

Epic Test Automation

THE NEED

With a full-time team of 10 quality assurance staff members responsible for all manual testing, Novant Health was looking for a better way to test its Epic system and existing infrastructure. Because the team was not certified or trained in Epic, they relied on Epic application teams to write manual scripts that they then executed.

The health system needed a test automation approach that would reduce resource allocation in this area and increase its testing scope. Novant decided to partner with SureTest to benefit from their market-leading Test Automation Solutions offering.

THE SOLUTION

For the phase one deployment, to reduce the time to value and increase the initial ROI, SureTest worked with Novant to identify and recommend up to 10 key workflows for each of their implemented modules in Epic. The result was 9 test case scenarios that included over 100 individual end-user workflows covering their most frequent and impactful testing scenarios to drive the highest value possible on their quarterly release upgrades.

In addition, SureTest:

- ⚡ Converted captured workflows into automated scripts
- ⚡ Validated automated scripts (workflows) with Novant application teams
- ⚡ Deployed automation testing software within Novant's infrastructure so they can schedule or run scripts ad-hoc.

After the initial workflow capture, Novant took on a full version upgrade from Epic that included a major user interface design change. This presented a significant "look and feel" gap between the recorded workflows ad the live EHR system that would need to be closed during script development.

Because SureTest's team has deep Epic expertise and experience, they were able to incorporate the changes and close the gap with minimal engagement of Novant staff resources. SureTest accounted for all changes related to the version upgrade during script development before the final validation review.

Client

Novant Health

Location

Winston-Salem, NC

Website

www.novanthealth.org

Size

3,462 beds,
15 inpatient medical centers,
765 outpatient locations

Population Served

NC, SC, GA

SureTest Client Since

2019



ABOUT NOVANT HEALTH

Novant Health is a not-for-profit integrated system of 15 medical centers and more than 1,800 physicians in nearly 800 locations, as well as numerous outpatient surgery centers, medical plazas, rehabilitation programs, diagnostic imaging centers and community health outreach programs.

Novant Health's over 35,000 team members and physician partners care for patients and communities in North Carolina, South Carolina and Georgia.

THE SOLUTION (CONTINUED)

Following deployment, SureTest maintains automated scripts to match both Novant's workflows and changes within the EHR, thus helping Novant realize continued benefits over time from Test Automation. The SureTest Automation Solution also allows the health system to take advantage of Epic's quarterly releases and upgrades. SureTest works behind the scenes —testing and addressing technical changes and bug fixes.

Other ongoing activities include:

- ⚡ Continuous smoke and regression testing of Novant's core workflows
- ⚡ Daily maintenance –testing scripts, validating changes, and updating as appropriate. Including support for the constant stream of COVID-related changes in the system
- ⚡ Provide documentation on test automation - logs of coverage, dashboard, etc. from eggplant manager
- ⚡ Continually collaborate with Novant to expand their automation footprint to include other Epic applications as they are implemented

THE RESULTS

By partnering with SureTest for Epic Test Automation, Novant significantly increased the efficiency and reliability of its testing process. This automated approach:

- ⚡ **Eliminated hours and days** needed to tediously re-create and fully document potential system “bugs”
- ⚡ **Reduced the cost and time to acceptance of new releases** by cutting back time required from analysts and shortening the Command Center's duration
- ⚡ **Minimized disruption and burden on clinicians** by reducing or eliminating time away from regular duties
- ⚡ **Improved user satisfaction and adoption** by easing testing burden and identifying system issues early on
- ⚡ **Ensured testing scripts and major workflows remained up to date** and added value not only to the testing process, but training and other areas
- ⚡ **Decreased testing delays** when analysts were unavailable
- ⚡ **Reduced time to run test scripts** by an average **91%**
- ⚡ **Reduced labor to run test scripts** by **100%**

Today, SureTest has automated 125 individual end-user workflows, or 60% of Novant's Epic scripts, and anticipates nearly 80% automation completed by year-end. Assuming four release upgrades per year, Novant will experience an estimated **time savings of 29,200 testing hours annually**. Using automation, Novant increased its rigor to run core scripts daily, ensuring that all workflows are thoroughly tested well before upgrade events.



“Through our Epic Test Automation partnership with SureTest, Novant Health reduced the time needed to thoroughly test our EHR application upgrades and future rollouts while minimizing disruption of clinical staff.”

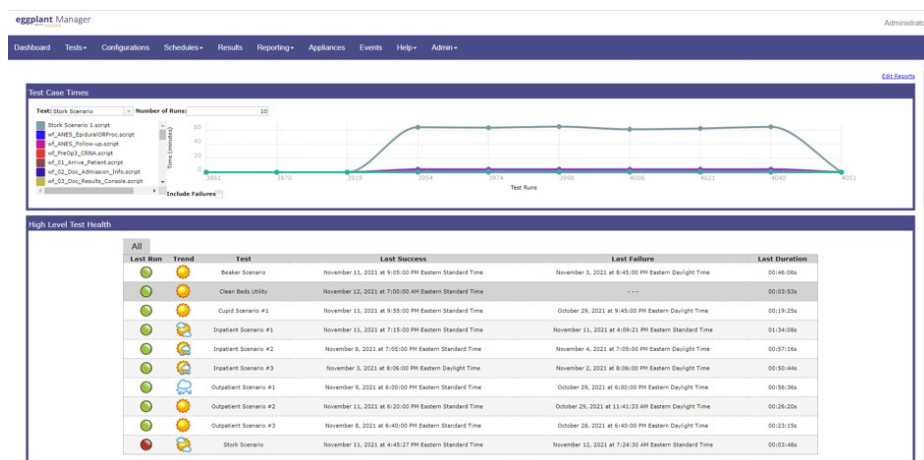
Ryan Neaves,
VP of Product Development
Novant Health

