RogueWave SOFTWARE

Akana

API essentials for every stakeholder

SUCCEED WITH A DIVERSE API STRATEGY

APIs, by virtue of their openness and utility, tend to touch many areas of an IT organization. As a result, API success usually means devising an API strategy that will serve the diverse needs of people in various roles who rely on them. The right tooling for API design and management are essential to ensure that all roles feel served by the API strategy. This can be as much an organizational issue as a technical one.

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This paper reviews some of the key players who have a stake in API strategy, including API designers, integration developers, API product managers, operations leads, security architects and enterprise architects. It looks at how an API platform (or platforms) can address the distinctive needs of each role as they come to devise and implement an API strategy.

The challenge

How does a group of IT professionals in diverse roles come to a decision regarding the right API tools? Figure 1 shows the main roles that are affected by the choice of API platform. Each role faces specific demands from internal customers. APIs are core to many of the most pressing workstreams for each team.

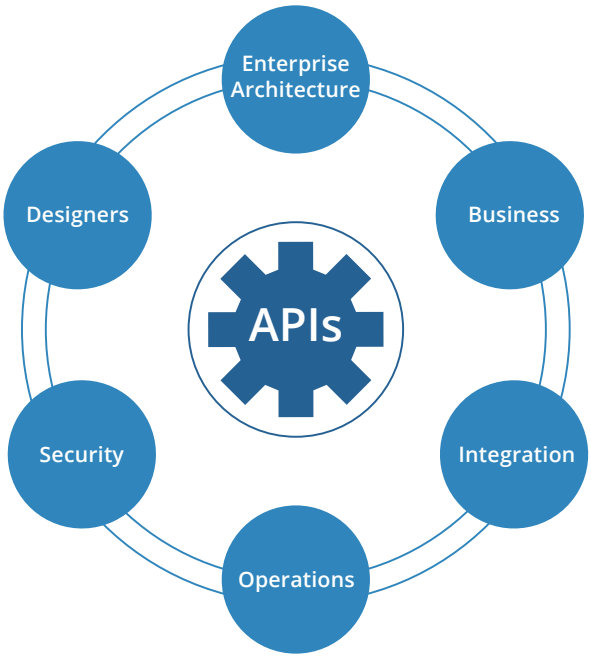

Figure 1: The people and teams that work with APIs. Each has their own

A large organization will have an ecosystem of teams involved in trying to interact, cooperate and agree on an API strategy. In contrast, a smaller will have a small group or even one person that is responsible for managing everything related to APIs. However big the organization, though, the selection of an API platform hinges on buy-in from decision makers who understand the reward of implementing API as a proven and essential business tool.

The competitive global business environment sets the context for the selection of an API platform. To be competitive, many businesses today are connecting with customers through systems of engagements as enabled by APIs. Examples include new mobile apps, customer-facing web applications and Internet of Things (IoT) systems. These all have very fast lifecycles, as teams need to respond quickly to the demands of their business. The APIs involved connect critical information systems with data assets. Some systems are proprietary and legacy. Others are brand new.

The solution: Support each role involved

The API strategy, as realized through an API platform, must support each role in order to succeed. The support has to track across the complete API lifecycle, from design to deployment. As part of the process, the API might best be viewed as a product with its own customer-facing characteristics. Security is non-negotiable. From this perspective, the following sections discuss how API management tools can realize the needed support for each role. The Akana API Management solution serves as a reference point.

API designer

The API designer typically recommends development tools. Given the prominence of design as the first stage of the API lifecycle, the API designer has significant influence over API design and development tool choices. To design a proper API, the designer or software developer always wants flexibility in choosing tools and the freedom from being locked in to API description languages. The Akana API Management solution makes this possible.

By having the API Description Language (API DL) specification automatically generated, the designer will not have to have detailed knowledge of changing the ever changing API DL and will be able to concentrate on other priorities.

It is implicit that the designer focus on the API design. Figure 2 shows what this looks like in the Akana user interface. There is no need for the designer to become an expert on any API description language specifications. Akana will take care of that for him or her.

