

# axonect

Unlocking Limitless Potential

## HARNESSING THE POWER OF APIS





In the rapidly evolving landscape of technology, Application Programming Interfaces (APIs) have emerged as a critical enabler of seamless integrations across diverse platforms. While the prevalence of API integrations is undeniable, the journey towards successful implementation is riddled with challenges that enterprises must navigate. This white paper delves into the significant hurdles that organizations commonly encounter throughout the process of integrating APIs into their systems.

The paper addresses a range of issues, including integration roadblocks, security susceptibilities, escalating implementation costs, ambiguity in processes, lack of governance and control, and the potential for vendor lock-in. These challenges can impede progress, hinder innovation, and compromise the integrity of systems if left unaddressed.

To provide a comprehensive solution to these challenges, we introduce the Axonect API Manager Suite. This suite

offers a robust framework designed to streamline API integration processes, enhance security protocols, optimize cost-efficiency, establish clarity in implementation procedures, enforce governance and control measures, and mitigate the risks of vendor lock-in. The subsequent sections of this white paper delve into the mechanics of implementing the Axonect API Manager Suite as a strategic response to the identified challenges. Detailed insights into the solution's architecture and its multifaceted benefits are presented, demonstrating how it effectively transforms the API integration landscape.

The culminating section of the white paper showcases real-world customer testimonials, highlighting firsthand accounts of how the Axonect API Manager Suite has revolutionized API integration for enterprises across industries. These testimonials underscore the tangible outcomes and positive impact that the solution brings to the table.

## What is Axonect API Manager?

The Axonect API Manager is a powerful digital enablement platform designed specifically for enterprises seeking to leverage innovation and accessibility to drive revenue. It is an industry-leading end-to-end API Management Platform developed by experts to cater to the unique needs of the modern era.


The API Manager is a versatile solution which can be deployed in three different types of use cases. The first deployment type is the API Gateway, which can be deployed as an internal gateway for exposing APIs. Once the APIs are exposed, these APIs can be used by other systems or services within the organisation such as different departments, different subsidiaries, etc. This facilitates the organisations to have better interconnectivity and data exposure within the organisation to improve the overall productivity.

The second use case is the API Monetiser. With this implementation, organisations can monetise their existing APIs by exposing them to 3rd parties and charging them for the usage of the APIs. They can even provide the APIs as packages with different pricing models which enables them to create and target different sets of APIs for different sets of customers. This capability enables organisations to maximise the value of their existing APIs and achieve a faster return on investment while maintaining control, governance, and monitoring over the entire process.

The third and final use case is the API Aggregator, which empowers organisations to accumulate multiple enterprise level APIs from different vendors and then give them as a unified API set from a centralised hub. A key advantage of this approach is that the customers can choose their required APIs from the hub and utilize them from a single place. This can be beneficial for organisations by giving them the opportunity to gather valuable API assets to add strength to their API hub.

Furthermore, the Axonect API Manager supports all three types of infrastructure: on-premises resources, cloud resources, and hybrid deployments that combine both. This flexibility allows organisations to effectively utilize their resources, integrate their assets, and manage them seamlessly from a unified platform.

Axonect's API Manager adheres to prominent industry standards, including ITIL®, ISO® 27001/27701, and CMMI®. This commitment to excellence and compliance ensures that our platform is reliable, secure, and aligned with industry best practices. By upholding these standards, we demonstrate our dedication to providing a robust and trustworthy platform that consistently exceeds the high expectations of our valued customers.



## Focusing on Integration and Scalability: Key Areas of Priority

Organizations often grapple with integrating a diverse array of software solutions used by different departments to meet their specific needs. This challenge becomes particularly pronounced when custom systems are developed, or third-party vendors are involved. Integrating these disparate systems to align with overall organizational goals leads to issues like data inconsistencies, incompatible formats, and communication barriers. These complexities are heightened by the presence of multiple independent systems, each with its own structures and interfaces, and compounded when third-party vendors employ different technologies. Additionally, ensuring scalability for increasing usage becomes vital, demanding APIs that can handle higher traffic without performance compromise.

