Optimise asset management with successful integrations

How to navigate and conquer common integration challenges to get more from your Enterprise Asset Management (EAM) solution

Brightly

Introduction

Software integrations are ideal for creating seamless technology environments that increase operational efficiency, innovation, and data integrity for asset-intensive organisations. Yet, as the diversity of software applications grows, deciding what to integrate and the best method can prove a challenge. So, when are integrations really needed? And what steps can you take to prevent common barriers to success?

Contents

Brightly

1. Integration evolution

In the last few decades, the application integration landscape has significantly evolved. After decades of relying on traditional file-based communication or integration within mainframes – such as via COBOL, CIS, PL/1, DB2, IMS, DataSets, VSAM, Job Control Language, IBM MQ Series and more – the growth in digitisation has given rise to numerous other integration methods.

APIs driving growth in integrated EAM

With the rapid innovation in cloud-based tools to support EAM decision-making, lifecycle management and operational efficiency, we are seeing an uptick in organisations making the switch to SaaS environments and integration applications to maximise the lifespan of their assets.

Instead of maintaining servers or upgrading software, the role of IT departments is shifting to becoming that of integration brokers, focused on ensuring systems can talk to each other, automate processes and simplify tasks for end users.

By combining API management and EAM capabilities, organisations can unlock the full potential of their microservices architecture by having all information about their assets in one place, improving decision–making, planning and budgeting.

The adoption of APIs to support EAM integrations is largely attributed to the widespread use of API management platforms such as Google Cloud Apigee, Amazon Web Services and Microsoft Azure among others, and the establishment of API standards.

These platforms offer end-to-end capabilities throughout the API lifecycle, encompassing API development, developer experience, security, API management gateways and API orchestrations, as well as ensuring all quality-of-service requirements are met.
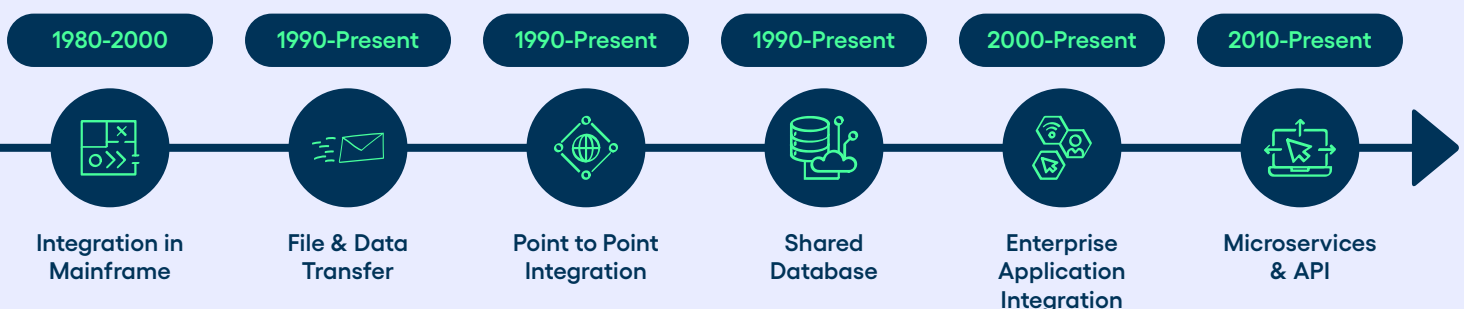
This not only empowers organisation to create scalable, agile, and interoperable software solutions but also ensures that these solutions integrate seamlessly with existing point solutions, Enterprise Resource Planning (ERP) systems, and other technologies, enabling you to keep pace with the rapidly evolving digital landscape.

> **Tip: Stay safe – ensure your integration is secure**
>
> A critical part of any integration is ensuring it is aligned with industry best practices in cybersecurity. Give your users the assurance that you are protecting their data properly while complying with information security and privacy laws.

