docuFORM GmbH

Applied modules of the Mercury Suite

Mercury OMS

Document & Output Management

Software Made in Germany

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docuFORM Mercury Suite – the "Swiss Army knife" for data stream conversion, document management and all types of print workflows in companies.

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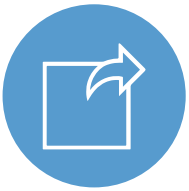
The docuFORM Mercury Suite

Manufacturer-independent solutions with maximum user experience and long-term investment protection for companies across all industries.

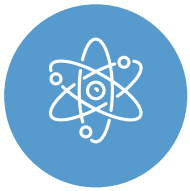
The docuFORM Mercury Suite is a comprehensive software package in the areas of DMS (Document Management), OMS (Output Management) and MPS (Managed Print Services). The decisive advantage of this is that it is a modular system that can be combined in any desired way. At the same time, it is a manufacturer-independent and comprehensive solution "Made in Germany".

The solution is certified by SAP, Apple AirPrint, Citrix and Fiducia GAD and includes the Europe-wide patented "Global Printer Interface" (GPI) for Office and Follow "2 print printing.
By exchanging information within the modules, additional functionalities and output options are offered, providing the user with transparency, efficiency and cost savings.



OUTPUT MANAGEMENT SYSTEM

Mercury OMS is the central module for controlling print output. All data sources, from SAP to cloud printing, can be converted if required and linked to any output device via freely combinable filters and emulations.



MANAGED PRINT SERVICES

The fleet management software Mercury MPS is used for monitoring and servicing comprehensive, manufacturer-independent device networks and for the automated supply of consumables.

GLOBAL PRINTER INTERFACE

The docuFORM GPI allows to eliminate any printer driver. The system is self-learning, maintenance-free and manufacturer-independent - without compromising hardware or print quality.

FOLLOW"2"PRINT

The pull print solution Follow"2"Print offers the possibility to receive print jobs at any desired output system in a secure and individual way after authentication via Smartcard, QR-Code, PIN or App.

Further modules & interfaces

The integrated concept of the Mercury Suite as a multi-vendor solution is unique on the world market. Only through this comprehensive product portfolio can highly complex requirements be implemented in companies. At the same time, the use of Mercury as a strategic workflow solution means the decoupling of any hardware dependencies in the company.

ATLAS FORM DESIGNER

With Atlas as a WYSIWYG editor, any form can be created to format various raw data such as XML, add barcodes and also output to any printing system based on rules.

CLOUD SERVICES

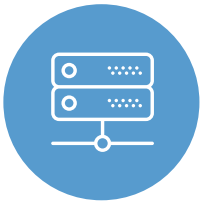
With the docuFORM Cloud, print or MPS data can be distributed, organized or printed worldwide, whereby on-site IT infrastructure can be largely dispensed with. We operate our own servers in Germany.

SAP INTERFACE

The certified SAP BC/XOM interface from Mercury OMS enables secure, continuous and bidirectional communication between the SAP application and printing, including pull printing.

AIRPRINT

Mercury accepts print data via AirPrint from both iOS and Android mobile devices and makes it available by Follow”2”Print for later, secure pickup after authentication at the output device.

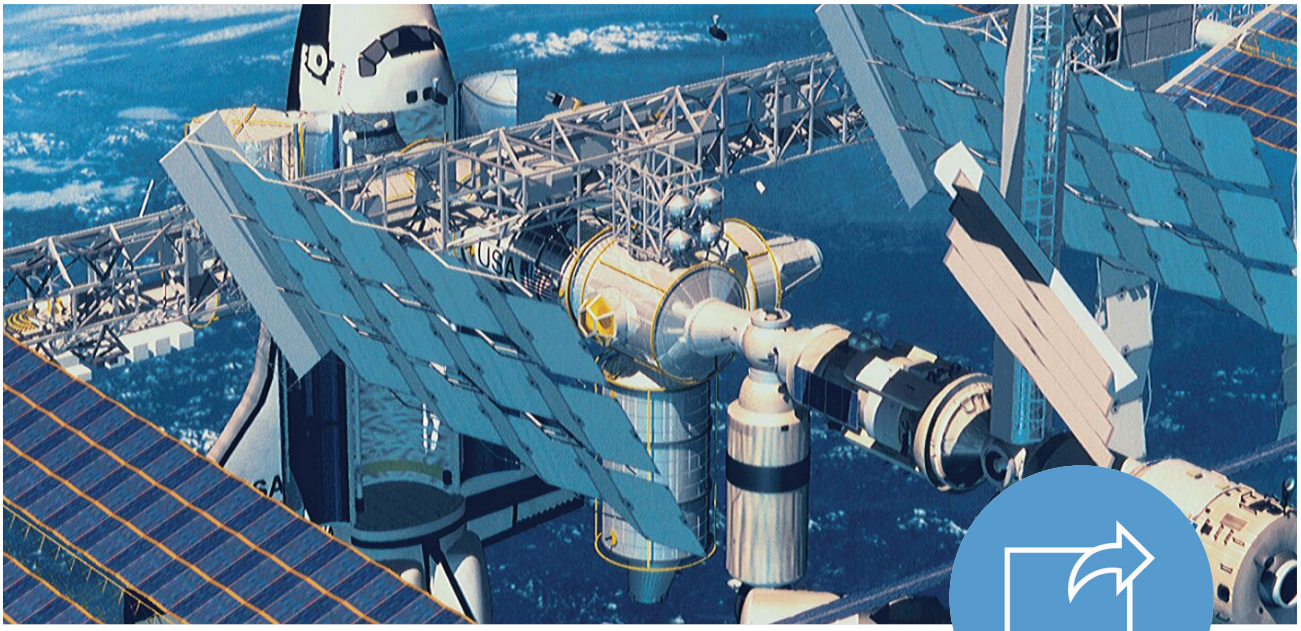


MAINFRAME PRINTING

Print data from host applications, such as AFP, IPDS or Prescribe, can be converted to standard print data, which in turn makes it possible to output from these vendors independently and comprehensively.

