basware

BASWARE SOLUTION INTEGRATION IN MULTI-ERP ENVIRONMENTS

Business Benefits and Functional Integration Scenarios Enabled by Basware anyERP Middleware

Trademarks

The Basware name and the Basware logo are trademarks of Basware Corporation. Basware Purchase Management, Basware Invoice Processing, Basware Document Archiving and Basware Business Transactions are trademarks of Basware Corporation.

* All third party trademarks are property of their respective owner.

Copyright

Disclaimer

Information in this document is subject to change without notice and does not represent a commitment on Basware Corporation. Basware Corporation is not liable for errors contained in this document or for incidental or consequential damages in connection with furnishing or use of this material. Basware products are protected by the USA and international copyright laws.

Basware Corporation

Address:
Linnoitustie 2
Cello Building
FIN-Espoo
Finland

Postal address:
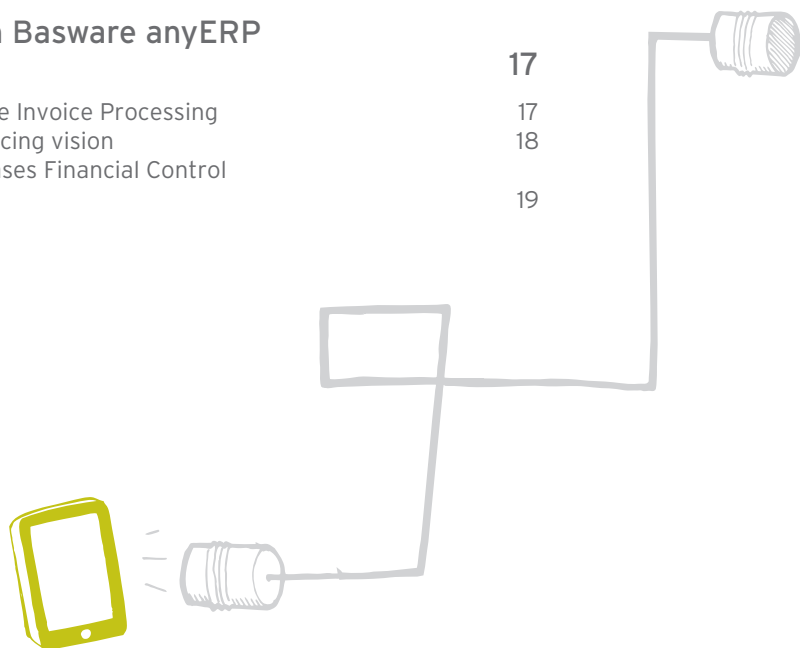P.O. Box 97
FIN-02601 Espoo
Finland

www.basware.com

CONTENTS

1. EXECUTIVE SUMMARY

Today's global corporations often inherit multiple processes and Enterprise Resource Planning (ERP) systems through company acquisitions. In a worst case scenario, an organization might need to operate with 10 to 15 different ERPs. Integrating these different systems and processes can be a real challenge frequently resulting in never-ending and hugely expensive IT projects. Therefore, it is only natural that integration capabilities become one of the key questions when an organization is looking to implement new processes with the help of different best-of-breed applications.

The Basware anyERP is Basware's proprietary middleware that has been developed over the years as a result of integrating to more than 250 different ERPs. It is designed to enable seamless communication with Basware solutions and an organization's other business solutions. This white paper compares the benefits of the Basware anyERP to other commercial Enterprise Application Integration (EAI) tools and walks the reader through different functional integration scenarios with Basware solutions and the leading ERP systems.
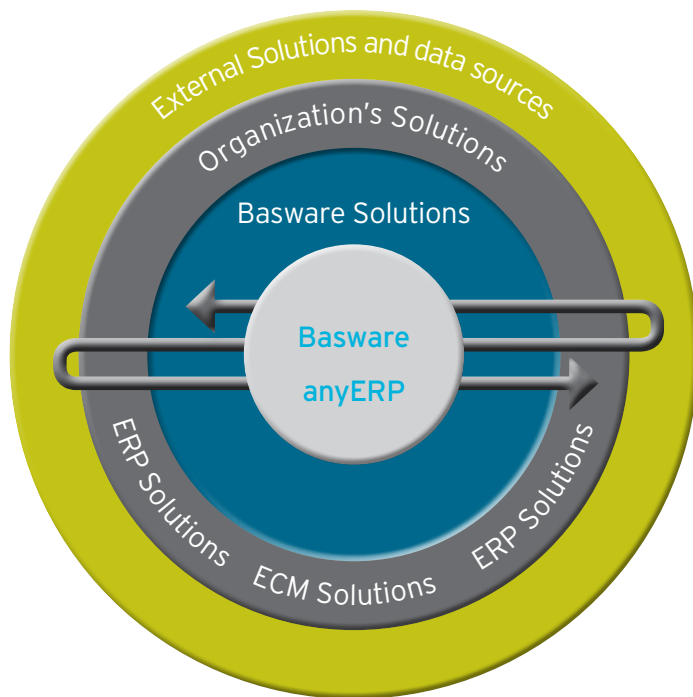
Figure 1. Integration enabled by Basware anyERP between Basware solutions, organization's other business solutions and external solutions and data sources.

1.1 Business case – Seamless and safe system integration

Typically, the bottleneck in automating business processes resides in integration with the surrounding IT landscape. As a result, projects are often overdue or never finished at all. This lack of interoperability generally leads to significant inefficiencies with different systems being out of sync, which makes the automation of even straightforward processes impossible.

Easy and seamless system integration has always been part of Basware's strategy and differentiation. The Basware anyERP is

designed to help organizations eliminate these very problems. Not only is the integration quick and cost-effective compared to other EAI tools, but the Basware anyERP also includes certified ERP intelligence, which enables seamless interoperability with the world's leading ERP systems, including SAP, Oracle, and Microsoft Dynamics.

As Basware solutions sit at the center of an organization, they must be able to handle multiple interfaces with key business systems.

In the case of an organization using a single ERP for procurement and accounting, there can also be the need to integrate to a single system. Alternatively, organizations can have multiple ERPs (different makes and models), purchasing systems (one Basware customer has 30 different purchasing systems), and financial systems. From the start, Basware has differentiated itself in these areas with easy retrieval of data from or to these systems.

With the Basware anyERP it is possible to take and use master data such as supplier-related information from the customer's Master Vendor List, accounting data (cost centers, account codes, VAT codes, etc.), and organizational information (business units, users, approval limits, related cost centers, etc.). The adapter either enables Basware to copy the information to Basware applications (by scheduled update, usually at night) or to access the data in real time.

Retrieval of the master data allows the Basware invoice automation solution to automatically match and process all the incoming invoices with zero manual intervention. Thanks to Basware anyERP, the system can also partially process even non-matched invoices with only a minimum of manual handling required, i.e., coding and routing would still be performed automatically by the system.

With the integrated Basware anyERP and its built-in intelligence, the Basware solution can also serve as a unifying element in an organization's complex IT environments. For example, a company might have ten different ERPs and among them five different SAP versions with customer-specific customizations. Consequently, the data in the system is not the same and naturally the user interfaces all look different as well. In this type of situation, Basware anyERP integration presents a compelling business case given the adapter's ability to guarantee the flow of accurate data across key business solutions and to contribute directly to the company's bottom line.

1.2 Introduction to functional integration possibilities

Basware anyERP ensures a seamless integration with Basware solutions and an organization's other business solutions. This document offers a detailed introduction to the deployment and performance of the Basware anyERP and reveals the different integration scenarios that are possible.

The following table provides an overview of these different integration possibilities. Chapter 5 will walk the reader through some typical best-practice scenarios for the various integration possibilities.

