

Spool Master®

IBM i OUTPUT MANAGEMENT

**The solution for graphical printing
and for digital documents distribution
on BM i-AS/400 systems**



From AS/400 spooled files ... graphical printing, digital documents, Email and Fax, data mining, indexing for Document Management Systems

With its wide range of features SPOOL MASTER can help you to enhance the look of your AS/400 printouts, replace continuous forms with plain laser paper and to distribute your documents faster and cheaper.

Spool Master is certified



Why use Spool Master?

Thanks to **SPOOL MASTER** you can improve your corporate image by producing more pleasant and modern printouts without the need for the traditional preprinted continuous forms.

Our software can easily integrate into your business processes, helping you to optimize the production and distribution of your documents and making these tasks more efficient, flexible and economic.

For whom is it intended?

SPOOL MASTER is suitable for any organization that operates on IBM i AS/400 platform, regardless of whether there is a single printer to manage or hundreds of devices.

Being independent from the software that produces the spooled files, **SPOOL MASTER** can be used in any contest (manufacturing industry, logistics services, retailing, accounting firms, trade associations etc.).

SPOOL MASTER® is the Italian solution chosen by hundreds of companies to manage graphical printing and to distribute digital documents from their IBM AS/400 i systems.



SPOOL MASTER let you easily transform IBM i spooled files into graphical documents and to automate their distribution inside and outside your Company.

Using **SPOOL MASTER** you will be able to:

- **modernize the look of your printed documents** adding logos, box, columns, fonts and barcodes, reformatting the layout and adjusting every features of the paper output
- **convert your AS/400 spooled files into digital documents**, both graphical (PDF, TIFF) and textual (TXT, RTF, DOC, XML)
- **send them by Email**
- **send them by Fax**
- **extract data from your printouts to feed AS/400 database (DB2), spreadsheets (XLS) and structured data files (CSV, XML)**
- **Export spooled files to Document Management Systems (DMS)**

And all without without modifying your printing programs nor affecting the normal operation of your users.

Advantages

- Cut the costs and avoid all the issues related to preprinted continuous forms (reordering, stock management, disposal of outdated forms, printers loading, paper jamming)
- Update forms in real time and homogeneously all over your organization on a centralised basis
- Make use of standard PCL5 laser printers, both monochrome and colour, without need for additional hardware (SIMM, DIMM) or special interfaces
- Take advantage of the reliability, power and stability of the IBM i platform
- Easily integrate Spool Master to your AS/400 business application and database
- Deliver you document more quickly and at lower costs sending them automatically by Email and Fax
- Improve efficiency with the tools provided by a flexible and versatile solution (dynamic processing of the spooled files with conditioning rules, high automation, multiple companies management, printing optimized for remote sites etc.)

How does Spool Master work?

SPOOL MASTER can be installed on **IBM i AS/400** computers with an operating system release **V4R2M0 or higher**.

The software intercepts the printouts (SPOOLED FILES) and transform them into a paper graphical output for **PCL5/PCL5c laser printers** or into **digital documents**, both graphical and textual, for **archival purposes** or to be send by **Email and Fax**.

To operate, SPOOL MASTER needs two kind of information:

- which print spoolers (OUTPUT QUEUES) must be monitored
- which types of document (SPOOLED FILES) must be processed and their recognition, processing and delivering rules

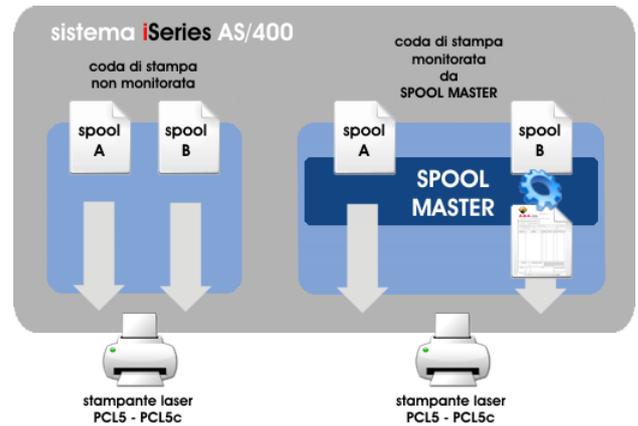
Once started, **SPOOL MASTER** watches the output queues waiting for new spooled files. If the intercepted printout does not belong to one of the document types to process, it is released toward the printer as usual. Otherwise **SPOOL MASTER** replace the original textual spool with a new one in **PCL5 format**.