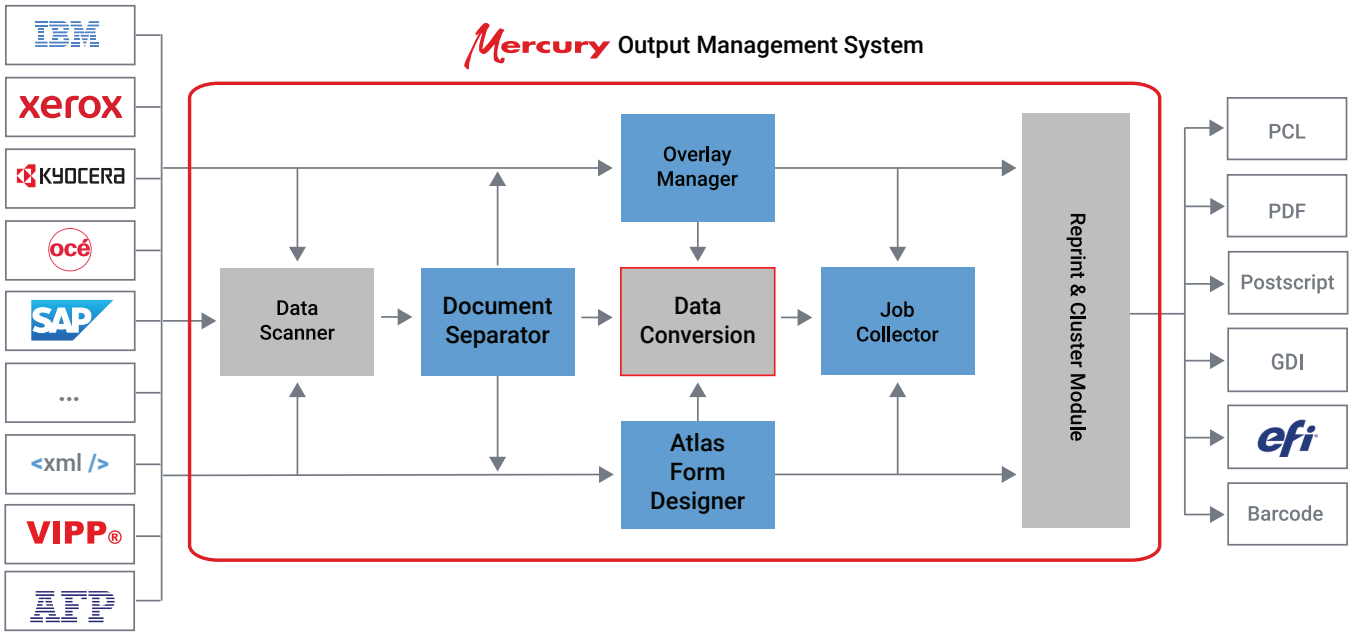
INTERFACES TO ERP PROGRAMS

For complex company workflows, concepts & interfaces for the exchange of IT information are developed and implemented in cooperation with our development partners.



Output Management System

Mercury is a modern, modular and combined document management (DMS) and output management (OMS) software solution for all current Windows operating systems. The Mercury software includes a variety of modules to fulfill almost all daily tasks in the areas of data conversion, document and form management and output management.



Schematic overview of the Mercury modules

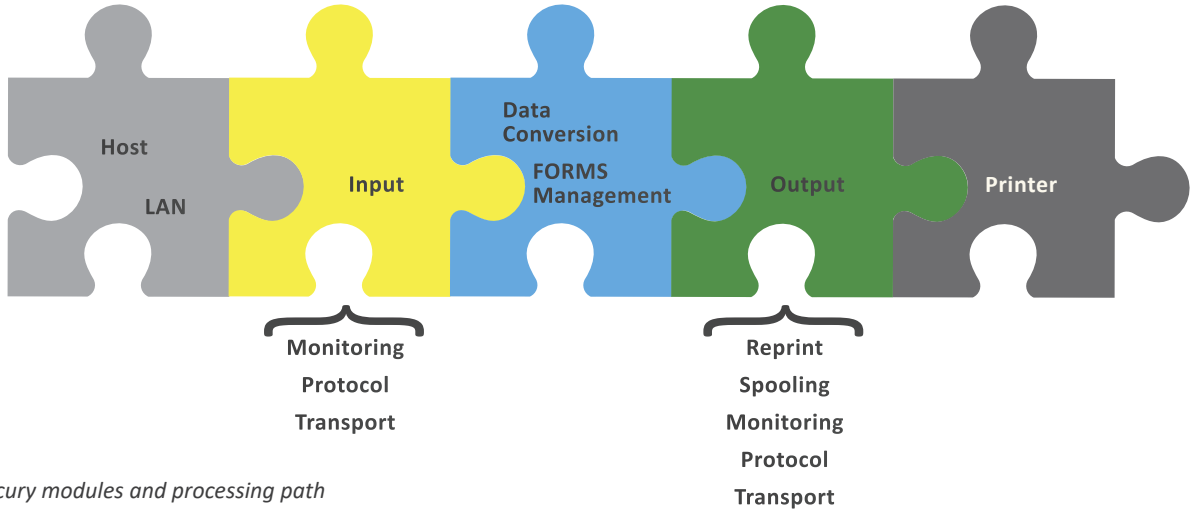
Data Stream Conversion

Mercury is much more than just a print server. A wide variety of extension modules enable the entire print workflow in the company to be mapped.

