CLEARLYAGILE HELPS SYNUMA DECREASE TIME TO VALUE AND BOOST CLIENT SUCCESS WITH AN INCREMENTAL DEVOPS STRATEGY

The Flight Plan for DevOps in
Small and Mid-Market Companies

AT A GLANCE

The Company

Subject: Synuma
Industry: Software Technology
Company Size: Small (1 – 50 employees)
Location: United States
Product Type: Software as a Services (SaaS)

The Need for Change

- Minimize waste and redundancy while mitigating human error during releases

Challenges

- 6-9 people hours each deployment
- Significant impact to clients
- High risk of human error
- 30 days between releases

Results

- Reduced direct costs from hours to minutes
- Increased deployment rate 4 x
- Increased release confidence

OVERVIEW

Synuma is a small company experiencing rapid growth. With that growth came the need to scale in a way that protected their competitive advantage. A key aspect of Synuma's product growth is delivering value to their clients. The time, impact to others, and potential risks limited releases to once a month. This significantly slowed the delivery of value to clients. Synuma's leadership team knew the benefits of automation would be numerous but wondered – would their small company realize the return on investment?

CHALLENGE

Synuma is a SaaS CRM and project management solution designed for franchisors and multi-unit developers to manage the entire franchise development process from lead acquisition through project development and location management. Based in Tampa, Florida, Synuma has a broad international reach with many well-known restaurant and service brands. This small company with a niche focus stands out in a highly competitive, shifting market with its agile mindset and willingness and ability to make small, incremental improvements in DevOps to keep its competitive advantage. With a 400% improvement in release frequency and a demonstrable improvement in client success scores, they have strengthened their position even further.

While Synuma benefited from a growing customer base and a robust set of features, there were some indicators that things needed to change to continue their growth. Synuma representatives would field calls from clients asking for updates. Sometimes clients were not always aware of the newest features or bug fixes and would request enhancements or functionality through the help desk. Other clients would discover changes on their own but were not aware of all the benefits. The Product Manager compensated by personally reaching out to clients to provide timely updates.

The application deployment, including verification, typically took between two-three hours and multiple people totaling a six to nine hour level of effort. The process required the people responsible for release to compile the web and API applications and manually deploy them to cloud servers. In addition, a single-tenant database for clients required a manual database change script executed on each client's database. Because of the time needed for each release, they would typically happen during a period of application downtime/low client usage, which meant very late at night. The human element of these tedious processes made the mid-night releases prone to mistakes.

INCREMENTAL DEVOPS STRATEGY
FOR SMALL-TO-MID-MARKET ORGS

SOLUTION

Synuma contacted ClearlyAgile, another Tampa-based tech company known for its agile culture, development, and DevOps expertise, to partner with them. ClearlyAgile's DevOps implementation method helps clients develop an incremental plan to realize benefits quickly, taking into account current technology, short-term and long-term wins, and the ability to make improvements as you go. ClearlyAgile promotes a dual-track approach that encompasses culture, business, and technology.

With ClearlyAgile's help, Synuma analyzed the delays, waste, and low confidence levels from the team and clients. The Synuma representatives were fielding calls from clients who were asking about releases. In addition, everyone was impacted by bottlenecks created by having individuals own different parts of the release process rather than an empowered team. The releases took multiple people, and the afterhours scheduling was disruptive. Together, the partners estimated they could realize the initial investment in DevOps in six months or less and enjoy returns for multiple years.

CLEARLY AGILE'S DUAL TRACK APPROACH WITH SIX FOCUS AREAS

Business & People	Process & Tactical
Culture • Drive innovation and quality through a culture that welcomes change, enables flow, and empowers people.	**Flight Plan** • Define a delivery workflow with measurable, repeatable improvements in each focus area.
Focus • Define key performance objectives and focus areas for the current phase with achievable and time boxed goals.	**Execute** • Look for opportunities to automate steps in the workflow to achieve success criteria.
Value Metrics • Determine the measurements that dictate success or failure in a particular focus area.	**Experiment** • Tweak the workflow to achieve an acceptable state and identify ways to amplify automation–or determine why a step did not succeed.

IMPLEMENTATION

1 CULTURE

DevOps is not straightforward. It is a long-term activity where organizations realize substantial benefits but has technology and job role implications and cultural and client impacts. Both ClearlyAgile and Synuma are founded on Agile values, such as being comfortable adopting an incremental approach, leveraging short-term wins to keep a competitive advantage, and experimenting with the next steps based on results. Having compatible cultures with shared goals helps ensure the success of a DevOps implementation.