Addressing these integration and scalability challenges, our API Manager offers a central platform for hosting and exposing APIs within organizations. This portal streamlines communication across various systems, minimizing complexities associated with multiple API endpoints. Furthermore, our platform includes a dedicated Development & Integration Sandbox usable across different solution scenarios. This controlled environment

empowers developers to test APIs, validate integrations, and address issues before going live. The sandbox accelerates development, enhancing the introduction of new services. Moreover, the API Manager's extensible architecture accommodates future growth and customization needs, enabling Service Providers and Communication Providers to integrate and scale with ease, ensuring adaptability to evolving technology and business landscapes.



## Security can Impact the Very Survival of an Organisation

Digital assets are crucial components of a business's inventory, encompassing diverse software, architecture, and data with significant monetary value. Without proper security measures, they are vulnerable to various threats. An essential focus is on authentication and authorization across applications, as integrating these systems can expose vulnerabilities, making them susceptible to exploitation. A standardized security mechanism for upstream systems becomes essential, as individually managed security increases risk. Therefore, robust security measures are imperative to safeguard these assets and effectively mitigate potential risks.

Axonect APIM Suite addresses security concerns by offering modern multi-level

token-based API security and access control. This ensures sensitive data protection and system integrity. Token-based authentication mechanisms are implemented to provide strong security, authorizing API access at various levels and preventing unauthorized interactions, thus averting potential breaches. Alongside API security, the solution prioritizes efficient identity and entitlement management, providing comprehensive capabilities for defining and managing user roles, permissions, and access levels. This ensures appropriate access within the API ecosystem, reducing the risk of unauthorized data exposure. The solution's seamless integration with established enterprise identity providers further streamlines user management, eliminates redundancy, and enforces consistency across diverse systems and applications.



**Increased Reusability:  
Minimising Development and  
Maintenance Costs with  
Increased Reusability**

The intricate challenge of managing digital asset ownership within enterprises often results in substantial financial strain, particularly due to the complex integration demands among diverse systems. These systems are frequently developed in isolation, leading to disjointed functionalities and the need for significant investments when attempting to establish connections. The conventional

approach involves crafting bespoke APIs or connectors to bridge these gaps, leading to escalated costs and resource requirements. However, a more efficient solution lies in prioritizing reusability. Enter the Axonect API Manager (APIM), a robust remedy that not only facilitates the generation of shared APIs but also offers a collection of pre-designed integration adapters, easing the linkage between legacy and modern systems. These adapters span a range of industry-standard protocols, encompassing communication networks, social media platforms, and operational systems, thereby streamlining the integration process while optimizing cost savings.

For efficient development and seamless integration, the Axonect APIM boasts a dedicated Development & Integration Sandbox. Within this controlled environment, developers can meticulously test APIs, adapters, and integrations, ensuring compatibility, identifying issues, and refining solutions prior to deployment in the production environment. Complementing this, the solution features an API Catalogue (API Store) that simplifies the discovery of essential APIs and services, thereby elevating the efficiency of the development process. By amalgamating the principles of reusability, pre-built adapters, a comprehensive development sandbox, and a user-friendly API Catalogue, the Axonect APIM deftly tackles the financial complexities of digital asset integration, emerging as a holistic remedy for enterprises in pursuit of smooth and cost-effective system integration.



## Lack of Clarity and Process can Lead to too Many Unknowns

When organizations grapple with the challenge of integrating multiple systems into a cohesive and efficient ecosystem, their lack of familiarity with large-scale integrations often hinders their progress. The complexity arises from uncertainties around API management and the optimal utilization of APIs for smooth system integration. This entails selecting the right APIs, developing them cost-effectively, ensuring security during integration, and proficiently handling them. A clear grasp of the integration process and established implementation procedures is crucial, as without these, organizations can become overwhelmed, unsure about the necessary steps and their timing.

APIM, exemplified by Axonect APIM within the ADL product suite, offers a robust analytics dashboard and reporting system that furnishes comprehensive insights and visualizations. The dashboard facilitates real-time monitoring of key performance indicators, metrics tracking, and data analysis. Through interactive charts, graphs, and visual representations, users can discern trends, detect patterns, and derive data-driven conclusions. This potent tool empowers organizations to deeply comprehend their business operations, pinpoint areas

for enhancement, and optimize strategies. Concurrently, observability grants operational teams access to real-time data, enabling performance monitoring and efficient troubleshooting. Furthermore, Axonect APIM aligns with ADL's tried-and-true product suite, incorporating industry standards and customer feedback to yield reliable results. This amalgamation facilitates a systematic, structured approach to operations, ensuring consistent and favorable outcomes. Leveraging the analytics dashboard and reports, organizations can not only monitor key metrics and discern trends but also implement a proven framework that augments efficiency and cultivates consistent achievement.



