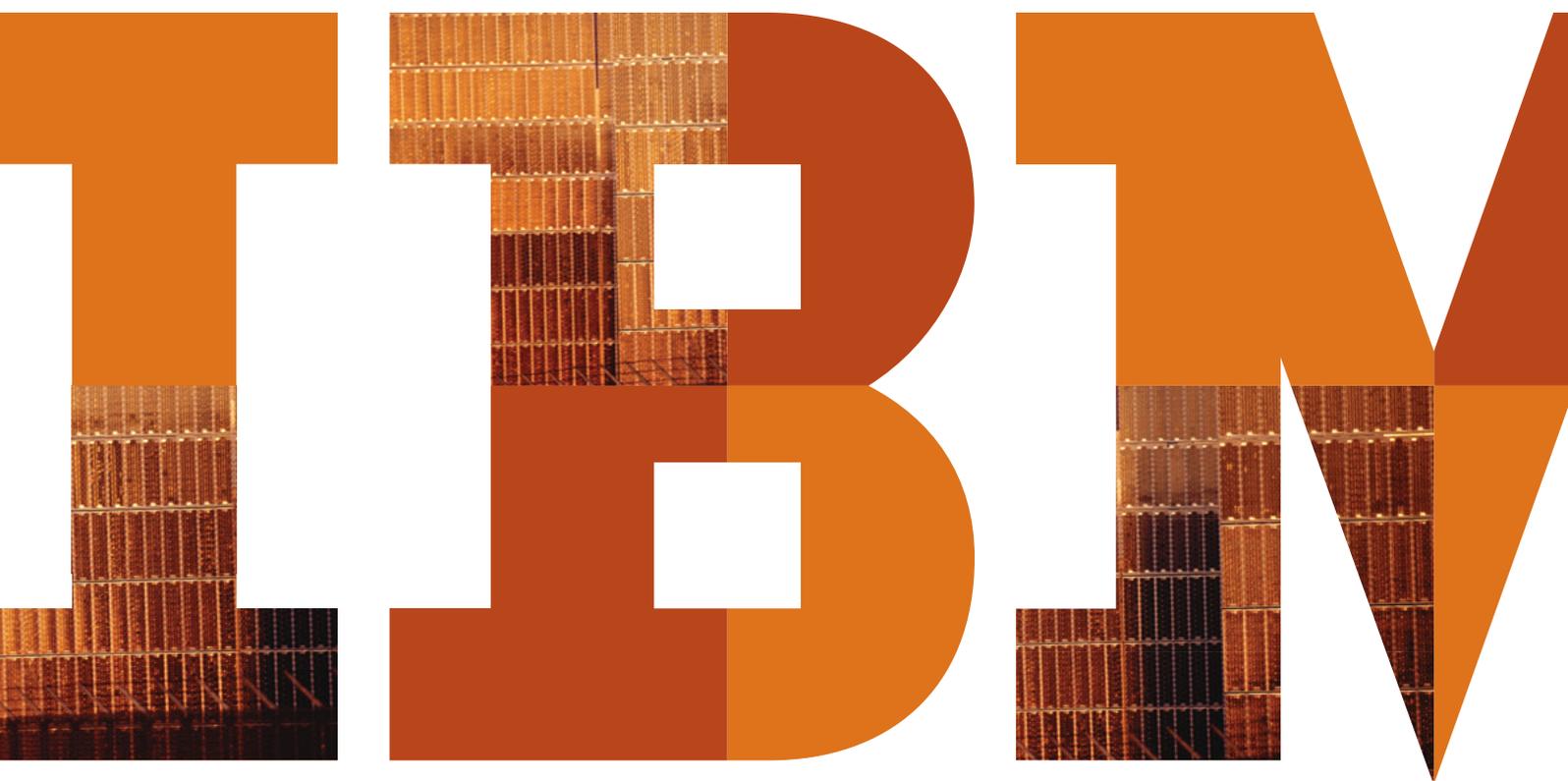


Why APIs make things different



The term ‘API economy’ is being used more and more these days. The phrase is a combination of an IT term and a business term; it refers to a trend that is quickly changing our method of doing business. For example, APIs have already become an established fact in the retail sector and the travel sector. What exactly are APIs? Why are they suddenly popping up everywhere? Why shouldn’t we fear them? And if we want to use them, how do we take the first steps?

Let’s begin with a definition: API stands for Application Programming Interface, a term that is decades old. In simple terms: an API is a collection of definitions (routines, protocols, functions) that makes interaction between two computer programs possible. The need to have one bit of software communicate with another bit of software is almost as old as the history of the computer itself, so APIs are certainly nothing new. Yet, we are currently experiencing an API revolution. What is the difference between then and now?

