



# The top six reasons -

To choose a cloud telephony platform for your contact centre solution

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## Introduction

Cloud-based services have matured and it is now beyond doubt that businesses consider them a viable alternative to traditional, on-premise infrastructure deployments.

Services delivered from the cloud can take many forms. It is increasingly common for developers and application specialists to access technology via appropriate APIs in a platform-as-a-service (PaaS) model.

A contact centre solution can integrate CRM via suitable APIs, and include hosted customer engagement and interaction options. The common thread in all applications is the Internet and APIs i.e., the cloud. That's because of the business benefits. It makes sense also for telephony APIs to be cloud-based.

Many telephony capabilities critical to any contact centre solution, such as agent transfer, callback-in-queue, outbound dialler, message drop, whisper mode or silent monitoring, call recording, and PCI compliance, can be integrated via readily accessible cloud APIs.

In this paper, Aculab offers six reasons for choosing a cloud telephony API platform. It also suggests a number of questions to ask, in order to ensure you choose the right partner for your business.

# Reason 1

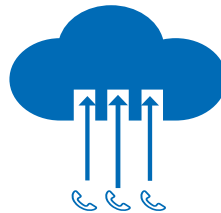
The flexibility, scalability and agility of a true cloud platform

## Flexing to meet demand

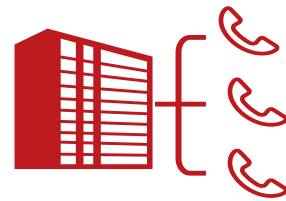
For many, the flexibility afforded by the cloud is the main reason to adopt a PaaS model. Regardless of the end-application, whether it is broadcast messaging and alerting or a cloud-based contact centre, there is a need to scale and grow, or contract for that matter, which is equally important, in order to seamlessly and cost-effectively react to situational changes.

**Figure 1: Demand variations in a typical televoting application**

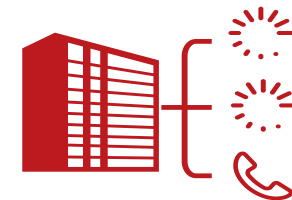
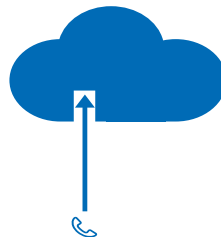
### Cloud implementation



### Hardware implementation



**Saturday night:** Hardware based solutions are built to meet peak demand



**Tuesday night:** While cloud resources scale back from peak demand, hardware lies idle

*"Instead of purchasing a fixed resource and paying to ensure that capacity is always available just in case demand peaks, the cloud developer simply pays for the capacity required at any particular point in time."*

Such adjustments can be as a result of increasing traffic to cater for a seasonal outbound campaign in a call centre, or to cope with short term spikes in outbound message volume - see Figure 1.

Cloud-based telephony API platforms offer a 'use it only when you need it' approach, which means both capacity and functionality can be turned on – and off – as and when required.

That agility means that organisations can work as they want and not as fixed resources dictate. Whether traditional, on-premise infrastructure deployments are based on centralised or distributed architectures, they all have fixed capacity constraints. Notwithstanding that a distributed contact centre operation can balance, divert or redirect calls across different locations, in capacity terms, the whole is never greater than the sum of its parts.

Granted, an organisation can employ home-based or temporary staff using distributed architectures, but it cannot readily log on agents in numbers greater than that already licensed on the system.

With a cloud-based solution, the ability to turn off and on capacity, regardless of agent location, can make the difference between success and failure when responding to the demands of customers, or an impromptu outbound campaign.

A PaaS solution can scale up or down to meet business requirements at any time. New resources can be added instantly, on demand, without the need for additional licenses or the renegotiation of contract terms. Critically, the application specialist pays only for the resources consumed, and only when consumed, which means the model is true pay-as-you-go.

## Reason 2

Control over administration and customisation

*"Either way, the application specialist remains in control of who can access what and when, and who has information view rights as opposed to view and action privileges"*

### Complete control

One of the key benefits associated with cloud-based platforms is the absence of the need for the end-user to get involved with issues around installation, commissioning, and ongoing maintenance and support, including 'hitless' or 'silent' upgrades. That's because the technology provider takes care of those aspects of running the system, and is responsible for the availability and resilience of the underlying platform. However, it must always be the case that the application specialist has ready access to the system for administrative and customisation purposes relative to the performance of the end-application running on the platform.

