flooid
a GLORY company

Technology white paper:

Flooid Cloud

Retail CIOs and CTOs are embracing the cloud for their own applications and those of their partners and service providers. With the technical confidence and investment in internal expertise to develop, manage or integrate with cloud applications, retailers are wrestling with a "your cloud or mine" dilemma. This paper aims to answer the "Why Flooid Cloud" question for retailers looking to Flooid as a trusted partner.

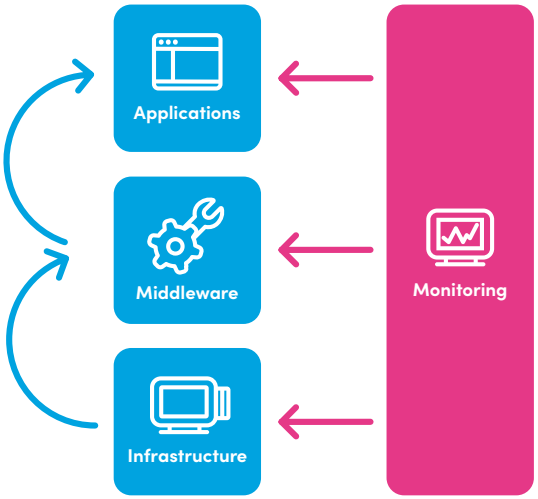
The case for Flooid Cloud goes beyond the business case of the cost, quality and security of choosing the right cloud provider. The entirety of the Flooid POS solution – software, data domains and architecture – has been designed as a single solution for increased value and assurance in both deployment and management. This is achieved with an engineering approach ensuring Software engineers, SRE engineers and the Product teams develop in ways that explicitly support automation, GCP deployment and the deployment of our fully managed stack (Applications-Middleware-Infrastructure), all based on Infrastructure as Code.

Layer Relationships

The inter-related nature of the Flooid Product is highlighted below, as a progression from the individual elements through to automation principles and associated dependence to the optimal layer relationship developed for Flooid Cloud.

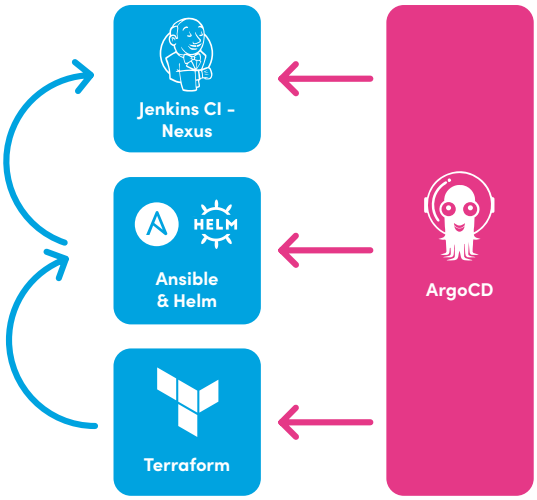
Separation

- Applications are the software we deploy that provides a functional capability to the end client
- The middleware is the layer of tooling that hosts or supports the running of applications (effectively the runtime environment)
- The infrastructure layer is the hardware and operating system (plus drivers)
- Monitoring can be either software or tooling that monitors each layer



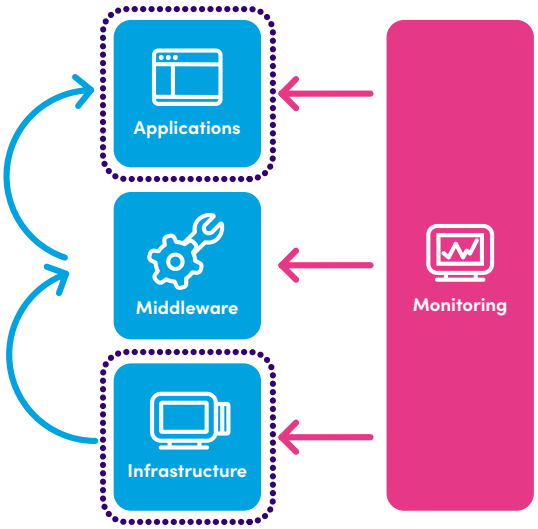
Automation

- Applications are built using Jenkins CI to create artefacts in our repository (Nexus) which are available for deployment
- We deploy the tooling and applications supporting technology using Ansible and Helm (for Containers)
- We deploy in GCP and use infrastructure as Code (IaC) via Terraform to deploy the servers and operating systems
- ArgoCD is used to run the pipelines which manage the automation deployment of Terraform, Ansible, Helm and applications from Nexus