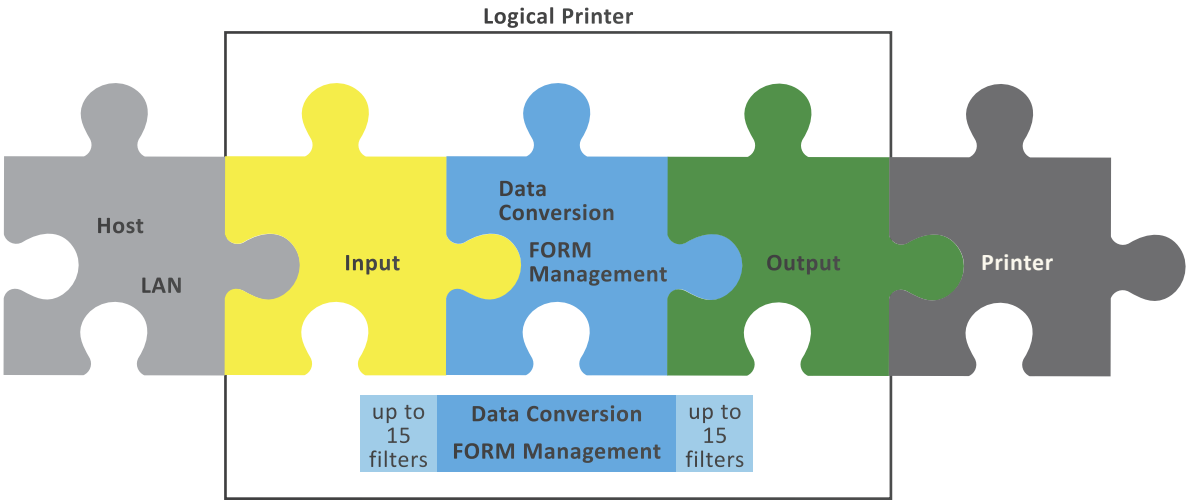
The Mercury Print & Document Management Software consists of individual modules that can be combined to form any data processing path within the Mercury DMS software. There are modules for receiving data including host and network communication (so-called Mercury Input Interfaces), for processing, preparation and conversion of data (so-called Mercury Emulations) and for output of data including terminal and network communication (so-called Mercury Output Interfaces). With the help of these input interfaces, emulations, and output interfaces, arbitrary and individual ways for data processing (so-called Logical Printers) can be configured in the Mercury DMS software. With the help of the filters integrated in the Mercury software, data streams can be adapted at several points of the processing path in the Mercury software. For example, using the Mercury Stringchange Filter, individual code sequences for selecting paper feed trays from the host data stream can be easily exchanged for the sequences required by the output device.

"Highlights"

- Cross-vendor and manufacturer-independent solution
- Fully integrated form and overlay management
- Print data conversion e.g. AFP, IPDS, Prescribe
- PDF generation and workflow



Mercury modules and processing path



Mercury Logischer Drucker und Filter

Mercury Input Interfaces

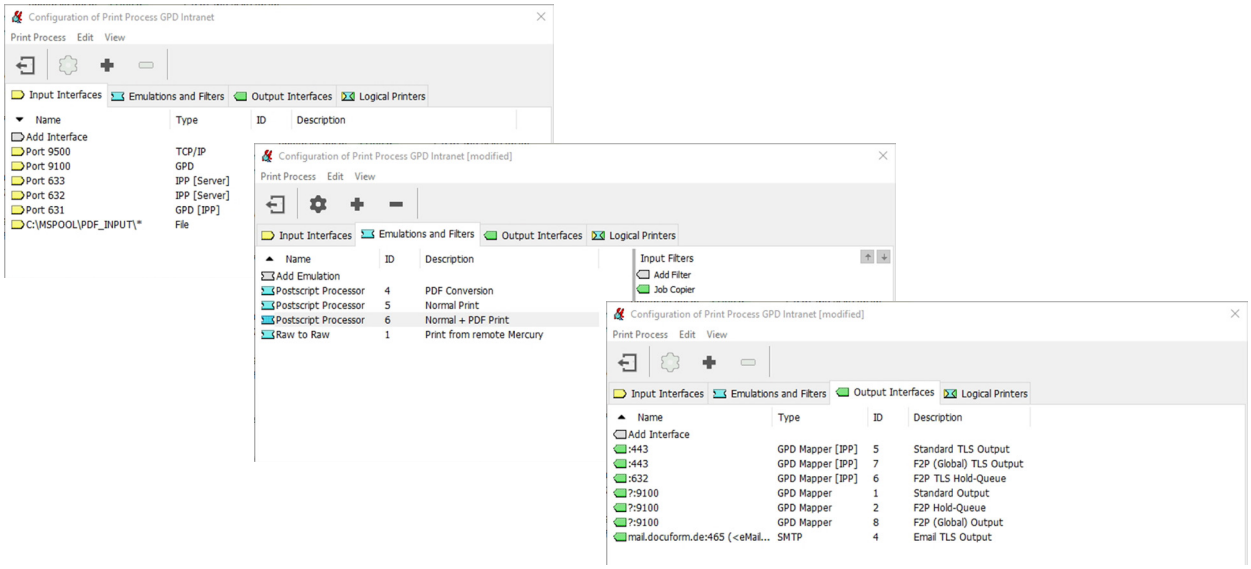
- File (Monitoring of Hotfolders)
- TCP/IP Internet Printing Protocol IPP
- TCP/IP LPD Printing Protocol
- TCP/IP Direct Socket Printing Protocol
- TCP/IP IPPS
- MVS Host Download
- Novell Netware
- ODBC Input for databases
- POP 3 Input for receiving e-mails
- BC-XOM Input (SAP certified) for any SAP system
- SNA LU1/LU3
- SNA LU 6.2
- TCP/IP PPD Input for IPDS data transfer
- System internal interfaces such as RS232

