

## E-invoices

- What they are.
- Different types.
- Best practices for implementation.

*This whitepaper describes different types of e-invoices, discusses what the differences are, and presents best practices for sending and receiving e-invoices.*

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# I Executive summary

E-invoicing has been around for many years, but long and complex installation processes have held the technology back. The need for decreased costs, tougher legal requirements, and environmental concerns are now pushing many organizations to look for new ways to digitize the sending and receiving of invoices.

There are several ways to send and receive invoices electronically:

- EDI is the traditional way of interchanging e-invoices. It is fast and secure, but cumbersome to set up and implement.
- XML is a more modern form of sending invoice information electronically. It is a bit more flexible than EDI, but the lack of widely accepted standards complicates the communication between sender and receiver.
- A simple way of sending e-invoices is accomplished by simply emailing invoices as PDFs. Security is ensured by encryption and the PDF information can be automatically extracted and transferred into any financial system using data capture software.
- E-invoicing can also be accomplished by using an e-invoice broker service. The e-invoice broker acts as a middle man, receiving the invoice from the supplier and sending it on to the buyer in the desired electronic format.

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## 2 Introduction:

# Why are we still using paper?

Most modern and efficient organizations have already implemented some kind of system for processing their invoices electronically. Registration, allocation, approval, and posting for payment are all tasks that can be handled electronically and with a high degree of automation.

But then, why do most invoices still arrive on paper which requires scanning, or even worse, manual keying into computers?

The most important reason is that different companies have different computer systems, and these systems are not always very good at communicating with each other.

Sending and receiving invoices is a many-to-many relationship. Each supplier typically sends invoices to many buyers and each buyer typically receives invoices from many different suppliers. You quickly realize that there are lots of systems that need to talk to each other. This is the main reason why sending e-invoices between companies and organizations has been complicated and expensive.

But now, new ways of sending invoices are starting to emerge that simplify the process and start removing the bottleneck of paper.

This whitepaper explores the alternatives available and suggests solutions that are fit for different scenarios and invoice volumes.

## 3 Different types of e-invoices

### 3.1 What is an e-invoice?

An e-invoice is an invoice which is sent and received electronically. This can be done via email, the Internet, a CD or any other electronic medium. In other words, an e-invoice is an invoice which isn't paper based.

E-invoicing shouldn't be confused with *Electronic Invoice Handling* which refers to an IT-system for information extraction, coding, approval, archiving, and retrieval of invoices. An electronic invoice handling system is a prerequisite for taking advantage of e-invoices.

### 3.2 Different types: Definitions

Electronic invoices are nothing new. The big automobile and aviation manufacturers were first to introduce this some 30-40 years ago. But cumbersome and complex installation procedures made e-invoicing expensive and inflexible. Now, new electronic formats are emerging which marks a new era for e-invoicing.

#### **EDI**

The early solutions for transferring invoice information were called **EDI (Electronic Data Interchange)** and were suited for very large companies with tight relationships to their suppliers. Basically, EDI means that invoice information is transferred electronically in a standardized way which the supplier and buyer have agreed upon. To a large extent, EDI has remained an exclusive option for very large companies due to the very high costs for setting up the business communication between the supplier and the buyer. EDI is also known as EDIFACT (Electronic Data Interchange For Administration, Commerce and Transport).

#### **XML**

Over the years, with new technologies at hand, there have been new possibilities to further improve how electronic invoices are sent between suppliers and buyers. A newer and more modern technology for sending standardized text files is **XML (Extensible Markup Language)**. An XML invoice is a standardized text file from the sender to the receiver. The text file itself is virtually impossible for us humans to read, but perfectly understandable for a computer. Since XML is a relatively young technology, there is still a lack of widely accepted standards. However, standards are starting to emerge, especially national ones like the *Finvoice* in Finland and *Svefaktura* in Sweden.

#### **PDF**

Another technology that has been around for a while but is starting to become more and more popular for sending invoices is **PDF (Portable Document Format)**, which has become a standard for digitized

documents. The format is developed by Adobe and can handle both text and images. It is often opened with the free software *Adobe Reader*.

### **E-invoice brokers**

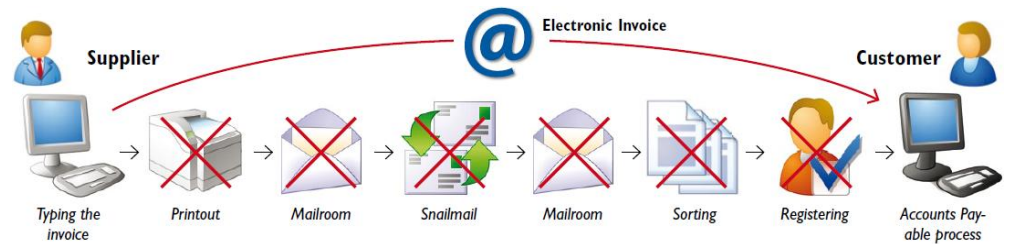
Another way of digitizing the invoice flow is to use an e-invoice broker service. The e-invoice broker acts as a middle man, receiving the invoice from the supplier and sending it on to the buyer in the desired electronic format. This means that the suppliers can send invoices in their preferred format (even paper) and the buyer can receive the invoices in their preferred electronic format.

