



Integration Strategy

The Integrated Digital Organisation

2016

The Future is Digital	03
The Goal - The Integrated Digital Organisation	04
Key issues	05
Bimodal Integration	06
Microsoft Integration Roadmap	10
About Mexia	12

REFERENCES

Gartner apn28-b2-Citizen Integrators, APIs and iPaaS_ How to Crack the Cloud Service Integration Enigma

Gartner

Gartner Integration Competency Centers Need to Define Integration Implementation Services

Gartner

Microsoft Integration Roadmap

Microsoft

Lean Integration: An Integration Factory Approach to Business Agility

John G. Schmidt & David Lyle

THE FUTURE IS DIGITAL

DIGITAL IS THE NEW INDUSTRIAL REVOLUTION

Gartner often refers to the nexus of forces, the convergence of powerful changes in social, mobile, cloud and information. These forces are changing what we need to do in order to remain competitive in the market.

BUSINESS MODELS ARE CHANGING

To remain competitive, organisations need to be able to change in response to the environment. Relationships with partners are changing, as well as the end-to-end business value chain.

INTEGRATION IS AT THE HEART

If you look at the types of projects that you need to embark on, it's unlikely any of them can be successful without successful integration with your existing investments. Seldom do we have businesses that have a single system for everything. We normally have best systems that specialise in certain areas and we want best of breed. Having disconnected systems, or worse having badly connected systems will kill the agility of the business.

You cannot implement a new mobile application without allowing customers to transact on their account. You cannot get meaningful analytics from your business without integrating data from different systems together. You cannot digitise core processes without *integration*.

Integration is growing beyond the space between core systems. Integration is now more than ever between your organisation and its partners, your organisation and its customers.

THE GOAL - THE INTEGRATED DIGITAL ORGANISATION

SEAMLESS, TIMELY COLLABORATION ACROSS ALL IT ASSETS OF ALL YOUR DIGITAL BUSINESS STAKEHOLDERS

Every IT asset seamlessly connects to every other IT asset - you no longer see each system, but rather one system. This extends to all of your digital business stakeholders.

All transactions put into digital channels to put the customer in charge.

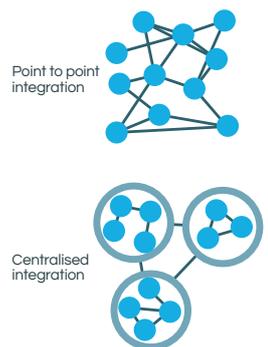
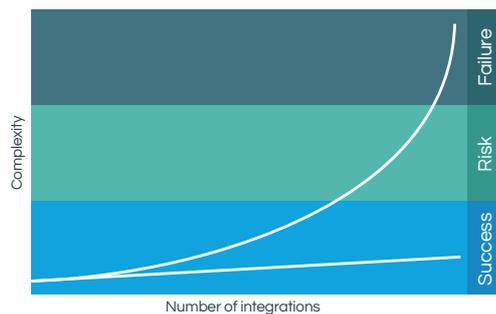
All processes fully automated across multiple areas of the organisation.

SIMPLER IT ARCHITECTURE

Having a mature integration capability not only enables the digital future, it also simplifies your organisation's systems. Integration done right brings systems together, but also keeps them apart.

Complexity is the largest contributor of cost to enterprise initiatives. It is the responsibility of IT to keep system costs as efficient as possible. As an IT system gets larger, it also gets more complex, and the need to manage the integration increases. With the introduction of new functionality, the enterprise gains new sub-systems. This causes an exponential increase in the number of dependencies and maintenance considerations between the systems. The level of coupling introduces the butterfly effect – that is, an apparent tiny change to one system has disastrous consequences to another unrelated system.

You can manage complexity by isolating volatility. Allow systems to change and be enhanced to



support new capabilities, while minimising those changes from the rest of your organisation. Each of your organisation's capabilities will evolve over time. Having tightly coupled systems cripples the ability to build capability. Approach integration as a way to liberate your organisation from complex systems and avoid vendor lock in.

