

# Building an API Bridge to Your IBM z Systems Applications and Data

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 **Mobile**

**z Systems**





## The API economy is a big deal

### Highlights

Opening IBM z Systems applications (Systems of Record) to the growing API economy is pivotal to business growth and success for enterprises worldwide. Starting with an integrated API management platform that is based on open standards, your data becomes a bridge connecting your emerging API portfolio to full participation in the Cognitive Era.

- ▶ Mobile and cloud-based solutions can interact with existing enterprise applications
- ▶ APIs provide the bridge between these technologies and solutions
- ▶ APIs can come from internal and external sources

Enterprises worldwide have a wealth of application logic and capabilities that have formed the backbone of their online transaction processing (OLTP) workloads for decades. This application logic and these capabilities are core business assets and are industrial strength, proven, and time-tested. Tinkering with these applications is similar to handling a double-edged sword. On one hand enterprises want to extend these tried and true application assets to new offerings and solutions and on the other hand messing with these assets can disrupt their existing business. The question enterprises are pondering today is: *How can they extend the value these applications provide and reuse parts of the applications to reach new audiences?*

Application programming interfaces (APIs) have come a long way, starting as a software developer technique and evolving into a key business driver. APIs make it possible for the enterprise's core assets to be reused, shared, and even monetized to produce new revenue streams. IBM® estimates<sup>1</sup> that the API economy is estimated to become a \$2.2 trillion market by 2018<sup>2</sup>. To succeed in the API economy of today, enterprise organizations must once more look beyond the traditional boundaries of their IT infrastructure and extend the ways in which their data and logic connect. In essence, in the API economy, APIs act as the digital glue that links services, applications, and systems.

In much the same way that the move to service-oriented architecture (SOA) enablement and web services leveraged mainframe assets and extended enterprises return on investment (ROI), the emergence of the API economy continues to extend the ROI for mainframe assets. Application modernization and transformation efforts, which in the past could span years, have given way to the world of agile, where the response to new business drivers is a stream of applications and APIs that can be delivered in days or a few weeks.

Identifying and exposing digital services to employees, partners, and consumers is fueling the growth of the API economy. Regardless of who enterprises are targeting, APIs are opening up critical assets for broader consumption, which has proven to be game changing in today's market. New business opportunities based on cloud and mobile solutions are emerging faster than ever.

<sup>1</sup> IBM Unveils Matchmaking Technology to Navigate API Economy, <http://www.ibm.com/press/us/en/pressrelease/48026.wss>

<sup>2</sup> IBM announces new solutions for the API economy, <http://betanews.com/2015/11/05/ibm-announces-new-solutions-for-the-api-economy>

What roles do IBM z Systems™ applications (Systems of Record) play in the API economy? The IBM z Systems applications can form the basis of an API portfolio that can make your API economic outlook very bright. *So, where do you start?*

The IBM z/OS® Connect Enterprise Edition helps you to easily create efficient and scalable APIs for today's mobile and cloud applications, effectively creating a bridge between your trusted z Systems assets and the new API economy. Your resulting API portfolio is ready for consumption by application developers and API management solutions.

This IBM Redbooks® point-of-view publication describes how you can start with your z Systems assets, leverage the z/OS Connect Enterprise Edition as your API management platform of choice, and collect new sources of information that are primed for analytics and the cognitive era.

## Not all APIs are created equal

An API can connect data and logic for internal business purposes. It can connect data and logic to satisfy customer needs. And it can connect data and logic that third-party vendors leverage for API composition.

The API that a consumer uses to download a coupon for a free cup of coffee is far less sophisticated than the API used to transfer money between different bank accounts. The latter example likely has its roots of origin in a legacy application that resides on an enterprise system. These applications are absolutely essential to your business. However, their ability to directly impact business growth and attract new customers is limited. Indirectly, however, when used as the source of highly consumable, highly flexible APIs that not only connect data to logic, but transform processes and add value to the client experience, their potential to drive new business growth is nearly unlimited.