PCL5 is a Printer Control Language originally developed by Hewlett Packard (HP) for its laser printers and widely adopted by the other manufacturers on the majority of laser devices.

SPOOL MASTER can therefore print on all laser printers that support **PCL5 language**, connected to the AS/400 system through a network card, a terminal emulator (like, for instance, IBM i Access or Mochasoft) or a display station.

The application configuration resides on the IBM i AS/400 and all the printing processes take place on that platform.

Printouts are handled dynamically, with a diversified treatment for each document type at a general level or on a copy basis.



By means of a powerful system of conditioning rules SPOOL MASTER can change its behavior on the fly, selecting the right formatting options and the actions to execute according to:

- the text contained within the spooled file
- spooled file attributes (user, user data, form type, output queue etc.)
- data read from AS/400 database
- data returned from custom AS/400 programs.

These features allow to manage the differences related to the context in which the document is released and delivered: for instance, apply a specific layout to invoices for domestic and foreign customers, to each copy of delivery notes, to the printouts produced by different companies, departments, offices etc..



Togheter with (or as an alternative to) the paper output, **SPOOL MASTER** can produce digital copies **can produce electronic copies in various formats (Pdf, Tiff, Txt, Rtf, Doc, Csv, Xls) for digital archiving or to send by Email and Fax.**

A **centralized application** installed on a **Microsoft Windows** computer takes charge of executing the last steps needed to complete the digital documents conversion, archiving tasks and delivering by Email or Fax.

The PC application does not hold any replica of spools configurations nor perform any activity related to spool processing and printing, but it simply carries out some typical PC based processes according to the formatted documents and the operating instructions that it receives in real time from the IBM i system.



Discover
SPOOL MASTER
modules and configure
the product according
to your real require-
ments, activating only
what you need, when

Spool Master Modules

SPOOL MASTER is a **modular software** consisting of a main engine that manage the layout and printing of IBM i AS/400 spooled files (**Graphics**) and other independent modules that extend the functionality of the product.

Its flexible architecture allows you to enable only the features you really need, leaving you free to expand the product configuration at a later time to adapt **SPOOL MASTER** to your new requirements.

GRAPHICS

Are you unsatisfied with the look of your AS/400 printouts?

Add **columning, logos, fonts and barcodes** in your spooled files, change the text layout and formatting on the fly without the limitations and costs of continuous pre-printed forms.

PDF-TIFF

Enhancing your printed AS/400 documents is not enough?

In addition to paper output SPOOL MASTER can produce digital copies of your prints in graphical (PDF, TIFF) or text (TXT, RTF, DOC) format and archive them in an automatic and "smart" way.

MAIL

Do you want to save time and money on delivering your AS/400 documents?

SPOOL MASTER can automatically send them by Email through any SMTP server, getting the required information from spooled files, AS/400 databases and custom AS/400 programs.

FAX

Do you want to send your AS/400 prints by Fax?

By means of its native Fax server or using a third-party product like Equisys Zetafax, SPOOL MASTER can deliver your documents fully automatically.

EXTRACT

Do you need to analyze data but retrieving information from your AS/400 database is too complex and expensive?

SPOOL MASTER can recognize structured information contained in the printed text and extract them to feed DB2 databases and CSV, XLS and XML files.

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Do you use a Document Management System?

SPOOL MASTER can export the AS/400 printouts towards your DMS together their indexing files.

Request your
evaluation copy of
SPOOL MASTER!