Since every company is both a sender and receiver of invoices, this leads to a community of companies connected to the broker service. The broker typically also offers additional services such as handling of qualified digital signatures (required in some markets), archiving, and various integration and setup services.

## 4 The problems with paper

### 4.1 Time and money

Sending and receiving paper invoices is costly and time consuming. The invoices are printed, put in envelopes with postage, sent with ordinary mail, and then they turn up days later at the receiving site, where the envelopes are opened, and the paper invoices handled and processed.



*By sending and receiving e-invoices instead of paper, many steps of the invoice transfer process can be eliminated, saving both time and money.*

### 4.2 Environmental concerns

E-invoicing eliminates the need for paper. And considering the amount of invoices being sent to and from companies around the world, this is no small matter. And paper waste is only one thing. The need for transporting the physical invoices via truck, car, or airplane is also eliminated.

### 4.3 Other factors driving the move to e-invoices

In addition to the monetary and environmental gains, there are also national and international initiatives driving the e-invoicing market with legislation. Below are some recent examples.

#### **The Sarbanes Oxley Act (SOX)**

The Sarbanes-Oxley Act of 2002, or SOX, is a US law passed in 2002 to strengthen corporate governance and restore investor confidence after accounting scandals that had recently surfaced (Enron, etc.). Although it is a US law, it is applicable for most companies wanting to do business internationally, since they are most likely to receive or send invoices to American companies.

The Sarbanes-Oxley Act contains 11 sections, but section 404 (S404) is quoted most often. S404 specifies the level of internal control and the auditing standards needed. An efficient and transparent accounts payable process is a key area for a company wanting to become SOX compliant.

You don't have to use e-invoices to become SOX compliant, but it certainly helps, since a digitized document is the basis for electronic archiving, audit trails, and the transparency required.

**Mandatory e-invoicing to public authorities in Denmark**

In December 2005, a revolutionary e-invoicing law was passed in Denmark. The law stipulates that any company sending an invoice to a public authority must be able to send the invoice electronically. In other words, the public authority has the right to reject invoices arriving on paper. If a supplier cannot send an e-invoice, they have to send the paper invoice to a service center which transforms it into an e-invoice.

The purpose is, of course, to speed up payments and AP processes at government agencies, but also to cut down on paper pushing and put Denmark at the forefront of technology. Many other European countries have taken interest in this new law.

**The EU directive (2001/115/EC) regarding invoice processing and corporate transparency**

In Europe, there is already an EU directive (2001/115/EC) regarding invoice processing and corporate transparency. Although the directive does not give any details about which technologies to use to process invoices, it does say that companies need to be able to present an audit trail of the entire invoice flow, from invoice arrival to payment.

With regards to e-invoices, the EU stipulates that countries can choose from three levels of security. The lowest level means that you only have to be able to prove where the invoice comes from, while the highest level sets tough demands on encryption levels for both sender and receiver.

Consequently, there are many factors pushing for a move to more e-invoicing in the future, both internal such as savings in time and money, and external such as environmental concerns and new legislation. The problem is figuring out which technology to use. This will be discussed in the next chapter.

## 5 Finding the right solution

As discussed in chapter 2, there are several possible solutions for sending e-invoices, each one of them suitable for specific scenarios.

The costs of setting up a working send-receive solution for e-invoices needs to be taken into consideration. Low volumes of invoices call for a less expensive solution. (High volume solutions don't necessarily have to be costly either, as long as the price per invoice is low or the solution meets the requirements.)

In other words, the solution needs to be balanced with the size of the organization and the number of invoices sent and received.

### 5.1 Advantages and disadvantages of the different solutions

**EDI** is usually good for very high volumes of invoices between a specific customer and supplier. This is a very common way of sending invoices. It is secure and fast, but it takes a lot of time and resources to set up and implement. Problems also arise whenever changes need to be made to the invoice process on the sending or receiving side.

**XML** is also good for larger invoice volumes and is, just like EDI, a fast and standardized way of sending e-invoices. Although XML is easier to implement and set up than EDI, it still requires an agreement between supplier and buyer on which standard to use. The lack of established standards has meant that different systems may have difficulties communicating with each other. But there are standards emerging, such as the national standard *Finvoice* in Finland and *Svefaktura* in Sweden. Just like EDI, the XML code is unintelligible to the human eye, and can only be understood by computer-to-computer interaction.

