



# Healthcare Organization Guarantees High-Quality User Experience, Through Continuous Synthetic Testing in Production

-  Healthcare
-  10,000+
-  North America
-  Pharmaceutical

## The Challenge

Implementing changes at the desktop causes critical application performance issues not recognized until users log in

A Healthcare organization relies on critical applications to drive revenue and profitability, just as any business does. Still, beyond that, there is the added dimension of patient outcomes and, in some instances, life and death. The stakes could not be higher when introducing environmental changes that might result in the degraded performance of critical applications. Delivering these applications via a virtual desktop solution enables the organization to meet all of the various regulatory obligations it faces, which range from HIPAA to PCI, 21 CFR Part 11, and more. Still, it undoubtedly adds to the complexity of change management since, by definition, all users are impacted when a shared system degrades.

Ensuring that all changes have been put through a rigorous testing regimen builds confidence that planned changes

will not yield adverse impacts to the critical applications that support the organization’s mission of delivering high-quality outcomes to their patients, balanced with solid financial returns to its principals. However, “trust, but verify” has shown to be an excellent strategy for workspace change management, ensuring that there are no idiosyncrasies at the end-point(s) in production that somehow were not accounted for in the pre-production lab or test environment. When this occurs, the issue is not noticed until users begin to log in en-masse. At this point, the impact is already felt, and it’s a scramble within the IT team to diagnose, isolate and remediate the issue.

To cover every possible scenario where users could have a poor experience, our client deployed Login Enterprise to perform pre-production testing of all changes. Further deployed Login Enterprise synthetic users across their Production environment to continuously measure end-user experience on an ongoing basis to identify and alert any noticeable changes in the user experience of these critical applications, before users become aware and impacted.

## Just because the system is up doesn't mean users can work

"We do all we can to ensure that every change that will be put into Production is identified and presented for testing," said the Director of Desktop Services. "But now and again, something slips, and somehow we don't find it until it's out there." The result of an unplanned change, say in the security configuration of the environment or perhaps a network setting, can be significant in a large VDI environment. Despite having systems and "real user" monitoring solutions in place, the client had suffered from multiple failures in the past tied to unplanned changes. In some cases, planned changes that had been tested but somehow highlighted a minor deviation between the test environment and the existing Production system, where that difference proved fatal. "I've had a situation where we deployed a set of changes at 1 am, then all the system monitoring dashboards are green, which they should be at 2 am, yet by 7:30 am, people are reporting application performance issues." In the event of software incompatibility, for example, no system monitoring tool will identify that. Real-user monitoring similarly may not have enough critical data to isolate the issue with a skeleton set of users online. The majority of APM tools are exclusively web-app focused, so the potential remains for a significant window of time after an issue is propagated into Production and before users report it.

Running Login Enterprise continuous testing in Production means that business-critical applications are exercised continuously in terms of efficacy (does it work) and efficiency (does it perform as expected). Within a few minutes of deploying a new build to the environment, each business-critical application is tested to a significant degree of its workflow and reported from discrete workspaces scattered around the organization. In this case, the client had both primary facilities that it owned and Affiliate organizations to which it provided application services. Those affiliates that chose to participate could be confident that changes at the primary organization that they may not even know about would not impact their operation.

## The Solution

### Login Enterprise with virtual user technology for continuous digital experience monitoring & SLA reporting

At the core of Login Enterprise is its Synthetic User capability, which allows the system to interact with a desktop and a set of applications exactly the same way a human user would. Move to this location, hit this button, type this text, select

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#### Director of IT

this option, etc., along with significantly more complex use cases, enables the administrator to write a "workload" that encompasses a set of application actions. An application owner can develop this workload since no one can better determine what constitutes a "good performance" within that application. That workload can be used within Login Enterprise to conduct testing in pre-production, such as acceptance, scale, and soak tests. However, a unique feature of Login Enterprise is that precisely the same test can then be exercised from within the Production environment, proving that the expected results that the pre-prod testing predicted manifest in the Production environment.

Typically, when an update has been thoroughly tested in pre-production, it's reasonable to expect it will then work in production as expected. In the vast majority of cases, that is so. Nonetheless, every IT executive can cite the examples of where some "tiny" difference between the production environment and the lab where the testing was conducted somehow was the achilles heel of the change and resulted in an outage or degraded environment, despite all the prior testing in pre-prod. These "paper cut" issues ultimately shake the confidence of the business. When the environment fails, no one cares how much testing was don't – there might as well have been none done. Being one test short of perfect doesn't matter when it's that one test that would have trapped the issue. With this backdrop, Login Enterprise closes the loop between pre-prod testing and in-prod validation, increasing user experience's observability before users come online at scale.

Running Login Enterprise synthetic users in Production means that continuously the performance of the applications is sampled from various locations. Perhaps, from a variety of "personas" where the actions being taken by a "nurse" persona may be different from a "pharmacist" persona, even within the same application. This continuous testing allows IT to observe even minor deviations from the normal performance. If a "creepy" degradation begins, it will be identified early rather than waiting for users to hit a boiling point and call the Help-desk. Understanding the context of

an issue is also critical because knowing all applications are degraded in one building versus one is degraded in all buildings significantly accelerates the debugging process. This information can be used immediately after a change window to “close the book” as each site, persona, and application reports successful performance.

## The Results

### A closed-loop of testing leads to excellent change management outcomes

“After we deployed Login Enterprise synthetic users in Production, within 30 minutes of dropping a new build, I know with confidence that each site can access all our business-critical applications, including our affiliates. Once my head hits the pillow after our outage window, I know my phone’s not going to start buzzing a few hours later. It’s been fantastic.” commented the Director.

The client created a closed-loop of test data by adding Production-based continuous testing to the rigorous pre-production testing conducted through Login Enterprise. From the first time, a change is presented as a candidate for promotion to Production, from a single acceptance test on that change on an isolated basis to the same tests running against an integrated “build” of multiple changes. Right out to post-deployment testing of multiple personas from each site, including Affiliates, there is simply no way for a change to slip through without being tested and validated. “The results speak for themselves. We’ve had some cases where Login Enterprise had trapped issues when none of our monitoring systems did, nor really, could they have”. Because Login Enterprise runs production-based continuous testing, it has a rich body of data to report. So this client also uses the built-in SLA Reporting capabilities to increase their performance to the Affiliates paying for service. “Login Enterprise has changed how we think about testing in End-User computing, and it shows in the results we’re seeing and the excellent feedback we’re receiving from our users and Affiliates.”



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#### About Login VSI

Login VSI maximizes the end-user experience for all digital workspaces. Login Enterprise is an automated testing platform that predicts performance, ensures business continuity and reduces risk.