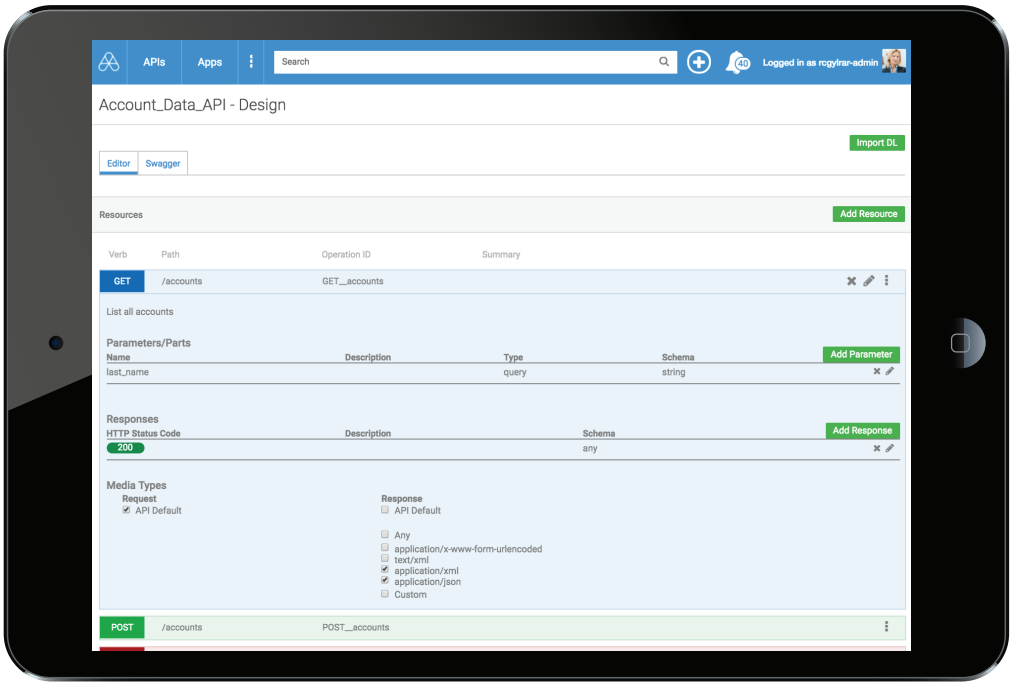

Figure 2: Focus on your API design. There is no need to be an expert on any API DL specifications. We take care of that for you.

In the designer's world, flexibility, creativity and ownership are key. Akana gives designers freedom to design and document APIs in the new graphical designer that supports markdown. Designers can import Swagger, RAML, WSDL, or WADL and then continue editing in the graphical designer. The design team then has the freedom to export Swagger, RAML, WSDL, or WADL to use with their favorite client side or server side code generators and IDEs. Additionally, designers can manage the API JSON and XML models.

Integration developer

The integration developer and development team are concerned with consumable APIs with ease of use and seamless integration. Their goals are to quickly transform SOAP to REST, as a declarative mediation out of the box and be able to rapidly compose new API services from several sources. It is essential for the integration developer to easily be able to redact confidential data and make sure that everything works in harmony. Thus, the integration developer will have the luxury of deploying new mediations in days instead of months.

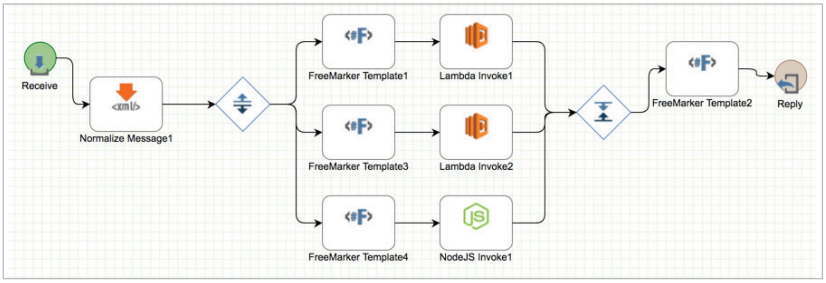

Figure 3: Rapid delivery for integration developers — deploy new mediations in days, not months.

Integration developers are provided with security policy mediation, to mediate between REST APIs, using OAuth to a SOAP service with sophisticated WS-Security Policies. Integration has the power of orchestration by creating APIs from scratch by integrating multiple services together. While orchestrating several APIs together, the integration developer can leverage the slit and join functionally that enables APIs to be executed simultaneously in separate threads to improve performance. Another benefit is the ability to transform and map content from one object type to another with both declarative (XML<> JSON) and prescriptive (XSL-T, FreeMarker). Finally, integration has the ability to decide on how to script; to write and deploy code in Python, Beanshell, Java, or JavaScript to augment policies or orchestrations.