Mercury Filter

- Data Scanner Filter
- Barcode Filter
- Codepage Filter
- Stringchange Filter
- Job Copier Filter
- OMR filter for the addition of machine command markings
- Forms- and Overlaymanager to add forms, logos, graphics etc.
- Pre- / Postjob Filter
- Recordchange Filter for reblocking blocked data formats
- Regular Expression Filter

Mercury Emulationen

- AFP to PCL5 conversion
- Channel Linemode to ASCII conversion
- Comparex Linemode to PCL5 conversion
- OCÉ Forms Overlay Language to PCL5 conversion
- Printronix IGP to PCL5 conversion
- IBM IPDS to PCL5, Postscript and PDF conversion
- PCL5 to GDI conversion
- PCL5 to PDF conversion
- PCL5 to Postscript conversion
- Postscript to PDF conversion
- PDF to Postscript conversion
- PCL6 to Postscript or PDF conversion
- Kyocera Prescribe to PCL5 conversion
- Program interface for integrating external applications into the Mercury workflow
- RAW to RAW Emulation (Transparent)
- SCS to PCL5 conversion
- Xerox VIPP to Postscript and PDF conversion
- Postscript Prozessor for Form-management, Barcode application, etc.
- Xerox XES to PCL5 conversion
- Xerox DJDE / Metacode to PCL5 conversion



Configuration of the required components input interface, emulation and filter as well as output interface

Overview of data stream conversions

In\Out	PCL5	ASCII	Postscript	PDF	GDI
AFP	✔	✔	✔	✔	✔
PCL5		✔	✔	✔	✔
IGP	✔	✔	✔	✔	✔
IPDS	✔	✔	✔	✔	✔
Prescribe	✔	✔	✔	✔	✔
Postscript	✔	✔		✔	✔
DJDE	✔	✔	✔	✔	✔
VIPP	✔	✔	✔	✔	✔

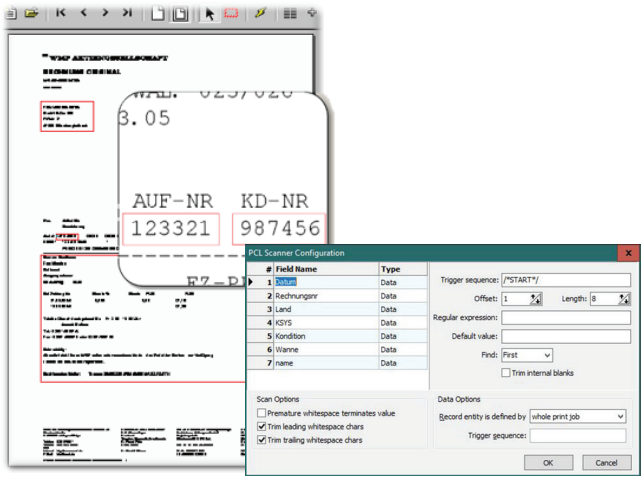
By combining up to 15 input filters before and 15 output filters after the emulation, there are almost no limits in the design of the workflow.

Filters

After receiving the data to be printed, it is standardized into a uniform format within the Mercury OMS server. Afterwards, the originally very different data can be processed further by various modules within the Mercury OMS Server, depending on the application. For this purpose, the Mercury software offers the possibility to set up so-called input filters before the actual emulation and so-called output filters after the actual emulation. This guarantees the flexibility to change the data stream to be processed always at the right place in the processing path by filters.

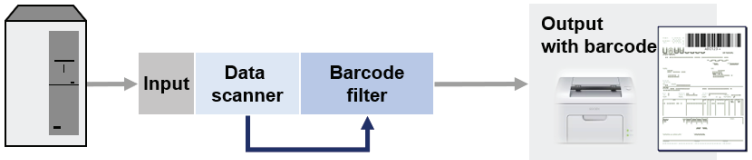
Data Scanner Filter

The Data Scanner Filter is used to extract content from the data stream. Data fields are captured over defined areas of a page using “trigger strings” or interactively on the screen from any binary data streams and PCL. The selected data fields together with their content scan be used to control subsequent Mercury modules such as Barcode Filter or Forms & Overlay Manager, enable the automated e-mailing of documents or the automatic generation of index files that are used to keyword documents for feeding into archives.



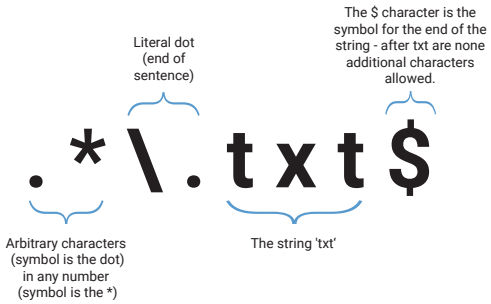
Barcode Filter

- Barcode filter for mixing one- and two-dimensional barcodes and for replacing hardware barcode plug-in modules. With the help of the scanner filter, the information for generating the barcodes is obtained directly from the data stream. The barcode filter then processes this information into the desired 1D or 2D barcode and inserts it directly into the print data stream
- Inserting the data as barcode on the respective page
- Any number of barcodes per page freely positionable
- No requirements for the host application to generate barcodes
- No requirements on the printer to print barcodes.
- Printer-specific hardware barcode modules are no longer necessary.



