



Application Programming Interface (API) Technology for E-commerce

3scale networks

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Objective

Retail companies are facing an increasing competition on the web and need tools to stick out from the masses and increase reach and relevance. Offering their services via APIs provide a way for companies to break out of the crowd, foster innovation and reach their customers through new channels.

In this sense, this document's aim is to describe the benefits of API technology as a new distribution channel for retail companies and present an easy, flexible way to leverage Web Services through APIs.

API Technology

Introduction

API stands for application programming interface and it serves as a platform for web applications to interact and share information with other applications. Therefore APIs can be used to access valuable data or Web Services, allowing other developers to integrate and reuse them.

By launching an API, Internet-based companies give potential and existing partners the ability to create applications, so-called *mashups* which use their data and gain customers in new ways.

Today, *mashups* have become a paradigm and a lot of developers are integrating Web Services to create added-value applications.

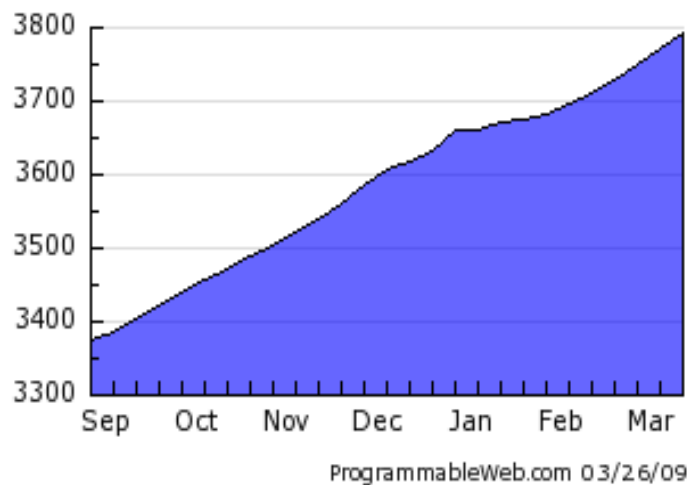


Figure 1: The number of Mashups is growing very rapidly. This is the evolution in the last months (Source: www.programmableweb.com)

Traditional e-commerce companies distribute their vendor's products through their websites (see Figure 2, in grey). However, APIs open up new business channels and make the buying process easier and more efficient (see figure 2, in green). E-commerce platforms can automatically integrate the product information from the vendors and offer the aggregated data through a public API that allows other developers to build new applications - such as product searches or widgets applications - and creates a new distribution channel through affiliates and partners.

On the other hand, APIs are bi-directional, so e-commerce companies can gather a lot of information about the customer shopping behavior that can be very valuable to detect new trends and make more effective marketing campaigns.

