

# How a Hospital Management System Platform Eliminated 92% of Production Incidents

## Success Metrics

**80%** Reduction in Integration Testing Time

**92%** Fewer Production Incidents

**10,000+** Device Combinations Tested

 Industry

Hospital Management Systems

 Location

United States



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# Company Profile

## About:

A hospital management system provider builds software that connects every part of hospital operations. Their platform integrates lab systems, radiology imaging, pharmacy management, billing, and patient records into a unified interface that staff access from various devices throughout the hospital.

The company serves over 40 hospitals, ranging from small community facilities to large regional medical centers. Their system processes millions of transactions monthly: lab orders, prescription fulfillments, patient admissions, discharge summaries, and insurance claims.

The team had built a reliable system. Their uptime numbers were solid, and hospitals trusted them with mission-critical workflows. But their testing approach hadn't evolved with their product complexity.

"We tested on our laptops, popular phones, and a couple of tablets. But nurses use iPads on med carts, doctors use their personal iPhones, and administrative staff use everything from Chromebooks to Android tablets. We didn't discover problems until staff called IT during their night shifts."

— VP of Product Engineering

## At a glance

### Industry :

Hospital Management Systems

### Challenge :

A hospital management system provider serving 40+ hospitals struggled with their in-house testing approach. They tested integrations manually on 4 devices during off-peak hours, which meant delays in releases and integration issues that staff discovered in production during critical shifts.

### Location :

United States

### Key Highlight :

Using TestMu AI's Real Device Cloud and HyperExecute, the company expanded testing coverage from 4 devices to 10,000+ device combinations actually used by hospital staff, reduced integration testing cycles from 12 days to 3 days, and cut production incidents by 92%, all while testing without disrupting live hospital operations.

### Solution Used :

[Real Device Cloud ↗](#)

[HyperExecute ↗](#)

[Automation Cloud ↗](#)

# Testing In-House Led to Limited Device Coverage

The QA team followed a methodical process, but they were limited by the number of physical devices they had in the office: two laptops, one iPad, and one Android tablet. They ran through test scripts checking that forms loaded, data saved correctly, and integrations responded as expected.

Integration testing happened during off-peak hours, typically between 11 PM and 4 AM, to avoid disrupting live hospital operations. QA engineers would stay late or work weekends to test HL7 message flows, FHIR API responses, and database synchronization across test environments that mirrored production.

The process took 12 days per release cycle. Three days for core application testing, four days for lab integration testing, three days for radiology integration testing, and two days for pharmacy and billing validation. Everything sequential, everything manual, everything on those same 4 devices.

"We were thorough within our constraints. But those constraints were significant. We couldn't test during business hours because we needed access to test environments that mimicked production, and those environments were actively being used for demos and training. We couldn't test on more devices because we didn't have the budget to buy every phone and tablet model hospitals actually used."

— QA Team Lead

# When a Major Release Exposed the Test Coverage Gaps

The company rolled out a significant update: a new mobile-responsive interface for their medication administration module. The redesign would allow nurses to verify medications, document administration, and check for drug interactions directly from tablets on medication carts.

The QA team tested extensively on their 4 devices over two weeks. Everything worked. Forms loaded quickly, buttons responded correctly, and barcode scanning functioned properly. They released to production.

But within a day, the IT team was flooded with support tickets. Nurses reported the interface was unusable on their iPad Mini devices since buttons overlapped, forms were cut off, and critical drug interaction warnings weren't visible. Doctors using older iPhones couldn't access patient summaries because the interface assumed larger screens.

The problems varied by device, by OS version, by screen resolution, and by browser. The QA team couldn't reproduce most issues because they didn't have those device combinations.

"That release was a wake-up call. We had 40+ hospitals calling with device-specific issues, and we couldn't replicate a single one in our test environment. We realized our 4-device testing approach was completely inadequate for the reality of how hospital staff actually used our software."

— VP of Product Engineering

## Finding a Testing Infrastructure That Matched Reality

After a thorough root-cause analysis, the IT team identified that infrastructure limitations were leading to unexpected errors like these. They needed a solution that could test on real devices staff actually used, run integration tests in parallel without waiting for off-hours access, and scale as they added more hospital integrations.