Regular Expression Filter

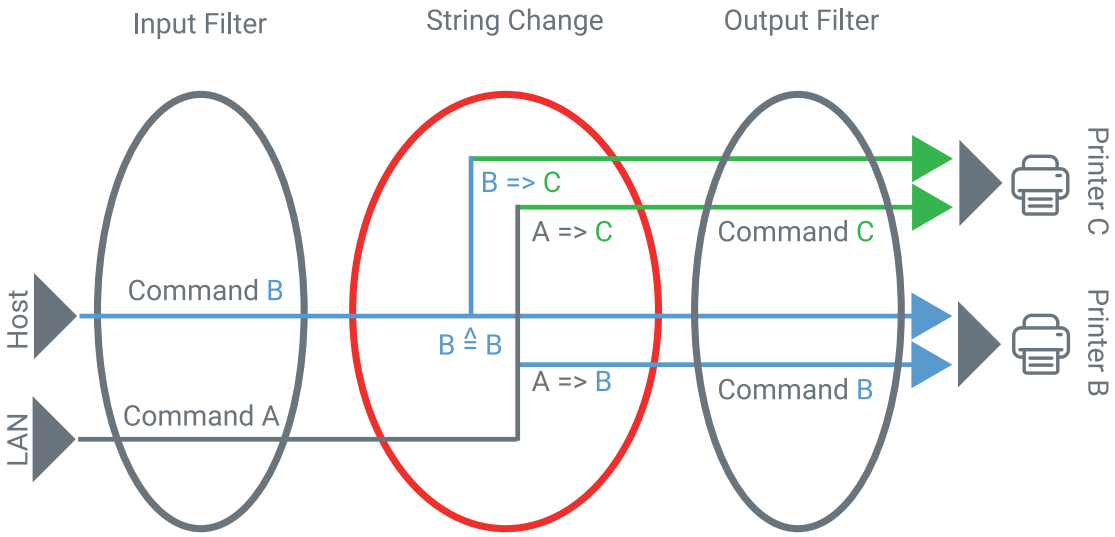
With the RegEx filter, data can be extracted from documents based on regular expressions. This filter is useful if you know what the data field you want to extract looks like, but you do not know where it is in the document, e.g. a customer number with a certain format, a number after a certain label, etc.



It is possible to search not only for traditional strings but also for text patterns. Regular expressions contain a combination of plain text and special control characters that determine the type of grid search. They can therefore make the rule system of the content filter more powerful and more accurate. The application variety of Regular Expressions is almost unlimited. For example, the RegEx filter can be used to map a form management system that captures data, breaks it down into variables and saves it, then inserts it at the desired location and in any order.

Stringchange Filter

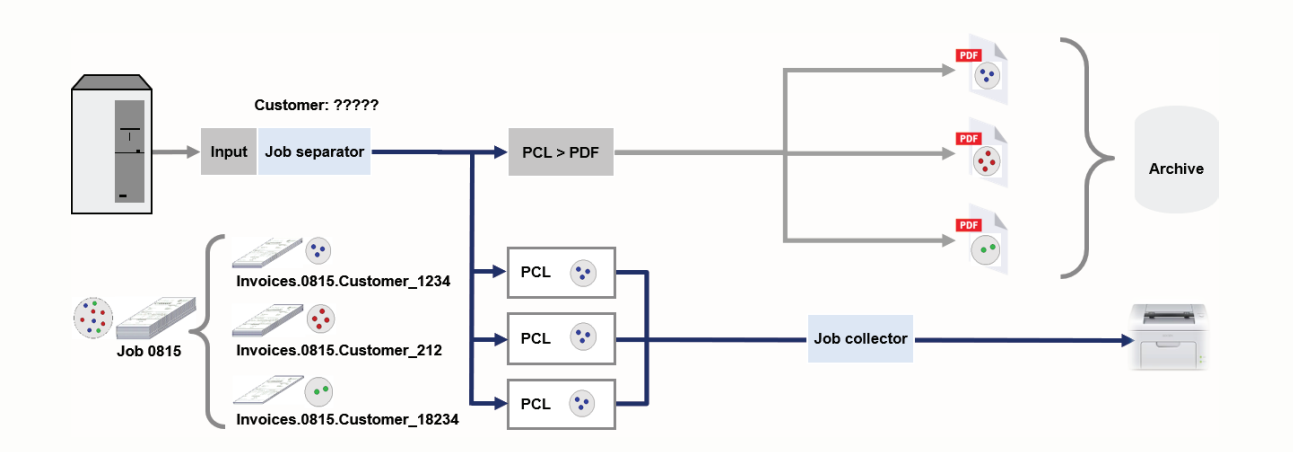
The Stringchange Filter searches the data stream to be processed for the command sequences stored in the configuration and automatically replaces them with the replacement sequences entered in the configuration. In this way, data streams can easily be automatically adapted by the Mercury DMS software to the requirements of the individual printing systems - for example, to modify commands for paper tray selection of a printing system.



Handling of the "String Change" filter to standardize the printing hardware & drivers

Document Separator & Job Collector

With Mercury you can solve all your transaction printing needs. Enhancements in Overlay & Forms Management open the doors to your own print applications or POD applications. The Document Separator module is an important element in the entire document workflow. With the help of the Job Separator you can search for content criteria within a PCL5 data stream. These criteria are then used to separate the print job into sub-jobs. In this way, print control can be performed according to content or output management functions can be triggered. Outputting sorted by content to different printers is only one of the many possibilities. Similarly, specific forms can be assigned to different contents. Or simply use the Job Separator to split and regroup your jobs! With Mercury it is also possible to combine individual jobs into new print jobs according to specific criteria.



