ORACLE API MANAGEMENT

A new wave of innovation is revolutionizing enterprises as mobile internet users exceed internet desktop users. This wave is very similar to the innovation that occurred in the nineties when omnipresent high-speed internet connectivity changed the game and every company rewired IT for a web presence, started business transactions on the internet, and brought in completely new revenue streams. This time around, businesses are looking at leveraging their existing and new investments in integrated IT across multiple channels that include not only the existing internet based browser-centric model, but more importantly, cater to mobile device users. In addition, new opportunities to leverage these assets with third party sources, allows for innovative solutions and new operating models. Application Programming Interface (API) Management enables organizations to selectively externalize their existing IT assets via APIs across various channels and capitalize on this new wave of innovation.

Defining your API Strategy

Organizations are looking to expose their valuable IT assets to monetize through multiple channels and are looking for a fast way to get there. API Management begins with developing a strategy to identify what IT assets can be exposed externally to tap into new revenue streams and increase brand awareness. There are two approaches to bear in mind when developing this strategy – content and capability.

Content Based Strategy

Organizations may choose to share content that is specific and unique externally. This approach is advocated when one of the following reasons seem relevant to the organization:

- Content is valuable – when organizations create content, which is of high value, this approach may be the best choice. For example, media companies generating news or life sciences companies with research results that consumers are willing to pay to access. The company that owns the data can choose to expose APIs through which the data can be accessed. Consumers of the API may leverage this data in their own applications. A subscription model or collecting royalties to leverage the data are ways to monetize on this strategy.

- Good will – when organizations want to help the public, they may choose this model and give the content away for free. For example in the public sector, a city may choose to publish an updated list of available parking through an API. Third parties can then leverage the API to build applications on mobile devices so drivers can quickly find parking spots on the go. The resulting increase in parking fees can bring in more revenue. Lesser parking violations and the convenience of finding parking will drive more citizens to visit the city. The city gains indirectly as local businesses flourish from the better citizen experience.

- Content as a means to deliver capability – organizations may choose to give content
Oracle API Management exposes and manages specific functionality in applications in a secure manner. It provides end-to-end lifecycle management of APIs. Through a centralized repository, policy enforcement, and tracking of key performance indicators, the solution provides the foundation required to deliver business value.

**Related Products**
- Oracle API Gateway
- Oracle Enterprise Repository
- Oracle Service Bus
- Oracle SOA Management Pack

**API Management – Under the Covers**

An API is a valuable asset which when put into the hands of partners and creative mobile application developers, has the potential to drive business value. API Management allows organizations to realize the value of these assets by unlocking their potential. It flattens the world of IT operations and removes boundaries to include external participation, providing an opportunity for unprecedented collaboration across products and services. This harnesses previously unknown or under-developed customer opportunities and ultimately delivers new revenue streams. It can raise the bar for innovation and put a front end on your enterprise across different mobile devices and channels. It has the power to transform your enterprise by scaling developers and consumers without traditional organizational limits.

However, API Management is a lot more than just solving the “last mile” access challenge to an asset. To truly leverage the value of these traditionally private assets across all of the modern channels and to ensure long term sustainability and business value, it is imperative to consider the underlying issues that need to be addressed by API Management. There are two lifecycles to consider when exposing a business asset for external consumption.

**Internal Lifecycle of an API**

The first lifecycle is the way in which business assets are built out and managed. For any application, especially when the audience is an unknown third party, high availability, throughput and reliability of the asset has to be guaranteed. In addition, the organization may choose to scale out and offer more APIs, in which case, reuse and eliminating duplication becomes important. As the organization matures, the underlying infrastructure of the business asset changes, while requiring zero down time from the API. Decommissioning an API is another aspect that needs to be considered, when the business decides to replace an existing API or expand functionality or decide to close it down. Exposing the APIs requires the internal infrastructure to be well designed and service oriented, hiding the underlying complexity from the end user and exposing exactly what is needed for consumption. It requires tools that encourage collaboration and teamwork that is necessary to create the assets.
External Lifecycle of an API

