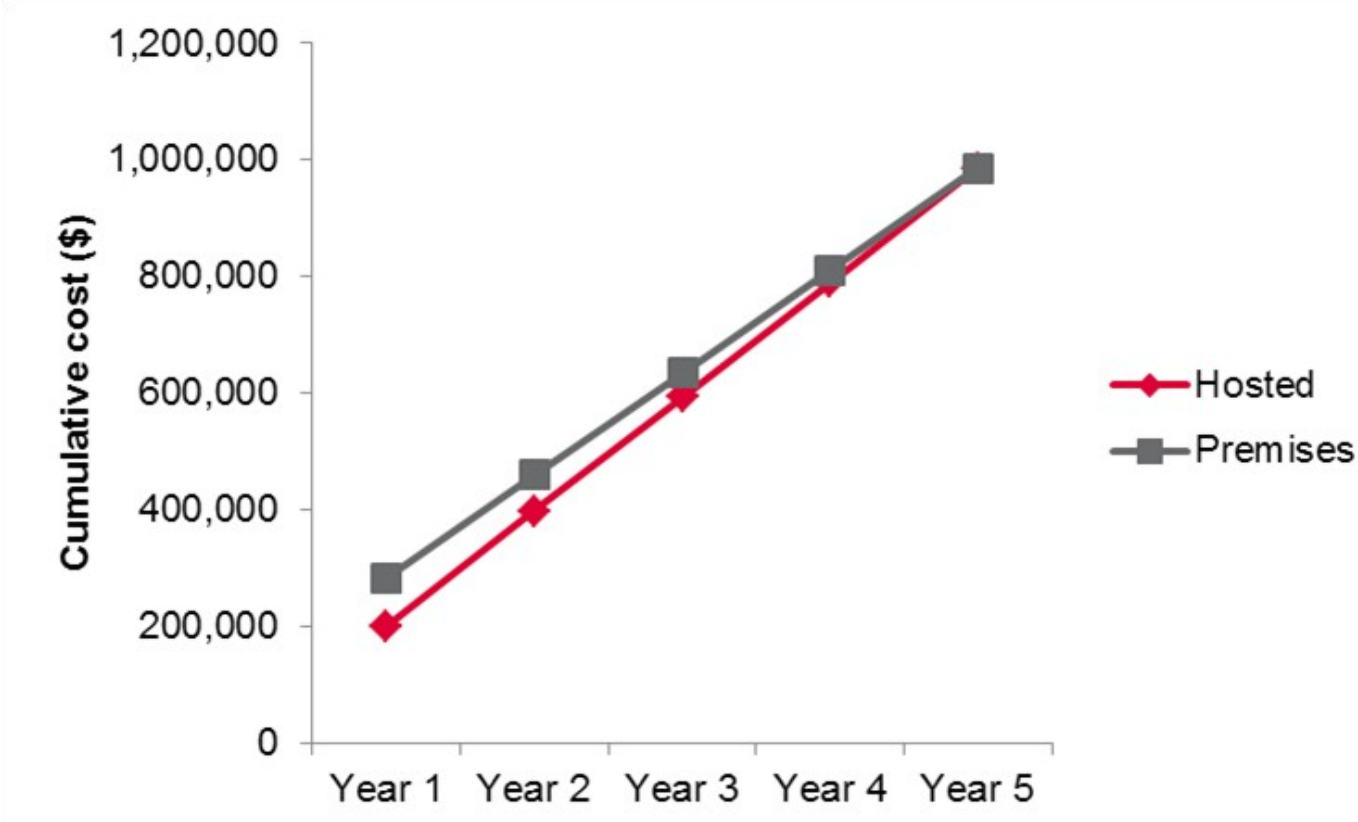
The medium-technology footprint scenario

The medium-technology scenario calls for a company to deploy basic ACD capability and IVR (as in the low-footprint scenario), and add the three core optimization applications: workforce management, call recording, and quality monitoring.

This is a more realistic view of most organizations' purchasing. It assumes a more nuanced, less ad hoc view of their customer interaction environment and exposes them to a wider variety of options across both the on-premise and cloud spectrums. For example, WFO applications can be bought from either dedicated vendors or through partnerships and white label arrangements with the switching vendors. Many of the applications are available in either cloud or premise-based versions – from the same vendors.

