

Procure-to-Pay Automation for Microsoft Dynamics AX™

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1. Executive Summary

Microsoft Dynamics AX™ (AX) is the ERP system of choice for an increasing number of finance departments. It is typically delivered as a standard platform with industry-specific templates that include basic finance functions. However, companies often have more complex business demands and find that the standard AX configurations do not meet their broader requirements.

Procure-to-pay (P2P) refers to the entire process by which organizations buy and pay for goods and services. Certain finance tasks in the P2P cycle, including requisition approval, purchase order (PO) creation and invoice processing, are often subject to specific industry and company rules, which need to be custom developed within AX.

Due to the difficulty and cost involved in developing complex rules within the system, finance teams implement manual processes and maintain spreadsheets outside of the AX system which leads to inefficiency and a lack of visibility over the entire process. With a dedicated P2P solution tightly integrated with AX it is possible to automate the full procurement cycle and provide finance leaders with the visibility they need.

In AX, because complex rules need to be custom developed, system upgrades are complicated, require re-development, and result in considerable expense to the organization. The P2P system is specifically designed to automate the procurement cycle, its standard configurations facilitate even the most complex of rules and multi-entity requirements. These configurations are maintained when the system is upgraded to latest versions; it is not necessary to re-configure the system and, as a result, upgrades are painless.

This white paper details how finance leaders can deploy P2P automation to leverage their AX investment, outlines the various ways in which P2P automation can be integrated with AX, and presents the results that global organizations have achieved in doing so, including:



Fig 1. Results that organizations typically achieve with AX-P2P integration

2. Introduction to Microsoft Dynamics AX

Microsoft Dynamics AX (AX) is an ERP platform that offers integrated business applications and services, including core finance functions with industry-standard configurations. As announced at Microsoft Convergence 2015, AX is tailored for mid-size to large enterprises and the total number of companies using AX stands at 20,000 (see Fig. 2 below), a growth of 5.3% since 2014 (Fig. 3). AX is a robust solution for the standard finance functions. However, organizations with more complex spend management requirements may find the limitations in AX make it difficult to achieve the desired levels of control, efficiency, and visibility.

This white paper will investigate how these limitations affect the overall P2P process. It will also outline how full integration between a P2P automation system and AX can be achieved and how it directly leads to considerable cost savings, financial process improvements, and better visibility and control.