To succeed with exposing an API externally, several factors need to be considered. Security of the business assets is the first concern as the external consumers may be developers from any organization – customers, partners or just third parties wishing to leverage your APIs. The protocols of communication, though universally accepted across different channels, are still very new and not yet necessarily standardized. It can be frustrating for the consumers of the API, if the service does not match their expectations in terms of how the API handles security or errors and as a result the adoption of the API may suffer. In addition, if the consumer of an API chooses to consume from more than one API source, this lack of standardization is compounded. As a result, APIs require meaningful documentation, best practices, samples and continuous support and communication. API Management needs to deliver on all of this and, in addition, a trust and collaboration based developer community needs to be fostered so there can be an exchange of ideas, support and innovation. API Management should allow cross-company collaboration and allow setting and management of access rights.

API Management should provide the means to analyze business gains in increasing top-line revenue when required. API Management should assist in defining and analyzing key performance metrics and feedback into improving the APIs. It should justify improving brand awareness and quantify developer as well as consumer adoption.

Get Started with Oracle API Management

Oracle provides a complete API Management solution that ensures success with exposing APIs both within and outside your organization. It provides role focused user interfaces, complies with standards, and delivers on business value.

The following steps outline how to get started with API Management, as soon as specific functionality is identified that needs to be exposed in your applications.

1. REST/JSON-enable APIs with Oracle Service Bus Representational State Transfer (REST) and JavaScript Object Notation (JSON) have emerged as the predominant web and mobile application API model. Expose underlying infrastructure which may be traditional SOAP services or EJBs or just about any other underlying implementation using JSON/REST by using Oracle Service Bus.

2. Publish and Secure APIs with Oracle API Gateway Oracle API Gateway acts as a control point for managing how internal users and application assets are exposed and reduces security risks. It allows enterprises to leverage their existing Identity and Access Management investments by extending authentication authorization and risk policies to mobile, cloud and enterprise applications – without changing backend applications. It helps manage APIs (support for OAuth, REST API security and JSON) and centrally protect and manage API Authentication Keys.

3. Manage API Lifecycle with Oracle Enterprise Repository Support API lifecycle management with governance controls and automation from planning, design and development of APIs to consumption and eventually end-of-life. Leverage built-in best practice templates. Publish consistent and meaningful information to your developer portal. Help support both external and internal lifecycles of the API.

4. Monitor and Manage your APIs with Oracle SOA Management Pack Easily correlate and track events and activities at the developer and API level to understand adoption and measure business value.
Oracle API Management Provides a Complete Solution that can Minimize Efforts and Maximize Value

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<th>Features</th>
<th>Capabilities &amp; Benefits</th>
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<tr>
<td>Lifecycle Management</td>
<td>Coordinate end-to-end lifecycle setup of APIs across the infrastructure: definition, creation, security, monitoring and management. Includes error handling, version management and document sharing and control.</td>
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<td>Catalog APIs</td>
<td>Selectively setup, externalize and catalog available APIs. “Living” repository to capture, share, control &amp; change manage APIs &amp; underlying artifacts through the lifecycle.</td>
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<tr>
<td>REST/JSON enable services</td>
<td>Coordinate the setup and exposure of APIs across infrastructure components. REST-enable new and existing services with ease. Efficiency, reuse and consolidation for APIs.</td>
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<td>Policy Management</td>
<td>Consumer contracts, provisioning and identity management. Systematic enforcement of policies and production assurance of SLAs.</td>
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<td>Mobile Integration Support</td>
<td>Expose existing enterprise applications on mobile devices.</td>
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<td>Publish and Secure Services</td>
<td>API exposure/consumption and security. Consumer contracts, provisioning, and identity management.</td>
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<td>Developer Centric User Interfaces and Community Development</td>
<td>Coordinate on-boarding of developers. Enable building and sustaining developer communities.</td>
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<td>Monitoring and Management</td>
<td>Developer specific usage reporting. End-to-end control and visibility.</td>
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Contact Us
For more information about Oracle API Management, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.