**PDF** invoices look just like ordinary paper invoices which can be read on screen. But they can also be automatically read and interpreted by a computer. Consequently, you can use the same format for printing the invoice and sending it as an e-invoice.

For the buyer, the set-up time for receiving PDF invoices is very quick. For the supplier, the set-up time is virtually zero, since most financial systems can create PDFs (if not, there are several simple solutions for creating a PDF and sending it via email). If there is a large number of invoices going between a buyer and supplier, the higher costs of implementing EDI or XML may be worth it.

**Sending and receiving invoices via a broker service** is a good way to comply with requirements for qualified digital signatures without having to handle the complex infrastructure yourself. In Germany and Denmark for example, companies can send invoices to a broker in their

format of choice (paper or electronic) and let the broker handle formatting, security, and so on.

The downside is the price tag, which tends to be higher per invoice than sending e-invoices yourself. If you are not legally bound to use qualified digital signatures, this alternative is typically more costly than other alternatives without the middle man broker. Another challenge for this alternative is the communication between sender and receiver in case something goes wrong or if there are questions.

SOLUTION	GOOD FIT	POOR FIT	COMMENT
<b>PDF</b>	Senders and receivers with small or moderate volumes	Very large volumes	PDF invoices look like ordinary invoices but they are fit for being sent and processed electronically
<b>XML</b>	Large volumes and purchase order matching	Smaller or moderate volumes	Standards are being established but a lot of work is still required
<b>EDI</b>	Large static streams of invoices	Whenever changes are needed on the sending or receiving side.	Agreements and adaptations necessary
<b>E-invoice broker</b>	Tough legal requirements regarding security encryptions, etc.	When legal requirements are not as rigid.	A secure but costly alternative since the broker charges per invoice.

## 5.2 An example

Below is an actual example from a mid-sized organization with 47,000 invoices annually from 3,395 different suppliers.

SUPPLIERS	INVOICES	AVERAGE	RECOMMENDED FORMAT
10 suppliers	sent 17,346 of the invoices	500-5000 invoices per supplier and year	PDF or XML
62 suppliers	sent 8,486 of the invoices	100-500 invoices per supplier and year	PDF
505 suppliers	sent 14,360 of the invoices	Less than 100 invoices per supplier and year	PDF
2,818 suppliers	sent 7,069 of the invoices	Occasional suppliers	PDF (or paper)

The bulk of the invoices come from small and medium-sized suppliers (measured by the number of invoices they produce). In order to reach many small and medium suppliers, the solution needs to be easy to put in place and to maintain.

Therefore, PDF invoices (or even paper invoices) was deemed most economical for most suppliers. For the biggest suppliers (500-5,000 or more invoices per year), XML invoices was also a viable option (together with PDF). EDI was not considered since the invoice volume was too low for this.

### **Conclusion**

*Using PDF invoices is the recommended solution for a majority of the suppliers. Being quick and simple to set up, it should be the natural starting point in the e-invoicing strategy for any company.*

## **5.3 Why use PDF invoices?**

In the past, the focus has been on the EDI and XML standards. Long and cumbersome implementation projects have lead to slow acceptance in the market. The simple and efficient PDF invoices can change that. The simplicity comes from the fact that it uses two well-established technologies, PDF and email.

In our private lives, we have been doing this for quite some time. When we make purchases online, the suppliers are happy to send the invoice electronically. Instead of receiving paper invoices in the regular mail, we get an electronic invoice in our email inbox or our internet bank. We can open, review, and approve the invoice without having to enter further information. The same simple way of working with invoices can be applied to your business.

## **5.4 Sending PDF invoices**

Almost every organization has a business system of some kind. These days, a majority of these systems can create a PDF invoice. In case a particular system is not capable of this, there are simple solutions (from ReadSoft and others) for converting the invoice into a PDF.

### **Benefits**

The sender can continue working just as before, but get rid of the hassle and costs for printing the invoices, putting them in envelopes, paying for postage, sending them with regular mail, and all the manual work this includes. A Gartner study indicates a cost of approximately €2.50 for sending a paper invoice including paper, envelope, postage, and labor.

The Marketing Department appreciates the possibility to market the company on the paper invoices and in attachments to the paper invoices. This can still be done on the PDF invoices, including attachments. There is even a possibility to tailor the attachments based on the receiver, leading to even higher efficiency.

Other benefits for the sender are:

- Receipts that the invoices reached the receiver.
- The payment can be received earlier.
- Less need for sending reminders and dealing with late payers.
- Security increases since the emails can be encrypted.

