

LaserNet

Technical whitepaper



Whitepaper Ver.6.2.3
Released April 2008



Table of Contents

1. General Introduction.....	4
1.2. Going beyond the world of ERP systems and printers	4
2. LaserNet.....	5
3. Why use LaserNet?.....	5
4. The LaserNet Architecture.....	6
4.1. Add the modules needed	6
4.2. The LaserNet Server	6
4.2.1. Data capture.....	7
4.2.1. Input data	7
4.2.1. Key Features in the LaserNet Server	7
5. Modules for the LaserNet Server	9
5.1. List of modules.....	10
5.1.2. The LaserNet Developer	10
5.1.3. The LaserNet Printer License.	11
5.1.4. The LaserNet Conversion Module	11
5.1.5. The LaserNet Communication Module.....	11
5.1.6. The LaserNet File Module.	12
5.1.7. The LaserNet XML Output Module	12
5.1.8. The LaserNet XML Input Module	12
5.1.9. The LaserNet Database Module.	13
5.1.10. The LaserNet Graph Module	13
5.1.11. The LaserNet Supervisor Module.....	13
5.1.12. The LaserNet PDF/Excel Input Module	13
5.1.13. LaserNet OptiDoc for Dynamics AX.....	14
5.1.14. The LaserNet SAP RDI Module	14
5.1.15. AutoFORM LaserNet	15

6. List of Modifiers.....	15
7. LaserNet Solutions	17
7.1. LaserNet One2One	17
7.2. LaserNet and eBoks	18
7.3. LaserNet, oioUBL and NemHandel	19
8. Technical details	20
9. Why LaserNet?	20
10. Further information and contact details	22

1. General introduction

On the international scene of business, companies are realizing a growing need for an intelligent and individual method of communicating business documents with customers, partners and suppliers.

The format and distribution method of business documents often vary from one customer to another, depending on specific country, industry or legislative standards.

Recent publications from the Institute for Futures Studies in Copenhagen suggest what foresighted CEO's already have known for some time: Customers demand to be treated as what they truly are: Individual businesses with their own needs, demands and wishes when it comes down to handling business transactions electronically.

Additionally, companies may save time and money on implementing an output and document management application that delivers business documents electronically to their business partners and customers. Time-consuming manual procedures can be cut away, leaving staff to handle vital core business projects in the organization.

Independent studies have documented that the printing costs of the typical company can amount to between six to twelve percent of revenues. Back in 1998, Gartner Group calculated the cost of sending an invoice to €2.5. The latest European figures are in the area of €2 to €6 per document, depending on the volume and industry sector. Dramatically cutting down on paper and postage costs by implementing a state-of-the-art output and document management system like LaserNet may simply be a way for enterprises of generating higher profits.

1.2. Going beyond the world of ERP systems and printers

Some enterprises object that they are doing perfectly well with a combination of an ERP system and a printer setup. For those skeptics out there, here are a few crucial elements to take into consideration:

No ERP or administrative system is built to process documents with varying formats. In order to fulfill own and customer needs, businesses are essentially facing two options:

- 1) Programming of customer specific formats in own host application, which is expensive and hard to maintain. Programming may also be lost when upgrading.
- 2) Using standard software applications for formatting and intelligent distribution of business documents.

From a more technical perspective, many companies realize that their print servers are unable to support the various applications delivering content to specific users and devices.

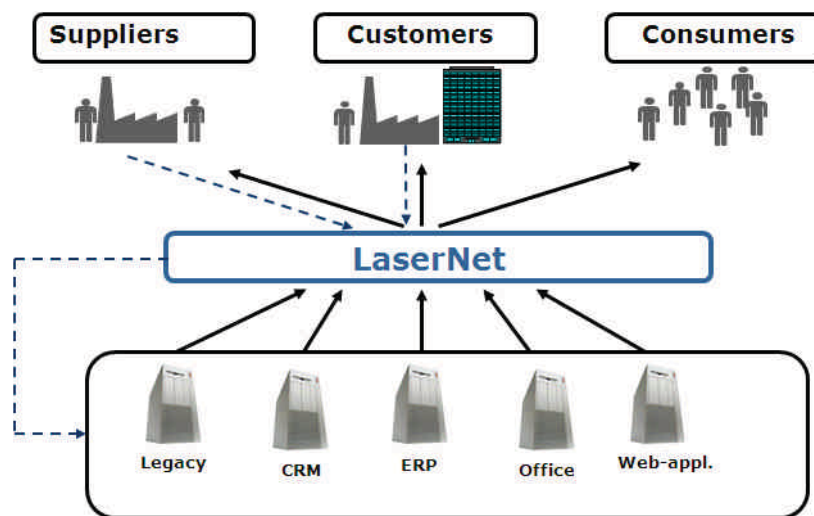
Distributed output management (DOM) products and technology such as LaserNet are the best answer for enterprises dealing with large-scale multichannel content distribution issues. This is simply a challenge that enterprise resource planning (ERP), print management and mainframe document distribution is not engineered to solve.

2. LaserNet

-Create, transform and manage business documents

LaserNet is a suite of document and output management solutions. Each element tightly integrates with your existing IT applications to support the migration from labour and paper intensive systems to cost effective, faster e-enabled document processing.

LaserNet captures output and transforms it into attractive documents, reports and labels, intelligently routing them for distributed print or electronic delivery by e-mail, fax, PDF, XML etc. to customers and business partners:



This is achieved without complex and expensive programming via an entirely 'point & click' configurable interface; enabling the user to extend the functionality of core applications without major investment or upheaval.

3. Why use LaserNet?

Below is a list of the most common reasons for why any company or organisation may benefit from a LaserNet installation, based on feedback from numerous local and global customers.

- **Save handling and resources.** By distributing business documents automatically, your colleagues can use their time on essential work. Reduce the number of wasted re-prints and documents.
- **Save money on postage.** LaserNet enables you to send business documents by email, e-boks or XML. The savings on printing, envelope and postage are approx. 1€ pr. business document. Let LaserNet convert and deliver the documents automatically when printed.
- **Increase productivity.** Speeding up business processes enables significant increases in productivity. Expedited information delivery to the end point reduces the time employees spend searching. Paper-intensive systems can be replaced with quick and flexible electronic ones.

