Empowering Cancer Research with Scalable API Integration: A MuleSoft Success Story

ORGANIZATION

XTIVIA's client is a trailblazing and globally recognized cancer research organization committed to revolutionizing the fight against cancer. The organization is at the forefront of driving groundbreaking research, disseminating transformative findings among scientists and stakeholders, and fostering science education and training. Its mission is to enhance the global understanding of cancer prevention, diagnosis, and treatment while empowering the medical and scientific community with innovative tools and insights.

CHALLENGE

Despite its pivotal role in advancing cancer research, the client's existing Salesforce-centric implementation posed significant operational and architectural challenges, hindering agility and scalability. These challenges were compounded by the need for a robust integration strategy to support their mission-critical operations.

Key Challenges Identified:

- **Manual Data Synchronization:** Frequent manual interventions were required for synchronizing data related to Donations, Sessions, Disclosures, Contacts, Accounts, and Sales Orders, leading to inefficiencies and delays.
- **Suboptimal User Experience:** Users were burdened with managing multiple credentials, creating friction and reducing productivity.
- **Complex Services:** Lengthy testing cycles were necessitated by intricate service structures during enhancements.
- **Lack of Standardization and Governance:** The absence of standardized processes and data governance resulted in inconsistencies and reduced operational reliability.
- **Fonteva's Rules Engine Constraints:** Limited flexibility in the rules engine hampered the setup of complex rules.
- **Tightly Coupled UI and Data Models:** Salesforce Lightning UI controls were rigidly integrated with underlying data models, restricting flexibility and adaptability.

XTIVIA was entrusted with conducting a comprehensive assessment to evaluate how MuleSoft or Jitterbit could align with the client's business and technology strategy and provide a more agile, scalable, and user-centric solution.

TECHNICAL SOLUTION

XTIVIA undertook a meticulous review of the client's ecosystem, encompassing processes, services/APIs, data sources, and usage patterns. Leveraging the XTIVIA APIM Product Evaluation Framework, the assessment focused on key business and technical priorities, including:

- Salesforce Integration
- API Design and Development
- API Security
- API Developer Portal and Analytics
- API Productization and Catalog Management
- MS Dynamics and ServiceNow Integration

APIM Platform Evaluation Process:

Feature / Requirement Grouping → Stakeholder Interview → Requirement / Feature Shortlisting → "Weights" assigned Feature List Finalized → SME Scoring → "Weighted Score Average" rollup to categories

APIM Platform Evaluation Result:

MuleSoft emerged as the optimal solution, offering seamless Salesforce integration, robust API security features, and alignment with the client's strategic goals. XTIVIA recommended MuleSoft as the target API management platform to drive the client's integration strategy forward.

| Features	AACR Weight	MuleSoft Score Average	Mule Total Weighted Average	Jitterbit Score Average	Jitterbit Total Weighted Average
Salesforce Integration					
Salesforce Connector features	5	5	25.0	0.6	3.0
Marketing Cloud Connector features	5	5	25.0	0	0.0
Segment Total			50.0		3.0
MS Dynamics and ServiceNow Integration					
MS Dynamics Connector features	5	5	25.0	3.3	16.5
ServiceNow Connector features	5	5	25.0	5	25.0
Segment Total			50.0		41.5
API Design and Development					
Core API Development Features	5	5	25.0	2.5	12.5
API/Policy Design	3.5	4	14.0	2.5	8.8
Messaging System	5	5	25.0	0	0
Segment Total			64.0		21.3
API Security					
Authentication	5	4.3	21.5	4.3	21.5
Authorization	5	5	25.0	5	25.0
Content Threat Protection	5	5	25.0	1	5.0
Segment Total			71.5		51.5

Proposed Architecture:

XTIVIA designed a modern, scalable API-led connectivity architecture with the following layers:

- **System API:** Abstracts backend systems to enable consistent data access.
- **Process API:** Encapsulates business logic to streamline workflows.
- **Experience API:** Delivers channel-specific, customized user experiences.