Integration Evolution

The landscape of Application Integration has undergone significant change over the last 4 decades

1980-2000	1990-Present	1990-Present	1990-Present	2000-Present	2010-Present
Integration in Mainframe	File & Data Transfer	Point to Point Integration	Shared Database	Enterprise Application Integration	Microservices & API

Brightly

2. Integration for best-in-class EAM

A successful integration will lead to a superior EAM solution and better outcomes, including simplified workflows, having the right tools for the job, data confidence and reporting aligned to requirements.

The topic of integration usually arises when you want to upgrade your EAM system while needing it to fit in with your organisation's existing systems and workflows.

The challenge is getting your existing apps and new EAM system to talk to one another. This is where APIs come in. Today, APIs are crucial to managing large-scale and complex operations, including incorporating EAM into your application ecosystem and business processes.

What are APIs?

APIs are programmatic interfaces that allow you to access or exchange data between software applications, simplifying access to systems. They provide a set of definitions and protocols that allow you to easily access the functionality of different software programs and integrate them so they can communicate – simplifying access to systems to better support the day-to-day running of operations.

There are several advantages of using APIs for your EAM integration, including:

Simplified workflows

Integration allows for simpler workflows by automating the movement of relevant information or transactions between different systems.

With APIs, users no longer have to open multiple applications or enter the same search criteria in different apps. Instead, they can navigate between the different apps to use the best tools and services for the job.

Using the right tool for the job

Integration allows you to use tools purpose-built for specific tasks, such as an EAM system for managing asset records or a Customer Relationship Management (CRM) system for analysing customer data. At the same time, it provides a consolidated view of data at an organisation-wide level to improve efficiency, decision-making, and planning. It also minimises training requirements by reducing the number of applications a user needs to be familiar with.

Take, for example, the integration of a customer service request application with a maintenance work order application. Customer service staff can use one application, and maintenance staff can use another without any need for crossover, data re-entry, or navigating unfamiliar systems. Data simply flows between the two applications.

Another example is a GIS integration that allows sophisticated mapping software to be used by the GIS professionals, while staff and community members can access a simplified published web map showing where services are located.

Brightly

Data confidence

Integration provides a single source of truth, allowing for a greater level of data confidence.

By linking up processes and sharing data rather than information staying in siloes, everyone can do their jobs more effectively – saving time and money, reducing the risks of manual data entry errors or duplication, and improving customer service. For example, a GIS system can be synchronised with an operational asset register to ensure that core asset attributes are shared.

Having two disparate systems and relying on a data transfer process that's not automated can lead to uncertainty about the accuracy of your data.

Reporting aligned to requirements

Using the best application for each business activity allows the system to capture and present outcomes and data in a way that best suits the activity it's designed for. This way, the data structure and reporting are not compromised by the need to cater for the cross-purpose use of applications that are not best in class.

Integrations also provide an opportunity to present information in the best way for people at different levels within an organisation. For example, your management team may see a different view of your data compared to the finance team or maintenance team.

Tip: Avoid vendors that don't allow integration

Some ERP vendors prefer to lock you into using their platform, providing complex reasons why you shouldn't integrate with applications from other providers. This can make it very difficult and expensive to switch to a different service.

With the rise of ERP based on open standards, interoperable platforms, and modular architectures, a one-vendor approach is not only outdated but can potentially increase security, performance and availability risks.

Don't limit your organisation's innovation – offer the choice and flexibility to implement or decommission solutions as your stakeholders see fit.

Brightly

3. When to integrate?

In deciding when to integrate, it's best to look at the case for the integration. In some instances, an integration may be unnecessary, or the cost may outweigh the benefit.

With the number of tools typically used across an asset-intensive organisation, sometimes integration is not the most productive or cost-effective choice.

Strong use cases for integration include:

High frequency of transactions

For some operations, you may require a high frequency of transactions to flow between systems, such as customer request information going to your maintenance department.