ERP Integration	Business rules integration	Other integration possibilities
Master data retrieval	Invoice data entry	Is your SSC operating in a multinational environment?
Invoice handling	Invoice validation	
• Invoice posting • Invoice parking • Invoice release for payment • Invoice cancellation • Down payments • PO invoice posting • PO invoice release for payment • PO invoice cancellation	Invoice tax calculation Invoice workflow Invoice approval PO data entry PO workflow PO approvals	PO archiving interface Invoice archiving interface
PO data retrieval	PO budget validation	
• Manual matching • Automatic matching		
PO handling		
• PO creation • PO changes • PO closing • Goods receipt • Goods receipt cancellation • Goods receipt synchronization from • ERP to Basware		

Table 1. Integration possibilities offered by the Basware anyERP.

1.3 Abbreviations used in this document

We have put together the following list to familiarize the reader with the main abbreviations used in this white paper.

Table 2. Abbreviations used

EAI	Enterprise Application Integration
PO	Purchase Order
AP	Accounts Payable
SOA	Service-Oriented Architecture
API	Application Programming Interface

2. BASWARE'S MIDDLEWARE STRATEGY

The lack of a structured approach to system integration often results in the increase of point-to-point connections across an organization. When dependencies are added on a spontaneous basis, the outcome is a complex system that is difficult to maintain (Figure 2a). As the Basware anyERP acts as a hub between the different Basware applications and an organization's application landscape, the different applications do not have to be aware of each other (Figure 2b). Unlike the point-to-point approach, these connections only have to be made to the Basware anyERP.

This means that systems can be safely added or replaced, which ensures better capitalization of existing investments as fewer connections need to be rebuilt. In addition, the hub-spoke model assures use of a limited number of connections, as compared to point-to-point connections. With the point-to-point approach, the number of connections actually increases exponentially each time new systems are added, whereas in a hub-spoke model, the number of connections will only increase linearly.
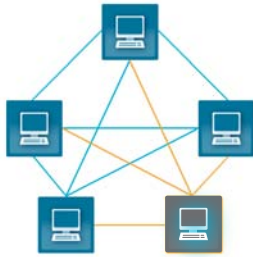
Figure 2a. Point-to-point approach
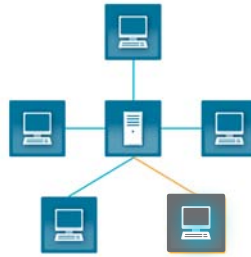
Figure 2b. Point-to-point approach

2.1 Input and outputs

To connect an application to the Basware anyERP, we make use of Input and Outputs. The Basware anyERP contains many inputs and outputs to handle communication and protocols such as Web Services, HTTP(S), XML, Text Files, DB Access (OleDb and ODBC), Active Directory (LDAP), eMail (SMTP), FTP(S), IBM MQ, SAP RFC and BAPI functions, etc. (see Figure 2). These input and outputs allow us to receive and send complete business documents to other applications connected to the Basware anyERP.

Basware anyERP adapter framework

Application Logic	Input Adapters	Basware anyERP adapter context	Output Adapters	Application Logic
• Basware EPP • ERP Integration • Capture Integration • DMS Integration • Business Rules	• Web Services • HTTP(S) • XML • TXT • DB • .NET DLL • FTP(S) • LDAP • SAP BAPI • SAP RFC • SMTP	• Transformation • Routing Engine • Template Configurations • Object Configurations	• Web Services • HTTP(S) • XML • TXT • DB • .NET DLL • FTP(S) • LDAP • SAP BAPI • SAP RFC • SMTP	• Basware EPP • ERP Integration • Capture Integration • DMS Integration • Business Rules

Figure 3. Basware anyERP Framework

2.2 Transformation engine

The business documents or master data coming from one application often do not fit the format needed by another application. When this occurs, the business documents/data need to be transformed with the Basware anyERP transformation engine. The inputs load the data into the anyERP context. Because it is designed for a service-oriented architecture (SOA) strategy, the anyERP context supports XML documents natively as well as table-like data structures.
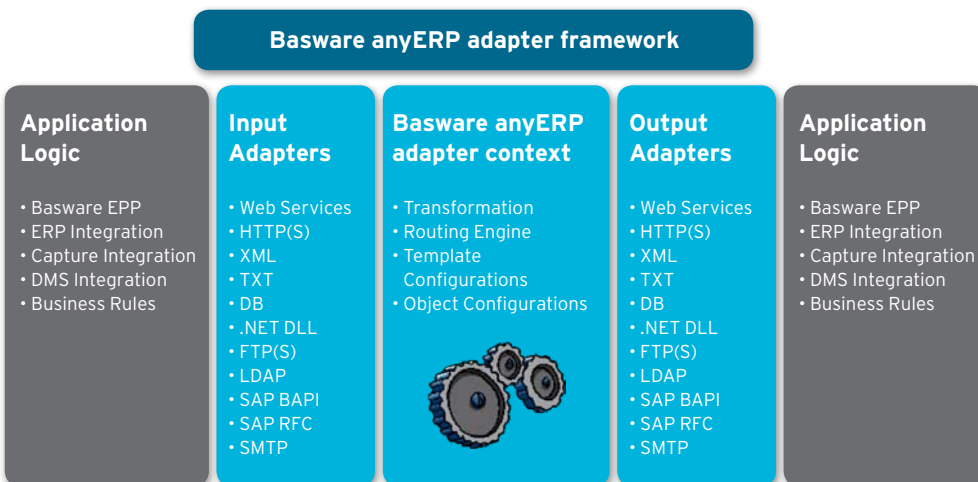
The transformation engine provides a rich set of functions to manipulate business documents. Once the data has been transformed into the right format, it can be output with one or more output s. This separation between the input and output s and the transformation process enables us to easily change the output protocol whenever needed so investments made for the transformation will remain intact.

2.3 Routing

In customer environments with multiple ERP back-ends, the Basware anyERP acts as the routing hub for business transactions and documents between Basware solutions and ERP systems. Based on the details of the inbound business document information, it is possible to route a transaction to the correct interfaced ERP instance or another financial system. In our customer environments containing multiple ERP instances, we have typically performed the routing as follows:

• Company code (and/or other criteria) of the PO is used to find the correct ERP instance to be connected.

• Depending on the company code, it is also possible to initiate entirely different integration logic, e.g. if there are entirely different ERPs to be interfaced.

2.4 Data cleansing and enrichment

The Basware anyERP improves the quality of data which passes through the adapter's transformation engine and between the integrated systems. For an optimal integration between the different business solutions, it is crucial that information is complete, expressed in the right format, and of high quality. This can be

