LOGINVSI

CASE STUDY

Fortune 100 Retailer

Automating EUC change validation for faster rollouts, fewer outages, and consistent end-user experiences

This top 10 U.S. Retailer operates online and at over 1,000 brick-and-mortar locations across the U.S. and Canada. With more than 100,000 workers, they leverage technical expertise and human touch to support their customers' everyday needs.

Keeping Pace with Change

After experiencing unexpected, adverse impacts after several planned changes were rolled into production, this retailer needed a fresh approach to tackling EUC change management. The IT leadership provided a set of guiding principles, including providing excellent end-user experiences, automating as much as possible, and operating at industry speed.

"Our approach carried over from the 1990s," said the VP of End User Computing, who led the charge for the transformation. "We held a weekly Change Advisory Board meeting with a large group of individuals – network, OS, security, application owners, etc. Each change was validated within the constraints of each group but rarely together."

The Retailer chose Login Enterprise to help them move from manual testing to an automated change validation approach that evaluated the "full stack" and user experience for consistent, reliable, and faster change rollouts.

At a Glance

- **Industry**
  Retail and eCommerce
- **Location**
  North America
- **Challenge**
  Establish a new approach to EUC change management that improved speed and minimized unintended disruptions.
- **Impact**
  - Built an automated pipeline to validate individual and grouped changes.
  - Reduced validation to rollout cycle times from weeks to days.
  - Eliminated the manual testing overhead to free up valuable resources.
  - Improved security with faster patch rollouts.

Building an Automated Change Pipeline

The first challenge was that changes were only tested within the constraints of each group but rarely together as a "full stack" image. The Retailer compared it to a chemist mixing a solution of unmarked chemicals in a lab. Each manufacturer was responsible for their quality assurance process, but it could create instability or catastrophic effects once mixed. "Ultimately, our users don't care about hardware or software providers or what it takes to deliver an application. They measure IT solely on their experience with a handful of applications they use all day, and it comes down to it's great, it's OK, or it's awful."

The Retailer wanted to develop a process capable of rapidly checking image updates at the individual component level, then ultimately as a group or release candidate—finally putting stress on that release candidate to understand performance under peak stress conditions.

> With each change candidate cycling through this process via automation, a set of candidate changes quickly mounts up such that within a few days, we're ready to freeze the list and run a setbunch of integration changes.

Critical to this design was the ability to drive a pipeline approach, where change candidates are introduced via a system, then an automation platform would build a new image on the fly consisting of the initial production build and just a single change candidate. The resulting image is then validated with Login Enterprise using a set of smoke and minimal performance tests to determine a deviation away from a standardized tolerance.

If none is presented, the change will be accepted for the integration build. The changes are then applied en masse to the prior image build. Finally, a battery of checks is run against that build, including scale, load, and soak conditions to mirror scenarios common to the retail industry, like holiday sales and seasonal events.

Developing Trust with Application Owners

Any validation check is only as good as its design, so engaging the application teams and, ultimately, the business owners in this transformation was critical. "They truly understand their applications and business processes better than anyone else, so having them design the checks to be performed and maintaining those as part of the release process was critical."

To be proactive before any change at any layer in the EUC stack is deployed into production, the validation process would run under various conditions and ensure the result meets a set of minimal end-user experience metrics. The Retailer will pull the update for further evaluation if it doesn't.

This "social contract" meant that the application owners would undertake the effort to design the check. To ensure it always passes before any change is made to the environment. If, by any chance, something slipped by, they could update the design so that it never again happened, and ultimately, the better the validation design, the better the result.

Login Enterprise drives validation from an end-user experience perspective, uniquely measuring the time to execute each step in a workflow and managing that workflow through the UI. The process is done precisely how a user would, and any degraded experience will be observed accordingly.

Freeing Up Valuable Resources

Before building out the change pipeline, the Retailer would engage application owners or security teams to perform limited testing in a sandbox environment—mainly if there was a concern that a given change might impact their application. In most cases, this resulted in a handful of people doing manual testing for a few hours, if lucky.

With the support of Login Enterprise, the Retailer was able to use virtual users to mimic human interaction and scale without the need for human resources, achieving their goal of automation. In addition, the Retailer gained insights into the actual user experience with every validation check and didn't have to wait for individual teams to test or report on a problem.

> I support about 50 revenue-facing applications that are the lifeblood of our business. I was lucky if I could get half a dozen people to do an hour of testing each week. By comparison, we're now running thousands of checks between individual change sets. Using automation means we're doing all of that with less human capital.

Pinpointing Issues with Precision

In the past, the Retailer fell victim to the "Law of Unintended Consequences," where a change in one area manifested as a degraded experience elsewhere. Perhaps a difference in the security layer, resulting in considerably poorer performance of an application start, or an update to an operating system configuration resulting in slower database lookups.

Login Enterprise provided a consistent metric of user experience to detect when changes negatively impacted performance. When end-user experience begins to erode, the IT team can zero in on which change had the impact and extract that from the build, then re-start and measure again, alerting them to request further evaluation before re-submitting the change request.

Validating Change into Production

Leveraging Login Enterprise's proactive monitoring capabilities in production, the Retailer can verify each release within minutes of going live. Typically, they run Login Enterprise's synthetic users from every store in the middle of the night. Any "last mile" issues at any store are immediately tested and can be singled out well before opening. If the problem somehow is pervasive despite all the testing, a rollback can similarly be undertaken and, in turn, be validated at each store.

Faster Response to Zero Day Issues

With almost every supplier and application team adopting DevOps methodologies for software updates, the EUC team is inundated with daily change requests. Some of these are zero-day sensitive and need to be expedited into production. The competing requirements – dealing with too much change and, at the same time, going faster, are further exacerbated by the fact that a failure would impact thousands of associates. It's a trifecta of stress.

Introducing an automated process dramatically expanded the capacity for handling the requests and eliminated the need for manual testing – which is unpredictable and labor-intensive. The volume of bugs reintroduced into production and the root cause analysis associated with them was also significantly reduced. After building a robust validation model, the Retailer had complete control when implementing planned changes.

> To date, we've seen huge dividends from this integrated approach, with Login Enterprise representing the workhorse of this system.
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> We can finally keep up with the never-ending cycle of changes, moving quickly to get them validated and into production.
>
> We can do that—confident that we haven't broken anything, and if we do, we'll know before any user ever sees it.

Request a **live demo** of the Login Enterprise Platform or **get in touch** with the Login VSI team today.

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