In relation to a PaaS, those facets revolve around the ability to meet the needs of the operation by providing access to appropriate logs, records, reports, statistics, and system statuses, via a suitable user interface, typically Web services. Some functions will be quite rightly accessible to users and administrators having pre-defined access rights to varying levels of information. The application specialist has the option of retaining control over such access or relinquishing access for certain aspects to users of the end-application, whether that is centralised or devolved right down to local operations. Either way, the application specialist remains in control of who can access what and when, and who has information view rights as opposed to view and action privileges.

In terms of customisation, the classic examples for a telephony platform are IVR prompts. Similar user privileges can be granted to enable the upload (and download) of files used for messaging and prompts, which can be voice talent recordings or generated via synthesised speech. Cloud telephony APIs offer text-to-speech for such purposes, with access to a wide choice of languages and male and female voices. Needless to say, there are also APIs for programmatic access, accessible to the application specialist.

There need be no restrictions over administration beyond those determined by the application specialist, as the inherent flexibility of the cloud means that local users can be granted privileges to manage and control the deployed functionality facing their own end-customers. That is of particular benefit to contact centres serving regulated industries. For each unique application, the cloud platform is a discrete, centralised, shared technology resource.

## Reason 3

Absolute independence for resilience and availability

### Absolute independence

Cloud-based platforms are independent of location, hardware, software and, for contact centres, agent location. As already mentioned, the benefits of this absolute independence include practically limitless scalability, due to the inherent capacity of the PaaS model. Furthermore, as traditional premise-based systems are limited by the number of lines entering the building and the number of provisioned seats, the ability of a cloud-based platform to scale up or down, on demand, enhances that benefit considerably.

The only limitation in relation to being able to answer all calls is the ability of the organisation itself to provide sufficient agents logged-on and available. As that is entirely a human resources issue, any queuing thus created is outside the remit of the PaaS vendor.

What PaaS does provide, through location independence, is fundamental resilience. In a traditional, premise-based system, business continuity is often realised through a distributed architecture, with a minimum of two, geographically dispersed locations providing a total capacity. That capacity is often engineered to cater for the worst case scenario, which is where one centre must cope with the full volume of traffic in a situation where the anticipated disaster scenario has occurred. If nothing else, that leads to a whole lot of redundant, if not exactly wasteful, capital equipment sitting around idly consuming power, in between practice invocations of the recovery plan.

With PaaS, there is no equivalent, wasteful capital expense, but there is at very least, the same desired result i.e., uninterrupted business continuity. And, what is more, the cost of any increased usage need be borne only for the duration of the incident. Once things return to normal, any extra capacity is simply and automatically turned off, because it is no longer used.

The design and construction of a PaaS solution is inherently more resilient than most organisations can afford to implement in their own infrastructures. Add to that, mechanisms to constantly monitor and manage all aspects of the platform, including key metrics such as end-to-end voice quality, and you will appreciate that any potential problems can be identified and dealt with almost before they happen, and certainly without the user being aware of any issues.

*"With PaaS, there is no equivalent, wasteful capital expense, but there is at the very least, the same desired result i.e., uninterrupted business continuity."*

## Reason 4

Integration with third party business processes

*"The adoption of a PaaS as the underlying engine for any business process that needs to be telephony enabled is an entirely application agnostic affair."*

### Integration

Integration is simply not an issue with a PaaS solution. A platform must impose no limitations on any applications, tools and utilities that an application specialist might wish to bring to bear in the development of its end-user product. The adoption of a PaaS as the underlying engine for any business process that needs to be telephony enabled is an entirely application agnostic affair.

The ability to, for example, employ freely available Python code libraries, deploy LDAP and SQL for the interrogation and modification of external databases, interface to OSS/BSS for network management and billing, use SMTP (POP3/IMAP), or integrate with collaboration tools such as Microsoft Exchange and IBM Sametime are activities that can be taken for granted. Furthermore, most third party systems or major tier-1 CRM applications, such as Salesforce, Zoho or Desk.com, can be integrated with the PaaS model by using Web services interfaces and APIs to work through any Web front-end.