achieved by enriching the information and potentially importing it from multiple data sources. When needed, notations and formats are converted appropriately and validation rules are applied in real time to ensure high quality.
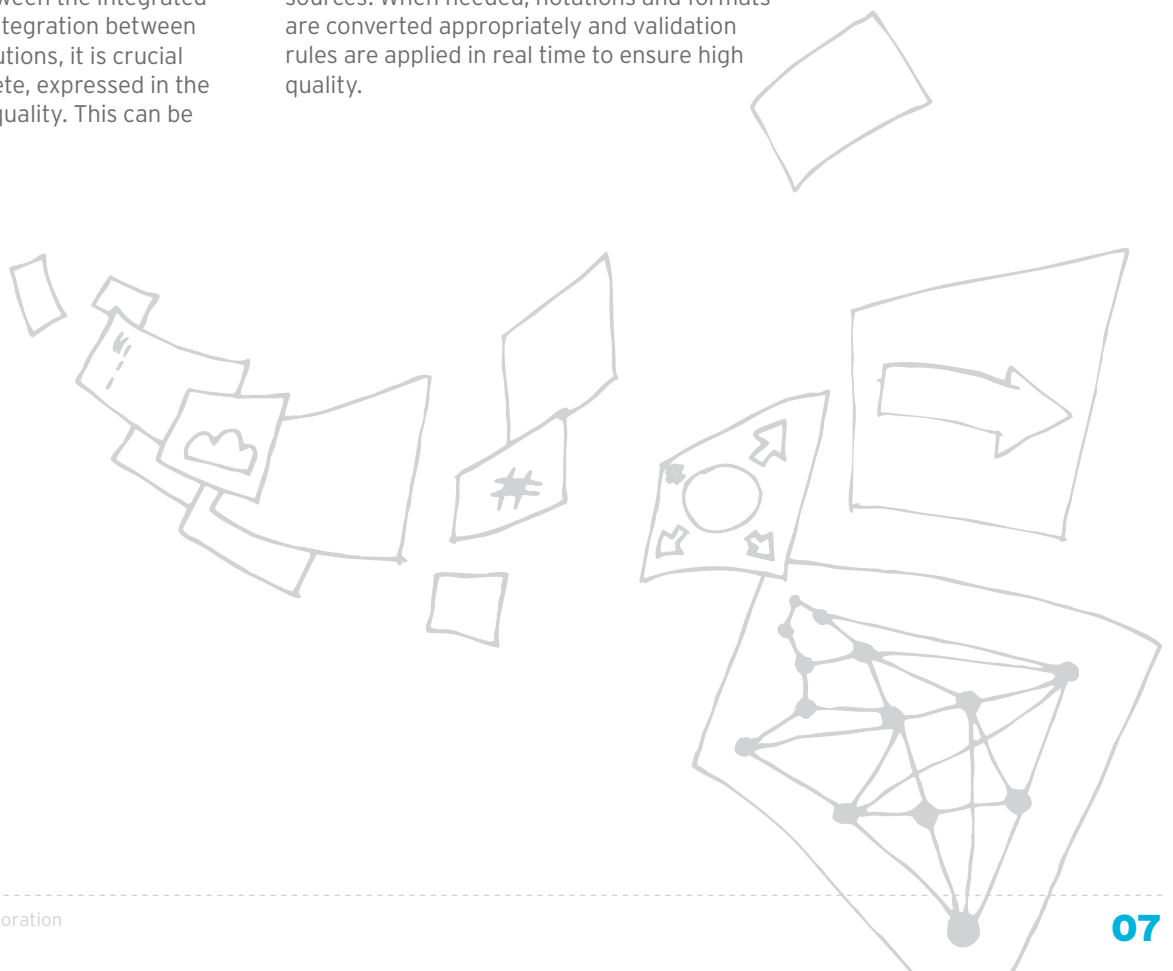
3. EASE OF DEPLOYMENT WITH BASWARE ANYERP

The Basware anyERP uses configurations and parameters instead of code writing. The configurations are made by a specific Basware anyERP expression language. This expression language is a high-level language designed to focus on business processes instead of technical details. The functional scripting boosts efficiency and enables rapid development.

As Basware's customers' business environments are constantly changing, Basware solutions need to be flexible and allow rapid adjustments. This is one reason why the Basware anyERP is designed as an abstract platform that does not contain any business logic. All business logic is configured and stored in configuration files so that it can be changed easily. This configuration approach enables

integration standardization to be independent from specific people or knowledge. Previously, the hard-coded ERP integrations were customer specific and required the original consultant for troubleshooting problems. The Basware anyERP enables standardized integration configurations so that different consultants can be involved in the same project and integration can be supported by anyone from Basware consulting and support.

We are proud to note that the Basware anyERP provides both an efficient and flexible integration platform, which is truly a rare mix. As proof, the following chapters offer details on the various benefits of this middleware.

3.1 Template-based configuration

The drawback of a hugely flexible and configurable system typically is the effort required for its implementation. Basware has effectively addressed this issue by creating templates. The template configurations are maintained like products and are deployed with the Basware anyERP. These template configurations provide all business logic that other

solution vendors normally develop inside the products. The templates allow us to deploy a standard configuration with minimal implementation effort. At the same time, templates deliver maximum flexibility because the configuration can be changed whenever necessary to meet exact customer requirements.

3.2 Object configurations

Basware anyERP Object Configurations form a library of high level Basware Application Programming Interface (API) functions that expose the functionality of Basware applications for the interface to use. These Object Configurations speed up configuration efforts thanks to ready-to-use packaged functionalities. For instance, when aiming at importing an invoice to Basware Invoice Automation, the Invoice Object Configuration API functions will simplify the consultant's work making it significantly faster to build interfaces.

Basware Object Configurations also play an important role in ensuring that the investment made in the Basware anyERP configuration retains its value. Basware anyERP Object

Configurations are available for each version of the other Basware applications. That means that when our customers wish to upgrade their Basware application, we simply have to refer to the new version of the Object Configurations to facilitate risk-free migration projects.

For example, during an upgrade, the Basware application-facing part of the interface is configured by referring to the new version; the ready-made object model takes care of working with the new version.
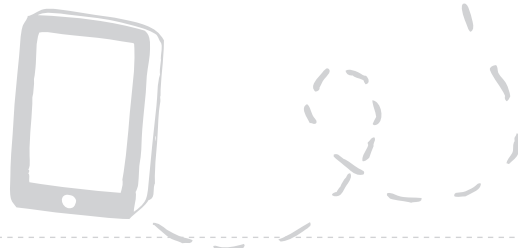
3.3 Transactional handling

One of the key objectives in system integration is to ensure that the different systems remain synchronized. This has been built into the heart of the Basware anyERP Expression Language. When configuring certain tasks, the consultant will need to group these tasks inside specific transaction nodes. Once this configuration is executed, Basware anyERP will either commit or roll back all the actions in the transaction node. This ensures that only complete actions are performed and we will never be stuck with an execution that only went halfway through.

The Basware anyERP's transactional handling gets even more powerful in integrating multiple systems. When one logical transaction in the Basware anyERP configuration spans different systems, the adapter will logically bind these physical transactions together.

For example, when transferring an invoice to an external system with a DB2 database, we will first configure an action to insert the invoice into the DB2 database, after that, we will configure an action to update the status in the Basware database. These two actions will occur in completely different databases and thus result in their own physical database transactions. The Basware anyERP will logi-cally bind the transactions together and either commits both transactions or rolls them both back. This roll-back would occur in cases where the status update in the Basware database fails for some reason. Consequently the adapter would also roll back the insert into the DB2 database while keeping both systems perfectly synchronized. This transaction process is supported for all database access as well as for SAP BAPI function calls.