## Lack of Governance and Control can Take You to Uncharted Territory

Effectively managing digital assets has become an intricate and critical endeavor, often overlooked by organizations, leading to financial setbacks and operational challenges. The lifecycle of digital assets, involving stages like onboarding, tracking, upgrading, depreciating, and retiring, demands careful attention. However, many entities underestimate this importance, resulting in untimely asset utilization, missed upgrades, and inadequate end-of-life asset analysis. Axonect's API Manager addresses this

issue by offering permission-based self-service admin portals, granting administrators full control over the API lifecycle and version management. This empowers organizations to efficiently manage their systems and define user roles and permissions. By enabling real-time changes to access privileges, the burden on IT teams is lessened, operational efficiency is boosted, and security is enhanced.

Complementing the admin portals, Axonect's solution includes robust real-time traffic monitoring capabilities. This feature provides organizations with immediate insights into API performance and usage,

facilitating the identification of bottlenecks, adherence to service-level agreements, and informed infrastructure optimization. With proactive issue identification, seamless operations are assured. Moreover, the solution excels in high-performance data capture, effectively processing extensive data volumes generated by API interactions. This capability ensures accurate and timely information availability, empowering organizations to extract valuable insights, enhance service offerings, and make well-informed, data-driven decisions that optimize overall operations and customer experiences.



## Features and Functionalities of Axonect **API Manager Suite**

### **Efficient API Management for Consistency**

The API management module offers a comprehensive solution for managing the entire API lifecycle, including design, creation, publication, exposure, and security. It comprises various components like Developer Portal, API Publisher, Admin Portal, and Security Controller. Users can easily design APIs from scratch or import existing OpenAPI specs. The platform provides pre-built telco connectors and compliant APIs. The API Publisher simplifies publishing to developer portals and marketplaces, with strong built-in security measures. This module accelerates API development, enhances visibility, and ensures secure data exchange, fostering efficient integration between different software systems.

## **Sophisticated Developer Portal to Make Development Easier**

Axonect's API Manager Platform offers a comprehensive solution for developers looking to find and assess APIs. It simplifies the process of API discovery by providing an extensive catalog of APIs, along with detailed documentation, code samples, and use cases. This platform empowers developers to choose the right APIs for their goals, unlocking innovation in application development and enabling them to create advanced solutions that harness the potential of APIs.

## **Centralised Administration for Easier Management**

Axonect's Admin Portal is a robust tool for streamlined administrative task management. It offers a user-friendly interface to configure and monitor approval workflows, along with the ability to send notifications based on predefined conditions. This leads to enhanced organizational efficiency by automating custom approval processes and ensuring timely communication. The portal simplifies decision-making and task management, making it an effective solution for handling administrative duties.

## **API Security & Access Control for Ultimate Security**

Axonect prioritizes top-tier security for API access, offering strong authentication and authorization features. Developers using Axonect API Manager can employ various authentication methods, including OAuth 2.0, API keys, OpenID Connect, Mutual SSL, and JSON Web Tokens (JWT), bolstering access verification. This approach enhances API security, reduces unauthorized entry risks, and safeguards sensitive data. Moreover, Axonect APIM provides robust authorization through Role Based Access Control (RBAC), enabling precise control over user/entity access levels. Fine-tuned permissions and role-based controls restrict specific actions/resources to authorized users, thwarting potential misuse. Axonect's comprehensive security options empower developers to establish a solid API security foundation, ensuring endpoint protection and safeguarding data integrity, thereby inspiring confidence and deterring security breaches.