API product manager

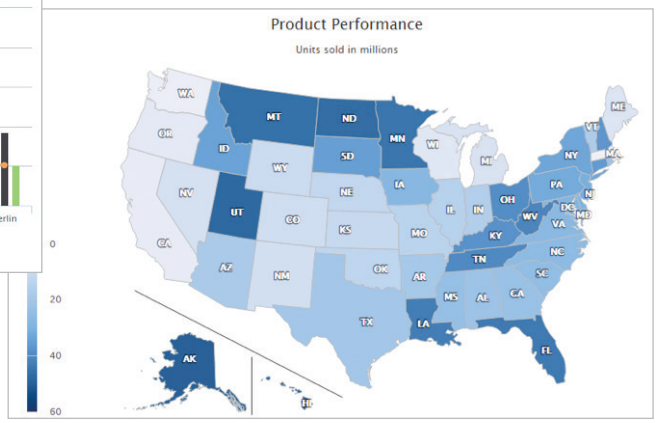

Figure 4: Have a complete global view over your API business with operational, consumer, and business analytics.

The API product manager is responsible for creating a valuable product offering to match the corporate strategy. This may be a new way of thinking about IT assets, but an API is essentially a product that can be acquired and used by customers and partners. As such, it requires product management. Tactics include managing the provisioning of services and creating a clear channel of communications with developers. The product manager will be the hub of integration, responsible for "the business of the API." This includes generating businesses progress reports.

The API readily offers production tools for the API product manager to create a community experience for each consumer segment. This includes internal and external partners. The product manager will have the power to streamline partner onboarding
to launch the first transaction in a matter of days and not months.

The product manager is given the following capabilities to streamline the process:

- Socialize through configurable developer tools
- Document APIs with auto generated Swagger docs and add addition supporting documents and media
- Monetize with licenses and SLAs
- Provision app keys and secrets with configurable workflow
- Test with the inline Swagger documentation testing tool complete with security
- Client code generation enabler through exporting of the appropriate API Description Language for APIs
- Search and filter across all artifacts in the developer portal with full index capabilities
- Groups to enable API segmentation
- Boards for new requirement requests, defects, and community support

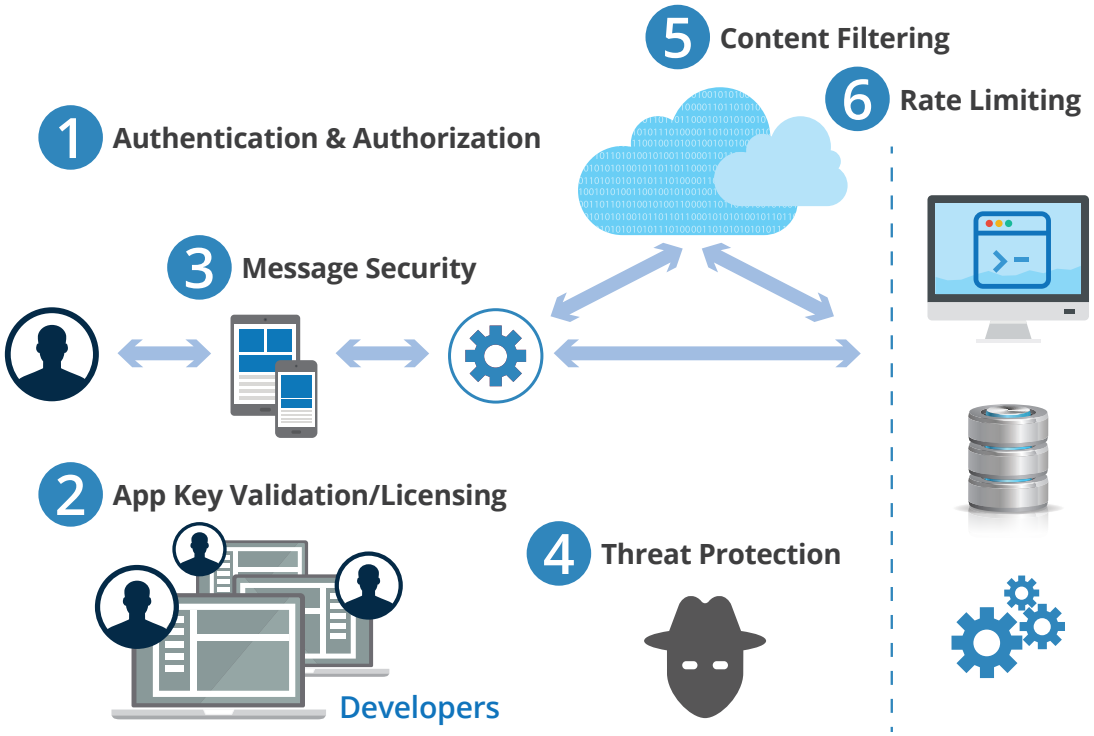

Figure 5: Reduce risks by consistently applying and managing security policies.