Figure 6: The cost of a medium-technology footprint (50 agent positions on one site)



Source: Ovum

Figure 6 shows the cumulative totals for a 50-seat center in this medium-footprint scenario. The costs of cloud and premise-based systems are so close for the duration of the five-year period that they are virtually indistinguishable. The on-premise system starts out with a slight measureable disadvantage in the first year, but the two deployment modes converge (within the margin of error) by the fifth year. Again, what is at work here in small centers is that the more expensive pay-as-you-go cost of the cloud

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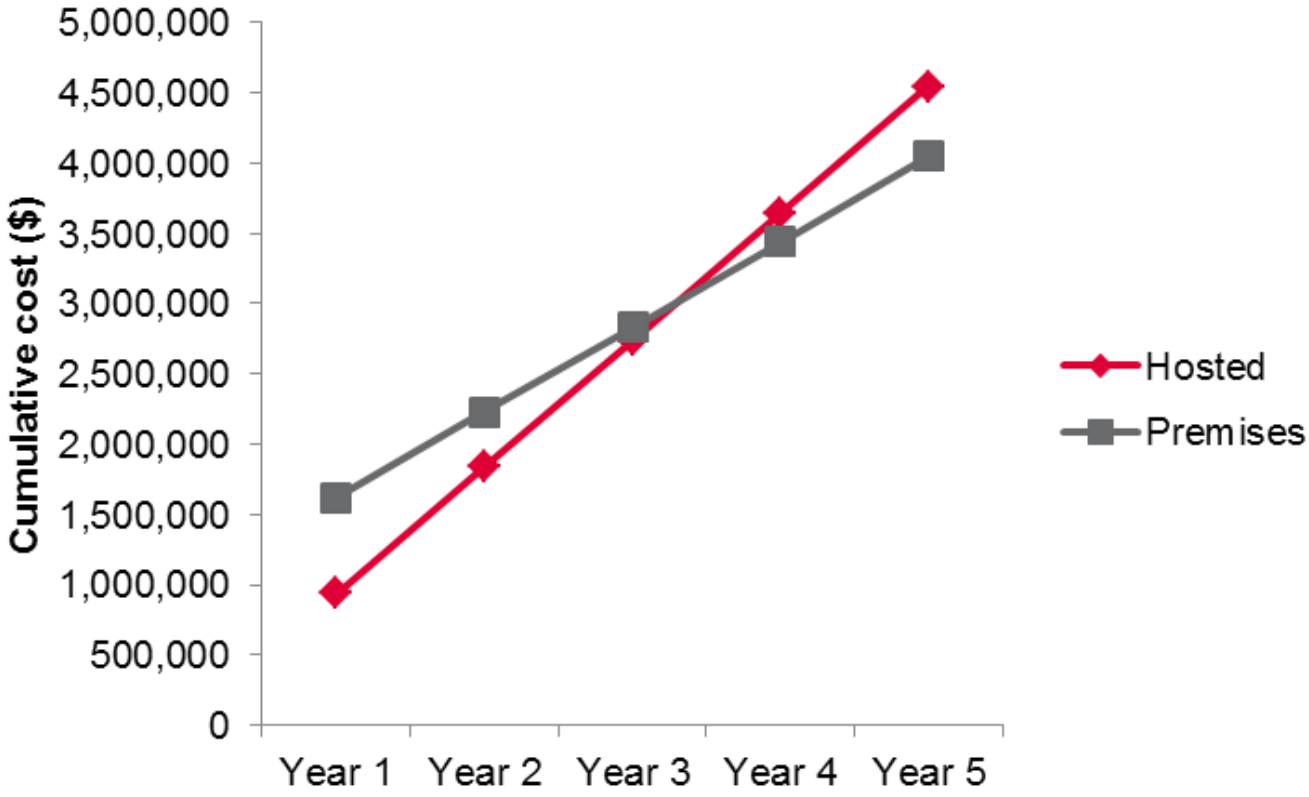
call routing is balanced by the higher cost of on-premise IVR, plus the annual maintenance costs of the on-premise equipment. The software application costs are slightly higher for a cloud system, but overall the two deployment modes are thoroughly cost-competitive at this level of usage.

Figure 7: The cost of a medium-technology footprint (300 agent positions across two sites)



Source: Ovum

When scaled up to 300 agent positions across two locations, cloud-based systems begin with a clear cost advantage, although this diminishes by the third year. By the fifth year, a 300-seat deployment is costing $500,000 more as a service than an owned, premise-based system.