If you had to enter the data into each system separately, you'd likely end up with many errors and waste a lot of time. In this case, manual data transfers become infeasible, and the integration pays for itself.

An integral part of a workflow

Sometimes, multiple applications – like EAM, CRM and GIS – are all integral to the workflow. What you need to happen simply can't be achieved in a single application alone.

For example, you may receive a customer service request about a flood-damaged community building. To action this quickly, you need the relevant data to flow to your maintenance system and GIS so that the maintenance team can schedule an urgent inspection and get repairs underway. You also want the status update of the completed work order to flow back to customer service, and for the status to be updated in your asset register and finance systems.

Through integration, this workflow can be simplified and automated, increasing the speed and efficiency in responding to the request, all the while ensuring data is kept up to date.

Brightly

Risk of data loss or corruption, or discrepancies between systems

In some instances, you may need to automate the movement of data from one app to another to satisfy auditing requirements or avoid any data entry issues. Automating the movement provides reassurance that you're looking at reliable, current data.

When people use multiple disparate systems, they have to check with other systems to verify if their data is consistent and correct, which can be highly inefficient and time-consuming.

A well-understood workflow

When you understand the workflow and what you're trying to achieve from your integration, it's much easier to scope and implement it. You're also more likely to get the outcome you hoped for, reducing the risk of future performance problems.

Sometimes, you might be inclined to integrate, but after analysing the situation, you find the requirements vary quite considerably from your initial understanding.

A well-understood integration

If it's a process that has been implemented multiple times against different applications, you will be more confident in that integration. There will be fewer things to worry about and fewer unknowns, and you know that the integration process is generally going to be well-supported in the application APIs.

Weak use cases for integration include:

Low frequency (e.g. annual)

A low-frequency event includes things like sharing annual rate information from one application to another. This could be treated as a simple Extract, Translate and Load (ETL) function without requiring any automation.

An ETL is more cost-effective and can give you confidence in moving data from one app to another in a well-understood manner but with less effort than preparing for an integration. There are various ETL tools and methodologies that can also ensure that the ETL process is robust and repeatable.

High cost of development compared to the value of the outcome

Take a look at your requirements – are they well understood? Does the cost and effort involved in preparing the integration match the outcome?

You might establish that there are other more cost-effective ways of doing it, such as the ETL process. However, there may still be a need for integration, such as security or auditing requirements, so be sure to look at it from all angles.

Unclear requirements or lack of consensus

The biggest risk to integration is unclear requirements and outcomes or a lack of consensus on the integration requirements. In these cases, it is best to regroup and examine the requirements and workflows. If you're unclear about your objectives, it can become quite a costly exercise.

Tip: First time integrating? Look at your business requirements first

If it's your first time integrating, start by looking at the business requirements and not the software challenge. Understand the process flow first before you work out the 'how'.

What information do you need to facilitate flow from one system to another? Why? How urgently do you need the data to be posted?

If it's customer data, you might want this to happen in near real-time, while GIS updates or attribute data could happen overnight or periodically.

4. Common integration barriers

As with any project, barriers to integration can exist that require resolution and greater collaboration between the vendor, your IT team, and the EAM system users.

These might be:

Lack of vendor support

Integration requires two or more applications or modules to interface with each other. However, if one of the vendors is unwilling or unable to support the integration by making APIs available or providing documentation, then the integrator needs to factor that in as part of the integration design and build.

It is still possible to achieve an integration, and let's face it, integration professionals are adept at working with limited support. But in an ideal world, you wouldn't have this issue.

Lack of internal support

A lack of internal support can be more of a barrier since the integration is intended to improve workflows and data handling, but if there is a lack of support for the scoping and design process, then the outcomes may be unsatisfactory.

There may be various internal conflicts or reasons for this, but if the business isn't on the same page, it can make things very difficult, especially if there is a lack of cohesion at a higher level. As you delve further into the workflows and processes that the integration is supporting, that lack of cohesion becomes even more apparent.