## **Improved Traffic Management for Effective Resource Utilisation**

Axonect offers extensive customization options for traffic management across different levels such as application, subscription, resource, burst control, and API. This flexibility empowers organizations to tailor their traffic management strategies to specific needs. They can set conditions like request rate limits, concurrency limits, and quotas based on usage patterns to optimize API performance, enhance security, and ensure fair resource usage. When used for monetization, API utilization limits



simplify traffic management. At the network level, Axonect enables users to define settings like load balancing, traffic shaping, and rate limiting to ensure optimal network performance and stability by considering factors like bandwidth, latency, and server availability.

## **Cloud Agnostic Deployment Options through Micro Services Support for Seamless Cloud Deployment**

Axonect offers versatile deployment options that are independent of specific cloud platforms, enabling organisations to deploy applications and APIs across a range of cloud environments. This flexibility extends to both on-premises and various cloud setups, such as hybrid and multi-cloud deployments. By allowing users to choose from different cloud providers like AWS, Azure, and Google Cloud, Axonect avoids vendor lock-in and supports smooth migration and scalability. Its cloud-agnostic approach ensures compatibility and consistency, fostering seamless integration while eliminating limitations imposed by cloud vendors.

Moreover, Axonect fully embraces the microservices architecture, empowering developers to create, implement, and manage applications as a set of modular and loosely interconnected services. This approach enhances maintainability, scalability, and fault isolation, promoting agility and rapid adaptation for organisations. Additionally, the platform includes micro-gateway functionality within APIM, enabling lean API Gateway instances to provide governance and security for microservices, based on predefined conditions. By combining cloud agnosticism and support for microservices, Axonect empowers organisations to harness the advantages of cloud computing while accommodating the dynamic demands of modern business environments, ensuring efficient application development and deployment.

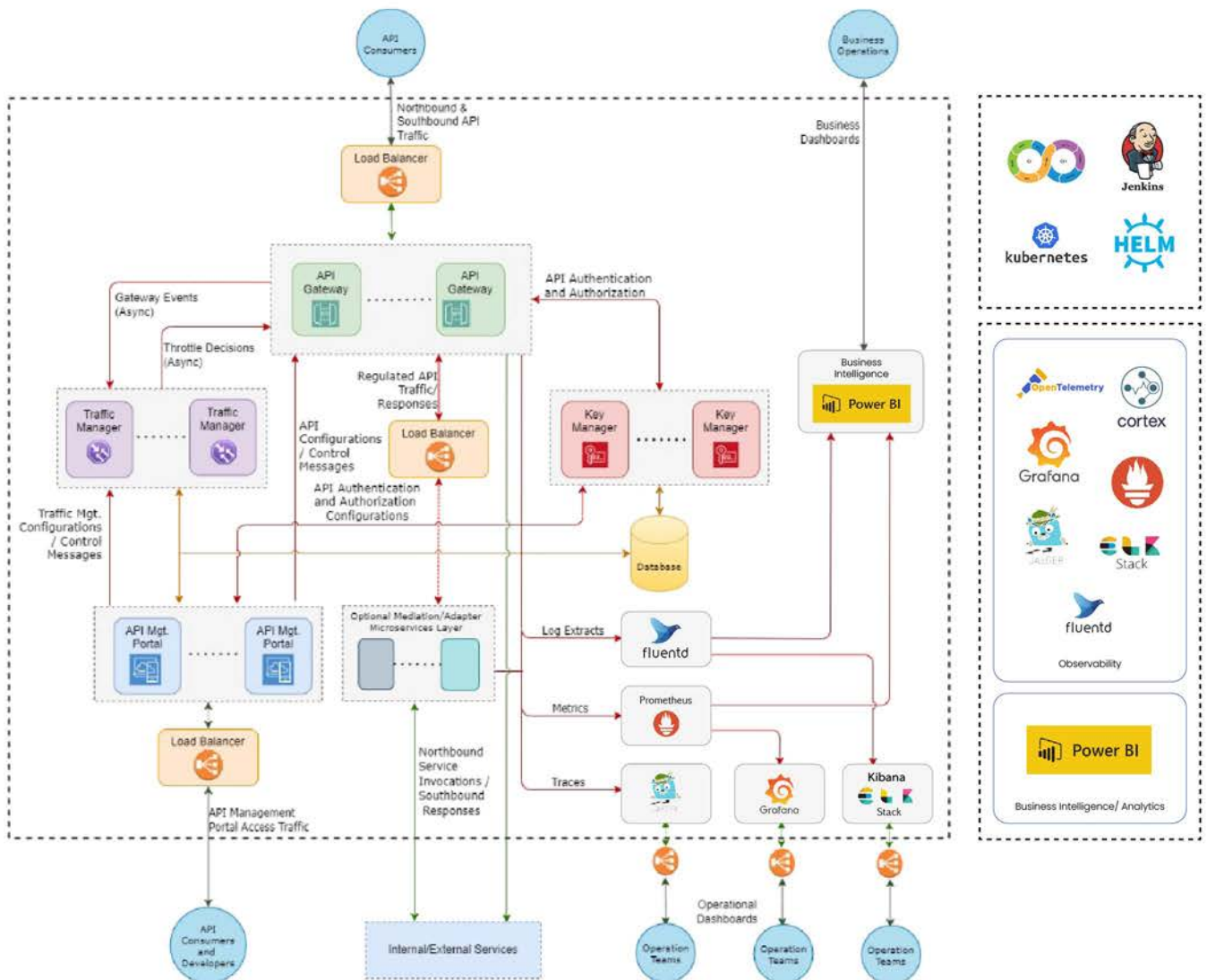
## **API Monetisation for New Revenue Streams**