- **Shorten the development time of reports.** More than 20% of the internal time used to implement an ERP-system is spent on building and designing reports. With the built-in (What you see is what you get) tools, it's only a matter of minutes before the first layout is produced.
- **Release the resources of the IT- department.** Let the business unit maintain their own customer documents themselves. It is very simple to maintain the document portfolio by using Word and the user-friendly tool, the LaserNet Developer. This makes it possible, for the first time in history, for non-experts to maintain output from an ERP or Legacy system.
- **Find your documents.** Allowing LaserNet to store your documents helps increase employee satisfaction. Eliminate time wasted looking for pre-printed documents.
- **Increase customer satisfaction.** The customers can get their documents in the preferred format and layout using any transport carrier. It is even possible for them to view their own documents on-line, using LaserNet Archive.
- **Be ready for present and future demands:** the marketplace demands many different formats of documents in order to do business. It is not EDI "or" XML "or" Print "or" PDF. It's an "AND". LaserNet is the logical answer to these challenges – and LaserNet can also work with the newest eBusiness standards such as Svefaktura and NemHandel.
- **One-to-One Marketing.** LaserNet allows you to personalize documents for targeted marketing initiatives.
- **Reinforce corporate image with customized documents.** Ensure your corporate image standards are properly portrayed in your business critical documents. Send your customers professional-looking, high quality documents that incorporate complex design elements such as graphics, barcodes, colors and custom fonts.

4. The LaserNet Architecture

4.1. Add the modules needed

The LaserNet output and document management solution is built to suit any need for exchanging business documents, from customers running a single server application to worldwide organisations running several servers. The LaserNet suite is developed and deployed in modules.

This allows each company to choose from a range of applications and features, depending on input and output capabilities found in the business application systems, and the demand for communication with business partners.

4.2. The LaserNet Server

The LaserNet Server is the backbone of the LaserNet output and document management product suite. The LaserNet Server tightly integrates with all common business applications to offer and support faster document and data processing. The LaserNet Server handles and receives data from either backend systems via file or printer queues, or from added LaserNet modules, or data sources like email, FTP, or web services.

The system works by means of a sophisticated data recognition process which determines how the data is processed, transformed and delivered on behalf of information and content in the input data.

The LaserNet Server can reformat, add, sort and customize the data before it is delivered to any other module in the LaserNet product suite or delivered to any network printer as a paper based document, with new layout including change of graphics, location and fonts.

The LaserNet Server can be deployed as a standalone solution, if the need for document management is limited to layout, formatting and printing. It can also be deployed with any other module in the LaserNet product suite, all of them adding significant benefit and new options to your present system solution. This helps you to create an optimal input and output management strategy meeting the demands from your business partners and customers.

It is possible to split and install the LaserNet software on many different servers on the network. Moreover, data capture can be done on one server, processing and delivery of documents on another.

4.2.1. Data capture

The LaserNet Server is built as a standard with a range of ways to receive input from any given application. The software can capture data via a shared folder, email, web services, FTP and printer queues and process the input to intelligent output.

4.2.2. Input data

The LaserNet Server is as a standard able to work with ASCII, the most common input format for external applications like Navision, SAP, Oracle etc. The ASCII format can be single oriented print containing one page, or it can be job oriented containing several pages with or without page separators. Furthermore, the software supports Windows formatted data (EMF) like print from word, Adobe InDesign, MS Publisher etc. If any other input format is needed (XML, PDF, RDI etc.) the LaserNet Server can be extended with one or more of the modules described later in this document.

4.2.3. Key features in the LaserNet Server

Drivers – LaserNet supports any printer or printing device working with Windows drivers. The driver information is loaded into LaserNet, and any function within the driver can be used for any document. This means full control of output trays, duplex, paper size etc., and support for special printers like label, check and thermo printers.

Distribution – the LaserNet Server can automate the document distribution internally as well as externally. All of your documents can be delivered to the desired location and printer, without incurring the time and cost of manual intervention.

Filter - The software contains of several standard input filters, standardizing the incoming data formats in order to optimize the existing data streams and form creation. LaserNet can convert to and from any codepage format supported by Windows.

Overlay – Any overlay or drawing created in any Windows application like Microsoft Word, Publisher, or even Adobe Indesign can be inserted into the output document. This unique overlay support provides the customers with the possibility of maintaining overlays separately from the forms application.

Barcodes – Special label documents can be designed, using all types of Barcodes. This includes 2D barcodes, PDF 417, EAN 13, EAN 128 and many others. The soft fonts must be purchased and installed separately on the LaserNet Server, as well as on the workstation where the LaserNet Developer is installed.

As standard, the LaserNet server supports check cipher calculation for a range of barcodes:

- 2 of 5
- Code39
- EAN128
- Code128
- EAN8
- EAN13

Calculations – Perform any calculations on the data stream, including adding numbers, running totals, calculate transport lines, discount columns etc. New calculated fields can be linked back to the main application.

Unicode – LaserNet has native support for all Unicode formats, such as UTF-8, UCS-2, UFT-16 etc. for design and print of documents in Chinese, Russian, Korean, etc. This means transferring a single byte character set like ASCII into a double byte character set without any change in the application system.

Rearrange Master – The LaserNet Developer is built with a powerful tool for handling forms design, using Master pages and child pages. Documents can be used as Master for other documents, and all corrections, font, calculations and settings will be inherited to the new form, email, fax, file etc. This provides you with outstandingly easy handling and maintenance of forms setup.