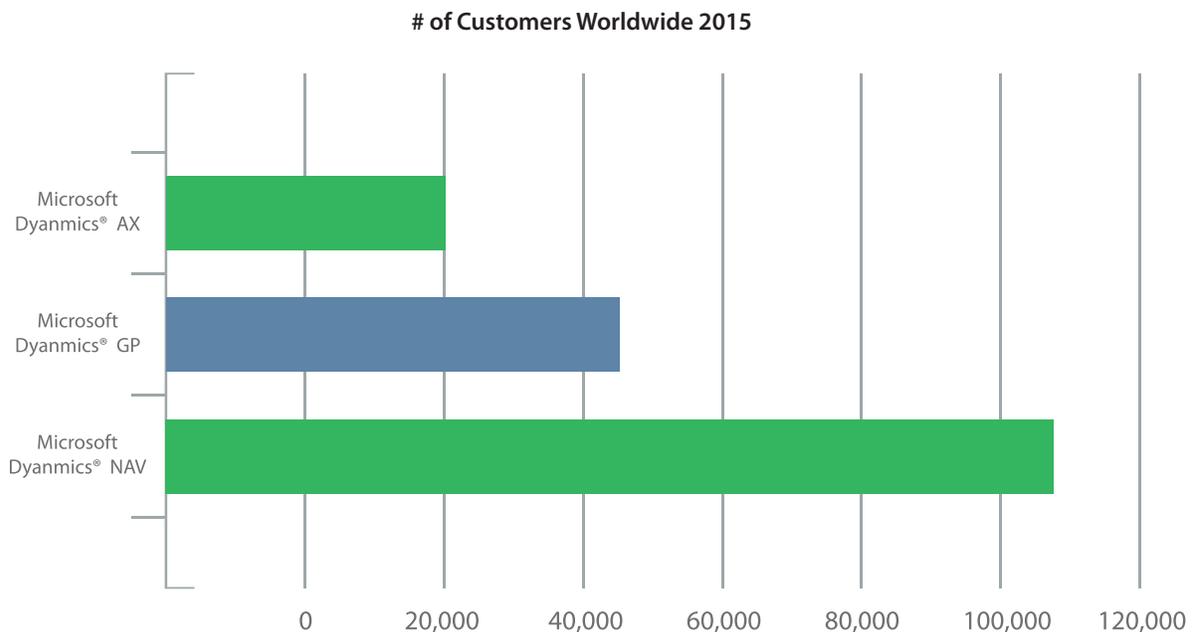


Fig 2. Number of Microsoft Dynamics ERP customers worldwide 2015

	2013	2014	2015	2015 Change
Microsoft Dynamics AX	18,000	19,000	20,000	5.3%
Microsoft Dynamics GP	41,000	42,800	44,000	2.6%
Microsoft Dynamics NAV	94,000	102,000	110,000	7.8%

Fig 3. Growth in number of Microsoft Dynamics ERP customers worldwide

3. Drivers for integrating P2P automation with Dynamics AX

Many organizations using AX today find that they have implemented a lot of manual processes and spreadsheets in order to establish some control over their P2P cycle. This is typical for companies with more complex business requirements such as multi-entity structures, multi-ERP environments, distributed buyers and approvers, and also companies operating in regulated industries with specific coding and compliance requirements. The following are some common indicators that AX customers have identified as key drivers for implementing an integrated P2P solution with AX:

- ⓧ In multi-entity organizations where cross entity approvals are necessary, approvals are done outside of AX via manual sign-off or email due to multi-entity limitations within AX.
- ⓧ AX system upgrades do not always maintain customizations, so complex rules and multi-entity requirements need to be re-developed in new versions. This results in upgrades being complicated, expensive, and time-consuming.
- ⓧ POs are raised and approved independently of AX and then approved POs are manually sent to the vendor outside AX.
- ⓧ High proportions of purchase orders and vendors being created after receipt of invoices indicates excessive maverick spending and lack of procurement controls.
- ⓧ Slow payment cycles resulting in poor vendor relations and lost early payment discount opportunities.
- ⓧ Problems with detection of duplicate invoices and subsequent duplicate payments being made to vendors.
- ⓧ Invoices are processed manually upon receipt, including coding and approval, and then manually keyed into AX.
- ⓧ In organizations with multiple entities or distributed geographic locations, there is a lack of visibility or control over external processes and spreadsheets maintained outside of AX.
- ⓧ Invoice accrual reports are either non-existent or inaccurate and result in month-end reporting problems, due to approvals being manually carried out.
- ⓧ Highly manual invoice processing with excessive overheads and high labor costs, significantly affecting an organization's bottom line.

4. Opportunities to save with P2P automation

As the pressure to drive cost savings intensifies, finance leaders realize they need to be agile, and an increasing number look to modernize their P2P processes as a result.

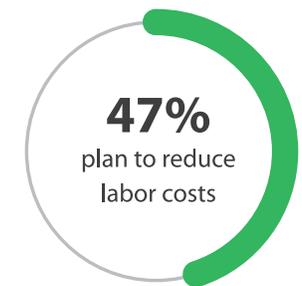
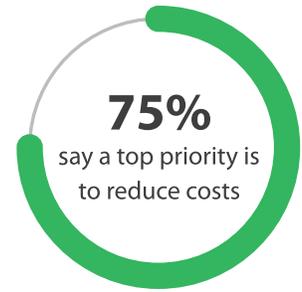
A recent survey by Deloitte found that a top priority for 75% of participating CFOs is to reduce costs and, in order to improve profitability, more than 80% of CFOs plan to implement productivity and efficiency improvement initiatives. 47% plan to reduce labor costs, and 45% expect to reduce non-labor costs.