KEY ISSUES

INTEGRATION IS NOT A FIRST CLASS CITIZEN

One of the major issues faced by many organisations is that they consider integration a tax. Integration is the hidden plumbing that no one wants to see. It is arguably the most complex component of a project delivery. Furthermore, the funding for integration comes directly from the limited project funding and each project does its own integration.



EVERYONE IS INTEGRATING

One of the major challenges is that everyone is integrating. Integration specialists are not the only ones connecting systems. As line of business normally get their own funding, they are looking less to the central IT services for integration. When a line of business has funding to introduce vendor's system, it is easier to get that vendor to use their own skills and technology to connect it to core systems. This introduces additional technical debt into the mix – especially if there is no enterprise API strategy.

More and more systems are making it easy to connect systems together by introducing built in adaptors, democratizing integration to citizen integrators.

IT's central role has to change in order to keep up with these developments. There are two systems at play, both competing with each other:

- 1) Centralised integration - optimised for efficiency and control. A set of patterns, deep technical skills, consistency and standards. Unable to scale rapidly to meet demand.
- 2) Decentralised integration - optimised for time to market and innovation. Get it done quickly, but at the expense of technical debt, proliferation of technology and architecture complexity.

DATA ANALYTICS IS SEEN AS DIFFERENT

The last key issue is that data analytics is seen as a separate concern to integration. The challenge with this approach is tremendous waste of duplicate effort. Much of the effort that goes into an integration project is very similar to that what goes into a data analytics project. System data needs to be understood, and translated into another format. Furthermore, data analytics requirements are trending to real time. This means that the traditional tooling used by the data teams is insufficient to meet these needs.

Integration done well allows the creation of real time business events outside of the systems that produced them. A business event is not a technical event, but represents a significant event that just happened in the business. For example, 'order submitted'. In the integration world, we then create a subscriber to this event to whoever needs it, such as the order fulfilment system and the billing system. Creating another subscriber to update the data warehouse is much simpler as the warehousing team does not have to dig inside the order system's dated extracts and reinterpret the data, duplicating business logic. The business event integration would also allow a real time update to the analytics to allow real time dashboards.

BIMODAL INTEGRATION

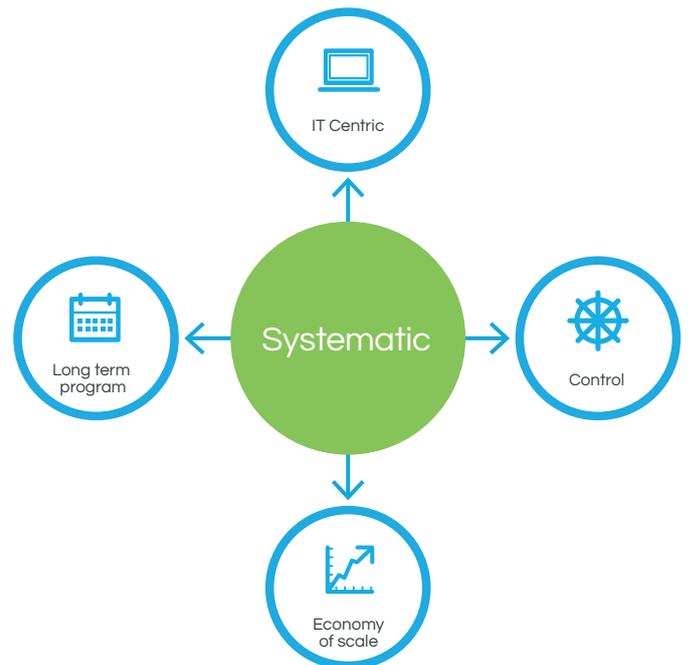
Just as Gartner suggests moving to a bimodal IT model, integration should follow the same path. Your organisation should treat integration as a first class citizen and introduce two modes of operation, systematic integration, and adaptive integration.