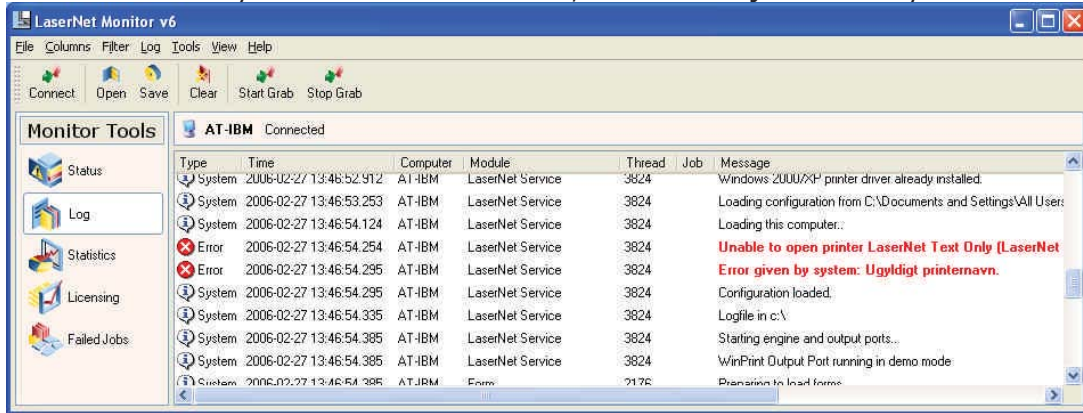
JavaScript – Using Java technology, LaserNet makes it possible for users to create, build and run JavaScript in LaserNet. Any script can be called from LaserNet, when processing data or it can pass information between modules. The JavaScript function in LaserNet allows advanced users to create specialised applications or functions if needed.

Job Info - LaserNet Server has a powerful and flexible support for adding metadata to the data stream. Interesting information concerning the handling of a job (ex. username, originating printer or mail headers) will get attached to the job and is identified by a unique name. For example, the Job Info "DocName" contains the original document name as shown in the Windows spooler subsystem, such as "Microsoft Word - LaserNet.doc". LaserNet uses the Job Info system for setting up information like e-mail addresses, archive indexes, FAX numbers, or printer specific information. The additional data inserted into Job Infos are commonly used for setting up conditions for validating the data stream. When mail is received on a mail input port, a "MailFrom" Job Info is set. As the data reaches the form recognition part of LaserNet, a form may be configured to differentiate based on the "MailFrom" Job Info, so that "bugs@efstech.dk" and "b2b@efstech.dk" e-mail addresses can be assigned each their form and data flow throughout LaserNet.

Scheduled Input Port - initiates actions in LaserNet at predefined times. It is primarily used for e.g. checking whether data is available from a database.

Monitor - LaserNet Server is delivered with an advanced monitor who helps the user and administrator to control and update one or more LaserNet Server installations. The monitor

logs any information from any job received and processed by the LaserNet Server and provides you with a fast and easy overview of the modules, licenses and jobs in the system.



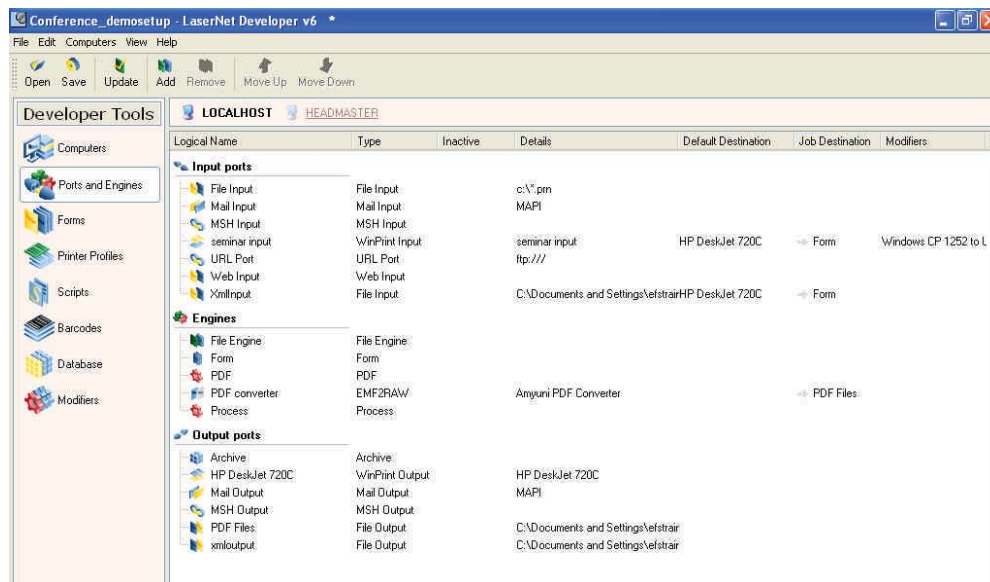
Any error that has occurred on the LaserNet Server or another module is shown in red typeface in the monitor. On the background of these messages, administrator can discover errors in Laser processing and identify and resolve them.

The monitor also contains the failed jobs option, where all jobs can be stored, if the LaserNet Server for some reason fails to pass the job to another module, or to the printer. Jobs can be resent or deleted from the Failed Jobs directory.

5. Modules for the LaserNet Server

The LaserNet Server provides standard functions, helping companies to capture, transform, present and distribute data and to print it as a document. In order to fulfil future demands to business documents, the LaserNet Server can be enhanced with a range of modules, all adding new features and functions to the existing ones.

The modules are built as add-on solutions, and they are all a part of the normal installer. When new features are needed, this makes it an uncomplicated job to expand your LaserNet solution.



The user will be able to see a list of the modules and features added in LaserNet. Any new module can easily be added by just a few clicks. New modules are constantly developed by EFS Technology and our partners.

5.1. List of modules

The following section includes descriptions of the LaserNet Developer, the LaserNet printer license, The LaserNet Conversion Module, the LaserNet Communication module, the LaserNet File Module, the LaserNet XML Output Module, The LaserNet XML Input Module, the LaserNet Database Module, the Graph module, the LaserNet Supervisor Module, The LaserNet PDF Input Module, LaserNet Optidoc for Dynamics AX, the LaserNet SAP RDI Module and AutoFORM LaserNet.

5.1.2. The LaserNet Developer

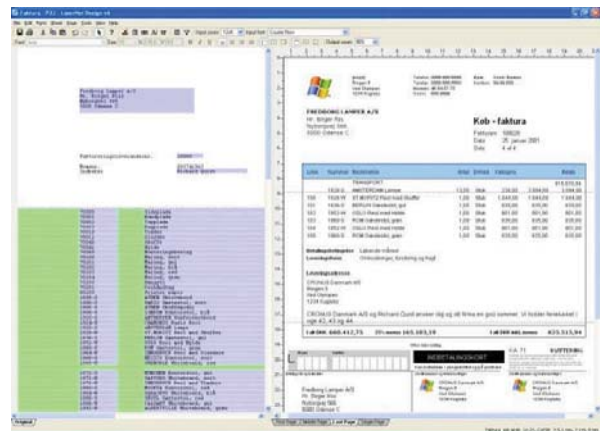
Converting application data into business documents can take days of complex, expensive programming. With LaserNet’s click & point interface, it takes only a few hours, and changes take just minutes, saving your organization costly programming and time. The LaserNet Developer provides an easy-to-use environment for controlling and setting up the LaserNet Server.