They considered several testing approaches. The problem was, buying physical devices would cost tens of thousands of dollars and still wouldn't cover the full range of hardware in the field. Device emulators missed the rendering issues that only appeared on real hardware. They needed actual devices with real browsers, real screen sizes, and real performance characteristics.

TestMu AI's Real Device Cloud offered exactly that: access to 10,000+ real devices instantly, without capital expenditure or device maintenance overhead.

## Wider Test Coverage With Real Device Cloud

Our team connected TestMu AI to their testing infrastructure and immediately had access to thousands of device combinations that matched their hospital staff usage patterns.

"I remember the first time we tested our medication administration module on an iPad Mini in TestMu AI, we immediately saw the button overlap issue that nurses had reported. We'd tested on a standard iPad and assumed it would work on the Mini. Fortunately, having access to the real devices revealed problems we would never have caught with our old approach."

— VP of Product Engineering

TestMu AI's Real Device Cloud eliminated guesswork. When a hospital reported an issue on a specific device, the QA team could pull up that exact model and OS version within minutes, reproduce the problem, and verify the fix on the same configuration before releasing a patch.

# HyperExecute Sped Up Integration Testing by Over 80%

The bigger bottleneck was integration testing. The company's HMS platform connected to lab systems via, radiology systems, pharmacy systems, and billing systems. HyperExecute ran all integration tests in parallel during normal business hours using isolated test environments which saved us a lot of time. What previously took 12 days of night-time testing, completed in 3 days.

"HyperExecute gave us back 9 days per release cycle. We could test thoroughly without waiting for off-hours access. We could validate integrations in parallel without worrying about test environment conflicts. It completely upgraded our release velocity."

– VP of Product Engineering

The test intelligence dashboards showed exactly where integration failures occurred, which systems responded slowly, and which test scenarios consistently passed or failed. The team could prioritize fixes based on actual impact rather than guessing which issues mattered most.

# 92% Fewer Interruptions to Hospital Operations During Testing

One of the biggest constraints in healthcare testing is the fear of disrupting live operations. Hospitals operate 24/7, and any testing that impacts production systems could affect patient care.

TestMu AI's infrastructure allowed the team to create comprehensive test scenarios that ran against staging environments without touching production, all in parallel, without affecting live hospital operations.

"Before TestMu AI, we tested conservatively because we were always worried about disrupting production. Now we test aggressively because we have isolated, scalable infrastructure. We can throw 100 concurrent users at our staging environment to see how the system handles night shift volume without worrying about impacting actual hospitals."

