Why integrate your

CMMS

with your

ERP SYSTEM

System integration in the modern organization

Integration between different software systems has become a critical requirement of the most innovative and successful organizations in recent years. In our ever more connected world, integration is key for streamlining business processes, eliminating redundancies, simplifying data analysis and reporting and driving profitability and growth. Through integrations data can be shared and exchanged between different software applications in real time to better understand how your business is running.

The same logic holds true for CMMS systems. Today more than ever, automation, precision and efficiency are the driving forces behind why the most forward-looking companies are integrating CMMS systems in their organizations. A CMMS can connect directly with building management systems, to equipment sensors, or communicate directly with other software packages. The possibilities are endless, but for the purposes of this white paper we're going to focus on the integration of enterprise resource planning software (ERP) and CMMS systems.

ERP and CMMS integration

Enterprise resource planning software handles multiple organizational activities including: production planning, operations, procurement and financials. Over the past 25 years, ERP systems have become commonplace in manufacturing organizations around the world given that they contain an abundance of data about critical components of the business. Business leaders are looking to leverage this data to help make informed decisions that drive the business forward. Consequently, asset management data such as availability, MTBF and asset life cycle costing must be accessible in the ERP.

If you search online forums many maintenance and reliability experts recommend opting for a single ERP solution with asset management capabilities built in given that a single solution ties maintenance activities directly into the ERP. However, only the large, big brand ERPs have asset

management modules built in and implementing a large ERP system in small or medium sized business is like using a sledgehammer to crack a nut. In addition, few SMB's have the budget or the development resources for big brand ERP system installations.

When you consider the cost of ERP customizations, ongoing maintenance and upgrades the total cost of ownership over the life of an ERP can run into the millions. This puts a single ERP solution out of reach for many organizations.

What's more, the asset management modules in ERPs tend to have a poor reputation for being clumsy and difficult to use. They may tick all the boxes and meet all the feature requirements on paper, but tend to fall short in practice. Maintenance personnel tend to be more familiar and comfortable with traditional CMMS or EAM applications, so implementing a difficult to use asset management module as part of an ERP system can create hostility, difficulty and lack of use.
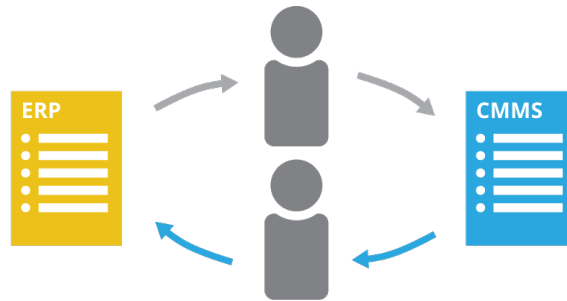
Slow, indirect and inefficient

The inefficient solution

As a result of this, businesses of all sizes opt for two stand-alone applications – a more affordable ERP and a user friendly CMMS. Purchase requisitions for spare parts are generated in the CMMS by maintenance and processed and fulfilled in the ERP system by the procurement team. However, without an integration point between the two systems, the same data must be keyed into both systems, twice. For example, purchase requisitions entered in the CMMS by the maintenance manager must be re-entered into the ERP system for fulfillment by purchasing. When the part is ordered through the ERP, the CMMS needs to be updated manually to reflect the change. This can lead to a number of issues including redundancy, time delays, isolated information and human error. Delays in getting parts can lead to overstocking of spare parts, tying up much needed capital in the storeroom.
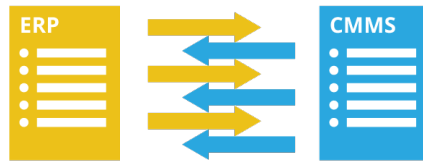
Quick and efficient integration

ERP and CMMS integration

Integration between ERP and CMMS applications lets organizations seamlessly connect procurement and inventory in one repository, providing a synchronized overview of inventory spares and purchase orders. In the past, integration between disparate systems resulted in a complicated software stack that required a dedicated team of IT experts or consultants to install, configure, secure and upgrade. Updating one application could bring the entire system down. As a result, integration projects are generally considered risky and costly and usually met with trepidation. Hesitancy can be caused by the perceived price, potential overburden on IT resources, unknown risks, skepticism about the benefits, security concerns, unpredictable timeframe, scope creep and ongoing system maintenance of an integrated solution. The list goes on and on.