In LaserNet Developer, you develop and maintain great-looking forms and reports, using data originating from your administrative system from any given platform. The administrative system must be able to generate an ASCII, CSV etc. or a XML document. By using the LaserNet Developer, the user can then enrich the data by applying graphical overlays, rearrange text, change font type, generate barcodes and much more.

The result is a professional-looking document in full compliance with your company design standards, ready to be distributed through your business channels in a variety of formats by the LaserNet Server and any modules you may have added.

The software is installed anywhere on the network, on a dedicated workstation, or it can be handled by an external reseller supporting the LaserNet installation.

The window where you design your forms is split in two; with a data input side on the left and the actual form design on the right.



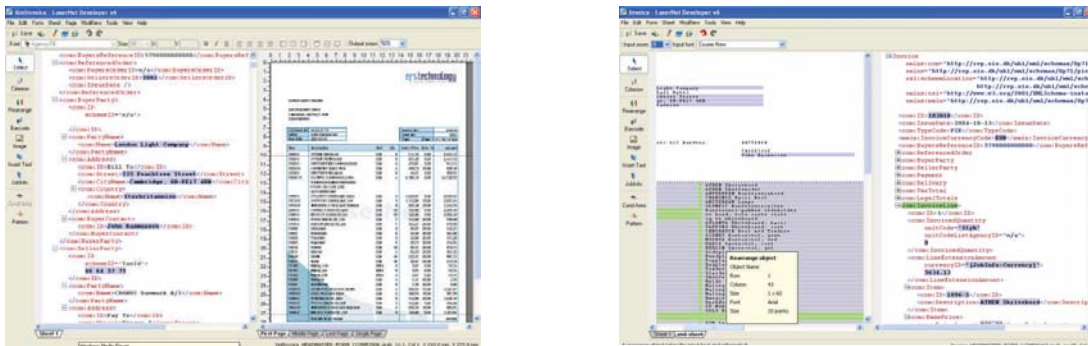
The left side

The left side contains the original data received from the administrative system. The original data is viewed as ASCII text in rows and columns, or as a XML tree structure.

The right side

The right side contains the actual form design with overlays, providing you with the possibility of placing texts/data, change fonts and font sizes. If you like to create other file types like XML, this will be showed as an XML three.

The above mentioned functionality is only part of the many different possibilities and options supplied in LaserNet Developer. The software is built with a strong focus on user friendliness. As a result of this, reformatting documents and setting up your system to receive, transform and deliver documents can be done without any programming at all.



Work with XML input and transfer it into human readable documents and transfer received PDF files into advanced XML output documents.

5.1.3. The LaserNet Printer license

With the LaserNet Printer license, you may set up one particular printer to print all jobs from LaserNet. Depending on the individual LaserNet solution, you can buy anything from one licence up to a pack containing 250 licences specifically tailored for very large companies and organisations.

5.1.4. The LaserNet Conversion Module

The LaserNet Conversion Module converts data and documents from any given format to another preferred format. Typically, it is used to convert an incoming format like text or XML into a more common and human readable format like PDF, Tiff, JPEG, RTF or HTML. After conversion, LaserNet can deliver the document to another module like the File Module or Database Module, or directly to the receiver through the Communication Module.

5.1.5. The LaserNet Communication Module

The LaserNet Communication Module is designed to integrate with common mail, fax or other applications. The Communication Module has features for receiving and sending documents and information through standard protocols. Typically, the most common use is for integration with Microsoft Exchange or Notes in order to send document as mails. All documents can be sent as a full attachment, or the document, or any part of it, can be sent as a part of the HTML body text. Email address, subject and CC is supplied directly from the data within the document, or from any other LaserNet modules, like databases etc.

The LaserNet Communication Module also integrates with most common faxing solutions like Faxination, FaxStar or Zetafax by using the features of these systems. These could be scheduled delivery, intelligent routing, real time delivery and tracking. Furthermore, the module has built-in features for sending and receiving documents through other protocols like

HTTP, FTP, FTP/S HTTP/S. In this way, all your communication with external partners can be maintained in one module.

5.1.6. The LaserNet File Module

Any information or document can be stored into a shared folder on a network. The file can be named intelligently on behalf of information from the data stream (invoice number.PDF).

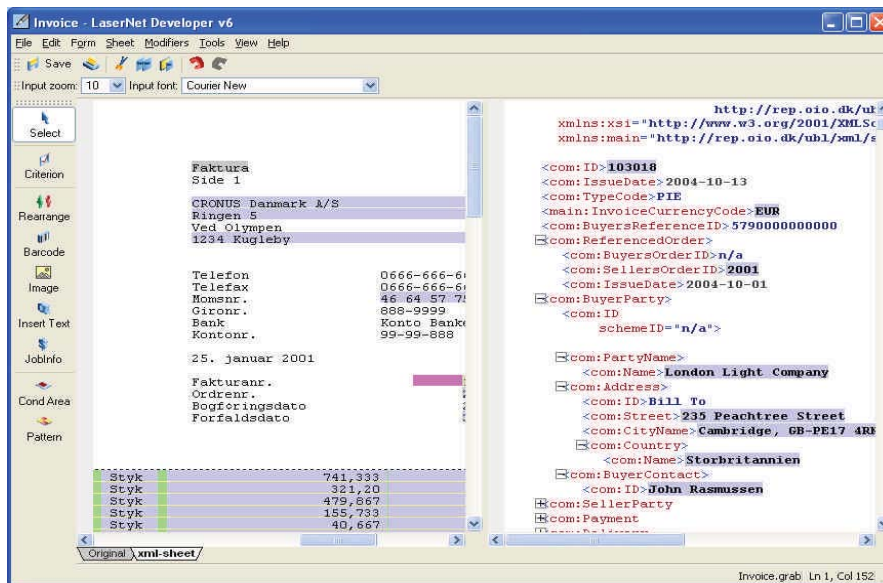
5.1.7. The LaserNet XML Output Module

The LaserNet XML Output Module helps you to create advanced XML output files. The user of the software deploys the same intelligent and flexible editing features, as when working with graphical output like forms. This is a unique feature, and the preferred choice of many users when converting from any other format to XML.

