

## **THE FUTURE OF CONTACT CENTERS RESTS ON THE “EDGE”**

A UNIQUE APPROACH TO ADDRESS RELIABILITY,  
SCALABILITY, SECURITY, AND BIG DATA IN TODAY'S  
CLOUD CONTACT CENTERS

# THE FUTURE OF CONTACT CENTERS RESTS ON THE “EDGE”

## A UNIQUE APPROACH TO ADDRESS RELIABILITY, SCALABILITY, SECURITY, AND BIG DATA IN TODAY'S CLOUD CONTACT CENTERS

### Introduction: The Cloud Is Not Enough

The ongoing migration to software-as-a-service (SaaS) solutions and cloud is showing no signs of slowing down and is likely to disrupt the old business models and traditional hardware/software architectures currently in use. In fact, as it relates to contact centers specifically, the migration to cloud is expected to grow at a Compounded Annual Growth Rate (CAGR) of 21.3%, from \$4.15B in 2014 to \$10.9B in 2019 [RnRMarketResearch]. But as cloud computing gains rapid popularity, the limitations of moving all system aspects to the cloud has brought to light that the current “Internet of Things” is ill suited to keep up with today's increasing network demands

### The Growing Concern

If one considers that 90% of the world's data has been generated in the last two years, the notion today's network infrastructure is unlikely to keep up is presumably close, if not accurate. In the case of contact centers, putting the combined burden of media processing of multichannel platforms (voice, email, chat, text) and the exponential levels of data generated, processed, and stored for every interactive communication in the cloud is by no means a small undertaking. As the number of

## HOW WELL DO YOU KNOW YOUR CLOUD?

As cloud computing gains rapid popularity, the limitations of moving all system aspects to the cloud has brought to light that the current “Internet of Things” is ill suited to keep up with today's increasing network demands.

### Contact Us:

9201 Corporate Blvd,  
Suite 470 Rockville,  
MD 20850  
P: 800 350 8656  
[www.3CLogic.com](http://www.3CLogic.com)

end-devices (PCs, mobile, etc.) increase to 50B by the year 2020 [Cisco], the use of traditional solutions will quickly prove to be insufficient as long as all data functions and tasks are routed through traditional centralized server architectures. Quite simply put, as more and more internal data, tasks, and functions increase, the burden will equate to the act of fitting ten people through a single door. Again. And again. And again. Add the demands for security, reliability, and the introduction of interactive video, and suddenly cloud seems less appealing while on-premise systems increasingly less optimal to address the demands of an increasingly connected and demanding world.

## **Hosted Cloud and On-premise Not So Different**

As the contact center industry looks to cloud computing to address the shortfalls of on-premise solutions, many fail to realize the similarities and vulnerabilities most cloud solutions share with their on-premise cousins (with the exception of being multi-tenant systems). After all, cloud is fundamentally based on the simple concept of outsourcing IT infrastructure and maintenance needs to a third party. But while such a business model provides greater cost efficiencies and flexibility in the form of access to on-demand IT resources, it does so based on the same centralized server architecture and hence subject to the same reliability and scalability concerns.

## **The Solution With “Edge” Computing (Fog Computing)**

As with any emerging technology, many of the challenges facing cloud are directly related to it being misunderstood and by default mis-used. There is very little doubt that a properly implemented cloud solution can in fact deliver more flexibility, improve cost efficiencies, provide the convenience of a scalable solution, while facilitating the delivery of best-in-class customer service. It just needs a little support before becoming a victim of its own success.

Most of today's technologies rely on central data “hubs” or servers to manage and perform the many tasks businesses and consumers demand. As it relates to the contact center space, the increasing emphasis on the consumer experience has transformed the industry as businesses struggle to meet the various communication preferences of their customers, not to mention the sheer volume of data and transactions in need of processing and analysis on a daily basis. And yet while no one denies the challenges facing contact centers and their agents, many continue to tackle them without taking advantage of the additional resources readily available, abundant, and otherwise idle all around them.