2 FOCUS

Clarifying goals helps keep the automation efforts focused and pragmatic. ClearlyAgile worked with Synuma to explore if they were looking for a full-scale automation effort or if they wanted to target specific areas. Together, they decided to focus on three areas: reduced time to production, increased release confidence, and improved client success metrics.
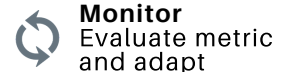
3 MEASURE

Define small measurable successes. ClearlyAgile started by conducting a robust DevOps Health Check to take a deeper dive and measure the current state. Below are some of the key questions ClearlyAgile asked Synuma to design a workflow, execute the automation, and build a measurable goal for their first experiment.

- ·How long does a full deployment typically take to complete?
- ·How many people and what roles are involved in deployment activities?
- ·How frequent are your releases?
- ·How long does it take to certify (or "smoke test") a release?
- ·How many environments are included in the development/deployment process?
- ·Has the team developed a rollback strategy?
- ·Is the source code protected against "broken" code?

4 FLIGHT PLAN

Design the workflow elements in 4 stages.

Plan
Identify metric to improve

Build
Build solution

Deploy
Implement solution

Monitor
Evaluate metric and adapt

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AT A GLANCE

Experiment I Goal
Single-Click Deployment to Production

Experiment II Goal
Complete the automated continuous deployment

Experiment III Goal
UI Testing

In my experience , few small-to-mid size companies have adopted CI , much less automated testing and CD. But they should. If small companies are looking for a smoking gun statistic on adopting CI/CD, I do not think they will find it easily, or like the answer, if they do find it. My suggestion is: stop worrying about what other companies your size are doing and start tracking the hidden costs of:

- *Time spent integrating and fixing code from many developers*
- *Time spent deploying to DEV / TEST / PROD*
- *Complexity of deployments and potential for human error*
- *Time spent with manual regression testing*
- *Defects in production affecting their reputation and client satisfaction*

If it is worth it to address some of those issues, then it's worth implementing.

Ed Gorski
EVP ENGINEERING, CLEARLYAGILE

5 EXECUTE

Automate. The goal was to deploy web and API applications as well as database updates across all single-tenant client databases. ClearlyAgile guided Synuma through the tactical, technical work in setting up the pipelines to meet the automated database deployment, which significantly reduced the deployment effort. They automated deployments to both staging and production environments. Along with the automation efforts, they created processes that scale as Synuma's client list grows.

6 EXPERIMENT

EXPERIMENT I

Goal: Single-Click Deployment to Production. The first experiment started with automated continuous deployment of both the web and API code to development and staging environments, based on branching strategies. The goal was single-click deployment to production.

The team analyzed the decision to choose Azure or Amazon Web Services. Since Synuma was primarily built using the Microsoft ecosystem, it made sense to select Azure as the right platform for Synuma. Because the applications and databases are hosted in Microsoft's cloud, it removed the burden of configuring and maintaining network resources as Synuma continues to grow.

After a deep analysis of the solution's technologies and architecture, the team identified each deployable asset. The assets included one web application, one API application, and two SQL databases. Next, ClearlyAgile analyzed the current branching strategy to identify which environment(s) would be targeted for which branches. Finally, they began building the pipelines, which included (CI) preparing/building each deployable asset, making those available for the release (CD).

ClearlyAgile reminded Synuma to account for the time needed and the upskilling or staff augmentation required to convert manual tests to automated tests. Along the way, they evolved the release responsibility from the Product Manager to the developers. While the Product Manager would continue to decide what to release, the discipline and the increased confidence from the DevOps improvements empowered the team to own the release process.

The team experimented with different days and times for deployment that worked within their development and testing cadence and limited downtime impacts to clients.

Result
This first experiment was successful. Their efforts made it easier and faster to get changes into staging prior to production for internal testing and provided quick wins for the team and their clients.

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FUTURE EXPERIMENT GOALS
With incremental implementation, future goals remain vague to allow for change

Increasing Automated Regression Tests

Increasing automated regression testing to further improve the product and quality. ClearlyAgile plans to leverage an existing integration with Google Analytics to ensure more tests are focused around the high-usage areas of the application.

Using secondary production servers
Using secondary production servers so Synuma can deploy during production hours without obvious distractions.

