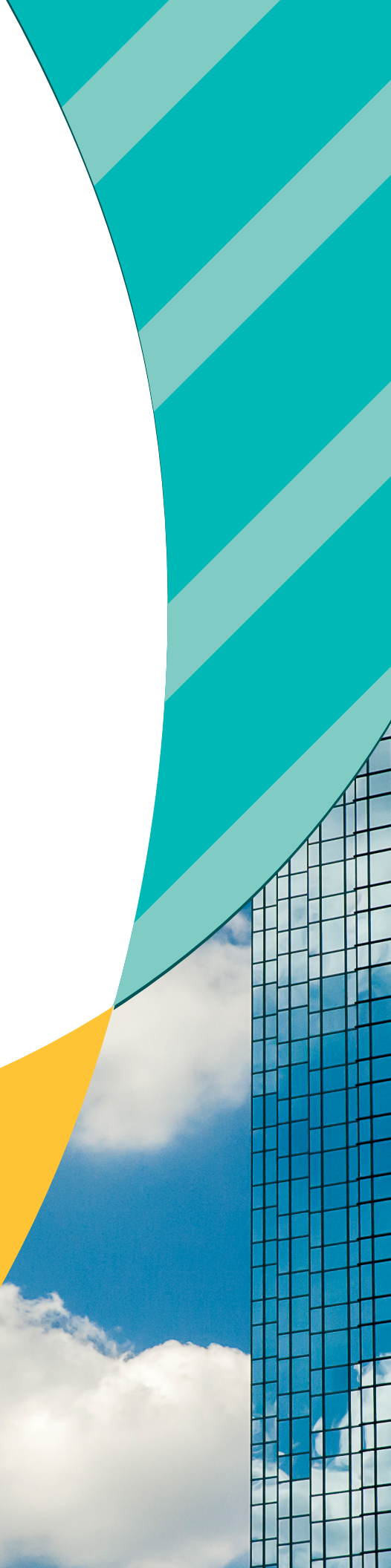




Scale your customer service without limits – on Pega Cloud Services



The business issue

Customer service is the lifeblood of any business – and the quality of that customer experience can cause a direct impact. Customer service representatives (CSRs) need responsive systems that minimize the need to bounce between screens, simplify issue resolution, and directly impact productivity. These objectives are compounded by the variable volume of cases and CSRs needed to manage them. CSRs need a platform that will scale with them to deliver on the responsiveness needed – regardless of volume.

The solution

Pega Customer Service™ consolidates relevant customer information from your legacy systems, interaction data, and service requests into a composite view. Bringing these together eliminates broken processes and enables automation so CSRs can focus on outcomes. When deployed on Pega Cloud® Services, Pega Customer Service is delivered on a fully-managed cloud service that provides the secure environments needed to keep customer data safe. It can seamlessly scale to meet the changing demands of your business – whether your operation has less than 500 CSRs or over 20,000.

Scale easily and securely with Pega Cloud

Pega Cloud Services is designed to provide optimal performance and uptime to customers based on their subscription. As a service offering, Pega is responsible for operating cloud instances to meet defined SLAs within the client's contracted volume. Our operations team uses Pega's proprietary auto-scaling methodology to add cloud nodes when needed to ensure continued performance and availability. Our methodology is a continuous improvement process that is designed to ensure consistent application performance as application use scales. This means users and administrators can count on consistent performance without having to engage Pega during spikes in application use.

We tested a simulated, real-life customer interaction.

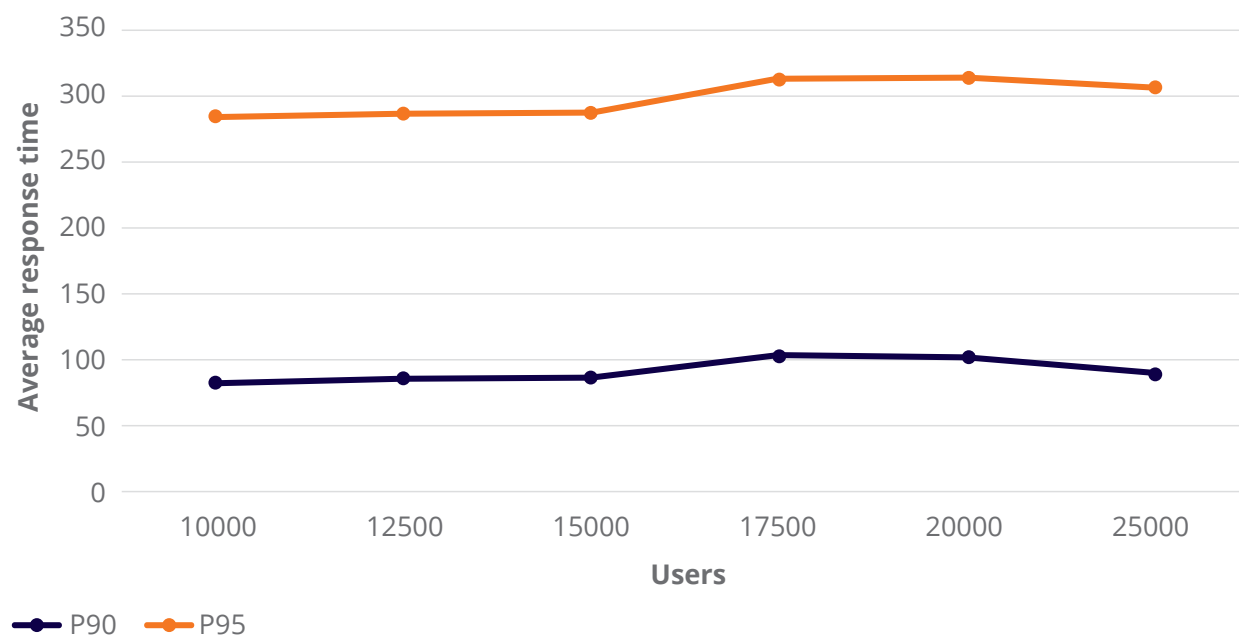
We designed a typical customer service interaction and tested it based on real-world scenarios faced by Pega customers – to demonstrate the performance delivered by Pega Cloud Services for Pega Customer Service. The test followed typical operations and customer interaction as defined in the methodology section below. Then we measured the performance and scale under an increasing load of concurrent CSRs.

