

# Technical Overview

3scale's API management platform offers a layered architecture that lets you implement traffic control where you need it and manage usage from a single cloud-based interface.

## Flexible Architecture

The unique separation of the cloud management layer and API delivery mechanism make the setup as flexible as possible. Delivery components that carry your API traffic can be anywhere, and traffic does not need to flow through the 3scale layer. Asynchronous communication between delivery components allows local nodes to cache credentials and usage data without making a round trip to 3scale each time, resulting in a highly robust and scalable deployment.




## Self Serve Access

3scale is built for development ease—you can create an account, pick a plan that suits your needs, and get started right way. There's no heavy sales process, and no need for professional services in setup or in long term operation. Extensive documentation is available, and eligible plans include email and phone support. Implementation is smart and streamlined, delivering the best time-to-value in a low-vulnerability and high-performance solution.

## Getting started

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3scale's cloud-based infrastructure is easy to set up, allowing you to focus on delivering content and services. The highly flexible architecture allows users to deploy API traffic controls anywhere within the data flow, and traffic never gets re-routed back through the 3scale platform, providing greater scalability and performance even when traffic volume peaks. Implementation is streamlined, so you can get started in a few quick steps:

-  Deploy traffic controls, either using an API gateway, plugin, or CDN, or take advantage of the [APIcast](#) cloud hosted API gateway, which is available for free for up to 50,000 transactions per day.
-  After traffic control is in place, you can configure SaaS hosted systems to manage authentication, rate limits, access to specific endpoints or methods, and analytics. You'll be able to see events and handle developer administration tasks in the operations dashboard.
-  You're now ready to begin issuing API credentials and accepting traffic. API keys can be managed directly from the admin console or from your developer portal, and usage data for developers and applications will be available in the analytics dashboard.

# Deployment options

The 3scale platform is delivered using a SaaS (Software-as-a-Service) model, with a cloud-based dashboard built on Amazon and Rackspace infrastructure in multiple locations. Integration with the infrastructure is accomplished via the deployment of an agent (a control point) that enforces traffic policies. The four common deployment patterns are:

## Gateway (proxy) deployment

In this mode, control elements are deployed using an open source proxy, which sits in front of the API and acts as a traffic filter for API calls. The recommended proxy is [Nginx](#), which is a high-performance solution that does not require any changes to your API code.

## Software plugin deployment

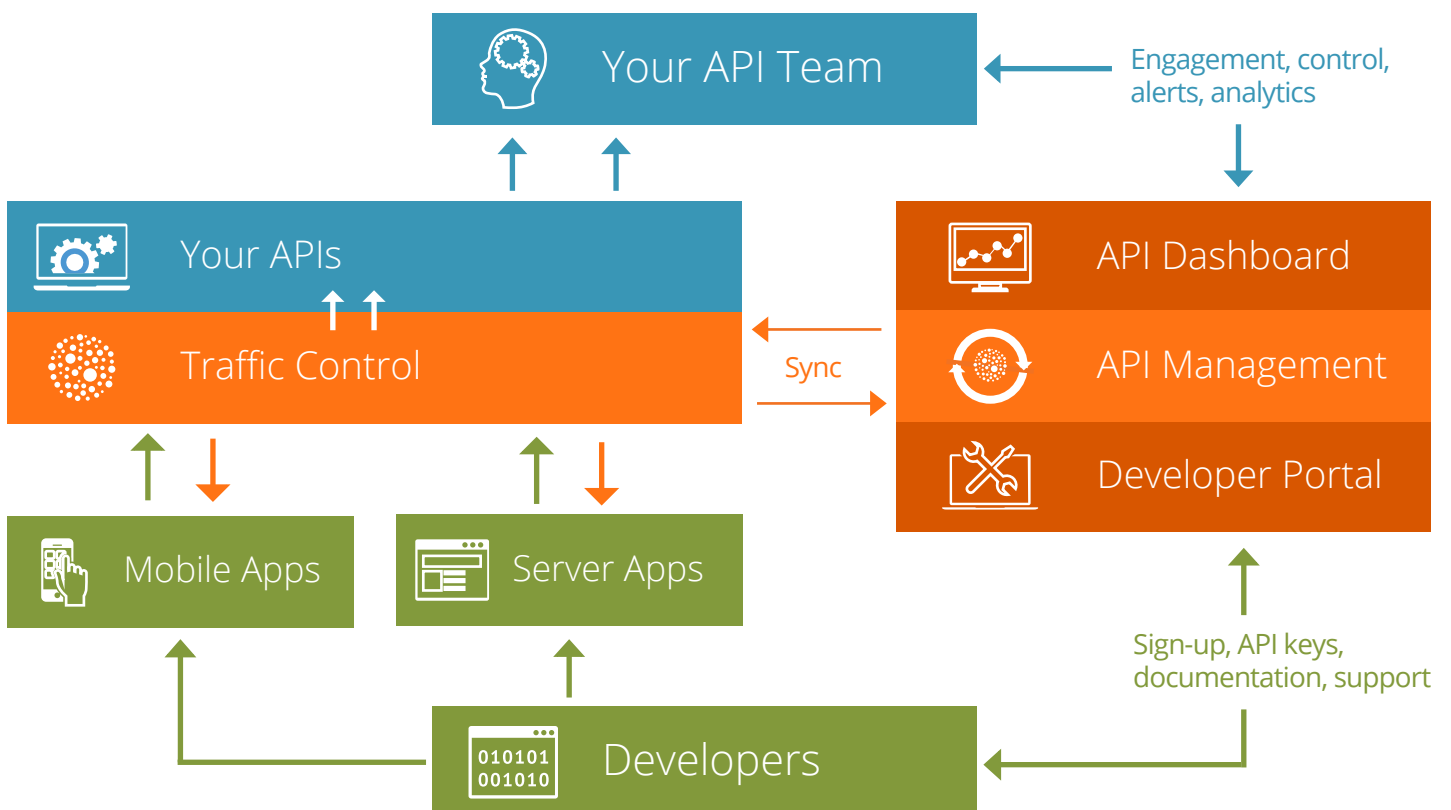
This deployment method uses one of the numerous native-language plugins that 3scale provides to add traffic policy enforcement within the API application code, at the point of entry. Code libraries call 3scale's APIs in either synchronous or asynchronous mode.

