



Highlights

- Design new APIs rapidly from business assets or from cloud services
 - Control, better-secure and optimize access to your APIs
 - Extend the value of your assets by socializing your APIs to developers
 - Manage APIs from a business perspective with analytics and metrics
 - Simplify operational management of APIs with environmental control
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IBM API Management Solution Version 2.0

Design, manage, socialize and better-secure your APIs

The way that you work with customers, partners and employees is changing. The proliferation of mobile devices such as smartphones and tablets, along with the growth of social technologies, is creating opportunities for business leaders to generate revenue and to extend the “reach” of their brand. Customers expect to access information and services anytime, anywhere and through many channels. To address these opportunities, leaders are opening up their data and services by exposing them as web APIs. A web API management solution is imperative to the success of externalizing core services.

The IBM API Management solution provides you with a complete set of web API capabilities to help extend your “reach” beyond the enterprise and to encourage innovation within the enterprise. This IBM solution enables the four most significant entities in the API economy: API product managers, API providers, IT operations and application developers. The solution can be deployed fully on-premise in your data center. Rapidly orchestrate and design new web APIs, better-secure and manage the web APIs, socialize the web APIs in communities and gain business insight through detailed analytics.



Designing new APIs rapidly from business assets or from cloud services

Most organizations possess a “goldmine” of potentially high-value information assets such as product catalogs, customer records and risk profiles. The assets, data or services of a company can be provided to application developers (internal and external) to increase productivity, expand the business or to open new markets through web application programming interfaces (APIs). Your organizational assets require a simple interface to prepare them for exposure as APIs. With the API Manager user interface provided with IBM API Management, you can transform these assets into lightweight APIs that conform to Representational State Transfer (REST) constraints—and you can accomplish this through a simple configuration, no-coding mapping exercise. The API Manager provides multiple connectors such as a SOAP-to-REST, IBM® DB2® database software, Microsoft SQL, Oracle DB and HTTP Connector. You can use these connectors to help create APIs from the existing assets. If you already have an existing RESTful API that you wish to expose and control, you can easily define that in the API Manager in a matter of a couple of clicks.

IBM API Management supports iterative development of APIs with the ability to create versions and to revert to prior versions. You can make changes dynamically to an existing running API implementation, and the implementation then can be pushed and activated on the runtime with little to no disruption to the consumers. From the API's interface, you can “snapshot” an API version that is a rich source of information about that particular running instance of the API. Access information about implementation in assembly, information about security and information about entitlements to the API's documentation. You can continue to configure the API, run the new version of the API and, if you change your mind, you can revert and

“Within hours, you can deploy APIs that are composed of different back-end resources.”

reactivate any previous version of the API at the touch of a button. This capability makes it possible for you to test minor fixes and push these fixes to production in a manner of minutes.

IBM API Management supports a duplication capability for easier management of new API or new major versions of an API. This duplication function saves you time, because you no longer must completely design and configure similar APIs “from scratch.”

Once you have designed your API and are ready to move it into the next stage in its lifecycle, IBM API Management provides an export capability. You can more-easily package the API and import the API into the next environment such as test, staging and production. This mechanism can be used to share APIs as well.

Controlling, better-securing and optimizing access to your APIs

Security and scalability are critical as company leaders start to expose assets externally using APIs. Not only must leaders protect their enterprise from breaches and attacks, leaders must take action to ensure that their company can grow and can handle the traffic demand when their APIs are experiencing peak loads. A purpose-built gateway—either virtual or physical—is the best approach to handling the security and scalability requirements.

IBM API Management uses the IBM WebSphere® DataPower® Service Gateway appliances as its gateway. IBM DataPower is an industry leading¹ security gateway that provides you with access control, integration and optimized delivery of APIs and other enterprise resources. If you have an existing IBM DataPower appliance running firmware Version 6.0, you can use this appliance as your gateway for your API management solution.

The gateway acts as a policy enforcement point (PEP) for API access and traffic management. You can manage access to APIs using a combination of application ID and, optionally, a secret ID. IBM API Management provides an intuitive way to define application end-user security, which lowers the skill level required to configure HTTP Basic Authentication and OAuth 2.0. The IBM API Management solution provides for simplified configuration of entitlements that control the traffic shaping and that are also used to reflect different levels of API usages for monetization of the API. You can manage these entitlements on a global level and apply the entitlements to several APIs for easy management. Entitlements can be created for each individual API.

The IBM API Management solution exposes a subset of IBM DataPower capabilities through its simplified user experience. IBM API Management provides the access that your team requires to extend the subset DataPower capabilities through the DataPower hooks. The DataPower hooks help you use a more-advanced set of DataPower functions. Through the DataPower hooks, you can perform additional actions such as schema validation, antivirus scanning, message filtering, advanced or custom authentication and authorization message enrichment. By using market-leading DataPower Service Gateway appliances, the IBM approach to API Management gives you confidence that your exposed assets are safer, that your APIs are security-rich and that you have the ability to scale.

In the fast-moving world of API management, the IBM approach is different

- Expect robust security functions supported by WebSphere DataPower Service Gateway appliances.
 - Employ a “configuration, not coding” method for composing APIs and services.
 - Enjoy simpler lifecycle management with version-snapshot capability and the ability to revert.
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Extending the value of your assets by socializing your APIs to developers

After you have defined, secured and established entitlements for the API, you must socialize the API. It is time for you to engage the developer community on a wide scale. Increasingly, developer portals are being used to socialize the API's availability and to foster communication with developer communities. The developer portals communicate important information about your API, such as the API's interface, API documentation and code samples. Typically, the developer portals provide tools that help the app developer to test and try the API—right there in the developer portal, in a matter of seconds. The developer portal is an avenue for app developers to communicate and share experiences with the API owners and with other app developers who are using the APIs. The developer portal essentially becomes your “storefront” for your product APIs.