Testing and validation of the process are essential to a seamless deployment and to build user confidence in the process.
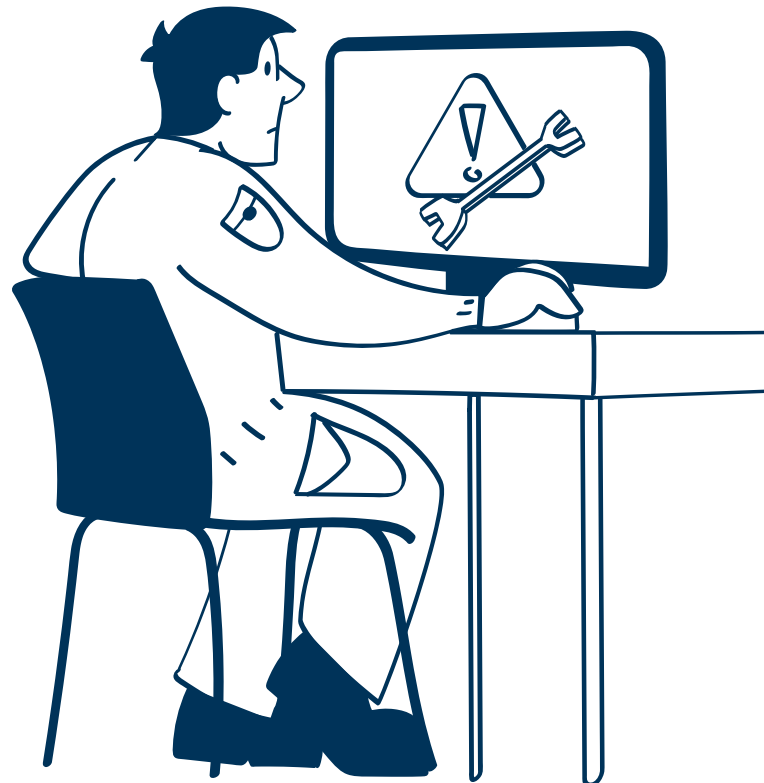
Unclear case for integration or unclear scope

Be clear about what you're trying to achieve with your integration, how it will help your workflow and the scope of the integration – how extensive it needs to be, whether it be done in stages and how well you understand the workflows that you're trying to automate.

This is particularly relevant when implementing a new EAM system. It offers a new way to manage your assets and improve outcomes by changing old workflows.

Integration needs to be based on your future state, not on your past practice. Being clear about the case for integration and the scope you're trying to achieve really helps with that. By necessity, an integration may delve down into the smallest parts of the workflow and data structure.

Costly APIs

In some instances, the cost of APIs may prove prohibitive or change the balance of the cost-benefit ratio. Other approaches are often needed. It's not an insurmountable barrier, but something to be cognisant of.

Technical barriers

When working with different applications, you may encounter technical obstacles that you need to resolve. Technical barriers might include issues with firewalls, API performance, problems with on-premise access only, not having access to cloud applications, a lack of APIs, or that the available APIs don't support the desired workflow.

These barriers should be identified early in the integration process so that they can be mitigated, and the scope of the integration aligned with the technical landscape. This requires a collaborative approach between the vendor, IT staff, and end users. Given the many and varied applications in the marketplace, each integration needs to be treated on its own merits.

5. Strategies to help overcome barriers

With any integration, you're likely to face common challenges with technology, processes, people – or all three. Fortunately, there's plenty we can learn from each other to overcome these barriers as quickly and painlessly as possible.

Here are four of the most common challenges and how to address them:

Engage with ERP vendors early

At Brightly, we've had many positive experiences working with ERP vendors when implementing our EAM solutions. In these scenarios, we've been able to create good outcomes by encouraging our customers to actively engage with the ERP vendor early about what they're trying to achieve with the integration. These early discussions go a long way in setting your integration up for success.