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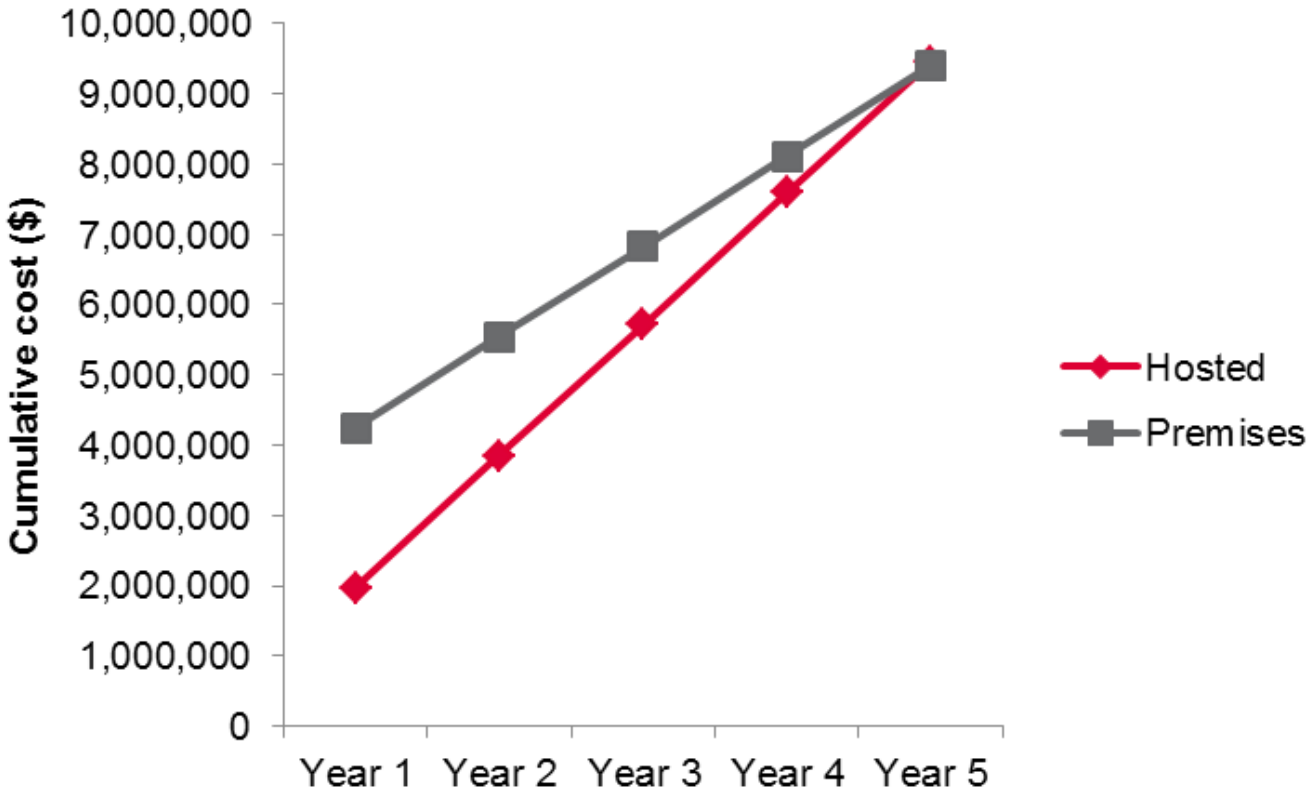
Figure 8: The cost of a medium-technology footprint (750 agent positions across three sites)



Source: Ovum

The large enterprise will find a similar dynamic in this scenario: hosting starts off with a clear advantage (as much as $2m) and then the two modes converge towards the end of the study period.

This suggests that mid-sized and large centers should look at hosting as a transitional or hybrid platform in this scenario. Some aspects of hosting are much more attractive than others – IVR, for example, is more than 10 times the price if you buy it rather than own it, and requires dedicated personnel to manage it onsite. For an organization that is going through a transition – merging centers, say, or considering a wholesale technology overhaul that might still be a year or two into the future – a medium-footprint cloud solution might be an effective mechanism for ensuring continuity over time.

The high-technology footprint scenario

In the most expansive scenario, we posited the use of all six technology components. Instead of the basic call routing option, this scenario incorporates multichannel contact routing. The exact nature of the offerings varies, but for the most part vendors are making available email, web chat, and SMS as potential interaction channels. On both sides of the deployment divide, these extras are often available as part of the core offering, or as reasonably-priced additional modules (or services). The advanced scenario also includes outbound predictive dialing, IVR, and the suite of WFO applications.