Unlike traditional cloud solutions, “edge” computing seeks to take advantage of the inherent benefits a distributed architecture can offer as opposed to its centralized server counterpart. Rather than gradually drown under the growing burden of data generated by today's rapidly expanding contact centers, it seeks to employ the assistance of those very edge devices to manage, perform, and complete some of the tasks. By offloading certain processes and projects to the originating devices or sources (PCs, mobile, etc.), “edge” computing is

effectively able to free the cloud to perform only crucial assignments that cannot otherwise be performed at the edge of the network. In short, “edge” computing is able to benefit from the increasing number of devices joining the system, employing their help to alleviate the burden on cloud rather than collapse beneath their collective weight.

## How “Edge” Computing Can Power Tomorrow’s Contact Center

**Reliability:** As would express any decent financial advisor, the importance of diversification is key to any successful form of risk management. As it relates to contact centers, platform reliability has always been a key area of concern when considering the benefits of migrating to a cloud-based solution. However, for those hosted solutions using centralized server architecture, the potential for bottlenecks and service disruptions is increasingly likely as the information highway becomes more crowded. The visual equivalent of inserting a Toll Booth between a business and its customers for any and all processing requests, traditional centralized server architectures (whether on-premise or hosted in the cloud) are at the mercy of today’s demanding data and network requirements (Big Data, multichannel communications, real-time analytics, interactive video, etc.) and likely to lose in the long-run. Yet with “edge” computing, the ability to distribute data analysis, media traffic, video, and other compute-intensive tasks across both cloud and a business’ “private network” (PCs, mobile, etc.) helps to alleviate the risks associated with relying on a single central point to perform all projects while enhancing the overall reliability of the platform itself. In the case of a contact center, “edge” computing simply allows for enhanced uptime and the delivery of a better overall customer experience.

**Scalability:** In the case of cloud solutions (or on-premise) using traditional centralized server architecture, the ability to effectively scale on-demand is limited by various bottlenecks implicit in legacy systems. At the most basic level, any increase in demand by one business or another puts added strain on the overall network infrastructure at the risk of future service disruptions or outages should demand exceed server or telecom switch capacity. With “edge” computing technology to complement the existing cloud network, however, businesses are able to contribute computing resources to the network (in the form added PCs, etc.) as they expand and distribute the overall demand load. In short, as the number of users grows, “edge” computing creates an environment in which the total available computing resources automatically grow in proportion to the number of users joining the system. In addition, the distributed nature of “edge” computing reduces the potential impact other institutions may have on the shared network (cloud); one contact center’s scaling needs will not impact those of another.

**Security:** The security concerns surrounding the outsourcing of data storage to the cloud affect both consumers and businesses alike. Despite the many benefits cloud solutions offer, the advantages presumably do not always offset the potential risks of housing sensitive information offsite, especially for those industries held to heavy scrutiny (finance, healthcare, insurance, etc.). In fact, many firms refraining from cloud site security as one of the primary

reasons they still rely on outdated on-premise solutions to satisfy their needs. But with “edge” computing, businesses are capable of maintaining private data on-premise by virtue of the ability to direct and perform tasks onsite (on a company's private network) without the need to transmit secure data through cloud or a telecom carrier. With “edge” computing, companies maintain control with the potential to use cloud only for management needs (reporting, analytics, configuration management, etc.). As it specifically relates to contact centers, call recordings and processing of confidential client information can effectively be performed internally without the need to route the information through the cloud.

**Big Data:** As the overall size of Big Data continues to live up to its name and expand, today's infrastructure is unlikely to keep up. But with “edge” computing, the ability to combine the untapped resources of a company's own end-devices to assist in the processing of tasks and data analysis makes the possibility of Big Data far more reasonable. No more server overloads. Instead, the ability to gain valuable insights from each and every customer interaction and across each of the communication channels is much closer to reality. And as contact centers increasingly rely on the ability to deliver a seamless customer experience, the need to effectively interpret valuable client data will be crucial to any future success and competitive advantage.

## **Conclusion**

Today's contact centers have come a long way from the “cost centers” of old. But as businesses increasingly rely on them to compete in a customer service-driven world, the importance of utilizing cloud to its fullest without undermining the benefits is paramount to any successful future. And as data, multichannel communications, and overall customer demands increase, the need to consider a more modern approach to modern-day concerns will effectively draw the line between tomorrow's best contact centers and those striving to catch-up. With “edge” computing to complement the already massive migration to cloud solutions, the ability to meet today's requirements while preparing for tomorrow's is already within reach.