

TIBCO® API Exchange Manager Concepts

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TIBCO Documentation and Support Services

Documentation for this and other TIBCO products is available on the TIBCO Documentation site. This site is updated more frequently than any documentation that might be included with the product. To ensure that you are accessing the latest available help topics, please visit:

<https://docs.tibco.com>

Product-Specific Documentation

Documentation for TIBCO products is not bundled with the software. Instead, it is available on the TIBCO Documentation site. To directly access documentation for this product, double-click the following file:

`TIBCO_HOME/asg/2.3/doc/manager/index.html`

where `TIBCO_HOME` is the top-level directory in which TIBCO products are installed. On Windows, the default `TIBCO_HOME` is `C:\tibco`. On UNIX systems, the default `TIBCO_HOME` is `/opt/tibco`.

The following documents for this product can be found on the TIBCO Documentation site:

- *TIBCO API Exchange Manager Installation*
- *TIBCO API Exchange Manager Administration*
- *TIBCO API Exchange Manager Release Notes*
- *TIBCO API Exchange Concepts*
- *TIBCO API Exchange Getting Started*

How to Contact TIBCO Support

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- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:

<http://www.tibco.com/services/support>

- If you already have a valid maintenance or support contract, visit this site:

<https://support.tibco.com>

Entry to this site requires a user name and password. If you do not have a user name, you can request one.

How to Join TIBCOmmunity

TIBCOmmunity is an online destination for TIBCO customers, partners, and resident experts. It is a place to share and access the collective experience of the TIBCO community. TIBCOmmunity offers forums, blogs, and access to a variety of resources. To register, go to the following web address:

<https://www.tibcommunity.com>

Product Overview

TIBCO® API Exchange enables the building of integrated marketplaces, where API providers and API consumers come together to create, host, manage, learn about, and use open APIs, which can be used in several business scenarios. The platform is available as either a cloud-based or on-premise based solution.

TIBCO API Exchange

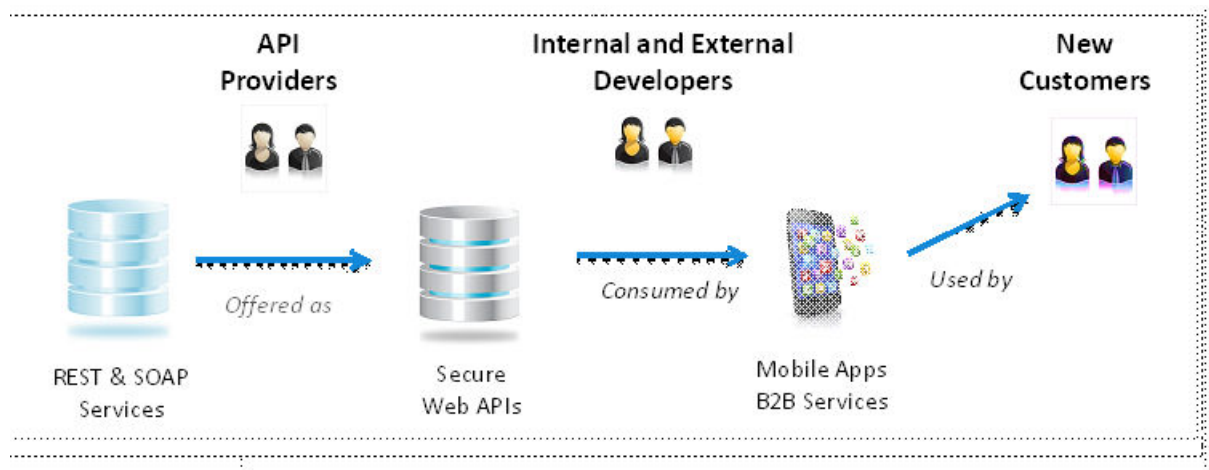
TIBCO API Exchange is a platform that hosts and manages open APIs.

TIBCO API Exchange facilitates API distribution and access in the following ways:

- Provides access to enterprise data or business functionality provided by API providers and exposed as web APIs
- Enables internal and external developers to embed *your* functionality in *their* applications
- Takes *your* business to new channels, markets and customers
- Enables API management by regulating access, empowering partners, and providing visibility to products

The following figure shows how API providers open APIs to developers, who build applications that reach new customers.

How API Providers and Developers Use API Exchange



Business Scenarios

TIBCO API Exchange can be used in a variety of business scenarios, such as serving as an enterprise API governance. It is also ideal for partnering API Gateway, incorporating open API community, as well as consumer API Gateway.

Enterprise API Governance

Companies are significantly lowering development costs by using service-oriented architectures, with service encapsulation, reuse, and standardization of web APIs and tools. However, as service reuse and interdependencies between organizations increase, the challenge of assuring service performance also increases.

Without controls, a single errant service consumer, an application, frequently impacts service quality for other applications, and even causes failure across an SOA environment. Changing APIs is impossible without complete knowledge of the applications that are using it. Even then, the API might need to be stable for the lifetime of the application or at least until the next upgrade. With many

services, it can be difficult for enterprise developers to discover and learn about what services and APIs are available.

In this scenario, TIBCO API Exchange provides an Application Services governance, which performs the following roles:

- Tracks who has access
- Sets limit thresholds
- Monitors application KPIs
- Looks at usage for capacity planning
- Provides a collaborative API repository

Using Enterprise API governance, companies achieve cost reduction and improved efficiency, with consistent service uptime and performance, and benefit from the central knowledge base of APIs.

Partner API Gateway

Increasingly, API consumers, such as applications, are running outside of a company's control. This might include mobile applications that are running on employee or customer devices, as well as partner-developed solutions.