The LaserNet XML Output Module contains support for loading pre-defined XML templates received from customers and partners, in order to achieve significant benefits and saving time when working with the design and setup of the XML files. The XML files can be produced in any encoding needed, and LaserNet can be configured to remove white space and many other useful features.

5.1.8. The LaserNet XML Input Module

The LaserNet XML Input Module is capable of receiving and processing any XML format generated from any system. The module takes away the complexity of working with XML-based technologies through an intuitive and graphical user interface as well as a rich variety of editing options. The LaserNet XML Input Module can receive a long range of different XML files, no matter if they are built upon standards, or customized to fit to other solutions. Any XML file received can be processed to any other module in LaserNet resulting in new XML files, documents, PDF etc.



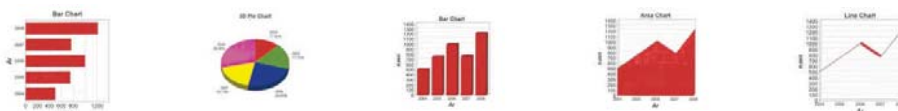
This example from the LaserNet Developer demonstrates how to drag and drop data from any format received into LaserNet, and turn it into advanced XML files, designed by the user or imported as a template.

5.1.9. The LaserNet Database Module

LaserNet supports any ODBC/OLE DB compliant database for storing data as documents, files in PDF, XML etc., or for storing parts of data that may be used when working with other forms or systems. Data stored in the Database Module can also be inserted into documents, files, or even be retrieved and processed, when LaserNet receives a user defined command. Most common databases supported are Microsoft SQL, Oracle and Access. The user interface also helps you to connect into a wide range of existing archive systems.

5.1.10. The LaserNet Graph module

The LaserNet Graph module makes it possible to incorporate small illustrations by the product code, add chemical hazard symbols onto labels, incorporate graphs or charts into reports & financial statements:



Graphs can easily be done in LaserNet. The software calculates the drawing on behalf of information in the input stream, and you can choose from more than 60 different types and shapes.

5.1.11. The LaserNet Supervisor Module

The LaserNet Supervisor Module monitors the LaserNet service, and alerts an administrator by e-mail, event-log and/or a log-file if certain events occur in LaserNet. Currently, the Supervisor Module may be set up to alert the administrator when the following events occur:

- LaserNet service has not been running for x minutes
- Memory usage is higher than x MB
- Handle usage is higher than x amount of handles
- One or more jobs have failed
- Report specific messages from the LaserNet log. A filter is defined by regular expressions in the configuration file. An ignore filter is also possible

Furthermore, the Supervisor Module collects statistical data for use in warnings of potential future problems with LaserNet. A warning could be triggered by tendencies of eg. memory or cpu usage. These statistical data may also be logged for usage in an Excel diagram or some other representation of the statistics.

5.1.12. The LaserNet PDF/Excel Input Module

The LaserNet PDF/Excel Input Module converts PDF/Excel documents to text data, keeping the of the original document layout as much as possible to ensure optimized processing in the Forms engine. The output text is in UTF-8 format, supporting all kinds of languages native supported by PDF/Excel file. PDF supports specification 1.0-1.5 and Excel 95/97/2000/XP. The module is particularly optimized for processing PDF-files generated by JD Edwards.

5.1.13. LaserNet OptiDoc for Dynamics AX

This is an add-on module specifically made for Microsoft Dynamics AX users, turning document design, handling, and distribution into an easy task. The solution includes a number of document templates and configurations:

- Invoice/Credit note
- Statement of account
- Order confirmation
- Delivery note/Packing list

LaserNet OptiDoc for Dynamics AX has been developed for AX versions 2.5, 3.0, and 4.0. A regular, "raw" print can be (mass) printed in any format – directly from Dynamics AX. Thus, an invoice can automatically be sent as print, fax, or email. Regardless of the document format - print, PDF via email, fax, oioXML, ebXML, or fax – they can all be managed *directly* from the debtor/creditor card in Dynamics AX. In this way, customer A can receive statements of account via email, while customer B receives the statements via fax or print. The module includes:

- Print journal in Axapta
- File archive containing printed documents which can be opened and read directly from AX
- Management of document distribution in AX
- Ensure that all business logic remains in Dynamics AX
- Option for automatic voucher handling
- Graphic preview (incl. logo and overlay)

A LaserNet solution tightly integrated with the Dynamics AX menus makes the management of AX documents a simple and easy experience. For more information about LaserNet OptiDoc for Dynamics AX, see the EFS Technology technical manual about LaserNet OptiDoc for Dynamics AX.

5.1.14. The LaserNet SAP RDI Integration module

This is an integration module for SAP RDI (Raw Data Interface) format that is used by SAP from version 4.x. onwards. SAP RDI typically wraps itself across several screen widths, making it cumbersome to map. Output can also be in a random order, for example line items, interspersed with address details. The LaserNet SAP RDI Integration module overcomes these difficulties by converting the data to XML, making it easier to handle. The XML format also offers the customer additional opportunities to exchange data with suppliers and customers via web-links.

Using the SAP RDI module with LaserNet will typically reduce the output document development lead times (and their subsequent management) by several weeks, if not months, compared to using other SAP output formats. This dramatically cuts SAP implementation times and costs for the customer. This module requires the LaserNet XML In module. For more information about SAP integration please read the information about the SAP/RDI modifier as well.