Your IBM z Systems™ assets, in short, now provide exponential value to you as follows:

- ▶ The foundational source of your own API portfolio
- ▶ The source to which third-party vendors are targeting their APIs
- ▶ The mechanism you can use to extend your reach into new business growth
- ▶ The key way to differentiate yourself

## IBM z/OS Connect Enterprise Edition meets your API needs

The IBM z/OS Connect Enterprise Edition enables you to easily open new channels into your z Systems applications that are supported by IBM CICS®, IBM IMS™, IBM MQ, and IBM WebSphere® Application Server software. It uses industry standards, such as Representational State Transfer (REST) and JavaScript Object Notation (JSON). APIs that are based on REST and JSON are emerging as the preferred technology for mobile, cloud, and business-to-business communications. IBM z/OS Connect Enterprise Edition offers an integrated platform for seamless modeling, publishing, and managing mobile and cloud services that access trusted enterprise assets.

Figure 1 on page 3 shows z/OS Connect Enterprise Edition in the z Systems environment.

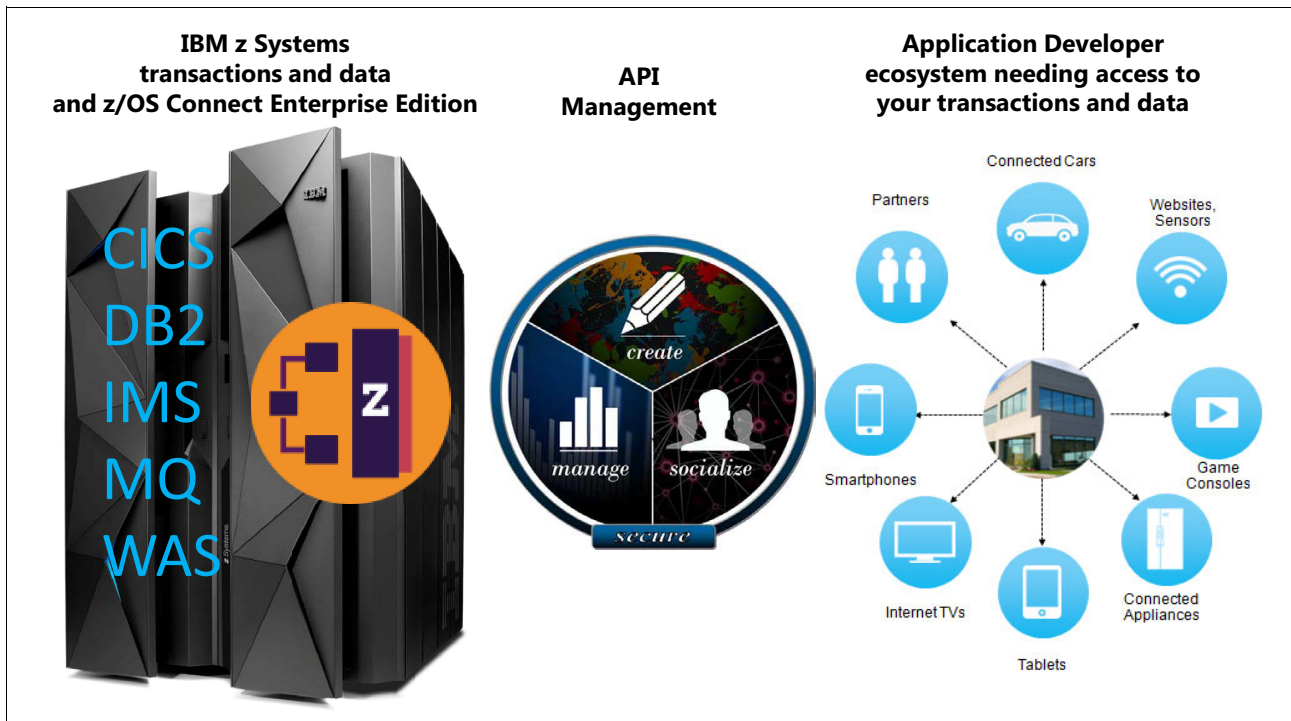


Figure 1 z/OS Connect Enterprise Edition in the z Systems environment

The IBM z/OS Connect Enterprise Edition is your single-point-of-access to z Systems applications and data, optimized for cloud and mobile apps. From the creation of the APIs to their discovery by app developers, IBM makes it easy for you to excel in the API economy.