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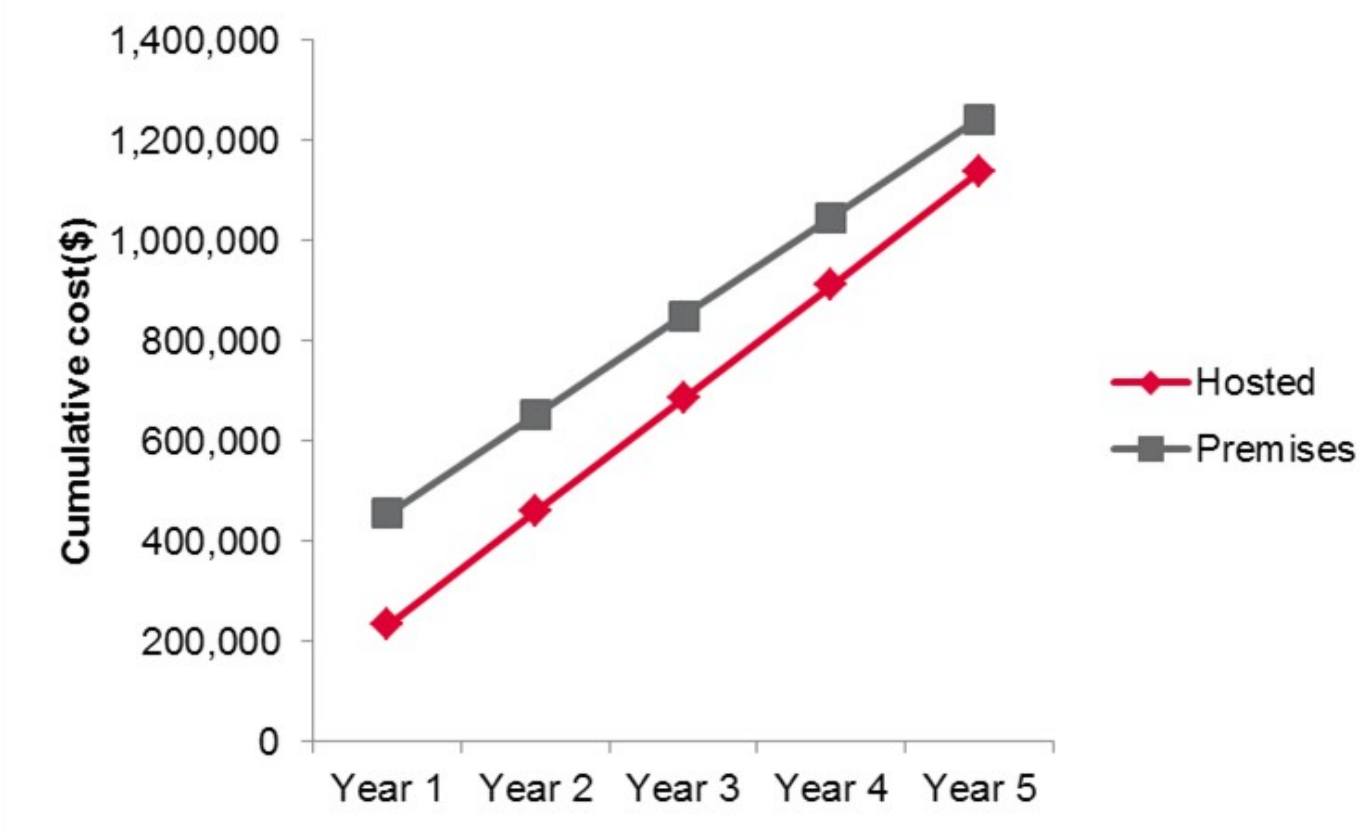
What this high-technology footprint scenario is trying to determine is the cost efficiency of switching to a cloud services model for the most demanding – and typically most expensive – traditional centers. These centers (regardless of size) handle the most complicated customer interactions. Their customers reach them via a range of channels, including methods such as social media and mobile phones that are yet to be standardized. These centers require bi-directional conversations for either service follow-up or sales. They are the centers that historically have been the most vested in the traditional premise-based deployment. So far the marketplace has paid little attention to the potential benefits of such a large-scale transition to hosting.