Security architect

Security. The word itself evokes layers of reaction. The security architect needs every assurance that integrating external systems will be secure. He or she usually wants to proactively monitor all the latest threats and have up-to-date threat protections, not only of internal data but also of outside threats. The API provider must build in vital security mechanisms and expertise to protect the client.

For the security architect to be comfortable with current real-time API security standards, there must be integration with legacy standards and the power to quickly respond to potential bad actors and system hacks. The security architect needs to think of the complete channel from the client all the way through to the backend systems. The API management vendor should be a partner in API security managing the complete channel, keeping the security architect up to date in this very fast-paced environment.

A common challenge exists where a client may not have one dedicated cyber security employee. There is usually a team drawn from various parts of an organization with security being just one piece of professional tasks and responsibilities. This should be taken into account when presenting enterprise API as the next logical step for companies aware that they must keep evolving in the ever-changing tech world.

Operations lead

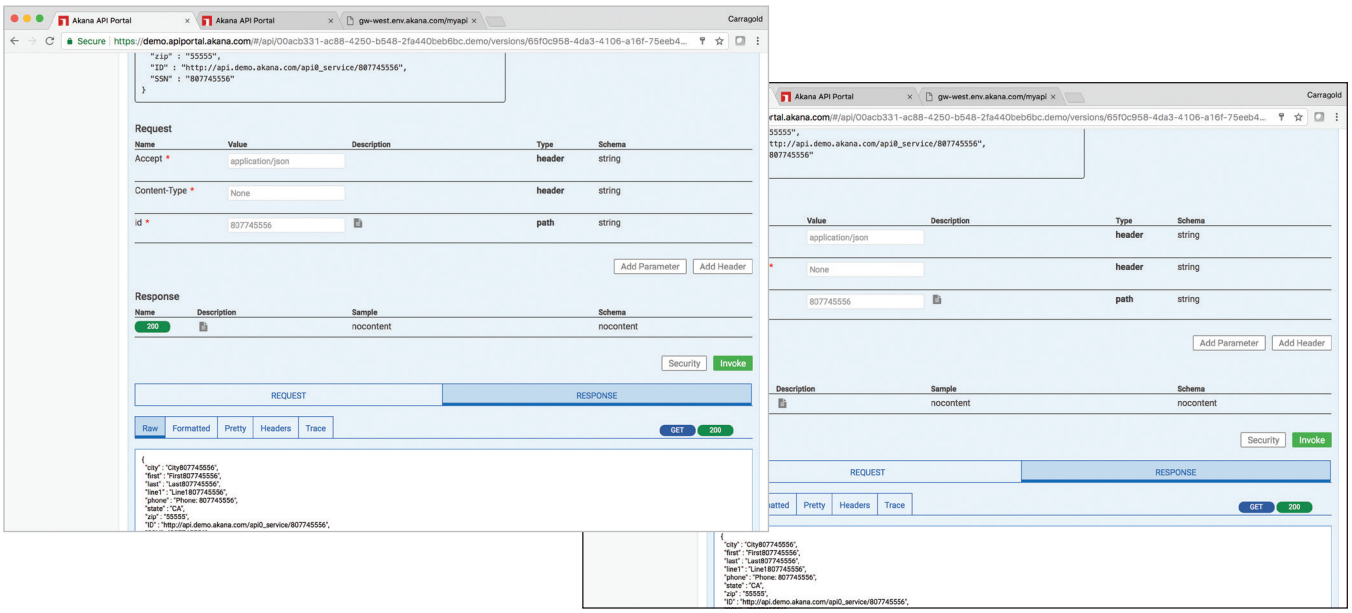

Figure 6: Configurable traffic shaping for your API operations lead. Shape traffic through configurable policies and have it immediately take effect once applied to your APIs; receive alerts.

The operations lead is concerned with protecting backend services. Operations will also be concerned with enforcing service level agreements, SLAs, (set by the product manager). Priorities will include being able to scale globally and being able to manage and monitor the distributed environment. Operations will find tangible benefits in shaping traffic through configurable policies and having it immediately take effect once applied to their APIs.