SPOOL MASTER is available as a free trial for 30 days

Ask to your reseller or **download** the software from our web site
www.spoolmaster.it

Requirements

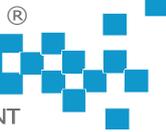
IBM i® AS/400® computer with V4R2M0 operating system or above

For printing: laser printers with PCL5 (PCL5e / PCL5c) support

For producing and delivering digital documents (including emailing and faxing): one MS Windows® server or workstation

For producing Rtf and Doc files: one copy of MS Word® 2000 or above

For producing Xls files: one copy of MS Excel® 2000 or above



Are you unsatisfied with the look of your AS/400 printouts?

Add columning, logos, fonts and barcodes to your spooled files, change the text layout and formatting on the fly without the limitations and costs of continuous pre-printed forms.

“GRAPHICS” module

GRAPHICS is the main module of **SPOOL MASTER** that dynamically converts the spooled files produced by IBM i AS/400 systems into graphical documents suitable for any **laser printer** supporting **PCL5 language (PCL5e for monochrome printers, PCL5c for color devices)**.

With SPOOL MASTER **GRAPHICS** module you will be able to:

- enrich your IBM i AS/400 documents with **logos, columning and images (Overlay)**
- change the **font** appearance for the entire printout or parts of it
- print **linear and two-dimensional barcodes**
- **expand or compress** the number of text lines on each page
- **reformat** the text
- take control of every characteristic of the printed output (**number of copies , duplex printing, printer readdressing** for specific copies, **input and output bin setting, stapling, punching** etc.)

Overlays

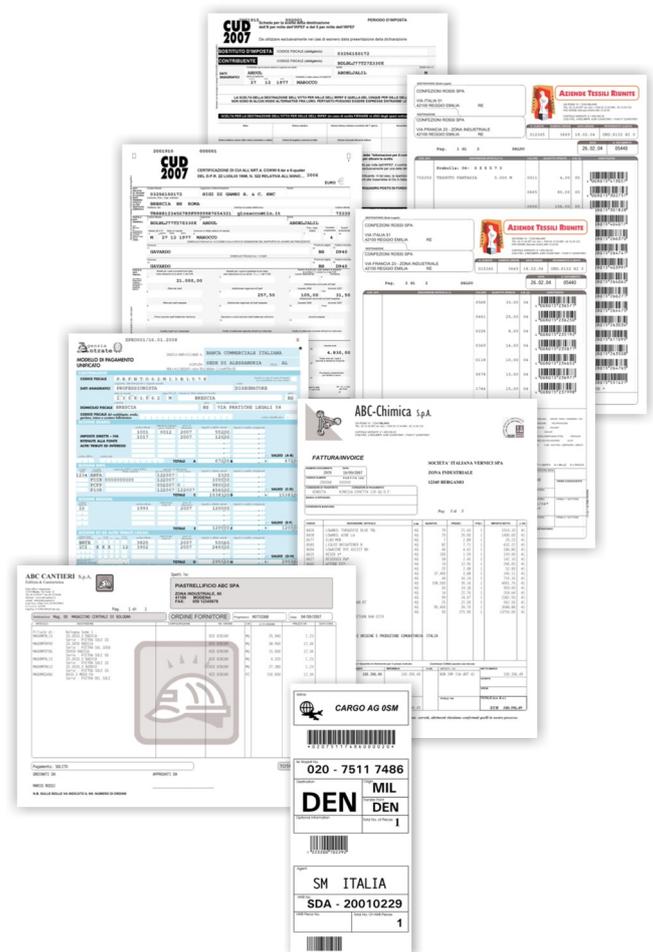
Overlays are the graphic elements that you can add to your IBM i printouts, for instance logos, columning, images etc.

Overlays are produced on MS Windows platform using **any drawing or writing software** (Corel DRAW, MS Word, MS Excel, OpenOffice Writer, OpenOffice Draw etc) and then transferred onto the IBM i system; from here on, the printing process is **natively** managed on AS/400 and is **completely independent from the PC environment** where the graphic was generated.

Acting as transparent films or drawing layers, Overlays can be overlaid and combined with each other in order to optimize the maintenance of the original graphic elements and ensure uniformity of the final output.