SYSTEMATIC

The goals of systematic integration are to gain economies of scale, and maintain control over IT architecture complexity. Economies of scale are achieved by having a single dedicated team that treats integration as a product. It will build up a deep understanding of your organisation's systems over time, removing weeks of tacit knowledge loss with a project approach. The team is highly skilled in integration technology, and has well established processes optimised for efficiency, for example analysis techniques, automated build, test and deployment pipelines.

The team is organised around an enterprise integration backlog. The backlog is prioritised by collaboration between business stakeholders and enterprise architecture. The team can predict when things will be done by using scrum techniques such as story points and velocity. Your organisation can use this predictive data to scale the integration team accordingly.

This model is akin to an Integration Competency Centre (ICC or iCOE). A permanent cross-functional team operating as a shared-services function supporting multiple organizational units and sustaining integration solutions in a coordinated manner. The ICC is an independent capability that



maintains ownership over the integration. The team delivers a certain capability to your organisation that easily be measured by a capability framework.

The main challenge with the ICC model is it requires a long term strategic investment, as the ICC is rarely funded by line of business projects.

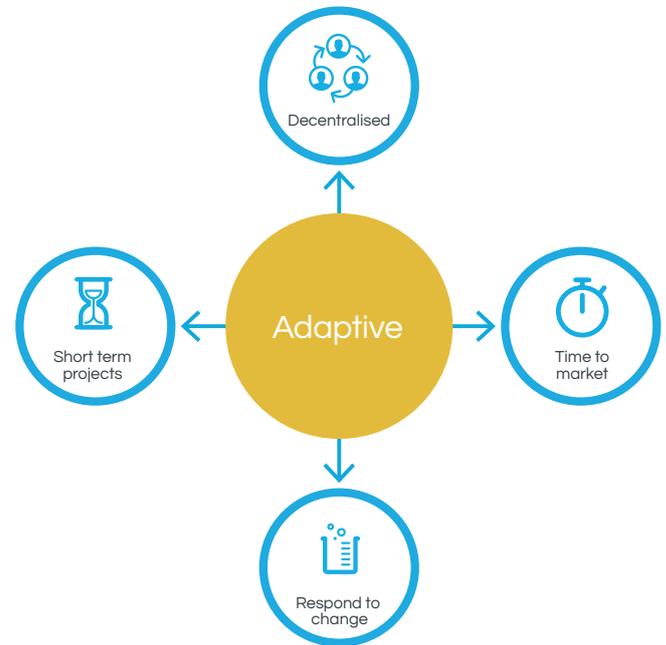
ADAPTIVE

The goals of adaptive integration are to optimise for time to deployment and enable innovation without disrupting the systematic approach. Your organisation needs to be responsive to changes in the market and be able to get new processes integrated quickly. Most of these initiatives are funded by projects outside of the central IT budget and do not want to be held back by the backlog of the ICC. There is therefore a need to allow other vendors and teams to be able to integrate on their own.

The technology used by these integrators can be different, and tends to be simpler to use. Integration Software as a Service (iSaaS) such as IFTTT, Jitterbit, Azure Logic Apps and built in SaS adaptors are more suited to these needs. A good example of adaptive integration is stringing together some existing APIs to a new third party API in order to perform some straight through automation. API Management technology is a key enabler for adaptive integration.

There are of course challenges with this approach, as these lighter weight integration solutions tend not to offer the same capabilities as the technologies used by the systematic ICC team. This can cause some of these solutions to miss some non-functional requirements such as resilience, error handling and disaster recovery. It may also start to create a proliferation of point-to-point solutions that inhibit your organisation's ability to adapt due to the increase in complexity. There is also the challenge of reuse. If each project develops integration artefacts in isolation, they will rarely reuse each other's technology or services.

All of these challenges can of course lead to increased IT debt that will just keep accumulating if not addressed.



ICC-FACILITATED LOBS

The Gartner recommendation for Bimodal Integration is to support both modes of operation. Have a systematic approach to integration, but also support adaptive integration. The adaptive integration is supported and facilitated, not controlled by the central ICC team.

