

CASE STUDY

Building Infrastructure for Growth: How Silver Fern Built a Future-Proof Fulfillment Platform with Kurrent

Silver Fern, a software provider for the greenhouse grower industry, needed to build a high-availability fulfillment system capable of handling extreme seasonal demand spikes and the unique complexity of perishable inventory. By implementing event-sourced architecture with Kurrent as their source of truth, they've built a platform designed to scale indefinitely, with zero data integrity issues and complete historical auditability.

“We plan on owning the market. We don't want to be limited to say, ‘Oh, we got to spend the next year redoing this whole thing because we can't add any more customers.’ With Kurrent, I feel very confident that there are no limitations now. Kurrent is our source of record. It's our source of truth.”

— Chris Christensen, Director of Technology, Silver Fern

Unique Challenges of the Greenhouse Industry

Silver Fern serves the greenhouse grower industry, companies like Bonnie Plants, whose tomato plants you've likely purchased at your local hardware store. While standard fulfillment software handles static inventory like pens, staplers and paper goods, Silver Fern's customers face a fundamentally different challenge: the life and death cycle of plants.

As Chris Christensen, Silver Fern's Director of Technology, explains: "If you sell paper pens and staplers, those never go bad. They sit in your warehouse year after year until you finally sell them. With a plant, it has a definite start date and a definite end date. It comes out of nowhere from a seed, grows up into something you can sell, and then either gets shipped to the store or gets thrown away."

This perishable inventory creates what the industry calls "scrap," plants that never make it to market. Silver Fern's software helps growers forecast demand and reduce waste, directly improving profit margins. But the technical demands are extreme: customers like Bonnie Plants do over 60% of their annual business in just a few weeks between Easter and Mother's Day, processing 16,000+ orders during peak season.

Standard ERP and fulfillment packages simply weren't designed for this reality. Silver Fern needed to build something new from the ground up.

Architecting for Future Growth Using Event Sourcing

Chris came to Silver Fern with 22 years of experience building e-commerce systems processing over a billion dollars in annual revenue. He'd seen firsthand the limitations of traditional SQL Server architectures, particularly the read/write contention that occurs when all operations hit the same disk.



One of the things we suffered at my previous company using SQL Server is all reads and writes went into the same disk. You can only do so many things at once. When I researched CQRS, it made total sense: you're doing 90% of your processing in reads, and then every once in a while you're doing a write. To separate those, if you can guarantee the reads, you're up all the time."

Chris made a deliberate architectural decision: Kurrent would serve as the system's source of record for all mutations, with MongoDB handling the read models. This separation ensures that heavy query loads from reporting and dashboards never compete with critical business operations.

The Time Machine: Historical Auditability

databases: complete historical auditability. Every change to every entity is preserved as an immutable event, creating what amounts to a time machine for business data.



I can go back and specify any date we want and I can recreate what the world looked like at that point in time with Kurrent. If we want to see orders as of January 2022, I can do that. In SQL Server, you cannot do that. It's always the current state, and you don't know how something got to the way it was unless you put in your own audit logs, and then you just have a bunch of puff data that you never look at."

Moving to Kurrent Cloud

Silver Fern initially deployed Kurrent's on-premises edition and decided to move to Kurrent Cloud. As a small IT department, Chris recognized the strategic value of offloading infrastructure management, noting:

“We don't have an extended DevOps department and we don't want to miss anything. Our cluster is best hosted in the cloud where they can easily do backups, you've got uptime guarantees, and we can upscale when we need to.”

The migration to Kurrent Cloud provides clustered high availability, managed backups and automatic scaling, eliminating infrastructure concerns so the Silver Fern team can focus on building features for their customers.

Technical Confidence and Unlimited Scalability

Silver Fern's architecture combines Kurrent, MongoDB and Kubernetes to create a system designed for growth without limitations. All three data components are now clustered, providing enterprise-grade reliability for the company.

“Between using Kubernetes for orchestration, Kurrent Cloud on Microsoft Azure and MongoDB Atlas, I have both of my data sources clustered,” Chris explains. “You can't do that easily with SQL Server. To have clusters means the data will always be available, which means the system will always be up.”

The integration testing strategy further reinforces confidence. Tests spin up actual Kurrent and MongoDB containers to execute real API calls, providing complete coverage of the system's behavior. The result? “We have had no bugs that affect data integrity,” Chris reports. “If there's a bug, it's usually a misunderstanding, ‘Oh, I thought you meant this,’ not ‘Hey, what happened to my data?’”

“I plan on leveraging the CQRS model as far as it'll go to make sure that when you go to look at your volume, it just instantly comes up, and it's not waiting on a bunch of writes to occur from production.”

Chris recalls a commercial from the early 2000s showing entrepreneurs watching their e-commerce sales skyrocket, then looking at each other nervously, wondering if their system could handle it. “I wanted that to not be a factor at all,” he says. “Our owners don't want it to be a factor either, because we plan on owning the market. We don't want to be limited to say, ‘We've got to spend the next year redoing this whole thing because we can't add any more customers.’ With Kurrent, I feel very confident that there are no limitations now.”

Looking Forward

Silver Fern represents the kind of customer success story that validates architectural decisions: a startup building software for a highly specialized industry chose to invest in a modern, event-sourced architecture from day one. That decision has paid dividends in system reliability, data integrity and peace of mind.

As Chris puts it:



“I look forward to many, many years of using Kurrent and making it do way more things than it is today.”

For Silver Fern, the foundation is set. Now it's time to grow.

→ About Kurrent

Kurrent provides an event-native data platform that stores and streams real-time, business-critical data with historical context in fine-grained streams, from origination to destination, for optimal AI, analytics and application outcomes. Kurrent is available on AWS, Microsoft Azure and Google Cloud Platform and as an on-premises solution. Headquartered in San Francisco, Kurrent's event-native technology is deployed in high stakes use cases in finance, SaaS, oil and gas, manufacturing, retail, healthcare, automotive, government and many other industries globally. **Illuminate your business™**

→ Would you like to see Kurrent in action?

Contact sales@kurrent.io to schedule a technical deep-dive and see Kurrent in action.