Although the internal and external partners are well-known and application use cases are predefined, there is much lower trust, because not only are there erratic consumers, but there is also the possibility of compromised systems and networks. Changing and documenting APIs is more difficult with developers working in different organizations on different timelines and on different business problems.

In the partner API Gateway scenario, TIBCO API Exchange is used to open up business data and services to internal and external partners in a controlled and secure manner. TIBCO API Exchange does this in the following ways:

- Protects against malicious or accidental attacks
- Sets usage limits by partner or application
- Routes requests to different services based on version or other context
- Maps external to internal protocols, such as REST to SOAP and HTTP to JMS
- Creates and monitors custom SLAs
- Audits access
- Allows partners to manage developers and debug API usage
- Enables an Extranet to act as a centralized API repository

With a partner API gateway, companies can lower the cost of onboarding new organizations and manage them more efficiently. With tighter partner integration, they can extend their digital value chain to take their business into new channels.

Open API Community

In an open API model, third-party developers are encouraged to create novel applications by using TIBCO enterprise APIs. It is difficult to predict ahead of time which developers will succeed and what applications will be built, so it is important to make it easy for all developers to learn about and use APIs.

Supporting hundreds and thousands of developers requires different approaches for API governance, security, performance, and partner and contract management.

In this scenario TIBCO API Exchange supports the following features:

- No cost evaluation with self-service registration, evaluation and support
- Monetization: the ability to track and meter API usage
- A scalable platform on-premise and cloud
- The ability to package SLAs as standardized product offerings
- Use of OAuth for delegated access
- Analysis of consumer and developer behavior
- Opening up enterprise services as products

Companies can inspire a developer community to create the next great application while gaining competitive advantage through innovation. An open API model fosters collaborative environments that drive successful open API initiatives.

Consumer API Gateway

As companies integrate services from third-party vendors, they face a number of challenges.

The following includes some of the challenges:

- Apportioning access between multiple internal users
- Changing security policies without modifying business systems
- Monitoring vendor performance

In this scenario, TIBCO API Exchange allows an enterprise to mediate access to external web APIs. TIBCO API Exchange enables the following features:

- Multiplexes access to internal applications and employees
- Apportions costs to different constituents and enforces vendor-supplied limits
- Measures vendor performance and cost
- Standardizes security protocols, message formats, error handling, and caching
- Logs access for audit

Using an API consumer gateway, companies can implement sound internal cost management practices.

Product Architecture

Using the TIBCO API Exchange platform, you can build and test APIs, define runtime governance policies, migrate APIs between environments, and monitor and report on API usage.

TIBCO API Exchange comprises of three modules:

- API Analytics API Gateway
- API Manager
- API Analytics

The API Gateway is a centralized access point for managing enterprise APIs, and provides mediation between internal and external services, systems, and devices.

For more information, see *TIBCO API Exchange Gateway* documentation: <http://docs.tibco.com>

API Manager

The API Manager provides API providers with infrastructure and tooling to expose their APIs to internal and external developers.

API Analytics

API Analytics provides insights on API usage and performance for API providers and consumers.

TIBCO® API Exchange Gateway

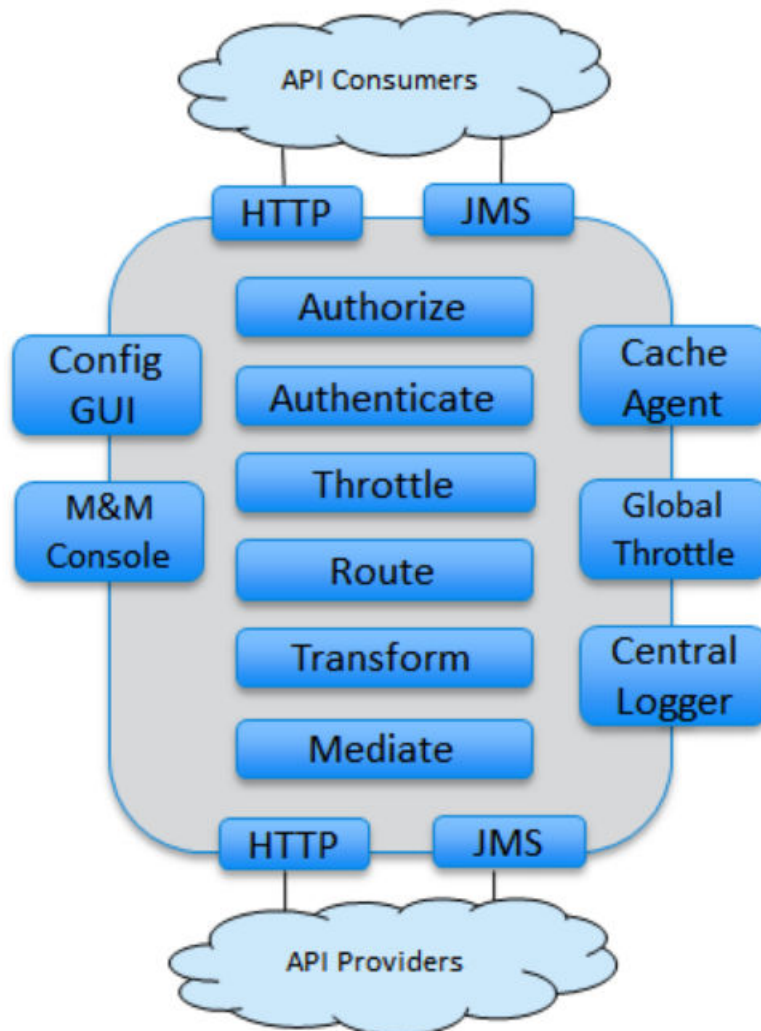
TIBCO® API Exchange Gateway controls API access and associated event flows by enforcing several policies. It is composed of two design time components: Configuration UI and Gateway Studio. TIBCO API Exchange Gateway also consists of two runtime components, such as operational and management layers. It is also composed of three design sub-components.