Organizations across all industries may opt for solutions outside of the AX suite in order to modernize the P2P process and achieve real savings. Based on research carried out by PricewaterhouseCoopers, over 70% of CEOs see digital technology and automation as an opportunity to enhance operational efficiency, customer experience, innovation capacity, and brand reputation.

According to this research, finance leaders have the opportunity to develop a more strategic role within the business, pivoting between their roles as advisor and operator. However, they could be marginalized if they fail to provide the analysis, insight, and guidance that boards and business leaders demand.

Finance teams need to become creative in order to deal with disruption and change, assessing business models, not just budgets. The real value of finance is not in its ability to gauge current performance, but in its ability to foresee what business needs to do to thrive. To do this, finance management needs speed, agility, and foresight.

Organizations can modernize P2P processes while maintaining AX as the core ERP system and avoiding the cost and upheaval of a full ERP replacement. Results from AX customers who have implemented P2P automation solutions consistently show significant cost reductions by eliminating manual tasks, including manually raising POs and sending to vendors, matching and approving invoices, and posting the vendor invoices for payment. In addition to costs savings, the risk of human error is dramatically decreased and, in cases where the process is fully automated, eradicated entirely.



5. How does P2P automation work?

P2P refers to the entire process by which organizations buy and pay for goods and services, from the request for the product to the issuance of the PO, receipt of the goods, and finally the processing and payment of the vendor invoice. Successful organizations are modernizing their P2P processes by automating each of the steps involved. P2P automation can be achieved by transforming the following tasks:



Fig 4. Framework for P2P automation



Requisition automation ensures that an organization is always in complete control of company spend from the start. Requisitioners can choose products and services from defined catalogs with approved vendors so full visibility is maintained over what is being purchased and why. POs are only sent to vendors after being fully approved which enables companies to enforce strict 'No PO, No Pay' policies once the invoice has been received.



All types of invoices including paper (using intelligent character recognition (ICR)), PDF, fax, EDI, XML, and email can be automatically **captured** in the system. Touchless processing for most invoices through capture, matching and approval means only exceptions need to be handled by AP team members. Other automated checks trap problems such as duplicate invoices, missing PO numbers, and unregistered vendors at source before they cause bigger problems and more work downstream.

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 Automated 2-, 3- or 4-way **matching** of POs, invoices, and goods received notes eliminates manual paper-based processing, which typically results in the straight-through processing of up to 80% of all invoices.
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Approval automation allows for invoices to be routed electronically, reducing approval times. Complex rules based on roles, hierarchies, and varying approval limits can be configured to ensure adherence to company spend policies. Sophisticated workflow automation not only enables approval routing within a single entity, but also across multi-entity organizations.
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 Seamless **interoperability** between the P2P system and AX ensures full visibility of the end to end P2P process along with a complete audit trail for every transaction.
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 KPI dashboards and reporting **analytics** enable finance leaders to continuously monitor and improve the operational P2P processes while also delivering timely and accurate month end reporting.

6. Implementing & integrating P2P with Dynamics AX

Standard AX integration adapters are used to enable the bi-directional exchange of data between the P2P and AX systems. Key master data such as vendor information, general ledger codes, cost center codes, VAT tables, payment terms, and currency exchange data are passed from AX to the P2P system. User information is also synchronized with AD (active directory) or LDAP (Lightweight Directory Access Protocol), and associated with approval hierarchy rules in the P2P system.