In the traditional IT world, APIs make communication between two internal applications possible, for example an inventory management system communicating with a software package for service management. There is a reason the term ‘middleware’ is used: APIs ‘mediate’ between bits of software. However, these days APIs are increasingly being employed that come into contact with the outside world. These ‘web APIs’ make communication with a company’s external applications possible and – this is the truly sensational aspect – with others’ (mobile) apps.

The core of the ‘API economy’ is that companies ‘pre-package’ their valuable data and offer it on an API market, where others can benefit from them. In so doing, they create new markets.

In short, the new web APIs disclose a company’s assets to the outside world and place them in the market in a new way. That is the core of the ‘API economy’: using APIs, companies can ‘pre-package their property – their valuable data – in a smart fashion and offer it on an API market, where others can benefit from them.

Just consider how platforms such as booking.com and airbnb extensively utilise third party APIs to make their service provision as complete and user-friendly as possible. Users can rent a car, call up a map with driving directions, check the weather at the site, and pay directly: all services that are provided via other companies’ APIs and are seamlessly offered via a single web site. Not only does the platform itself benefit from this; the service supplier benefits, as well. After all, he is tapping into new income streams and reaching customers who otherwise may never have come to his website of their own initiative.

Why now? And why must you take advantage of this?

There are already sectors where platform websites have taken the reins completely. Consider the retail sector, in which the traditional store – from bookstore to fashion store – is having a tough time. In the mobility sector, Uber is beating the competition. In the travel sector the afore-mentioned booking.com and airbnb have completely transformed the way the sector is operating. In the entertainment sector, Spotify and Apple Music reign supreme.

The developments in these branches capitalise on the way the consumer currently wants to do business: anytime, anywhere (particularly via mobile phones), quickly and simply (thus, with a few ‘swipe’ and ‘taps’), integrated into one handy app. In fact, the consumer is searching for the ideal micro-experience via an app with which he can arrange everything quickly at one time.

In the background, this changing consumer experience is made possible by APIs. Admittedly, the work that APIs do is still not sexy; it takes place quietly, behind the scenes. However, the possibilities that APIs create are extremely enticing. They provide untold opportunities. Ninety per cent of the data that is currently in circulation has been created within the last two years. That percentage will only increase; the expectation is that in 2020 75 billion devices will be connected to the Internet. All that data can be of value, even for target groups you may never have even considered.

The expectation is that in 2017, 100% of all business applications will be designed as ‘mobile first’ applications and that in the same year 50% of all forms of B2B collaboration will take place via web APIs. Even those who do not see the opportunities may see the threats. If you don’t take advantage of this, others will. Four times more money was invested in the cloud in 2015 than in 2013.

Begin using APIs now, because:

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-

Still, many companies find this frightening: readily ‘disclosing’ data to the outside world, certainly if this information comes directly from their internal systems. But what is really frightening about this? You disclose data on your own personal web site – and that doesn’t include any business secrets. It will be a question of dealing with it; this is exactly what happened with e-commerce: sentiment completely changed course in just one year. Initially, all companies were afraid of the web, but 12 months later everyone was buying on the web.

On a web site you give your data away, because this data can be ‘scraped’ or ‘harvested’ from the screen (the phenomenon of web scraping or web harvesting); you receive nothing in return for that data. Thanks to APIs, companies can earn money with their data. APIs have done much more than simply provide a technical interface between two programs for some time now; APIs now involve smart pre-packaging of valuable assets, services or data, so that this is easy to consume; it is also a source of income. What assets are involved? This can be anything: from a product catalogue to order statuses, from inventory data to social posts.

Such valuable information is also to be found in your organisation. Using an API, you can convert that value to a continual income stream.

What do APIs provide?

An API offers another important advantage: speed. APIs do not require months or even years of development. Adding new functionality – in reality: seizing new business opportunities – is a question of weeks or even days. Think about it. Who

‘consumes’ an API? A developer. You can find developers in your own company, but can also find them in a partner or in the outside world. The developer uses the API – in combination with other APIs – in an app that he assembles at lightning speed in a development environment such as IBM Bluemix. Many APIs are already available for each sector at collection sites such as programmableweb.com. From there, the developer can go immediately to the developer portal, where he will find all usage conditions in one place. The developer need only agree to the conditions, download an API and he can get to work immediately.

It is almost too bad that a typical IT term such as API – an IT abbreviation that refers to a practice that is not at all new – is being used for a development that doesn’t so much modify IT as it alters our way of doing business. For APIs are especially interesting for marketers and product developers. APIs finally end the age-old discussion between business and IT. In the past, the IT department said ‘Come back in six months!’ These days, new developments can be realised in just a few weeks. For both IT and the business APIs are thus a dream come true.