3.4 Error handling

In the same way the Basware anyERP is capable of rolling back a set of incomplete transactions, it can also remove incorrect files and create automatic notifications.
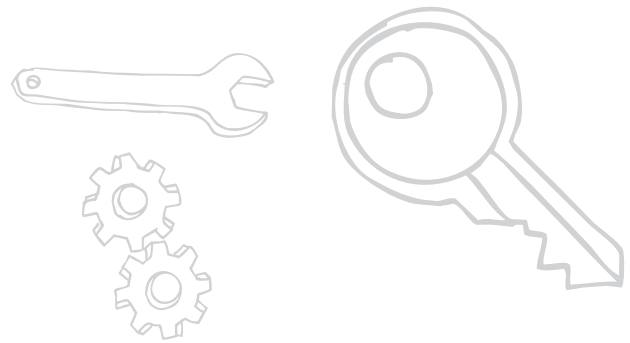
3.5 Troubleshooting with flexible logging

The Basware anyERP has been designed to function in a complex environment. For instance, it can effectively reveal connection problems by creating the necessary log files (listing file names and their locations).
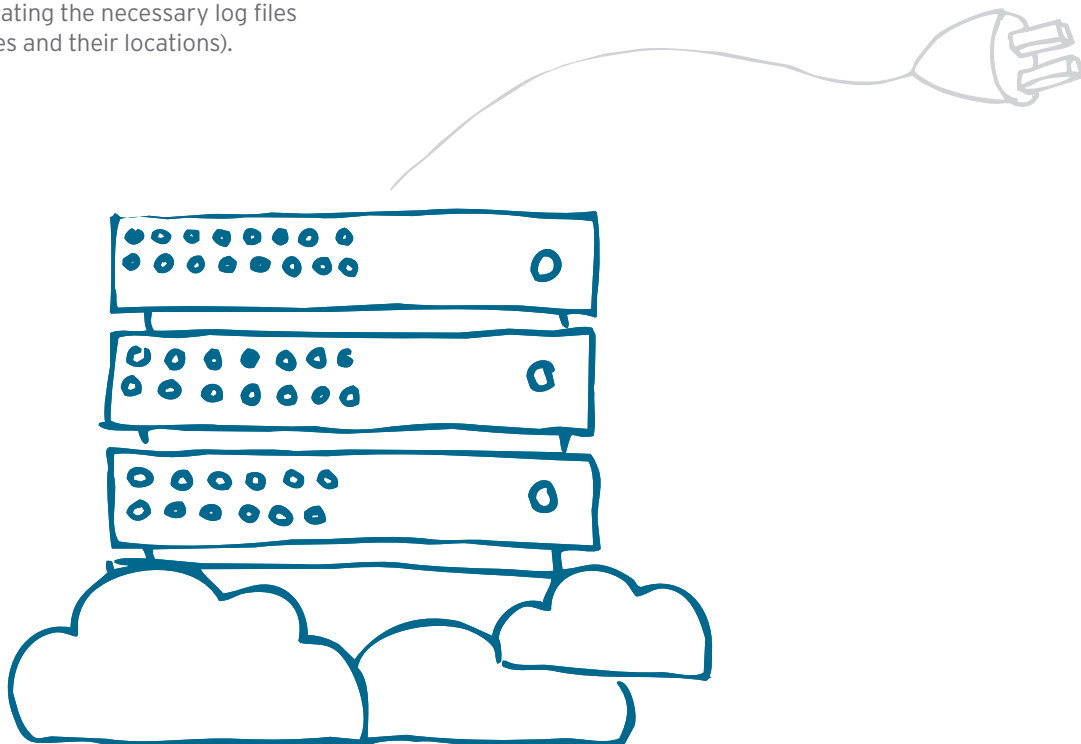
4. BASWARE ANYERP – SECURE PERFORMANCE

For its EPP product suite, Basware has built seamless integrations with over 250 ERP systems worldwide. The vast number of different systems and business environments that can be integrated is a telling example of the flexibility of the Basware anyERP.

The Basware customer community consists of both medium-sized companies and large global enterprises. The larger companies typically have very complex system environments featuring many of the leading ERP systems. For these customers, Basware solutions with easy ERP integration represent the safe choice. For instance, more than 250 world-class organizations have successfully integrated Basware Invoice Automation solution with their SAP system to streamline their purchase-to-pay process.
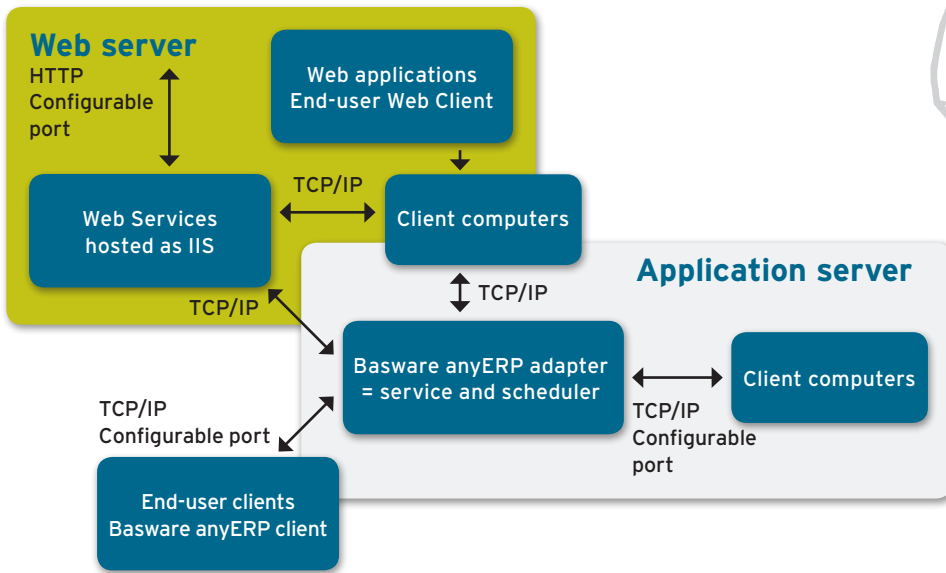

Figure 4. Basware anyERP technical communication environment.

4.1 An SOA-based process integration strategy

A service-oriented architecture (SOA) is a framework for integrating business processes and supporting the IT infrastructure as secure, standardized components, i.e., services that can be reused and combined to address changing business priorities. With Web services, this means that various applications from different software vendors can speak the same language, at least on the technical level. These SOA-based Web Services have gained broad industry acceptance. The SOA standards provide greater interoperability and protection from being locked-in to proprietary vendor software. The purpose of using SOA as a business mapping tool is to ensure that the services that are created properly represent the business view and are not just what technologists think the business services should be.

When calling Web services, XML messages are exchanged via SOAP or RESTfull, typically using Hypertext Transfer Protocol (HTTP) for transportation. Basware solutions are developed according to SOA standards for Web Services for both internal and external integration. The latest Basware product releases have an SOA architecture based on Windows Communication Framework (WCF) functions. WCF is a programming framework used to build applications that intercommunicate. It is the part of the .NET Framework that is dedicated to communications.

### 4.1.1 Basware anyERP -initiated interface logic

The Basware anyERP is equipped with many features to support the SOA architecture for external integration. A common approach is to create a Proxy for a Web Service. This Proxy can be generated from the Web Service descriptions with tools such as Microsoft Visual Studio .Net. The Basware anyERP includes methods to call the functions supplied by the Web Service through the Proxy. The values to the Web Service parameters are simply mapped in the Proxy method, making this approach very easy to use.