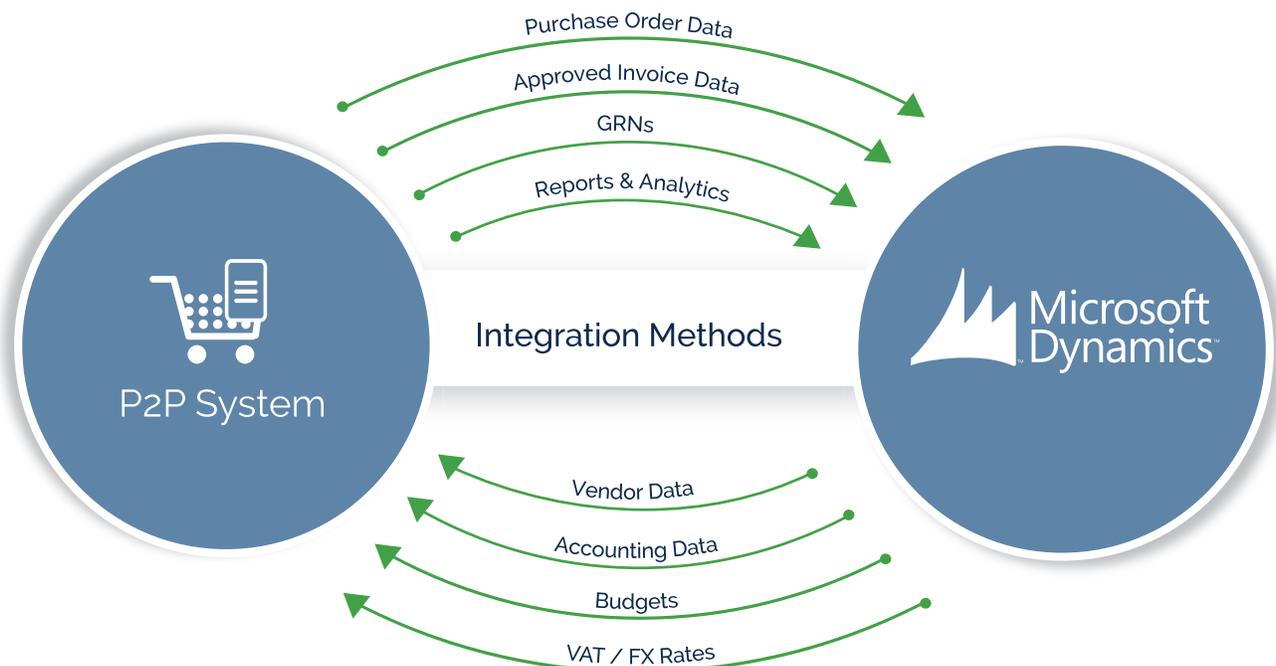


Fig 5. Sample data exchanged using one of the integration methods

The P2P system also transfers transactional data to AX such as PO details, GRN details, and approved invoice data which may include matched line item details. These data transfers can be real time or scheduled for pre-defined times depending on the demands of a particular organization.