Gateway Functional Overview

TIBCO API Exchange Gateway determines whose requests are handled (authorization, authentication, when requests are handled (throttling), where requests are handled (routing) and how requests are handled (transformation, mediation).

The following figure shows a functional diagram of API Gateway.

Functional View of the API Gateway



Policies

TIBCO API Exchange Gateway enables API providers to enforce business and technical requirements, including security, validation, and service level agreements through declarative policies.

TIBCO API Exchange includes the following policies:

Security Policies

Security policies provide authentication, authorization, encryption, validation, and digital signature and certificate management. Support is provided for WSS Username Token, SAML, X.509, Kerberos, OAuth, and LDAP.

Throttle Policies

Throttle policies provide limits or quotas by partner, service, or other criteria. Throttles can be based on request rate, concurrent load, or error rate and used to restrict access at the facade (such as through a commercial SLA or product plan), or against the target service (technical throttle).

Validation Policies

Validation policies check content against schemas or rules and reject invalid or hostile messages.

Transformation and Mediation Policies

Transformation and mediation policies provide transformation of request, response and fault messages.

Logging

Logging traces requests for audit or debugging.

Design Time Components

TIBCO API Exchange Gateway includes two design time components.

Configuration UI

By using the configuration UI, you can configure the partner data, partner operations, partner groups, services, operations, mappings, throttles, error maps, schemas and routing information.

Gateway Studio

The Gateway Studio is a design time environment that enables you to design and develop custom extensions. Custom extensions change the default behavior of the gateway core engine.

Run-Time Components

The two runtime components are the gateway operational layer and the gateway management layer.

Gateway Operational Layer

The gateway operational layer scales as processing demands increases, primarily based on the volume of requests.

The gateway operational layer consists of the following components:

Apache HTTP Server

The Apache HTTP Server is an optional Apache layer that may be used in the DMZ to terminate the incoming HTTP(s) transport.

Core Engine

The core engine is a higher-performance event-based service-request routing engine that receives requests as events and uses the rules engine to determine how requests are handled.

Cache Agent

The cache agent stores the cache data for all objects of the cluster.

Gateway Management Layer

The gateway management layer has four subcomponents.

Central Logger

The Central Logger provides centralized messages and auditing of messages and statistics in a database.

Global Throttle Manager

The Global Throttle Manager manages throttle allocation across a gateway cluster.

Cache Clearing Manager

The Cache Clearing Manager component clears the cache based on the size and age of the cached values.

Monitoring and Management Server

The Monitoring and Management Server monitors the status and operational tasks for all components in the gateway cluster.

Analytics Layer

The analytics database receives runtime information and statistics from one or more Central Loggers that might represent one or more gateway clusters. Information that might be captured includes KPIs (aggregated statistics or Key Performance Indicators), logs of each request and response (transaction logs,) message transformation and event processing steps.

Design Concepts

The core engine contains the facade, router, and target main sub-components.

Facade

The facade provides the interface for the gateway to receive requests for a given API with a given binding (for example, REST over HTTP or SOAP over JMS).

Router

The router receives requests from the facade and routes them to the appropriate target service handler.

Target

The target component calls the appropriate external service to execute the request.

Facade Service

A facade service is any application service or API that the gateway offers. Typically the service is an intermediary to one (or more) *target services* outside the gateway.

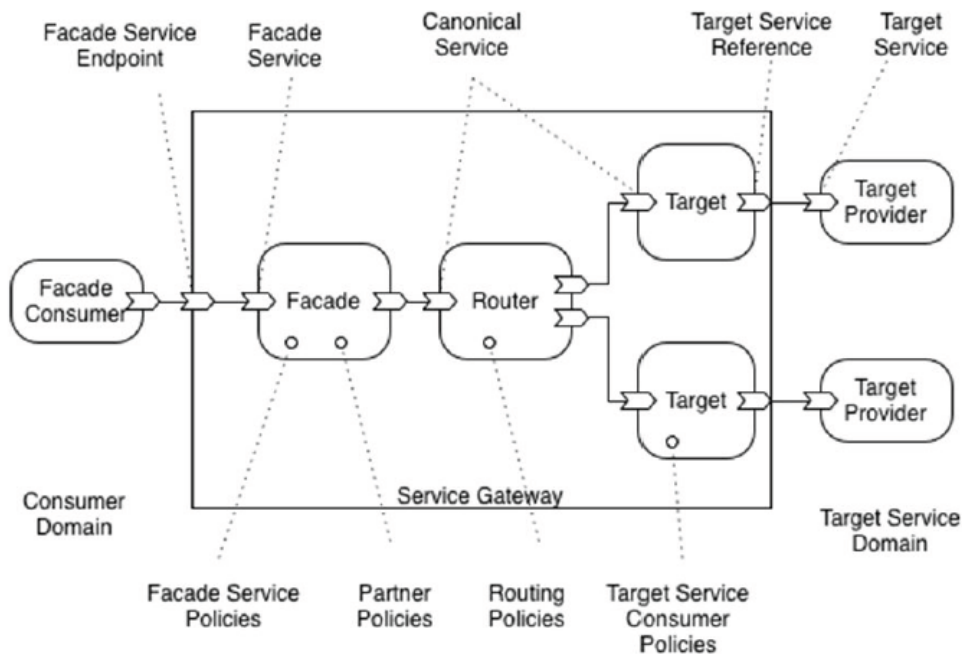
A facade service may also be known as a proxy service or virtual service, especially if the interface of the facade and target services are the same. The gateway facilitates a loose coupling between the facade and target service by managing interfaces, policies and configuration information for either the facade service or target service.

Policies applied to a facade service are enforced by the gateway and include decryption, validation, throttling, and authorization.