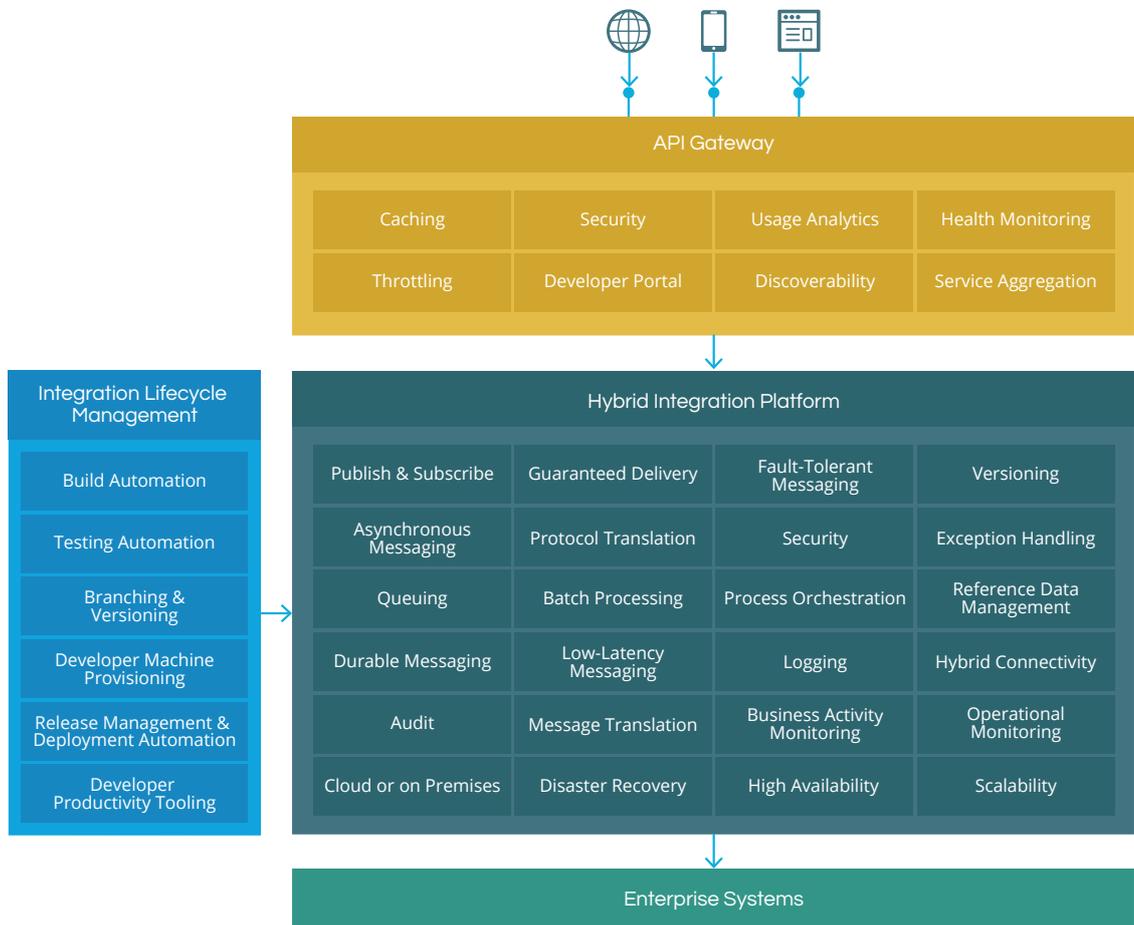
This team drives economy of scale across many projects by being aware of what is going on, and providing a service to the projects. The team provides a repository of self-service tooling, reusable integration assets, templates and suggested standards. The team will encourage the architecture principles of microservices for each adaptive integration.

Some of the adaptive integrations may also be transitioned into the systematic integrations over time to control the technical debt.