The Basware anyERP also provides the following functions for more direct communication with Web Services:

• Built-in method for Web Services to allow XML data to be sent to an HTTP address, giving total control over the call made
• Definition of SOAP envelopes (when SOAP is used)
• Calling of RESTfull Web Services
• Execution of POST and GET commands (synchronously and asynchronously)
• Possibility of retrieving data from HTTP headers
• Web Services can be called through HTTPS with certificates for secure communication

4.1.2 Externally-initiated interface logic

There are other integration scenarios that might require external applications to initiate actions in the Basware applications. The Basware anyERP can be configured to host both Web Services and WCF Services. These services allow external applications to send, receive, and process data by executing parts of the configuration.
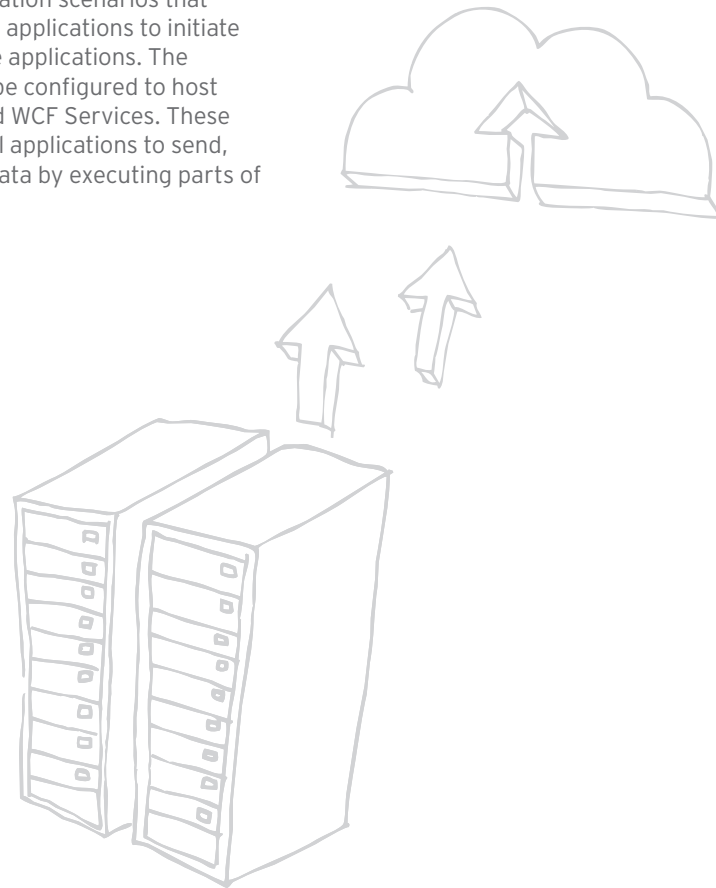
4.2 Scalability and performance

To ensure the best task performance and scalability by Basware anyERP, it is possible to divide the work load over different servers. This load balancing can be task- or call-specific, e.g. the various tasks or even calls to Web Services can be routed to different servers to avoid network slowdowns.

The latest Basware anyERP middleware is also available in a 64-bit version, which enables the adapter to better leverage the servers' resources on a 64-bit operating system.
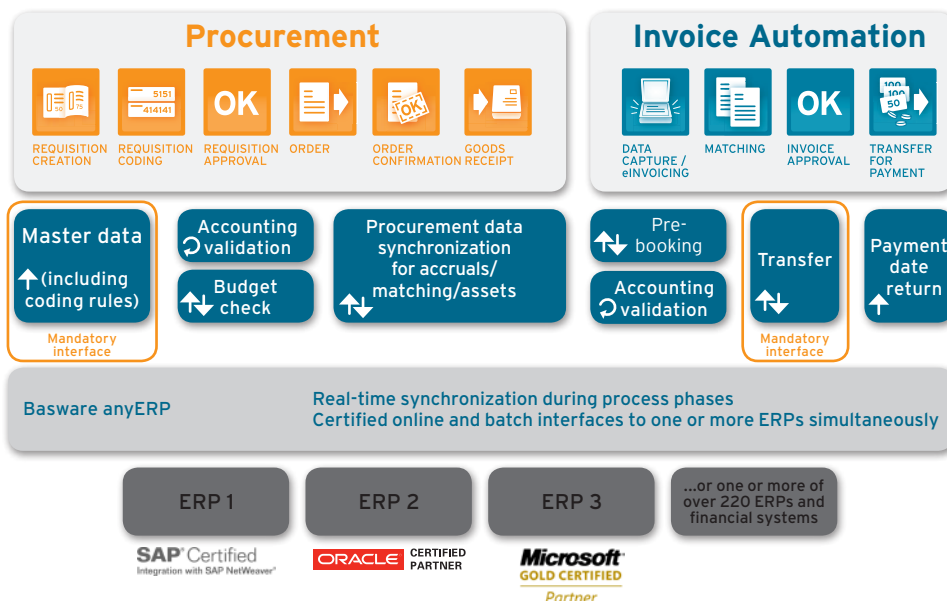

Figure 5. Multi-ERP integration enabled by Basware anyERP.

4.3 CERTIFIED INTEGRATION WITH LEADING ERP SYSTEMS

The Basware anyERP has been certified to ensure seamless integration with the world's leading ERP systems. These systems include:

SAP® Certified
Integration with SAP NetWeaver®

Basware and SAP share a long history of working together and leveraging each other's unique capabilities. Basware anyERP is certified for SAP NetWeaver. It supports integration with all existing and future SAP systems.

The SAP Integration and Certification Center assures that the Basware anyERP properly integrates with SAP ERP 6.0 via the SAP connector for Microsoft .NET handling BAPI and RFC communications. It does this by offering a connector that is based on SAP-endorsed integration technologies and pre-tested by SAP.

ORACLE® CERTIFIED PARTNER

Basware is a member of the Oracle Partner Network. Oracle has the world's second largest installed base of ERP applications, including all versions of Oracle Financials, JD Edwards, and PeopleSoft ERP systems. Given this Oracle integration certification, the Basware anyERP can be considered a leading middleware for the Oracle ERP family.

Microsoft®
GOLD CERTIFIED
Partner

Basware is a Microsoft Gold Certified Partner and cooperates with Microsoft Business Solutions. Microsoft has the world's third largest installed base of ERP applications (Microsoft Dynamics ERP). Microsoft has certified the Basware anyERP for Windows Server 2003.

5. TYPICAL INTEGRATION SCENARIOS WITH THE BASWARE ANYERP

The Basware anyERP is an abstract platform that can be used for any kind of system integration between Basware applications and an organization's other business solutions. Typically, the integrations required by customers fall into the various categories explained below.

For our customers, the most common integration need is to seamlessly connect Basware applications with an organization's ERP system. Every implementation project that Basware executes involves implementing at least one interface and often many interfaces as an organization has multiple ERP and other systems.
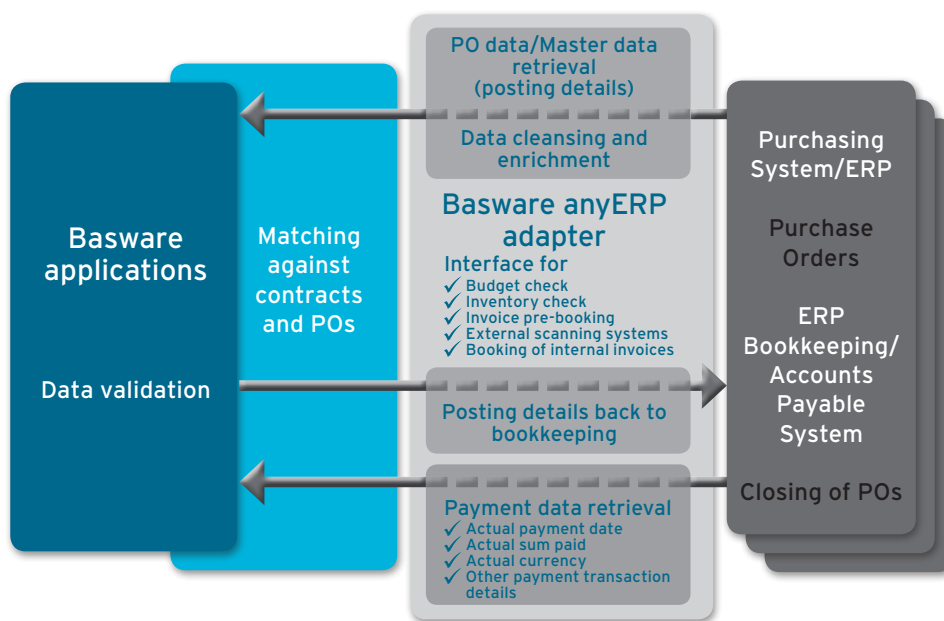

Figure 6. Introduction to the most common functional integration scenarios.