Application specialists that design, develop and offer a contact centre solution on top of a PaaS clearly should be able to deliver standardised and customised functions with no arbitrary or artificial restrictions imposed on them by the underlying platform.

### The Advantages of high-level languages



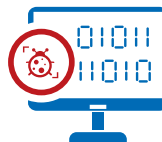
#### Simplicity

C# and the Microsoft.NET environment mean that the code is practically written for you.



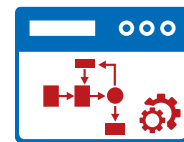
#### Time

There is a two orders of magnitude difference in coding an application in C versus Python, Java, C# etc.



#### Less Code

Coding in high-level languages means less code to maintain and faster, simpler debugging



#### Value add

More time can be spent on coding real, added value functionality instead of low-level routines



## Reason 5

Absolute confidence handling peak loads and new applications

### Confidence

One of the key criteria that needs to be satisfied when setting out to deliver a service that will cater for unpredictable, high volume peaks, is delivering on demand. Load testing is the standard, accepted method of determining performance under high demand. Without that, everything is a gamble – cross your fingers and hope it doesn't die.

If you own the servers in your data centre, unless you invest in a duplicate set of test servers, you are faced with load testing on your production servers, which is never a great idea. The options are more capital expenditure, or taking the risk of crashing your production environment.

If, on the other hand, you have a PaaS, load testing is possible without any expensive CAPEX. For a temporary increase in your OPEX, you can readily spin up servers, on demand, for load testing. And critically, in relation to the benefits deriving from a cloud-based platform, you can simply kill them off when your testing is completed.

Knowing without doubt that your contact centre system can cope with peak demand breeds confidence and peace of mind, which is invaluable to any application specialist providing some form of service delivery solution.

When it comes to rolling out a new application or feature, unless you have full redundancy in your data centre deployment on which to stage and test, which means yet more expensive capital equipment, you will be faced with taking down your production servers for some amount of time. After the new installation or update, it will be necessary to run a test suite and, assuming that is successful, go live again. Failure doesn't bear thinking about.

With a PaaS in the cloud:

- a) you don't have to pay for redundant servers that won't be used the majority of the time;
- b) you won't lose money in the form of downtime; and
- c) you will be able to go live in accordance with your release schedule, knowing in advance that all updates have been successful.

*“Knowing without doubt that your contact centre system can cope with peak demand breeds confidence and peace of mind, which is invaluable to any application specialist providing some form of service delivery solution”*

## Reason 6

Lower total cost of ownership (TCO)

*"Scaling up and down on a cloud-based platform, in order to cater for burst usage, is a lot cheaper than stockpiling hardware to meet what you might (or might not) need somewhere down the line."*

### Lower costs

Of all the arguments for and against cloud-based contact centre solutions, by far the most contentious are the ones that focus on cost comparisons. Often, statements are made suggesting that cloud means lower costs than the equivalent data centre deployment. The utility model for PaaS can lead to a lower total cost of ownership (TCO).

However, exploring some detail will serve to endorse the facts. Comparing the start-up costs is inappropriate for an enterprise with an existing infrastructure considering migrating to cloud, but wholly valid for a business starting out with the proverbial clean sheet.

The minimum cost of kitting out an in-house data centre is likely to be in the ballpark of \$100k, including UPS, racks, cooling, and servers – ignoring the bricks and mortar. In contrast, if the application needs just a c1.medium from AWS over say, 3 years, the cost would be around \$1k per annum. That means it'd take 100 years before you'd spent the same as in the CAPEX model. That's probably extreme, but you'll get the picture.

And don't forget that in the capital equipment scenario, there will be at least one full scale technology refresh inside each 10-year period.

Another scenario where cost comparisons produce a favourable result for cloud-based platforms arises from the need to provision for peak traffic. If, for example, an application consumes, on average, 10 EC2 instances, and extends to a maximum of 500 on occasion, the cloud model means you pay for the extra, but only when you use it. The data centre model means you must purchase the equivalent computing power (how many servers?) and have it stand by, largely idle, while it handles the average load of 10 instances.

