

# APIs

## Better for government, better for customers



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**Over the past decade government agencies have made a significant movement from traditional paper and in-person service delivery channels to website-based online services. The Ministry of Business, Innovation and Employment (MBIE) is focusing on the next channel shift, from primarily providing services directly to citizens and businesses to being a facilitator of Application Programming Interfaces (APIs). SIMON FERGUSON from MBIE's Service Transformation Team explains.**

An API is essentially a way for computer systems to communicate directly with each other to exchange information. This may not sound particularly exciting but, along with real-time technological benefits, it opens up opportunities to think differently about how to assist people with their interactions with government.

Rather than providing a government service solely through a single website, APIs allow that service to function through other providers, exchanging data between the third-party products and an agency's systems. This allows the service to be made available through a range of websites and applications from commercial organisations, government agencies, industry bodies, and many other types of providers. This means more choices for those using the service so they can access it in the way that's most convenient.

This is best illustrated with some real-life examples of recent MBIE APIs and their usage:

For example, the Companies Office API allows a customer to incorporate new companies, maintain company data, or to file an annual return. Makers of business management or accounting software can then integrate this API into their products. This means that their customers can interact with the software they use to manage their business without needing to use the Companies Office website.

Any changes the software developer makes are automatically pushed to the Companies Register in a secure and authenticated process, which minimises duplication of effort and provides a consistent, familiar experience for the user. The same software can also incorporate APIs from other government agencies such as Inland Revenue or ACC, providing a suite of options in a single product.

Also, the Licensed Building Practitioners (LBP) API is being used by local government so builder information can be directly looked up in the LBP register, which means manual searches of the website are not needed. This enables the likes of local councils to easily confirm whether a builder is licensed, without needing to copy information from one system to another and risking data entry errors.

### The right tools

The choice to provide APIs is about providing the right tools and letting the market innovate, and coming up with new services. The benefits of APIs are huge for both customers and agencies.

APIs allow increased reach of services, they encourage further innovation and save money, there's less pressure on an agency's customer support, and they promote available government data and provide secure data transmission. APIs themselves are not a new concept, and they're well understood in the marketplace and across agencies.

Websites and 'phone apps commonly use APIs to provide an integrated service to consumers. As a user, you see only one website or app, but behind the scenes APIs are working together to enable payment processing, address searches, maps, social media integration, and many other functions.

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The ministries that preceded the formation of MBIE used APIs in various forms for service delivery since 2002, which was when leading companies such as Google and Amazon first released their own APIs. In 2014, MBIE began work on developing a coherent approach for growing the API channel.

It was crucial to have senior management understand the value of APIs and rethink the way MBIE's services could be delivered. This resulted in a strategy for driving APIs through the use of new technology, production of more APIs, along with more engagement and support of third-party product providers. While there are many advantages with APIs, it should be noted that the intention of the strategy is not to eliminate the direct customer relationship. This is because there are some parts of the business where it's not suitable to use third-parties. There will also remain a significant proportion of customers that don't use products integrated with MBIE services.

A new API platform launched by MBIE in 2016 provides APIs in a modern, standardised way, helping business applications communicate with each other. This platform has initiated processes for designing, building, and operating new APIs, making it easier for units within MBIE to introduce new services.

MBIE's API Explorer website at [www.api.business.govt.nz](http://www.api.business.govt.nz)

is a catalogue where the public can browse a full suite of the Ministry's APIs to find services that could benefit them. People can view technical documentation, see early publications of draft API definitions and give feedback. The site also includes functions for log in, access requests for APIs, and allows users to manage their API profile.



There are two classes of APIs offered in the MBIE suite – retrieval and interactive. Retrieval APIs simply allow customers to access information held by MBIE. Then there are the interactive APIs, which allow a two-way flow of information. With these, users can submit applications, maintain their details, and interact with MBIE. MBIE's public APIs are available for the Companies Register, the Disclose Register of financial products and investment schemes, the Financial Service Providers Register and the Insolvency and Summary Instalment Orders Registers. They are also available for Intellectual Property registers (including patents, trademarks and designs), the Licensed Building Practitioners Register, information on Market Rent, Tenancy Tribunal applications, the Motor Vehicle Traders Register and the New Zealand Business Number Register. They are also used for the Personal Property Securities Register and the Register of Radio Frequencies.

**Lessons learned**

Looking back on the process to get APIs to where they are now, MBIE has faced a number of challenges and learned some good lessons which can be applied to other organisations.

***APIs are a natural consideration as government agencies develop the way they interact with customers, and will become prevalent in the future.***

Firstly, it's not enough to build the APIs and assume that consumers will just start using them. It's important to identify key clients and work with them to assess what their uptake of your services is likely to be. The best thing to do is to give them early visibility of draft API designs before these are built and operational. This way, potential consumers have time to start planning and designing in advance and the lead time for usage of production APIs is minimised. They can also give feedback on designs so APIs are fit for purpose. In some cases

it may be appropriate to co-design an API with key clients.

Secondly, there is a set-up cost for users. There's an initial development cost for users to consume the services. However, there are benefits for software providers, who can gain a competitive advantage for their product by having a point of difference over their rivals. There can also be cost savings for high-volume customers adding automated interactions into their system, so reducing administrative demands.

It was also a challenge to get system updates pushed out to customers, as they happened. One solution was to maintain multiple versions of the API and gradually get customers to transition to the latest version – though we found this could be a cumbersome and overly complex process.

In some instances we found it would be necessary to get all consumers to update their software on a set date, such as legislatively required changes or significant system replacements. For example, the Personal Property Securities Register has been operating since 2002 with a major replacement coming in July 2018. Over 70% of transactions on this register are now conducted through APIs, and hundreds of customers use them. Co-ordinating the many software providers has been an intensive job, and needed a high level of engagement over an 18-month period.

There was also a challenge in balancing privacy and open information. APIs are a natural means for allowing government data to be open to the public. However, where data includes personal information (such as names, addresses, and other details held in public registers) there must be extra care with API design. All of MBIE's APIs require software providers to sign an API Access Agreement to cover usage terms and conditions. All APIs have authenticated access, and this can be removed if there are complaints about a customer's misuse of data

**'Invisible compliance'**

Another risk was that agencies can lose touch with their customers. Shifting to APIs means MBIE's relationships are increasingly with the software providers that build the APIs. This means there is less need for direct customer contact. APIs are a shift towards 'invisible compliance', where customers can meet business compliance obligations automatically, but this means they may have less awareness about the role of the regulator. There's a high level of trust placed on the API software providers to ensure high levels of responsiveness, support, privacy, and security – and this has to be at least as good as the service provided when dealing directly with MBIE.

APIs are a natural consideration as government agencies develop the way they interact with customers, and will become prevalent in the future. It requires a willingness to embrace the idea of having services delivered by intermediaries, and a change in mind-set to focus on dealing more with them than with customers. With APIs there can be great gains in making it easier for businesses and the public to deal with government.

*MBIE's API Explorer [www.api.business.govt.nz](http://www.api.business.govt.nz)*

*GCDO's API guidelines for government agencies <https://www.digital.govt.nz/standards-and-guidance/technology-and-architecture/application-programming-interfaces-apis/>*

**MBIE APIs by the numbers**

**30**  
public APIs

**473**  
API subscribers  
(each subscriber may have many end-users of their products)

**10.5m**  
API calls per month  
(average Sep 2017 – Jan 2018)