Figure 9: The cost of a high-technology footprint (50 agent positions on one site)



Source: Ovum

For small centers, the cost comparison remains very consistent across all the technology scenarios. Even with a full complement of advanced tech deployed, the 50-seat center finds a very similar five-year outlay for premise-based and cloud. Hosting the technology has a slight cost advantage by the fifth year.

Centers in this situation would likely be those that cater to a select or high-value group of customers, or those that remain small because they have a very narrow area of expertise. Healthcare services or high-end technical support may fall into this category, as may some types of specialized financial services. Another case would be businesses that are deliberately keeping their headcount low while

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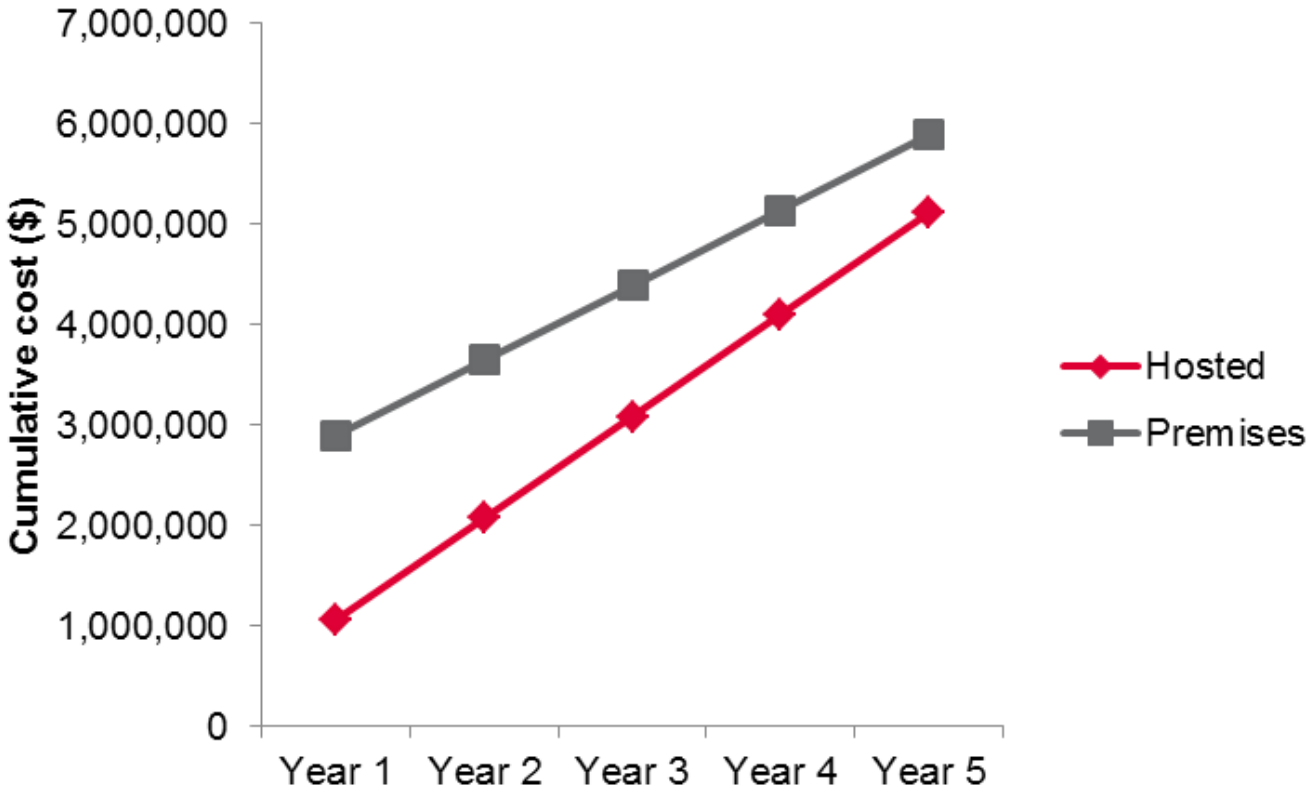
emphasizing the customer benefits of new contact channels for self-service; this would put them on a trajectory of continuously needing leading-edge interaction-handling technology.

Figure 10: The cost of a high-technology footprint (300 agent positions across two sites)



Source: Ovum

As Figure 10 shows, 300-seat centers also get a particularly good deal from cloud services in the high-technology footprint scenario.