5.1 ERP master data retrieval

Basware applications process business documents, and at a certain point in the business process these documents have to be registered in the ERP system. Once a business document is registered, most ERP systems will validate it and generate a document number. The Basware anyERP enables us to create the integration for registering business documents and simultaneously updates the document in question (also in the Basware solution) by adding all the relevant information such as validation information. To enhance the booking of business documents, all or suitable parts of the validation logic can be brought to the Basware side to support data accuracy.

As a best practice, master data should be maintained in one central place. This data nearly always sits in an organization's main ERP system. We can either configure Basware applications to refer to the data in the ERP system or we can replicate the master data to the Basware database and refresh the data regularly within specifically set time intervals. Whether we refer to the master data in the ERP system or replicate it depends on customer requirements. Replicating data is often done to improve performance or to lower impact on the payload of the ERP system or network load. When having more volatile data at hand, it may be best to refer to the data in the ERP system in order to better support the business processes.

5.2 Invoice handling

5.2.1 Invoice posting or booking to the accounts payable system

The main purpose of Invoice Processing is to generate approved cost accounting for purchase invoices and create a booking to the Accounts Payable system electronically. The ready posting of fully approved invoices is booked into AP for payment with the invoice data.

In the Basware solution, the scanned and/or electronic invoices are either approved and coded manually or matched automatically. The processed invoices can be obtained from the Basware system at any time and further booked in the Accounts Payable system. Typically, Accounts Payable checks the validity of the cost accounting, specifically the tax codes, before booking the invoices. After a manual review of the ready invoice data, an AP clerk selects a batch of processed invoices and initiates the booking process. Validating can also be automated and completed at the same time as coding based on the business rules (described in chapter 5.4. Basware EPP Business Rules Integration).

5.2.2 AutoTransfer or automatic invoice transfer

As the name implies, Basware AutoTransfer automatically transfers available, fully handled invoices into an organization's Accounts Payable system. For automatic booking, these invoices must meet customer-specific criteria which is determined by both their business process and the restrictions of whatever accounts payable module they are using.

Basware AutoTransfer periodically checks all the available fully handled invoices. Invoices that meet the defined criteria are posted to AP without any manual user invention. Invoices lacking some of the necessary criteria are sent over to AP clerks for manual processing and completion of data before being manually transferred to the Accounts Payable system.

5.2.3 Invoice parking or pre-booking

Invoices may need to be parked or pre-booked in the Accounts Payable system / ERP side before the actual invoice processing workflow. This can be done once the invoices are received in the Basware system. The invoice parking interface creates the necessary bookings after which the invoices can be processed. Once an invoice is posted to the Accounts Payable system following the processing workflow, the parking or pre-booking is released.

5.2.4 Other invoice related interfaces

Basware anyERP also enables other ERP-specific invoice bookings. These include the booking of internal invoices, invoice release for payment, invoice cancellation, down payments, etc. The behavior of these functionalities depends on the ERP system in use and how it has been implemented.

In some ERP systems, the purchase order-related invoices are booked using different API (than normal cost invoices) in the ERP. The anyERP interface can perform the correct API depending on the document type or other criteria.
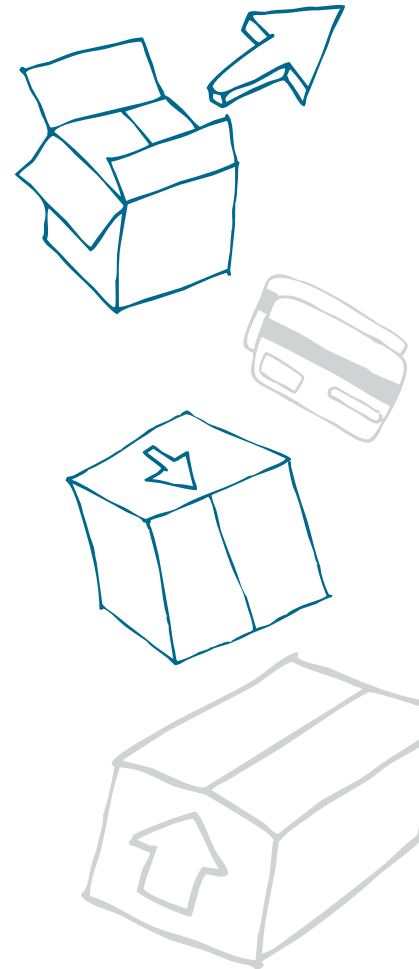
5.3 Purchase order and receivables handling

The Basware solution is able to match invoices with purchase contracts, orders, receivables, delivery notes, etc. depending on a customer's needs and purpose-specific requirements. To simplify this description, we have been using the term Purchase Order (PO) to describe the related documents.

A PO is needed to match the purchase against the incoming invoice. The PO data can be retrieved from any system holding this information. The retrieval can be done asynchronously or synchronously, the latter being the recommended best practice approach for retrieving the data. The retrieved PO data can include the order header data and line items, as well as the full audit trail of the order, goods receipts, delivery notes, packing slips, and all other applicable information in the different

phases during the data retrieval. The data is gathered for automatic or manual order-invoice matching as well as to support exception handling, to enable electronic archiving of the whole transaction, and to clearly indicate the approval process of the transaction for automation.

The Basware matching solution can initiate collection of the latest version of the PO from the ERP side as needed. The necessary PO can also be found from all the POs already in the Basware database (if they have been imported in a batch run). Note that the Basware purchase management solution saves the POs directly to the correct database and in the correct format; these POs need not be separately retrieved.

The PO data may need to be completed, enriched, or modified in order to make the matching process more efficient. For example, missing coding items such as account names or other data may need to be added to support possible exception handling process.

The results of partial matching can be updated to the ERP or purchasing system once they are available. A partially matched PO will continue to be updated until the entire PO is matched.

Changes and updates to the PO, goods receipt, related documents, and data can be exchanged between the Basware solution and the ERPs whenever needed.

Basware anyERP enables closing of the fully matched purchase orders in the ERP or the purchasing system. The PO should also be updated with all available information including the results of the matching, cost accounting, a full audit trail, and invoice(s) data.

5.4 Basware EPP business rules integration

Ideally, automated business processes include many validation and authorization checks. These checks improve the data quality and reinforce the business process throughout the organization.

In some cases, these checks are based on data maintained outside the Basware solution. For example, it is often efficient to store the approval limits for each user in the Active Directory; the account assignment combination should be checked against valid combinations that are stored in the ERP at the time the user enters the account assignment.

Basware applications can delegate the validation and authorization checks to the Basware anyERP Framework. This enables us to create validation and authorization checks that are based on any data source. In addition, the Basware anyERP's flexible configuration language allows the creation of more complicated validation and authorization checks.

Business rules can be set to various points in the Basware EPP process as follows:

| Business Rules in Basware EPP |
| --- |
| Invoice data entry |
| **Date validation, Number validation, Code validation, Lookup validation** |
| Invoice data validation |
| Invoice data enrichment |
| Invoice workflow rules |
| Invoice approval rules |
| PO data entry |
| PO workflow rules |
| PO approval rules |
| PO budget validation |

5.5 Capture integration – Scanned documents

Traditionally, incoming business documents such as invoices, expense claims, or changes to Purchase Orders are first scanned and then stored in digital format. The Basware anyERP is tuned to import the scanned documents

directly into Basware applications, thanks to ready-to-use template configurations for several scanning solutions including Kofax and Readsoft.