Take action to achieve rapid innovation and quick execution. IBM API Management provides a branded, customizable developer portal to socialize APIs to customers, partners, and communities of developers, the quickest way to gain instant adoption. You can customize the pages of your developer portal to reflect your company's business and branding strategy. With the IBM approach, app developers discover that they can

quickly sign up to use the API. Developers use the developer portal within IBM API Management to register their applications and to obtain an application ID. The developer can then test the API directly in the developer portal and view analytics about API consumption. With the IBM solution, the developer portal provides hooks into social communities such as Twitter and RSS feeds. To drive mass adoption of your APIs, the IBM team can provide you with access to more than one million developers. [The IBM developerWorks® community](#) includes some of the best minds in app development, located in more than 90 countries around the world.

Managing APIs from a business perspective with analytics and metrics

When company leaders make the decision to expose the organization's business assets through APIs, they should be aware that important customer interactions occur on third-party applications that use the API. As the fastest-growing new business channel, APIs represent a unique opportunity for teams to capture customer insights beyond the enterprise. The more actionable data that you collect, the better you can understand your business and the better you can respond to business conditions that change. If you want to act upon API analytics you must have a way to quickly identify crucial market fluctuations. You must be able to find correlations related to business objectives. These analytics can then also be used to support billing capabilities.

About APIs and apps. APIs are important because APIs enable applications (apps) to have access to data, services and process within your enterprise. In this context, an app is a component of a distributed application that can reside outside the boundaries of your enterprise. A common example is a mobile phone app, but an app can be much more. Apps can run on devices, such as in a car or in a television set-top box. Apps can be a transmitter of data that is gathered from a sensor network such as an electric meter or a pacemaker. Ultimately, an app is any piece of external code that interacts with your published APIs, and APIs can be developed by anyone from corporate developers to mobile customers. When you enable apps, you enable innovation. While you are the sole creator of your own “public” persona (API), you want to encourage the world at large to extend this persona by building apps and making it possible for you to reach markets that you would not be able to reach on your own.

Discover the value of an approach that delivers detailed operational metrics and enhanced analytics. With IBM API Management, you can achieve remarkable levels of “visibility” into the behavior of customers, developers, partners—and even into the behavior of applications. IBM API Management provides operational insight, including information such as:

- Number of calls per API, per app and per app developer
- Minimum, average and maximum response times
- Response time for individual requests
- Details about the request and response messages

Using the included analytic dashboard, you can filter and search through detailed request and response messages. For example, you could find out how many red sweaters were sold in March in Rio de Janeiro, or you could learn how many requests for a loan quote on a BWM automobile occurred in Florida. You can then take action on this information from a business perspective. The filters and search can then be saved and shared among stakeholders.

Simplifying operational management of APIs with environmental control

One of the crucial issues related to application programming interfaces (APIs) is operational management when managing an On-Premise API Management solution. How do you manage all the different API environments that are being requested? How do you define and scale each environment? How do you easily find and fix issues? How do you apply upgrades to your environments without disruption to your service? These are some of the questions that must be addressed by an environmental operator, especially with an on-premise API scenario.

IBM API Management is a fully on-premise multi-tenant solution. The Environment Console user interface is part of the IBM API Management solution. The Console makes it possible for an environmental operator to register new tenants of the API management environment and to monitor the environment. Your operator can scale the tiers of the environment based on the requirements of your organization. You can connect the physical or virtual nodes necessary for your environment, configure appropriate security certificates and configure load-balancing settings. You can add, edit and remove nodes, restart and reboot the nodes and synchronize the environment after completing an environmental restoration. The Environment Console helps you to monitor the status of nodes that comprise the environment. You can view health metrics

that are related to different nodes, such as processor and memory usage, disk space and transaction rate. The Environments Console displays the monitor system alerts and user-interface activity. All these changes can be performed at runtime in a non-disruptive, highly available manner.

Next steps

Investigate the advantages of the IBM API Management solution Version 2.0. Expect integration in the back end that is specifically created to be quicker and easier. Expect to deploy APIs within days or hours. Set your team free to explore new opportunities for profit, without sacrificing your commitment to security.

Read the 10-page ebook

[Web API Management: New Rules for a New Economy](#)

Read the IBM white paper

[Extend, Transact and Optimize with APIs](#)

View the online demo

[How to Create, Socialize and Manage Compelling Web APIs](#)

Why IBM?

Engage a team that can help you generate results quickly. Make the most of today's technologies using proven methods. IBM Software Subscription and Support is included in the product price for the first year.

In August 2013, IBM was named the overall marketshare leader in application services governance by the analyst firm Gartner.² When you work with IBM, you can expect differentiation in the areas of security, API composition integrity and lifecycle management.

For more information

To learn more about the IBM API Management solution V2.0, please contact your IBM representative or IBM Business Partner, or visit the following website:

ibm.com/api-management

Additionally, IBM Global Financing can help you acquire the software capabilities that your business needs in the most cost-effective and strategic way possible. We'll partner with credit-qualified clients to customize a financing solution to suit your business and development goals, enable effective cash management, and improve your total cost of ownership. Fund your critical IT investment and propel your business forward with IBM Global Financing. For more information, visit:

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Software Group
Route 100
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Produced in the United States of America
November 2013

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¹ Lustratus Research, [A Competitive Review of SOA Appliances](#), October 2012

² Gartner, [Magic Quadrant for Application Services Governance](#), August 2013



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