Target Service

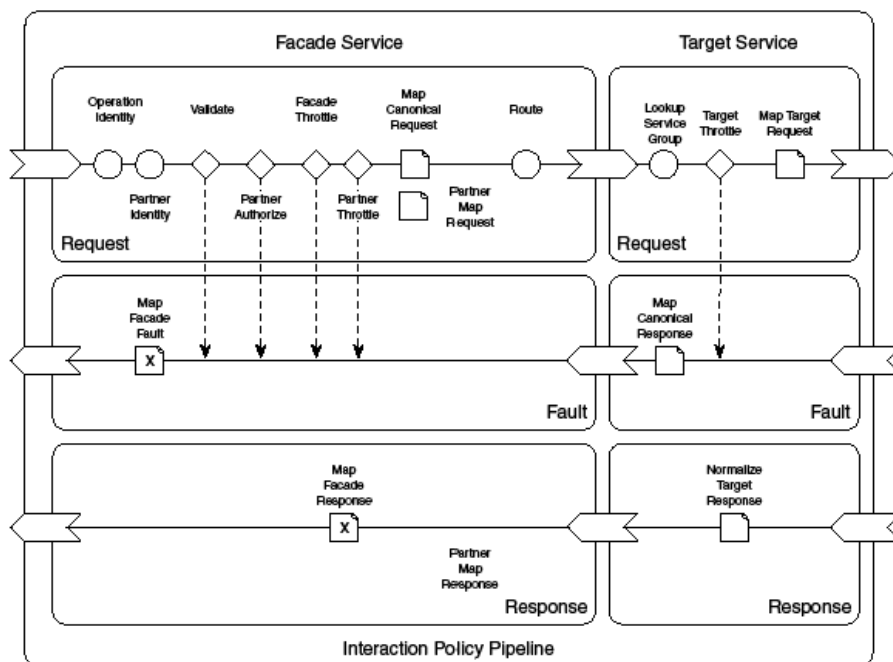
A target service is an external endpoint that the gateway may call during processing of a request. Policies applied to a target service are enforced by the gateway and include encryption, credential mapping, throttling, and load balancing.

Facade Service and Target Services



Message Processing Life Cycle

The gateway core engine uses a staged event-driven architecture. Request and response messages are processed internally as events with processing steps determined dynamically by the engine based on applicable policies.



Mappings and Transformations

TIBCO API Exchange Gateway provides message transformations using mappings. Combined with throttling, this enables you to implement business agreements as enforceable policies.

It also provides transformation of request and response messages at the following four points:

Facade to Router

After the request has been received by the facade request handler and before it has been passed to the router.

Router to Target

After the request has been routed but before it is passed to the service endpoint handler.

Router to Facade Request Handler

After the response has been routed from the router to the facade request handler and before the response is sent back to the original requestor.

Additionally, the facade request and response transformations can be overridden on a partner specific basis.

See the "Mappings and Transformations" and "Transaction Pipeline Processing" sections in *TIBCO API Exchange Gateway User's Guide* for more information regarding mappings and transformations.

Throttle Policies

By using throttle policies, you can enforce usage or other limits, and define the maximum number of requests that are handled by a facade or target operation in a defined time interval. You must define the maximum count and the time interval for a throttle.

Throttles define a condition for a type and metric (entity). API Exchange Gateway checks the condition for an incoming request before processing the request. For example, you can define a condition to allow only five client requests within 10 seconds to the backend service for a partner request.

There are two main categories of throttles:

Facade throttles

Facade throttles support service level agreements with consumers, for example, Partner and Partner plus Operations.

Target throttles

Target throttles support service level agreements with providers, and are applied on the Target Service operation.

Throttle Types

The four kinds of throttle types are rate, quota, high water mark, and error.

Rate

The rate throttle is a simple throttle that enables the requests to pass through until a limit is reached for a time interval. The rate throttle is always increased on the request. A throttle may be incremented by a count of requests, size of a payload or it can be based on content; for example, a throttle can be based on order totals.

Quota

The quota throttle is similar to the rate throttles, but it uses a much larger count over much longer intervals (such as days).

High Water Mark

High Water Mark throttle, also known as a concurrent requestor, is similar to the rate throttle, but this throttle also decrements the count after the passed on requests are completed and the response is ready to return to the requestor.

This means that the high water mark throttles are increased on the request and decreased on the response. You must define a throttle max count for a high water mark throttle.

Error

Error Throttles act as a rate throttle in logic, but this throttle counts the error responses, as opposed to the requests.

An error throttle is increased on the error responses.

Routing

Routing enables the directing of requests to specific target services based on operation, partner, version or message content or operation.

Message Exchange Patterns

A message exchange pattern (MEP) defines the sequence and cardinality of messages sent between the provider and the consumer for an interaction. MEPs contain both normal and fault messages. The gateway supports several different styles of message exchange as well as the ability to mediate between them.

The service gateway supports the following patterns:

Synchronous Request-Response (Sync)

A consumer sends a message to a provider with the expectation of a response over the same client connection.

The provider sends a response or fault and the consumer responds with a status.

Asynchronous Request-Response (Async)

A consumer sends a message to a provider with the expectation of a callback of a response.

The provider acknowledges the request. The provider then sends a response message or fault and the consumer responds with a status.

Consume Message

A provider sends a message to a consumer.

The service gateway supports different MEPs between the facade consumer and the facade service and between the target consumer and the target service.

Orchestration

TIBCO API Exchange Gateway provides parallel and sequential orchestration models.

Parallel Orchestration

With parallel orchestration, also called enumeration, a single inbound request is split into a set of multiple outbound subrequests. Each subrequest may be routed differently to various service endpoints. After processing and receiving the responses for each subrequests, all responses are recombined into a single response message for the original inbound request.