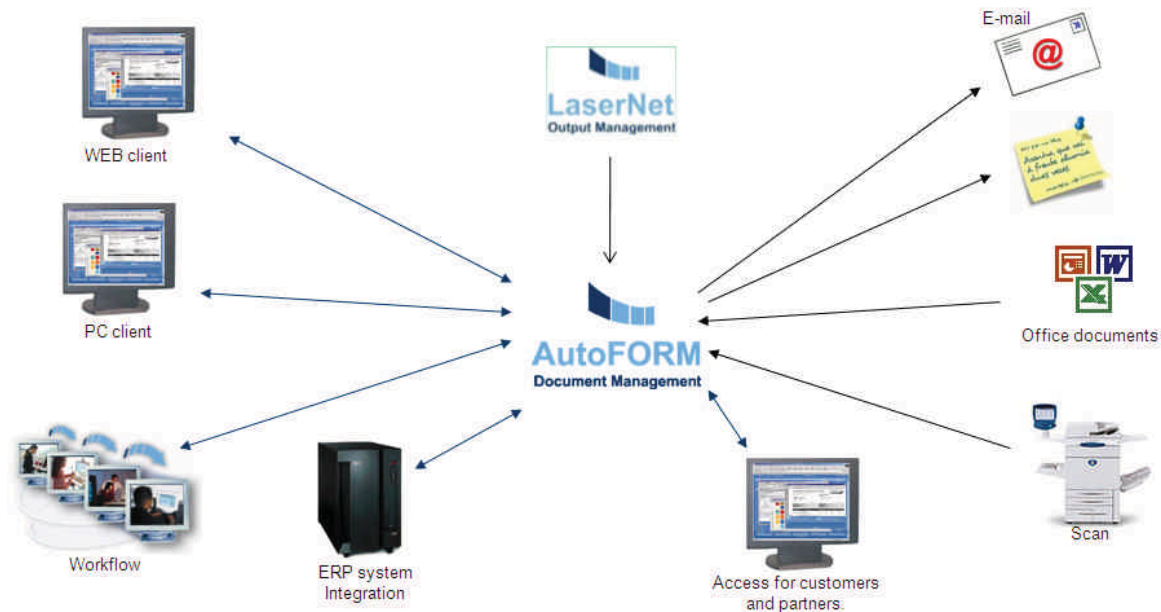
5.1.15. AutoFORM LaserNet

AutoFORM LaserNet functions as the archive and workflow extension to LaserNet, eliminating tedious filing, copying and document distribution costs & delays by automatically capturing & indexing documents as they go to print. Documents are instantly available for viewing from within your ERP, via the web, or from the AutoFORM LaserNet PC interface. But over and above the financial benefits is the tremendous advantage that AutoFORM LaserNet brings to your business by empowering managers and staff with instant access to information, wherever they may be working.

AutoFORM LaserNet combines three archiving technologies in one: outgoing system generated document capture (COLD), PC file import and document scanning/imaging. Each element integrates seamlessly with your main application and business processes, introducing order and accessibility to all the important records across your organization.

The AutoFORM LaserNet solution thus provides a central point of document management. As a consequence, this system ensures a high degree of consistency and transparency in the corporate control of the information workflow. AutoFORM LaserNet ensures a complete and searchable document transaction history for easy retrieval of information regarding previous financial transactions.

LaserNet handles the flow and design of your document input and output, AutoFORM LaserNet takes over to initiate a workflow, apply business rules and store the documents so they can be accessed from a web-browser and directly from many leading ERP and financial IT-applications:



For more information about AutoFORM LaserNet, please ask for our AutoFORM LaserNet whitepaper.

6. List of modifiers

Modifiers - Within the LaserNet Server, there is a range of modifiers which can be used to process, convert or modify the data. Each modifier can be used when a job is received, when it

is processed, or when it is about to be delivered from LaserNet. The great advantages of modifiers are that highly advanced features and technical issues become very easy to obtain. The list of modifiers is long, and constantly increasing. Below is a list of the most commonly used modifiers.

Zip Modifier – files can be zipped or unzipped by LaserNet. This works for single jobs or it can be a scheduled process. The Zip Modifier requires the LaserNet Communication module and the LaserNet File Module.

PBS Modifier – create payment files for PBS (Payment Business Services) by adding your data into a predefined XML format. The PBS modifier converts the XML format into the final PBS format.

Excel/Text Modifier – transform your Excel document into a normal text document for handling in LaserNet, updating main applications or databases. The Excel/Text Modifier requires no specific modules.

PDF/Text Modifier – transform your PDF document into a normal text document for handling in LaserNet, updating main applications or databases. The PDF/Text Modifier requires the PDF Input Module.

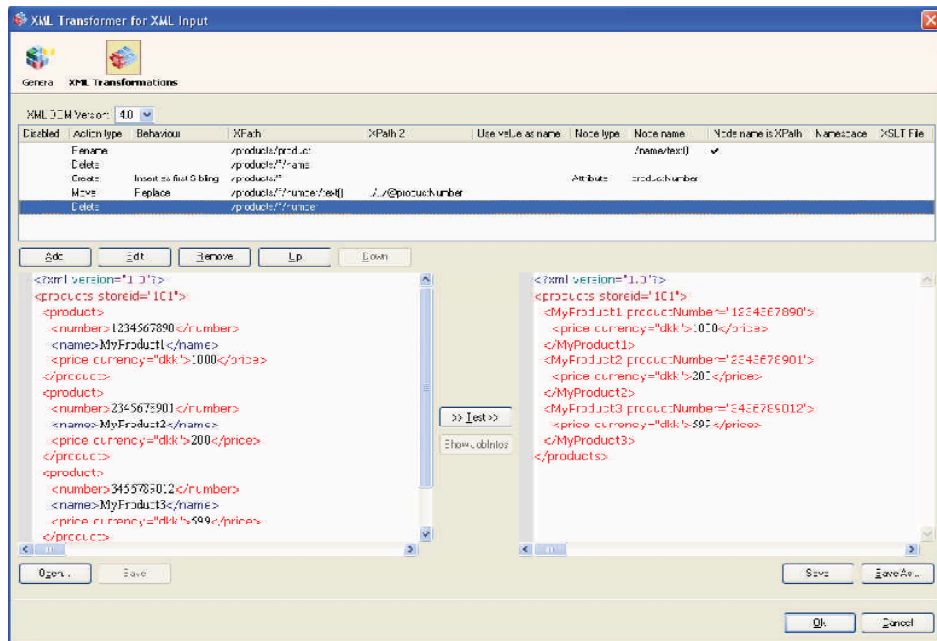
EDI/XML Modifier – transform received EDI document into XML files. The EDI/XML Modifier requires the XML input module.

