

Next-Level Agility with a MuleSoft CloudHub 2.0 Migration

ORGANIZATION

Our client, a leading U.S.-based department store chain, is a well-known retail brand specializing in fashion, home goods, beauty products, and accessories. With a strong national footprint across brick-and-mortar stores and a thriving e-commerce business, the company supports a high volume of customer, order, and inventory transactions across multiple sales channels.

The client had already standardized on MuleSoft Anypoint Platform to power key integrations across order management, inventory visibility, customer data, and downstream enterprise systems. These Mule applications were running on a self-managed, on-premises Anypoint infrastructure. As transaction volumes increased and the business expanded its omnichannel capabilities, the client partnered with XTIVIA to migrate its integration workloads from on-premises Mule runtimes to CloudHub 2.0, MuleSoft's next-generation, Kubernetes-based managed runtime platform.

CHALLENGE

The client needed a fully managed runtime plane that could scale on demand, reduce operational burden, and accelerate delivery of new integrations without compromising the reliability of mission-critical retail systems.

While the client had already gained significant value from MuleSoft, its on-premises deployment model increasingly limited the speed, scalability, and operational efficiency the business needed.

Key challenges included:

- **Manual infrastructure management:** Provisioning, patching, upgrading, and maintaining on-premises Mule runtimes required significant platform engineering effort and slowed the delivery of new integrations.
- **Limited elasticity:** Fixed-capacity infrastructure could not scale automatically to absorb seasonal spikes such as Black Friday, holiday promotions, and major online campaigns, increasing the risk of performance degradation or downtime during critical revenue periods.
- **High operational overhead:** Supporting redundant environments, load balancing, and disaster recovery in on-premises data centers drove substantial infrastructure and support costs.

- **Environment inconsistency:** Differences across development, test, and production environments created deployment friction, increased validation effort, and lengthened release cycles.
- **Constrained observability:** Existing monitoring capabilities offered limited insight into API performance, application health, and failure trends, making proactive issue detection harder.
- **Security and patching burden:** Maintaining secure runtime, operating system, and dependency versions required constant manual attention and increased compliance risk between patch windows.
- **Slower time-to-market:** Standing up new runtime capacity for additional APIs and integrations often took days or weeks, delaying business initiatives and new channel enablement.

The client needed a fully managed runtime platform that could scale on demand, reduce operational complexity, improve visibility, and accelerate the rollout of new integrations without compromising the reliability of mission-critical retail systems.

TECHNICAL SOLUTION

XTIVIA executed a phased, low-risk migration strategy to move the client's Mule applications from self-managed on-premises runtimes to CloudHub 2.0. The approach modernized the deployment architecture while preserving business continuity and minimizing disruption to dependent business operations.

Solution Highlights

- **Application assessment and migration planning:** XTIVIA performed a detailed inventory of Mule applications, interfaces, dependencies, connectors, and environment configurations to create a risk-based migration roadmap and sequencing plan.
- **Private Space architecture and environment segmentation:** XTIVIA designed and configured 10 separate Private Spaces aligned to business units and deployment environments. Using a hub-and-spoke network model, the design provided strong isolation, dedicated address spaces, and simplified governance across the CloudHub 2.0 landscape.
- **Containerized, Kubernetes-based runtime deployment:** Mule applications were migrated to CloudHub 2.0's containerized runtime architecture, improving deployment consistency, portability, and operational standardization across environments.
- **Resource sizing and auto-scaling configuration:** Tailored compute and memory allocations to individual business domains, with horizontal and vertical scaling policies configured to respond automatically to peak transaction volumes.
- **Hybrid connectivity with AWS Transit Gateway:** XTIVIA enabled secure, high-throughput hybrid connectivity between CloudHub 2.0 and on-premises systems using AWS Transit

Gateway, allowing cloud-hosted integrations to continue accessing legacy data sources and backend services without disruption.