Key features of the architecture included:

- **API Gateway:** Ensured security with robust authentication, authorization, and content threat protection.
- **API Portals:** Delivered a self-service experience with comprehensive API documentation for both public and private APIs.
- **OKTA Identity Cloud:** Centralized user and resource management for API access.
- **Anypoint MQ Messaging:** Enabled asynchronous communication between systems for enhanced reliability.
- **Salesforce CPQ:** Replaced Fonteva's rules engine with advanced pricing rule capabilities, providing greater flexibility and efficiency.
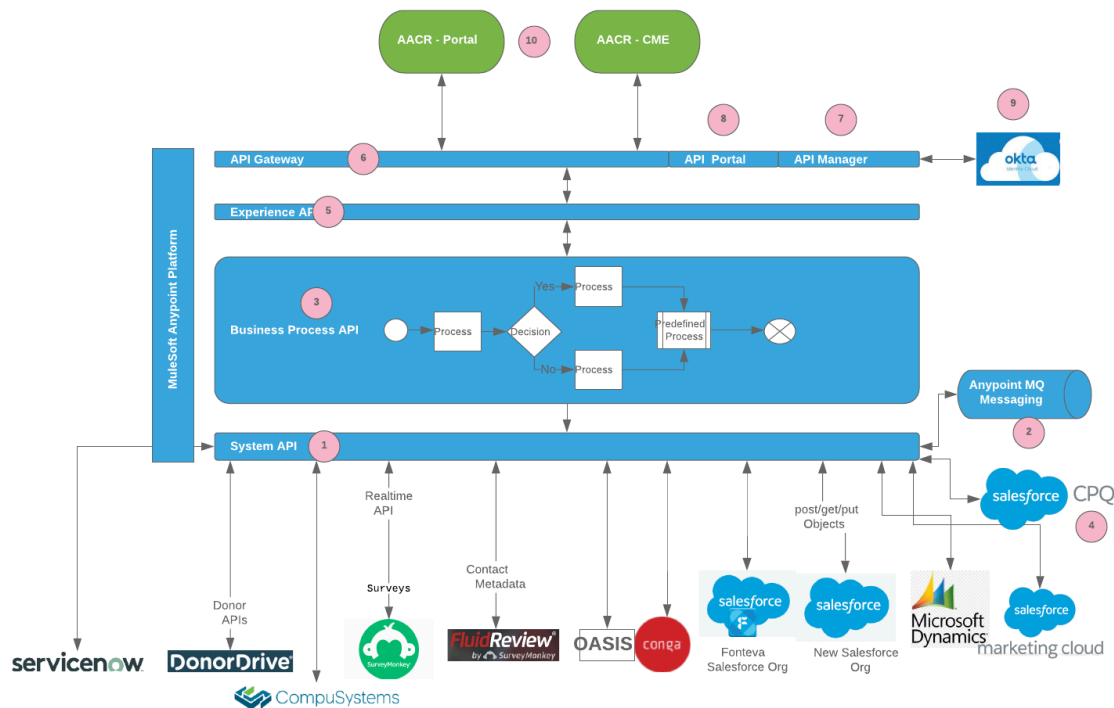
BUSINESS RESULT

XTIVIA's API strategy and implementation delivered measurable business value and technical agility, including:

- **Enhanced Agility:** Future changes can be implemented rapidly and efficiently.
- **Loosely Coupled Interfaces:** Minimized impact of changes across the system.
- **Improved Monitoring and Notifications:** Real-time notifications and insights into success or failure of transactions, with actionable failure reasons.
- **Usage Tracking:** Comprehensive tracking of API usage to drive continuous improvement.
- **Operational Efficiency:** Reduced manual interventions, improved user experience, and accelerated development cycles.

By addressing the client's integration challenges with an innovative and scalable solution, XTIVIA empowered the organization to continue its groundbreaking work in cancer research with greater efficiency and impact.

KEYWORDS

API Platform Evaluation, Jitterbit, API Strategy, API Roadmap, API Reference Architecture, Salesforce Integration, MuleSoft Anypoint Platform, API Management, API-led Connectivity, API Gateway, Anypoint MQ, Salesforce CPQ, Digital Transformation, Cancer Research Organization, Science education and training

SOFTWARE

MuleSoft Anypoint Platform - Runtime, API Manager, Runtime Manager, API Monitoring, Design Centre, Salesforce CRM, Jitterbit API Management

ABOUT XTIVIA

At XTIVIA, we've been providing IT solutions and consulting services for over 30 years with a wide range of services, including technology assessments, IT service and asset management, software development, data analytics, cloud migration, DevSecOps, ERP, and enterprise content management. Dedicated to each discipline, ensuring that our clients receive the best possible service. Through strategic acquisitions, we've acquired talented people who are experts in their industries, passionate about what they do, and committed to providing exceptional service to our clients. Whether you need to improve your IT infrastructure or implement new software solutions, XTIVIA is here to help you achieve your business goals. XTIVIA has offices in Colorado, New York, New Jersey, Texas, Virginia, and India. www.xtivia.com