– VP of Product Engineering

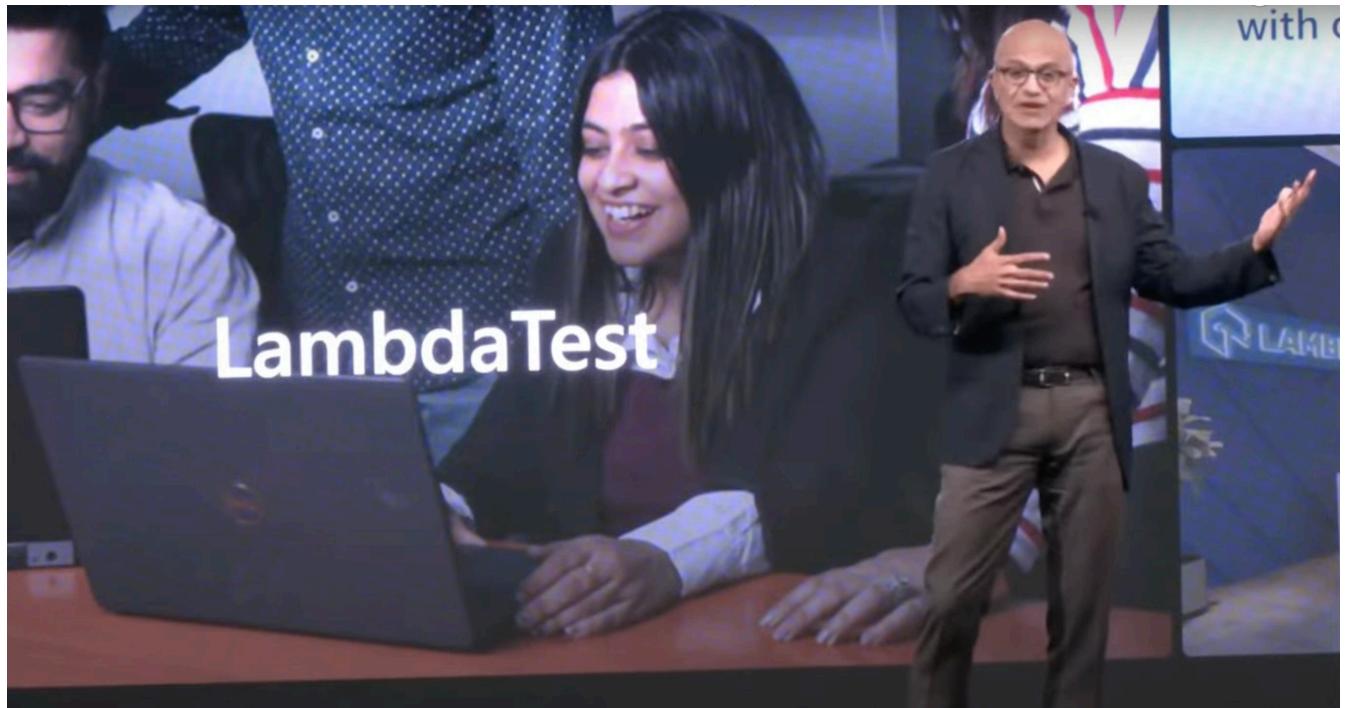


Image Source : Microsoft Future Ready Event

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**LambdaTest(Now TestMu AI) is creating that next level of efficiency around test automation so that people can actually focus on testing versus test orchestration.”**

Satya Nadella, CEO, Microsoft

# Key Impact Metrics

- Integration testing time reduced from 12 days to 3 days (75% reduction)
- Device coverage expanded from 4 devices to 10,000+ real device combinations
- Production incidents decreased by 92%
- Release frequency increased from monthly to bi-weekly
- Support tickets for "interface not working" decreased by 73%
- Hospital staff satisfaction scores improved from 3.1 to 4.4 (out of 5)
- Zero critical defects in last 6 releases

## Looking Forward

The company continues expanding their testing infrastructure to match their product roadmap. They're integrating visual regression testing to catch UI inconsistencies across device types before releases and performance testing to ensure

They're also exploring TestMu AI's accessibility testing capabilities to ensure their HMS interface works for hospital staff with disabilities. As healthcare regulations increasingly emphasize digital accessibility, having built-in testing for screen reader compatibility, keyboard navigation, and color contrast compliance becomes essential. The team sees this as both a compliance requirement and a quality improvement building software that genuinely works for everyone who needs to use it.

Transform your healthcare testing from reactive firefighting to proactive quality assurance. [Book a demo with TestMu AI](#) to see how real device testing, parallel execution, and scalable infrastructure can help you ship healthcare software with confidence—without disrupting the hospitals that depend on your system.

# About TestMu AI

TestMu AI (Formerly LambdaTest) is a fully autonomous agentic quality engineering platform that empowers teams to test intelligently, smarter, and ship faster. Over 10,000+ customers and 2 million+ users across 132+ countries rely on TestMu AI for their testing needs.



**1.2 Bn+**

Tests



**2M+**

Users



**10K+**

Enterprises



**132+**

Countries

## **Exploratory Testing**

Enhance web and app quality to ensure seamless user experience with real-time, live, exploratory testing on 10,000+ devices.

## **KaneAI**

Boost testing efficiency with an AI platform that uses natural language to create, debug and evolve tests.

## **Test Manager**

Streamline test creation, management, & reporting for improved efficiency with AI - native unified Test Manager.

## **Automation Cloud**

Accelerate product releases with secure, scalable, end-to-end test automation in the cloud.

## **Real Device Cloud**

Test on 10,000+ real Android and iOS devices, and 3000+ browser combination cutting costs while ensuring compatibility.

## **HyperExecute**

Accelerate testing speed by 70% with AI-Native orchestration for faster digital transformation.

## **Accessibility Testing**

Ensure inclusive, accessible websites with TestMu AI's manual and automated Accessibility Testing tool.

## **Visual UI Regression**

Achieve UI perfection quickly with AI-Native visual regression testing across all platforms.

**TestMu AI**  
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