Another concern that often surfaces is whether or not the company is exposing sensitive company information when transferring data between the two systems? My research has uncovered a host of white papers, blogs and

articles warning about the complexity and costs associated with CMMS/ERP integration.

Modern CMMS and ERP integration

The good news is that cloud software has changed all that. Many of these concerns are no longer relevant due to technical advances, the standardization of data exchange protocols and the emergence of cloud software. Integration between CMMS and ERP systems has never been easier which is great news for small, medium or large sized businesses. For example, Maintenance Assistant CMMS virtually eliminates all these risks with its cutting edge, real-time ERP integrations. Our CMMS integrates with big brand systems like Microsoft AX, NetSuite ERP and SAP.

The NetSuite adapter is a one-click, out of the box solution from the CMMS. That means absolutely no custom coding or configuration is needed. All the heavy lifting, coding and development has already been done by Maintenance Assistant and NetSuite, meaning your integration can be completed in less than 5 minutes. Seriously. Parts, vendors, inventory counts and storage location information can be populated automatically by pulling the data directly from NetSuite into the CMMS through the connector. Purchasing information is synced at regular intervals so the status of a purchase order in one system is mirrored in the other, meaning both systems are always up to date with one another. That said, you can see how the integration fits both the purchasing workflow of any organization, while also meeting the needs of any maintenance department.

Maintenance Assistant also created an sFTP adapter that allows organizations to seamlessly connect their CMMS application to any other ERP. This enables organizations to fully synchronize their purchasing, accounting, inventory and other mission critical data between MA CMMS and their ERP. The data between MA CMMS and the ERP is synced regularly, ensuring financials, inventory levels and purchase order statuses are always up to date. For example, when the maintenance department submits purchases through their CMMS, it maps directly to the ERP solution for processing and fulfillment.

Advantages of ERP and CMMS integration

ERP and CMMS integration provides a number of benefits to organizations using separate systems to manage their maintenance inventory procurement:

1. **Eliminate redundancy:** Integration between the two systems increases productivity by eliminating the redundancy and double jobbing associated with two separate systems. Data in one system is automatically synced and updated in the second system, removing the need to re-key the same data twice.

2. **Improve the decision making process.** The information available in one system can be used to improve the decision making process of the user in the other system. For example, parts usage information in the CMMS can be used to optimize inventory and automatically reorder levels in the ERP.
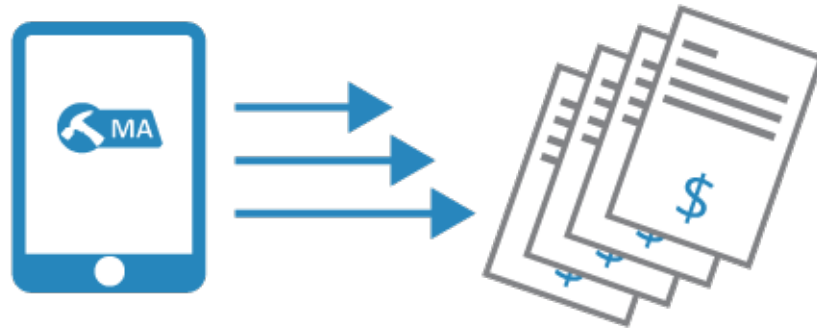
3. **Invoice all suppliers through one system**. As mentioned above, the maintenance department submits purchases through their CMMS that map directly to the ERP solution for processing and fulfillment. This means all payment transactions happen in one system. Whether that's for equipment, spare parts or raw materials for production.