The IBM Redbooks publication *The Power of the API Economy: Stimulate Innovation, Increase Productivity, Develop New Channels, and Reach New Markets*<sup>3</sup> states, “Often, it is not the fastest API that is the best to develop to, it is the most predictable (such as the one with fewer failures).” The growth of APIs, apps, and micro-apps is highly organic and frequently prone to failure. Some apps gain traction, some are capable of creating a revolution, and many disappear as quickly and quietly as they appeared.

IBM z/OS Connect simplifies the API adoption model. It excels at identification of services. And because it is built on z/OS, it comes with all of the qualities of service offered by IBM z Systems applications, including scalability, reliability, performance, and much more. A recent global survey of CIOs showing that 88% think the mainframe will continue to be a key business asset in the next decade<sup>4</sup>. More so, 78 percent see the mainframe as a key driver of innovation<sup>5</sup>.

The APIs that are purpose-built for mobile and cloud access some of the most sensitive data in the world. You put your data on z Systems servers for a reason. Keep it there and build your API portfolio with technology that will not only sustain those qualities of service but also continue to be a key asset that continues to drive innovation.

## Bridging the API economy to the cognitive era

Data has become a natural resource and the application of analytics to data has ushered in the cognitive era. Central to this era are APIs and the API economy, powered by IBM Watson™.

<sup>3</sup> *The Power of the API Economy: Stimulate Innovation, Increase Productivity, Develop New Channels, and Reach New Markets*, REDP-5096, <http://www.redbooks.ibm.com/abstracts/redp5096.html?open>

<sup>4</sup> *The maligned and misunderstood mainframe is ready for another round*, <https://gcn.com/articles/2015/08/14/mainframe-comeback.aspx>

<sup>5</sup> Ibid.

Supplementing your homegrown APIs with the length and breadth of APIs supported by Watson can be your first step towards competing and succeeding in the cognitive era. Watson currently offers APIs for language, vision, speech, and, of course, data.

With z/OS Connect Enterprise Edition, you can collect new sources of information derived from an expansive and diverse set of APIs. You can merge that data with your operational data, apply analytics to it, and proactively identify new business opportunities.

## What's next: How IBM can help

IBM is investing in the solutions and technologies necessary for enterprises with z Systems applications to move boldly into the API economy. z/OS Connect Enterprise Edition is one of the key solutions that help enterprises create APIs that can make key business assets accessible. Your next step is to determine where you might have your best opportunities with APIs and develop a clear path to get the most value from them. IBM has skill, experience, and solutions to help you make APIs part of your move into mobile and the cloud arena.

Application developers can see an example of z/OS Connect Enterprise Edition in action with IBM Bluemix and IBM IMS assets in the YouTube video *GoodHealth zSoR Bluemix and IMS Explorer tooling (Part 2)*, found at web address:

<https://www.youtube.com/watch?v=xZ4jLvrXn-0&feature=youtu.be>

System programmers can get additional information about the system requirements for z/OS Connect Enterprise Edition in the data sheet *IBM z/OS Connect Enterprise Edition V2.0*, found at web address:

<http://publibfi.dhe.ibm.com/epubs/pdf/i1333850.pdf>

## Resources for more information

For more information about the concepts highlighted in the paper, see the following resources:

- ▶ IBM Middleware: API economy  
<http://www.ibm.com/middleware/integration/en-us/api-economy.html>
- ▶ IBM z/OS Connect Enterprise Edition product page  
<http://www.ibm.com/software/products/en/zos-connect-enterprise-edition>
- ▶ Welcome to the cognitive era  
<http://www.ibm.com/cognitive>
- ▶ *The Power of the API Economy: Stimulate Innovation, Increase Productivity, Develop New Channels, and Reach New Markets*, REDP-5096  
<http://www.redbooks.ibm.com/abstracts/redp5096.html?Open>
- ▶ *Stepping Forward into the API Economy*, REDP-5164  
<http://www.redbooks.ibm.com/redpapers/pdfs/redp5164.pdf>

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