Axonect provides a comprehensive solution for organisations to manage API requests and generate revenue through customised business plans. These plans encompass a variety of pricing models, subscription levels, and usage-based billing strategies, allowing for tailoring to specific requirements like free trials, tiered pricing, and premium features. This adaptability aligns API monetisation with business goals, stimulating revenue and maximising API value. With adaptable request management and business plans, Axonect empowers organisations to optimise API usage, enhance revenue, and offer a personalised experience for users, ultimately contributing to overall business success.

# Analytics, Insights & Traceability for Better Decision Making

Axonec provides robust monitoring features encompassing log analysis, message tracing, and system metrics collection. This enables organisations to comprehensively track transaction activities, including API calls, user interactions, and data exchanges. This thorough audit trail ensures transparency, accountability, and compliance with regulations. Moreover, it facilitates efficient troubleshooting and forensic analysis for prompt issue resolution and minimal operational disruption. Axonec's monitoring capabilities also empower proactive system and network performance monitoring, providing valuable business insights for well-informed decision-making. By utilising these features, organisations can maintain excellent performance, ensure service reliability, and deliver a secure and seamless experience to API consumers.

## Architecture





“ For numerous years, Amdocs has maintained a fruitful partnership with Axiata Digital Labs, primarily cantered around their exceptional AXP product. Our collaboration has been instrumental in delivering top-notch solutions and unwavering support throughout the pre-deployment and post-deployment phases. The API Gateway, a key component of AXP, has proven to be the perfect fit for our large client in Indonesia, enabling us to serve over 20 million subscribers with utmost stability. As we move forward, we eagerly anticipate continuing our work alongside the talented ADL team, driving joint success in this ongoing engagement.



**Vikas Gupta**

Global Lead for Processes and Optimization  
Amdocs

“ In today's world, the agile mindset has become an integral part of everyday life. The agile manifesto, with its core values and principles, plays a crucial role in enabling teams to achieve quick and efficient deliveries. The Axiata team working on the Bizao project exemplifies the perfect combination of practice and theory. Their adept use of various SCRUM ceremonies, coupled with the digitization of activity monitoring through shared tools and deliverables, ensures the smooth delivery of functionalities within the specified constraints of costs, deadlines, and scope. Thanks to their commitment to agile methodologies, the team consistently achieves remarkable results, making them an inspiration for others in the industry



**Sythian Dosso**

Head of Products  
Bizao

## About Axonect

Axonect is a suite of Digital Transformation products designed for the telco industry that enables MNOs to rapidly develop and deploy new services, positioning telcos to become more agile, innovative, and efficient. Axonect enables MNOs accelerate the journey from Telco to TechCo. Axonect boasts of a combination of innovative products built by telco specialist digital engineers to deliver cost-effective solutions to our clients.

Axonect enables telcos to reduce costs, rapidly launch new services and scale their operations to meet evolving customer needs.



CONTACT US

 axonect



info@axonect.com



axonect.com