4. **Simplify reporting.** Pulling the data from each system and trying to reconcile it using excel sheets can be a manual, error prone process. Integration simplifies reporting by syncing the data between the two systems. For example, the user could run an inventory report in both systems and the data will match up perfectly.

5. **Accuracy of inventory levels.** If parts are ordered and received through the ERP, the data is automatically synced with the CMMS to ensure maintenance and personnel have real-time visibility on replacement parts deliveries. In addition, if maintenance has an upcoming PM that requires replacement parts, they can check part availability in their CMMS and trust the inventory levels to be accurate.

6. **Increase productivity.** Ideally, each job function should use the software tools best suited to their needs. CMMS software is designed specifically for the maintenance industry with purpose-built interfaces and optimized workflows. The maintenance team manages all activities within their CMMS, which means they don't need to enter the same data into two systems, nor do they need to be cross-trained on how to use an ERP.

7. **More context.** The maintenance team works in one system so they have the necessary context around what they are doing. The CMMS remains the hub for maintenance and all maintenance related data given that work orders, scheduled maintenance and reporting all happens in one system. Conversely, the ERP is the hub for logistics and procurement that gives context for the activities they do, such as ordering parts for the facility.

8. **Remove the human influence.** Typing errors and absentmindedness are common mistakes that simply don't need to be made. It may sound trivial, but a simple typo could mean ordering the wrong part through the ERP, leading to extended equipment downtime, missed orders and soured business relationships. In addition, by our very nature, humans tend to forget things so getting distracted while reconciling two systems can lead to items being overlooked.

9. **Improve timeliness**. Integration can eliminate the time lag between entering the data into one system and taking action in the second system. For example, inventory requisitions are ready to be processed by the purchasing officer in the ERP system immediately after a maintenance manager enters the request in the CMMS. There's no lag waiting for the information to be manually extracted from the CMMS and entered into the ERP resulting in faster decision-making.

10. **Reduce inventory levels.** Maintenance personnel tend to hold excess inventory in its storeroom to eliminate the lead times on fast moving spare parts. Integration expedites the processing times for purchase requisitions, incentivizing maintenance to reduce the amount of inventory held in the storeroom.

Advice and things to look out for

The decision to integrate ERP and CMMS software in any organization isn't one that should be taken lightly. Positive or negative, it can have a big impact on the organization for many years. The technology you choose can have a huge impact on whether or not the integration is quick and easy or slow and costly. Here are some items to watch out for:

1. ERP and CMMS integration is not practical or cost effective for every organization. Decide ahead of time how ERP and CMMS integration will impact the organization both operationally and financially. Prepare a business case that defines the goals in terms of cost savings, efficiency gains, inventory optimization and return on investment (ROI). This will determine whether the integration is worth implementing, and if so, the corresponding budget.

2. Like any IT endeavor, it's important the project is managed properly by creating a project plan and sticking to it. Establish a framework for the project, including assigning a project manager, defining a scope of work and setting a timetable for completion by setting milestones and deliverables.

3. Get buy in from key stakeholders right from the start. The integration directive usually comes from higher-up, so it's important to involve the entire team throughout the process. Everyone should recognize that integration is a positive change for the organization. Everyone must also agree that change is needed or the project is doomed to fail. Include all the stakeholders when identifying the business benefits and impacts, as they can help identify the issues. It will also give stakeholders an opportunity to plan ahead.

4. Evaluate the ongoing total cost of ownership of the integration. The total cost of ownership includes the initial purchase price of the applications, integration, and operating costs from purchase to disposal. Operating costs are incurred over the life of the integration and could include service, repair, upgrades and consultant's fees. Cloud software like Maintenance Assistant CMMS offers distinct advantages as the software, hosting, security, upgrades, support, licensing, backups, virus software and the integration adapter are bundled up into one simple monthly subscription. There are no hidden fees. In addition, the cloud vendor manages the complex IT hardware,

servers, network configuration, upgrades, patches, security, and daily backups so you don't have to.