Thanks to this feature you can:

- apply the same header (logo and company address) to different prints, using it alone or stacked with other graphic elements; when a change is needed, you can simply modify the shared overlay to have all the prints simultaneously updated.
- easily manage multi company environment creating for each document type a neutral layout to share between different organizations and arranging the variable parts (logo, company data etc.) into company-specific overlays to maintain separately
- diversify the pages layout within the same document, overlapping the overlays in different combinations in order to adapt the graphics to the variable content of the spooled file.





Reorganizing data

SPOOL MASTER lets you dynamically rebuild the spooled file content, increasing or decreasing the number of “detail” rows (that is the information that appear between the header and the footer of the document, such as the items of an invoice or the movements of an account statement) that must be printed on each page.

This feature allows you to:

- recognize and split documents contained in a single spooled file, detecting the changes of one or more keys after loading a new page
- increase or decrease the number of detail rows to be printed on each page and, consequently, decrease or increase the total number of printed pages
- diversify the number of detail rows depending on the page type - first page, last page and intermediate - in order to optimize the final output (for instance, printing detail rows in the bottom of all pages except for the last, where we need some footer space to print the document summary)
- delete unwanted rows from the output
- insert new detail rows
- delete entire unwanted pages
- group the detail rows into logical sections to allow the insertion of table headers and to simplify the subsequent remapping operations.

Remapping

Remapping functions let you work on specific areas of the printout (a character, a string, one or more rows, one or more columns etc.) in order to relocate, copy, complete and format the spooled file content.

Using remapping actions you will be able to:

- Move, copy and delete text areas
- insert static or variables captions
- Number the pages (also in *page nnn of ttt* format)
- apply fixed and proportional fonts and soft-fonts
- transform strings into one-dimensional and two-dimensional barcodes

Each action can be restricted according to the copy number and other conditions (text strings contained in the print, spool file attributes, data read from the database or returned by custom programs).

This way you will be able to get different versions of the same document and manage, for example, the following situations:

- insert translated captions and headers on invoices addressed to foreign customers
- hide goods prices from the copy for the carrier
- show the amount of commissions only on the copy for sales representatives

Summary of supported features

- ✓ Monochrome or color printing
- ✓ Duplex printing
- ✓ Dynamic insertion of graphic stackable elements (overlays)
- ✓ Dynamic insertion of static content (eg: standard delivery conditions)
- ✓ Definition of output characteristics (paper size, orientation, line spacing, default fonts, input and output bins, number of copies to print, etc.).
Each document type supports alternative sets of parameters (to diversify, for example, the number of copies depending on the context) and specific settings for individual copies and pages.
- ✓ Support for PjL and Prescribe finishing commands (stapling, punching etc.)
- ✓ Data reorganization
- ✓ Document recognition and splitting inside the same spooled file
- ✓ Text remapping
- ✓ Barcodes printing (linear and two-dimensional)
- ✓ Boxes and lines insertion
- ✓ Conditional processing of each individual option and action



Enhancing your printed AS/400 documents is not enough?

In addition to paper output SPOOL MASTER can produce digital copies of your prints in graphical (PDF, TIFF) or text (TXT, RTF, DOC) format.

Thanks to its wide range of functions, you can archive and distribute your AS/400 documents automatically, in an inexpensive and "smart" way.

PDF-TIFF module

SPOOL MASTER PDF-TIFF module can convert your AS/400 printouts into the following digital formats:

- **PDF** - Portable Document Format (monochrome or color)
- **TIFF** - Tagged Image File Format
- **TXT** - ASCII text file
- **RTF*** - Rich Text Format (text only) and **DOC*** - MS Word (text only)

and save them into PC folders accessible from your network.

This way you will be able to:

- ▶ create PC files on demand
- ▶ produce documents to send by means of **SPOOL MASTER MAIL e FAX** modules
- ▶ archive documents in a logical structure of PC folders that reside on one or more servers, easily consultable from the workstations of your employees
- ▶ feed a Document Management System (DMS)
- ▶ publish documents on your web site

and use electronic copies of your AS/400 prints for any other application that your creativity and your experience might suggest.