5.6 Archiving and DMS integration

Today, organizations normally produce large quantities of various types of documents, financial documents, contracts, invoices, purchase orders, etc. Basware applications are designed to both process and archive these documents. For instance, when archiving an invoice, the application transfers both the data and the image of the original document, any attachments added, and all the relevant process information such as document history and audit trail.

The Basware anyERP also enables integration to other document management systems (DMS) and offers built-in template configuration for solutions such as EMC's Documentum.
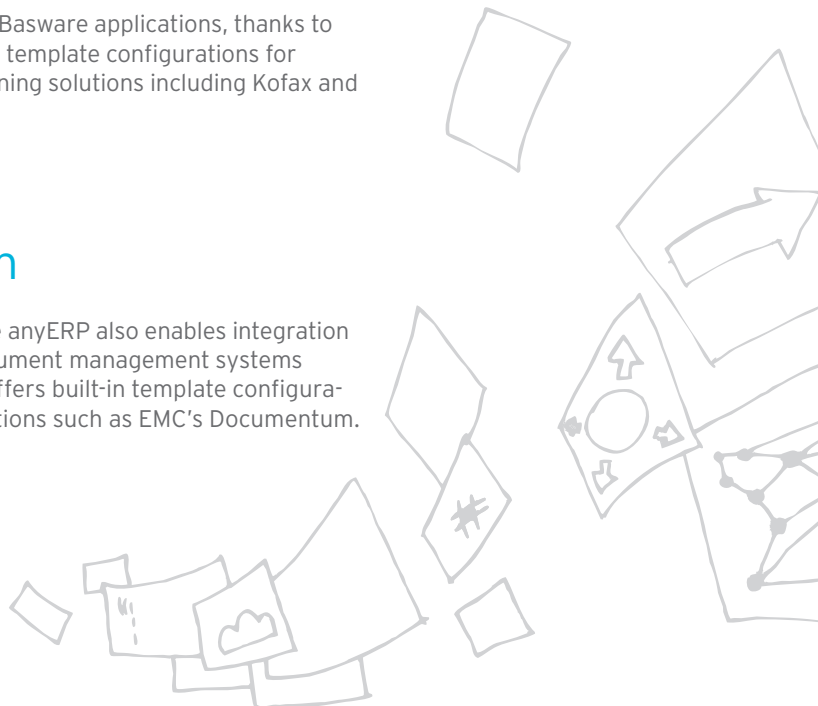
6. FREQUENTLY ASKED QUESTIONS – BASWARE EXPERT ANSWERS

**Why would I use the Basware anyERP instead of the other commercial EAI tools?**

Simply, to save time and money. Thanks to built-in certified configurations, Basware anyERP forms a seamless bridge between the Basware solutions and multiple and different ERP systems. With the Basware anyERP, the integration will never be a bottleneck in any process improvement projects our customers may have in store.

Why would I change my old integration software/tool to the Basware anyERP?

Integration with the Basware anyERP is very quick, minimizing the need for additional configurations as the necessary intelligence and templates sit in the tool itself. And the Basware anyERP enables the same quick integration when a customer in the future chooses to upgrade either the Basware solutions or any of their surrounding ERP systems.

How do you ensure performance and scalability now and into the future?

The Basware anyERP is scalable because of the load balancing which divides the workload between different anyERP servers. The latest Basware anyERP version available (also in a 64-bit version) enables the adapter to better leverage the servers' resources on a 64-bit OS. In the future – thanks to streamable data sources – one will be able to better handle large files or large groups of data from SAP. This will make it possible to create a read-only/forward-only cursor, which allows looping through the data without actually loading the complete set of data in the memory. It will eventually allow the adapter to process data sets of unlimited size.
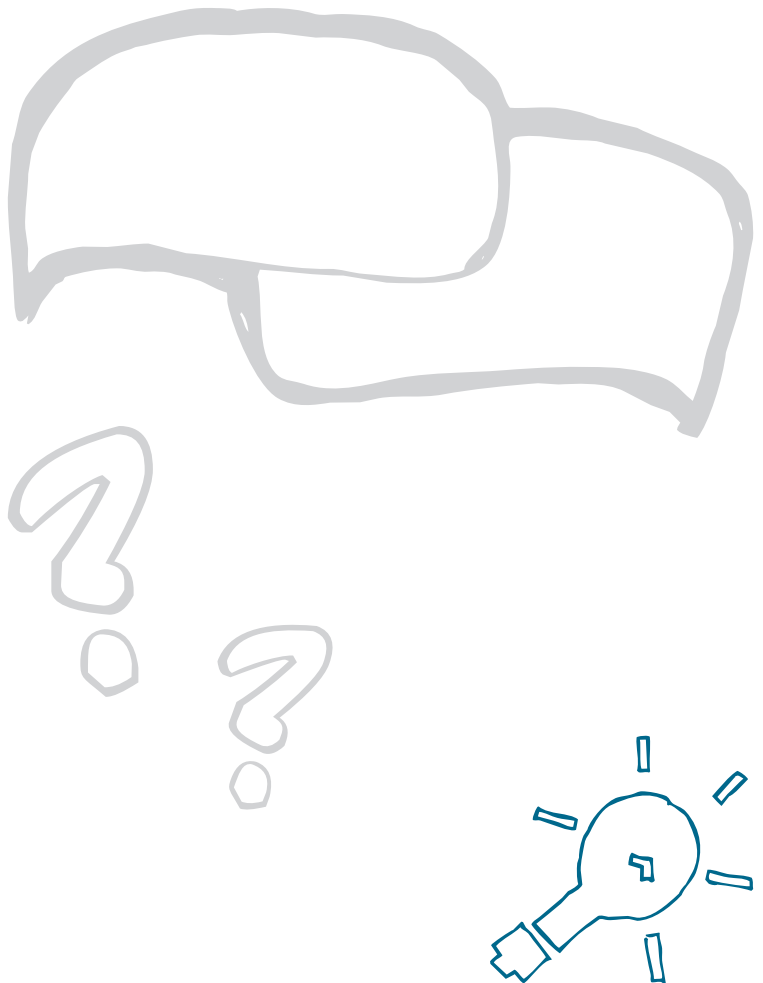
7. WORLD-CLASS ERP INTEGRATION WITH BASWARE ANYERP – CUSTOMER EXPERIENCES

7.1 THALES Avionics takes off with Basware Invoice Processing

70% of THALES invoices are now automatically matched, freeing staff to concentrate on more strategic tasks - adding greater value to the business despite a reduction in team numbers.

When it became clear to managers at leading electronics company THALES Avionics that a number of retirees from the accounts department would not be replaced, they decided to act. Now, they agreed, was the time to look at how best to streamline and automate the firm's invoice processing.

Such a move would allow the company to make considerable productivity gains in low value, highly administrative manual tasks. But first, several key factors had to be taken into consideration.

THALES required a solution that would be scalable and flexible enough to manage the full range of invoice documentation received by the company. A dominant player in the manufacture of navigation equipment for global space and defense programs, as well as civil fleets, THALES Avionics receives around 12,000 invoices each month from a total of 1,400 suppliers.

Also crucial was the need to accurately track all invoices through THALES' workflow: from arrival in the mail room, through processing to their location in the accounts archive.

Finally, it was vital that the selected system integrated seamlessly with THALES Avionics' SAP R/3 ERP system, which had recently been implemented.

A solution to match specific needs

Several proposals were explored by the THALES Avionics team. It soon became clear that Basware's Invoice Processing and Matching portfolio - with the latter automatically matching invoices to approved purchase orders - delivered the most comprehensive solution - and thanks to Basware anyERP, the solution seamlessly integrated with the THALES's ERP environment. Coupled with the skills of THALES Service, the integrator on the project, success was assured.