Continuous deployment to production

ClearlyAgile asked Jeff LaFavors, Managing Partner of Synuma, "What would you tell other technology leaders of small-to-mid-size organizations?"
"*We decided to focus on short, quick wins that would provide immediate value and demonstrable results for our clients and our team. If companies want to realize the full effect of DevOps, they can look at other longer-term approaches.*

For example, if we had started with a Microservices-oriented mindset, Synuma could deliver even more frequently; the releases could be even trimmer. My experience is, you will always be chasing technology – but the plan to implement DevOps can become so complex you can't deliver anything. No matter what size your organization is, don't put it off. It's time and money well served. One month of investment can bring you returns for 3-4 years. Start today."

Jeff LaFavors
Managing Partner of Synuma

EXPERIMENT II

Goal: Complete Automated Continuous Deployment. Completing the automated CD meant including the individual client database changes to development and staging environments while keeping the single click deployment to production. ClearlyAgile analyzed the current changes and workflow of how Synuma deployed database changes. They provided the tactical knowledge and built out the Synuma database deployment pipeline and set up notifications and automated release notes to clients. One challenge the team encountered was the code-first approach for the database development of the solution. The solution was to make the code-first elements (3rd party executable) available at release time.

Along the journey, ClearlyAgile paired with the Synuma team to mature the technical knowledge to handle the deployment of the database going forward and make changes if necessary.

Result
At the end of this phase, the release time dropped from hours to minutes. No more late nights doing releases.

EXPERIMENT III

Goal: UI Testing. After pausing to inspect the results and determine next steps, the team decided their next experiment was to proceed with further automated UI testing.

Automated UI testing can be difficult because the tests can be brittle, especially when UI elements are in a state of change. There are also some time-based challenges. While some Automated UI test tools exist, Synuma had yet to commit to the creation of any automated tests. The certification of releases was limited to the series of smoke tests that the release team was responsible for executing manually. In order to become more efficient with release process, the team wanted to introduce automated UI testing into our release process.

Clearly Agile chose Selenium to execute the smoke tests which had previously been executed manually, along with page load confirmations.

The Product Owner was included in the leadership team so that she was able to raise the flag if the team started to deviate from the goal. In addition, the team experimented with different deployment dates and times that fit with their development framework. They settled on deployment at 8 pm when traffic was light.

With a strong focus on client success throughout the DevOps implementation, ClearlyAgile recommended deployment information be published online to give advance notice of possible service interruptions. They also implemented user-friendly error handling during the short downtime.

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ABOUT CLEARLYAGILE
Agile Transformation & Adoption

ClearlyAgile is a consulting and services provider that offers a full complement of Business Agility and DevOps services to help organizations become faster, more productive, and more responsive to customers' needs. If you're looking to have a better understanding of your current DevOps maturity, risks, and clear next steps, let the experts at ClearlyAgile create a plan specifically for your organization.

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RESULTS

Faster Release Processes
6-9 people hours to 5 minutes
Post-automation, the time to release was reduced from 2-3 hours with 3 people, to around 5 minutes.
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Reduced Time to Value
Multi-week releases
Synuma has quadrupled the number of releases that they could deliver pre-automation, giving clients application updates and bug fixes multiple times per week. In particular, reports with reliable, fresh data help the franchise owners and licensees make critical decisions in a rapidly changing marketplace.

Improved Release Confidence
Consistent results
Manual releases can be prone to human error which can affect customer confidence. Automated deployments, on the other hand, can ensure a repeatable and consistent result. ClearlyAgile was able to provide an automated deployment process that allowed Synuma to confidently release multiple times per week without undue stress on QA or Engineering team members.

Increased Client Success
Added value
In addition to the technical aspects of the DevOps initiative, ClearlyAgile helped Synuma improve its change enablement efforts with weekly release notes and monthly videos. Tricia Barnes, the Product lead at Synuma, observed that while all clients benefited from the improvements, the new communications around the updates seemed to delight people the most. "We have clients reaching out nearly every week to let us know how excited they are about the newest enhancements they learned about from the release videos. The DevOps investment made it possible for us to focus our time and talent on new ways to delight our customers."

CONCLUSION

Applying DevOps in a Small-to-Mid size Organization
The benefits of DevOps implementations, no matter the size, are clear. Less waste, happy clients, motivated teams. Similar to a flight crew who needs to handle complex situations and successfully operate a plane carrying critical cargo, a successful DevOps evolution is an ongoing journey that requires navigating through a multitude of essential choices to be successful. Let the experts at ClearlyAgile help guide your team on the best flight plan that will allow your organization to reach its final destination.

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