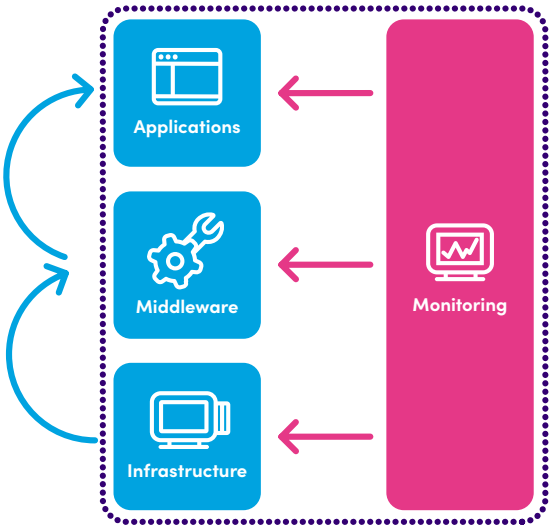
Dependence

- The application layer is dependent upon the middleware (e.g. Tomcat, Active MQ, DB2 including parameters and configurations. Engineers write the Ansible definitions to best cater for the deployment and operation of the application components.
- The infrastructure is built to host the middleware layers. In doing this we optimise the deployment pattern, scaling templates and networking to host the middleware and applications



Optimal

- Flooid's Product offering works best when all layers are taken
- Automation is the principle behind the deployment and operations
- Applications to infrastructure are built and tested together (through our Product Health team)
- We invest over 1000 hours per month in the automation and Product Health to have the level of automation we have (and continue to evolve)



As a retailer, what are the advantages of choosing the Flooid Cloud in GCP rather than utilising your current infrastructure and capabilities, including your own GCP environment to host the Flooid Application?

The software we provide is not limited to applications but also covers middleware and infrastructure. We offer software (as individual components) to provide our feature rich solution and the entire deployment on GCP is software defined (Infrastructure as Code (IaC), which includes middleware). Product assurance work is based on Flooid building environments on GCP using the IaC and ArgoCD for deployment. We upgrade on these platforms, functionally and non-functionally assure on them and perform deployment automation within them.

As a retailer, can I leverage my current capabilities to host applications to implement Flooid?

Flooid application software running on-prem:
Flooid can provide the Applications Software (artefacts) to the client but the responsibility to design, build, and operation the operating system, network and middleware layers including the monitoring of those layers would be a client responsibility. This model would require a significant amount of consultancy time from Flooid as we no longer create "on-premise" design and deployment instructions due to our GCP focus.

Deploy Flooid Application on customer GCP environment:
There are no technical restrictions to Flooid deploying to a customer GCP environment, but this is not a supported or advocated practice given multiple issues may occur in linking back to our centralised deployment and monitoring tooling.

Retailers are looking to Flooid to deliver a retail platform with proven scalability, resilience and the capacity for unlimited innovation in a cloud-first blueprinted approach. By choosing to implement the Flooid platform as supported and advocated in our cloud, the retailer is leveraging thousands of hours of Engineering and Product development that provide for automated deployment, ongoing lifecycle and change management efficiencies and overall product assurance. Leveraging Flooid's cloud approach in GCP enables retailers to avoid the unqualified and unmitigated costs and risks that could result from deploying the Flooid application on premise or deploying in their own cloud environment, even if it is GCP. Flooid has already made, and continues to make, investments in deployment and assurance ensuring retail customers do not have to invest in bespoke or unpredictable deployments, ultimately enabling an environment that fosters and supports unlimited innovation for their operations.

Flooid works with many of the world's leading retailers. If you would like to learn more about Flooid's capabilities, please contact us.

UK & EMEA
Ingenuity House
Bickenhill Lane
Birmingham B37 7HQ

+44(0)24 7669 4455

marketing@flooid.com

Americas
5905 E. Galbraith Rd
Suite 2100
Cincinnati, OH 45236

+1 833 915 0305

flooid.com

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