

The logo for GadgEon, with 'Gadg' in blue and 'Eon' in orange.

Engineering
Smartness

TEST AUTOMATION AND CI/CD DEPLOYMENT FOR LIGHTING CONTROL SOLUTION

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Version 01

Test Automation and CI/CD deployment For Lighting Control Solution



Our customer is one of the market leaders in wireless lighting control solutions. The lighting control IoT solution reduces energy consumption of buildings by up to 85%. They were looking for a partner company in ensuring quality of code for each commit along with a CI/CD environment setup.

Solution

Description

Continuous Integration

- A CI-CD framework based on Jenkins was implemented to ensure the quality of code in each commit.
- Static code analysis performed using SonarQube.
- Unit test frame work using Cantata for ensuring code coverage.
- A Jenkins master slave architecture enabled to Automated testing by a predefined Test bench.

Automation Framework

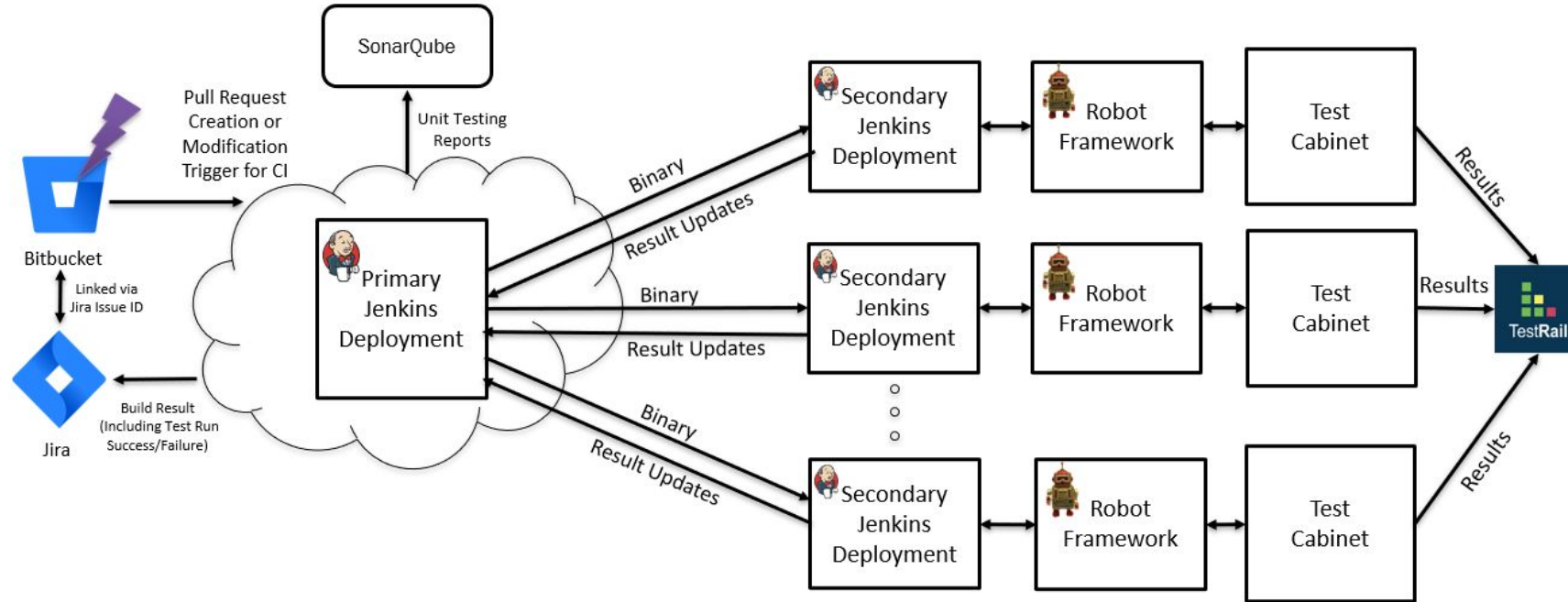
- An Automation Framework with Keywords was developed that interacts with Gateway and Sensors, validate the results using DALI bus commands.
- Sensor controls using relay modules were used to automate restart / power on/off scenarios.
- Dynamic lighting profile creation using scripts - used for checking the profile change at configured time of the day.

Outcome and Benefits

Delivered

- **100%** Code quality criteria met for all code commits through
 - Static code analysis and
 - Unit test coverage
 - Automated testing
- **200%** increase in release frequency
- **24x7** test execution enabled through dynamic setting of the lighting profile
- **40%** reduction in testing cost

Solution / System Description



- Jenkins installed in an AWS ec2 instance will be master node for controlling the CI-CD
- Separate Slave nodes are created for Build and Test execution.
- Slave node in the Test Bench will enable execution of Test automation in Real Devices.
- Static Code Analysis is performed using SonarQube
- Unit testing and Coverage is achieved using Cantata
- Cantata reports are integrated to SonarQube

THANK YOU



For More Details, Let's Connect



Gadgeon Systems Inc.

881 Yosemite Way, Milpitas, CA 95035, USA

CONTACT - USA

Mani Ram - Vice President - Solutions and Technology

☎ +1-678-900-0874 | ✉ mani.ram@gadgeon.com

Gadgeon Smart Systems Pvt Ltd.

VI 405/E1, Fathima Tower, Maleppally Road, Thrikkakara PO,
Kochi, Kerala, PIN: 682021, India

CONTACT - INDIA

Hari Nair - CEO & Co-Founder

☎ +91 989-501-5880 | ✉ hari.nair@gadgeon.com

Gadgeon Europe

Antwerpsesteenweg 124/54, 2630

Aartselaar, Belgium

☎ +32 475 23 39 46 | ✉ europe@gadgeon.com

✉ sales@gadgeon.com