"Document Separator": Separation by variable data & reassembly

There are two main areas of application for the Job Separator. Firstly, it can be used to separate print pages classified on the basis of a constant feature. On the other hand, criteria with variable components can also be used for separation. The partial jobs generated in this way can then be processed further with Mercury without any problems.

Separate by content

The Job Separator can be used to classify print pages in a PCL5 print data stream according to their content. Identical contents such as invoices and delivery bills can then be re-sorted and distributed into separate jobs. With the Mercury Document Workflow you can then direct these to the printers in the relevant departments. This means that the entire print data stream is already prepared for archiving at document level.

Separate by elements

The Mercury Job Separator allows a print job to be separated based on text elements contained on the pages. A part of these text elements at the end of the job can also be variable. This enables the complete separation of a print data stream into individual documents, e.g. based on a customer number. The documents obtained in this way are available as independent print jobs and can be converted into PDF format. This means that nothing stands in the way of archiving.

Job Collector

The Job Collector module is used to merge any print data streams according to user criteria such as customer names, customer numbers, postal codes, etc. This makes it possible to increase the output speed by combining many smaller print jobs into one data stream, since the printer does not pause after each job and start the next one, but can output all these jobs together in one print stream.

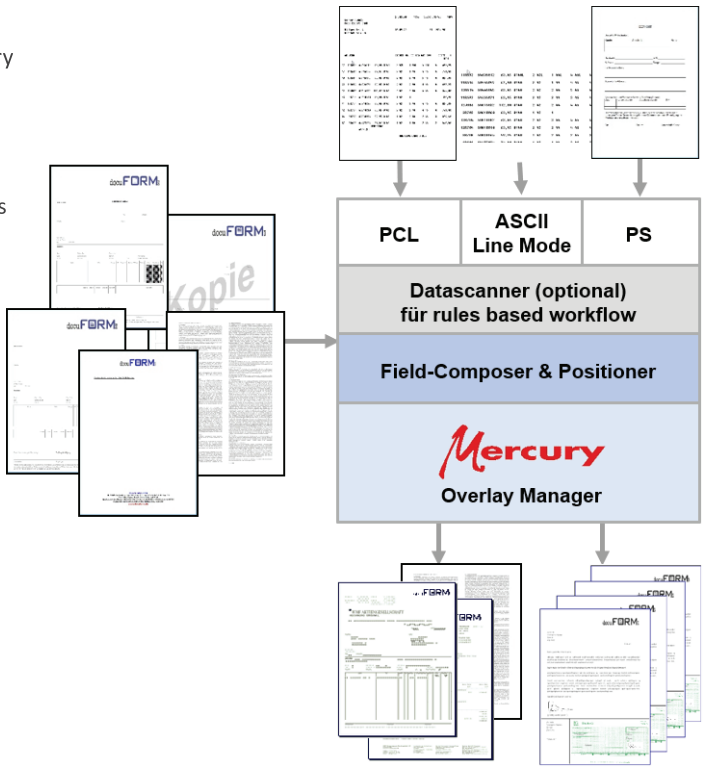
Overlay & Forms

Overview

The docuFORM Overlay & Formsmanager Module is an add-on module to the docuFORM Mercury Document & Print Management Software. This module enables the automatic and rule-based mixing of overlays, forms, letterheads, logos, general terms and conditions, etc. into print-ready Postscript, PCL5, line mode or ASCII data streams. It thus makes the use of any kind of pre-printed paper and form sets superfluous. This eliminates the need to keep forms and letterhead paper and all print data can be printed on normal white paper in the usual layout and appearance. Thus, the Mercury Overlay & Formsmanager module contributes significantly to a simplified, cost-effective and therefore sustainable printing workflow for the user.

Centralized Mercury Forms depot:

- letterhead
- invoice forms
- delivery forms
- Conditions
- etc.



Formatted Raw data:

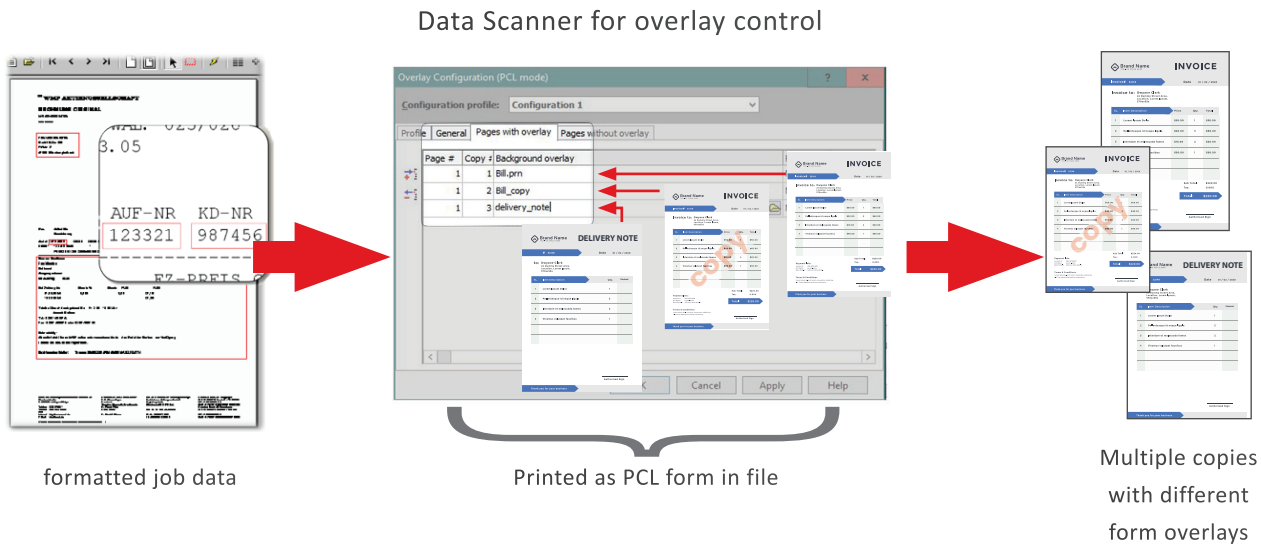
- ASCII
- PCL5
- Postscript
- Host formats, converted with Mercury
- Line Mode data

