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# DevOps & CI/CD Automation: Cloud, Containers and Microservices

## A Customer Case Study with an Omnichannel Retailer

The customer, an omnichannel retailer, is experiencing dramatic online traffic and e-commerce growth. To help scale the online platform and improve speed and performance, an improvement from the existing monolithic architecture and long cycle deployments to a single data center was needed.

A combined partnership between Newstar and the retailer, resulted in a solution that increased self-service and on-demand deployments, enabled small and decoupled teams, scalable platform and brought speed throughout the product delivery process.



## Customer Challenges

### Monolithic Architecture

An aging e-commerce platform presented multiple product development challenges and affected customer experience. A closed platform provided early wins but was showing signs of slowing development, increased complexity, and delayed time to market.

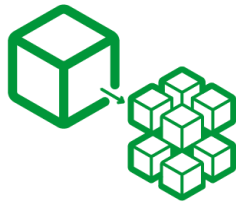
### Long Deployments

On prem infrastructure combined with lack of standardized automation, monolithic deployments, and large catalog pushes all added to delays and errors in deployment. The solution, few and infrequent deployments, further exacerbated the core challenges of rapid turnaround and improved experience.

### Scalability

As e-commerce and digital traffic has experienced rapid growth, the need for scale has become critical. A tightly coupled system presented scalability shortcomings of talent and infrastructure thereby stunting customer experience and business growth.

## The Solution



### Microservices Architecture

Splitting the monolithic architecture by individual e-commerce services allowed for small nimble teams independently deploying a service and scaling infrastructure based on isolated traffic patterns instead of overall site traffic.



### Containerization

Containerizing individual services using Docker provided greater abstraction, lightweight packaging and seamless deployments across environments. Layering container orchestration using Kubernetes enabled infrastructure automation, autoscaling and optimized resource allocation in a distributed platform.



### Self-service Tooling

A DevOps In A Box™ self-service platform leveraging both Kubernetes and Docker provided the requisite capability for developers to define pipelines from source code to target environments, abstracting away the complexities of Kubernetes and Docker while empowering teams to move with speed.

## Results

Via container technology and tooling, Newstar and its customer were able to shift to a microservices architecture, accelerate the product development process and minimize deployment and scalability concerns.