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Power Equipment Manufacturer Simulates 500 RF Users to Stress Test New Servers

CHALLENGE

A power equipment manufacturer wanted to stress test new application and telnet servers to ensure the implementation and increase of 100 users would not impact operations. The customer needed to verify that 300 RF devices simultaneously performing user tasks across the warehouse management system (WMS), such as cluster picking, listing picking, receiving, and inventory moves would not impact response time on the WMS. The customer was time- and budget-strapped and could not bring in 300 users to log into the system at one time.

SOLUTION

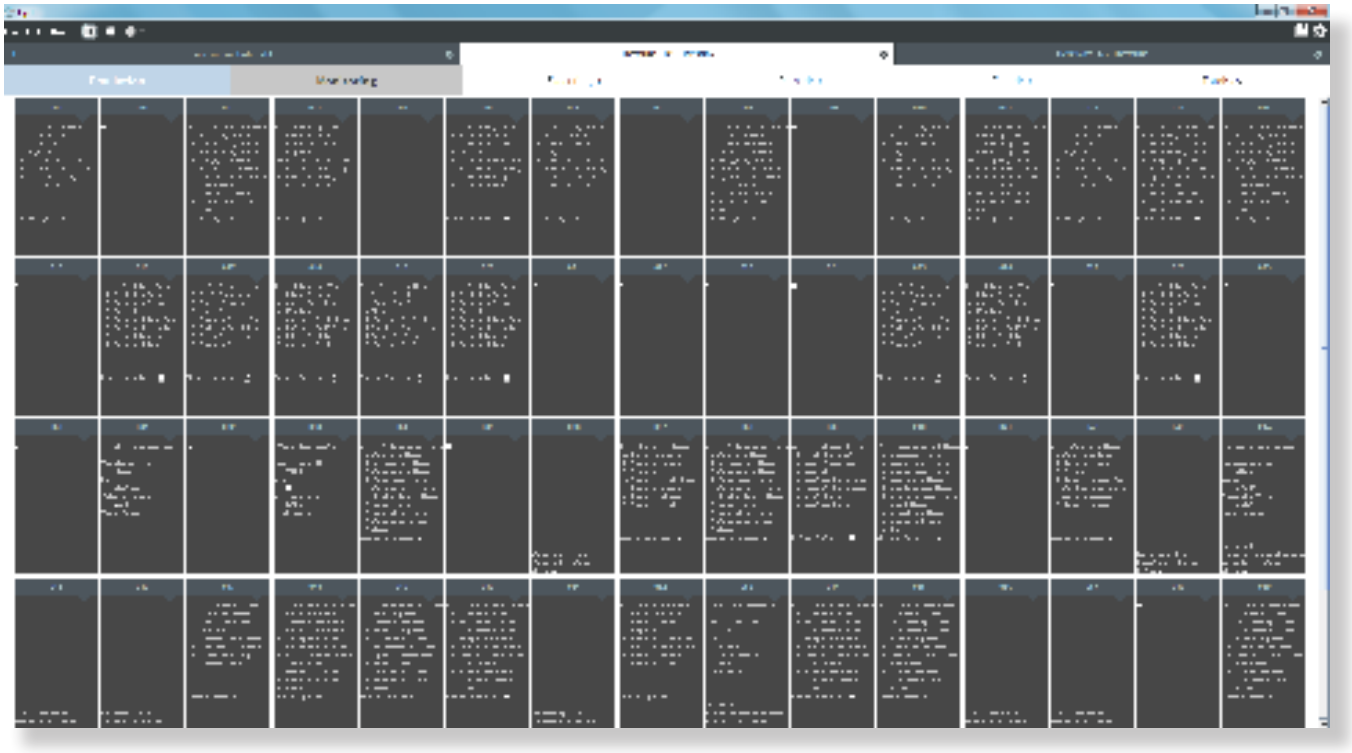
Cycle Labs developed business-readable tests to emulate RF devices performing 14 activities within the WMS. The 14 activities could be executed simultaneously by any number of sessions.

Technical Specs

Using Cycle® to perform the test on two average specification laptops, Cycle Labs emulated 300 RF devices simultaneously performing tasks in the end-user interface. By using this method, Cycle Labs verified that testing was identical to end-user actions and was able to track response time as the number of RF users increased. The customer's new servers operated successfully under significant load to the system.

Pushing Limits

Following the successful RF volume test, Cycle Labs increased the quantity of emulated RF sessions to 370. With no additional staff, Cycle Labs then added another 110 RF devices, bringing volume to nearly 500 RF devices against the two servers.



RESULTS

With nearly 500 RF devices running, it was no surprise that both servers spiked to 100 percent CPU utilization. What did come as a surprise to the customer was the database servers hit 100 percent CPU utilization at 400 RF devices. One additional hour of volume testing with Cycle identified an incorrect database configuration and a critical point at which the database server—not the new applications servers as expected—hit capacity and negatively impacted operations.

The 14 business-readable tests created for this project can now be used by the customer to execute RF volume tests in the future. They can also be used to facilitate regression testing and training for standard operating procedures.

BENEFITS

With Cycle, the manufacturer achieved notable benefits:

- System validation—By emulating users, server and database settings were validated during the volume test, which reduced production Go-Live issues.
- Reduced risk—Results from the volume test were thoroughly documented, allowing the test to be reproduced in the future without additional resources.
- Reduced labor—In one month, two resources created business-readable Cycle tests to simulate the work of nearly 500 users.