

Arborists Work Force Automation

Objectives and Challenges

Our client, the leading Arborists in the North America and United Kingdom, retained Elyxor to design and build a work force automation tool improve the productivity and reporting accuracy for the field workforce of over 1000 specialists.

Goals of the new system would be to;

- Replace the existing paper based system that has all the property work order requirements.
- Replace the handwritten notes on the work order with a standardized results recording method to eliminate the need for translating and entering the data manually into the invoicing system.
- Accurately capture work order and travel time components.
- Accurately capture all treatment activities in a standardized fashion using metadata.
- Ability to send new work orders to the field dynamically to any team.

Elyxor Approach

Elyxor, working with our partner Bar Code Direct, was able to jump start the project using our propriety framework for work force automation projects. Partnering with Bar Code Direct, a leader in work force automation, we deployed the system on hardened field ready Android OS tablets from Zebra. Elyxor developed the Android based multi-lingual tool, using very simple workflow, swipe, select and click data entry with minimal typing required by the user.

A mobile middleware solution was developed to insulate the new workforce automation tool from the legacy order management tool. We design a new admin tool to manage workorders allowing for simple filtering, sorting and prioritizing work orders to allocate teams. The admin system also allows the sales and administrative team to dynamical change priorities and release work to the field in real-time, and receive updates on work order and team status in real-time. Integration of completed work orders are done automatically throughout the day, with no longer requiring any intervention by the office administrators. Figure 1 represents the logical architecture of the system.

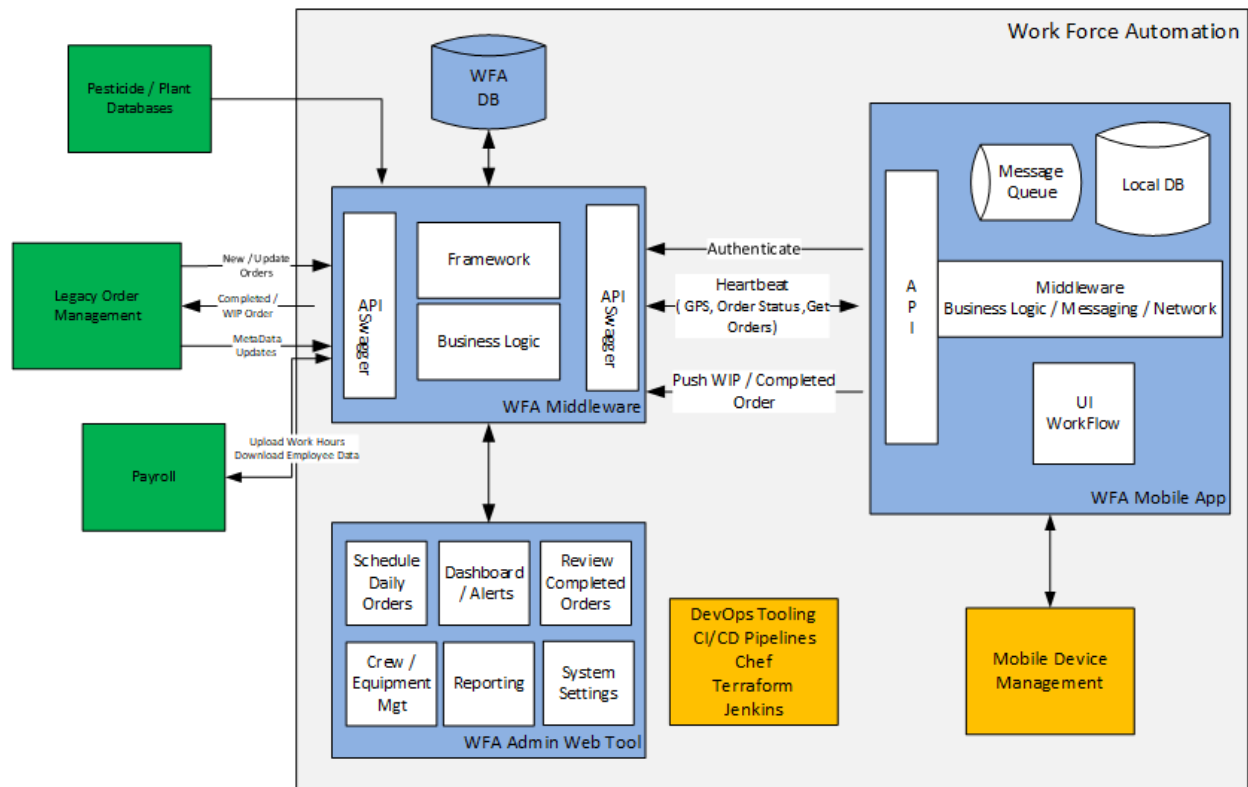


Figure 1 WFA Architecture

The system is hosted on AWS and is supported by Elyxor, with end user help desk and device management provided by Bar Code Direct. Mobile devices are locked down and managed by MDM software remotely. Fully configured DevOps tooling is used to management development, UAT and Production builds and infrastructure all hosted on the Amazon AWS Cloud with a high availability configuration.

Results

The new system is just beginning to be rolled out to the field teams for trials and break-in. The application has already proven to be quick and simple to use for the teams to manage and report work order results. Additional benefits have already been seen by increasing awareness of job site safety requirements review prior to starting the work. They have also been able to standardize how work results are recorded and reported making centralized reporting on costs, productivity and customer integration more accurate an valuable.

It is expected that the teams will be more productive, and will be able to handle more with the addition on real-tome centralized monitoring and the teams being able to receive real-time work and direction.



Boston Office:
1000 Haverhill Street
Rowley, MA 01969

Little Rock Office:
401 Main Street, Suite 203
North Little Rock, AR 72114

Tech Stack

- Kotlin
- Swagger
- Angular 2
- MongoDB
- Java - Android OS
- Zebra ET55 Tablets
- Jenkins
- Chef
- Terraform
- AWS EC2