Five9™
The Intelligent Cloud Contact Center

# An IT Checklist for Cloud-Based Contact Centers

Moving from on premises solutions to the cloud is no easy task and it is important to do your research when doing so. When assessing vendors, it can be challenging to determine who can deliver product features, capabilities, professional services, and support at a reasonable cost. You also need to investigate and validate vendors' claims related to reliability, flexibility, and security.

## Overview

This white paper is designed to help you assess cloud solutions as viable replacements for on premises infrastructure. Business buyers will likely focus on whether a particular cloud solution will be a good fit for the business problem. That leaves IT and other tech savvy decision-makers to help the company determine if a solution will provide the right capabilities in a secure and reliable manner for years to come.

## Reliability

### Uptime and Availability

In the early days of cloud, led by Salesforce and other CRM vendors, reliability concerns surged. Reliability was top of mind for companies looking to make the switch to cloud. It wasn't that their existing on premises systems had great uptime, but more so they had control over fixing any issues that came up.

Today, the discussion regarding reliability for cloud vendors has coalesced around uptime being comparable or greater than that of on premises software. The ultimate goal is 99.999% uptime. This equates to about five minutes of downtime over the course of a year.

**The ultimate goal is 99.999% uptime.**

Many on premises systems struggle to reliably maintain even 99.9% uptime, which equates to about eight hours of downtime over the course of a year.

What most businesses need is for solutions to be available during operating hours. Not surprisingly, we use the word availability to refer to whether a particular service is accessible when needed. A cloud solution providing 99.999% uptime effectively achieves the availability requirement for all businesses—24/7 availability. If your business only operates between the hours of nine to five, a system that is always available between those hours would meet your business needs. A minimum uptime of 33% is all that would be required. This assumes that the system would only be unavailable after hours, which is not a reasonable assumption.

Reliability requirements for your solution depend on the nature of your usage and its importance to the business. Look for cloud vendors that post their historic reliability in a public environment and whose past performance over the last twelve months meet your business requirements.

**Check to ensure that cloud providers have designed the architecture so that any individual component failure has a fallback.**

## Redundancy

Failure within a system is inevitable no matter how well the platform is built. Because of this, some level of redundancy is required to create a highly reliable system. The task is to design the architecture so that any individual failure has a fallback and which can be substituted without human intervention.

Areas of consideration for redundancy include:

**• Hardware-level redundancy**

Hardware of some type is still required somewhere to run cloud software. The decision to co-locate hardware or pay someone else to design and maintain the hardware (AWS, Google, Azure, etc.) for a cloud vendor comes down to cost. Primarily due to cost, the trend for cloud vendors is towards public cloud services over co-location. Regardless of approach, hardware redundancy must be taken into account.

**• Process redundancy**

Process redundancy, or how processes share resources and failover, is also critical to achieving high reliability. Some processes are more critical to the operation of the service than others. A service provider should have a map of those processes that need active-active or N+1 redundancy. Cloud vendors are increasingly using microservices architecture to achieve process redundancy rather than older technologies. Either way, you need to assess the importance of the service to your business and feel comfortable with the steps taken by a vendor.

**• Network redundancy**

If a service provider co-locates its service, it's important to understand how network connectivity is architected. Are there multiple routes to the internet? If one network becomes unavailable, is another one available to pick up the load and handle the traffic? What SLAs are published for bandwidth, redundancy, and availability? Vendors should have answers for these questions and express knowledge of which elements need redundancy and which elements can live without it.

If a service provider uses a public cloud service, network redundancy is up to that provider. A service provider should still have a solid understanding of those elements, even if it isn't managing network redundancy as part of its business.

**• Geographic redundancy**

Redundant data centers should be in separate geographic areas to protect from natural disasters or other unforeseen events with local scope. You should talk to your service providers about what is required to continue service in the case of the failure of a data center. A few questions that you should consider:

- Is action required from someone on your team and does it require a specific skillset?
- What steps are required, or does the system provider have people ready to complete those steps on your behalf?
- In case of a failure, is geographic redundancy an automated process?

The more automation the better, but fully automatic systems cost more. It shouldn't surprise you to learn that there are manual steps for some of the less frequent failure events. The important thing is to ensure you both have a plan in place ready to implement in case of a failure.

## Flexibility

Why does flexibility matter for your business? While it may not be top of mind today, flexibility can save you from headaches down the road as you continue to grow and scale.

Platforms built on legacy on premises platforms tend to be very fragile and have trouble keeping up when it comes to releasing new products, feature enhancements, or bug fixes. Understanding the architecture of the platform will help determine the flexibility and agility when it comes to growth.

**Make sure you are comfortable with the service's ability to serve your optimistic growth requirements.**

Microservices are increasingly being used to ensure that a system is flexible and extensible. If your service provider is using them, it will be able to keep up with the latest market demands. Use of the latest technology, such as Kubernetes and Docker Containers, may also indicate that the company is leveraging the technology behind the scenes to stay competitive and nimble. This doesn't guarantee delivery of needed features, but at least it eliminates barriers to moving quickly based on market demand.

If your existing software is not flexible, it can really slow down your business as it may take weeks or months to deploy new products or features—which can cause a huge disruption to your business. Ask how the system was built and understand the underlying third-party software components.

## Security

Security may be critically important depending on the industry in which your company operates. For cloud businesses that may store or have access to sensitive data, keeping that information encrypted and out of the hands of corrupt people or groups should be a top priority. But how can you tell the difference between companies that claim high security and those that have put policies and best practices in place to be highly secure?

If security isn't covered on a company's corporate website, it could be an immediate red flag that it hasn't taken proper steps to secure data within its environment. Companies often talk about two forms of security verification. Third-party attestation is one. It provides independent assurance that security controls are in place and operating effectively. The second is a business' certification of regulatory compliance. Generally speaking, attestations are stronger, but do consider the source of the attestation.

## Conclusion

The move from on premises to cloud-based architecture has clear business benefits, but the technical aspects deserve equal consideration. Most cloud vendors offer solutions at or above the reliability, flexibility, and security of on premises systems. Cloud systems are rapidly disrupting the on premises business model. You and your team should look to invest in a solution that will both meet your immediate needs and innovate for future breadth of service and competitive longevity. The contact center industry continues to evolve, and your business should be ready to meet customers' changing needs and expectations.

## Next Steps

Evaluate your current solution with the cheat sheet on the following page to determine whether it is meeting your criteria.

## Your Solution Evaluation Cheat Sheet:

1. What is the vendor's uptime?

_____

2. What areas have redundancy?

- ☐ Hardware level
- ☐ VM level
- ☐ Process
- ☐ Network
- ☐ Carrier
- ☐ Geographic

3. What contingency plans exist for possible failures?

_____

4. Is the system flexible?

_____

5. Does it incorporate the latest technology for its architecture?

_____

6. Does it have a set of APIs and SDKs and prebuilt integrations?

_____

7. How much volume does the system have?

_____

8. How fast can it scale?

_____

9. Does the company have security and compliance assurance (with attestations if appropriate)?

_____

10. Is the vendor transparent about security policies and availability?

_____

### About Five9

Five9 is the leading provider of cloud contact center solutions, bringing the power of the cloud to more than 2,000 customers worldwide and facilitating more than five billion call minutes annually. Five9 helps contact centers increase productivity, boost revenue, and create customer loyalty and trust.

For more information visit **www.five9.com** or call **1-800-553-8159**.

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