Sequential Orchestration

With sequential orchestration, you can access multiple target endpoints by making a number of sequential calls to fulfill or authorize a request. There is a primary outbound target invocation, preceded by one or more secondary target invocations.

Sequential orchestration might use the associative and responses cache features to accelerate the processing of subsequent requests, which helps minimize the load on backend systems.

Partners

By using TIBCO API Exchange Gateway, you can define partners and partner groups and specify processing for them.

You can configure the following features:

- Information that identifies a partner
- A partner group that the partner belongs to
- The throttle chain that is applied to any requests sent by a partner in that group

Caching

Caching improves performance and reduces the load on backend systems.

TIBCO API Exchange Gateway includes a distributed cache based on the in-memory data grid TIBCO ActiveSpaces®.

The association cache is generally used to cache service responses to improve response time and resilience and to reduce load on target services. The cache is also often used to store common reference data used to enrich a response such as to look up account information from a device identifier.

API Manager

TIBCO® API Exchange Manager is an environment for creating and managing developer communities for TIBCO API Exchange. It includes support for API Product Catalogs, Developer Self-Service Registration, API Lifecycle Management, and Community Management.

Introduction

TIBCO API Exchange Manager is an environment for creating and managing API catalogs and developer communities for TIBCO API Exchange.

API Manager supports four main user roles:

- Application Developer
- Product Manager
- Partner Administrator
- Portal Administrator

Application Programming Interface

In the TIBCO API Exchange environment, an API is a web application programming interface that can be shared between a provider organization and a partner. TIBCO API Exchange Manager includes support for SOAP and REST APIs.

The API or service has a URL where it can be accessed as an endpoint. An API includes one or more message exchange patterns supporting different functions, called operations. An API may also include human-readable documentation and a machine-readable specification.

Products and Plans

A product is a package of one or more APIs, a commercial bundle. Products enable API providers to create and manage catalogs of APIs.

Products are offered through plans, which provide different tiers or terms of service: typically rates, thresholds, and prices, for the packaged APIs. Partners are granted access to APIs through these plans. Partners can also request custom plans.

Applications

An application is a partner component that calls or consumes the API. The API might be called from an application running under direct control of the partner; running from a data center server, for example. It might also run outside the control of the partner, for example on a mobile phone or desktop.

A partner registers each application with TIBCO API Exchange Manager, which allocates a unique application-specific key. Partners can enable or disable access to APIs on a per-application basis by revoking or resetting keys.

Application Developers

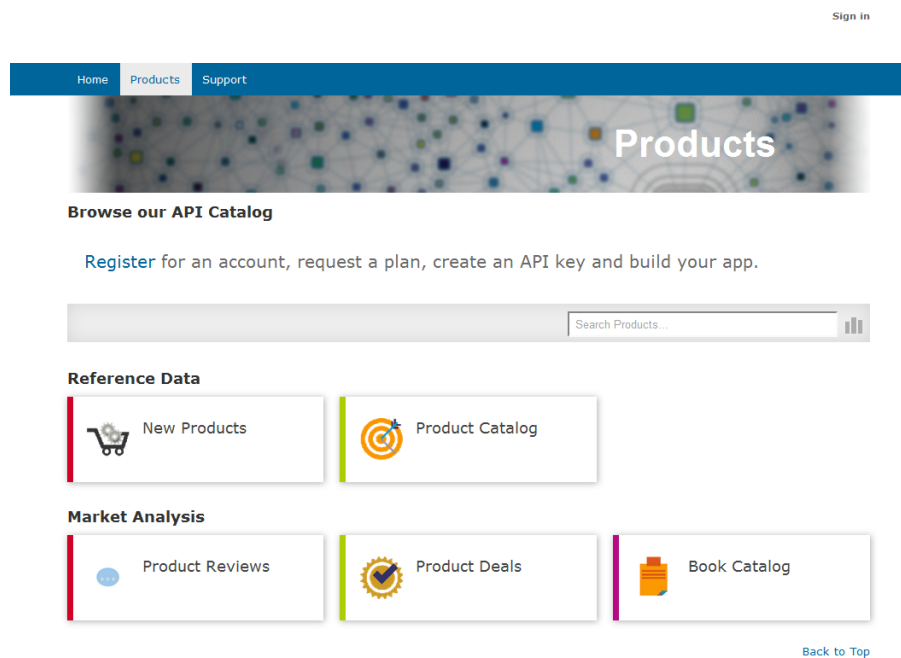
Application developers use the API management portal to discover and use APIs through an API product catalog, use a self-service portal for enrollment, key requests, and API testing, and monitor and report on API consumption.

Product Catalog

Public, partner and internal developers browse the product catalog to discover API products available to them and view detailed information about the service, including documentation, technical specifications, examples, and offered plans.

The portal administrator can customize the portal landing page and product pages, including content, colors, styles, and branding elements.

Developer Portal: Product Catalog



After selecting a product, users can view product details for the product. Products details include the following information:

- API Explorer
- Documentation
- Product Plans

API Explorer

TIBCO API Exchange provides an API Explorer, a user interface that enables users to browse and test the APIs offered by the provider organization.

The following figure shows the API Explorer tab for the Book Explorer product, which is provided with the basic Adapter code installation.

API Explorer

Soap is a XML format that cannot be directly be used in API Explorer. In release 2.2.0, when you create a SOAP API and upload a WSDL file, the system parses the WSDL file and the XML format. One of the files is saved to the Joomla database and the other file is sent to the portal engine. When you log onto the API Explorer tab, the system retrieves data from the portal engine, thus allowing you to see the API Explorer tab information for SOAP.

Product Documentation

The product details view for a product includes a **Documentation** tab, which displays links to the documentation for the product.