Operations will establish, monitor, alert and enforce multiple service level agreements and will receive critical and actionable alerts when SLA policies are nearing their threshold. The API operations lead can shape traffic through configurable policies and have it immediately take effect. Once applied to the APIs, policies can have the power of throttling by controlling just how much traffic each app can send to an API with throughput, bandwidth and concurrency policies for each app.

Akana provides SLA reporting and enforcement by empowering operations to define, monitor, alert and enforce service level agreements for each app consuming APIs. The platform gives operations free rein for global traffic management. This essential segment of the business can then globally deploy API endpoints using the Akana GTM solution to route traffic to the closet endpoint.

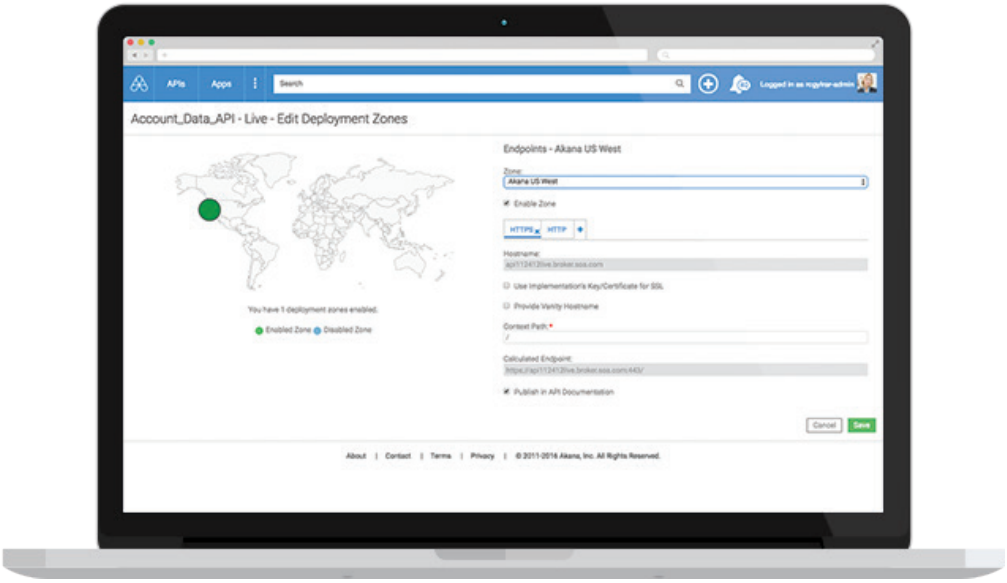

Figure 7: Scalability and deployment flexibility – choose one or more deployment zones that fit your company's needs. Akana enables scaling from there.

Enterprise architect

The enterprise architect is responsible for establishing the architecture for the entire enterprise for all the API strategies. In a large enterprise, there is a likely possibility that there may be several different API initiatives functioning across different lines of business. With this sort of involved environment, the enterprise architect has to feel comfortable that the architecture in place can be scaled easily. The interface for managing the architecture should be simple to use regardless of how complex the architecture might be. The architect will want enterprise API management that can simplify their architecture and reduce costs. Most importantly, the enterprise architect must ensure the compliance and the auditability of the solution.

In order to achieve control and auditability for the enterprise architect, Akana provides asset version control, which is a fully customizable workflow for APIs, apps, and other assets. The system allows for multilevel approvals as needed, with full decision auditing. Agility comes from DevOps, but Akana provides the control to let the enterprise architect know where and how fast to go, to ensure the architect is driving business in the right direction to avoid hazards.

Akana offers the enterprise architect DevOps automation, deeply integrating with common DevOps platforms such as Jenkins, JIRA, and GitHub. Akana provides asset relationship visualization, determining how assets (requirements, models, schemas, service, APIs, apps, etc.) relate to each other, and to fully understand the potential impact of any change.

The Akana API Management solution

The Akana platform provides an end-to-end API management solution for designing, implementing, securing, managing, monitoring, and publishing APIs.