5. Clearly define your processes, data mapping and reporting requirements ahead of time. Decide whether your organization wants to do a full or partial integration by determining what data needs to be shared between the two applications. Pay attention to what data needs to be shared between the two systems versus what data mapping is available in the different systems. A simple integration could include assets, inventory levels, parts costs, suppliers and vendors, purchase orders, etc. Identify what data needs to be shared to deliver the expected efficiencies. There's no point sending data back and forth if it's not needed.

6. Development costs of integration can consume IT resources, so choose trusted off-the-shelf solutions like Maintenance Assistant and NetSuite. These solutions reduce the costs of integration and deliver an enterprise-grade solution quickly and easily. In addition, as mentioned above, integration of two cloud based SaaS applications ensures the availability of ongoing maintenance and system updates going forward.

7. If an off-the-shelf integrated solution isn't an option, then before you select the two applications to be integrated, it's worth checking to see if integration is possible at all. It may seem rudimentary to send data from one system to another, but it's a lot more complex than that.

Both systems must have an API (Application programming interface) so they can exchange data with another system. A number of other technical details such as network architecture, IT limitations, corporate firewall and database mapping must also align before an integration project can proceed. If mistakes are made during system selection, they can overburden IT and development resources in the long run. The simple, low risk solution is to select an ERP and CMMS that already integrate such as NetSuite and MA CMMS.

8. Do you have the expertise in house to code and then manage a complex integration between two disparate systems? Upgrades can render the entire system useless until the integration source code is fixed. If you don't have the expertise, then select two systems with integrations already in place such as NetSuite and MA CMMS. Upgrades are managed by the vendors, thus reducing downtime and eliminating the need for expensive IT consultants.

9. If you are selecting an ERP and CMMS for the first time, or looking to upgrade two outdated applications, don't be fooled by niche CMMS applications or ERP systems specific for your industry. This is most likely just a marketing ploy to disguise difficult to use functionality and outdated technology. It may be difficult and costly to integrate niche applications when standard, off the shelf applications will suffice.

10. If you are considering implementing a CMMS and integrating it with an ERP for the first time, cloud-based software provides distinct

advantages and cost savings over traditional on premise software. With cloud CMMS or ERP software, there is no need for complex server set up and configuration; you simply sign up, log in and start using it immediately. There are no large upfront investments either. Instead, you pay a manageable, monthly subscription to access the software, which is hosted on the vendor's servers. The reliability, mobility and lower total cost of ownership that comes with cloud-based software can give you the competitive advantage you need to take your asset management strategy to the next level.

11. In addition to ensuring that both systems can be integrated, you should also make sure that both the ERP and CMMS are simple and intuitive to use. Usability can have a huge influence on the amount of data entered into the two systems, user engagement with the system, system resentment and overall team morale.

Conclusion

The basic idea behind integration is for data to be shared and exchanged between different software applications in real-time. This streamlines business processes, eliminates redundancy, simplifies data analysis and reporting and drives profitability and growth. Today, ERP and CMMS integration is possible for all types of organizations, from mom and pop shops to large fortune 500 enterprises. However, it's not for every organization. Integration must be driven by sound business need, expected efficiency gains and return on investment. Many of the top EAM and CMMS vendors offer ERP integration adaptors that can connect to many of the more popular ERP packages, thus bridging the gap between maintenance and other functional areas within the business. Choose a CMMS vendor like Maintenance Assistant that offers one-click, out of the box connectors to cloud based ERP solutions, making integration a breeze.

Writer Bio

Jeff O'Brien is a product specialist and blogger at Maintenance Assistant Inc, a leading provider of innovative web-based CMMS. CMMS software is the ideal way to manage your maintenance on facilities and equipment. You can view their website at www.maintenanceassistant.com or reach Jeff on Linkedin.