Product Plans

The **Plans** tab in the product page shows product plans that are available for application developers to use. By clicking **Request Plan** in a plan description, application developers can request for access.

User Registration

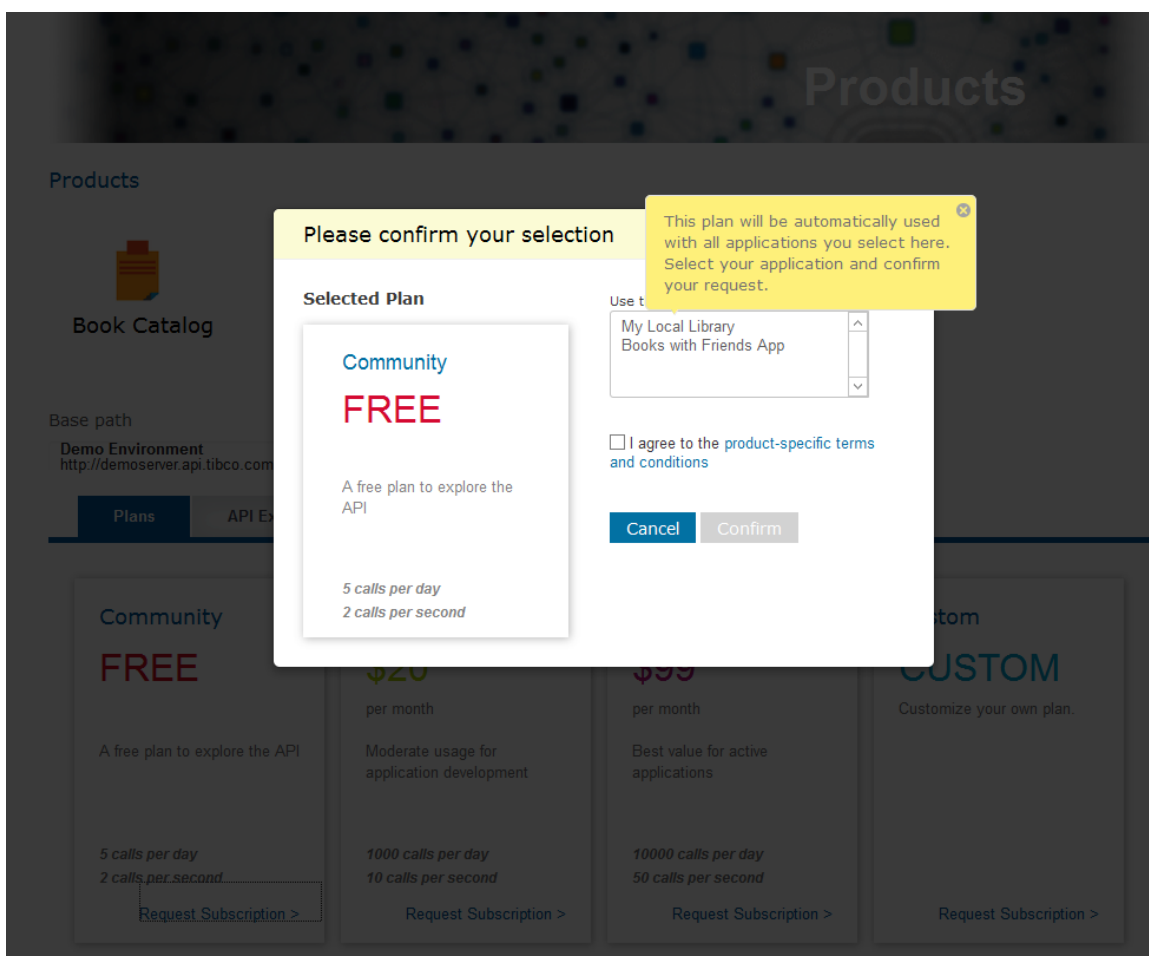
A developer can self register through the portal to access additional features, including the ability to request access to an API and to manage application keys.

Request Plan Subscription

A developer can request access to a plan to create a product subscription. Depending on the plan setting, access might be granted immediately or the request is forwarded to a product manager for approval.

Bubble help guides developers through their first request.

Subscription Plan Request



Dashboard

The Developer Portal includes a Dashboard that provides a number of reports and graphs that provide quick summaries of application and product quote usage and performance.

Applications Dashboard

The dashboard provides a summary of registered applications and quota usage.

Application Dashboard

Applications			
Applications	Product	Plans	Usage
Amys App	Book Catalog	100/day	<div><div></div></div> 13%
Amys Product App	Product Catalog	100/day	<div><div></div></div> 18%
Amys OAuth App	Product Catalog	100/day	<div><div></div></div> 0%

Statistics Dashboard

Users can select the statistics dashboard to view detailed usage and performance statistics by application, by products or by operation. The user can view latency, throughput, and transactions statistics for all applications or for a specified application. The following figure shows the Overview Statistics Dashboard.

Overview Statistics Dashboard



Product Manager

Product Managers use the API management portal to package APIs into products and create different product offerings or plans.

API

An API as defined within the portal as a set of operations that share a common base path and life cycle.

The product manager creates an API through the portal as either a REST or SOAP API:

- A REST API is usually represented by the set of HTTP verbs supported for a single entity. It can be represented by a Swagger resource specification.
- A SOAP API is typically the set of operations that are exposed for a single service. It can be represented by a WSDL specification.

In addition to an optional specification, documentation can also be uploaded for the API, including attachments and rich text (HTML).

Each API is associated with one or more gateway environments; for example, Staging, Production-Europe, or Production-Americas.

APIs do not become visible to application developers until they are associated with a published product.

Product

A product is a package of one or more APIs for use by internal or external application developers. Application developers subscribe to products and thus only indirectly to APIs. APIs can be added to or removed from products without affecting existing subscriptions.

