

Now more than ever, contact centers need DevOps practices and a test automation strategy that can ensure end-to-end quality of experience for both agents and customers. Embracing digital innovation will allow contact centers to support their customers in a transformative, meaningful, and differentiating way.

## Unleashing Business Value with Contact Center Testing

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**Questions posed by:** Empirix

**Answers by:** Melinda-Carol Ballou, Research Director, Agile ALM, Quality, and Portfolio Strategies

### Q. Why is DevOps important for the contact center? What steps should leaders take to enable adoption?

**A.** Contact centers are the "face of the business" for enterprises and digital service providers. High-quality contact centers are imperative for customer support and to promote, sell, and deploy products and services. These capabilities become all the more critical during a global COVID-19 pandemic; social distancing leads to remote engagement as a sole method for most customers and companies to relate to one another and transact business. As the complexity of contact center environments rises — as communication technologies such as voice, web, and chat rapidly evolve — interactive customer experiences depend on compelling content and how well the underlying technologies perform with massive use.

Optimum performance requires end-to-end visibility into the contact center environment, integration between technologies, smooth upgrades, efficient networks, fast bug remediation, and a goal of defect-free production systems. Agile DevOps approaches can drive efficiency across the software development life cycle for high-quality, responsive contact centers that are vital to positive customer experiences. Therefore, IDC advises adopting end-to-end DevOps practices that include automation and coordination of business requirements, testing, development, and deployment processes.

IDC recommends that organizations start by analyzing how business requirements for the contact center are defined and shared across quality assurance (QA), delivery, and operations teams to coordinate efforts throughout the development life cycle. Next, they should establish a baseline for the contact center, assess the current performance of existing processes and workflows, and identify what's working well and what's not working well. Mapping previous testing and evaluating the results can help organizations understand their test coverage needs and improve future testing. This information enables organizations to identify and address gaps and to double down on the activities that positively impact contact center quality.

Migrating to a DevOps strategy requires investment in organizational change and tools, but the long-term business and quality benefits and savings outweigh the challenges. For instance, as a result of increased staff efficiency from improved processes and automation, companies can reallocate tactical resources to high-priority business initiatives for the contact center. Manual testing is labor intensive and error prone; using automation and DevOps, businesses can respond quickly to competitive pressures with improved quality, performance, financial, and staff savings that are urgently needed during

the current pandemic health and economic crisis. (Repairing call center problems during production costs 10–100+ times more than repairing problems during development, and reputational harm to the company can be irreparable.) These factors help validate the decision to use DevOps and to bring others on board. After deploying automation for call center quality across the life cycle, teams and leaders should assess progress by comparing past and current states of DevOps execution. This assessment of the feedback loop can inform the ongoing adoption of processes and products and help organizations set future strategies to improve quality.

## **Q. What is the greatest roadblock to high-quality, rapid deployments within a contact center, and how can it be addressed?**

**A.** One of the biggest obstacles to high-quality, rapid deployments is lack of coordination between cross-functional teams such as business, development, operations, networking, and infrastructure. Disconnected teams lack both the required business context and the ability to collaborate technically. For contact centers to be successful, business requirements, strategies, and execution must align, despite organizational and other barriers. When a problem arises, successful, cross-functional coordination enables teams to work together to identify the root cause and answer questions such as the following: Which of the known issues is impacting the business most and should be addressed immediately? Whose problem is this? Is it a software problem or a networking problem?

Of course, collaboration, or lack thereof, is often a cultural issue. IDC recommends that managers identify cross-functional goals that support the business strategy and then implement the necessary tactics to improve interteam communication, workflows, governance and, ultimately, the quality of the shared technology environment. Given that business needs are changing dynamically during COVID-19, effective communication across groups to implement and adapt contact centers becomes even more vital.

Another obstacle to adoption is the lack of competency and experience in applying DevOps across diverse deployment platforms, including contact centers. Few organizations have high levels of maturity in this context to understand how to apply DevOps, quality, and performance strategies to address contact center–specific complexities and demands. (They also typically don't know how to implement agile, continuous testing across the entire DevOps life cycle.) Environment management, cultural change, and access to reliable test data are other aspects that organizations must address for success. Companies must leverage executive backing and support, training, mentoring, and grassroots evangelism by effective pilot teams that are cross-populated to help unite these diverse groups.

Cloud-based test automation offers an opportunity to deal with some of these challenges. A cloud-based testing platform provides organizations with a fast, easy way to get started with automation as well as manage test infrastructure, which can create significant efficiencies of scale and configuration management. Cloud adoption and availability have also made it easier to work remotely during the current health crisis, and IDC expects significant deepening of cloud usage to continue after the coronavirus subsides. Despite the benefits of cloud-based testing, many companies aren't ready to fully embrace cloud because of security concerns, the inability to test isolated lab environments, or the inability to keep expensive carrier toll charges in check.

In these cases, a hybrid offering — on-premises combined with SaaS-hosted, private, or public cloud deployments — may be the answer depending on the organization's needs. With a hybrid approach, there's greater flexibility to support organizational requirements while minimizing the care and feeding of on-premises deployments. Regardless, when transitioning to the cloud, an organization should start with a checklist of contact center and communications network changes needed to guide the project. Teams should automate in massively parallel structure on the cloud to improve execution speed, to decrease mistakes due to human error, and to allow staff to be used strategically (rather than executing manual tests to run menial tasks). A cloud-based testing interface with a shared test script library accessible to development, QA, and operations teams increases test coverage and reduces rework.