- Generation of forms sets
- Addition of terms and conditions
- Generation of pleadings
- Generation of form letters
- variable label printing
- variable tag printing
- and much more...

The docuFORM Overlay Formsmanager module can be used for original Postscript, PCL5, line mode and ASCII print data streams from the SAP host or office world, and can also be used in conjunction with all Mercury modules for print data stream conversion. Thus, forms, form sets, overlays, letterheads, logos, terms and conditions, 1D and 2D barcodes, static and dynamic texts, frames and shading, etc. can be automatically and easily added to all documents in all common print languages from the SAP host or office world by the Overlay & Formsmanager module.

Highlights

- Automatic and rule-based mixing of forms and form sets, overlays, letterheads, logos, terms and conditions, bar-codes (1D and 2D), static and dynamic texts, frames, shading and more into print-ready Postscript, PCL5 or ASCII data streams
- Combination of the Overlay & Forms Manager module with any Mercury module for data stream conversion enables the automatic and rule-based addition of overlays and forms from all Office SAP and host environments.
- Arbitrary configurations can be set for different print data (e.g. for invoice printing, advertising letters, flyers, correspondence, etc.) with automatic intelligent assignment of the desired configuration to the respective print data stream by detecting and evaluating assignment features in the print data stream.
- Recognition and extraction of print stream content e.g. by the Mercury Data Scanner module for PCL and ASCII data formats to select the desired configurations of the Overlay & Formsmanager module (e.g. based on the word 'invoice' at a certain position in the print stream, the Overlay & Formsmanager module automatically selects and applies the configuration stored for invoice printing). Integrated text scanner in the Postscript Overlay module.
- Automatic and rule-based generation of form sets (e.g. invoice, invoice copy, delivery bill) and copies from a data set.



- Freely configurable control of paper input cassettes and output trays (e.g. invoice from cassette 1 and output in tray 1, invoice copy from cassette 2 and output in tray 2, etc.)
- Coverage of information in the print data stream makes it possible, for example, to create a delivery bill from an invoice data record while covering the price information.

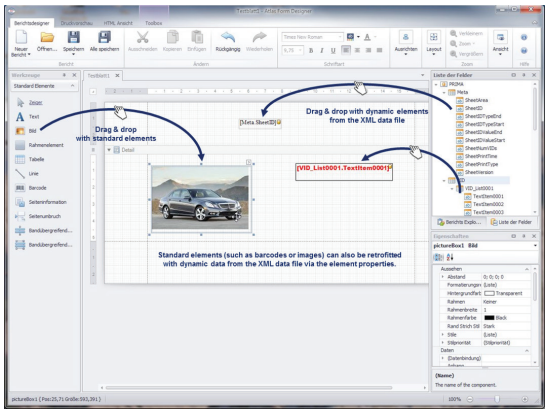
Atlas Form Designer

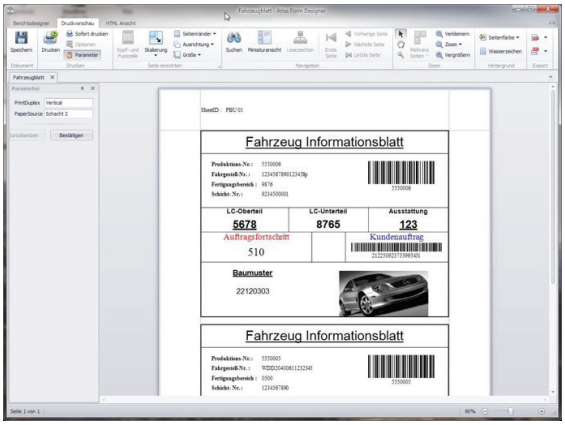
Overview

Atlas is a universal document creation tool for dynamic data printing and is fully integrated into the Mercury solution. This form designer enables variable documents to be filled with content, including non-formatted raw data. In addition to XML structures, classical data formats, such as line mode, can also be processed by Altas using various input filters. These are then output via the Mercury print server. Atlas can therefore process unformatted legacy data from host environments as well as the latest and most modern XML structures, map them into documents, and finally output them.

Drag & Drop user interface

In addition to a wide variety of companies, Daimler AG has already decided to use Atlas. Their latest development in the area of production applications no longer delivers formatted pages, but only XML structures. These are then transferred to Mercury Atlas. In a unique design process, the variable data is then placed on dynamic forms. This means that in real production printing, in addition to labels and barcodes, entire design drawings and data sheets as well as all other production documents can be printed dynamically and output variably using the Global Printer Interface. Likewise, any graphic elements and font design can be integrated into the forms via the user-friendly interface and easily maintained.