XML/EDI Modifier – transform XML produced in LaserNet into EDI. The XML EDI Modifier requires the XML Output module.

SAP RDI Modifier – this modifier is built to handle data from SAP in RDI format (Raw data interface). The modifier can automatically transfer the RDI data stream into normal XML, and the user will gain a much easier setup and creation of the final output. SAP RDI Modifier does not require any particular modules.

JDE Modifier - A specially designed modifier built to secure an easy integration with JD Edwards One World, or other systems delivering output in PDF. The modifier can strip out the needed data, and process it into further handling in LaserNet. The modifier can also be used in highly advanced input management solutions; receiving PDF files from suppliers and customers. The JDE Modifier requires the PDF Input modules.

XML Transformer - The XML Transformer is mainly used for transforming XML documents from one format to another, adding tags or information into the XML format. The transformer supports standard XML and Xpath 1.0, and for advanced transformations it also supports XSLT. Some of the features of the XML Transformer include:



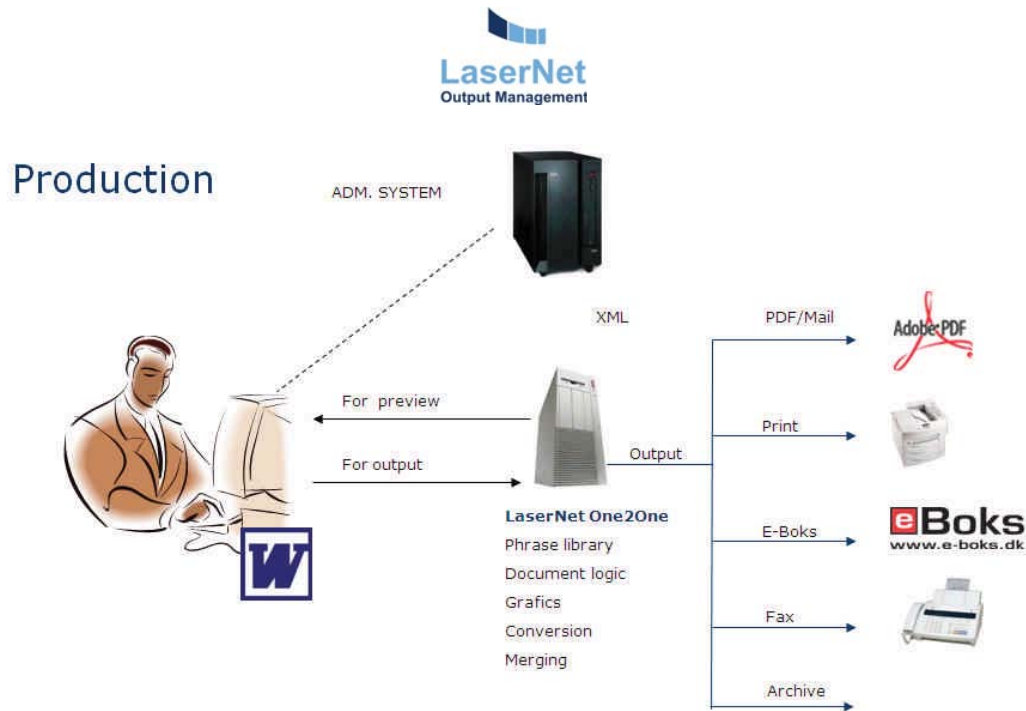
Create, copy, remove, move, and rename all types of xml nodes using Xpath-expressions, and Use XSLT on the xml document or on a specific xml node. The XML transformer requires the XML in or out module.

7. LaserNet solutions

This section provides a brief overview of the specific LaserNet solutions that have been tailored to meet different market, industry and company demands. New solutions and functionalities are currently under development by EFS Technology and our partners. Please contact your LaserNet reseller for more information.

7.1. LaserNet One2One

LaserNet One2One functions as an add-on application, bringing the management of content into the LaserNet product suite. LaserNet One2One is made for xml input which is converted to documents via LaserNet One2One, and then sent through LaserNet for further processing and formatting:



LaserNet One2One provides an easy-to-use interface where the user may edit, update and personalize business document content to customers and clients even in a multichannel large-scale enterprise setting.

LaserNet One2One works by a step-by step method, where the user creates phrases for documents, uploads XML files with data (names, addresses, etc.) and sets up the logic that determines how and when individual phrases are used in different business documents.

Any worker with basic IT skills can work with LaserNet One2One, and rules can be set up to determine who can edit and overrule documents changes so that the development of the document database is structured and monitored centrally. For an in-depth perspective on LaserNet One2One, please see the LaserNet One2One Whitepaper.

7.2. LaserNet and eBoks

eBoks is a personal, lifelong electronic document archive with CPR and CVR identification. Users can register the documents that they wish to be archived in eBoks itself, or at the postal office. New mail then shows up at www.e-Boks.dk in PDF format. The PDF documents are kept in a safe environment on the KMD mainframe. Moreover, eBoks is free of charge for both private users and companies. LaserNet works as a formatting tool, converting documents to PDF and delivering them to eBoks.

For both private and business users, it is a convenient and safe solution, guarded by strict laws with respect to the storing of personal information and business critical material. Users do not have to think about postage and paper costs, or complicated handling procedures. Companies may also be able to provide better customer service, as customers, partners and vendors may choose how to receive their business documents from any company registered in the eBoks system. Popular eBoks solutions include:

The simple solution for pay slips: The pay slip is sent to print as normal. LaserNet formats and converts the pay slip to the eBoks format, and it is then automatically forwarded to Post Denmark's ePostalOffice. Here, the document is verified and placed in the correct eBoks.

The full solution for all types of documents (including b2b transactions): eBoks is able to receive all business documents, such as invoices, account statements, pay slips, and bills etc. and ensure the correct delivery to the receiver's eBoks.