Scaling up and down on a cloud-based platform, in order to cater for burst usage, is a lot cheaper than stockpiling hardware to meet what you might (or might not) need somewhere down the line.

In general, for organisations with variable resource requirements, such as those with seasonal workloads, where the need is for a significant number of servers for temporary periods of time, PaaS will be cheaper than paying up-front for a set number of servers.

Furthermore, regardless of usage, all organisations will benefit from zero up-front, capital expenditure investments, ongoing depreciation, and on-premise equipment technology refresh costs.

# Finally -

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## Ask the right questions

This paper has explored six reasons to choose a cloud-based telephony PaaS for the implementation of contact centre applications.

Before choosing a telephony API provider, however, you should make sure to ask the right questions.

Ask about the degree of knowledge and depth of relevant telecommunications experience possessed by the technology provider.

Include a number of generic questions such as:

- What will I be paying for and when?
- Will I be able to pay purely on usage?
- How are support and professional services provided?
- Is this a hosted service in disguise, such that I will have to pay monthly, per seat fees?
- Does the platform offer a range of features, including voice, fax, SMS, and text-to-speech?
- Will I be able to turn on and off capacity (scale up and down), seamlessly, based on demand?
- Is it possible to use the platform for load testing, staging and pre-release testing of new features and applications?
- Has the provider implemented mechanisms to monitor and manage all aspects of the platform, including key metrics such as end-to-end voice quality?

You can also ask more intimate questions around innovation, strategic intent, speed of changes, silent upgrades, or the frequency of adding new features.

Whatever direction you choose, be sure to engage with an API solution that fits your business model, from a technology provider with an extensive pedigree and with customers that can testify to reliability, performance and customer support.

Whether your applications and service delivery include IVR and self-service, or feature inbound / outbound customer engagement and interaction, they will need APIs for voice, fax, SMS, and text-to-speech functions. If you engage the right API provider, your success is assured. Believe in cloud.

*“Whatever direction you choose, be sure to engage with an API solution that fits your business model, from a provider with an extensive pedigree and with customers that can testify to reliability, performance and customer support.”*



# Aculab Cloud

3 decades of innovation - in the cloud

*"...how do you know that a cloud platform can deliver the same level of reliability and performance that you've come to expect from a hardware deployment and that it will be around for decades?"*

## Leverage the heritage of Aculab when you move to the cloud

Moving your application development environment to a cloud infrastructure is a big step. Despite the clear benefits of cloud migration, it's natural for developers of hardware-based solutions to be concerned about the risks of moving their technology IP – and the years of investment and knowledge that has gone into creating it – to a new cloud development platform. Most of the big names in cloud communications are relatively new entrants to the communications market; some are working with open source technologies and, as the market consolidates, it is likely that many will not be in business in just a few years' time.

So how do you know that a cloud platform can deliver the same level of reliability and performance that you've come to expect from a hardware deployment, and that it will be around for decades?

## Three decades of innovation - the next chapter

Aculab Cloud deploys Aculab's industry benchmark technology and has been built organically out of more than 35 years' worth of experience in the communications enablement market. Put simply, it's the result of more than three decades of experience and innovation.

Aculab Cloud developers can be assured that the technology that powers Aculab Cloud has been used to enable tens of thousands of mission-critical applications across the world. Aculab Cloud features robust, field-proven protocols that have been developed and honed in conjunction with thousands of developers and deployed across hundreds of networks.

It's the only cloud communications platform that delivers the expertise, experience and reliability that you get from working with a proven communications enabler.

**Leverage our heritage when you move to the cloud.**

# About Aculab

More knowledge, more choice, more innovation

Aculab is an innovative company that offers deployment proven technology for any telecoms related application. Its enabling technology serves the evolving needs of automated and interactive systems, whether on-premise, data centre hosted, or cloud-based.

Over 1000 customers in more than 80 countries worldwide, including developers, integrators, and solutions and service providers, have adopted Aculab's technology for a wide variety of business critical services and solutions.

Aculab offers development APIs for voice, data, fax and SMS, on hardware, software and cloud-based platforms, giving a choice between capital investment and cost-effective, 'pay as you go' alternatives.

## For more information

To learn more about Aculab Cloud and Aculab's extensive telephony APIs, visit:

**[www.aculab.com](http://www.aculab.com)**

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