## Q. Why is it important to perform end-to-end testing in contact center environments?

**A.** Contact center agents rely heavily on their environment to respond quickly and effectively to the needs of customers. As contact center usage increases with the impact of COVID-19, end-to-end testing is critical to help ensure seamless and predictable client communication and to closely track the call center experience. As a rule of thumb, anything that could impact customer experience ("from the lips of the customer to eyeballs of the agent") should be tested. Misrouted calls, interoperability issues, and poor call quality impact not just the ability of agents to perform but also the quality of the customer's experience. Testing strategies such as mimicking customer behavior, mirroring traffic patterns, and ensuring interoperability across call center technologies not only are vital for operations teams to have visibility but also help validate the customer journey.

DevOps teams must not forget to test customer-facing web- and chat-based technologies, which can result in significant increases to voice traffic when they perform poorly (or fail). Additionally, contact centers typically have multi-vendor, multi-technology environments that must be tested as an organic whole rather than piecemeal, or the results will be flawed (because teams can't contextualize to identify the root cause of problems). This multi-vendor environment can create finger-pointing, lack of ownership, and systemic, unresolved call center challenges.

Testing efforts should focus on areas such as toll-free carriers, interactive voice response (IVR), and the customer-to-agent workflow. Carrier network issues or other technology problems can make it impossible for contact center agents to communicate with customers. Although these kinds of issues may not occur frequently, they can incur huge costs in quick time frames; therefore, it's critical to identify the carrier's role. Automated voice applications are the backbone of ongoing customer engagement within the contact center. Ensuring that IVR prompting and call flows behave as expected and that information can be queried and retrieved from back-end systems in a timely manner to improve customer experience and to reduce cost per contact (CPC) is key. The customer-to-agent workflow is enabled by ensuring routing and computer telephony/customer relationship management (CRM) integrations are working properly. Leveraging testing tools that help automate customer and agent communication can be an on-ramp to successful contact center testing.

## Q. What are the key benefits of contact center testing?

**A.** Contact centers are the "face" of companies to their customers, and given our current state of isolation and the shift to remote relationships as a result of COVID-19, they may be one of the few or only points of interaction for companies; therefore, they are business critical now more than ever. Contact center testing can lead to project-based, operational, strategic, and system benefits, among others. These benefits are tied to improved customer experience through each of the following phases of the DevOps life cycle:

- » Development (QA testing)
  - Increased testing coverage
  - Reduced testing time
  - More efficient use of resources
- » Deployment (performance testing)
  - Go-live risk mitigation
  - On-time deployments
  - Quicker return on investment (ROI) of technology tested
- » Operations (production monitoring)
  - Proactive issue identification
  - End-to-end service visibility

Also, from a development perspective, the greatest barriers to application adoption include poorly designed user interfaces and stodgy performance. Research shows that users abandon software that doesn't load quickly or is hard to use. In addition, because contact center success is tightly aligned with software adoption, these issues are strategic. Therefore, test automation drives competitive advantage because it enables businesses to bring new features and solutions to market more quickly.

Systems benefit significantly from contact center testing. DevOps teams expect their systems to be functional, usable, scalable, upgradable, and easy to maintain. When systems perform as expected, teams can achieve greater levels of efficiency. Having a testing platform that enables teams to test across the DevOps life cycle and easily create scripts and reuse them across functions (QA — such as functional and regression and performance testing) provides operational, strategic, and systems benefits. A shared test automation system enables DevOps teams to mature their processes and scale. In addition, test automation enables new business initiatives to be tested thoroughly before going live. And that's one of the key opportunities, of course. Companies want to go at the speed of digital innovation. How can they do that if they don't have quality applications capable of addressing dynamic business and competitive needs while sustaining performance levels for call center communications?

There are operational benefits to performing ongoing testing in production environments. By consistently monitoring both the operational environment and interactions from the customer's perspective, organizations can expect increases in their operational efficiency and customer satisfaction. The advantages of end-to-end customer journey testing include faster identification and problem diagnosis via symptom and root cause analysis (and bug reports). With the resulting higher-quality applications, self-service applications will have improved adoption rates and lower operational costs.

IDC recommends that contact center leaders adopt DevOps practices and a test automation strategy that can ensure end-to-end quality of experience for both agents and customers. Embracing digital innovation will allow contact centers to support their customers in a transformative, meaningful, and differentiating way.

## About the Analyst



### ***Melinda-Carol Ballou, Research Director, Agile ALM, Quality, and Portfolio Strategies***

Melinda-Carol Ballou serves as Research Director for IDC's Application Life-Cycle Management (ALM) program. In this role, Ms. Ballou provides thought leadership as well as expert opinion and analysis through comprehensive research on end-to-end application life-cycle management — from requirements to quality, testing, change, continuous release, process, and project and portfolio management (PPM) with a focus on agile DevOps software life-cycle strategies.

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Empirix has been solving testing and monitoring challenges for contact centers, helpdesks and communication networks since 1992. Our best-in-class solutions help our clients reduce risk, accelerate technology time-to-market, maximize customer retention and reduce operating costs.

Our flagship technologies, Hammer and Hammer Cloud Platform, are used by companies worldwide to enhance user experience and satisfaction. By simulating real-world communications, we test the end-to-end interoperability of network services and applications validating every function of your voice and data network. A comprehensive test automation and quality assurance program is critical for customer retention and cost reduction strategies.

Hammer Cloud is a single cloud-based platform designed to accelerate release cycles by supporting the cross-functional testing needs of development, QA and operations teams. It provides fully automated, self-service testing and test case design for voice applications and contact center technologies and facilitates the adoption of DevOps practices with a shared script library and script porting across the software development lifecycle. Common types of testing performed with Hammer Cloud include functional, regression, systems integration, stress or load, smoke, disaster recovery, and ongoing ready-for-business testing.

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<https://www.empirix.com/products/hammer-cloud-platform/>

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