Your ERP vendor is likely to have the APIs required to support an integration with your EAM system. Securing access to the APIs and documentation can sometimes be a challenge, so obtaining these early makes it much easier to prepare for the integration.

It also provides your ERP vendor with an opportunity to provide input into how best to use their system in the integrated workflow.

Be open to integration opportunities

Make sure you are giving the different groups within your organisation the best tools to use while also achieving organisation-wide outcomes in terms of workflows, reporting and metrics.

Give teams an opportunity to workshop ways they could work more efficiently if data flowed better between systems.

An integration professional from your IT department or vendor may be able to help you improve a process, reduce risk, reduce training, or even reduce the number of applications that need to be accessed to perform an activity.

Utilise in-house technical expertise, ERP vendor, Brightly or a mix

Completing your integration can be done by your IT team, Brightly, your ERP vendor or a collaboration – it does not need to be prepared by the ERP vendor alone.

In-house integrations can utilise advanced whole-of-business integration frameworks, whereby a new application is 'snapped' into the framework.

This allows the apps to talk to each other. It also gives you the flexibility to swap in or swap out any app rather than being locked into using any particular one.

Vendors can also provide an integration, allowing you to utilise their experience with their app and the apps commonly integrated with it. In some instances, two vendors with complementary apps may work together to provide an integration.

Align the expectations of all parties through regular communication

Aligning expectations is the most important step in any successful integration. The starting point is achieving a common understanding of the integration's desired outcomes and goals.

Communication is the most critical element. When implementing a new system, it can be initially difficult to achieve this common understanding as senior management and end users may not fully understand the new system, its functionality and capabilities.

A new system may enable new workflows previously unthought of, which means any integration discussion should take place once all stakeholders are familiar with the new system to ensure everyone is on the same page regarding requirements.

Once there is a common objective, the finer details can be tackled. At this point, technical discussions may be held to discover how the integration will be built, such as around the APIs, integration platform, and ongoing maintenance requirements. At the same time, there should be business discussions around the user experience, reporting requirements, and configuration.

Tip: Consider hiring a business analyst

One of the things we're seeing more of with successful integrations is organisations bringing on board business analysts early at the planning stage.

Business analysts can help articulate the business need and workflows by digging deeper into what the users really need without getting too technical, and then talking to the IT team to understand the required architecture.

6. Successful integration examples

Brightly has helped deliver seamless integrations for more than 200 organisations in Australia and New Zealand – taking accountability for providing one simple integration experience.

Sorrell Council, Tasmania

Integration of work orders (MS Dynamics) with Brightly Assetic

As one of the fastest-growing municipalities in Tasmania, Sorrell's rising infrastructure and development needs began exceeding Sorell Council's internal systems and resources, placing significant pressure on the council to improve its asset management processes to keep pace with demand.

The Council decided to implement Brightly Assetic and integrate Microsoft Dynamics / Navision and other internal systems.

With available APIs, Brightly completed a point-to-point integration so that the Council's maintenance management workflow was tied with its finance system.

By establishing a link between the finance system and the maintenance system, Sorrell Council can now more easily request purchase orders to engage contractors, create work orders, raise invoices and understand the cost of maintenance activity across all asset categories – allowing it to capture true maintenance activity costs in near real time.

It can also now better plan for and measure future efficiencies in its maintenance and inspection practices and accurately record the ongoing costs associated with its capital programs.

Following the system integration, the Council saw a 132% increase in productivity over a 12-month period.

City of Adelaide

Integration of Azure Logic Apps

The City of Adelaide (CoA) has also recently achieved integration success after it decided to modernise its asset management processes and practices by bringing together multiple applications into an aligned enterprise architecture.

CoA partnered with Brightly on its asset management transformation program to help it put in place more sustainable and holistic infrastructure management. This involved Brightly Assetic being integrated with the Azure Logic Apps cloud platform, which allowed CoA to create and run automated workflows with little to no code.