Features

PDF-TIFF module allows to produce one or more digital copies of the same document, each of them with its own name and specific storage path.

Both **files names** and **storage path** can be dynamically composed, using text strings extracted from the printout and some of the spooled files attributes (User, User Data, Form Type, Date, Time etc.).

So you can give **meaningful names** to your PC files (for example, Invoice *12345 12-31-2015_ACME INCORPORATED.PDF*) and organize them into a equally meaningful folder structure automatically built by SPOOL MASTER (for

example, the path *ACME INC/INVOICES/ YEAR 2015/12* contains the customer's name, document type, document year and month).

The characteristics of each electronic document can be set in detail according to its final format.

For PDF files, for instance, you can define whether to create monochrome or color file, text conversion options (as image, as searchable text etc.), pdf version (1.3, 1.4, Pdf/A), wheter to show thumbnails, values to assign to file Properties (Author, Keywords, etc.), protection features apply (password, print and edit permissions,

etc.).

All types of files can be compressed in ZIP format to reduce their storage space on your servers. Compressed files can also be password protected in order to restrict access to the documents inside them.

Summary of supported features

- ✓ Dynamic building of file name and file storage path
- ✓ Support for different content version (with or without text remapping; for PDF and TIFF format, with or without graphic elements such as overlays and fonts)
- ✓ Splitting of documents contained in the same spooled file, according to level break fields read from the print
- ✓ File compression in ZIP format (with various compression levels and password protection)
- ✓ Conditional processing of each action, according to one or more conditioning rules
- ✓ Support for optional paper output suppression to create digital copies only
- ✓ Specific settings for each file format.
For instance, PDF files support the following features:
 - Monochrome or color version
 - Resolution
 - Version (1.3, 1.4, Pdf/A)
 - Text options (raster, raster with searchable text, Acrobat Reader 12 fonts, True Type Fonts)
 - Thumbnails
 - Properties (Title, Subject, Author, Created by, Keywords)
 - Protection options (Owner and User Password, Print / Edit / Copy Text / Add Notes permissions)



Do you need to analyze data but retrieving information from your AS/400 database is too complex and expensive?

SPOOL MASTER can recognize structured information contained in the printed text and extract them to feed DB2 databases and CSV, XLS and XML files.

- ✓ Manage nested structures up to nine nesting levels
- ✓ Data consolidation from subsequent printed rows
- ✓ Conditional assign to different fields the same value taken from the same print printed area (for instance, write Debit and Credit columns starting from the Total amount according to its sign)
- ✓ Conditional assign to the same field a value taken from alternative printed areas
- ✓ Extract data from the original print text or from the remapped one
- ✓ Split of multiple documents inside the same spooled file according to one or more splitting keys (for instance, to produce one data set for each country, or for each sales agent, and so on)
- ✓ Can produce "automatic" CSV files (without setting source layout and fields) in case of spooled file with a tabular format (plain queries, simple printouts with no nested levels and so on)
- ✓ Conditional processing of each action, according to one or more conditioning rules

EXTRACT module

SPOOL MASTER EXTRACT module can read data inside the text of the spooled file and extract information into a structured format to feed **AS/400 database files (DB2)**, **delimited text files (CSV)**, **structured text files (XML)** and **MS Excel* files (XLS)**.

Once you have defined the rules needed to identify the **logical structure of a certain printout** and the **meaning of the information that it contains**, **SPOOL MASTER** can capture the data inside the spooled file and normalize them in a **tabular format** consisting of rows, columns and fields(cells); the result can be recorded into an AS/400 table, a delimited text file, a file written in XML language or a MS spreadsheet file.

EXTRACT can recognize data even within nested structures, similar to the following sales report:

```
COUNTRY
      STATE / PROVINCE
            SALES AGENT
                  CUSTOMER
                          PRODUCT (detail level)
```

* Producing XLS files requires a copy of MS Excel version 2000 or above

INDEX module

More and more companies nowadays are using **Electronic Document Management software (EDM / DMS)** to store documents in digital format and make them easier to retrieve and consult.