One reason that the high-tech footprint is better suited to hosting than the other scenarios is that on-premise systems typically show a very steep cost climb when you move from basic call routing to advanced multichannel routing: advanced premise-based call routing costs roughly twice as much as basic ACD functionality. On the cloud side, the price premium for advanced routing is much slimmer. With some vendors, in fact, there is no premium at all, as advanced features are built into the software offering at all levels of service. This puts premise-based systems at a significant disadvantage, as it raises both the initial cost and the ongoing maintenance costs, making cloud more viable as a long-term option.

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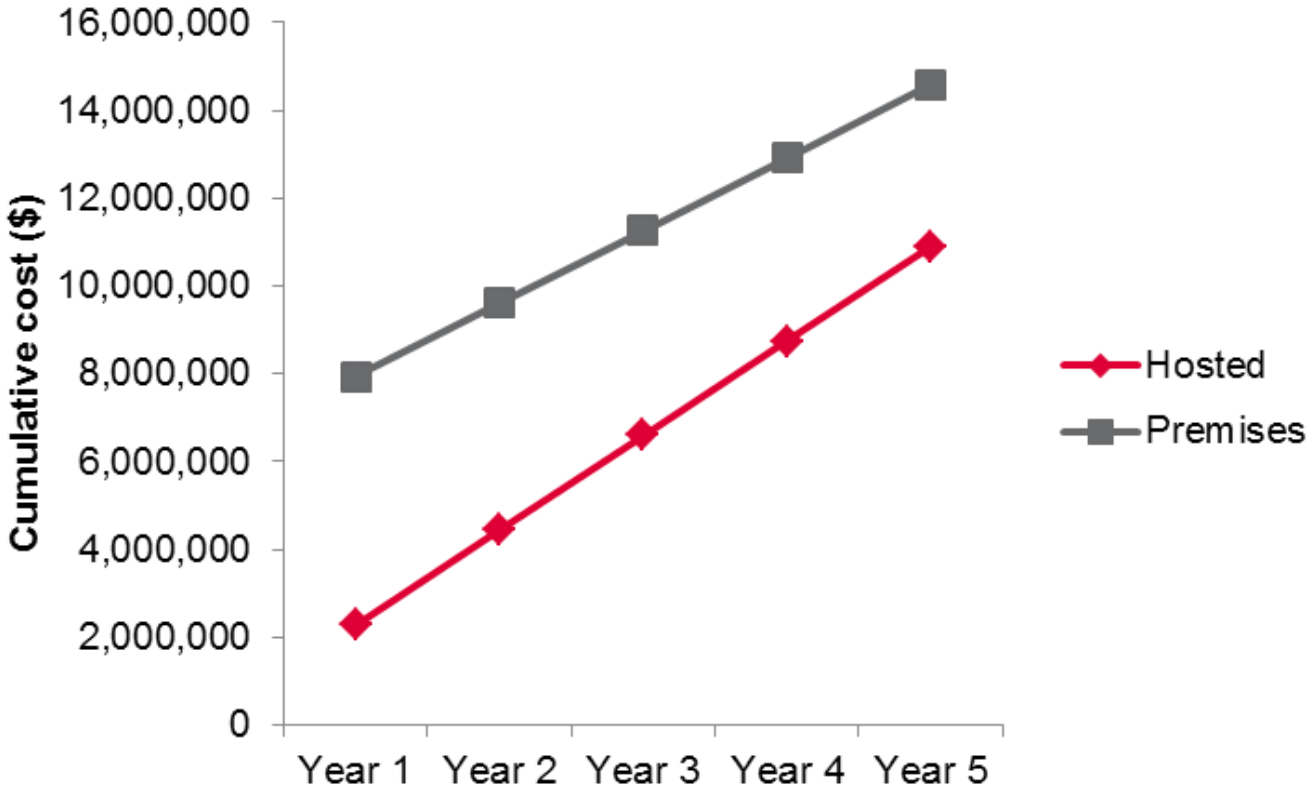
Figure 11: The cost of a high-technology footprint (750 agent positions across three sites)



Source: Ovum

The clearest example of the long-term viability of cloud-based systems comes when we examine the distributed 750-seat centers. These are precisely the centers that are most likely to need advanced routing and full-featured applications. In other words, this high-footprint scenario more closely resembles the real-world needs of 750-seat centers than the basic or mid-range scenarios.