HYBRID INTEGRATION PLATFORM

Hybrid integration is a term given to an integration that is both deployed on premises and in the cloud. It provides the ability to bridge on-premises assets; IaaS hosted assets, SaaS, internet devices and more. It is the target integration architecture that many organisations are adopting.

There is increasing business expectation that such integration is simple, manageable, reliable, secure and consistent irrespective of what is being connected and where it is hosted. The platform needs to be able to resolve the impedance mismatches between on-premises and cloud lifecycles, hosting and security concerns.



The hybrid integration platform is a collection of capabilities compiled together to solve integration challenges. These capabilities need to cover mediation, operations, security etc. Ability to execute is the most important capability and therefore the platform needs to have a mature integration lifecycle management optimised for DevOps.

Prebuilt adaptors are also a core capability, and of course, the ability to extend these adaptors as new interfaces are discovered.

ON PREMISES

If your organisation has a centralised on-premises integration capability already deployed, it makes sense to keep this investment in the medium term. BizTalk, for example, for on premise integration is still featured strongly on Microsoft's integration roadmap. This centralised integration platform can still be used in an agile fashion by adopting techniques such as continuous delivery and microservices.

Continuous delivery is a DevOps set of processes and technology that allows changes to be tested and deployed, all the way through the various environments, potentially including production automatically. It is a mindset different from the 6-month release cycle, but rather one that has the integration team releasing fully tested changes in days.

Microservices is an architecture style that breaks down large monolithic applications into smaller single purpose components that can be individually managed. Mexia has worked hard to allow BizTalk to support this style of integration component architecture. WCF on the other hand is used extensively in the current integration platform and is a much lighter technology used for message translation.

Due to the complexity of the systems, involved 80% of this integration is likely to be systematic. Exposing complex legacy systems as neat restful APIs is requiring some deep expert skills and would benefit from the economy of scale of a dedicated team. The consumption of the APIs however by other systems and vendors is an activity that can transition to adaptive integration based on project's needs.

AND IN THE CLOUD

Cloud based integration is an area where most organisations have the opportunity to expand. Microsoft Azure has been working hard to provide a set of platform tools that can be combined to create a powerful cloud based integration platform. It is a lightweight platform where you no longer need to spend hundreds of thousands on setting up infrastructure. Each capability that you need can be instantly provisioned under your account, and you only pay for what you use. Most, if not all of the capabilities of an on-premises BizTalk deployment can be met by provisioning the right Azure components. This cloud platform is securely connected to the on-premises platform to provide a best of both worlds hybrid integration platform.

Compared to BizTalk there is an ever-expanding number of developers that are becoming proficient in this platform - further reducing costs and risks.

CITIZEN INTEGRATOR TOOLS

One of the services of Microsoft Azure integration is Azure Logic Apps. These apps allow for very easy self-service integration that democratises who does integration - allowing citizen integrators to meet the demanding needs of project time lines. The focus of Logic Apps is to provide a point and click interface to string together APIs in useful ways. Microsoft also provides many pre-built adaptors such as integration with Salesforce, and Twilio. (Full list available here: <https://azure.microsoft.com/en-gb/documentation/articles/app-service-logic-connectors-list/>).

80% of the integrations using this technology could therefore be done in an adaptive manner using this platform. For when the adaptors are not available, or the integration is too complex, you have the option to create your own APIs, a function more suited to the systematic integration team or ICC.

API MANAGEMENT

API Management is a way to expose and manage your growing list of APIs. There are two uses for the API management layer(s) in the hybrid integration platform.

- 1) One is to provide a layer for managing access from outside your organisation - a B2B gateway. In addition, by outside, we mean logically not physically. Access from third parties such as other product providers or brokers. These third parties are not part of your network and require special treatment. This usage of an API Management platform can be met by the use of Microsoft Azure API Management on a pay as you use basis.
- 2) The other use is for protecting managing your internal assets, and providing an additional layer of physical security for your internal assets.