A product manager creates a product name and icon to be used in the product catalog. Product level documentation can also be uploaded including attachments and rich text (HTML).

A product is associated with one gateway environment; for example, Production-Americas. This environment must be valid for all packaged APIs.

After it is created, a product must be published in order to be visible to Application Developers.

The product page is generated from the specifications and documentation of the included APIs. The API Explorer user interface is generated from the aggregate Swagger resource specifications.

Product Plan

A plan is an offering of a product for a specific capacity.

A plan includes the following information:

Plan name and description

The plan name and description is displayed within the product page.

Quota

The quota is the maximum calls per day.

Rate limit

The rate limit refers to the peak calls per second.

Subscription model

The subscription model is the automatic manual approval.

Price

The price refers to the price of the plan.

Custom

One-off custom plans can also be created for specific consumers.

Analysis

The product manager has an important role in monitoring usage of APIs and products, looking at performance of applications consuming the APIs as well as the performance of backend target systems.

For more information on analytics capabilities see the "Analytics" section.

Swagger Support

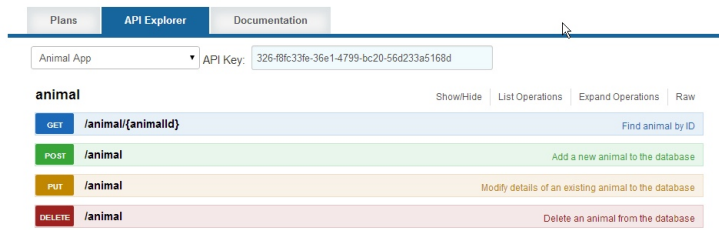
To support REST, TIBCO API Exchange supports the Swagger specification, a standard for describing REST services for which interactive documentation and a test harness can be generated.

In the release 2.2.0, Portal UI now validates the Swagger specification when it is uploaded by the user while creating an API because of the new `validateSwagger` function .

The Adapter Code for TIBCO® API Exchange and Joomla! example project, which is available on GitHub, includes an example of how the Swagger UI can be integrated into an API management portal.

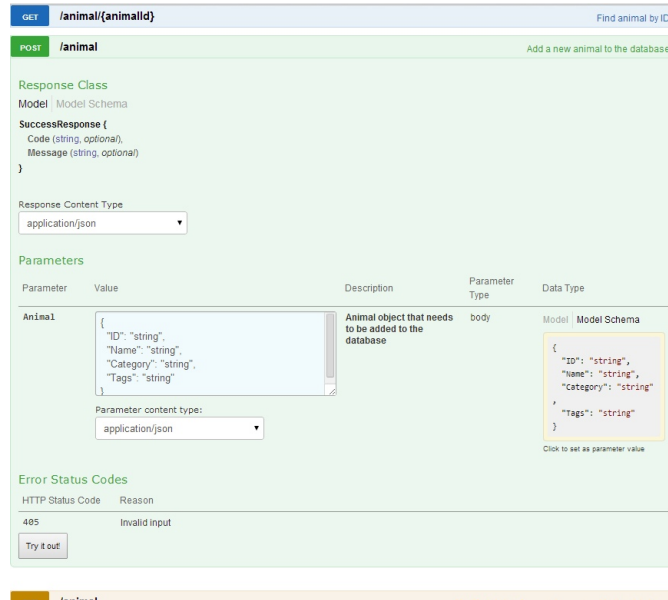
The following figure shows the documentation for an API.

Documentation Repository



Product managers can provide detailed documentation for each operation supported by an API.

Documentation Detail for Post Operation



Partner Administrator

Partner Administrators manage user accounts and access.

Administrators use the management portal to perform the following tasks:

- Manage developer and partner accounts (through Organizations).
- Set access rights by user or organization.
- Create and manage partner subscriptions to products.
- Monitor application quota usage and subscription usage.

Portal Administrator

The Portal Administrator is a superuser role for the developer portal.

The Portal Administrator performs the following tasks:

- Creates system users and user groups
- Configures environments and gateways
- Maintains static content of site, including menus
- Changes the look and feel of dynamic site through style sheets and localization
- Manages developer forums

Analytics

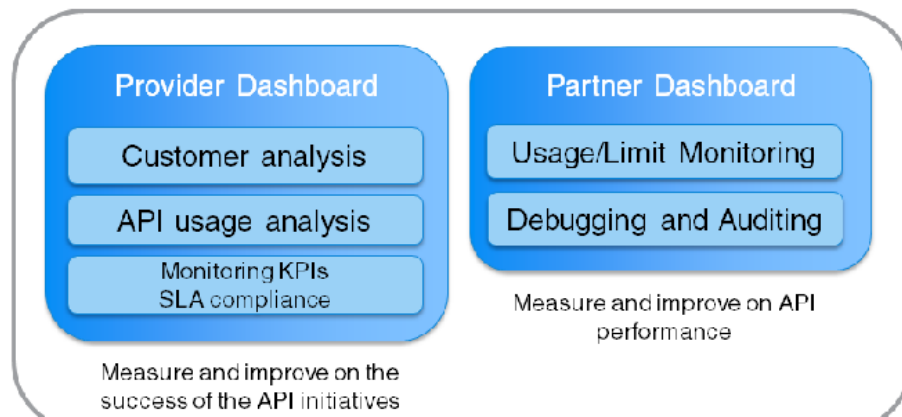
TIBCO API Exchange Analytics provides insights on how APIs are being used and performing. Using an integrated analytics server powered by TIBCO Spotfire®, API Analytics provides a range of reporting capabilities. Analytics includes several options such as reporting dashboards for providers and partners, Service Level Agreements (SLAs), and key performance indicators (KPIs) and full execution auditing.