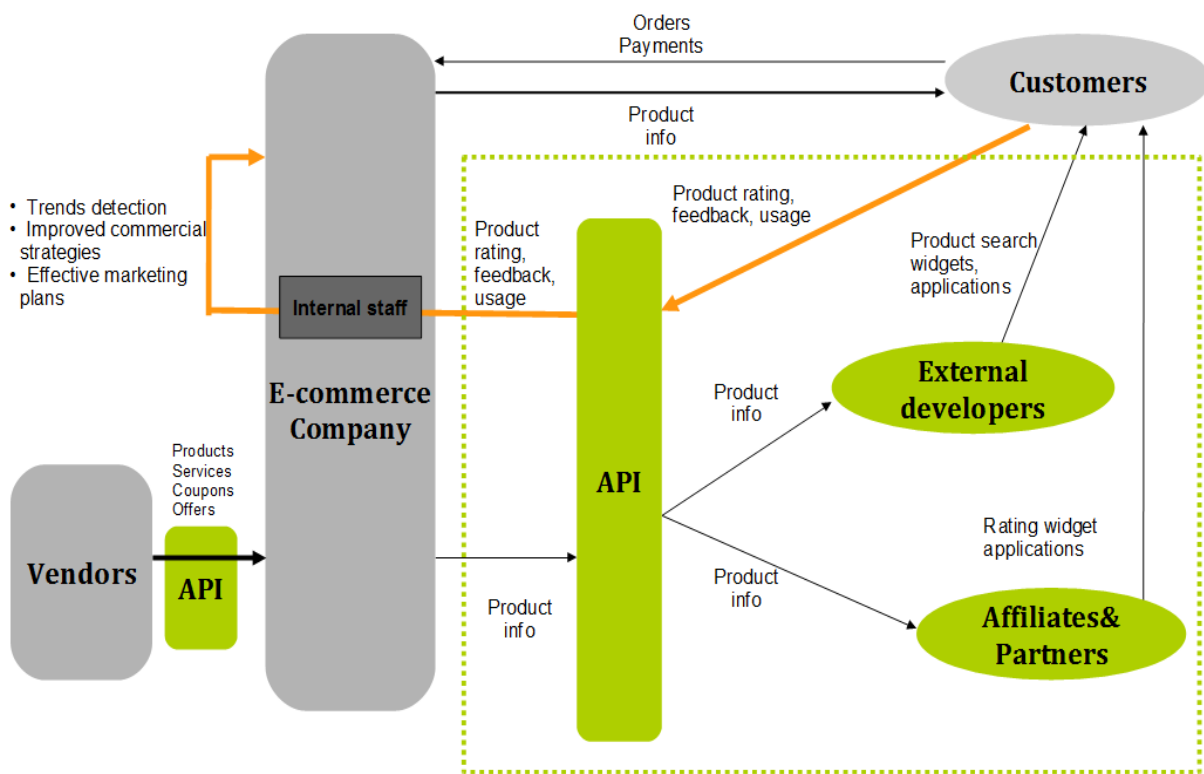


Figure 2: APIs open up new business opportunities for e-commerce companies

API Advantages for E-commerce Companies

The commerce world has changed and E-commerce companies need to adapt, share their content and special offers, gather information from their consumers, participate in customer conversations and determine the market trends.

These are some of the advantages of offering your content through an API to other developers or websites:



- **New distribution channel:** Websites were usually the main distribution channel of Web Services. But now APIs allow to distribute, promote and even sell the company's content, products and services to other developers.
- **Market reach:** With the size of the web reaching 1 trillion unique URLs, it is very difficult to get noticed. APIs are a key enabler that for Internet businesses to go beyond their own website and to become visible on other websites. Moreover, an API opens up the opportunity for ways to tap into markets and geographies you would not otherwise have the resources or expertise to get into. An API offers the possibility of creating or modifying features to suit specific markets and it can also help automate the creation of content relevant to your market.
- **Marketing platform:** E-commerce companies have a mountain of data at their disposal and at the same time, they need to collect data about the market and the customer's shopping behaviour. Instead of knowing that a customer came to a sales page, brands can know what type of information customers are interested in, how they like to communicate with their friends, keywords that cause them to take action, and countless other data points that would render the best market research obsolete.
- **Branding:** Data used on a mashup through an API can be presented with the provider's logo. Therefore, the content is distributed while the brand gets also exposure.
- **Innovation and synergies:** Due to flexible integration and re-use of content & data on the web, APIs foster innovation. Users can create new applications for the content and data that the provider never thought of.
- **New business models:** E-commerce APIs can be monetized for developers and providers in some different ways:
 - **Pay-per-click:** merchants pay the API provider a fee for each user that clicks through and a percentage of that fee is then shared with the developer.
 - **Pay-per-action:** an affiliate revenue commission - often between 4-8% - is shared when a referred user purchases a product.
 - **Others:** There are companies that use personalized revenue models: referral fees+ royalty fees, revenue sharing, fixed percentages no matter what the consumer buys...
- **New partner opportunities:** An API can help you turn stakeholders into partners by allowing them to build solutions on top of your content or product functionality. This approach beats duplicating the functionality and in return, they can open up new markets and affiliate programs for you with no investment.

