

THE CUSTOMER

Since its beginnings in 2001, [Global Freight Solutions](#) (GFS) has been the delivery partner of hundreds of leading UK retailers including Wilko, Dune, Mamas & Papas and Molton Brown, and is now responsible for 20 million+ parcels every year.

GFS is the UK's biggest provider of multi-carrier eCommerce delivery solutions, providing online retailers with access to 1000+ carrier services and multi-carrier technology to maximise the customer experiences, simplify operational processes and support business growth. GFS' unique carrier management platform, Enterprise Carrier Management, enhances every stage of the delivery journey - from delivery options at the checkout, to labelling, tracking, reporting and returns – across all available carriers, countries and sales channels.



ENTERPRISE
CARRIER
MANAGEMENT

Industry: Logistics and supply chain

Location: United Kingdom

HIGHLIGHTS

- Deployment speed 75% faster
- Deployment frequency 75% faster
- Developer productivity 75% more

KEY BENEFITS

- Weaveworks solution enables reliable and reproducible environment
- Robust and secure platform with built-in auditability
- Release cadence moves from weekly to multiple times a day
- GitOps automation reduces ease of learning curve



I'd recommend Weave's GitOps at any chance I get! For me the key factors are the low cost of entry vs. the level to which it empowers teams. Once teams see GitOps in practice, I think it rapidly sells itself. GitOps isn't something just for the unicorns and startups; I really feel that teams of any size in any environment can benefit from it." - John Clarke, Director of Software Development

CHALLENGES

Slow, manual deployments

A major challenge was deployment time, especially when new code was released into production. The platform team had been looking at automated deployments within GFS for several years. Initial work using immutable VM images was performed as it fit GSF's technology at that time. The process had shown great promise, but they ran into classic issues - image building was a long and tedious process, error prone, and the resulting images were large making it difficult to store and move around.

The team started looking at containers to resolve their early VM issues as it fit the bill very well. At that point they decided that they needed an orchestrator, and Kubernetes rapidly showed itself to be the ideal choice. The platform team was manually deploying into the cluster, but again this was slow and time consuming.

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Pipeline complexity and lack of observability

GFS found that their existing Azure DevOps pipelines were often complex to build, and as their estate grew they were becoming more of a maintenance overhead. Adding a new environment meant updating tens of pipelines without a 'no touch' deployment making it very difficult to run quick tests. Their cluster configuration had also become fragmented through their source repository, making it onerous to see how each environment was configured.

Non-favourable authentication process

The platform team did not favour the process of allowing their pipelines to authenticate with their clusters, especially given the level of access required. Keeping authentication credentials outside of the cluster is not a best practice and can increase the attack vector of a CI/CD's pipeline. The team wanted to limit direct cluster access by the engineers.

SOLUTION

As a small development team with big ambitions, GFS were looking at tools and patterns that they could efficiently implement to increase their capabilities. Specifically in automating operational tasks, so that they could free up development time that can be used on creating great solutions for their customers.

Weaveworks GitOps to deliver business value

The platform team initially tried Weaveworks GitOps on a number of internal projects, deploying services to support their data analytics pipelines. This experiment allowed them to evaluate it as a deployment tool against their previous deployment pipelines built in Azure DevOps, and the manual deployments they had used prior to that. GFS saw huge potential in using Weaveworks GitOps as an operator, which led to them selecting it as their tool of choice for a major new project focused on re-architecting and improving a number of internal services and their customer portal.



Weaveworks GitOps is set of processes which everyone is already familiar with, so the on-boarding processes are negligible, and there's less load on the team to learn new tooling. It's incredibly enabling, whilst being almost invisible day to day, as it just sits there doing what we need!" - John Clarke,

Director of Software Development

Process changes without the learning curve

GFS rolled out Weaveworks GitOps across all of their environments, from Development through to Production, including all deployments of new developments. The platform team reported the migration process as being straight forward. Developers were already familiar with creating YAML files as part of our previous deployment process, and there wasn't much else that they needed to learn. Once they knew where to put their configuration, they could use the Git tools and processes they already knew, and trust that Weaveworks GitOps was handling the heavy lifting for them.

Automation through GitOps

Weaveworks GitOps played a large part in enabling their current processes. GFS runs both their infrastructure management and cluster configuration management through Git repositories in Azure DevOps. They use a 'repo-per-environment' model, with mandatory feature branching, and a PR process to get changes reviewed prior to them being merged to master. Once a configuration change hits the master branch, it's considered 'deployable'. They use permissions in DevOps to determine who can approve changes for each environment, with tighter permissions as changes get nearer to production.

GFS uses a very similar approach with Terraform for managing their infrastructure. A change in master will alert a group who use Terraform to manually roll out the changes. GFS will be looking to automate this process in future too. For cluster configuration changes, they have Weaveworks GitOps set up to automatically deploy from the repo.

RESULTS

Cluster visibility and reproducibility

GFS loved the way that Weaveworks GitOps was able to resolve all of the challenges they had seen within their DevOps pipelines. They were able to decouple cluster configuration and deployment from source and CI. They could also store complete cluster configuration in a single repo, giving them complete visibility into each cluster.

Minimal on-ramp time

As GFS moved more of their development team onto developing the new platform, they found that the lower learning curve has really paid off. New team members can concentrate on developing applications and solutions, and not have to worry about the operational processes. They can now have changes deployed into test environments within minutes.

Reduced operational overhead by 90%

GFS reported a 90% reduction in time spent moving services from developers machines into their development environment, and then promoting them from test to production. Once the configurations are in Git, deployment really is a non-event, so the time savings can be quite extreme compared to manually installing and managing the cluster. In effect, the more you deploy, the more you save!

Deployment and release cadence 75% faster

GFS are already seeing the benefits of being able to deploy their newly built services quickly and automatically. The increase in their release cadence removes the need for test teams to wait for fixes, and enables them to rapidly and reliably promote fixes and new features, delivering business value. GFS moved from doing releases once or twice a week to many times a day. They recently ran an experiment in which they spun up a complete new environment from the ground up in less than 10 minutes. GitOps has been instrumental in allowing a small team of developers to get to this point.

Faster feature review cycle

The new automated process massively reduces the feedback cycle. Instead of receiving code reviews a day before the end of a sprint, they can now see features as soon as they are ready. When all of the friction is taken out of deployments, there is no longer a need to wait for a critical mass of updates before deploying.

Secure and compliant environments

Using GitOps for automation has also helped with security compliance. GFS can centralize their permissions in Git, so they no longer need the number of people that they used to have with direct access to their clusters. Having everything going through Git also allows them to have an audit trail of what was changed, by who and when. By referencing the Pull Requests that instigated the changes, they now have a full record of approvals, and any discussions related to any change.