Overview of Analytics

API Exchange analytics enables API developers and consumers to perform end-to-end monitoring of API requests and responses. Users perform analytics using the provider dashboard or the partner dashboard.

The following figure shows a functional overview of the API Exchange Analytics component.

API Analytics Overview



The API Exchange Analytics component is powered by TIBCO Spotfire, available for purchase separately.

Product Manager Dashboard

The product manager dashboard enables customer analysis, API usage analysis, monitoring of KPIs and SLA compliance.

Partner Dashboard

The partner dashboard enables the usage and limit monitoring as well as debugging and auditing.

The following figure shows a page from the Partner Dashboard Overview.

Partner Dashboard



Product Manager Latency and Throughput View

The Latency and Throughput view, shown in the following figure, shows average latency for API operations.

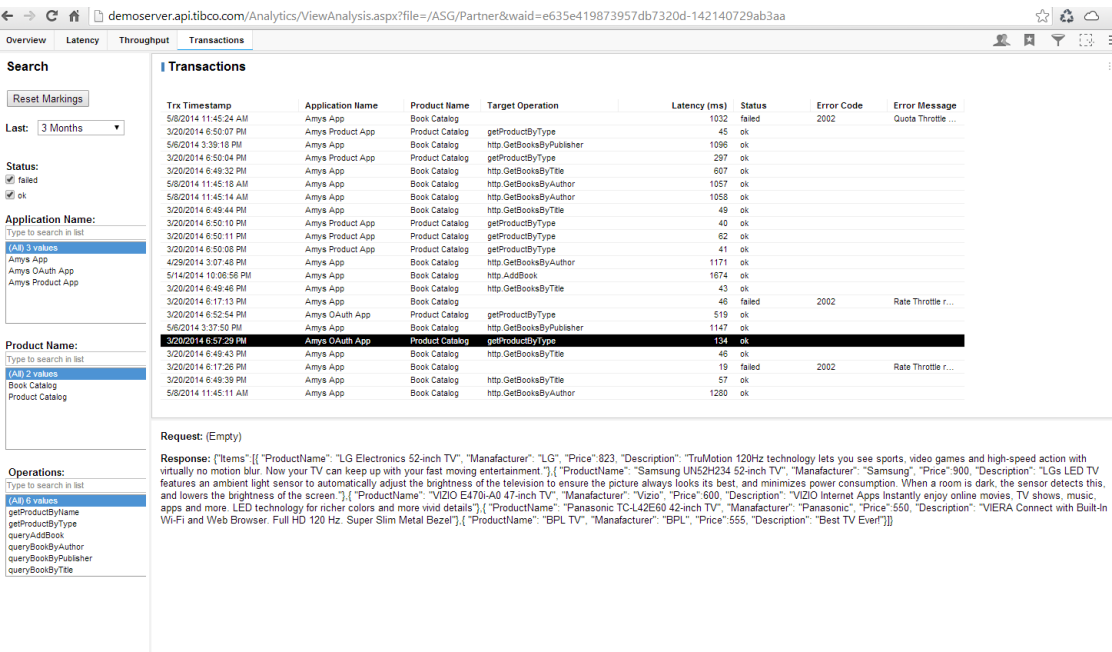
Latency and Throughput View



Product Manager Transactions View

The Transactions View, shown in the following figure, shows transactions statistics for API operations.

Transactions View



Glossary

A

API

In TIBCO API Exchange, an API is an open API that is developed by an API provider and consumed by an API consumer.

API exchange manager

The management component of API Exchange, which enables the API management portal.

API exchange gateway

The API Exchange component that enforces rules and policies that govern API processing.

API exchange analytics

A Spotfire Server that enables reporting on API performance and usage and display of information on a dashboard.

API explorer

An API Exchange feature that allows users to explore the APIs that have been registered with the API exchange interface, view documentation, and review developer forum information about the API.

API key

A token assigned to an API, which is registered with API Exchange and used by application developers when calling the API.

An API key is an opaque token passed as an HTTP header or as a URL parameter with each request. For example, <https://api.books.co/Books/Now?apikey=195-532d7700-44fe-9175-3a9d408a7286>

When calling the API, the application usually provides an API key or OAuth token to be able to access the API.

API management portal

The front-end, user component of TIBCO API Exchange, a developer portal that allows API providers to add APIs and combine them to create products, and allows API consumers (partners) to subscribe to the API products.

API consumer

A user who uses APIs provided by using TIBCO API Exchange Manager: an application developer.

API provider

An organization that provides APIs and licenses them in the form of products that can be subscribed to.

application developer

API Exchange developer user. Registers applications, tests and learns about APIs, and requests subscriptions and keys for applications.

authentication

TIBCO API Exchange supports a range of identity and authentication mechanisms, including API keys, OAuth, mutual SSL, WS-Security (SAML, User name, X.509, LDAP), HTTP Basic, and Kerberos, but also makes it easy to integrate with existing databases and identity management systems.

TIBCO API Exchange Manager allows partners to manage their own API keys and OAuth credentials. A partner can create multiple keys.

D

developer portal

A user interface that enables API consumers (application developers) to browse and test APIs. Provides API subscription self service and developer forums.

H

host administrators

API Exchange users who maintain Developer Portals, create application environments and add gateways to them, create organizations and user groups, create subscriptions, and have access to full system functionality.

M

manager

API Exchange user. Managers add APIs and operations, create products and plans, and run analytical tests on APIs.

O

oauth

An authentication mechanism that is used to provide application with access to third party resources.

P

partner administrators

Create organizations and users, and manage subscriptions.

provider portal

A user interface that enables API providers to define and manage products, run usage analytics, and manage partners and partner communities.

policies

Rules created using the TIBCO API Exchange Gateway configurations to govern the use of API resources.

S

subscription

A subscription to a software product developed using API Exchange.