“ Once many different third parties start using your APIs you do need a way to allow them to self-serve with some sort of community management capability. Other capabilities required for this layer are caching, throttling and policy enforcement. ”

MICROSOFT INTEGRATION ROADMAP

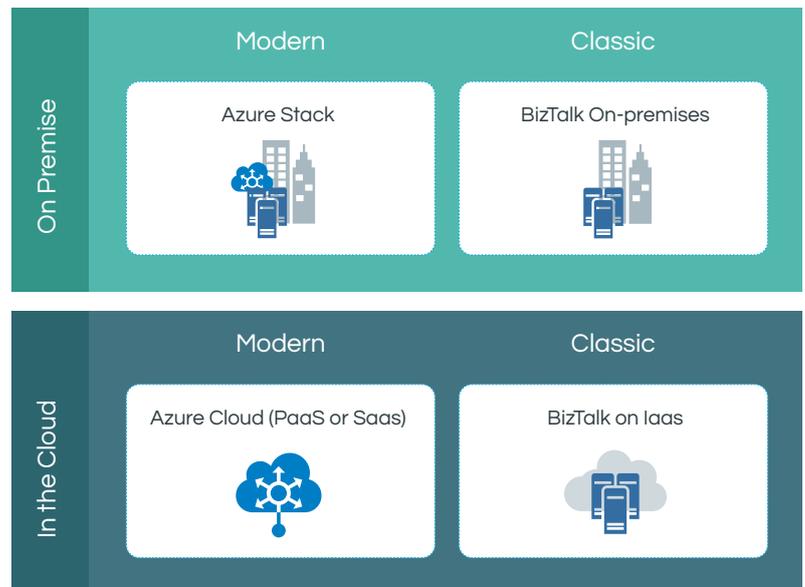
This roadmap was released early this year and shows the continued commitment and innovation that Microsoft has to address the challenges for integration in the bimodal environment.



MICROSOFT'S INTEGRATION VISION

Microsoft has a bold vision – 'to empower every person and every organization on the planet to do more'. Microsoft believe this is of huge relevance when applied to the integration expectations of their customers.

Additionally, given the trends highlighted above that we are witnessing, Microsoft are addressing two distinct, but overlapping, areas:



Modern Integration

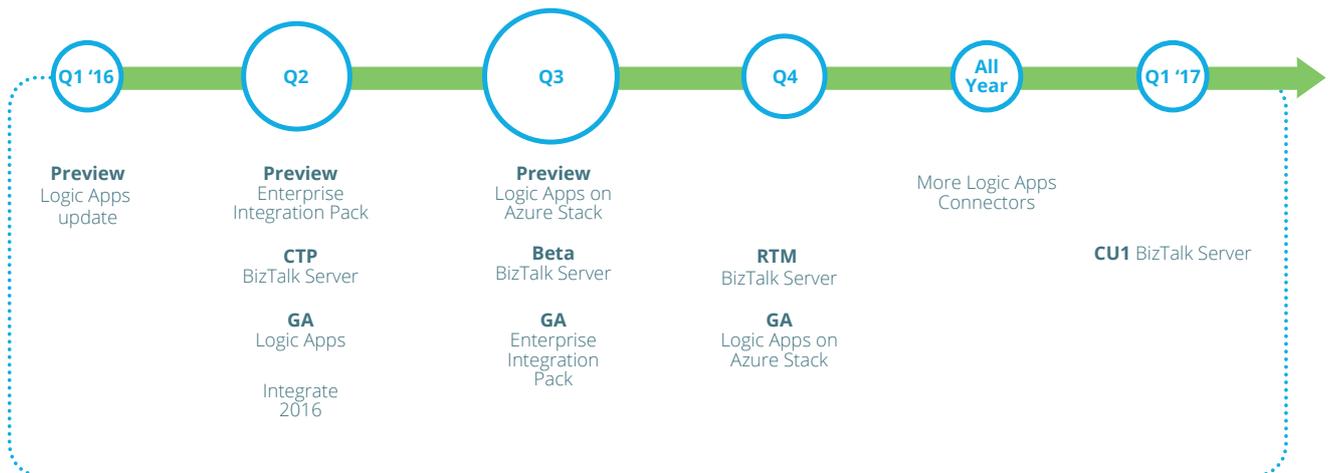
The modern integration focus of the tools is ease of use as a feature; step-based flows to drive automation; SaaS and web-centricity; affordability, but with built-in reliability and scale; inclusive approach, not code, browser based tools; integrated as part of Azure to provide a complete cloud solution.

