Test Automation Software Accelerates Enterprise Digital Transformation

Complex ERP upgrade completed 30% faster

KEYSIGHT

eggplant
Test Automation Software

Organization	**Solutions**
• Keysight Technologies	• Automate the test matrix
Challenges	**Results**
• Broad ERP system managing global manufacturing and shipping logistics was out of date	• ERP upgrade implementation accelerated by 30%
• Complex ERP test matrix delayed the system revamp	• Test automation capabilities compressed the ERP stabilization period by 80%

Overview

With nearly 15,000 employees working across 100 countries, Keysight is a multibillion-dollar design and validation company processing 20,000 orders a day to market-making designers, manufacturers, and integrators around the world. Keysight's enterprise resource planning (ERP) system manages over 500,000 components with API (application programming interface) connections to 100 different internal systems processing 90,000 records per day.

Keysight CIO Dan Krantz has been leading an internal shift from waterfall to agile software integration within the IT team. He has also been promoting a similar shift in the internal software development within the company's product solution teams. With Keysight's recent acquisition of innovative software automation company Eggplant, Krantz saw an opportunity to automate test functions to increase test depth and repeatability. Implementing the Eggplant software solution would save the company time and money to implement future cloud updates.

An ERP system is the heartbeat of your internal infrastructure. Every time you touch it, you risk months of issues afterwards as you "stabilize." By intelligently automating testing with Keysight Eggplant software, we stabilized within weeks of go-live.

Keysight Technologies, Dan Krantz, CIO

Challenges

Keysight's original ERP system was implemented in 2001 and underwent a major upgrade in 2011. By 2020, it was time to upgrade again during several parallel system upgrades. The one common theme in every upgrade – system complexity of the test matrix, would usually lead to launch delays. A complete Oracle upgrade was implemented on time for the first time in the company's history using Keysight's Eggplant software.

The ERP system manages global manufacturing and shipping logistics across more than 75 legal entities, assembling upwards of 8,000 products with as many as 10,000 dynamic configuration rules per product. The internal project team consisted of 300 full-time staff running 40 end-to-end macro-level tests consisting of 50 to 100 steps each. Every configuration change, API adjustment, or bug fix would activate most, if not all, of those test resources.

IT projects of this magnitude routinely experience delays with a prolonged stabilization period after go-live. IT leaders perform risk management to eliminate competing priorities. However, Keysight's digital transformation was accelerating convergence to a new customer relationship management (CRM) software while expanding the company's global e-commerce platform.

The dependency on manual, platform-isolated testing proved to be the overall project risk as developers transitioned to pandemic-triggered remote work.

Solution

First, the IT team trained using Eggplant software to automate thousands of test scenarios for the ERP effort. The result — an immediate 30% acceleration to implement the upgrades. Next, the project team expanded the intelligent test automation framework to create end-to-end visibility for the quote-to-cash process spanning both the CRM and ERP systems. This automated capability was not possible with previous platform-isolated testing. Lastly, the expansion into real customer insights with the new web platform helped the team to improve the customer's digital experience measurably.

Automating the test functions compressed the ERP stabilization period by 80%. Now that programs run on modern platforms, Keysight's digital transformation can quickly pivot to agile software development. Automating testing functions using Eggplant software accelerated the ERP upgrade by 30%. Every future cloud update from other platforms in our technology stack will undergo faster testing with more efficiency and completeness.

About Eggplant

Eggplant intelligent test software helps businesses test, monitor, and analyze their end-to-end customer experience to improve their business outcomes continuously. Companies worldwide use Eggplant to surpass competitors, boost productivity, and delight customers. The intelligent software test offerings enhance the quality, responsiveness, and performance of software applications across different interfaces, platforms, browsers, and devices — including mobile, IoT, and desktop — in agile development operations (DevOps) and data environments. More than 650 enterprise customers use Eggplant software in over 30 countries.

Eggplant is now part of Keysight Technologies.

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