The systems integration and alignment project reduced CoA's 17 systems to just seven, while its various disparate asset registers were merged into a single source of truth.

CoA's adoption of a cloud-based asset management structure, APIs, and resources means they can now easily swap out apps in their environment, allowing their system to keep pace with the council's evolving needs.

Greater Metropolitan Cemeteries Trust, Victoria

Integration platform with Oracle Suite

The Greater Metropolitan Cemeteries Trust (GMCT) in Victoria recently completed a major overhaul of its technology system, integrating the Oracle Suite platform with other varied systems – including an asset register – to create a common system and approach across all of GMCT's cemeteries and reduce manual work processes.

Previously, the legacy system, which was developed in-house, had limited functionality and did not support analysis, planning, or reporting. Most data exchanges took place on spreadsheets, increasing the risk of manual errors.

The new fully integrated system replaces the legacy finance and Cemetery Management System (CMS), with all applications now integrated with Oracle Suite – making it easier to automate and update data and workflows and customise the system to its needs.

Department of Education, Tasmania

Integration of email alerts with Azure

Brightly has been working for a number of years with the Department of Education (DoE) Tasmania to help maintain and preserve its portfolio of facilities and improve the flow of data to support planning, risk management and day-to-day work.

A simple yet important part of this was DoE's use of email as a primary way to manage their work. While DoE's system already used alerts and notifications, they didn't always trigger when they needed them to, or go to the right people at the right time.

Brightly worked with DoE using its APIs and Azure to enable DoE to issue tailored email alerts. While a seemingly small integration, being able to receive notifications via email was important for DoE and a major win in terms of productivity. This is an excellent example of keeping an existing workflow that's working and optimising it.

The City of Wanneroo, West Australia

Integration of HR system with Oracle Fusion

The City of Wanneroo is a great example of an integration within an HR system using Assetic APIs with Oracle Fusion.

Wanneroo recently decided to adopt a three-way matching process in Oracle Fusion accounts payable to ensure its invoices, order receipts, and purchase orders were all in sync. It combined two integrations already in place between Oracle Fusion and Assetic for purchase orders and brought in work order actuals from outside the system so that it could create one central source of truth.

This was all delivered with the aid of detailed Brightly technical documentation, with limited need for Brightly services. This process allowed City of Wanneroo to take more ownership of the solution and outcomes.

Brightly

Conclusion

The integration landscape is ever-changing as systems change and customer needs evolve, making it difficult for IT departments to stay abreast of the latest integration techniques, platforms, and best practices.

But they needn't do it alone. At Brightly, our role as a service provider and partner is to continuously work with different vendors and customers from different industries to keep up to date with the latest trends, so you don't have to.

Brightly can deliver the full integration journey featuring the relevant products and services that asset intensive organisations seek, including ERP, CRM, Electronic Document and Records Management Systems (EDRMS) and GIS.

Alternatively, if your organisation has internal resources to manage your integration, Brightly can provide all relevant REST API guidelines to get your business transformation underway.

If you need help getting started or have any questions, **get in touch with us at Brightly.**

About Brightly Software

Brightly Software, a Siemens company, enables organisations to successfully plan, maintain, and sustain the entire lifecycle of their assets, facilities and infrastructure. As the global leader in intelligent asset management solutions for more than 25 years, Brightly's sophisticated cloud-based platform is expertly designed to improve capital planning through smarter, data-driven decision making, empower technicians to predict, prioritise and manage preventative maintenance activities, and support organisations to achieve sustainability, compliance and efficiency goals. Combined with award-winning training, legendary support and managed services, more than 12,000 clients worldwide depend on Brightly to optimise their teams, operations and strategic planning initiatives. For more information, visit **brightlysoftware.com**

+61 3 9026 0555   /   info.apac@brightlysoftware.com   /   brightlysoftware.com