Some EDM systems let you to implement **legal archiving** for accounts or tax documents (a legal compliant archiving method in digital format alternative to paper documents storage), alleviating the burden of large physical archives management.

The most advanced softwares also offer **workflow** functionalities to manage documents acquisition or production within a controlled environment of digital flows that enhance and make safer the traditional business processes.

Thanks to **SPOOL MASTER INDEX** you will be able to automatically **feed your document management software with AS/400 prints**, combining the digital files produced by **PDF-TIFF** and **EXTRACT** modules with their specific **indexing files** (text files containing the keys used to import the document into the EDM system and to index it for search purposes).

Indexing keys can be set parametrically, to allow the production of the indexing files suitable for your DMS.

Thanks to its flexibility, the software allows you to organize the indexing keys into any horizontal, vertical or mixed layout and to compose text files and XML files.

Do you have a Document Management System to feed with the prints produced on the BM i AS/400 platform?

SPOOL MASTER can export them towards your EDM system together their indexing files..

- ✓ Retrieve the value of the indexing keys from static strings, spooled file text, custom programs
- ✓ Set for each individual field its opening and closing ASCII commands and the separator character
- ✓ Variable horizontal, vertical or mixed record layout
- ✓ Generate a new index file for each document, or add the keys to an existing one
- ✓ Conditional processing of each action, according to one or more conditioning rules



Do you want to save time and money on delivering your AS/400 documents?

SPOOL MASTER can automatically send them by Email through any SMTP server, getting the required information from spooled files, AS/400 databases and custom AS/400 programs.

MAIL module

SPOOL MASTER MAIL module can produce and send **Email messages**, attaching the files produced by **PDF-TIFF** and **EXTRACT** modules.

You will be able to dispatch your AS/400 prints to your customers and suppliers by Email instead of by conventional mail or fax, speeding up the delivery and saving **in direct and indirect costs** (manual sorting and enveloping, postage etc.).

Features

With the **MAIL** module you can send by electronic mail the graphical documents (PDF, TIF) and the text ones (TXT, CSV) produced by **PDF-TIFF** and **EXTRACT** modules.

Messages are sent via any outgoing mail server supporting the standard **SMTP** protocol (Simple Mail Transfer Protocol); the server may be internal or outside your IT infrastructure (for example, email services supplied by an internet service provider).

The fields required to compose the message (**To, From, CC, BCC, Subject** etc.) are retrieved in real time from one or more sources (static values, text strings extracted from the spooled file. AS/400 databases or custom procedures).

Emails may contain **texts and signatures** recorded in specific **SPOOL MASTER** tables; the product supports multiple versions of texts and signatures in multiple languages, in order to adapt the message according to the recipient's nationality.

The attached documents can be compressed

in **ZIP format** to limit the messages size and to apply a **protection password**.

TXT files can be sent not only as attachments, but also as text in the message body in order to deliver simple warning or alert notifications.

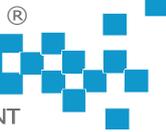
Besides the main file (that is the document corresponding to the AS/400 spooled file), you may dynamically attach **multiple additional PC documents** residing on MS Windows platform (data sheets, contract terms and conditions and so on).

Emails can eventually be sent without printing any physical copy, in order to reduce **paper waste** and to **print only when strictly necessary** (for instance, in case of subjects without an Email address or a Fax number that must receive their documents by conventional mail).

A specific **Client application**, that can be installed on an unlimited number of MS Windows workstations, enables your end users to check the transmissions status and to resend, release, hold and edit the Emails produced on IBM i system.