"Basware solution met all our specifications and there was an attention to detail that Basware experts have demonstrated time and again – both during implementation and in their follow-up support," says Jean-Noel Decraene, Director of Accounting at Thales Avionics

Prior to the implementation, users within the accounts department were consulted on how they intended to use the system. Efforts were also made to ensure any implementation would not disturb other services or processes.

"Basware is more than just a publisher that sells the license; it contributes real expertise in the invoicing field. We have been able to profit from each other's experience on this project," added Lionel Bonnaud, Project Leader for THALES Service Division.

Freeing up valuable time

Using automatic, business-rule based matching to minimize the need for time-consuming, repetitive invoice-handling tasks, the Basware solution has been universally welcomed at THALES Avionics. Currently 70% of invoices are processed in this way – matching the order item number at the line detail level.

This has enabled staff in the accounts department to deal with supplier queries efficiently, letting them know quickly the status of their invoice: whether it's been paid, being processed or is in dispute. This has freed up a considerable amount of valuable time allowing them to focus on management controls and cost analysis – while absorbing an increased workload.

> "We have compensated for the retirement of four people and at the same time coped with the number of invoices processed in a year rising from 130,000 to 150,000. The large volumes of invoices and disputes are fully handled by the Basware application. Consequently, we no longer have any delays in payment.
>
> Jean-Noël Decraene,
> Director of Accounting at THALES Avionics

7.2 Metso journeys towards a global e-invoicing vision

With multiple business units interacting with thousands of suppliers worldwide, Metso took the decision to centralize accounts payable functions and implement a flexible invoice automation solution capable of supporting its entire global operations.

A global supplier of sustainable technology and services for mining, construction, energy, metal recycling and the pulp and paper industries, Metso operates in more than 50 countries and serves customers in over 100 countries.

Aiming at true automation

Metso's goal was to eliminate the various disparate manual and paper-based systems of numerous distributed local offices and centralize, streamline and standardize all the accounts payable functions.

As a first step, Metso wanted to establish a single shared service center (SSC) in Finland that would become the blueprint for a series of centers serving its business units within a dedicated geography around the globe. This heralded the beginning of an ongoing partnership with Basware that has become stronger and much closer over the years.

Key to enabling the change was the automation of Metso's purchase invoice traffic on Basware Invoice Processing and Matching solutions. Basware anyERP delivered the all important interoperability Metso needed interfacing the solution directly to Metso's SAP R/3, BAAN and later Lawson ERP systems as well as several materials management systems.

Alongside its first SSC in Finland, Metso has established a second center in Sweden and a third center in Canada to serve business units in Canada and North America. Together the centers process around 1 million invoices a year – all of which are visible to all stakeholders within the organization and available for all accounting processes. Metso is continuing the roll-out and further centers are on the way to support the business.

A partnership for success

Throughout the phased introduction of invoice automation, Basware worked alongside Metso every step of the way. Following the initial introduction of electronic purchase invoices, Metso progressed to sending inter-company e-invoices. This was enabled by Basware's Business Transactions service – an e-invoicing network that distributes outgoing invoices generated by Metso's ERP systems.

After the successful inter-company experience Metso very quickly began sending e-invoices to its external customers. And in order to continuously increase the share of both purchase and sales e-invoices, Metso and Basware have been assisting both Metso's customers and suppliers in their own transformation to automate e-invoicing.

For Soile Hiekkasalmi-Linna, Development Manager at Metso, Basware has delivered more than just a solution:

> "Very early on, our senior management saw e-invoicing as the route to achieving world-class operational performance. We wanted to work with a single partner that could help us enable and evolve that vision on a global scale. Basware has proved to be that partner – they listen and consult, and they have developed a deep understanding of our needs. Crucially, they have continued to develop their product and, like us, have international reach and capabilities."

7.3 FFE Transportation Services, Inc. Increases Financial Control with Basware Invoice Automation

FFE Transportation Services was able to realize an ROI of over 130%, and have a net gain within the first year based primarily on hard savings from reduced manpower needs. Without the need for clerks to key in data, find lost or missing invoices, or fix errors, the company was able to cut manpower for invoice processing by 50%. The feedback from management has been overwhelmingly positive. In addition to efficiencies and business benefits the system delivers, it enables executives throughout the company to use the information strategically to better manage cash flow.

"Basware Invoice Automation accomplished just what I needed it to do and even more. I was thrilled about how much easier our work would be and how it would help us improve our processes. And since then, the system has more than lived up to my expectations."

Clear goals and immediate benefits

Under the former manual processes, invoices were received in FFE offices throughout the U.S, sent to the AP headquarters in Dallas, Texas through inter-company mail, and then back out for additional approvals. It typically took many days on each leg of the journey, making it difficult for the AP department to process any invoice faster than 30 days. Because of this, FFE had problems with late and missing payments as well as processing errors.

FFE had many goals for the new system: it wanted to reduce paper, streamline processes and get invoices processed more quickly. Additionally, it needed to improve efficiencies in AP, reduce costs and fix the problems of missing or inaccurate invoices.

"We immediately realized tremendous benefits from Basware Invoice Automation. We no longer have to dig through file cabinets to find invoices. The invoices are always there in the Basware system, along with an audit history of who touched an invoice when, and what actions they took. Now our rules and procedures can be effectively implemented, so processes are running smoothly, invoices are paid accurately and on time and any questions can be answered immediately," says Marilyn van Zant, Accounts Payable Manager at FFE Transportation Services, Inc.

Seamless integration with other business systems

The Basware system is seamlessly integrated with FFE's Lawson ERP and automatically sends data to the General Ledger (GL) and the AP Ledger. There is also a back feed of payment data to Basware. This provides efficiencies and ensures that information is complete and accurate, even allowing field users to research their own invoices.

About 80% of FFE's invoices are for road repairs, towing services and preventative maintenance when its trucks are on the road. The company uses a transportation maintenance system to capture maintenance information and issue Repair

Orders (ROs), which are used as Purchase Orders (POs). Once the POs are scanned into the Basware system, they are verified by Basware Order Matching, which captures additional data and seamlessly interfaces with Transman, the transportation management system. The accurate and efficient PO matching capability enables FFE to save time and pay its valued maintenance suppliers in a timely fashion.

Finance in control

The system is being used by the CFO, controller, and finance departments for managing capital and cash flow; budgeting and forecasting; consolidating suppliers and viewing spending habits; preparing accruals; and conducting audits. They can see, for example, if someone is spending a lot of money on unnecessary or unbudgeted items and take appropriate action.

"Basware makes it easy to manage cash flow and track due dates. Now we can see which payments we have made, and which are coming up and plan our cash accordingly. We can also easily adjust terms in the system, as needed. Additionally, when it comes to accruals, we no longer have to rely on guesswork, but we can know precisely in which month bills should be accrued. Anyone with experience with Lawson knows that we gained a tremendous benefit from the reporting and invoice tracking standpoint alone," explains Marilyn Van Zant.

> "Before the system was in place, we dreaded audits. It would take us two to three days to track down the invoices the auditors needed. Now we are done in minutes as we have all the invoices, with full audit trails, at our fingertips, enabling us to be fully SOX compliant."
>
> Marilyn van Zant, Accounts Payable Manager at FFE Transportation Services, Inc.

About FFE Transportation Services, Inc.

With a fleet of approximately 2,000 trucks in the U.S. and internationally and annual freight revenue of $490 million, FFE Transportation Services, Inc. (FFE) is ranked in the top five for-hire refrigerated carriers.