

# WHY IS CLOUD COMPUTING VITAL FOR STARTUP AGILITY?

### Introduction

The potent combination of mobile technology, the Internet, and the Cloud has fundamentally changed our society. Nowhere is this more evident than in the business world. In order to compete - and challenge market leaders whose portfolios span the globe - modern organizations must be faster, smarter, and more productive than their peers.

In other words, they must be more agile.

“[Tesla, Uber, and Apple] all have one thing in common - they moved faster than their entrenched competitors, bringing new innovation to the market quickly and constantly,” [writes Stone Three Venture Technology CEO Eugene Jansen](#). “The traditional market leaders had become too comfortable and too complacent in their success, their organizational structures had become too rigid. By the time the disruptors arrived on the scene, they could not adapt quickly enough.”

Thankfully, agility isn't quite so difficult as some would like you to think. At the end of the day, it's really just a matter of having the right tools at your disposal and understanding how to use them. The most powerful of these tools is cloud computing.

We're going to explain why - and demonstrate how the cloud can contribute to a startup of any size, in any industry.

### Cloud Basics: What Is Cloud Bursting?

The greatest benefit of the cloud is that it has the capacity to scale quickly - businesses can easily deploy and shutdown additional resources as necessity demands. It's a compelling argument for moving one's infrastructure wholesale into the cloud, and yet many businesses choose not to. Instead, they make use of something known as cloud bursting, which allows them to keep core components in-house.

Simply put, cloud bursting is the augmentation of existing hardware with cloud hardware to account for increased demand. To give a simple example, imagine you run a relatively popular eCommerce outlet that you've hosted on inhouse servers. Those servers handle your regular traffic quite well, but the holiday season fast approaches, and with it a massive uptick in traffic.

That increase may well exceed your server capacity, making for a poor buyer experience. A poor buyer experience will in turn lose you business. You need some way of managing this increase in traffic, and buying additional servers for a temporary spike is hardly an ideal approach - for most of the year, those extra servers will simply rest idle.

That's where the cloud comes in. When your store's traffic exceeds what its servers can handle, you can 'burst' into the cloud, routing new connection requests to a synced copy of your site. As traffic peaks, more cloud servers can be brought online, scaling your site's capacity as demand dictates.

Once demand wanes, these servers can then be brought offline.

Do note that this example is an artificial one - cloud bursting can, in reality, be quite complex, as keeping inhouse servers synchronized with cloud servers is incredibly challenging. This is particularly true while databases and data consistency is concerned. The difficulty is far from unconquerable, however.



As [explained by Dotan Horovits](#); the only major difference between load balancing of databases and cloud synchronization is latency.

Web hosting isn't the only scenario in which cloud bursting is useful. Whenever a company must process workloads that exceed its regular capacity, there's a case for it. Consider, for example, bio-informatics.

Processes such as DNA sequencing involve periodic processing of massive amounts of data in order to produce results which require exponentially less storage space. By bursting the bulk of the sequencing and analysis workload onto the cloud and storing the results on inhouse architecture, bio-informatics firms reduce capital expenditure by a significant margin.

Through cloud bursting, organizations can enjoy all the advantages of the cloud without having to abandon their existing infrastructure. Bursting is far from the only compelling use case for the cloud, mind you. There are also considerable advantages to utilizing a cloud development environment.

## Why The Cloud Space Is A Superior Development Environment

Developers, more than any other group, seem particularly resistant to the idea of moving their work into the cloud. In many ways, that's understandable - it's comforting to know that your code - and your livelihood - exists on systems entirely under your control. Ultimately, however, this resistance is based on a fallacy.

The livelihood of developers does not depend solely on code - it's also highly dependant on productivity and efficiency. Those are two things the cloud offers in droves, from early development straight through to deployment. The gains are more than enough to justify the purported lack of control.

Moving development entirely into the cloud allows for the integration of coding, test, and build systems. This in turn produces more efficient coding cycles. Integration is one area in which this becomes abundantly clear.

By tying both the development and compilation environment together on a flexible platform, integrations can take place seamlessly and automatically. The developer, meanwhile, never has to worry about deploying hardware or tinkering with the infrastructure layer. They also have complete control over server deployment, spinning up ready-made development environments in seconds - a far cry from the traditional approach, where developers often had to wait for IT to sift through inefficient APIs and deploy the hardware for them.

This also increases the efficiency of collaboration between team members, many of whom might not even be in the same location. For evidence of this, one need only look as far as GitHub, currently the darling of the open-source world. At its core, GitHub is essentially a SaaS version control system which enables collaboration on software projects which would otherwise have been dogged by the complexity of VC/collaboration management.



Perhaps the greatest advantage of cloud development - and the one that has generated the most enthusiasm amongst developers - is testing. The deployment of test infrastructure is vital to the development workflow, and anything that introduces friction into the testing process reduces the speed of iteration. From unit to stress testing, the cloud provides unbeatable efficiency and flexibility. Whether you need hundreds of servers to stress test an application or a single server to check an app's compatibility, it can be done with only a simple script; and you'll only pay for what you use.

According to the [Evans Data Cloud Development Survey](#), cloud platforms can reduce overall development time by almost 12 percent, and 38 percent of developers said cloud development introduced time savings of up to 20 percent. In other words, development in the cloud is more efficient, more flexible, and leads to the creation of better software at a faster rate. Perhaps it's not surprising, then, that the cloud also contributes significantly to business growth.

## 80% Of US SMEs Say The Cloud Contributes To Business Growth

The cloud impacts businesses of all sizes, lowering costs and increasing IT efficiency across market sectors. In a [recent report](#) from the Techaisle market research organization, it was revealed that 80% of small and medium enterprises consider cloud technology to be beneficial to business growth. A number of different reasons were given by companies for their enthusiasm for the cloud, which differed depending on business size and industry.

40% of respondents said that business agility and new capabilities were the driving force behind their adoption of the cloud, and while many business leaders doubted at first that the cloud offered more than traditional hosting and infrastructure deployment, opinions have softened as the real-world benefits of cloud platforms have become more apparent.

The capacity to provide businesses with access to highly flexible, scalable infrastructure without requiring a large upfront capital investment isn't simply an incremental improvement on existing technologies. It's a quantum leap forward, and one that allows organizations to move far more quickly when seeking to find and extract market value. SMEs are heavily reliant on this level of agility to maintain growth in the face of rapidly-changing markets and highly competitive landscapes.

Larger enterprises are far from the only ones to benefit from the cloud's agility, as well.

Among smaller SMEs, in the 1-99 employee bracket, business agility was the primary motivation mentioned in the survey, followed closely by the ability to develop capabilities which would otherwise have been prohibitively expensive. In the mid-market range, companies with 100-999 employees also cited agility and business outcomes, but their major motivation for cloud adoption was an increase in the efficiency of IT staff; 60% of mid-market SMEs cited improved productivity through increased efficiency as a leading driver of their move to the cloud.

Early promotion for cloud computing has focused on low CAPEX and on-demand pricing. This is understandable - those are the major differentiating factors of the cloud when compared to traditional hosting, colocation, and in-house infrastructure deployment. But when SMEs are asked why they choose the cloud, their responses are not focused around those benefits.

Instead, they're focused around what we've been driving home throughout this piece.



### Conclusion

In the modern, mercurial business market, cloud computing is essential. This isn't simply because it's cheaper. It's because it offers significant practical improvements to business efficiency, growth, and agility - improvements which are felt throughout an organization.