Let’s take a platform site as an example, one that bundles and displays the national used car inventory. It uses various APIs: one for the search algorithm (for example the IBM Watson cognitive search function), one for maps, one with a list of dealers and garages, and on and on. If this is a smart site, it also uses APIs from a bank and an insurance company, so that buyers can immediately take out a loan and purchase insurance.

Thanks to APIs the age-old discussion between business and IT is finally ended. Where, in the past, the IT department’s response was always ‘Come back in six months!’, new developments are now suddenly possible in just a few weeks.

APIs are interesting for the platform site because they earn commissions from the bank and the insurance company for every loan or car insurance policy that is concluded. But the API is also interesting for the bank. After all, the bank app is for the bank’s own customers. Naturally, a bank cannot build an app in which people can also manage accounts at other banks. However, the bank wants to be able to reach future customers easily. The bank can do this by placing its API with its ‘neighbours’: companies in adjacent business services who need bank services in order to make their own services easy for their customers.

Then there are different ways to earn money from an API. Giving it away free is one method; you generate income from the extra exposure. This earning model is particularly appropriate for simple services. Think of Facebook, which gives away its API for Facebook login. Another possibility is that the developer pays to use an API, frequently in conformance with a tiered rate model. Various comparison sites and platform sites operate in precisely the opposite way: they require payment to use them, but offer you enormous scope in return. Many indirect forms are also possible between these two opposite poles.

Where do you begin? And then, how do you proceed further?

Creating your own mobile app is always a prudent point of departure for APIs. These days, everyone is moving to mobile apps; the app only works if it has access to your own data and services and it is developed internally. This means you can learn in house what it takes to create an API and to offer this to a developer, who – in this case – is one of your own employees.

Creating your own app also ensures that you focus on what APIs are all about: speed. This way, in your own environment you can work toward developing two-speed IT in your organisation. After all, speed has always been the challenge for IT. By distinguishing between and separating systems of record (the systems that have traditionally archived data) and systems of engagement (the systems that communicate with the outside world), you can continue working on existing IT at its reliable speed, while the new IT constantly evolves in quick, consecutive development steps. Creating APIs is, in fact, packaging assets from your systems of record. If you have already set up

these systems based on a service-oriented architecture (SOA), you already have a head start.

After the internal APIs (mobile apps are just one among many conceivable forms of apps) it is time for APIs in collaboration with partners. It is obvious to start with your existing partners, but it is certainly worth the effort to quickly work toward setting up new partnerships. That is another great thing about APIs: APIs make it much easier to acquire new partners. After all, it is a question of visiting the development portal, subscribing to the API and then collaborating. Once you have gained that experience, it is time for public APIs.

Het logische API-pad om te volgen:

This path can, in turn, be incorporated into an API action plan that helps you make clear, rapid progress. First devote time (but not too much) to the strategy: knowing why you are doing this focusses all your subsequent activities. Then follow the preceding logical API path for building and managing APIs.

It is important to include security and integration in all your considerations from the very beginning. This is particularly useful because APIs specifically offer a security opportunity rather than a security risk: working with APIs, you can have all your communication with the outside world conducted via one well-secured gateway. Obviously, security can be better organised if the data stream in and out via a single point in your organisation.

APIs offer a security opportunity rather than a security risk: thanks to APIs, all communication with the outside world takes place via a single well-secured gateway.

Then it is time to make optimal use of the opportunities the API economy offers. The API concept – making data or a service available to a (an external) developer in pre-packaged form – means that you not only profit from the ingenuity or

your own staff. Suddenly the creativity of the entire development landscape is at your disposal, provided developers have the right stimulus. This means that expertise can be scaled up quite quickly and cost-effectively with people who are not on your payroll.

Working together with external developers offers a fertile breeding ground for new ideas – and, in particular, for new earning models. The ultimate objective is to offer the ideal micro-experience to the end-user, who – based on that wonderful experience chooses the one app – your app or the app to which your API contributes – and not another.

The logical API action plan:

Naturally, not all organisations are at the same starting point. It is thus quite useful that ‘maturity maps’ have been developed in the interim that show – from a technical and business perspective – how mature a company currently is in dealing with APIs. IBM’s API Economy Journey Folder distinguishes five phases of maturity, based on six dimensions: approach, management, architecture, content, processes and methods, infrastructure. This enables you to quickly discover whether you have an ad hoc or IT-driven approach, and whether or not IT and the business are already collaborating in your organisation. Perhaps you already have a business-driven approach.