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Pega Cloud Services

Average response times - p90, p95



Users	Total request time	Total request CPU	p90	p95
10,000	393,097	294,578	84	283
12,500	490,433	360,420	87	287
15,000	617,780	448,654	88	290
17,500	840,569	523,318	105	313
20,000	890,534	610,779	102	314
22,500	1,169,294	684,549	92	307

Maintain great performance – even as your users grow

Pega Cloud scales application tiers and load drivers to support the growing number of concurrent users. The following table provides details on how Pega Cloud facilitates the scaling process.

Users	No. of app nodes	No. of load driver
10,000	24	13
12,500	30	16
15,000	36	19
17,500	42	22
20,000	48	25
22,500	54	29

Our goal was to demonstrate how Pega Cloud infrastructure delivers consistent performance as concurrent users grow in a customer service context. The test showed that autoscaling nodes and load drivers as part of our overall architecture delivers consistent performance as workloads grow. Pega's unique design empowers clients to scale their CSRs to deliver a consistent customer experience – without experiencing a slowdown from critical systems. Scaling through additional web nodes results in unlimited scale, with consistent performance.

Methodology

The load test's objective was to determine the maximum number of concurrent users processing customer cases, where system performance remained stable and responded within acceptable performance qualities.

The test scenario simulated a CSR logging in, receiving calls from customers, authenticating the callers, and processing three subcases for each customer:

- Implementing an address change
- Sending a statement copy
- Processing a transaction dispute

Each iteration of the test consists of several steps a CSR would take within Pega Customer Service:

- Launch phone call
- Search for customer name
- Select customer and click submit
- Select account and submit
- Change address
- Dispute transaction
- Acquire statement copy
- Wrap up

The simulated call scenario was performed over a randomized time period between 450 and 550 seconds (525 seconds on average). Each user session processed five such calls before logging out.

Deployment configuration

The following software was used during the load test:

- Platform version: 8.3.0-2.13-15376
- CRM: strategic-app-pega-crm: 8.3-6
- Marketing: strategic-app-pega-marketing: 8.3-38
- Pega Customer Service sample application: 8.3
- RDS Postgres 11: (96 vCPUs, 384 GiB RAM)
- App tier: Java Hotspot™ 64-bit Server (VM) (16 vCPUs, 64 GiB RAM)
- Load driver: (4 vCPUs, 16 GiB RAM)

Performance adjustments

Performance testing identified several opportunities to identify bugs that impacted performance. In addition, this instance of Pega Customer Service benefited from performance tuning delivered as part of Pega Cloud Services.

In addition to the performance tuning, Pega made several enhancements to the software to enable streamlined performance.

Conclusion

Pega Cloud is built to provide a secure, reliable, and scalable platform to support our clients' most important interactions – those with their customers. This performance test demonstrates that our cloud services include the critical combination of architecture and operational support to ensure that your application scales with the ebbs and flows of business. No matter how many customer service representative simultaneously use the platform, we scale to provide consistent performance, so you customers can count on consistent service.



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We are Pegasystems, the leader in software for customer engagement and operational excellence. Our adaptive, cloud-architected software – built on the unified Pega Platform™ – empowers people to rapidly deploy and easily change applications to meet strategic business needs. Over our 35-year history, we've delivered award-winning capabilities in CRM and digital process automation (DPA), powered by advanced artificial intelligence and robotic automation, to help the world's leading brands achieve breakthrough business results.

For more information, please visit us at www.pegacom