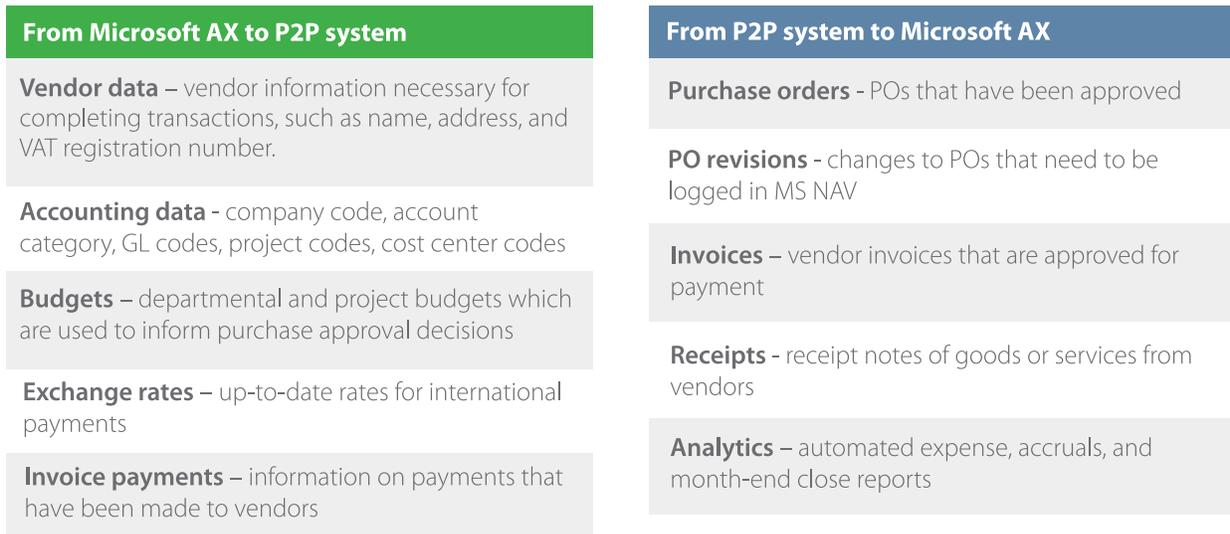


Fig 6. Types of data shared between AX and the P2P automation system

Additional attributes, known as dimensions, can also be utilized to accurately allocate costs across the organization and facilitate industry specific product specifications, for example garment sizes and colors are typical dimensions in retail, or various units of measure in manufacturing and distribution environments.

Other dimensions may also be used for improved reporting, such as asset codes, location codes, project codes, vehicle registrations, or any other business or industry specific categorization. Specialist dimensions are not readily available on a standard AX system and need to be custom developed, which can be time-consuming and costly. The P2P system handles all standard dimensions available in AX, and also allows specialist dimensions to be quickly added to meet the specific needs of any organization or industry, without the need for coding.

6.1. P2P automation-Dynamics AX integration methods

One of the key factors to consider in order to achieve seamless interoperability between the P2P system and AX is the integration method.

The integration method refers to the ways in which the P2P system and AX transfer data between each other. Different data formats, including CSV, XML, EDI, SQL views or stored procedures, may be used by each system or for each step in the P2P process. There are a number of dedicated AX adapters that enable the two systems to exchange this data, including: file exchange, which is generally carried out over a secure file transfer protocol (SFTP), and SQL views/stored procedures, also referred to as direct integration.

File exchange via SFTP

SFTP is a file transfer method that enables data files to be securely transferred between the P2P system and AX, typically on a scheduled basis. All data sent via SFTP is encrypted using an agreed upon encryption cipher. SFTP sessions can be further protected through the use of public and private keys, which offer an alternative form of authentication. SFTP should be utilized for file exchange where an organization has disparate servers that are not all hosted on-site or on a common network. .

SQL direct integration

This integration method allows the P2P system to access AX data via a standard SQL view/stored procedure against the AX database. This direct integration method allows the P2P system to seamlessly and securely communicate with the AX system. SQL views supports both synchronous and asynchronous query methods and is utilized where servers are disparate and hosted off-site.

Web Services Security (WSS)

A standard set of web services are available for direct integration which allow both systems to pass data to each other in real time. Secure Socket Layer (SSL) encryption may also be added to web services to increase the level of security. WSS supports the synchronous view of data and is used for file sharing in real time, regardless of the location of servers, in organizations where development resources are available.

RESTful API

RESTful application programming interfaces (APIs) use HTTP protocols to view, create, post, and delete data from one system to another. A RESTful API typically transfers data in readable XML or JSON formats, or both. RESTful APIs are utilized when frequent, real time updates to data are necessary for business needs, regardless of the location of servers. RESTful API is suitable for use with mobile and web applications but should not be used for the infrequent transfer of large volumes of data.

7. Customer reference



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Auto-match handles 50% of all AP invoices, saving hundreds of hours of staff time each year.

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Sunny Delight Beverages Company (Sunny D) is a leading producer of juice-based drinks in North America, with 7 brands and over 600 employees. Sunny D implemented SoftCo AP Automation (SoftCo AP) to automate invoice processing and approval for over 65,000 invoices annually.

Prior to implementing the solution, it was not possible to manually match invoices with purchase orders, and the complexity of invoices meant that there were errors in coding, matching, and approval. As AP processes were manual-based, the team of four lacked visibility over the financial workflow and had problems completing accruals and reporting accurately and on time.