This focus enables the agility and innovation required for adaptive integration.

Classic Integration

Microsoft's focus on enterprise integration is to provide core enterprise capabilities such as messaging, transformation and complex business logic. Built in or marketplace provided industry support for common standards. The focus is to provide this at virtually unlimited scale in a fully managed iPaaS, and still remain cost competitive and provide very high reliability of 99.95 for mission critical workloads.

These core capabilities are aimed at providing the tooling needed for systematic integration.



Microsoft has a continuing commitment to BizTalk Server, with their 10th release of BizTalk Server in Q4 2016.

Expansion of their iPaaS vision to provide a comprehensive and compelling integration offering spanning both traditional and modern integration requirements. Preview refresh in January 2016 and General Availability (GA) in April 2016, with Logic Apps generally available in Q2 2016.

Microsoft will then deliver their iPaaS offering on premises through Logic Apps on Azure Stack in preview around Q3 2016 and GA around end of the year. This will allow all of the benefits offered by previously mentioned Logic apps to be deployed and managed on premises.

This is a strong roadmap and represents significant investments to ensure that Microsoft continues to be recognized as a market leader in integration.

The next release of Host Integration Server is planned on the same timeline as BizTalk Server below.

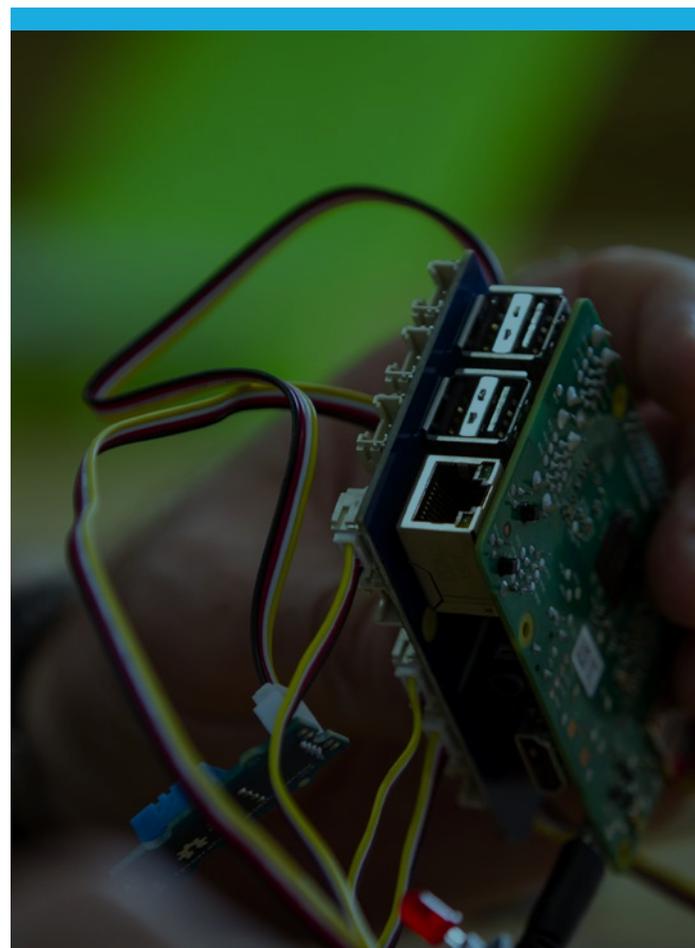
THE FUTURE

Microsoft will continue increasing the capabilities of their Azure Integration Platform to provide the core capabilities offered today in on premises BizTalk server.