## 5.5 Receiving PDF invoices

On the receiving side, the PDF invoices enter a specific email inbox (for example, invoices@company.com). From the PDF invoice, an automated data capture software solution can easily extract all relevant information, such as invoice numbers, sender, PO numbers, and all line items. This is where the real leverage comes from – feeding the invoice handling system with perfect, digital information.

### Benefits

- There is no longer any need for opening envelopes and manually handling paper invoices.
- No need for scanning the paper invoices since they are already in PDF format.
- No adaptations necessary if and when the sender changes the format of the invoices (as is often the case with other electronic invoice formats).
- The PDF image is identical to the paper invoice and can be read with the human eye.

## 5.6 What about security?

The email can be encrypted using Public Key Infrastructure (PKI) and Digital Signature Standard (DSS). This ensures that:

- The authenticity of each invoice's origin is guaranteed.
- The integrity of each invoice's content is guaranteed.
- The privacy of the protected information is assured.

This increases security for both buyer and supplier. The sender can get a receipt when the invoice has arrived and the receiver gets confirmation that the sender is a valid supplier.

## 6 User testimonial – SBC, Sweden

SBC helps housing associations around Sweden with everything from construction to maintenance. Within the scope for their maintenance branch, they handle the financials for approximately 2,400 housing associations around Sweden, which includes the processing of about 300,000 invoices every year. Most of these invoices still arrive on paper, and even if SBC has a well-functioning software solution for scanning and extracting information from invoices, there is still a lot of work with opening envelopes, sorting documents, and verifying that the scanning is correct.

Consequently, SBC set out to increase the number of invoices they receive electronically. During the spring of 2007, they contacted their customers' suppliers and asked if they could send their invoices electronically instead.

"It went straight down the drain," says SBC's IT-Manager Nils Gothin with a wry smile. "Many people were still not ready to take the leap to e-invoices, and those that were, spoke mainly about XML and EDI invoices. Now, this may be very functional technology, but it takes a lot of hands-on support to make it work."

### **Simpler technology**

But SBC didn't give up. At the start of 2009, they were at it again calling around to suppliers asking them to send invoices electronically. And suddenly, the response had changed. "I think it has to do with two things," says Nils Gothin. "Partly, it is because the market has matured and partly it's because we could now offer a much simpler technology for sending e-invoices. You simply send your invoice as a PDF in an email attachment."

### **How it works**

The invoice is created as usual in a financial system or in Word, Excel, or other common application. Thereafter, it is converted to a PDF and sent as an email attachment. At SBC's service center in Sundsvall, Sweden, the software INVOICES from ReadSoft can read the invoice and extract all information for further transport into SBC's invoice management system.

No one at SBC really has to see the invoice before it is ready for coding and approval in the system. The greatest gains are that you don't have to spend time handling the invoices manually, which is always the case with paper invoices (even if they are scanned). At SBC, people have already seen efficiency increase.

### **Less hassle**

"We want to get as many invoices as possible in electronic format and we can really accept pretty much any format coming in," says Nils

Gothin. “But I really like PDF invoices. Especially the simplicity is very appealing. The less technology that is involved, the less hassle it is. As long as the invoice lands in the right inbox, all is fine. Then the information from the invoice is automatically imported into the invoice handling system for further processing.”

## 7 About ReadSoft

### 7.1 ReadSoft's invoice processing solution

ReadSoft's solution for invoice automation supports most of the available ways of sending and receiving supplier invoices, both electronically and physically:

- Emailed PDF invoices are automatically captured and processed. For the supplier, there is also a swift application for sending PDF invoices via email (in the event that the financial system would not already be able to do so). The total solution is secure and efficient while at the same time very easy to put in place and to maintain.
- When it comes to XML invoices, ReadSoft software handles the Finvoice and Svefaktura standards and it can easily be configured to handle other standards.
- On the markets that require qualified digital signatures for invoices, ReadSoft offers a broker-based invoice service within its solution.
- And of course, ReadSoft software efficiently captures and processes invoices received on paper and faxes, as well.

Regardless of the invoice format, ReadSoft software extracts the information and automatically matches this against a purchase order in a business system. If there is a 100% match, the invoice can be posted for payment automatically. If there are any errors, or if there is no purchase order to match against, the invoice is sent for approval in an electronic workflow.

#### **For the supplier**

For the invoice sender, ReadSoft has a small application which converts any invoice to PDF format and sends it off in an encrypted email.

### 7.2 The company

ReadSoft was founded in 1991 and has been the technical innovator of the market ever since. With offices in 16 countries and partners in an additional 70, ReadSoft has the most extensive support network in the business. Today, more than 6,000 customers use ReadSoft's software to automate their document processing. Customers come from all over the world and all lines of business.

ReadSoft has worked with e-invoicing since 2001 and has unique patented software for sending invoices via emailed PDFs and receiving invoices via any input format.