- **Centralized ingress and load balancing:** XTIVIA supported the implementation of a centralized load-balancing strategy in AWS to streamline traffic routing, manage SSL termination, and strengthen the security posture of inbound API traffic.
- **Identity and access management:** Okta was configured as a custom identity provider for CloudHub 2.0, enabling centralized authentication and role-based access control aligned with enterprise access management policies.
- **CI/CD and monitoring modernization:** Automated deployment pipelines were built using Anypoint CLI and Maven to standardize build and release processes. XTIVIA also implemented Anypoint Monitoring and custom dashboards to provide real-time visibility into application health, throughput, latency, and error patterns.
- **Blue-green cutover execution:** A blue-green deployment approach enabled controlled traffic migration from on-premises runtimes to CloudHub 2.0, reducing cutover risk and supporting near-zero downtime during the transition.

Sample Migration Use Cases:

1. **Order management integration:** XTIVIA migrated the order-to-inventory synchronization flow connecting the e-commerce platform with warehouse and fulfillment systems. Running on CloudHub 2.0, the integration could scale more effectively during peak shopping periods.
2. **Customer data synchronization:** XTIVIA re-platformed the API connecting the client's CRM and loyalty systems, improving the speed and reliability of customer profile updates across digital and in-store channels.

BUSINESS RESULT

The migration to CloudHub 2.0 delivered substantial improvements in agility, resilience, visibility, and operational efficiency across the client's integration ecosystem.

Key outcomes included:

- **Elastic scalability:** Auto-scaling capabilities enabled the client to handle seasonal and campaign-driven traffic surges without manual intervention or persistent over-provisioning.
- **Reduced operational burden:** Eliminating the need to manage on-premises runtime infrastructure allowed internal teams to focus more on innovation and less on platform maintenance.
- **Faster time-to-market:** Standardized CI/CD processes and a managed runtime model shortened environment provisioning and deployment timelines, accelerating the delivery of new APIs and integrations.

- **Improved resilience:** CloudHub 2.0's managed, Kubernetes-based architecture and Private Space design enhanced runtime stability, simplified failover planning, and improved overall service continuity.
- **Better observability:** Enhanced monitoring and dashboarding gave operations teams clearer, real-time insight into API performance and system health, enabling faster issue detection and resolution.
- **Lower total cost of ownership:** Moving away from self-managed infrastructure reduced hardware, maintenance, and support costs while freeing budget for strategic business initiatives.
- **Stronger security posture:** Managed runtime operations, centralized identity controls, and improved patch governance reduced exposure to unpatched vulnerabilities and strengthened compliance readiness.

By partnering with XTIVIA, the client transformed its MuleSoft deployment model from a maintenance-heavy on-premises footprint into a scalable, cloud-managed integration platform. The result was a more agile, resilient foundation that supports the client's growing omnichannel retail business.

KEYWORDS

MuleSoft, CloudHub 2.0, Anypoint Platform, MuleSoft Migration, On-Premises to Cloud Migration, Kubernetes, Private Spaces, Retail Integration, Cloud-Native Integration, API-Led Connectivity, Auto-Scaling, CI/CD, DevOps, Hybrid Connectivity, AWS Transit Gateway, Disaster Recovery, Anypoint Monitoring, Okta

SOFTWARE

MuleSoft Anypoint Platform, CloudHub 2.0, Anypoint Monitoring, Anypoint CLI, Maven, Kubernetes, Anypoint Studio, Postman, AWS Transit Gateway, AWS Elastic Load Balancing, Okta

ABOUT XTIVIA

For over 30 years, XTIVIA has been a leading B2B technology solutions provider, empowering clients to leverage their chosen technology competitively. We bridge legacy systems with modern innovation through a comprehensive suite of services, including Data & AI, Apps & Integration, Cloud & DevOps, Business Solutions, QA Testing, and Managed Services. Partnering with industry leaders like Microsoft, Liferay, AWS, Databricks, and Boomi, our certified experts deliver customized solutions that drive measurable business results. If you can imagine the business outcome, XTIVIA can create it with intelligent technology and AI-powered solutions.

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