THE RESULTS (CONTINUED)

Excel spreadsheet of testing results from Epic Release testing:

Module/Path	Script	Description (Test Case Scenario)	Date Run	Status
GrandCentral	GC_ArrivePatient	Creates a patient (Name, DOB, SSN, Gender) & arrives the patient to PMC Adult ED	6/28/2021	PASS
GrandCentral	GC_AssignBedRequest	Completes bed request assigning patient to a bed in the requested unit	6/28/2021	PASS
GrandCentral	GC_CreatePatient	Creates & registers a patient (no HAI) with Cigna PPO Open Access coverage	6/28/2021	PASS
GrandCentral	GC_CreatePatientAmbMedAB	Creates & registers a patient (no HAI) with Medicare A/B coverage	6/29/2021	PASS
GrandCentral	GC_AdmitPatient	Creates, registers, & direct admits (pending admission) a patient (w/HAI) with Cigna PPO Open Access coverage	6/29/2021	PASS
GrandCentral	GC_RegisterPatientED	Registers a patient arrived to the ED	6/29/2021	PASS
Cadence (Acute)	CAD_AcuteImagingReferralAuth	Authorizes acute imaging referral	6/28/2021	PASS
Cadence (Amb)	CAD_AmbtoAMBReferralAuth	Authorizes ambulatory to ambulatory (referral to Cardiology)	6/28/2021	PASS
Cadence (Amb)	CAD_CancelRescheduleAppt	Cancels and reschedules second appointment of PT series	6/28/2021	PASS
Cadence (Amb)	CAD_CheckinAppt	Checks in Office Visit appointment in LSC Family Medicine	6/28/2021	PASS
Cadence (Amb)	CAD_CheckinMSQ	Checks in Office Visit appointment for Medicare patient	6/29/2021	PASS
Cadence (Amb)	CAD_CheckOut	Checks out an Office Visit appointment in LSC Family Medicine	6/28/2021	PASS
Cadence (Acute)	CAD_MakeApptAcuteImaging	Makes appointment for imaging (CT Chest) in PMC CT	6/28/2021	PASS
Cadence (Acute)	CAD_MakeApptOneClick	Makes a one-click lab appointment in PMC LAB	6/28/2021	PASS
Cadence (Amb)	CAD_MakeApptPCP	Makes Office Visit appointment in LSC Family Medicine (Dr. Richard Capps)	6/28/2021	PASS
Cadence (Amb)	CAD_MakeApptSeries	Makes a PT series (three) appointments in PMC REHAB	6/28/2021	PASS
Ambulatory	AMB_Addendum	Makes addendum to office visit to order a referral (Cardiology)	6/28/2021	PASS
Ambulatory	AMB_MOICDVerification	Performs an Office Visit w/Dr. Richard Capps in LSC Family Medicine using specific ICD10 codes***	6/28/2021	PASS
Ambulatory	AMB_MedicationsRefill	Performs medication refill encounter to renew (Lipitor) medication	6/28/2021	PASS
Ambulatory	AMB_OfficeVisit	Performs an Office Visit w/Dr. Richard Capps in LSC Family Medicine	6/28/2021	PASS
Ambulatory	AMB_TriggerABN	Performs an Office Visit for Medicare patient and triggers ABN warning	6/29/2021	PASS
ASAP	ASAP_BedRequest	Places bed request to immediate Care order	6/28/2021	PASS
ASAP	ASAP_Discharge_MD	Performs MD discharge documentation	6/29/2021	PASS
ASAP	ASAP_Discharge_RN	Performs RN discharge documentation	6/29/2021	PASS
ASAP	ASAP_Documentation_MD	Performs MD documentation (HPI, ROS, ABO, Orders)	6/29/2021	PASS
ASAP	ASAP_Documentation_RN	Performs RN documentation (POCT/Rx orders, Specimen collection, assessments, MAIR, etc)	6/29/2021	PASS

Eggplant Manager dashboard:



KEY TAKEAWAYS AND BENEFITS

SureTest's test automation program allowed Novant to test more, with fewer people, and in a shorter amount of time. Here's what the Novant team had to say about this streamlined approach:

- “You mean to tell me we that we never have to manually register a patient again? Awesome!”
- “In 10 minutes, a major EHR upgrade core (functional) automated test script was complete. The result: 20+ complex integrated scripts automatically updated in just seconds!”
- “One of the best parts about SureTest's test automation program is that it doesn't require our manual scripts to be up to date, or our workflows to be well documented. We started quickly and saw benefits in a matter of weeks.”
- “A complex automated integrated script now takes 18 minutes or less per day to run, pausing overnight for system processing. It used to take 23 hours of labor across four days!”