## CDN Deployment

This option uses integration with a global CDN, such as Akamai, to direct all API traffic at CDN edge nodes while retaining access control, rate limit enforcement, or analytics. This method is well-suited for media- or content-heavy APIs.

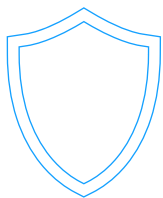
## API Deployment

Gateway, plugin, or CDN deployments all function as a "wrapper" on 3scale's Service Management API. For custom or bespoke deployments, it's also possible to integrate with this API directly, allowing teams to use 3scale's services in whatever manner works best.



# Access Control and Security

Whether your API is public, private, or internal, API security is an important consideration for providers. 3scale's access control and security features help you reduce vulnerability, provision access rights, and protect backend systems with components that can be customized based on your security environment and specific needs.



## Authentication

Several common user authentication patterns are available for easy implementation in 3scale, including standard API keys, application ID and key pair, and OAuth versions 1.0 and 2.0. Issued credentials can be coupled with IP address filtering or referrer domain filtering for those with more stringent security needs; custom authentication can also be configured.



## Access Control

Centralized management of policy and application plans allow you to set access tiers and limit the availability of specific methods or endpoints. You can customize both the requirements for obtaining access and the level of access available for each account.



## Rate Limits

Application plans allow you to set rate limits for API usage and control traffic flow for groups of developers. The platform allows the configuration of alerts and user notifications when a traffic overage is detected, and supports rate limiting by application or by account.



## APIcast Cloud Hosted Gateway

The fastest, easiest, free way to get up and running on 3scale

### Launch faster

APIcast is 3scale's free cloud-hosted gateway service, designed to let teams deploy faster. Setting up takes only a few clicks, with no changes to backend code. It's free to use and ideal for low- to moderate-volume APIs, supporting up to 50,000 transactions per day.

### Manage better

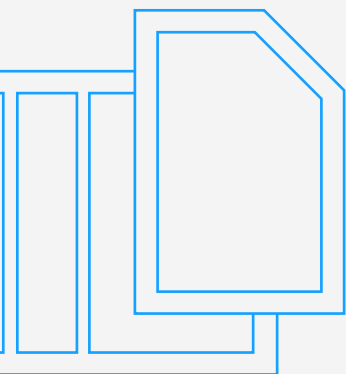
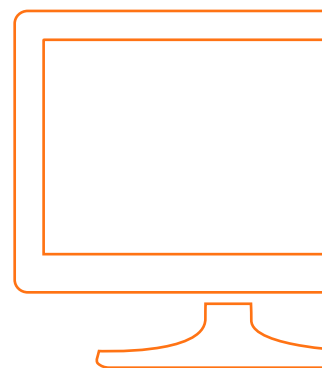
APIcast is available through 3scale's API management platform, so you can take advantage of all the built-in features of the platform. Getting started is easy, just [create your free 3scale account](#). Most users are able to deploy with APIcast in less than an hour.

## Other Features

3scale's API program management is delivered through a distributed cloud layer. In addition to the traffic control and delivery previously discussed, the 3scale platform includes built-in features to help you create a better user experience for developers. Providing resources and information through a developer portal, quick start guides, and documentation, as well as creating a streamlined signup and on-boarding process, is one of the most effective ways to improve the long term performance and success of your API program.

### Developer portal

Your developer portal site is an essential resource for developers, and the best APIs put tools like sample code, quickstart info, use cases, and FAQs directly at users' fingertips. Using 3scale's built-in developer portal CMS, you can easily customize the look and feel of your developer portal. From basic CSS changes to new page templates and branded email templates, the developer portal CMS makes it easy to create a developer-friendly site that makes onboarding a breeze.



### ActiveDocs interactive documentation

ActiveDocs, based on the [Swagger framework](#), lets you create interactive documentation for your API. Swagger provides the basic HTML, CSS, and JavaScript assets that generate the interactive UI, and a code generator to help you automatically create client-side code libraries in multiple languages. 3scale has added a few extra perks to ActiveDocs, like the auto-fill of API keys and support for more complex data types. You can use any Swagger-compliant spec in ActiveDocs and easily publish to your 3scale developer portal.

### Monetization

Increasingly, businesses sharing data and other assets by exposing APIs are choosing to charge for access. 3scale has built-in features for easy creation of pricing rules, invoices, and billing, and supports in-product integration with Stripe, Braintree, Authorize.net, and Ogone. You can customize pricing rules for paid application plans, create invoices via API at your preferred frequency, and handle different types of credit card payments, all through a PCI-compliant system.