Microsoft has also committed to offering the Azure cloud capabilities as an on premises deployment. We will then therefore be able to leverage the simplicity offered by Logic apps inside your organisation's firewalls.

This holistic approach to integration will drive more simplification and provide more value. Over time, with Microsoft's integration investments, your organisation will be able to run integration workloads where they make sense and based on your requirements, not technical limitations. This offers your organisation the greatest choice and flexibility on what you run where.

Read more here: <https://www.microsoft.com/en-us/download/details.aspx?id=50408>



ABOUT MEXIA

OUR VISION

Mexia's vision is to be the leader of integration in Australia and help companies thrive in a digitally connected world. We view integration as a first class citizen and believe that every organisation benefits from having seamless, timely collaboration across all IT assets of all their digital business stakeholders. We deliver rapid interoperability with sustainable growth.

Our People

- 42 staff and growing
- Deeply experienced integration technologists
- 2 x P-Sellers (V-TSP) for BizTalk Server
- Teams in Brisbane & Melbourne and expanding

Our Technology

- Microsoft first
- On-premises, cloud or hybrid
- Gold Certified Microsoft Partner since 2009
- Specialists in
 - Microsoft Azure
 - BizTalk Server
 - Integration Architecture
- Continuously evolve and improve

Our Experience

- Building on 7 strong years in business
- Serving 80+ customers
- Industries spanning
 - Financial Services
 - State & Federal Government
 - Construction
 - Retail
 - Logistics
 - Mining

OUR FUTURE WITH YOUR ORGANISATION

Mexia is offering to become your strategic integration partner, and provide enterprise level integration rather than project level integration. This means that we are not only engaged for use by projects, but have an additional responsibility to serve your organisation's long-term strategic integration needs. To do this we propose to:

Be Your Organisation's ICCaaS

Your organisation outsources, fully or partially, the capability of Integration Competency Centre to Mexia. This means that Mexia will provide and manage a small central team of experts that have deep knowledge of your systems and are highly trained and experienced in integration. This team will enable the economies of scale and control needed to enable systematic integration.

Consult and support projects

This same team will provide the necessary support to various projects as they build out their own adaptive integration components. They can provide the repository of self-service tooling, integration assets, templates etc. to enable these projects to rapidly innovate and meet market demands.

Provide scalable integration capability

Mexia is very aware of the cost of integration, and the ability to scale when demand is high. To address these needs Mexia is embarking on a blended offshoring integration capability. It will offer Australian analysts, architects and project managers blended with a remote team of skilled engineers. This will reduce the overall costs and enable scalability while keeping a high level of quality and on site collaboration.

Azure Hybrid platform

To support the future of integration, organisations will need to extend their current integration into the cloud. Mexia has started with this by offering Azure based application lifecycle management for your integration tooling, and allowing a secure way to deliver tested and compiled integration code into your organisation's network. There are many more opportunities available to leverage the value proposition offered by Microsoft Azure, and Mexia can help you get there.

Confident. Capable. Committed.
We love solving integration challenges in any form – that’s just what we do.

The name Mexia is a play on the widely-used industry term “MEX” for message exchange. Originally specialising in building enterprise on-premises integration solutions with Microsoft BizTalk Server, Mexia was an early adopter of cloud computing. Now, we’re also an Australian leader in integration, API and internet-of-things (IoT) solutions using the Microsoft Azure cloud platform.

Mexia is a world-class integration consultancy demonstrating consistent growth year after year, recognition in the BRW Fast 100 for 3 years in a row, and were recent inclusions in the Deloitte Australia Fast 50 and CRN Fast 50 awards.

Mexia combines a deeply talented team of integration specialists with a structured delivery methodology and proven technologies to take you from solution design to managed go-live with a minimum of hassle. We will lead from the front to engineer the best outcome for your business.

World-class technical excellence. A deep focus on customer service and outcomes. A champion team that lives and breathes innovation.

This is Mexia.



1300 734 127 mexia.com.au

Level 17, 31 Queen Street MELBOURNE VIC 3000
enquiries@mexia.com.au