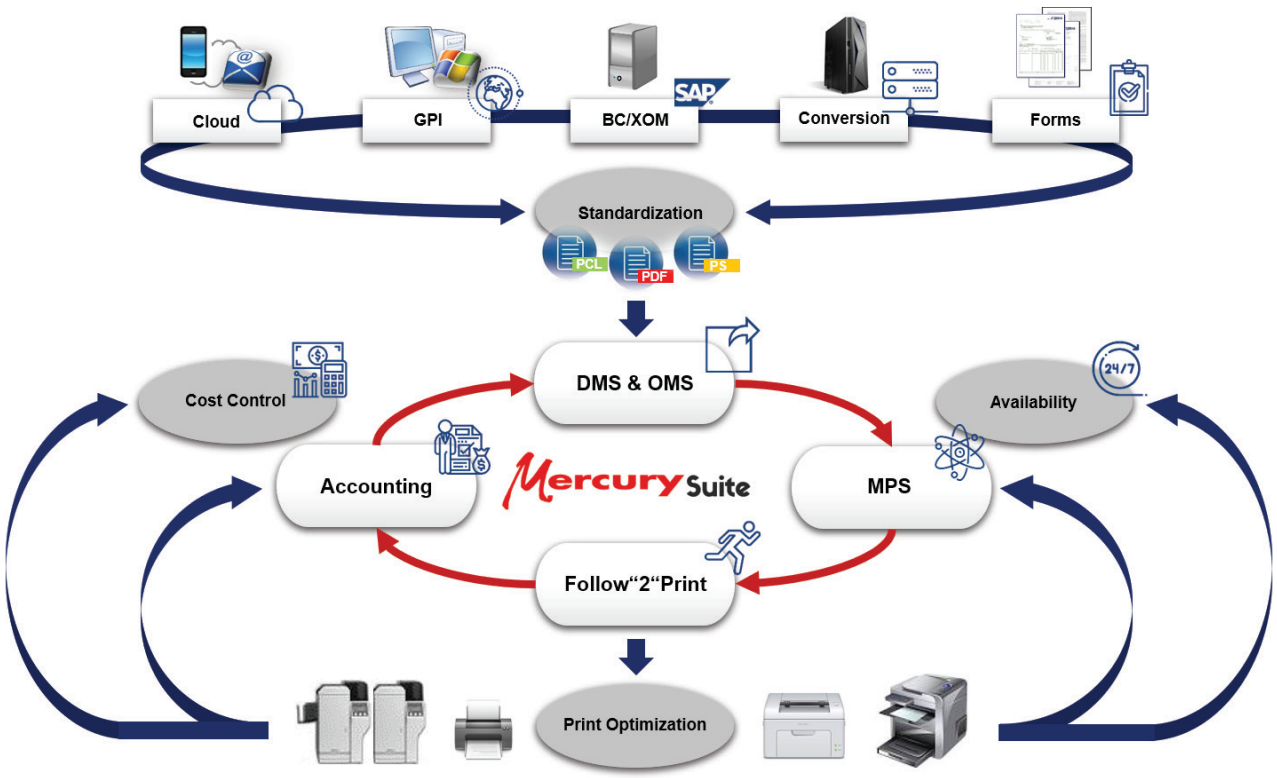
Atlas is also a fully integrated solution in the Mercury workflow. The raw data is always compared with the dynamically generated print pages for completeness. Only then is the data source informed whether the raw data has been printed correctly. The plausibility results can be reported back to the application as part of the secured printing process.
This is called bidirectional secure printing, again a unique selling point of the Mercury Suite in combination with Atlas.

Interfaces to further Mercury Modules

As a comprehensive OMS and DMS solution, the Mercury Suite offers integrated interfaces to other Mercury modules:

- Accounting
- Managed Print Services (Fleet & Service Management)
- Follow “2 “Print

With Mercury, the customer can thus be offered an all-inclusive, manufacturer-independent total solution from a single source, with components that are optimally matched to one another. This reduces costs, reduces the maintenance and service effort and increases the productivity of his workflow.



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About docuFORM

The origins of docuFORM GmbH, founded by Martin Denk in Karlsruhe in 1986, are based on various project work within the Technical University of Karlsruhe. The university graduates recruited at that time are still working for the company today. The first developments were already focused on production printing and mainframe infrastructures. Early on, the software house specialized in the development of printer controllers for well-known OEMs such as Xerox, Siemens and Heidelberger Druckmaschinen.

In 1996, docuFORM moved away from its decentralized, device-specific printer controllers and instead focused on developing a central middleware solution for a manufacturer-independent output management. In analogy to the NASA Mercury program this was called “Mercury”:
Just as the US organization sees Mercury as a pioneer in space travel, docuFORM sees itself as a pioneer for print middleware solutions.

The first Mercury servers were installed in 2000. Today, the installed base throughout Europe is well over 5,000 well-known major customers such as Daimler, Beiersdorf and the German Federal Employment Agency, as well as medium-sized companies, which are usually served indirectly via partners.

The next evolutionary step followed in 2008: In addition to output management, Mercury received a Managed Print Services (MPS) module for the manufacturer-independent administration and accounting of printer fleets. In 2014, the Global Printer Interface (GPI) took another important step forward.

In spring 2017, the German Patent Office classified the docuFORM Global Printer Interface as an invention and granted a patent. This patent represents a further highlight in the history of docuFORM, which has been characterized by sustained growth.

docuFORM has set itself ambitious goals as part of its “Agenda 2020”. Agenda 2020” is a concept that offers cloud-based printing services and thus dispenses with hardware-based solutions on-premises.