Summary of supported features

- ✓ Dynamic retrieval of the settings needed for sending an Email (TO, FROM, REPLY TO, CC, BCC, Subject etc.) from static values, text of the spooled file, AS/400 database and custom programs
- ✓ Version selection (document with or without remapping and graphical elements)
- ✓ Multilingual Email body content, combining different texts and signatures
- ✓ Insertion of the spooled file content inside the body of the Email (instead of an attachment)
- ✓ Splitting documents by addressee inside the same spooled file
- ✓ Optional attachments compression in ZIP format (with several compression levels and password protection)
- ✓ Additional attachments retrieved from MS Windows platform
- ✓ Use of Mailing Lists to send circular letters to groups of addressees
- ✓ Option for printing only in case the document recipient has no Email address (to avoid unnecessary paper copies and facilitate the sorting of printed documents that need to be sent by conventional mail)
- ✓ Support for holding and scheduling Email messages
- ✓ MS Windows client application for checking the transmission status of each Email, available to an unlimited number of users
- ✓ Conditional processing of each action, according to one or more conditioning rules



Do you need to send your IBM i AS/400 spooled files by Fax?

By means of its native Fax server or using a third-party product like Equisys Zetafax, SPOOL MASTER can deliver your documents fully automatically.

FAX module

SPOOL MASTER FAX module allows to send by Fax the documents produced through **PDF-TIFF** module.

You will be able to dispatch to customers and suppliers your AS/400 prints by Fax quite automatically, speeding up documents transmission and avoiding manual intervention such as printing and scanning paper, resubmitting on error etc.

Features

SPOOL MASTER FAX sends documents using its own fax engine capable of direct interface with modems and that manage the transmission process.

The fax engine supports sending over **analog telephone lines** by means of **analog internal or external Fax Modems Class 1, 2, 2.0 e 2.1**. You can also use **USB Fax Modems** and **Multi Modem Cards**, provided that they are of analog type and they can emulate serial (COM) ports.

Base configuration provides a single COM port; however, you can enable **up to sixty modems** (grouped into one or more **collective queues** for simultaneous transmissions with multiple fax devices) with the optional license for **multi-port faxing**.

As an alternative, **SPOOL MASTER** may submit documents to a **Zetafax** fax server (a software by Equisys plc) passing all the parameters required by this application (Zetafax user, Coversheet, Charge Code, Priority etc..).

In both cases, the data needed to set up the transmission (**Telefax Number, Addressee Name and Company, Sender Details, Subject, Cover Sheet, Priority, Modems Set, COM Port** etc.) are retrieved in real time from multiple sources (static text, strings extracted from the spooled file content, information read from a database or returned by a custom external program).

Faxes can be preceded by cover sheets with custom texts in various languages that can be set up and edited through the product interface.

As well as to individual telephone numbers, faxes can also be transmitted to lists of recipients (Fax Lists) to make easier the delivery of newsletter, advertisements, commercial offers and so on.

Faxes can eventually be sent without printing any physical copy, in order to reduce paper waste.

SPOOL MASTER FAX comes with its specific **Client application** that can be installed on an unlimited number of MS Windows workstations and through which your end users can check the transmissions status and to resend, release, hold and edit the faxes produced on IBM i system.

The product also provides fax delivery notifications by means of reports printed or sent by Email.

Summary of supported features

- ✓ Dynamic retrieval of the settings needed for sending a Fax (Fax Number, From, From Company, To, To Company, Subject, Cover sheet) from static values, text of the spooled file, AS/400 database and custom programs
- ✓ Version selection (document with or without remapping and graphical elements)
- ✓ Multilingual cover pages and texts
- ✓ Splitting documents by addressee inside the same spooled file
- ✓ Use of Fax Lists to send circular letters to groups of addressees
- ✓ Option for printing only in case the document recipient has no fax number (to avoid unnecessary paper copies and facilitate the sorting of printed documents that need to be sent by conventional mail)
- ✓ Holding and scheduling of transmissions
- ✓ Automatic retry to resend faxes in case of failure
- ✓ MS Windows client application for checking the transmission status of each fax, available to an unlimited number of users
- ✓ Delivery notifications (printed or emailed)
- ✓ Native fax server, using internal or external analog fax modems Class 1, 1.0, 2 e 2.0
- ✓ Integration with Equisys Zetafax, with support for all fax submission parameters (Zetafax user, Cover sheet, Priority, scheduled date and time, Charge code etc.)
- ✓ Conditional processing of each action, according to one or more conditioning rules
- ✓ Optional module to send documents by fax from personal computers inside your network (**FAX-OFFICE**).