Once you have APIs ready to be rolled out, it is wise to determine if you can bundle APIs. That is certainly interesting if these APIs are frequently used together. A suitable rate plan is also needed. Considerable creativity can be brought to bear in terms of rate plans; one commonly used tactic is to create tiers based on a maximum number of transactions.

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The API management environment and the gateway are at the heart of all this. Together, they offer insight into what is happening, who uses the APIs, how frequently they are used, by what devices, and so on. They do not obstruct the traffic between your back-end and the (external) app. At IBM, this technical heart can be deployed in different ways: at your own site, in the cloud as a Soft Layer solution or via the Bluemix environment. However, the same solution applies for maintenance in all these instances: IBM API Management, linked to the API gateway Data Power.

Tips & tricks

Their most important recommendation: do not let your internal SOA architects determine what APIs are made available. After all, it is not wise to create APIs for services on a one-to-one basis. After all, a service in an internal architecture is an entirely different animal: the SOA perspective frequently thinks from the perspective of the delivering party ('I deliver bookkeeping to you'), while for APIs the developer and the end-user must be the point of departure. A consumer only wants one answer from that whole mountain of data; he does not want the entire bookkeeping as a 'service'. Moreover, that would not even be technically feasible, for such a service would use up all your bandwidth, slow down the speed of the app enormously and immediately drain a smartphone's battery.

One important recommendation: do not let internal architects determine what external APIs are made available.

Approaching an API 'from the inside out' not only generates practical objections. It makes the API a technical exercise, while the focus must specifically be on its usefulness for the end-user and the income model. So view APIs from the outside in: what does the end-user need? Can the developer ask money for it? Can you ask money for it? The utility and value that an API represents must always be the points of departure.

Moreover, the outside world is teeming with inspiration. Don't just focus on what your peers in the sector are doing with APIs. It always makes sense to look at what other sectors are thinking and to get ideas from them that have value for your own sector. The development landscape is perhaps an even larger source from which to glean ideas. There is a reason that a number of various companies are conducting 'hackathons', where they offer their APIs to the development community to see what ideas the community can generate that provide new impetus to their operational management.

The outside world is teeming with inspiration. See what other sectors are thinking and borrow those ideas that are of value for your own sector. The development landscape may be an even larger source from which to glean ideas.

The growing quantity of data also offers opportunities galore. The Internet of Things is really taking off thanks to sensors and wearables. These do not need to be new, hip things: an existing cash dispenser is just as good a device that can be connected to the Internet. The developments surrounding the ‘smart car’ offer some great examples of this: before long the car will alert the maintenance service of a hole in the road. Or it immediately reports an accident to the emergency services, after which that information ensures that other highway users are diverted around the accident site.

What is funny is that it the question is not, in fact, what you can do wrong if you pursue the API path. Making mistakes in the API economy is a good thing. In other words: it is better to make mistakes quickly than to do nothing slowly. These days, apps can be built so quickly that it truly a shame not to utilize them. Moreover, APIs are so successful precisely because of the trial-and-error process. Experimenting (and thus making mistakes) is an essential part of this.

In fact, we must not ask what a company can do wrong on the API path. Making mistakes is a good thing in the API economy: better to make mistakes quickly than to do nothing slowly.

Viewed from this perspective, you can only make one mistake: strategize for too long. As we already noted, APIs run on speed, so don’t sit still too long or ponder this too deeply. The traditional IT approach of studying, creating pilots, making evaluations, requesting RFPs, still prevails too frequently, after which many months have passed. In organisations in which the business has the leadership, things frequently happen much quicker. This is remarkable, since the IT department should be happy that they can finally offer the business speed!

And is governance a problem? After all, you suddenly ‘fling the doors open’. Still, organisations with experience say: don’t make too much of this. You are not building something totally new. This involves existing services or data that are being made available in a new way. Many of your existing control mechanisms continue to apply as they always have; it is, however, wise to construct a few extra checks on top of the existing ones.

How will the future appear?

Part of the future of APIs is still uncertain. There are still no standards. However, various competitors have worked in the Open API Initiative. Moreover, standards are being created per sector. For example, the financial sector and health care sector already have standards.

In this way, we are growing toward a new type of eco-system in which you exchange APIs with other companies to your heart’s content. We are already seeing the outlines of this API economy.

Will we soon have an overabundance of APIs? Indeed, at some point it will be difficult to find the good ones. But a solution for this is already in sight, as well. IBM is currently working on API Harmony, based on IBM’s cognitive technology Watson. After all, supporting decision-making is one of Watson’s strong points, so why can’t Watson let you see what APIs are best for your objectives?



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