Fully integrated with Microsoft Dynamics AX, SoftCo AP enables Sunny D to capture invoices electronically on receipt using ICR. A 3-way auto-match of each invoice against a PO and GRN ensures 50% of invoices are processed straight-through, saving hundreds of hours of employee time. Month-end close and accruals are completed faster, saving each employee about a day a month, every month. SoftCo AP has given Sunny D control over its entire AP function, improving visibility and productivity.

8. Conclusion

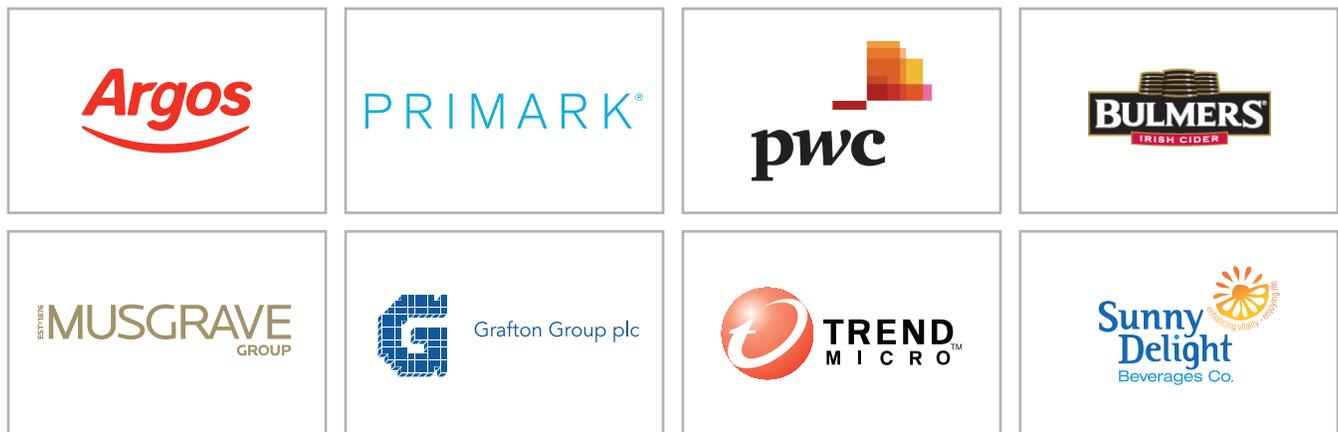
AX is an increasingly popular option for organizations as an ERP system to gain control over their financials, simplify their supply chain, manufacturing, and operations. In a finance environment, particularly for AP and P2P functions, AX can be a limited solution. For large or multi-entity organizations with a high volume of incoming vendor invoices to process, and organizations with complex rules and procedures with which to comply, making the most of AX's capabilities is a complicated task. P2P automation seamlessly integrates with AX for organizations in every industry sector, and is proven to dramatically improve AP and P2P processes, delivering cost savings, faster invoice approval and processing times, and transformed operational processes.

By integrating the P2P system with AX through SFTP, SQL access, WSS, or RESTful APIs, organizations can carry out each step of the P2P process within two fully-integrated and interoperable systems. Files of all formats and structures are shared between the systems in real time, providing management with much needed visibility and control over company spend, and accurate and timely reporting. Without incurring the costs and disruption of replacing the entire AX system, integration with a P2P system delivers optimized financial processes, allowing finance teams to complete tasks quickly and accurately, and focus on strategy rather than spreadsheets.

9. About SoftCo

SoftCo is a provider of financial process automation software that increase productivity, reduce costs, and ensure organizations meet their compliance obligations. SoftCo's solutions fully integrate with all major finance systems, databases, and ERP systems including Microsoft Dynamics, SAP, Oracle, JD Edwards, Lawson, and Exchequer, via an adapter called SoftCo Connect. SoftCo has offices in Ireland, the UK, the USA, and the Nordics. SoftCo is ISO 27001 certified, a Microsoft Gold Partner, and an AWS Advanced Technology Partner.

9.1. Sample SoftCo Clients





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