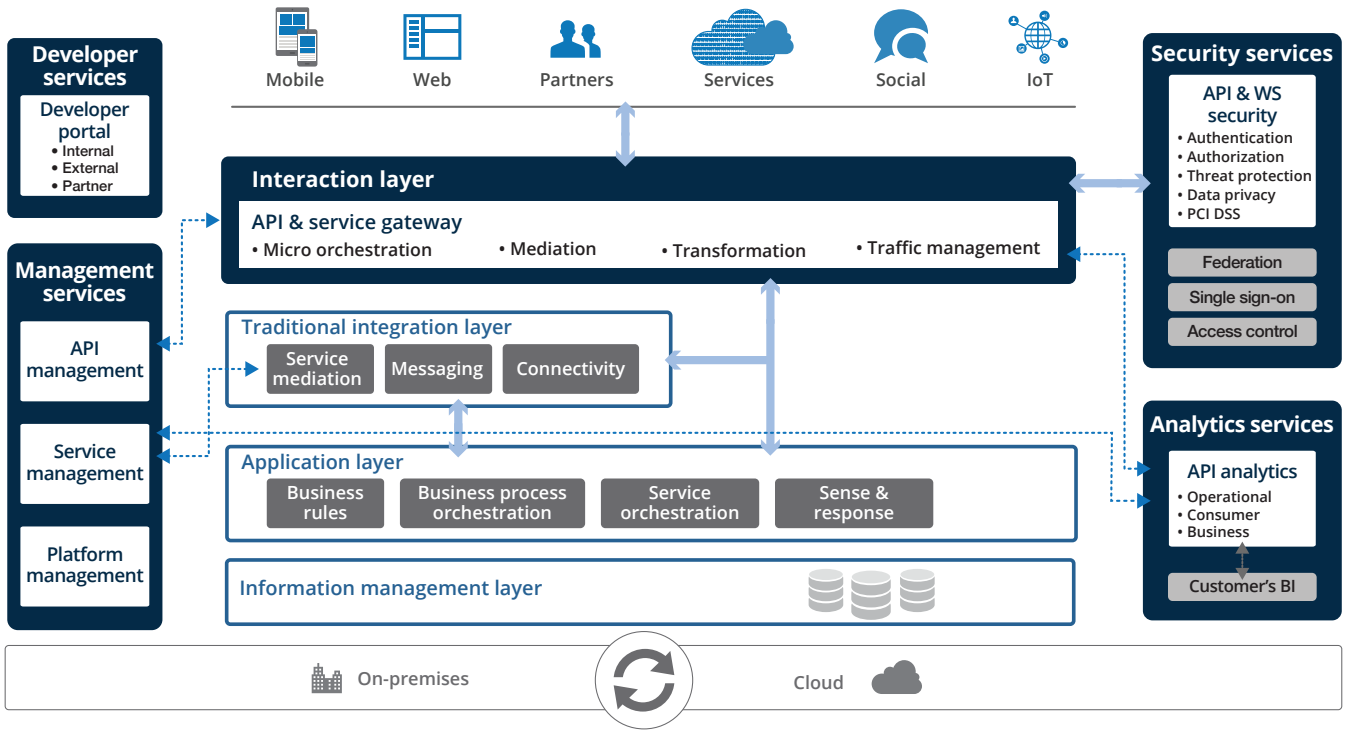

Figure 8: How Akana fits into your existing architecture.

The platform has been broadly adopted at major enterprises, especially in the financial sector. Four out of the 5 top US Banks use the Akana platform for API management and security.

- **Comprehensive API design platform** – You can use a graphical tool to design your API from scratch or you can import API descriptor language of your choice. Once you have your design complete, the platform will then automatically generate all the common API descriptor documents for you.
- **Security** – The Akana platform lets you secure your APIs, protecting sensitive data while allowing access to authorized apps and users.
- **Traffic control** – Control the flow of traffic through your APIs with a rich set of routing and quality of service capabilities.

- **Seamless mediation capabilities** – Create modern, well-structured APIs from legacy assets with ease. It provides declarative mediation out of the box and includes a comprehensive orchestration capability where needed to create APIs from multiple backend sources.
- **Turnkey developer portal** – The developer portal provides a social platform for API developers to design and document their APIs, and app developers to find and consume APIs. The Akana platform is ideally suited to connect with different audiences.
- **Powerful analytics engine** – Built using a massively scalable, globally distributed noSQL store that is architected to meet international data privacy standards, click here for more information on our analytics capabilities.
- **Fully-featured lifecycle management system** – This helps ensure that you are building the right APIs, that you are building them correctly, and that they are meeting the needs of your business.

Conclusion

A successful API strategy depends on how well the needs of each unique set of stakeholders are addressed by API lifecycle processes and API management tooling. To work, an API strategy must fit with the responsibilities and goals of API designers, integration developers, enterprise architects, security architects, API product managers, and operations leads. Each role has specific requirements for an API management platform. The Akana API management platform is known for providing an effective mix of capabilities and flexibility. As demonstrated in enterprise deployments, Akana is able to fit the unique and demanding needs of each of the major roles that influence API strategy.