In this example, cloud systems start off at one-quarter the cost of on-premise systems, and the costs never fully converge over the course of the scenario. Over the five-year period, a business choosing cloud will have been relieved of many of the burdens of technology management. The benefits of this go beyond cost: they allow an enterprise to be culturally flexible and more focused on its main mission, which is to employ the most appropriate technology to improve the customer experience. Most businesses would reconsider the lifecycle and utility of their core tools by the end of a five-year period anyway, which would reset the cost equation and make the on-premise side of the ledger even less appealing.

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RECOMMENDATIONS

Recommendations for service practitioners

Figure 12 makes clear the cloud value equation for all nine of the scenarios considered, showing those instances in which cloud solutions are either less expensive or at parity with premise equipment. The figure provides a framework for knowing when price should be weighed among other significant factors (such as feature compatibility, investment in legacy systems, and company culture) in the deployment decision.

Figure 12: Which deployment mode is more cost-efficient?

	50 seats One site	300 seats Two sites	750 seats Three sites
Low-technology footprint	Either cloud or premise	Either cloud or premise	Premise
Medium-technology footprint	Either cloud or premise	Cloud for < 2 years; premise for longer term	Cloud
High-technology footprint	Either cloud or premise	Cloud	Cloud

Source: Ovum

Recommendations for small centers

Not surprisingly, the situation for small centers has the most consistency in pricing over the study period. There is little real difference in terms of short- and long-term cost between cloud and on-premise systems. Most vendors treat cloud offerings for this market as a commodity, emphasizing price and ease of use as differentiators. The choice of on-premise or hosting then can be based on the underlying

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technology profiles of the vendors: their development roadmaps, integration capabilities, and anticipation of needs for different kinds of interaction channels.

Recommendations for mid-sized centers

Mid-sized centers that are unsure of their technology direction should consider cloud solutions if there is a window of two to three years in which they expect to be evaluating their operational practices or the direction of their customer experience programs.

For example, an organization that finds itself (through merger or acquisition) with two relatively small centers but a 300-agent headcount might find cloud-based services to be an effective bridge past the headaches of a multi-vendor environment. As they reach the third year of that window, the developing richness of the feature sets in both premise-based and cloud solutions may change the cost calculus, as short-term hosting can act as a bulwark against technical obsolescence.

However, mid-sized centers that are relatively stable – those that do not anticipate needing multichannel contact handling or expect to scale to much larger configurations – could find on-premise systems to be a more cost-effective solution in both the short and long term.

Recommendations for large centers

Large, complex centers have the most to gain by conducting a rigorous cost and feature comparison of the two deployment modes.

Ovum does not expect multisite centers with 750 or more agents to have much use for the basic configurations in the low-technology footprint scenario. The mid- and high-technology footprint scenarios, however, both indicate that there is room for evaluating hosting as a way either to transition to new technologies or to reduce the large management and scalability costs of premise-based systems.

We are convinced that the larger the center and the more advanced the application suite, the more likely it is that a company can benefit from incorporating cloud-based technology services. Ovum recommends designating a task force to explore the degree to which other enterprise departments (besides customer care) are moving toward the cloud for CRM and other business software. There is evidence that large systems integrators have been encouraging the transition to cloud-based contact center systems as part of larger-scale enterprise technology migrations. Advanced cloud technology has distinct cost advantages, which can probably be further leveraged through volume discounts and closer vendor relationships.

Larger companies are also better positioned to combine the two deployment modes into a hybrid infrastructure, which might include some cloud systems such IVR and WFO along with premise-based data management and routing.

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APPENDIX

Methodology

Ovum conducted primary research into the pricing plans for cloud and on-premise vendors for contact center infrastructure tools between 2011 and 2012. We asked more than a dozen vendors and key end users about the cost of various configurations of technologies, in different geographic regions and for centers of different sizes. We believe that the pricing used to construct this model represents the current averages for each segment.

Ovum constructed a model for purchasing infrastructure that included the upfront (list) costs, as well as the costs of installation, configuration, and integration with existing systems, ongoing maintenance fees, and estimated labor costs to administer the technology.

Further reading

Cloud Contact Center: A Mid-Market Pricing Framework (January 2012)

Cloud Contact Center: A Large Enterprise Pricing Framework (January 2012)

Decision Matrix: Selecting a Provider of Cloud-based Speech Self-service Solutions in North America (June 2011)

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We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at consulting@ovum.com.

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