



CASE STUDY: Enterprise Architecture Cost Reduction Project

PROBLEM STATEMENT: United Airlines, a global aviation leader, faced escalating egress costs tied to Artifactory, used for deploying applications to AWS. Approximately 70% of these costs stemmed from inefficient retrieval of publicly available third-party images. The reliance on Artifactory led to an estimated \$720K in annual unnecessary expenses. A cost-effective solution was needed without disrupting application teams or compromising system reliability.

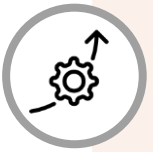
OBJECTIVES



Reduce high egress costs associated with Artifactory usage for deploying applications to AWS services (EKS and ECS)



Migrate to a cost-effective AWS-native solution to eliminate unnecessary expenses



Ensure minimal disruption to application development teams during the transition



Maintain system reliability, availability, and security throughout the migration process

PROCESS

Analyzed Artifactory costs, finding 70% stemmed from pulling third-party images through it instead of external repositories

Assessed AWS ECR as a cost-effective Artifactory alternative, confirming it met United's business and technical needs

Designed an optimized architecture leveraging AWS services such as Route 53, an Application Load Balancer, and AWS ECR

Developed and tested a phased migration strategy to ensure minimal disruption to application teams

SOLUTION

DELIVERED

- + Migrated applications to AWS ECR, reducing reliance on Artifactory and eliminating unnecessary egress costs
- + Created vanity URLs to streamline the transition and minimize pipeline changes for application teams
- + Increased ECR quota limits to prevent bottlenecks and ensure seamless performance
- + Rolled out the solution in development (Dev) and quality assurance (QA) environments before gradually implementing it in production

IMPACT



IMPROVED OPERATIONAL EFFICIENCY



\$720,000 IN COST SAVINGS



SEAMLESS TRANSITION



IMPROVED SCALABILITY & RELIABILITY



SUCCESSFUL TECHNOLOGY ENHANCEMENT

Reduced maintenance and operational overhead associated with Artifactory

Estimated annual savings of \$720,000 by eliminating unnecessary egress costs

Ensured minimal disruption to application teams through a well-structured migration approach

Migrated approximately 500 applications, enhancing system resilience and efficiency

Transitioned from Artifactory to an AWS-native solution using Route 53, Application Load Balancer, AWS ECR, and Lambda for efficient deployment management