E-commerce Mashups

Hundreds of shopping mashups exist, ranging from commercial desktop applications to pricing comparisons. These are the main types¹ that can be found on the Internet:

- **Comparison Shopping**

Comparison shopping mashups use APIs to gather data from multiple sources to provide new ways to compare and contrast similar products across merchants, brands and sites.

- **Visualization**

The idea behind the visualization-style shopping mashups is to offer a different way to show what consumers can buy. These applications allow the buyers to create their own mall or to buy from the closest store.

- **Social Shopping**

Social shopping mashups allow users to buy with their friends, give shopping advice or rate the products.

- **Specialized Shopping.**

These applications are addressed to a particular niche segment: hiking, cars, sports, wine...

- **International Shopping.**

Developers around the world have created shopping mashups for their part of the world.

- **Mapping and Shopping**

There are lots of examples where ecommerce is combined with a geographic context and integrated with a mapping API.

- **Mobile Shopping**

Some mashups give users access to the power of web-based shopping even when they are not on the web.

¹ Source: <http://www.programmableweb.com/>



Business cases:

The retail sector has been pioneered by APIs from two of the most successful companies of the early dotcom era, Ebay and Amazon, which were followed by many other Internet-based businesses .



In 2001, eBay first launched an API and created a programmable auction platform. The service has been so successful that today almost half of all product listings on eBay are created using tools that leverage the eBay API and they process over 3 billion API calls per month.



In 2002, not long after eBay's API launch, Amazon.com introduced their e-Commerce Service API. This API offers developers the ability to search through the millions of products in the Amazon catalog, add items to shopping carts, and ultimately share transaction revenue using the same model as Amazon's affiliate program.



Best Buy Remix is the open API for Best Buy's product catalog, featuring full product information including pricing, availability, specifications, descriptions and images for nearly a million current and historical products.

Since they launched their public AP in November 2008, developers have created a wide variety of applications, such as social shopping, pricing comparison, semantic searches, games and geo-location.

The API market is growing rapidly. On www.programmableweb.com, the leading portal in the Web Service world, there are more than 1200 listed APIs. Shopping companies are also following this trend with more than 52 registered APIs on the mentioned portal.

3scale's Products and Services

E-commerce companies can start benefit from having an open API which gives other developers access to their product information, coupons, sales, product reviews, announcements or other valuable data. 3scale reduces time to market by providing the necessary management infrastructure.

Apart from core capabilities such as access control, contract and customer management, monitoring, analytics and payments, 3scale's products include a complete developer portal under the customer brand that facilitates the communication with partners and users.





	Management & Access Control <ul style="list-style-type: none">▪ Usage limitations by methods▪ Contract management▪ API traffic filtering and caching		Monitoring & Analytics <ul style="list-style-type: none">▪ Track account sign-ups▪ Monitor account usage▪ Track method usage in calls
	Billing & Payments <ul style="list-style-type: none">▪ Pre- and post-pay▪ Usage plans configuration▪ Set pricing rules according to metrics▪ Receive monthly settlement		Developer portal <ul style="list-style-type: none">▪ Content management for API documentation▪ Flexible forums, blogs and other community tools▪ Ticket tracking system

Figure 3: 3scale provides a complete management infrastructure

3scale allows the provider to focus on their core service while we manage the details of the infrastructure. We offer a flexible solution that can be easily customized to your requirements with proxy or non-proxy architectures.

3scale networks

Founded in 2007, 3scale networks enables Internet-based businesses with a secure, scalable and efficient SaaS platform to manage their APIs and reduce time-to-market.

3scale's on demand infrastructure platform lets businesses capitalize on their Web Services to increase revenues and exploit the full potential of the API technology as a distribution channel.

3scale is based in Barcelona (Spain) and Sunnyvale (California) and has more than 20 customers live from industries such as e-commerce, content/media to internet infrastructure.

Please visit us at www.3scale.net.