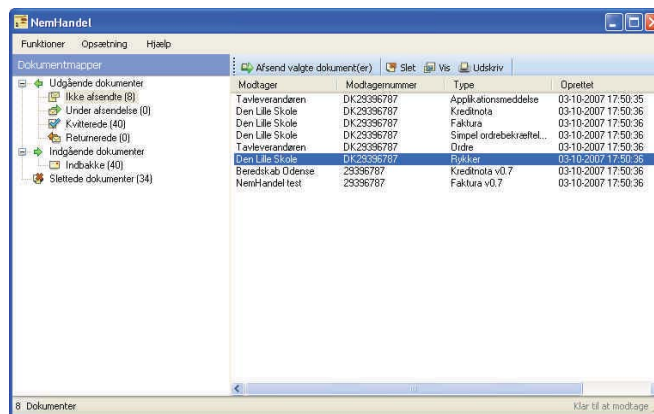
7.3. LaserNet, oioUBL and NemHandel

With the introduction of NemHandel, a lot of new possibilities have become available to Danish companies. With this new software, businesses may send and receive orders and invoices from public institutions in Denmark as well as communicate business documents with their suppliers and business partners. The NemHandel software is free of charge and can be downloaded at: <http://www.ibizcenter.dk/kom-i-gang/trin-3-download-nemhandel-program.aspx>

Sending and receiving documents via NemHandel is also free of charge, and companies no longer need to use a VANS operator as well. Logically, enterprises may save both time and money on implementing the NemHandel software. Nevertheless, NemHandel is not built to communicate directly with the ERP system which necessitates the use of a piece of software that may convert data from the ERP system into oioUBL, (oioUBL is part of the international standard UBL 2.0) the standard used for the NemHandel software.

By concurrently installing LaserNet, companies may ensure that data is converted into the correct NemHandel format and gain access to all the other possibilities that LaserNet offers as well. This includes forwarding document copies in PDF, ensuring the archiving of all business documents, avoiding loss of data in the case of an ERP upgrade and the automatic management of all document processes in the organization.

When installed, the NemHandel software looks like an e-mail client:



At present, a wide range of documents can be processed via NemHandel, such as invoices, orders, credit notes, account statements etc. NemHandel also ensures the encrypting of the document, the creation of a log file of the individual transaction, efficient handling of errors and the securing of company identity through the use of digital signature.

For general information on NemHandel, please visit <http://www.ibizcenter.dk/>

Also, read the EFS Technology whitepaper on NemHandel.

8. Technical details

System requirements for LaserNet

A standard implementation of LaserNet requires the following:

Developer:

- Microsoft Windows XP Workstation with:
 - Intel Pentium III or Higher Processor
 - 512 MB RAM Minimum
 - 4 GB Hard Disk Drive Minimum
 - TCP/IP Services Installed & Configured
 - Network Interface Card (NIC) Installed & Configured
 - Network Access, Colour Monitor, Keyboard & Mouse

Server

- Microsoft Windows 2000 or 2003 Server with:
 - Intel Pentium III or Higher Processor
 - 1 GB RAM Minimum
 - 10 GB Hard Disk Drive Minimum
 - TCP/IP Print Services Installed & Configured
 - Network Interface Card (NIC) Installed & Configured
 - Network Access, Colour Monitor, Keyboard & Mouse

9. Why LaserNet?

Invest in a solution that meets your needs now and in the future

For more than 15 years, LaserNet has led the way in the development of output & document management. Networked distributed forms, Windows document design software, automated document e-mailing and archiving are all pioneering products developed by the EFS Technology Group. Also, we have launched solutions capitalizing on emerging technologies such as XML and the latest advances in web document publishing and e-commerce. In other words, you can be assured that LaserNet will meet all your requirements now and in the future.

Please visit our website www.efstech.com and read our case stories about customers using LaserNet as a main application in their overall IT Strategy.

Global reach - local service

EFS Technology understands that enterprise wide document and output management solutions are best implemented and maintained at a local level. We therefore have two development centers in Europe that are further supported by 61 implementation partners across the world. In this way, EFS Technology ensures that you have someone close by who knows your systems and our software in considerable detail, so that we can resolve any queries in moments without waiting for a help desk response from another time-zone.

Solutions built with understanding

Our partners are specialists: highly experienced in providing tailor made solutions using advanced software technology. The first thing that they will offer you is consultancy: A chance for them and us to gain an understanding of your business requirements – and for you to review how LaserNet has risen to similar challenges elsewhere. Then, in collaboration and partnership with yourselves, they will tailor the core applications to fit your precise needs to ensure that they bring you benefit from day one.



Adaptable solutions that work in the real world

International experience with manufacturing, logistics, government institutions, universities and hospitals has provided EFS with the expertise to develop a comprehensive range of standard solutions that can be adapted to meet your precise needs. Our case studies and application sheets provide in-depth details and are available from our website or from your account manager.

Multi-application, single interface

LaserNet is essentially an open product which is frequently used with multiple applications to solve many issues at once. To this end, EFS Technology and our partners work closely with a long list of leading IT applications including: SAP, Oracle, GEAC's System 21, BPCS, JDE and Microsoft Dynamics.

Look who's working with us

With more than 1,700 clients in 35 countries, LaserNet has been chosen as the preferred output & document management solution by some of the world's biggest and best known companies. The larger installations include: AT&T, BOC Edwards, Corus Engineering Steels, Panasonic, Denmarks Radio, Haribo, Solar, Pixar Studios, Tupperware,, Tucson Airport, Parex Bank, London Scottish Bank, PON Caterpillar, NIKE, APL Asia Pacific Ltd., Stockholm Harbor, Swedish Road Administration, the Danish Ministry of Food, Agriculture and Fisheries, and many more.

10. Further information and contact details

For more information regarding LaserNet, please contact EFS Technology or one of our certified resellers.

EFS Technology can be reached at the following offices:

Denmark

EFS Technology A/S
Park Alle 290, stuen
2605 Bøndby
Denmark
Ph: +45 43 66 02 10
Mail: sales@efstech.dk
www.efstech.com

USA

EFS Technology inc.
3943 Irvine Boulevard no. 250
Irvine CA 92602
USA
Ph: +1 714 389 9031
mail: sales@efstech.com
www.efstech.com

UK

EFS Technology APS Ltd.
The Malting, Green Drift
Royston, Herts, SG8 5DY
England
Ph: +44 (0) 1763 245250
Mail: sales@efstech.co.uk
www.efstech.co.uk

Asia

EFS Technology Asia Pacific Pte Ltd
100 Beach Road #22-09
Shaw Tower
Singapore 189702
Tel : +65 9109-1273
Mail: sales@efstech.com.sg
www.efstech.com.sg